1881 WEST SAN CARLOS STREET SENIOR FACILTY AND MULTI-FAMILY HOUSING AIR QUALITY ASSESSMENT

San José, California

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Introduction

The purpose of this report is to address air quality and community health risk impacts associated with the proposed mixed-use project located at 1881 West San Carlos Street in San José, California. The air quality impacts from this project would be associated with demolition of the existing land uses, construction of the new buildings and infrastructure, and operation of the project. Air pollutants emissions associated with construction and operation of the project were predicted using appropriate computer models. In addition, the potential project health risk impacts (includes construction and operation) and the impact of existing toxic air contaminant (TAC) sources affecting the nearby and proposed sensitive receptors were evaluated. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

This project proposes to demolish the existing four commercial buildings, accessory structure, and associated parking, totaling 29,000 square feet (sf), and construct one new building with two components (condominium component and senior care component). The condominium component would be six-stories tall with 61 multi-family housing dwelling units and the senior care component would be seven-stories tall with 246 senior care unit beds along with parking to the north and below grade parking. The multi-family housing component will also contain 6,000-sf of retail space on the ground floor along West San Carlos Street. The project will remove the existing driveway(s) at the current site and construct a new driveway entering from Brooklyn Avenue. In addition, the project proposes to include one stand-by diesel generator on the first level of the proposed senior care component.

Air Quality 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

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

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.

Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. 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. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

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, elementary schools, and parks. For cancer risk assessments, 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 site are the residents in the single-family housing adjacent to the north of the project site. There are additional sensitive receptors at farther distances to the west, south, and east of the project site, including the Luther Burbank School to the east. The project will introduce new sensitive (i.e., residential) receptors.

[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

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. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal 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_{10} and $PM_{2.5}$) 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.[3]

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.[4] 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.

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

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, 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 NO_X 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 NO_X.

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 the 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 and California Ambient Air Quality Standards. 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.[5] 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

[5] See BAAQMD: https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program , accessed 2/18/2021.

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. 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 within the San José at-risk community area.

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[6] 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 air toxics, odors, and greenhouse gas emissions. *Attachment 1* includes detailed community risk modeling methodology.

BAAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators and possibly new natural gas-fired boilers would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators, operation of the boilers for space and water heating and some minor emissions from cooling towers. 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
- Regulation 6 – Particulate Matter and Visible Emissions
  - Rule 6-3: Wood-Burning Devices
- 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.

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

Rule 2-1 lists sources that are exempt from permitting. At the proposed facility, the diesel fuel storage tanks are expected to be exempt from permitting.

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 generator engines.

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 stationary emergency standby diesel engines 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. Thus, is not expected that offsets for the proposed project would be required.

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 6-3 applies to emissions from wood-burning devices. Effective November 1, 2016, no person or builder shall install a wood-burning device in a new building construction. Project plans do not depict fireplaces.

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 with emergency standby generators, 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 Generator Engines

Since the generators 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 (PM10 or PM2.5) 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.

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-11.7 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 the *CEQA Air Quality Guidelines* in 2017 to include the latest significance thresholds that were used in this analysis are summarized in Table 1.

Table 1. BAAQMD CEQA Air Quality Significance Thresholds

Criteria Air Pollutant	**Construction Thresholds**	**Operational Thresholds**	
	Average Daily Emissions (lbs./day)	**Average Daily Emissions (lbs./day)**	**Annual Average Emissions (tons/year)**
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1000-foot zone of influence)**	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual $PM_{2.5}$	0.3 µg/m^3	0.8 µg/m^3	

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. GHG = greenhouse gases.

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: Conflict with or obstruct implementation of the applicable air quality plan?

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin (SFBAAB). BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), prepares and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.[7] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. Plans must show consistency with the control measures listed within the Clean Air Plan. At the project-level, there are no consistency measures or thresholds. The proposed project would not conflict with the latest Clean Air planning efforts since 1) project would have construction and operational emissions below the BAAQMD thresholds (see Impact 2 below), 2) the project would be considered urban infill, 3) the project would be located near employment centers, 4) the project would be located near transit with regional connections.

Impact AIR-2: 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 and size, and anticipated construction schedule were input to CalEEMod. Traffic generated by construction (i.e., off-site construction activities), which included

[7] Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan.*

worker trips, vendor deliveries and material hauling trip were computed separately using the CARB EMission FACtors 2021 model (EMFAC2021). [8] The model output from CalEEMod along with construction inputs are included as *Attachment 2*. EMFAC2021 calculations and outputs are included as *Attachment 3*.

CalEEMod Inputs

Land Uses

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
Condo/Townhouse	61	Dwelling Unit	61,000	1.23
Congregate Care (Assisted Living)	246	Dwelling Unit	246,000	
Strip Mall	6	1,000 sf	6,000	
Enclosed Parking Structure	113	Space	45,200	
Parking Lot	86	Space	34,400	

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 CalEEMod model develops default construction values for "typical construction site scenarios;" however, these assumptions for equipment usage are not adequate for projects involving extensive cut or fill, major excavation, or extensive demolition.[9] For this project, the construction build-out scenario, including equipment list and schedule, were based on data provided by the project applicant. The project construction equipment worksheet provided by the applicant included the schedule for each phase. Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was provided. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase 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 default construction schedule assumed that the earliest possible start date would be September 2022 and the project would be built out over a period of approximately 21 months, or 446 construction workdays. The earliest full year of operation was assumed to be 2025.

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

[9] SCAQMD. 2005. S*ample Construction Scenarios for Projects Less than Five Acres in Size* February. Note that this is the supporting report used to develop CalEEMod default construction inputs (see Appendix E – Technical Source Documentation of the CalEEMod User's Guide).

Construction 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 soil material imported and/or exported to the site, and the estimate of cement 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 rate by the number of days in that phase. Haul trips for demolition and grading were estimated from the provided demolition and grading volumes by assuming each truck could carry 10 tons per load. The number of asphalt total round haul trips was provided 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 EMFAC 2017 motor vehicle emission factor model. This model has been superseded by the EMFAC2021 model; however, CalEEMod has not been updated to include EMFAC2021. Therefore, construction traffic information was combined with EMFAC2021 motor vehicle emissions factors to estimate construction site trip emissions. EMFAC2021 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trucks, including cement 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 cement or asphalt trucks, these were treated as vendor travel distances (7.3 miles). Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On road emissions in Santa Clara County for the year 2022, 2023, and 2024 were used in these calculations. Table 3 provides the traffic inputs that were 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
	Worker Trips[1]	Vendor Trips[1]	Haul Trips[2]	
Vehicle mix[1]	67% LDA 6.4% LDT1 26.6% LDT2	7.1% MHDT 92.9% HHDT	100% HDDT	
Trip Length (miles)	10.8	7.3	20.0 (Demo/Soil) 7.3 (Cement/Asphalt)	CalEEMod default distance with 5-min truck idle time.
Demolition	24	-	224	30,323-sf of building and 430 tons of pavement demolition. CalEEMod default worker trips.
Site Preparation	45	-	-	CalEEMod default worker trips.
Grading	240	-	2,050	16,400-cy soil export. CalEEMod default worker trips.
Trenching	80	-	-	CalEEMod default worker trips.
Building Construction	93,440	17,155	-	CalEEMod default worker and vendor trips.
Architectural Coating	9,282	-	-	CalEEMod default worker trips.
Paving	150	-	55	27 asphalt truck round trips CalEEMod default worker trips.

Notes: [1] Based on 2022, 2023, and 2024 EMFAC2021 light-duty vehicle fleet mix for Santa Clara County.
[2] Includes demolition and grading trips estimated by CalEEMod based on estimated amount of material to be removed. Cement and asphalt trips estimated based on plans 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 and dividing those 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)				
2022	0.05	0.35	0.02	0.01
2023	0.65	1.20	0.06	0.05
2024	1.76	0.19	0.01	0.01
Average Daily Construction Emissions Per Year (pounds/day)				
2022 (102 construction workdays)	0.95	6.81	0.41	0.29
2023 (365 construction workdays)	3.55	6.59	0.33	0.27
2024 (141 construction workdays)	24.94	2.66	0.16	0.11
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. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices*.

Mitigation Measure AQ-1: **Include measures to control dust and exhaust during construction.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the 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. Additional measures are identified to reduce construction equipment exhaust emissions. The contractor shall implement the following best management practices that are required of all projects:

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

The measures above are consistent with BAAQMD-recommended basic control measures for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future employees and residents. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project.

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 2025 if construction begins in 2022.

Traffic Information

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.[10] The project would produce 918[11] net daily trips taking into account the *Employment – Retail Internal Reduction, Residential - Employment Internal Reduction, Residential – Retail Internal Reduction, Location Based Reduction,* and *VMT Reduction.* The daily trip generation was calculated using the size of the project land uses and the adjusted total automobile trips per land use. The Saturday and Sunday trip rates were adjusted 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 types and lengths specified by CalEEMod were used.

[10] Hexagon Transportation Consultants, Inc., *1881 San Carlos Street Mixed-Use Development Transportation Analysis*, May 5, 2021.

[11] Since completion of this analysis, the project net daily trips has increased from 918 to 948. This small increase in project trips would minimally, if at all, increase operational mobile emissions. The project operational emissions are far below significance thresholds and therefore any minor increase would not change the impact findings in the analysis.

EMFAC2021 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMission FACtors from 2021 (EMFAC2021), which is an older CARB emission inventory for on road and off 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 April 2021. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part one.[12,13] The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant and GHG emissions would increase. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2021, which were adjusted with the CARB EMFAC off-model adjustment factors. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2021 Technical Support Document.[14]

Climate Smart San José

Climate Smart San José is a plan to reduce air pollution, save water, and create a stronger and healthier community. The City approved goals and milestones in February 2018 to ensure the City can substantially reduce GHG emissions through reaching the following goals and milestones:

- All new residential buildings will be Zero Net Carbon Emissions (ZNE) by 2020 and all new commercial buildings will be ZNE by 2030 (Note that ZNE buildings would be all electric with a carbon-free electricity source).
- San José Clean Energy (SJCE) will provide 100-percent carbon-free base power by 2021.
- One gigawatt of solar power will be installed in San José by 2040.
- 61 percent of passenger vehicles will be powered by electricity by 2030.

The California Energy Commission (CEC) updates the California Building Energy Efficiency Standards every three years, in alignment with the California Code of regulations. Title 24 Parts 6 and 11 of the California Building Energy Efficiency Standards and the California Green Building Standards Code (CALGreen) address the need for regulations to improve energy efficiency and combat climate change. The 2019 CAL Green standards include substantial changes intended to increase the energy efficiency of buildings. For example, the code encourages the installation of solar and heat pump water heaters in low-rise residential buildings. The 2019 California Code went before City Council in October 2019 for approval, with an effective date of January 1, 2020. As part of this action, the City adopted a "reach code" that requires development projects to exceed

[12] California Air Resource Board, 2019. *EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One*. November. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf

[13] California Air Resource Board, 2020. *EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO_20 Emissions to Accounts for the SAFE Vehicles Rule Part One and the Final SAFE Rule*. June. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery

[14] See CARB 2021: https://ww2.arb.ca.gov/sites/default/files/2021-04/emfac2021_technical_documentation_april2021.pdf

the minimum Building Energy Efficiency requirements.[15] The City's reach code applies only to new residential and non-residential construction in San José. It incentivizes all-electric construction, requires increased energy efficiency and electrification-readiness for those choosing to maintain the presence of natural gas. The code requires that non-residential construction include solar readiness. It also requires additional EV charging readiness and/or electric vehicle service equipment (EVSE) installation for all development types.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 203.98 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2019 emissions rate.

Additionally, the City of San José passed an ordinance in December 2020 that prohibits the use of natural gas infrastructure in most new buildings.[16] This ordinance applies to most new construction starting August 1, 2021. Given that senior care facilities could potentially have equipment that require natural gas use, it was assumed in the model that the project would use natural gas.

Project Generator

The project proposes to include one stand-by emergency diesel generator on the first level of the proposed senior care component. Details about the generator had not been determined at the time of this study. Therefore, the generator was assumed to be 150-kilowatt (kW) powered by a 200 horsepower (HP) diesel engine. This generator would be tested periodically and power the buildings in the event of a power failure. 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.

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 changed to 100% aerobic conditions to represent wastewater treatment plant conditions.

[15] City of San José Transportation and Environmental Committee, *Building Reach Code for New Construction Memorandum,* August 2019.
[16] City of San Jose, 2020. "Expand Natural Gas Ban", December. Web: https://www.sanjoseca.gov/Home/Components/News/News/2210/4699

Existing Uses

The existing site consists of 29,000 sf retail or commercial buildings, accessory structures, and associated parking. However, traffic consultants did not provide project-specific trip generation rates for the existing land uses. Therefore, the emissions from the existing uses were not considered, nor used to offset proposed project conditions.

Summary of Computed Operational Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 5 shows average daily construction 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}	$PM_{2.5}$
2025 Annual Project Operational Emissions (*tons/year*)	2.04	0.62	0.73	0.21
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	*No*	*No*	*No*	*No*
2025 Daily Project Operational Emissions (*pounds/day*)[1]	11.17	3.40	4.01	1.13
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	*No*	*No*	*No*	*No*
Note: [1]Assumes 365-day operation.				

Impact AIR-3: 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 new sources of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., standby diesel generator).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would also include the installation of one emergency generator powered by a diesel engine which would produce TAC and air pollutant emissions.

Project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC was also assessed in terms of the cumulative risk which includes the project contribution, as well as the risk on the new sensitive receptors introduced by the project.

Community Risk Methodology for Construction and Operation

Community risk impacts were addressed by predicting increased cancer risk, the increase in annual $PM_{2.5}$ concentrations and computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are the combination of risk from construction and operation sources.

These sources include on-site construction activity, construction truck hauling, and increased traffic from the project. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance,[17] with the sensitive receptors being exposed to both project construction and operation emissions during this timeframe.

The project increased cancer risk is computed by summing the project construction cancer risk and operation cancer risk contribution. Unlike, the increased maximum cancer risk, the annual $PM_{2.5}$ concentration, and HI values are not additive but based on an annual maximum risk for the entirety of the project. The project maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The methodology for computing community risks impacts is contained in *Attachment 1*. This involved the calculation of TAC and $PM_{2.5}$ emissions, dispersion modeling of these emissions, and computations of cancer risk and non-cancer health effects.

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the nearby existing residences surrounding the project site, as shown in Figure 1. Residential receptors are assumed to include all receptor groups (i.e., third trimester, infants, children, and adults) with almost continuous exposure to project emissions. Community risks were also computed for children at the Luther Burbank School (five years and older).

Community Risks from Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issue associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[18] This assessment included dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that increased cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.06 tons (128 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while

[17] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.
[18] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

at or near the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.01 tons (29 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at sensitive receptors (residences, students) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[19] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Construction Sources

To represent the construction equipment exhaust emissions, an area source emission release height of 20 feet (6 meters) was used for the area sources.[20] The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, should be based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 7 feet (2 meters) was used for the area source. Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exit the site at a higher elevation than when it was generated. For all these reasons, a 7-foot release height was used as the average release height across the construction site. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

AERMOD Inputs and Meteorological Data

The modeling used a five-year meteorological data set (2013-2017) from the San José Airport prepared for use with the AERMOD model by the BAAQMD. Construction emissions were modeled as occurring between 8:00 a.m. to 6:00 p.m., when the majority of construction activity would occur. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2022, 2023, and 2024 periods were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptor locations. Receptor heights of 5 feet (1.5 meters) and 15 feet (4.5 meters) used to represent the breathing heights on the first and second floors of sensitive

[19] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

[20] California Air Resource Board, 2007. *Proposed Regulation for In-Use Off-Road Diesel Vehicles, Appendix D: Health Risk Methodology*. April. Web: https://ww3.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm

receptors in the residences surrounding the site. A receptor height of 3 feet (1 meter) was used to represent the breathing height of children at the Luther Burbank School.

Summary of Construction Community Risk Impacts

The increased cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described in *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Infant and adult exposures were assumed to occur at all residences during the entire construction period.

The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI values was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation refence exposure level of 5 $\mu g/m^3$.

The maximum modeled annual DPM and $PM_{2.5}$ concentrations, which includes both the DPM and fugitive $PM_{2.5}$ concentrations, were identified at nearby sensitive receptors to find the MEI. Results of this assessment indicated that the MEI most affected by construction was located on the first floor (5 feet above ground) of the closest residence to the southeast of the project site opposite West San Carlos Street. The location of the MEI and nearby sensitive receptors are shown in Figure 1. Table 6 lists the community risks from construction at the location of the residential MEI. *Attachment 4* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations.

Additionally, modeling was conducted to predict the cancer risks, non-cancer health hazards, and maximum $PM_{2.5}$ concentrations associated with construction activities at the nearby school. The maximum increased cancer risks were adjusted using child exposure parameters. The uncontrolled cancer risk, $PM_{2.5}$ concentration, and HI at the nearby school would not exceed their respective BAAQMD single-source significance thresholds, as shown in Table 6.

Figure 1. Location of Project Construction Site, Off-Site Sensitive Receptors, and Maximum TAC Impact (MEI)

Community Risks from Project Operation – Traffic and Generators

Operation of the project would have long-term emissions from mobile sources (i.e., traffic) and stationary sources (i.e., generator). While these emissions would not be as intensive at or near the site as construction activity, they would contribute to long-term effects to sensitive receptors.

Project Traffic

Diesel powered vehicles are the primary concern with local traffic-generated TAC impacts. This project would generate approximately 918 daily trips[21,22] with a majority of the trips being from light-duty gasoline-powered vehicles (i.e., passenger cars). The project is not anticipated to generate large amounts of truck trips that would involve diesel vehicles. Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicle per day is

[21] Hexagon Transportation Consultants, Inc., *1881 San Carlos Street Mixed-Use Development Transportation Analysis*, May 5, 2021.

[22] Since completion of this analysis, the project net daily trips has increased from 918 to 948. This small increase in project trips is still below 10,000 vehicles and would still not be a significant TAC source.

considered a low-impact source of TACs and do not need to be considered in the CEQA analysis.[23] Therefore, emissions from project traffic are considered negligible and was not included within this analysis.

Project Stand-By Diesel Generator

The project proposes to include one stand-by 150-kW generator powered by a 200 HP diesel engine on the northern side of the proposed senior care component. Operation of a diesel generator would be a source of TAC emissions. The generator would be operated for testing and maintenance purposes, with a maximum of 50 hours per year of non-emergency operation under normal conditions. During testing periods, the engine would typically be run for less than one hour under light engine loads. The generator engine would be required to meet U.S. EPA emission standards and consume commercially available California low sulfur diesel fuel. The emissions from the operation of the generator were calculated using the CalEEMod model.

This diesel engine would be subject to CARB's Stationary Diesel Airborne Toxics Control Measure (ATCM) and require permits from the BAAQMD, since it will be equipped with an engine larger than 50-HP. As part of the BAAQMD permit requirements for toxics screening analysis, the engine emissions will have to meet Best Available Control Technology for Toxics (TBACT) and pass the toxic risk screening level of less than ten in a million. The risk assessment would be prepared by BAAQMD. Depending on results, BAAQMD would set limits for DPM emissions (e.g., more restricted engine operation periods). Sources of air pollutant emissions complying with all applicable BAAQMD regulations generally will not be considered to have a significant air quality community risk impact.

To obtain an estimate of potential cancer risks and $PM_{2.5}$ impacts from operation of the emergency generators the U.S. EPA AERMOD dispersion model was used to calculate the maximum annual DPM concentration at off-site sensitive receptor locations (nearby residences, students). The same receptors and breathing heights used in the construction dispersion modeling were used for the generator model. Additionally, the same BAAQMD San José Airport meteorological data was used. Stack parameters (stack height, exhaust flow rate, and exhaust gas temperature) for modeling the generators was based on BAAQMD default parameters for emergency generators.[24] Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that generator operation could occur at any time of the day (24 hours per day, 365 days per year).

To calculate the increased cancer risk from the generators at the MEI, the cancer risks were also adjusted for exposure duration to account for the MEI being exposed to construction for the first three years of the 30-year period. The exposure duration was adjusted for 27 years of exposure. Table 6 lists the community risks from stand-by diesel generators at the location of residential MEI. The emissions and health risk calculations for the proposed generators are included in *Attachment 4*.

[23] Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

[24] The San Francisco Community Risk Reduction Plan: Technical Support Document, BAAQMD, San Francisco Dept. of Public Health, and San Francisco Planning Dept., December 2012

Summary of Project-Related Community Risks at the Offsite Project MEI

The cumulative risk impacts from a project are the combination of construction and operation sources. These sources include on-site construction activity, project generator, and increased traffic from the project. The project impact is computed by adding the construction cancer risk for an infant to the increased cancer risk for the project operational conditions for the roadway and generator at the MEI over a 30-year period. The project MEI is identified as the sensitive receptor that is most impacted by the project's construction and operation.

For this project, the sensitive receptor identified in Figure 1 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to 3 year of construction cancer risks and 27 years of operational (includes stand-by generator) cancer risks. The cancer risks from construction and operation of the project were summed together. Unlike the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI risks are not additive but based on an annual maximum risk for the entirety of the project.

Project risk impacts are shown in Table 6. The unmitigated maximum cancer risks from construction activities at the residential project MEI location would exceed the single-source significance thresholds. However, with the incorporation of the *Mitigation Measure AQ-1 and AQ-2*, the mitigated risk would no longer exceed the BAAQMD single-source significance thresholds. The unmitigated $PM_{2.5}$ concentration and non-cancer hazards from construction and operation activities would be below the single-source significance threshold.

Table 6. Construction and Operation Risk Impacts at the Off-Site Project MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction (Years 0-3)	Unmitigated	**18.87 (infant)**	0.09	0.02
	Mitigated*	4.05 (infant)	0.04	<0.01
Project Generator Operation, One 150-kW, 200-HP (Years 3-30)		0.05 (infant)	<0.01	<0.01
Total/Maximum Project Impact (Years 0-30)	Unmitigated	**18.92 (infant)**	0.09	0.02
	Mitigated*	4.10 (infant)	0.04	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated	*No*	*No*	*No*
Most Affected Nearby Child – Luther Burbank School Child Receptor				
Project Construction (Years 0-3)	Unmitigated	5.14 (child)	0.06	0.01
Project Generators (Years 3-9)		0.21 (child)	<0.01	<0.01
Unmitigated Total/Maximum Project (Years 0-9)		5.35	0.06	0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

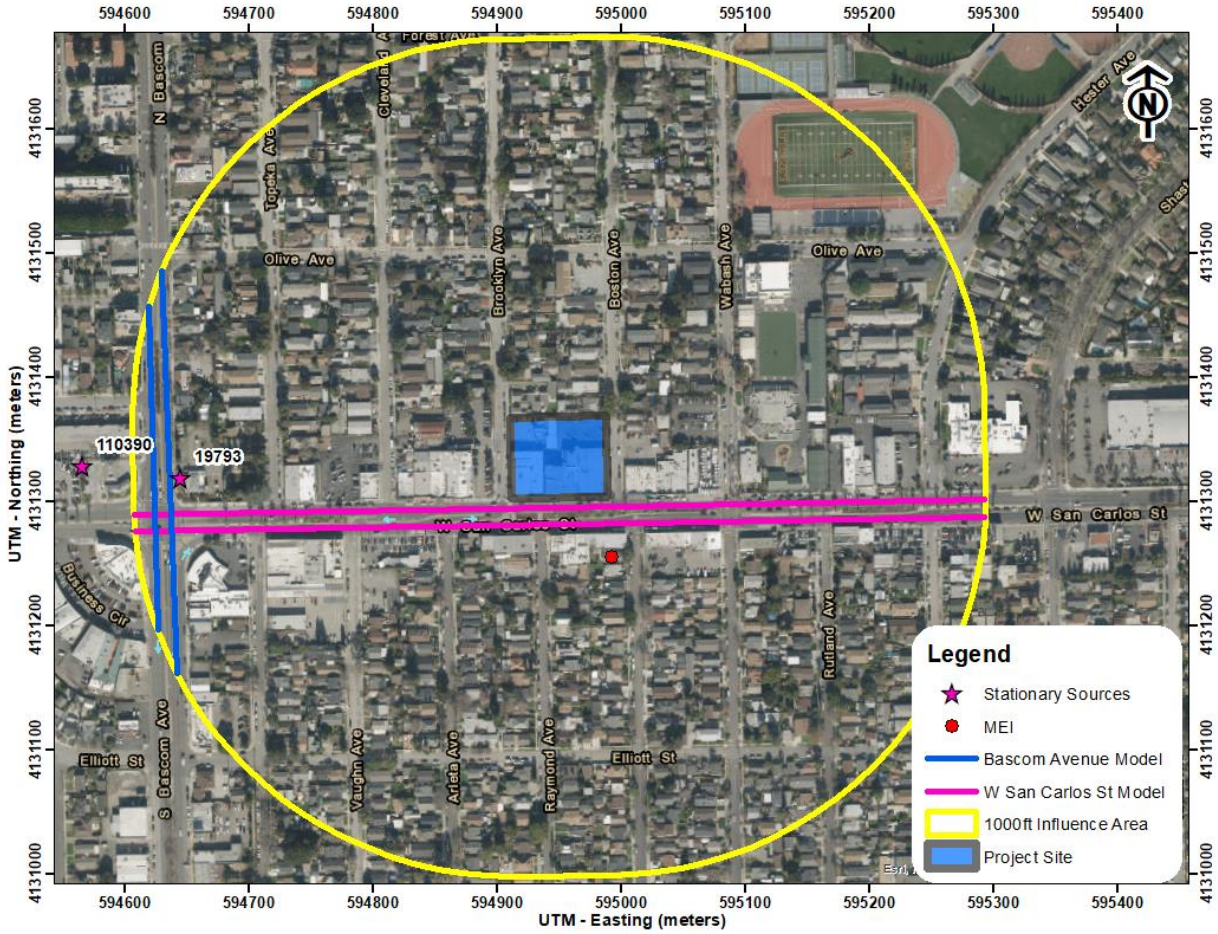
* Construction equipment with Tier 4 Interim engines as Mitigation Measures.

Cumulative Community Risks of all TAC Sources at the Off-Site Project MEI

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site (i.e., influence area). These sources include freeways or highways, rail lines, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area indicates that traffic on West San Carlos Street and Bascom Avenue would exceed 10,000 vehicles per day. Other nearby streets would have less than 10,000 vehicles per day. A review of BAAQMD's stationary source map website identified two stationary sources with the potential to affect the project MEI. Figure 2 shows the location of the sources affecting the MEI. Community risk impacts from these sources upon the MEI reported in Table 7. Details of the modeling and community risk calculations are included in *Attachment 5*.

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Local Roadways – West San Carlos Street & Bascom Avenue

A refined analysis of potential health impacts from vehicle traffic on West San Carlos Street and Bascom Avenue was conducted. The refined analysis involved predicting emissions for the traffic volume and mix of vehicle types on the roadway near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks are then computed based on the modeled exposures. *Attachment 1* includes a description of how community risk impacts, including cancer risk are computed.

Emission Rates

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic on both roadways using the Caltrans version of the EMFAC2017 emissions model, known as CT-EMFAC2017. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (e.g., TOG), running evaporative losses for TOG, and tire and brake wear and fugitive road dust for $PM_{2.5}$. All $PM_{2.5}$ emissions from all vehicles were used, rather than just the $PM_{2.5}$ fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear and from re-entrained roadway dust were included in these emissions. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2017 emissions data. Inputs to the model include region (Santa Clara County), type of road (major/collector), truck percentage for non-state highways in Santa Clara County (3.51 percent),[25] traffic mix assigned by CT-EMFAC2017 for the county, year of analysis (2022 – construction start year), and season (annual).

In order to estimate TAC and $PM_{2.5}$ emissions over the 30-year exposure period used for calculating the increased cancer risks for sensitive receptors at the MEI and project site, the CT-EMFAC2017 model was used to develop vehicle emission factors for the year 2022 (first project construction 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 CT-EMFAC2017. Year 2022 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated since, as discussed above, overall vehicle emissions, and in particular diesel truck emissions, will decrease in the future.

The average daily traffic (ADT) for West San Carlos Street and Bascom Avenue was calculated based on AM and PM peak-hour background plus project traffic volumes for the nearby roadway provided by the project's traffic consultant. The calculated ADT on West San Carlos Street was 20,745 vehicles, while the calculated ADT on Bascom Avenue was 22,335 vehicles. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[26] which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. An average travel speed of 35 miles per hour (mph) on West San Carlos Street and Bascom Avenue was used for all hours of the day based on posted speed limit signs on the roadway.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the EPA AERMOD air quality dispersion model, which is recommended by the BAAQMD for this type of analysis.[27] TAC and $PM_{2.5}$ emissions from traffic on West San Carlos Street and Bascom Avenue within

[25] Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

[26] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2014 does not include Burden type output with hour by hour traffic volume information.

[27] BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012

1,000 feet of the project site were evaluated. Vehicle traffic on the roadways were modeled using a series of adjacent volume sources along a line (line volume sources); with line segments used for the eastbound and westbound travel directions on West San Carlos Street, and northbound and southbound travel directions on Bascom Avenue. The same meteorological data and off-site sensitive receptors used in the previous dispersion modeling were used in the roadway modeling. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations. Annual TAC and $PM_{2.5}$ concentrations for 2022 from traffic on West San Carlos Street and Bascom Avenue were calculated using the model. Concentrations were calculated at the project MEI with receptor heights of 5 feet (1.5 meters) to represent the breathing heights of residents in the home.

Figure 2 shows the roadway segments modeled and residential receptor locations used in the modeling. Table 7 lists the risks and hazards from both roadways. The emission rates and roadway calculations used in the analysis are shown in *Attachment 5*.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2018* geographic information system (GIS) map website.[28] This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts. Two sources were identified with one source being a diesel generator and one source being a gas dispensing facility. The BAAQMD GIS website provided screening risks and hazards for the source, so a stationary source information request was not required to be submitted to BAAQMD.

The screening risk and hazard levels posted on the GIS website for the sources were adjusted for distance using BAAQMD's *Gasoline Dispensing Facility and Diesel Internal Combustion Engine Distance Adjustment Multiplier Tools*. Estimated community risk values for the permitted stationary source is listed in Table 7.

Summary of Cumulative Risks at the Project MEI

Table 7 reports both the project and cumulative community risk impacts at the sensitive receptors most affected by project construction and operation (i.e., the project MEI). The project would have an exceedance with respect to community risk caused by project construction and operation activities, since the maximum unmitigated cancer risk exceeds the BAAQMD single-source thresholds. With the implementation of *Mitigation Measure AQ-1 and AQ-2*, the project's cancer risk would be lowered to a level below the single-source thresholds. The HI and annual $PM_{2.5}$ concentrations, unmitigated and mitigated, do not exceed their single or cumulative thresholds. According to BAAQMD, health risks would be less than significant if the risks from the project are reduced below the single source thresholds.

[28] BAAQMD, Web: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

Table 7. Cumulative Community Risk Impacts at the Location of the Project MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts				
Total/Maximum Project Impact	Unmitigated	**18.92 (infant)**	0.09	0.02
	Mitigated	4.10 (infant)	0.04	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated	*No*	*No*	*No*
Cumulative Sources				
West San Carlos Street, ADT 20,745		4.40	0.29	<0.01
Bascom Avenue, ADT 22,355		0.66	0.04	<0.01
San Jose Water Company (Facility ID #19793, Generators), MEI at 1,000+ feet		1.2	<0.01	<0.01
Valero Refining Company (Facility ID #110390, Gas Dispensing Facility), MEI at 1000+ feet		0.2	-	<0.01
Combined Sources	Unmitigated	25.38	<0.43	<0.06
	Mitigated	10.56	<0.38	<0.05
BAAQMD Cumulative Source Threshold		***100***	***0.8***	***10.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
	Mitigated	*No*	*No*	*No*

Mitigation Measure AQ-2: Use construction equipment that has low diesel particulate matter exhaust emissions.

A feasible plan to reduce emissions such that increased cancer risk from construction would be reduced below significance levels is as follows:

1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards for particulate matter (PM_{10} and $PM_{2.5}$), if feasible, otherwise,

    a. If use of Tier 4 equipment is not available, alternatively use equipment that meets U.S. EPA emission standards for Tier 3 engines and include particulate matter emissions control equivalent to CARB Level 3 verifiable diesel emission control devices that altogether achieve at least a 50 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment.

    b. Use of alternatively fueled or electric equipment.

2. Alternatively, the applicant could develop a separate feasible plan that reduces on- and near-site construction diesel particulate matter emissions by 50 percent or greater. Such a plan would have to be reviewed and approved by the City.

Effectiveness of Mitigation Measure AQ-1 and AQ-2

CalEEMod was used to compute emissions associated with this mitigation measure assuming that all equipment met U.S. EPA Tier 4 engines standards and BAAQMD best management practices for construction were included. With these measures implemented, the project's construction cancer risk levels (assuming infant exposure) would be reduced by 79 percent to 4.05 per million and the total project's risk to 4.10 per million, which is below the BAAQMD single source threshold.

Non-CEQA: On-Site Community Risk Assessment for TAC Sources

In addition to evaluating health impact from project construction, a health risk assessment was completed to assess the impact that existing TAC sources would have on the new proposed sensitive receptors (residents) that the project would introduce. The same TAC sources identified above were used in this health risk assessment.[29] Figure 3 shows the on-site sensitive receptors in relation to the nearby TAC sources. All on-site community task results are listed in Table 8. *Attachment 5* includes the dispersion modeling and risk calculations for TAC source impacts upon the proposed on-site sensitive receptors.

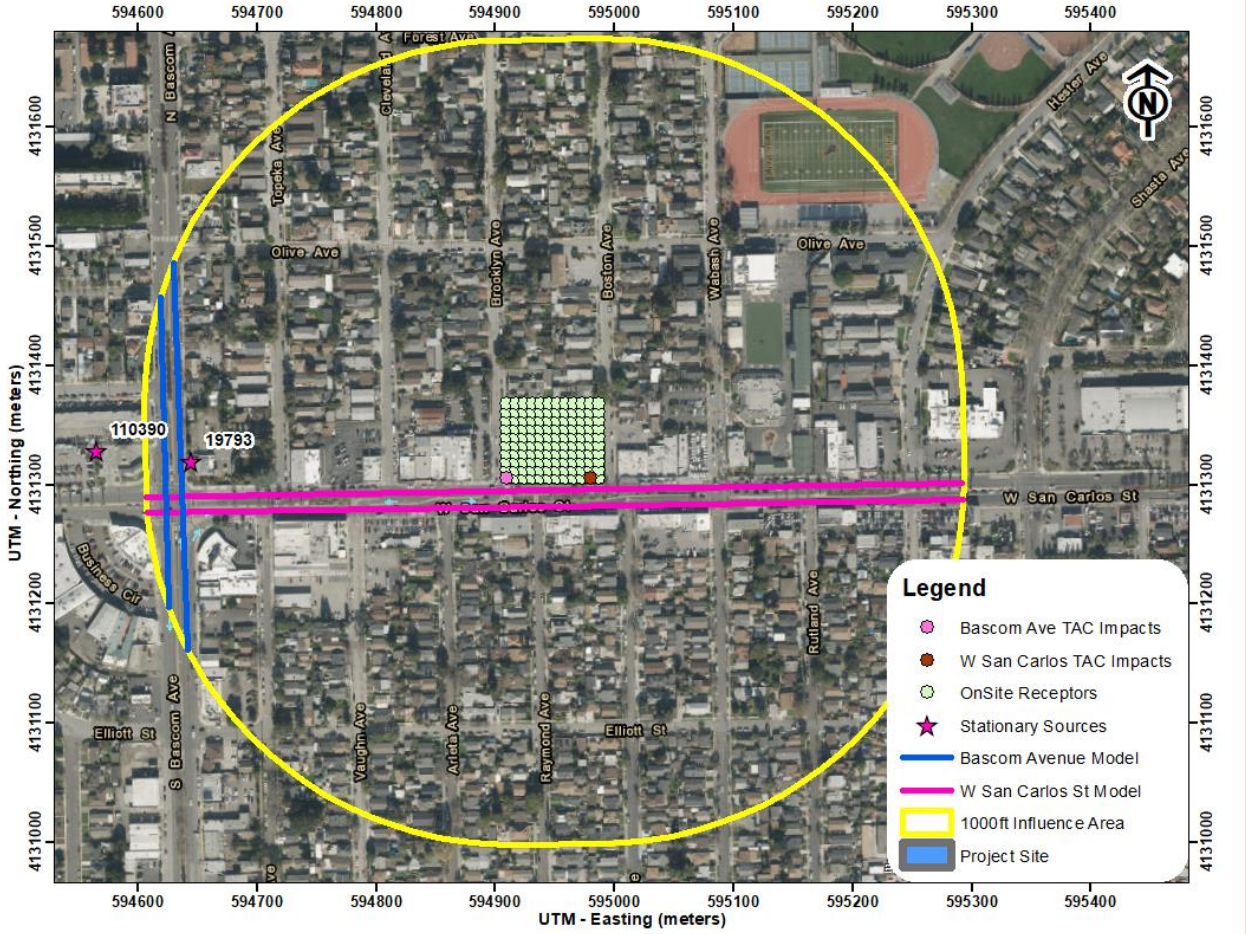
Local Roadways – West San Carlos Street and Bascom Avenue

The roadway analysis for the project residents was conducted in the same manner as described above for the off-site MEI. The project set of receptors were placed within the project site and were spaced every 23 feet (7 meters). Roadway impacts were modeled at receptor heights of 15 feet (4.5 meters) and 25 feet (7.6 meters) representing sensitive receptors on the second and third floors (first and second residential levels) on the future residential component. The portions of West San Carlos Street and Bascom Avenue included in the modeling are shown in Figure 3 along with the project site and receptor locations where impacts were modeled.

Maximum increased cancer risks were calculated for the residents at the project site using the maximum modeled TAC concentrations. A 30-year exposure period was used in calculating cancer risks assuming the residents would include third trimester pregnancy and infants/children and were assumed to be in the new housing area for 24 hours per day for 350 days per year. The highest impacts from West San Carlos Street occurred at the second-floor (first residential levels) receptor in the southeast corner unit of the proposed building closest to the roadways. The highest impacts from Bascom Avenue occurred at the second-floor (first residential levels) receptor in the southwest corner unit of the proposed project closest to the roadway. Cancer risks associated with West San Carlos Avenue and Bascom Avenue are greatest closest to those roadways and decrease with distance from the roadways. The roadway community risk impacts at the project site are shown in Table 8. Details of the emission calculations, dispersion modeling, and cancer risk calculations are contained in *Attachment 5.*

[29] We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473, which confirm that the impacts of the environment on a project are excluded from CEQA unless the project itself "exacerbates" such impacts.

Figure 3. Project Site, On-Site Residential Receptors, Roadway Segments Evaluated, and Locations of Maximum Roadway TAC Impacts



Stationary Sources

The stationary source screening analysis for the new project sensitive receptors was conducted in the same manner as described above for the construction MEI. Table 8 shows the health risk assessment results from the stationary sources.

Summary of Cumulative Community Risks at the Project Site

Community risk impacts from the existing and TAC sources upon the project site are reported in Table 8. The risks from the singular TAC sources are compared against the BAAQMD single-source threshold. The risks from all the sources are then combined and compared against the BAAQMD cumulative-source threshold. As shown, none of the sources exceed the single-source or cumulative-source thresholds.

Table 1. Cumulative Community Risk Impacts Upon the Onsite Sensitive Receptors

Source	Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
Cumulative Sources			
West San Carlos Street, ADT 20,745	3.66	0.17	<0.01
Bascom Avenue, ADT 22,355	0.85	0.05	<0.01
San Jose Water Company (Facility ID #19793, Generators), MEI at 800 feet	1.73	<0.01	<0.01
Valero Refining Company (Facility ID #110390, Gas Dispensing Facility), MEI at 1000+ feet	0.17	-	<0.01
BAAQMD Single-Source Threshold	***10***	***0.3***	***1.0***
Exceed Threshold?	*No*	*No*	*No*
Combined Sources	6.41	<0.23	<0.04
BAAQMD Cumulative Source Threshold	***100***	***0.8***	***10.0***
Exceed Threshold?	*No*	*No*	*No*

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute increased cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod output for project construction and operational criteria air pollutant. The operational output for existing and 2030 project uses is also included in this attachment. Also included are any modeling assumptions.

Attachment 3 includes the EMFAC2021 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

Attachment 4 is the health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction. The AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 5 includes the cumulative community risk calculations, modeling results, and health risk calculations from sources affecting the MEI.

Attachment 1: Health Risk Calculation Methodology

Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[30] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[31] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[32] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates.

[30] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[31] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[32] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = $C_{air} \times DBR^* \times A \times (EF/365) \times 10^{-6}$

Where:

C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.

The health risk parameters used in this evaluation are summarized as follows:

Parameter	*Exposure Type* →	Infant		Child	Adult
	Age Range →	3rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day)$^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95th Percentile Rate		-	1,200	520	240
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14*
Exposure Frequency (days/year)		350	350	350	350*
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*

* For worker exposures (adult) the exposure duration and frequency are 25 years 250 days/year and FAH is not applicable.

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: CalEEMod Input Assumptions and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: 1881 W San Carlos

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size
- 61 Dwelling Units
- 1.23 total project acres disturbed
- 84214 s.f. residential
- 6000 s.f. retail
- ____ s.f. office/commercial
- 125,468 s.f. other, specify: Senior Care
- 18406 s.f. parking garage — 131 spaces
- 15263 s.f. parking lot — 86 spaces

Construction Hours 8 am to 6 pm

Pile Driving? Y/N? Y

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? Y/N? ____

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower: _____

Fuel Type: _____

Location in project (Plans Desired if Available):

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

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition	**Start Date:**	**9/6/2022**	**Total phase:**	**8**			**Overall Import/Export Volumes**
		End Date:	**9/15/2022**					
	Concrete/Industrial Saws	81	0.73			0	0	**Demolition Volume**
1	Excavators	158	0.38	8	8	8	64	Square footage of buildings to be demolished
	Rubber-Tired Dozers	247	0.4			0	0	(*or* total tons to be hauled)
	Tractors/Loaders/Backhoes	97	0.37			0	0	**_30323_** square feet *or*
								? Hauling volume (tons)
								Any pavement demolished and hauled? **_430_ tons**
	Site Preparation	**Start Date:**	**9/16/2022**	**Total phase:**	**9**			
		End Date:	**9/28/2022**					
	Graders	187	0.41			0	0	
1	Rubber Tired Dozers	247	0.4	8	5	4.44444444	40	
1	Tractors/Loaders/Backhoes	97	0.37	8	4	3.55555556	32	
	Grading / Excavation	**Start Date:**	**9/29/2022**	**Total phase:**	**30**			
		End Date:	**10/28/2022**					**Soil Hauling Volume**
1	Excavators	158	0.38	8	15	4	120	Export volume = **_16400_** cubic yards?
1	Graders	187	0.41	8	5	1.33333333	40	Import volume = **_?_** cubic yards?
	Rubber Tired Dozers	247	0.4			0	0	
	Concrete/Industrial Saws	81	0.73	8	10	2.66666667	0	
1	Tractors/Loaders/Backhoes	97	0.37			0	0	
	Other Equipment?							
	Trenching/Foundation	**Start Date:**	**10/31/2022**	**Total phase:**	**15**			
		End Date:	**11/21/2022**					
1	Tractor/Loader/Backhoe	97	0.37	8	10	5.33333333	80	
1	Excavators	158	0.38	8	5	2.66666667	40	
	Other Equipment?							
	Building - Exterior	**Start Date:**	**11/22/2022**	**Total phase:**	**365**			**Cement Trucks? _?_ Total Round-Trips**
		End Date:	**11/21/2023**					
1	Cranes	231	0.29	8	300	6.57534247	2400	Electric? (Y/N) Otherwise assumed diesel
1	Forklifts	89	0.2	8	250	5.47945205	2000	Liquid Propane (LPG)? (Y/N) Otherwise Assumed diesel
	Generator Sets	84	0.74			0	0	Or temporary line power? (Y/N)
1	Tractors/Loaders/Backhoes	97	0.37	8	200	4.38356164	1600	
1	Welders	46	0.45	8	300	6.57534247	2400	
	Other Equipment?					0		
	Building - Interior/Architectural Coating	**Start Date:**	**11/22/2023**	**Total phase:**	**180**			
		End Date:	**5/21/2024**					
1	Air Compressors	78	0.48	8	180	8	1440	
	Aerial Lift	62	0.31			0	0	
	Other Equipment?							
	Paving	**Start Date:**	**11/22/2023**	**Total phase:**	**30**			
		Start Date:	**12/21/2023**					
	Cement and Mortar Mixers	9	0.56			0	0	
	Pavers	130	0.42			0	0	**Asphalt? __228_ cubic yards or ____ round trips?**
1	Paving Equipment	132	0.36	8	30	8	240	
1	Rollers	80	0.38	8	4	1.06666667	32	
	Tractors/Loaders/Backhoes	97	0.37			0	0	
	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 horepower 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**
Assisted Living	246	640	553	***2.25***		2.6	2.93	3.15
Employ-Retail Reduction		*-19*			*Rev*		***2.53***	***2.72***
Res-Employ Reduction		*-10*						
Location Reduction		*-56*						
VMT Reduction		*-2*						
Multifamily Housing	61	332	228	***3.74***		7.32	8.14	6.28
Res-Employ Reduction		*-10*			*Rev*		***4.16***	***3.21***
Res-Retail Reduction		*-50*						
Location Reduction		*-42*						
VMT Reduction		*-2*						
Shopping Center	6	227	138	***23.00***		44.32	42.04	20.43
Employ-Retail Reduction		*-19*			*Rev*		***21.82***	***10.60***
Res-Retail Reduction		*-50*						
Location Reduction		*-20*						

Table 5
Project Trip Generation Estimates

Land Use	ITE Land Use Code	Location	% of Vehicle Mode Share	VMT Existing	VMT Project	% Reduction	Size	Daily Rate	Daily Trip	AM Peak Hour Pk-Hr Rate	AM Peak Hour Split In	AM Peak Hour Split Out	AM Peak Hour Trip In	AM Peak Hour Trip Out	AM Peak Hour Trip Total	PM Peak Hour Pk-Hr Rate	PM Peak Hour Split In	PM Peak Hour Split Out	PM Peak Hour Trip In	PM Peak Hour Trip Out	PM Peak Hour Trip Total
Proposed Land Uses																					
Assisted Living [1]	254						246 Beds	2.60	640	0.19	63%	37%	30	17	47	0.26	38%	62%	24	40	64
- Employment - Retail Internal Reduction [2]						3%			*-19*				*-1*	*-1*	*-2*				*-1*	*-1*	*-2*
- Residential - Employment Internal Reduction [3]						3%			*-10*				*0*	*0*	*0*				*0*	*0*	*0*
- Location Based Reduction [5]		*Urban Low-Transit*	*91%*			*9%*			*-56*				*-3*	*-1*	*-4*				*-2*	*-3*	*-5*
- VMT Reduction [6]				*12.88*	*12.84*	*0.3%*			*-2*				*0*	*0*	*0*				*0*	*0*	*0*
Multifamily Housing (Mid-Rise) [1]	221						61 Dwelling Units	5.44	332	0.36	26%	74%	6	16	22	0.44	61%	39%	16	11	27
- Residential - Employment Internal Reduction [3]						3%			*-10*				*0*	*0*	*0*				*0*	*0*	*0*
- Residential - Retail Internal Reduction [4]									*-50*				*-1*	*0*	*-1*				*-2*	*-2*	*-4*
- Location Based Reduction [5]		*Urban Low-Transit*	*87%*			*13%*			*-42*				*-1*	*-2*	*-3*				*-2*	*-1*	*-3*
- VMT Reduction [7]				*8.03*	*7.95*	*1.0%*			*-2*				*0*	*0*	*0*				*0*	*0*	*0*
Shopping Center [1]	820						6,000 Square Feet	37.75	227	0.94	62%	38%	4	2	6	3.81	48%	52%	11	12	23
- Employment - Retail Internal Reduction [2]									*-19*				*-1*	*-1*	*-2*				*-1*	*-1*	*-2*
- Residential - Retail Internal Reduction [4]						*15%*			*-50*				*-1*	*0*	*-1*				*-2*	*-2*	*-4*
- Location Based Reduction [5]		*Urban Low-Transit*	*87%*			*13%*			*-20*				*0*	*0*	*0*				*-1*	*-1*	*-2*
Baseline Vehicle Trips (Before Reductions)									1,199				40	35	75				51	63	114
Net Project Trips									**918**				**32**	**30**	**62**				**40**	**52**	**92**

Notes:
[1] Source: ITE *Trip Generation Manual*, 10th Edition 2017, average trip generation rates.
[2] As prescribed by the Transportation Impact Analysis Guidelines from VTA (October 2014), the maximum trip reduction for a mixed-use development project with employment and retail is equal to 3% off the employment generator.
[3] As prescribed by the Transportation Impact Analysis Guidelines from VTA (October 2014), the maximum trip reduction for a mixed-use development project with residential and employment is equal to 3% off the smaller trip generator.
[4] As prescribed by the Transportation Impact Analysis Guidelines from VTA (October 2014), the maximum trip reduction for a mixed-use development project with residential and retail is equal to 15% off the smaller trip generator.
[5] The project site is located within an urban low-transit area based on the City of San Jose VMT Evaluation Tool (March 14, 2018). The location-based vehicle mode shares are obtained from Table 6 of the City of San Jose Transportation Analysis Handbook (April 2018). The trip reductions are based on the percent of mode share for all of the other modes of travel besides vehicle.
[6] VMT per capita for employment use. 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-capita is equivalent to one percent reduction in peak-hour vehicle trips.
[7] VMT per capita for residential use. 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-capita 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						
2022	0.02	0.21	0.01	0.01	29.67	
2023	0.60	1.01	0.05	0.04	146.30	
2024	1.74	0.12	0.01	0.01	24.20	
EMFAC						
2022	0.03	0.14	0.01	0.01	99.73	
2023	0.05	0.19	0.02	0.01	195.20	
2024	0.02	0.07	0.01	0.00	74.28	
Total Construction Emissions by Year						
2022	0.05	0.35	0.02	0.01	129.40	
2023	0.65	1.20	0.06	0.05	341.50	
2024	1.76	0.19	0.01	0.01	98.48	
	Total Construction Emissions					
Tons	4.20	1.85	0.10	0.08	593.59	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2022	0.95	6.81	0.41	0.29		**102**
2023	3.55	6.59	0.33	0.27		**365**
2024	24.94	2.66	0.16	0.11		**141**
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	2.04	0.62	0.73	0.21		
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**		
	Average Daily Emissions					
Pounds Per Day	11.17	3.40	4.01	1.13		
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Category	**CO2e**			
	Project	Existing	Project 2030	Existing
Area	9.60	0.00	24.40	0.00
Energy	313.59	0.00	313.59	0.00
Mobile	772.11	0.00	724.51	0.00
Waste	130.17	0.00	130.17	0.00
Water	27.10	0.00	42.38	0.00
TOTAL	1252.56	0.00	1235.05	0.00
Net GHG Emissions		1252.56		1235.05
Service Population				
Per Capita Emissions		#DIV/0!		#DIV/0!

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

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	113.00	Space	0.00	45,200.00	0
Parking Lot	86.00	Space	0.00	34,400.00	0
Condo/Townhouse	61.00	Dwelling Unit	1.23	61,000.00	174
Congregate Care (Assisted Living)	246.00	Dwelling Unit	0.00	246,000.00	704
Strip Mall	6.00	1000sqft	0.00	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreage and unit amounts provided by applicant

Construction Phase - Construction phases provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

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Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Grading - Default grading acreage assumed

Demolition - Demolition information provided by applicant

Trips and VMT - All trips entered into EMFAC 2021

Construction Off-road Equipment Mitigation - All equipment t4i

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

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tblConstructionPhase	NumDays	10.00	182.00
tblConstructionPhase	NumDays	200.00	365.00
tblConstructionPhase	NumDays	20.00	8.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	2.00	9.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	PhaseEndDate	8/15/2023	5/21/2024
tblConstructionPhase	PhaseEndDate	7/18/2023	11/21/2023
tblConstructionPhase	PhaseEndDate	10/3/2022	9/15/2022
tblConstructionPhase	PhaseEndDate	10/11/2022	10/28/2022
tblConstructionPhase	PhaseEndDate	8/1/2023	12/21/2023
tblConstructionPhase	PhaseEndDate	10/5/2022	9/28/2022
tblConstructionPhase	PhaseStartDate	8/2/2023	11/22/2023
tblConstructionPhase	PhaseStartDate	10/12/2022	11/22/2022
tblConstructionPhase	PhaseStartDate	10/6/2022	9/29/2022
tblConstructionPhase	PhaseStartDate	7/19/2023	11/22/2023
tblConstructionPhase	PhaseStartDate	10/4/2022	9/16/2022
tblGrading	AcresOfGrading	2.48	0.00
tblGrading	MaterialExported	0.00	16,400.00
tblLandUse	LotAcreage	1.02	0.00
tblLandUse	LotAcreage	0.77	0.00
tblLandUse	LotAcreage	3.81	1.23
tblLandUse	LotAcreage	15.38	0.00
tblLandUse	LotAcreage	0.14	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38

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tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Excavators
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	6.00	6.60
tblOffRoadEquipment	UsageHours	6.00	5.50
tblOffRoadEquipment	UsageHours	8.00	1.30
tblOffRoadEquipment	UsageHours	7.00	1.10
tblOffRoadEquipment	UsageHours	7.00	4.40
tblOffRoadEquipment	UsageHours	6.00	4.40
tblOffRoadEquipment	UsageHours	7.00	2.70
tblOffRoadEquipment	UsageHours	8.00	3.60
tblOffRoadEquipment	UsageHours	8.00	6.60
tblTripsAndVMT	HaulingTripNumber	138.00	0.00
tblTripsAndVMT	HaulingTripNumber	2,050.00	0.00
tblTripsAndVMT	VendorTripNumber	47.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	256.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	51.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00

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2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0221	0.2068	0.1869	3.4000e-004	0.0321	9.65E-03	0.0417	0.0107	8.97E-03	0.0197	0.0000	29.4509	29.4509	8.8900e-003	0.0000	29.6732
2023	0.5997	1.0085	0.8887	1.7100e-003	0.0000	0.0454	0.0454	0.0000	0.0425	0.0425	0.0000	145.3031	145.3031	0.0398	0.0000	146.2979
2024	1.7406	0.1154	0.1714	2.8000e-004	0.0000	5.77E-03	5.7700e-003	0.0000	5.77E-03	5.7700e-003	0.0000	24.1708	24.1708	1.3600e-003	0.0000	24.2048
Maximum	**1.7406**	**1.0085**	**0.8887**	**1.7100e-003**	**0.0321**	**0.0454**	**0.0454**	**0.0107**	**0.0425**	**0.0425**	**0.0000**	**145.3031**	**145.3031**	**0.0398**	**0.0000**	**146.2979**

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					
2022	5.9000e-003	0.1358	0.2218	3.4000e-004	0.0144	1.2600e-003	0.0157	4.8300e-003	1.2600e-003	6.0900e-003	0.0000	29.4508	29.4508	8.8900e-003	0.0000	29.6731
2023	0.5165	0.6808	1.0511	1.7100e-003	0.0000	8.4800e-003	8.4800e-003	0.0000	8.4800e-003	8.4800e-003	0.0000	145.3030	145.3030	0.0398	0.0000	146.2977
2024	1.7287	0.1003	0.1735	2.8000e-004	0.0000	3.8000e-004	3.8000e-004	0.0000	3.8000e-004	3.8000e-004	0.0000	24.1708	24.1708	1.3600e-003	0.0000	24.2048

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Maximum	**1.7287**	**0.6808**	**1.0511**	**1.7100e-003**	**0.0144**	**8.4800e-003**	**0.0157**	**4.8300e-003**	**8.4800e-003**	**8.4800e-003**	**0.0000**	**145.3030**	**145.3030**	**0.0398**	**0.0000**	**146.2977**

	ROG	NOx	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	**4.72**	**31.10**	**-15.99**	**0.00**	**55.01**	**83.36**	**73.57**	**54.99**	**82.32**	**78.01**	**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	**9-6-2022**	**12-5-2022**	0.1375	0.0885
2	**12-6-2022**	**3-5-2023**	0.2984	0.1805
3	**3-6-2023**	**6-5-2023**	0.2980	0.1845
4	**6-6-2023**	**9-5-2023**	0.2980	0.1845
5	**9-6-2023**	**12-5-2023**	0.4474	0.3489
6	**12-6-2023**	**3-5-2024**	1.2072	1.1882
7	**3-6-2024**	**6-5-2024**	1.0064	0.9918
		Highest	1.2072	1.1882

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/6/2022	9/15/2022	5	8	
2	Site Preparation	Site Preparation	9/16/2022	9/28/2022	5	9	
3	Grading	Grading	9/29/2022	10/28/2022	7	30	
4	Building Construction	Building Construction	11/22/2022	11/21/2023	7	365	
5	Paving	Paving	11/22/2023	12/21/2023	7	30	
6	Architectural Coating	Architectural Coating	11/22/2023	5/21/2024	7	182	
7	Trenching	Trenching	10/31/2022	11/21/2022	5	16	

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Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2.44

Acres of Paving: 0

Residential Indoor: 621,675; Residential Outdoor: 207,225; Non-Residential Indoor: 9,000; Non-Residential Outdoor: 3,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	8.00	78	0.48
Trenching	Excavators	1	2.70	158	0.38
Demolition	Excavators	1	8.00	158	0.38
Building Construction	Cranes	1	6.60	231	0.29
Building Construction	Forklifts	1	5.50	89	0.20
Trenching	Tractors/Loaders/Backhoes	1	5.30	97	0.37
Grading	Graders	1	1.30	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	1.10	80	0.38
Grading	Excavators	1	4.00	158	0.38
Site Preparation	Rubber Tired Dozers	1	4.40	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	4.40	97	0.37
Grading	Tractors/Loaders/Backhoes	1	2.70	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	3.60	97	0.37
Building Construction	Welders	1	6.60	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
Demolition	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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Grading	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

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					0.0149	0.0000	0.0149	2.2600e-003	0.0000	2.2600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	7.1400e-003	0.0131	2.0000e-005		3.5000e-004	3.5000e-004		3.2000e-004	3.2000e-004	0.0000	1.8235	1.8235	5.9000e-004	0.0000	1.8382
Total	**8.1000e-004**	**7.1400e-003**	**0.0131**	**2.0000e-005**	**0.0149**	**3.5000e-004**	**0.0153**	**2.2600e-003**	**3.2000e-004**	**2.5800e-003**	**0.0000**	**1.8235**	**1.8235**	**5.9000e-004**	**0.0000**	**1.8382**

Unmitigated Construction Off-Site

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					6.7200e-003	0.0000	6.7200e-003	1.0200e-003	0.0000	1.0200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6000e-004	9.1500e-003	0.0158	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.8235	1.8235	5.9000e-004	0.0000	1.8382
Total	**2.6000e-004**	**9.1500e-003**	**0.0158**	**2.0000e-005**	**6.7200e-003**	**3.0000e-005**	**6.7500e-003**	**1.0200e-003**	**3.0000e-005**	**1.0500e-003**	**0.0000**	**1.8235**	**1.8235**	**5.9000e-004**	**0.0000**	**1.8382**

Mitigated Construction Off-Site

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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**

3.3 Site Preparation - 2022

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					0.0149	0.0000	0.0149	8.1900e-003	0.0000	8.1900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4100e-003	0.0252	0.0134	3.0000e-005		1.2200e-003	1.2200e-003		1.1200e-003	1.1200e-003	0.0000	2.4103	2.4103	7.8000e-004	0.0000	2.4298
Total	**2.4100e-003**	**0.0252**	**0.0134**	**3.0000e-005**	**0.0149**	**1.2200e-003**	**0.0161**	**8.1900e-003**	**1.1200e-003**	**9.3100e-003**	**0.0000**	**2.4103**	**2.4103**	**7.8000e-004**	**0.0000**	**2.4298**

Unmitigated Construction Off-Site

1881 W San Carlos - Santa Clara County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					6.7100e-003	0.0000	6.7100e-003	3.6900e-003	0.0000	3.6900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	8.3100e-003	0.0160	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.4103	2.4103	7.8000e-004	0.0000	2.4298
Total	**4.9000e-004**	**8.3100e-003**	**0.0160**	**3.0000e-005**	**6.7100e-003**	**4.0000e-005**	**6.7500e-003**	**3.6900e-003**	**4.0000e-005**	**3.7300e-003**	**0.0000**	**2.4103**	**2.4103**	**7.8000e-004**	**0.0000**	**2.4298**

Mitigated Construction Off-Site

1881 W San Carlos - Santa Clara County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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**

3.4 Grading - 2022

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					2.2200e-003	0.0000	2.2200e-003	2.8000e-004	0.0000	2.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3700e-003	0.0347	0.0401	7.0000e-005		1.5100e-003	1.5100e-003		1.3900e-003	1.3900e-003	0.0000	6.2206	6.2206	2.0100e-003	0.0000	6.2709
Total	**3.3700e-003**	**0.0347**	**0.0401**	**7.0000e-005**	**2.2200e-003**	**1.5100e-003**	**3.7300e-003**	**2.8000e-004**	**1.3900e-003**	**1.6700e-003**	**0.0000**	**6.2206**	**6.2206**	**2.0100e-003**	**0.0000**	**6.2709**

Unmitigated Construction Off-Site

1881 W San Carlos - Santa Clara County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0000e-003	0.0000	1.0000e-003	1.3000e-004	0.0000	1.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1000e-003	0.0283	0.0500	7.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	6.2206	6.2206	2.0100e-003	0.0000	6.2709
Total	**1.1000e-003**	**0.0283**	**0.0500**	**7.0000e-005**	**1.0000e-003**	**1.2000e-004**	**1.1200e-003**	**1.3000e-004**	**1.2000e-004**	**2.5000e-004**	**0.0000**	**6.2206**	**6.2206**	**2.0100e-003**	**0.0000**	**6.2709**

Mitigated Construction Off-Site

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
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**

3.5 Building Construction - 2022

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	0.0141	0.1261	0.0997	1.9000e-004		5.8700e-003	5.8700e-003		5.4900e-003	5.4900e-003	0.0000	16.3231	16.3231	4.6500e-003	0.0000	16.4393
Total	**0.0141**	**0.1261**	**0.0997**	**1.9000e-004**		**5.8700e-003**	**5.8700e-003**		**5.4900e-003**	**5.4900e-003**	**0.0000**	**16.3231**	**16.3231**	**4.6500e-003**	**0.0000**	**16.4393**

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

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

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	3.5200e-003	0.0767	0.1171	1.9000e-004		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	16.3231	16.3231	4.6500e-003	0.0000	16.4392
Total	**3.5200e-003**	**0.0767**	**0.1171**	**1.9000e-004**		**1.0200e-003**	**1.0200e-003**		**1.0200e-003**	**1.0200e-003**	**0.0000**	**16.3231**	**16.3231**	**4.6500e-003**	**0.0000**	**16.4392**

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					

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

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**

3.5 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	0.1062	0.9464	0.7982	1.5700e-003		0.0422	0.0422		0.0394	0.0394	0.0000	132.6512	132.6512	0.0375	0.0000	133.5885
Total	**0.1062**	**0.9464**	**0.7982**	**1.5700e-003**		**0.0422**	**0.0422**		**0.0394**	**0.0394**	**0.0000**	**132.6512**	**132.6512**	**0.0375**	**0.0000**	**133.5885**

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

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

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0286	0.6232	0.9516	1.5700e-003		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	132.6510	132.6510	0.0375	0.0000	133.5884
Total	**0.0286**	**0.6232**	**0.9516**	**1.5700e-003**		**8.2700e-003**	**8.2700e-003**		**8.2700e-003**	**8.2700e-003**	**0.0000**	**132.6510**	**132.6510**	**0.0375**	**0.0000**	**133.5884**

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

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

3.6 Paving - 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	2.8800e-003	0.0274	0.0422	7.0000e-005		1.3500e-003	1.3500e-003		1.2400e-003	1.2400e-003	0.0000	5.8433	5.8433	1.8900e-003	0.0000	5.8905
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.8800e-003**	**0.0274**	**0.0422**	**7.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.2400e-003**	**1.2400e-003**	**0.0000**	**5.8433**	**5.8433**	**1.8900e-003**	**0.0000**	**5.8905**

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Off-Road	8.8000e-004	0.0294	0.0506	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	5.8433	5.8433	1.8900e-003	0.0000	5.8905
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.8000e-004**	**0.0294**	**0.0506**	**7.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**5.8433**	**5.8433**	**1.8900e-003**	**0.0000**	**5.8905**

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

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

3.7 Architectural Coating - 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					
Archit. Coating	0.4855					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1100e-003	0.0348	0.0483	8.0000e-005		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	6.8087	6.8087	4.1000e-004	0.0000	6.8189
Total	**0.4906**	**0.0348**	**0.0483**	**8.0000e-005**		**1.8900e-003**	**1.8900e-003**		**1.8900e-003**	**1.8900e-003**	**0.0000**	**6.8087**	**6.8087**	**4.1000e-004**	**0.0000**	**6.8189**

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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					
Archit. Coating	0.4855					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4500e-003	0.0283	0.0489	8.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	6.8087	6.8087	4.1000e-004	0.0000	6.8189
Total	**0.4869**	**0.0283**	**0.0489**	**8.0000e-005**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**6.8087**	**6.8087**	**4.1000e-004**	**0.0000**	**6.8189**

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

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

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.7235					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1154	0.1714	2.8000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	24.1708	24.1708	1.3600e-003	0.0000	24.2048
Total	**1.7406**	**0.1154**	**0.1714**	**2.8000e-004**		**5.7700e-003**	**5.7700e-003**		**5.7700e-003**	**5.7700e-003**	**0.0000**	**24.1708**	**24.1708**	**1.3600e-003**	**0.0000**	**24.2048**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

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					
Archit. Coating	1.7235					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.1600e-003	0.1003	0.1735	2.8000e-004		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004	0.0000	24.1708	24.1708	1.3600e-003	0.0000	24.2048
Total	**1.7287**	**0.1003**	**0.1735**	**2.8000e-004**		**3.8000e-004**	**3.8000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**24.1708**	**24.1708**	**1.3600e-003**	**0.0000**	**24.2048**

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

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

3.8 Trenching - 2022

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	1.4200e-003	0.0137	0.0207	3.0000e-005		7.1000e-004	7.1000e-004		6.5000e-004	6.5000e-004	0.0000	2.6734	2.6734	8.6000e-004	0.0000	2.6950
Total	**1.4200e-003**	**0.0137**	**0.0207**	**3.0000e-005**		**7.1000e-004**	**7.1000e-004**		**6.5000e-004**	**6.5000e-004**	**0.0000**	**2.6734**	**2.6734**	**8.6000e-004**	**0.0000**	**2.6950**

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

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not 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	5.4000e-004	0.0133	0.0230	3.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	2.6734	2.6734	8.6000e-004	0.0000	2.6950
Total	**5.4000e-004**	**0.0133**	**0.0230**	**3.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**2.6734**	**2.6734**	**8.6000e-004**	**0.0000**	**2.6950**

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**

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

1881 W San Carlos - Operational Emissions

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking Structure	113.00	Space	0.00	45,200.00	0
Parking Lot	86.00	Space	0.00	34,400.00	0
Condo/Townhouse	61.00	Dwelling Unit	1.23	61,000.00	174
Congregate Care (Assisted Living)	246.00	Dwelling Unit	0.00	246,000.00	704
Strip Mall	6.00	1000sqft	0.00	6,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.983	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreage and unit amounts provided by applicant

Construction Phase - Construction phases provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

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

Off-road Equipment - Construction Equipment provided by applicant

Off-road Equipment - Construction Equipment provided by applicant

Trips and VMT - All trips entered into EMFAC 2021

Demolition - Demolition information provided by applicant

Grading - Default grading acreage assumed

Construction Off-road Equipment Mitigation - All equipment t4i

Vehicle Trips - Trips calculated from provided traffic study

Water And Wastewater - 100% Aerobic

Woodstoves - No woodstoves or fireplaces

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	0.00	4,776.00
tblArchitecturalCoating	EF_Parking	0.00	150.00
tblAreaCoating	Area_Parking	0	4776
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

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

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	10.00	182.00
tblConstructionPhase	NumDays	200.00	365.00
tblConstructionPhase	NumDays	20.00	8.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	2.00	9.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblGrading	MaterialExported	0.00	16,400.00
tblTripsAndVMT	HaulingTripNumber	138.00	0.00
tblTripsAndVMT	HaulingTripNumber	2,050.00	0.00
tblTripsAndVMT	WorkerTripNumber	51.00	0.00
tblTripsAndVMT	WorkerTripNumber	256.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblVehicleTrips	ST_TR	8.14	4.16
tblVehicleTrips	ST_TR	2.93	2.53

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tblVehicleTrips	ST_TR	42.04	21.82
tblVehicleTrips	SU_TR	6.28	3.21
tblVehicleTrips	SU_TR	3.15	2.72
tblVehicleTrips	SU_TR	20.43	10.60
tblVehicleTrips	WD_TR	7.32	3.74
tblVehicleTrips	WD_TR	2.60	2.25
tblVehicleTrips	WD_TR	44.32	23.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
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	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
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5176	0.0312	2.2813	1.5000e-004		0.0130	0.0130		0.0130	0.0130	0.0000	9.4761	9.4761	3.6900e-003	1.1000e-004	9.5996
Energy	0.0169	0.1442	0.0617	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	311.1708	311.1708	0.0265	5.8900e-003	313.5889
Mobile	0.5040	0.4460	2.8895	7.9700e-003	0.7014	6.0200e-003	0.7074	0.1752	5.6400e-003	0.1808	0.0000	758.9580	758.9580	0.0376	0.0410	772.1056
Waste						0.0000	0.0000		0.0000	0.0000	52.5402	0.0000	52.5402	3.1050	0.0000	130.1660
Water						0.0000	0.0000		0.0000	0.0000	7.2341	14.4086	21.6427	0.0272	0.0160	27.0957
Total	**2.0384**	**0.6214**	**5.2325**	**9.0400e-003**	**0.7014**	**0.0307**	**0.7321**	**0.1752**	**0.0303**	**0.2055**	**59.7742**	**1,094.0134**	**1,153.7877**	**3.2001**	**0.0630**	**1,252.5557**

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	1.5176	0.0312	2.2813	1.5000e-004		0.0130	0.0130		0.0130	0.0130	0.0000	9.4761	9.4761	3.6900e-003	1.1000e-004	9.5996
Energy	0.0169	0.1442	0.0617	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	311.1708	311.1708	0.0265	5.8900e-003	313.5889
Mobile	0.5040	0.4460	2.8895	7.9700e-003	0.7014	6.0200e-003	0.7074	0.1752	5.6400e-003	0.1808	0.0000	758.9580	758.9580	0.0376	0.0410	772.1056
Waste						0.0000	0.0000		0.0000	0.0000	52.5402	0.0000	52.5402	3.1050	0.0000	130.1660
Water						0.0000	0.0000		0.0000	0.0000	7.2341	14.4086	21.6427	0.0272	0.0160	27.0957

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

Total	**2.0384**	**0.6214**	**5.2325**	**9.0400e-003**	**0.7014**	**0.0307**	**0.7321**	**0.1752**	**0.0303**	**0.2055**	**59.7742**	**1,094.0134**	**1,153.7877**	**3.2001**	**0.0630**	**1,252.5557**

	ROG	NOx	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**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5040	0.4460	2.8895	7.9700e-003	0.7014	6.0200e-003	0.7074	0.1752	5.6400e-003	0.1808	0.0000	758.9580	758.9580	0.0376	0.0410	772.1056
Unmitigated	0.5040	0.4460	2.8895	7.9700e-003	0.7014	6.0200e-003	0.7074	0.1752	5.6400e-003	0.1808	0.0000	758.9580	758.9580	0.0376	0.0410	772.1056

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	228.14	253.76	195.81	524,700	524,700
Congregate Care (Assisted Living)	553.50	622.38	669.12	1,339,242	1,339,242
Enclosed Parking Structure	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	138.00	130.92	63.60	194,599	194,599

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Total	919.64	1,007.06	928.53	2,058,541	2,058,541

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
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Congregate Care (Assisted Living	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking Structure	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
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.001250	0.003526	0.000527	0.000659
Congregate Care (Assisted Living)	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.001250	0.003526	0.000527	0.000659
Enclosed Parking Structure	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.001250	0.003526	0.000527	0.000659
Parking Lot	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.001250	0.003526	0.000527	0.000659
Strip Mall	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.001250	0.003526	0.000527	0.000659

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

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Category	tons/yr											MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	144.2077	144.2077	0.0233	2.8300e-003	145.6336	
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	144.2077	144.2077	0.0233	2.8300e-003	145.6336	
NaturalGas Mitigated	0.0169	0.1442	0.0617	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	166.9631	166.9631	3.2000e-003	3.0600e-003	167.9553	
NaturalGas Unmitigated	0.0169	0.1442	0.0617	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	166.9631	166.9631	3.2000e-003	3.0600e-003	167.9553	

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.05284e+006	5.6800e-003	0.0485	0.0206	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003	0.0000	56.1834	56.1834	1.0800e-003	1.0300e-003	56.5173
Congregate Care (Assisted Living)	2.06189e+006	0.0111	0.0950	0.0404	6.1000e-004		7.6800e-003	7.6800e-003		7.6800e-003	7.6800e-003	0.0000	110.0305	110.0305	2.1100e-003	2.0200e-003	110.6843
Enclosed Parking Structure	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
Strip Mall	14040	8.0000e-005	6.9000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7492	0.7492	1.0000e-005	1.0000e-005	0.7537
Total		**0.0169**	**0.1442**	**0.0617**	**9.2000e-004**		**0.0117**	**0.0117**		**0.0117**	**0.0117**	**0.0000**	**166.9631**	**166.9631**	**3.2000e-003**	**3.0600e-003**	**167.9553**

Mitigated

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	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					
Condo/Townhouse	1.05284e+006	5.6800e-003	0.0485	0.0206	3.1000e-004		3.9200e-003	3.9200e-003		3.9200e-003	3.9200e-003	0.0000	56.1834	56.1834	1.0800e-003	1.0300e-003	56.5173
Congregate Care (Assisted Living)	2.06189e+006	0.0111	0.0950	0.0404	6.1000e-004		7.6800e-003	7.6800e-003		7.6800e-003	7.6800e-003	0.0000	110.0305	110.0305	2.1100e-003	2.0200e-003	110.6843
Enclosed Parking Structure	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
Strip Mall	14040	8.0000e-005	6.9000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7492	0.7492	1.0000e-005	1.0000e-005	0.7537
Total		**0.0169**	**0.1442**	**0.0617**	**9.2000e-004**		**0.0117**	**0.0117**		**0.0117**	**0.0117**	**0.0000**	**166.9631**	**166.9631**	**3.2000e-003**	**3.0600e-003**	**167.9553**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	295757	27.3649	4.4300e-003	5.4000e-004	27.6355
Congregate Care (Assisted Living)	951142	88.0045	0.0142	1.7300e-003	88.8747
Enclosed Parking Structure	237300	21.9562	3.5500e-003	4.3000e-004	22.1733
Parking Lot	12040	1.1140	1.8000e-004	2.0000e-005	1.1250

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Strip Mall	62340	5.7680	9.3000e-004	1.1000e-004	5.8251
Total		**144.2077**	**0.0233**	**2.8300e-003**	**145.6336**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	295757	27.3649	4.4300e-003	5.4000e-004	27.6355
Congregate Care (Assisted Living)	951142	88.0045	0.0142	1.7300e-003	88.8747
Enclosed Parking Structure	237300	21.9562	3.5500e-003	4.3000e-004	22.1733
Parking Lot	12040	1.1140	1.8000e-004	2.0000e-005	1.1250
Strip Mall	62340	5.7680	9.3000e-004	1.1000e-004	5.8251
Total		**144.2077**	**0.0233**	**2.8300e-003**	**145.6336**

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5176	0.0312	2.2813	1.5000e-004		0.0130	0.0130		0.0130	0.0130	0.0000	9.4761	9.4761	3.6900e-003	1.1000e-004	9.5996
Unmitigated	1.5176	0.0312	2.2813	1.5000e-004		0.0130	0.0130		0.0130	0.0130	0.0000	9.4761	9.4761	3.6900e-003	1.1000e-004	9.5996

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	0.2209					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2276					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.8000e-004	4.9600e-003	2.1100e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	5.7489	5.7489	1.1000e-004	1.1000e-004	5.7830
Landscaping	0.0686	0.0263	2.2792	1.2000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	3.7272	3.7272	3.5800e-003	0.0000	3.8166
Total	**1.5176**	**0.0312**	**2.2813**	**1.5000e-004**		**0.0130**	**0.0130**		**0.0130**	**0.0130**	**0.0000**	**9.4761**	**9.4761**	**3.6900e-003**	**1.1000e-004**	**9.5996**

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Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2209					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2276					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.8000e-004	4.9600e-003	2.1100e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	5.7489	5.7489	1.1000e-004	1.1000e-004	5.7830
Landscaping	0.0686	0.0263	2.2792	1.2000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	3.7272	3.7272	3.5800e-003	0.0000	3.8166
Total	**1.5176**	**0.0312**	**2.2813**	**1.5000e-004**		**0.0130**	**0.0130**		**0.0130**	**0.0130**	**0.0000**	**9.4761**	**9.4761**	**3.6900e-003**	**1.1000e-004**	**9.5996**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	21.6427	0.0272	0.0160	27.0957
Unmitigated	21.6427	0.0272	0.0160	27.0957

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.9744 / 2.5056	4.2074	5.2900e-003	3.1100e-003	5.2673
Congregate Care (Assisted Living)	16.0279 / 10.1045	16.9674	0.0214	0.0126	21.2419
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.444435 / 0.272396	0.4680	5.9000e-004	3.5000e-004	0.5865
Total		**21.6427**	**0.0272**	**0.0160**	**27.0957**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.9744 / 2.5056	4.2074	5.2900e-003	3.1100e-003	5.2673

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

Congregate Care (Assisted Living)	16.0279 / 10.1045	16.9674	0.0214	0.0126	21.2419
Enclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.444435 / 0.272396	0.4680	5.9000e-004	3.5000e-004	0.5865
Total		**21.6427**	**0.0272**	**0.0160**	**27.0957**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	52.5402	3.1050	0.0000	130.1660
Unmitigated	52.5402	3.1050	0.0000	130.1660

8.2 Waste by Land Use

Unmitigated

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	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	28.06	5.6959	0.3366	0.0000	14.1114
Congregate Care (Assisted Living)	224.47	45.5654	2.6928	0.0000	112.8863
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	6.3	1.2788	0.0756	0.0000	3.1683
Total		**52.5402**	**3.1050**	**0.0000**	**130.1660**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	28.06	5.6959	0.3366	0.0000	14.1114
Congregate Care (Assisted Living)	224.47	45.5654	2.6928	0.0000	112.8863
Enclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	6.3	1.2788	0.0756	0.0000	3.1683
Total		**52.5402**	**3.1050**	**0.0000**	**130.1660**

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9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3: EMFAC2021 Emissions and CARB SAFE Off-Model Adjustment Factors

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*
Demolition	3	0	24	0	224	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	259.2	0	4480
Site Preparation	5	0	45	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	486	0	0
Grading	8	0	240	0	2050	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2592	0	41000
Trenching/Foundation	5	0	80	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	864	0	0
Paving	5	0	150	0	55	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1620	0	1100
Building Construction	256	47	93440	17155	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1009152	125231.5	0
Architectural Coating	51	0	9282	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	100245.6	0	0

Number of Days Per Year					
2022	9/6/22	12/31/22	117	84	
2023	1/1/23	12/31/23	365	261	
2024	1/2/24	5/21/24	141	101	
			623	**446**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	9/6/2022	9/15/2022	5	8
Site Preparation	9/16/2022	9/28/2022	5	9
Grading	9/29/2022	10/28/2022	7	30
Trenching/Foundation	10/31/2022	11/21/2022	5	16
Paving	11/22/2023	12/21/2023	7	30
Building Construction	11/22/2022	11/21/2023	7	365
Architectural Coating	11/22/2023	5/21/2024	7	182

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
					Tons						*Metric Tons*
Criteria Pollutants											
2022	0.0266	0.1403	0.2447	0.0010	0.0797	0.0114	0.0911	0.0120	0.0061	0.0181	99.7292
2023	0.0482	0.1947	0.4599	0.0020	0.1230	0.0150	0.1380	0.0185	0.0061	0.0246	195.2021
2024	0.0175	0.0718	0.1670	0.0008	0.0475	0.0058	0.0533	0.0071	0.0023	0.0095	74.2752
Toxic Air Contaminants (1 Mile Trip Length)											
2022	0.0209	0.0431	0.0891	0.0001	0.0076	0.0012	0.0088	0.0011	0.0006	0.0018	14.3794
2023	0.0432	0.0630	0.1687	0.0003	0.0115	0.0015	0.0130	0.0017	0.0006	0.0024	24.4534
2024	0.0158	0.0238	0.0617	0.0001	0.0045	0.0006	0.0050	0.0007	0.0002	0.0009	9.2981

Season	EmissionTy	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005194	0.003023	0.013842	0.229861	0.007514	0	0	0.076044	0
A	CH4_RUNE	0.001841	0.005577	0.002592	0.003307	0.007222	0.006455	0.009536	0.117132	0.009593	0.497756	0.158292	0.090769	0.011159
A	CH4_STREX	0.060617	0.097956	0.077312	0.090898	0.021636	0.011648	0.008314	7.75E-08	0.016852	0.003733	0.177199	0.004898	0.025922
A	CO_IDLEX	0	0	0	0	0.195049	0.141036	0.668176	5.17629	0.524506	0	0	1.692209	0
A	CO_RUNEX	0.610523	1.3156	0.78649	0.871414	0.821777	0.532869	0.296939	0.756536	0.44406	5.878094	12.31202	0.85843	1.105311
A	CO_STREX	2.729118	4.886821	3.440143	3.645271	2.164208	1.195973	1.000247	0.000685	1.872658	0.51523	7.965438	0.66885	2.373596
A	CO2_NBIO_	0	0	0	0	8.602925	13.6884	158.593	813.9733	87.04447	0	0	189.0522	0
A	CO2_NBIO_	247.7107	331.7408	343.9095	413.9729	764.972	810.9955	1213.655	1586.834	1366.1	1082.149	187.2679	1017.838	1680.132
A	CO2_NBIO_	64.17679	87.09506	87.83544	104.8877	17.59535	9.640849	8.205073	0.017114	14.85767	3.177122	47.30784	3.779827	22.06858
A	NOX_IDLEX	0	0	0	0	0.046413	0.089605	0.864894	4.061456	0.364367	0	0	1.350384	0
A	NOX_RUNE	0.033443	0.114894	0.061538	0.085292	0.585978	0.806102	1.006394	1.774058	0.968278	0.301158	0.557882	2.407715	1.487818
A	NOX_STREX	0.21891	0.358122	0.309788	0.378594	0.420652	0.228874	1.403485	2.751173	0.987981	0.039008	0.129146	0.492123	0.298831
A	PM10_IDLE	0	0	0	0	0.000685	0.001389	0.001762	0.002097	0.000404	0	0	0.001209	0
A	PM10_PME	0.007137	0.009219	0.00886	0.008972	0.077556	0.090487	0.04526	0.081222	0.04982	0.123664	0.012	0.044786	0.044946
A	PM10_PMT	0.008	0.008	0.008	0.008	0.00942	0.010665	0.012	0.035128	0.012	0.042522	0.004	0.010572	0.013235
A	PM10_RUN	0.001128	0.001827	0.001302	0.00132	0.01302	0.021567	0.011186	0.025031	0.015263	0.005685	0.001925	0.012423	0.028992
A	PM10_STR	0.001849	0.00275	0.002061	0.002069	0.000206	9.12E-05	0.000101	5.20E-07	0.000131	1.21E-05	0.003464	4.08E-05	0.000296
A	PM25_IDLE	0	0	0	0	0.000656	0.001329	0.001685	0.002	0.000387	0	0	0.001155	0
A	PM25_PME	0.002498	0.003227	0.003101	0.00314	0.027145	0.03167	0.015841	0.028428	0.017437	0.043282	0.0042	0.015675	0.015731
A	PM25_PMT	0.002	0.002	0.002	0.002	0.002355	0.002666	0.003	0.008782	0.003	0.01063	0.001	0.002643	0.003309
A	PM25_RUN	0.001039	0.001681	0.001197	0.001216	0.012419	0.020616	0.010694	0.023945	0.014593	0.005435	0.001799	0.01187	0.027693
A	PM25_STR	0.0017	0.002529	0.001895	0.001902	0.000189	8.39E-05	9.28E-05	4.78E-07	0.000121	1.11E-05	0.003253	3.76E-05	0.000272
A	ROG_DIUR	0.265056	0.563484	0.284023	0.337321	0.120201	0.063181	0.023118	0.000161	0.068202	0.01022	3.860886	0.029457	30.55965
A	ROG_HTSK	0.077721	0.156188	0.078256	0.089378	0.030304	0.015991	0.005603	4.80E-05	0.016021	0.003786	3.558651	0.007775	7.988502
A	ROG_IDLEX	0	0	0	0	0.021187	0.015503	0.025251	0.327119	0.04025	0	0	0.185349	0
A	ROG_RESTI	0.265056	0.563484	0.284023	0.337321	0.120201	0.063181	0.023118	0.000161	0.068202	0.01022	3.860886	0.029457	30.55965
A	ROG_RUNE	0.006953	0.024598	0.010106	0.0138	0.079612	0.109106	0.032483	0.0178	0.044456	0.059944	1.024683	0.053481	0.077128
A	ROG_RUNL	0.198237	0.440032	0.211341	0.255605	0.16959	0.087065	0.045291	0.000432	0.075038	0.007987	3.760078	0.019152	0.188623
A	ROG_STREX	0.273763	0.496525	0.355072	0.448132	0.106693	0.056928	0.045776	4.21E-07	0.089311	0.01324	1.305157	0.027862	0.108247
A	SO2_IDLEX	0	0	0	0	8.37E-05	0.000131	0.001472	0.007099	0.000823	0	0	0.001718	0
A	SO2_RUNE	0.002375	0.003181	0.003298	0.003967	0.007471	0.007812	0.011512	0.014348	0.013043	0.008854	0.001851	0.009458	0.016473
A	SO2_STREX	0.000615	0.000835	0.000842	0.001006	0.000174	9.53E-05	8.11E-05	1.69E-07	0.000147	3.14E-05	0.000468	3.74E-05	0.000218
A	TOG_DIURI	0.265056	0.563484	0.284023	0.337321	0.120201	0.063181	0.023118	0.000161	0.068202	0.01022	0.08531	0.029457	30.55965
A	TOG_HTSK	0.077721	0.156188	0.078256	0.089378	0.030304	0.015991	0.005603	4.80E-05	0.016021	0.003786	3.558651	0.007775	7.988502
A	TOG_IDLEX	0	0	0	0	0.03005	0.020889	0.042478	0.588143	0.05333	0	0	0.302207	0
A	TOG_RESTI	0.265056	0.563484	0.284023	0.337321	0.120201	0.063181	0.023118	0.000161	0.068202	0.01022	0.08531	0.029457	30.55965
A	TOG_RUNE	0.01013	0.035876	0.014731	0.020085	0.097862	0.126808	0.046457	0.137213	0.060464	0.565678	1.236542	0.152507	0.100988
A	TOG_RUNL	0.198237	0.440032	0.211341	0.255605	0.16959	0.087065	0.045291	0.000432	0.075038	0.007987	3.760078	0.019152	0.188623
A	TOG_STREX	0.299736	0.543633	0.388759	0.490648	0.116815	0.062329	0.050119	4.61E-07	0.097784	0.014496	1.419098	0.030505	0.118517
A	N2O_IDLEX	0	0	0	0	0.000637	0.00168	0.024457	0.131219	0.012456	0	0	0.024955	0
A	N2O_RUNE	0.003885	0.008627	0.005651	0.007595	0.040583	0.081593	0.156018	0.253304	0.157183	0.165903	0.038984	0.126174	0.069141
A	N2O_STREX	0.028873	0.037292	0.035503	0.037751	0.034174	0.018376	0.005858	1.42E-05	0.01459	0.006142	0.007691	0.004354	0.031786

FleetMixLa	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Tov	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.00125	0.003526	0.000527	0.000659
Congregate	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.00125	0.003526	0.000527	0.000659
Enclosed P	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.00125	0.003526	0.000527	0.000659
Parking Lot	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.00125	0.003526	0.000527	0.000659
Strip Mall	0.544106	0.035576	0.226153	0.122456	0.024357	0.006001	0.010946	0.022705	0.001738	0.00125	0.003526	0.000527	0.000659

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles						
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust	CO2 Exhaust
NA	1	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005	1.0023
2022	1.0004	1.0003	1.0004	1.0018	1.0014	1.0065
2023	1.0007	1.0006	1.0007	1.0032	1.0027	1.0126
2024	1.0012	1.0010	1.0011	1.0051	1.0044	1.0207
2025	1.0018	1.0016	1.0016	1.0074	1.0065	1.0309
2026	1.0023	1.0022	1.0020	1.0091	1.0083	1.0394
2027	1.0028	1.0028	1.0024	1.0105	1.0102	1.0475
2028	1.0034	1.0035	1.0028	1.0117	1.0120	1.0554
2029	1.0040	1.0042	1.0032	1.0129	1.0138	1.0629
2030	1.0047	1.0051	1.0037	1.0142	1.0156	1.0702
2031	1.0054	1.0061	1.0042	1.0155	1.0173	1.0770
2032	1.0061	1.0072	1.0047	1.0169	1.0189	1.0834
2033	1.0068	1.0083	1.0052	1.0182	1.0204	1.0893
2034	1.0075	1.0095	1.0058	1.0196	1.0218	1.0947
2035	1.0081	1.0108	1.0063	1.0210	1.0232	1.0997
2036	1.0088	1.0121	1.0069	1.0223	1.0244	1.1041
2037	1.0094	1.0134	1.0074	1.0236	1.0255	1.1080
2038	1.0099	1.0148	1.0079	1.0248	1.0265	1.1114
2039	1.0104	1.0161	1.0085	1.0259	1.0274	1.1143
2040	1.0109	1.0174	1.0090	1.0270	1.0281	1.1168
2041	1.0113	1.0186	1.0095	1.0279	1.0288	1.1189
2042	1.0116	1.0198	1.0099	1.0286	1.0294	1.1207
2043	1.0119	1.0207	1.0103	1.0293	1.0299	1.1221
2044	1.0122	1.0216	1.0106	1.0299	1.0303	1.1233
2045	1.0124	1.0225	1.0109	1.0303	1.0306	1.1243
2046	1.0125	1.0233	1.0111	1.0308	1.0309	1.1251
2047	1.0127	1.0240	1.0113	1.0311	1.0311	1.1258
2048	1.0128	1.0246	1.0115	1.0314	1.0313	1.1263
2049	1.0128	1.0252	1.0116	1.0316	1.0315	1.1268
2050	1.0129	1.0257	1.0117	1.0318	1.0316	1.1272
Enter Year: 2022	**1.0004**	**1.0003**	**1.0004**	**1.0018**	**1.0014**	**1.0065**

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Cor	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM10_RUP	PM10_IDL	PM10_STR	PM10_PM	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STRE	ROG_RUNEX	ROG_IDLEX	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
Santa Clari	2022	HHDT	Aggregate	Aggregate	Gasoline	3.827367	105.1913	105.1913	0	76.57795	0	9.246272	0	1.235102	0.00578	0	0.0016961	0.005	0.036521	0.006286	0	0.0018451	0.02	0.104346	2407.176	0	49.64979	0.419155	0	0.000162	0.231899	0	0.038678	2.628217	0	0.000881	0.16301	1.46846	10.96573	3.835087	0	0.000965	0.16301	1.46846	10.96573	0.039703	94.77398	0	0.712144	0.023797	0	0.000491
Santa Clari	2022	HHDT	Aggregate	Aggregate	Diesel	8126.63	984491.3	984491.3	0	118998.6	0	2.444518	67.79787	2.544846	0.027272	0.034513	0	0.008769	0.027987	0.028505	0.036074	0	0.035077	0.079962	1677.544	12677.87	0	0.001458	0.236832	0	0.264298	1.997403	0	0.031398	5.098937	0	0	0	0	0.035744	5.804752	0	0	0	0	0.203666	0.125232	70.47019	0	0.015885	0.120052	0
Santa Clari	2022	HHDT	Aggregate	Aggregate	Natural Ga	660.7756	47681.36	47681.36	0	5809.397	0	1.356717	13.62116	0	0.001899	0.022358	0	0.009	0.047596	0.002065	0.024316	0	0.036	0.135989	1429.3	10316.77	0	2.688526	36.13158	0	0.291372	2.10314	0	0.062535	0.56302	0	0	0	0	2.77132	36.92822	0	0	0	0	0.851705	14.53027	73.87982	0	0	0	0
Santa Clari	2022	LDA	Aggregate	Aggregate	Gasoline	604047.8	22374250	22374250	0	2805661	0	0.053791	0	0.287921	0.00126	0	0.0002062	0.002	0.002656	0.00137	0	0.0002242	0.008	0.007588	287.1374	0	73.33113	0.002925	0	0.081262	0.005394	0	0.035089	0.011654	0	0.381731	0.098272	0.249754	1.530333	0.017001	0	0.417946	0.098272	0.249754	1.530333	0.032827	0.847106	0	3.666246	0.002839	0	0.000725
Santa Clari	2022	LDA	Aggregate	Aggregate	Diesel	1988.847	60930.09	60930.09	0	8564.495	0	0.263546	0	0	0.019976	0	0	0.002	0.00269	0.020879	0	0	0.008	0.007686	236.272	0	0	0.00151	0	0	0.037225	0	0	0.032513	0	0	0	0	0	0.037014	0	0	0	0	0	0.0031	0.352928	0	0	0.002239	0	0
Santa Clari	2022	LDA	Aggregate	Aggregate	Electricity	49768.56	2058456	0	2058456	247155.6	794733.9	0	0	0	0	0	0	0.002	0.001531	0	0	0	0.008	0.004374	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	0
Santa Clari	2022	LDA	Aggregate	Aggregate	Plug-in Hyb	14080.33	626833.5	326494.8	300338.7	58222.18	90711.24	0.003418	0	0.115511	0.000718	0	0.0002392	0.002	0.001368	0.000781	0	0.0002492	0.008	0.003908	145.2228	0	67.22203	0.000469	0	0.042745	0.000623	0	0.021047	0.001478	0	0.173285	0.039673	0.035067	0.451466	0.002157	0	0.189725	0.039673	0.035067	0.451466	0.019838	0.224082	0	1.339893	0.001436	0	0.000665
Santa Clari	2022	LDT1	Aggregate	Aggregate	Gasoline	54974.08	1779154	1779154	0	245182.1	0	0.160037	0	0.42895	0.001971	0	0.0030062	0.002	0.003236	0.002144	0	0.0032692	0.008	0.009246	338.1243	0	90.32061	0.007798	0	0.120165	0.011179	0	0.040992	0.03517	0	0.630523	0.182138	0.532387	2.932213	0.051284	0	0.69034	0.182138	0.532387	2.932213	0.035502	1.699209	0	6.115696	0.003343	0	0.000893
Santa Clari	2022	LDT1	Aggregate	Aggregate	Diesel	28.88602	444.5778	444.5778	0	84.95747	0	1.664076	0	0	0.241157	0	0	0.002	0.003731	0.252061	0	0	0.008	0.01066	415.6618	0	0	0.013984	0	0	0.065488	0	0	0.301058	0	0	0	0	0	0.342735	0	0	0	0	0	0.0031	1.609282	0	0	0.003939	0	0
Santa Clari	2022	LDT1	Aggregate	Aggregate	Electricity	182.9928	6367.047	0	6367.047	860.9347	2458.206	0	0	0	0	0	0	0.002	0.001541	0	0	0	0.008	0.004403	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	0
Santa Clari	2022	LDT1	Aggregate	Aggregate	Plug-in Hyb	24.31577	1158.953	555.2268	603.7259	100.5457	182.3432	0.003144	0	0.11551	0.00042	0	0.0014722	0.002	0.001376	0.000457	0	0.0016012	0.008	0.003931	133.572	0	73.48077	0.00043	0	0.042675	0.000571	0	0.020981	0.001359	0	0.173285	0.025111	0.023155	0.300675	0.001984	0	0.189725	0.025111	0.023155	0.300675	0.020121	0.206104	0	1.339893	0.00132	0	0.000726
Santa Clari	2022	LDT2	Aggregate	Aggregate	Gasoline	274728.5	9911730	9911730	0	1286654	0	0.087216	0	0.387125	0.001308	0	0.0020055	0.002	0.003124	0.001422	0	0.0022352	0.008	0.008926	357.8859	0	92.09899	0.003418	0	0.092802	0.006919	0	0.040202	0.013801	0	0.439671	0.088088	0.231141	1.442564	0.020134	0	0.481384	0.088088	0.231141	1.442564	0.034673	0.960886	0	4.129331	0.003538	0	0.00091
Santa Clari	2022	LDT2	Aggregate	Aggregate	Diesel	933.788	35569.23	35569.23	0	4479.453	0	0.049482	0	0	0.005617	0	0	0.002	0.003089	0.005871	0	0	0.008	0.008825	319.8313	0	0	0.000662	0	0	0.05039	0	0	0.01425	0	0	0	0	0	0.016223	0	0	0	0	0	0.0031	0.132603	0	0	0.003031	0	0
Santa Clari	2022	LDT2	Aggregate	Aggregate	Electricity	669.3585	23693.95	0	23693.95	3436.204	9147.819	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	0	0
Santa Clari	2022	LDT2	Aggregate	Aggregate	Plug-in Hyb	1256.28	57825.99	28723.51	29102.47	5194.718	8789.814	0.003259	0	0.11551	0.000565	0	0.0019112	0.002	0.001372	0.000614	0	0.0020078	0.008	0.00392	138.4921	0	79.93529	0.000446	0	0.042681	0.000592	0	0.020988	0.00141	0	0.173285	0.026873	0.02547	0.333582	0.002057	0	0.189725	0.026873	0.02547	0.333582	0.020799	0.213696	0	1.339893	0.001369	0	0.00079
Santa Clari	2022	LHDT1	Aggregate	Aggregate	Gasoline	19023.54	692949.2	692949.2	0	283422.4	0	0.22563	0.03858	0.680855	0.001666	0	0.0003552	0.002	0.0273	0.001812	0	0.0003862	0.008	0.078	910.666	121.4496	25.8752	0.010696	0.11838	0.036173	0.012587	0.003045	0.052713	0.053941	0.441903	0.181796	0.053097	0.287419	3.005479	0.078711	0.644824	0.199044	0.053097	0.287419	3.005479	0.044851	1.310703	3.750518	3.032062	0.009003	0.001201	0.000256
Santa Clari	2022	LHDT1	Aggregate	Aggregate	Diesel	9466.897	364941.3	364941.3	0	119081.7	0	2.046185	2.148991	0	0.042212	0.027161	0	0.003	0.0273	0.044121	0.028389	0	0.012	0.078	640.1321	134.8074	0	0.009165	0.005098	0	0.100853	0.021239	0	0.201618	0.10976	0	0	0	0	0.229529	0.124954	0	0	0	0	0.156672	0.574472	0.909745	0	0.006606	0.001277	0
Santa Clari	2022	LHDT2	Aggregate	Aggregate	Gasoline	2479.119	89333.8	89333.8	0	36935.18	0	0.214022	0.038116	0.662237	0.001522	0	0.0002888	0.002	0.03185	0.001655	0	0.0003313	0.008	0.091	1017.016	140.0339	25.93331	0.008303	0.117781	0.035049	0.012366	0.003023	0.05141	0.03933	0.436803	0.174741	0.049582	0.263161	2.773988	0.057391	0.637382	0.19132	0.049582	0.263161	2.773988	0.044954	1.055116	3.755463	3.106689	0.010054	0.001384	0.000256
Santa Clari	2022	LHDT2	Aggregate	Aggregate	Diesel	4276.175	167672	167672	0	53788.9	0	1.602621	2.114348	0	0.036809	0.027077	0	0.003	0.03185	0.038473	0.028302	0	0.012	0.091	773.4619	214.911	0	0.00832	0.005098	0	0.121859	0.033859	0	0.179126	0.10976	0	0	0	0	0.203923	0.124954	0	0	0	0	0.17227	0.476085	0.909745	0	0.007329	0.002036	0
Santa Clari	2022	MCY	Aggregate	Aggregate	Gasoline	27595.09	162924	162924	0	55190.18	0	0.60517	0	0.149724	0.001772	0	0.0035566	0.001	0.0042	0.001891	0	0.0037732	0.004	0.012	188.9834	0	50.90901	0.173457	0	0.19335	0.041099	0	0.088761	1.156556	0	1.442993	3.560376	3.734124	3.980024	1.378949	0	1.568432	3.560376	3.734124	3.980024	0.008705	13.58248	0	8.107621	0.001868	0	0.000503
Santa Clari	2022	MDV	Aggregate	Aggregate	Gasoline	150747.3	5216512	5216512	0	697659.3	0	0.136769	0	0.517519	0.001357	0	0.0022555	0.002	0.003193	0.001475	0	0.0024522	0.008	0.009123	434.2294	0	112.1929	0.005018	0	0.119363	0.009481	0	0.045397	0.021781	0	0.614579	0.106179	0.293735	1.762049	0.031733	0	0.672881	0.106179	0.293735	1.762049	0.034617	1.174347	0	4.66825	0.004293	0	0.001109
Santa Clari	2022	MDV	Aggregate	Aggregate	Diesel	2337.328	86668.85	86668.85	0	11158.46	0	0.05815	0	0	0.005454	0	0	0.002	0.003153	0.0057	0	0	0.008	0.009009	417.1884	0	0	0.000553	0	0	0.065728	0	0	0.011906	0	0	0	0	0	0.013554	0	0	0	0	0	0.0031	0.20344	0	0	0.003953	0	0
Santa Clari	2022	MDV	Aggregate	Aggregate	Electricity	623.6975	22215.8	0	22215.8	3205.616	8577.131	0	0	0	0	0	0	0.002	0.001523	0	0	0	0.008	0.004351	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	0
Santa Clari	2022	MDV	Aggregate	Aggregate	Plug-in Hyb	789.5612	33722.81	17285.18	16437.63	3264.836	4964.654	0.003363	0	0.11551	0.000723	0	0.0023666	0.002	0.001369	0.000786	0	0.0025748	0.008	0.003913	142.9094	0	99.86367	0.000458	0	0.042456	0.000605	0	0.020778	0.001454	0	0.173285	0.030414	0.029758	0.381921	0.002122	0	0.189725	0.030414	0.029758	0.381921	0.021528	0.220512	0	1.339893	0.001413	0	0.000987
Santa Clari	2022	MH	Aggregate	Aggregate	Gasoline	2642.084	23105.28	23105.28	0	264.3141	0	0.551445	0	0.40416	0.001917	0	0.0004612	0.003	0.015756	0.002085	0	0.0005002	0.012	0.045017	1949.266	0	32.13484	0.02167	0	0.038467	0.030967	0	0.040156	0.010032	0	0.168576	13.95792	0.32254	4.985527	0.147425	0	0.184569	13.95792	0.32254	4.985527	0.044583	2.705832	0	3.782453	0.01927	0	0.000318
Santa Clari	2022	MH	Aggregate	Aggregate	Diesel	940.8008	9155.21	9155.21	0	94.08008	0	4.438358	0	0	0.104654	0	0	0.004	0.015675	0.109386	0	0	0.016	0.044785	1080.89	0	0	0.005865	0	0	0.170295	0	0	0.126278	0	0	0	0	0	0.143759	0	0	0	0	0	0.143863	0.424501	0	0	0.010242	0	0
Santa Clari	2022	MHDT	Aggregate	Aggregate	Gasoline	1426.535	69284.18	69284.18	0	28542.11	0	0.686176	0.088062	0.462297	0.001432	0	0.0005593	0.003	0.015756	0.001558	0	0.0006451	0.012	0.045017	1819.358	542.4673	48.22005	0.022377	0.249961	0.051086	0.030967	0.006806	0.032093	0.113907	1.006391	0.293642	0.041091	0.336192	3.327263	0.166213	1.468523	0.321501	0.041091	0.336192	3.327263	0.044929	2.41434	15.04306	6.517433	0.017986	0.005363	0.000477
Santa Clari	2022	MHDT	Aggregate	Aggregate	Diesel	10189.55	428042.3	428042.3	0	121266.8	0	1.73167	15.28688	1.483339	0.020297	0.042841	0	0.003	0.015941	0.021215	0.044778	0	0.012	0.045546	1158.231	2324.123	0	0.002426	0.013407	0	0.18248	0.366167	0	0.052238	0.288656	0	0	0	0	0.05947	0.328613	0	0	0	0	0.196531	0.168917	7.277505	0	0.010968	0.022008	0
Santa Clari	2022	MHDT	Aggregate	Aggregate	Natural Ga	84.48052	3914.205	3914.205	0	796.8889	0	0.162027	6.474875	0	0.001029	0.016219	0	0.003	0.016011	0.001119	0.01764	0	0.012	0.045746	1002.329	5210.514	0	0.725882	17.91735	0	0.204331	1.062197	0	0.010371	0.256004	0	0	0	0	0.740815	18.28597	0	0	0	0	1.06	2.991509	30.51881	0	0	0	0
Santa Clari	2022	OBUS	Aggregate	Aggregate	Gasoline	470.9234	21653.3	21653.3	0	9422.235	0	0.596343	0.064966	0.407047	0.000863	0	0.0002624	0.003	0.015568	0.000939	0	0.0002285	0.012	0.044799	1804.41	384.2235	32.13915	0.017165	0.194553	0.036748	0.027969	0.005221	0.030733	0.084851	0.744858	0.194941	0.033671	0.142865	2.559429	0.123815	1.086895	0.213436	0.033671	0.142865	2.559429	0.044907	1.918016	5.766114	4.119591	0.017838	0.003798	0.000318
Santa Clari	2022	OBUS	Aggregate	Aggregate	Diesel	852.1679	61336.68	61336.68	0	8739.295	0	1.430263	8.186956	1.463102	0.021712	0.009363	0	0.003	0.01808	0.022694	0.009786	0	0.012	0.051656	1287.997	1601.524	0	0.002446	0.020931	0	0.202924	0.252321	0	0.052654	0.450629	0	0	0	0	0.059942	0.513007	0	0	0	0	0.209454	0.176751	7.212161	0	0.012197	0.015165	0
Santa Clari	2022	OBUS	Aggregate	Aggregate	Natural Ga	6.12419	392.3599	392.3599	0	54.50529	0	0.261572	1.567279	0	0.000722	0.003187	0	0.003	0.016148	0.000785	0.003466	0	0.012	0.046137	1035.05	1183.472	0	0.750937	4.605624	0	0.211002	0.241259	0	0.010729	0.065805	0	0	0	0	0.766387	4.700378	0	0	0	0	1.06	3.149633	5.746939	0	0	0	0
Santa Clari	2022	SBUS	Aggregate	Aggregate	Gasoline	160.4139	7959.43	7959.43	0	641.6556	0	0.522721	0.925562	0.689048	0.000853	0	0.0000555	0.002	0.015721	0.000928	0	0.0000599	0.008	0.044917	820.0467	2616.389	59.14656	0.01243	2.458676	0.074784	0.027982	0.086242	0.063619	0.060464	10.62737	0.42659	0.108472	0.246255	1.510943	0.088229	15.50744	0.467063	0.108472	0.246255	1.510943	0.045	1.548936	82.15497	10.71476	0.008107	0.025866	0.000585
Santa Clari	2022	SBUS	Aggregate	Aggregate	Diesel	662.5162	15413.71	15413.71	0	9593.235	0	4.235498	22.873	0.450634	0.022112	0.02288	0	0.003	0.015721	0.023112	0.023915	0	0.012	0.044917	1152.917	2246.353	0	0.002834	0.008182	0	0.181642	0.353914	0	0.061017	0.17615	0	0	0	0	0.069464	0.200533	0	0	0	0	0.140239	0.185604	4.488491	0	0.010917	0.021272	0
Santa Clari	2022	SBUS	Aggregate	Aggregate	Natural Ga	22.59677	578.3532	578.3532	0	327.2012	0	0.608852	5.295722	0	0.003378	0.010765	0	0.003	0.015721	0.003674	0.011708	0	0.012	0.044917	1281.922	4050.07	0	3.549889	15.56318	0	0.261328	0.825633	0	0.050721	0.222367	0	0	0	0	3.622922	15.88337	0	0	0	0	1.06	12.18179	19.41173	0	0	0	0
Santa Clari	2022	UBUS	Aggregate	Aggregate	Gasoline	45.81104	4784.037	4784.037	0	183.2442	0	0.03147	0	0.560776	0.000899	0	8.888E-05	0.002	0.03185	0.000978	0	9.66E-05	0.008	0.091	974.6428	0	38.21309	0.002303	0	0.053785	0.004696	0	0.082445	0.006534	0	0.197701	0.064874	0.125778	0.787098	0.009534	0	0.216458	0.064874	0.125778	0.787098	0.045	0.577943	0	5.5933	0.009635	0	0.000378
Santa Clari	2022	UBUS	Aggregate	Aggregate	Diesel	435.6475	48716.13	48716.13	0	1742.59	0	0.386257	0	0	0.007023	0	0	0.0083	0.0385	0.00734	0	0	0.0332	0.11	1100.743	0	0	0.003215	0	0	0.173422	0	0	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0.187775	0.079368	0	0	0.01043	0	0
Santa Clari	2022	UBUS	Aggregate	Aggregate	Electricity	5.046757	199.0027	0	199.0027	20.18703	346.9103	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	0	0
Santa Clari	2022	UBUS	Aggregate	Aggregate	Natural Ga	41.84875	4783.781	4783.781	0	167.395	0	0.058772	0	0	0.000282	0	0	0.008181	0.0385	0.000295	0	0	0.032723	0.11	1299.039	0	0	4.245393	0	0	0.264818	0	0	0.060658	0	0	0	0	0	4.332735	0	0	0	0	0	0.97	49.03622	0	0	0	0	0

Source: EMFAC2021 (v1.0.1) 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, kWh/day for Energy Consumption, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Cor	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDLE	PM10_STR	PM10_PM	PM10_PMI	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREI	N2O_RUNE	N2O_IDLEX	N2O_STRE	ROG_RUNI	ROG_IDLE	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STREI	TOG_HOTS	TOG_RUNI	TOG_DIUR	NH3_RUNE	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clari	2023	HHDT	Aggregate	Aggregate	Gasoline	3.454009	114.3093	114.3093	0	69.10781	0	8.107874	0	1.620501	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	0.040468	83.0074	0	1.02738	0.022805	0	0.000492
Santa Clari	2023	HHDT	Aggregate	Aggregate	Diesel	8235.059	991289	991289	0	120860.8	0	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 Clari	2023	HHDT	Aggregate	Aggregate	Electricity	6.70171	411.5054	0	411.5054	103.2044	754.9233	0	0	0	0	0	0	0.00874	0.013383	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	0	0
Santa Clari	2023	HHDT	Aggregate	Aggregate	Natural Ga	753.7366	53295.97	53295.97	0	6914.034	0	1.208844	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 Clari	2023	LDA	Aggregate	Aggregate	Gasoline	601938.3	22370251	22370251	0	2795479	0	0.047412	0	0.27189	0.001217	0	0.001992	0.002	0.002656	0.001323	0	0.002167	0.008	0.007588	282.586	0	71.87767	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	0.002794	0	0.000711
Santa Clari	2023	LDA	Aggregate	Aggregate	Diesel	1871.125	56220.8	56220.8	0	8000.531	0	0.238318	0	0	0.018559	0	0	0.002	0.002698	0.019399	0	0	0.008	0.007709	234.6327	0	0	0.001413	0	0	0.036966	0	0	0.030417	0	0	0	0	0	0.034627	0	0	0	0	0	0.0031	0.342459	0	0	0.002223	0	0
Santa Clari	2023	LDA	Aggregate	Aggregate	Electricity	53751.15	2268185	0	2268185	2652501	875706.7	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	0	0
Santa Clari	2023	LDA	Aggregate	Aggregate	Plug-in Hyb	15805.32	700610.9	356649.7	343961.3	65355	103886.6	0.00334	0	0.11551	0.000664	0	0.002171	0.002	0.001373	0.000722	0	0.002361	0.008	0.003922	141.9339	0	66.50966	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	0.219019	0	1.339893	0.001403	0	0.000658
Santa Clari	2023	LDT1	Aggregate	Aggregate	Gasoline	53782.25	1744480	1744480	0	2397317.9	0	0.143293	0	0.404336	0.00185	0	0.002837	0.002	0.003239	0.002012	0	0.003085	0.008	0.009253	333.6435	0	88.48953	0.006987	0	0.112557	0.010257	0	0.039834	0.031222	0	0.583212	0.174145	0.503091	2.807011	0.035775	1.553409	0	5.660037	0.003298	0	0.000875
Santa Clari	2023	LDT1	Aggregate	Aggregate	Diesel	26.04714	391.8698	391.8698	0	75.17737	0	1.659056	0	0	0.24041	0	0	0.002	0.003728	0.25128	0	0	0.008	0.010651	415.6155	0	0	0.013928	0	0	0.06548	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 Clari	2023	LDT1	Aggregate	Aggregate	Electricity	194.8941	7068.184	0	7068.184	916.4832	2728.903	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	0	0
Santa Clari	2023	LDT1	Aggregate	Aggregate	Plug-in Hyb	43.27677	2048.369	944.1579	1104.211	178.9495	333.5047	0.003025	0	0.11551	0.000387	0	0.00141	0.002	0.001383	0.000421	0	0.001534	0.008	0.003951	128.5161	0	72.39136	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	0.198314	0	1.339893	0.001271	0	0.000716
Santa Clari	2023	LDT2	Aggregate	Aggregate	Gasoline	280180.4	10140967	10140967	0	1311796	0	0.077207	0	0.358346	0.001265	0	0.002003	0.002	0.003125	0.001375	0	0.002179	0.008	0.008929	351.1382	0	90.07377	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	0.003471	0	0.00089
Santa Clari	2023	LDT2	Aggregate	Aggregate	Diesel	978.4967	36936.87	36936.87	0	4673.401	0	0.046157	0	0	0.005431	0	0	0.002	0.003102	0.005677	0	0	0.008	0.008863	315.6668	0	0	0.049733	0	0	0.00065	0	0	0.019384	0	0	0	0	0	0.015919	0	0	0	0	0	0.0031	0.132099	0	0	0.002991	0	0
Santa Clari	2023	LDT2	Aggregate	Aggregate	Electricity	1105.879	38931.7	0	38931.7	5663.051	15030.85	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	0	0
Santa Clari	2023	LDT2	Aggregate	Aggregate	Plug-in Hyb	1696.55	77270.66	37142.68	40127.98	7015.234	12119.85	0.003154	0	0.11551	0.000504	0	0.001759	0.002	0.001378	0.000548	0	0.001913	0.008	0.003938	134.0231	0	78.93358	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	0.206812	0	1.339893	0.001325	0	0.00078
Santa Clari	2023	LHDT1	Aggregate	Aggregate	Gasoline	19180.96	711085.5	711085.5	0	285767.8	0	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	0.068539	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 Clari	2023	LHDT1	Aggregate	Aggregate	Diesel	9807.465	384084.8	384084.8	0	123365.6	0	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 Clari	2023	LHDT2	Aggregate	Aggregate	Gasoline	2494.382	90793.04	90793.04	0	37162.58	0	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	0.615826	0.181319	0.046993	0.25097	2.676301	0.044967	0.961891	3.759407	3.119312	0.00986	0.001372	0.000254
Santa Clari	2023	LHDT2	Aggregate	Aggregate	Diesel	4479.532	176769.2	176769.2	0	56346.87	0	1.416942	1.998258	0	0.034177	0.027026	0	0.003	0.03185	0.035723	0.028248	0	0.012	0.091	764.9209	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	0.448054	0.909745	0	0.007244	0.00201	0
Santa Clari	2023	MCY	Aggregate	Aggregate	Gasoline	27894.5	164894.5	164894.5	0	55788.99	0	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 Clari	2023	MDV	Aggregate	Aggregate	Gasoline	153799.1	5358084	5358084	0	712433.9	0	0.11759	0	0.470106	0.001289	0	0.002144	0.002	0.003187	0.001402	0	0.002331	0.008	0.009106	426.0995	0	109.7064	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	0.004212	0	0.001085
Santa Clari	2023	MDV	Aggregate	Aggregate	Diesel	2374.918	86834.44	86834.44	0	11267.05	0	0.053096	0	0	0.00515	0	0	0.002	0.003181	0.005383	0	0	0.008	0.00909	413.3141	0	0	0.000529	0	0	0.065118	0	0	0.011397	0	0	0	0	0	0.012975	0	0	0	0	0	0.0031	0.202592	0	0	0.003916	0	0
Santa Clari	2023	MDV	Aggregate	Aggregate	Electricity	1130.115	40073.7	0	40073.7	5799.833	15471.76	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	0	0
Santa Clari	2023	MDV	Aggregate	Aggregate	Plug-in Hyb	986.0895	41899.14	20787.35	21111.79	4077.48	6376.389	0.003256	0	0.11551	0.000638	0	0.002151	0.002	0.001376	0.000693	0	0.002339	0.008	0.00393	138.3296	0	98.37574	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	0.213457	0	1.339893	0.001368	0	0.000973
Santa Clari	2023	MH	Aggregate	Aggregate	Gasoline	2522.745	22546.87	22546.87	0	252.3754	0	0.479133	0	0.412521	0.001781	0	0.000428	0.003	0.015756	0.001927	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	0.044742	2.111943	0	3.629376	0.01926	0	0.000315
Santa Clari	2023	MH	Aggregate	Aggregate	Diesel	959.1578	9344.849	9344.849	0	95.91578	0	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 Clari	2023	MHDT	Aggregate	Aggregate	Gasoline	1418.703	70785.86	70785.86	0	28385.41	0	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 Clari	2023	MHDT	Aggregate	Aggregate	Diesel	10273.55	431550.4	431550.4	0	122418.7	0	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 Clari	2023	MHDT	Aggregate	Aggregate	Natural Ga	4.749835	101.8022	0	101.8022	59.6458	108.685	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	0	0
Santa Clari	2023	MHDT	Aggregate	Aggregate	Natural Ga	83.841	4047.874	4047.874	0	762.81	0	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 Clari	2023	OBUS	Aggregate	Aggregate	Gasoline	458.8974	20830.08	20830.08	0	9181.619	0	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 Clari	2023	OBUS	Aggregate	Aggregate	Diesel	870.4209	61645.66	61645.66	0	8910.755	0	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 Clari	2023	OBUS	Aggregate	Aggregate	Natural Ga	6.1456	409.5466	409.5466	0	54.69584	0	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 Clari	2023	SBUS	Aggregate	Aggregate	Gasoline	166.9867	8309.308	8309.308	0	667.9468	0	0.519317	0.925703	0.7051	0.000862	0	0.000056	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 Clari	2023	SBUS	Aggregate	Aggregate	Diesel	667.1185	15392.68	15392.68	0	9659.876	0	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 Clari	2023	SBUS	Aggregate	Aggregate	Electricity	0.302373	3.510494	0	3.510494	4.378365	3.69815	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	0	0
Santa Clari	2023	SBUS	Aggregate	Aggregate	Natural Ga	23.50762	595.8705	595.8705	0	340.3903	0	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	0.562424	15.7193	0	0	0	0	1.06	11.90284	20.11199	0	0	0	0
Santa Clari	2023	UBUS	Aggregate	Aggregate	Gasoline	45.94709	4798.244	4798.244	0	183.7884	0	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	0.043715	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 Clari	2023	UBUS	Aggregate	Aggregate	Diesel	436.6681	48829.71	48829.71	0	1746.672	0	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	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0.18785	0.079368	0	0	0.010432	0	0
Santa Clari	2023	UBUS	Aggregate	Aggregate	Electricity	5.046757	199.0027	0	199.0027	20.18703	346.9103	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	0	0
Santa Clari	2023	UBUS	Aggregate	Aggregate	Natural Ga	42.26114	4829.673	4829.673	0	169.0446	0	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 (v1.0.1) 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, kWh/day for Energy Consumption, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Cor	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDLE	PM10_STR	PM10_PM	PM10_PM	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STRE	ROG_RUNE	ROG_IDLE	ROG_STRE	ROG_HOTS	ROG_RUN	TOG_RUNE	TOG_IDLE	TOG_STRE	TOG_HOTS	TOG_RUN	TOG_DIUR	NH3_RUNE	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clari	2024	HHDT	Aggregate	Aggregate	Gasoline	2.588708	115.1526	115.1526	0	51.79487	0	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 Clari	2024	HHDT	Aggregate	Aggregate	Diesel	8486.693	1001095	1001095	0	124748.4	0	1.894567	62.88367	2.898867	0.025674	0.03017	0	0.00877	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	0.215084	0.082524	74.10576	0	0.015474	0.113605	0
Santa Clari	2024	HHDT	Aggregate	Aggregate	Electricity	28.33039	2794.261	0	2794.261	878.7946	5152.341	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 Clari	2024	HHDT	Aggregate	Aggregate	Natural Ga	794.401	54591.27	54591.27	0	7249.717	0	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	2.412728	37.08609	0	0	0	0	0.85184	13.40196	74.43135	0	0	0	0
Santa Clari	2024	LDA	Aggregate	Aggregate	Gasoline	600108.2	22290344	22290344	0	2786617	0	0.042281	0	0.257993	0.001177	0	0.001931	0.002	0.002656	0.00128	0	0.0021	0.008	0.007587	277.9403	0	70.44944	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	0.002748	0	0.000696
Santa Clari	2024	LDA	Aggregate	Aggregate	Diesel	1750.024	51573.48	51573.48	0	7442.61	0	0.213181	0	0	0.016747	0	0	0.002	0.002706	0.017504	0	0	0.008	0.00773	232.7849	0	0	0.001289	0	0	0.036675	0	0	0.027749	0	0	0	0	0	0.03159	0	0	0	0	0	0.0031	0.331109	0	0	0.002206	0	0
Santa Clari	2024	LDA	Aggregate	Aggregate	Electricity	57627.4	2472767	0	2472767	282733	954692.3	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 Clari	2024	LDA	Aggregate	Aggregate	Plug-in Hyb	17457.1	767059.2	381568.7	385490.5	72185.1	116429.6	0.003264	0	0.11551	0.000618	0	0.00207	0.002	0.001377	0.000672	0	0.002252	0.008	0.003935	138.6993	0	65.78653	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	0.214038	0	1.339893	0.001371	0	0.00065
Santa Clari	2024	LDT1	Aggregate	Aggregate	Gasoline	52693.37	1706864	1706864	0	2347934.4	0	0.128357	0	0.381294	0.001737	0	0.002678	0.002	0.00324	0.001889	0	0.002913	0.008	0.009258	328.9675	0	86.69483	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	0.003252	0	0.000857
Santa Clari	2024	LDT1	Aggregate	Aggregate	Diesel	23.46233	343.9308	343.9308	0	66.44459	0	1.651932	0	0	0.239373	0	0	0.002	0.003724	0.250196	0	0	0.008	0.01064	415.4307	0	0	0.013862	0	0	0.065451	0	0	0.298448	0	0	0	0	0	0.339763	0	0	0	0	0	0.0031	1.593665	0	0	0.003936	0	0
Santa Clari	2024	LDT1	Aggregate	Aggregate	Electricity	211.0028	8008.646	0	8008.646	994.4346	3091.998	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 Clari	2024	LDT1	Aggregate	Aggregate	Plug-in Hyb	67.64578	3164.46	1414.302	1750.158	279.7153	528.6	0.002933	0	0.11551	0.000367	0	0.001381	0.002	0.001389	0.0004	0	0.001502	0.008	0.003967	124.6157	0	71.36186	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	0.192305	0	1.339893	0.001232	0	0.000705
Santa Clari	2024	LDT2	Aggregate	Aggregate	Gasoline	285585.4	10322758	10322758	0	1336438	0	0.069091	0	0.334237	0.001227	0	0.001959	0.002	0.003127	0.001334	0	0.00213	0.008	0.008936	344.6046	0	88.12796	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	0.003407	0	0.000871
Santa Clari	2024	LDT2	Aggregate	Aggregate	Diesel	1015.453	37944.26	37944.26	0	4835.434	0	0.041515	0	0	0.004813	0	0	0.002	0.003113	0.005031	0	0	0.008	0.008895	311.1925	0	0	0.000609	0	0	0.049029	0	0	0.013105	0	0	0	0	0	0.014919	0	0	0	0	0	0.0031	0.129976	0	0	0.002949	0	0
Santa Clari	2024	LDT2	Aggregate	Aggregate	Electricity	1597.567	55532.59	0	55532.59	8150.927	21440.16	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 Clari	2024	LDT2	Aggregate	Aggregate	Plug-in Hyb	2116.58	94757.71	44376.61	50381.09	8752.056	15216.59	0.003073	0	0.11551	0.000467	0	0.001672	0.002	0.001383	0.000508	0	0.001819	0.008	0.003953	130.578	0	78.06	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	0.201506	0	1.339893	0.001291	0	0.000772
Santa Clari	2024	HDT1	Aggregate	Aggregate	Gasoline	19314.14	722529.3	722529.3	0	2877519	0	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 Clari	2024	HDT1	Aggregate	Aggregate	Diesel	10107.74	398004.1	398004.1	0	127142.6	0	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	0.172781	0.473594	0.909745	0	0.005983	0.001243	0
Santa Clari	2024	LHDT1	Aggregate	Aggregate	Electricity	70.82836	5110.544	0	5110.544	989.4273	3345.376	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 Clari	2024	LHDT2	Aggregate	Aggregate	Gasoline	2506.906	91452.57	91452.57	0	37349.16	0	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 Clari	2024	LHDT2	Aggregate	Aggregate	Diesel	4663.455	183558.4	183558.4	0	58660.4	0	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	0.184132	0.411861	0.909745	0	0.007172	0.001986	0
Santa Clari	2024	LHDT2	Aggregate	Aggregate	Electricity	18.33259	1253.286	0	1253.286	242.668	808.0022	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 Clari	2024	MCY	Aggregate	Aggregate	Gasoline	28171.51	166022.3	166022.3	0	56343.02	0	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	3.559776	3.75283	3.900294	1.276951	0	1.462608	3.559776	3.75283	3.900294	0.008808	12.6697	0	8.002987	0.001856	0	0.000478
Santa Clari	2024	MDV	Aggregate	Aggregate	Gasoline	156642.4	5468054	5468054	0	726101.1	0	0.101279	0	0.42828	0.001229	0	0.002042	0.002	0.003184	0.001336	0	0.002221	0.008	0.009096	418.13	0	107.2801	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	0.004134	0	0.001061
Santa Clari	2024	MDV	Aggregate	Aggregate	Diesel	2400.615	86292.69	86292.69	0	11318.82	0	0.048844	0	0	0.004909	0	0	0.002	0.003206	0.005131	0	0	0.008	0.009159	409.13	0	0	0.00051	0	0	0.064459	0	0	0.010978	0	0	0	0	0	0.012498	0	0	0	0	0	0.0031	0.201538	0	0	0.003877	0	0
Santa Clari	2024	MDV	Aggregate	Aggregate	Electricity	1678.684	58660.63	0	58660.63	8578.496	22647.84	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 Clari	2024	MDV	Aggregate	Aggregate	Plug-in Hyb	1250.857	52904.03	25301.52	27602.51	5172.294	8336.781	0.003138	0	0.11551	0.000561	0	0.001962	0.002	0.001382	0.00061	0	0.002134	0.008	0.003948	133.3485	0	96.65661	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	0.205781	0	1.339893	0.001318	0	0.000956
Santa Clari	2024	MH	Aggregate	Aggregate	Gasoline	2420.57	22012.3	22012.3	0	2421538	0	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 Clari	2024	MH	Aggregate	Aggregate	Diesel	977.3606	9498.302	9498.302	0	97.73606	0	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 Clari	2024	MHDT	Aggregate	Aggregate	Gasoline	1414.552	71600.35	71600.35	0	28302.35	0	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 Clari	2024	MHDT	Aggregate	Aggregate	Diesel	10390.53	434043.6	434043.6	0	123939	0	1.232824	13.14099	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	0.210532	0.120871	7.556027	0	0.010864	0.021292	0
Santa Clari	2024	MHDT	Aggregate	Aggregate	Electricity	30.91601	1660.353	0	1660.353	407.4536	1841.064	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 Clari	2024	MHDT	Aggregate	Aggregate	Natural Ga	90.59449	4303.581	4303.581	0	827.6228	0	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	1.06	2.995842	34.7393	0	0	0	0
Santa Clari	2024	OBUS	Aggregate	Aggregate	Gasoline	443.1467	19894.31	19894.31	0	8866.48	0	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 Clari	2024	OBUS	Aggregate	Aggregate	Diesel	893.1376	61949.05	61949.05	0	9141.625	0	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	0.216021	0.150181	7.500483	0	0.012058	0.014569	0
Santa Clari	2024	OBUS	Aggregate	Aggregate	Electricity	1.087481	92.50105	0	92.50105	21.75833	102.477	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 Clari	2024	OBUS	Aggregate	Aggregate	Natural Ga	7.05737	469.3876	469.3876	0	62.81059	0	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	1.06	3.254325	7.353064	0	0	0	0
Santa Clari	2024	SBUS	Aggregate	Aggregate	Gasoline	172.6948	8584.866	8584.866	0	690.7791	0	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 Clari	2024	SBUS	Aggregate	Aggregate	Diesel	670.5958	15345.26	15345.26	0	9710.228	0	3.821388	21.90481	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	0.148025	0.1775	4.677792	0	0.010835	0.021107	0
Santa Clari	2024	SBUS	Aggregate	Aggregate	Electricity	2.064666	64.35501	0	64.35501	23.64639	67.79515	0	0	0	0	0	0	0.002	0.00539	0.00786	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 Clari	2024	SBUS	Aggregate	Aggregate	Natural Ga	24.3995	612.0941	612.0941	0	353.3048	0	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	0.507376	15.57053	0	0	0	0	1.06	11.64901	20.74693	0	0	0	0
Santa Clari	2024	UBUS	Aggregate	Aggregate	Gasoline	46.08313	4812.451	4812.451	0	184.3325	0	0.027483	0	0.457232	0.000143	0	0.000128	0.002	0.03185	0.000143	0	0.00014	0.008	0.091	926.0836	0	36.94783	0.020034	0	0.043067	0.004288	0	0.072717	0.005634	0	0.152979	0.038099	0.092116	0.456438	0.008321	0	0.167492	0.038099	0.092116	0.456438	0.045	0.581148	0	6.130495	0.009155	0	0.000365
Santa Clari	2024	UBUS	Aggregate	Aggregate	Diesel	437.4745	48917.61	48917.61	0	1749.898	0	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 Clari	2024	UBUS	Aggregate	Aggregate	Electricity	5.347565	235.0626	0	235.0626	21.39026	409.7714	0	0	0	0	0	0	0.00888	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 Clari	2024	UBUS	Aggregate	Aggregate	Natural Ga	42.58696	4865.187	4865.187	0	170.3478	0	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

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Cor	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PM	PMTW_RUN	PMTW_IDL	PMTW_STR	PMTW_PM	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSO	RDG_RUNEX	RDG_IDLEX	RDG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSO	TOG_RUNEX	TOG_DIURN	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
Santa Clara	2025	HHDT	Aggregate	Aggregate	Gasoline	2.330359	124.9448	124.9448	0	46.62582	0	5.556909	0	1.379041	0.003103	0	0.001399	0.005	0.033068	0.003375	0	0.001521	0.02	0.09448	2106.229	0	50.03138	0.207413	0	0.000226	0.167059	0	0.041557	1.222197	0	0.00123	0.140217	1.263022	9.434649	1.783427	0	0.001346	0.140217	1.263022	9.434649	0.043157	47.7242	0	2.001616	0.020822	0	0.000495
Santa Clara	2025	HHDT	Aggregate	Aggregate	Diesel	8692.575	1008964	1008964	0	127877.1	0	1.825194	62.42367	2.931995	0.025335	0.028938	0	0.008772	0.027421	0.02648	0.030247	0	0.035088	0.078345	1608.776	11755.34	0	0.00075	0.235891	0	0.253463	1.852058	0	0.016139	5.078674	0	0	0	0	0.018373	5.781684	0	0	0	0	0.215507	0.078083	74.00904	0	0.015234	0.111316	0
Santa Clara	2025	HHDT	Aggregate	Aggregate	Electricity	63.3712	6579.675	0	6579.675	825.9972	12135.66	0	0	0	0	0	0	0.008551	0.014281	0	0	0	0.034206	0.040802	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	0	0	0
Santa Clara	2025	HHDT	Aggregate	Aggregate	Natural Ga	832.405	55779.38	55779.38	0	7555.504	0	1.049864	13.18492	0	0.00168	0.025258	0	0.009	0.048303	0.001827	0.02747	0	0.036	0.138007	1375.94	10529.31	0	2.235928	35.17609	0	0.280494	2.146469	0	0.047235	0.530122	0	0	0	0	2.298347	35.93114	0	0	0	0	0.843784	13.01274	74.75478	0	0	0	0
Santa Clara	2025	LDA	Aggregate	Aggregate	Gasoline	598860.3	22133915	22133915	0	2780384	0	0.038209	0	0.245539	0.001142	0	0.00188	0.002	0.002655	0.001242	0	0.002044	0.008	0.007587	273.2075	0	69.04168	0.002117	0	0.067825	0.004408	0	0.032293	0.007947	0	0.306311	0.087189	0.224301	1.384954	0.011596	0	0.335372	0.087189	0.224301	1.384954	0.035611	0.6952	0	3.049452	0.002701	0	0.000683
Santa Clara	2025	LDA	Aggregate	Aggregate	Diesel	1620.04	46912.85	46912.85	0	6871.193	0	0.18842	0	0.015236	0	0	0	0.002	0.002712	0.015925	0	0	0.008	0.007748	230.5963	0	0	0.001193	0	0	0.036331	0	0	0.025693	0	0	0	0	0	0.02925	0	0	0	0	0	0.0031	0.319914	0	0	0.002185	0	0
Santa Clara	2025	LDA	Aggregate	Aggregate	Electricity	61443.19	2670452	0	2670452	299852.7	1031015	0	0	0	0	0	0	0.002	0.001534	0	0	0	0.008	0.004382	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	0	0	0
Santa Clara	2025	LDA	Aggregate	Aggregate	Plug-in Hyb	19037.66	825667.7	401013	424554.8	78720.74	128228.2	0.003187	0	0.11551	0.000578	0	0.001985	0.002	0.001382	0.000629	0	0.002159	0.008	0.003948	135.4391	0	65.04608	0.000432	0	0.042249	0.000569	0	0.020584	0.001378	0	0.173285	0.041164	0.03735	0.440525	0.002011	0	0.189725	0.041164	0.03735	0.440525	0.019241	0.209016	0	1.339893	0.001339	0	0.000643
Santa Clara	2025	LDT1	Aggregate	Aggregate	Gasoline	51680.86	1664706	1664706	0	230186	0	0.115355	0	0.35972	0.001639	0	0.002543	0.002	0.003241	0.001782	0	0.002766	0.008	0.00926	324.1276	0	84.93844	0.005621	0	0.098552	0.008687	0	0.037511	0.02471	0	0.498818	0.156963	0.442299	2.52236	0.036056	0	0.546143	0.156963	0.442299	2.52236	0.036453	1.317416	0	4.886115	0.003204	0	0.00084
Santa Clara	2025	LDT1	Aggregate	Aggregate	Diesel	21.28272	302.8258	302.8258	0	59.13231	0	1.64381	0	0	0.238169	0	0	0.002	0.00372	0.248938	0	0	0.008	0.010628	415.1682	0	0	0.013797	0	0	0.06541	0	0	0.297038	0	0	0	0	0	0.338158	0	0	0	0	0	0.0031	1.585068	0	0	0.003934	0	0
Santa Clara	2025	LDT1	Aggregate	Aggregate	Electricity	234.4578	9323.704	0	9323.704	1109.796	3599.719	0	0	0	0	0	0	0.002	0.001537	0	0	0	0.008	0.004392	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	0	0	0
Santa Clara	2025	LDT1	Aggregate	Aggregate	Plug-in Hyb	98.13198	4519.182	1961.286	2557.896	405.7758	772.5609	0.002848	0	0.11551	0.000353	0	0.001365	0.002	0.001394	0.000383	0	0.001485	0.008	0.003982	121.0095	0	70.34635	0.000383	0	0.041987	0.000501	0	0.020339	0.001231	0	0.173285	0.023895	0.020384	0.276746	0.001797	0	0.189725	0.023895	0.020384	0.276746	0.018228	0.186748	0	1.339893	0.001196	0	0.000695
Santa Clara	2025	LDT2	Aggregate	Aggregate	Gasoline	290874.7	10447706	10447706	0	1360241	0	0.06257	0	0.314364	0.001192	0	0.001919	0.002	0.00313	0.001296	0	0.002087	0.008	0.008944	338.2713	0	86.2638	0.002642	0	0.078494	0.005588	0	0.036037	0.010244	0	0.360071	0.079452	0.214938	1.349256	0.03712	0.795621	0	3.47417	0.003344	0	0.000853
Santa Clara	2025	LDT2	Aggregate	Aggregate	Diesel	1049.952	38652.34	38652.34	0	4980.34	0	0.039332	0	0	0.004727	0	0	0.002	0.003123	0.004941	0	0	0.008	0.008921	306.7182	0	0	0.000603	0	0	0.048324	0	0	0.01298	0	0	0	0	0	0.014777	0	0	0	0	0	0.0031	0.129797	0	0	0.002906	0	0
Santa Clara	2025	LDT2	Aggregate	Aggregate	Electricity	2157.059	73663.77	0	73663.77	10962.38	28440.3	0	0	0	0	0	0	0.002	0.001527	0	0	0	0.008	0.004362	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	0	0	0
Santa Clara	2025	LDT2	Aggregate	Aggregate	Plug-in Hyb	2561.885	112327.2	51267.44	61059.78	10593.4	18441.87	0.002995	0	0.11551	0.000438	0	0.00161	0.002	0.001388	0.000477	0	0.001751	0.008	0.003967	127.2609	0	77.17666	0.000403	0	0.041992	0.000528	0	0.020344	0.001295	0	0.173285	0.026071	0.023359	0.305362	0.00189	0	0.189725	0.026071	0.023359	0.305362	0.019143	0.196395	0	1.339893	0.001258	0	0.000763
Santa Clara	2025	LHDT1	Aggregate	Aggregate	Gasoline	19422.46	728337	728337	0	289365.8	0	0.152112	0.035118	0.614458	0.001478	0	0.000276	0.002	0.0273	0.001607	0	0.0003	0.008	0.078	855.4024	117.9783	25.70715	0.007214	0.110329	0.031611	0.008613	0.002941	0.049929	0.03557	0.40247	0.15588	0.044275	0.247775	2.616411	0.051904	0.587284	0.170669	0.044275	0.247775	2.616411	0.044934	1.05316	3.759094	3.16195	0.008457	0.001166	0.000254
Santa Clara	2025	LHDT1	Aggregate	Aggregate	Diesel	10387.1	408019.3	408019.3	0	1306567	0	1.379237	1.823414	0	0.032347	0.026692	0	0.003	0.0273	0.03381	0.027899	0	0.012	0.078	628.07	129.5472	0	0.007468	0.005098	0	0.098953	0.02041	0	0.160779	0.10976	0	0	0	0	0.183036	0.124954	0	0	0	0	0.17898	0.435087	0.909745	0	0.005951	0.001228	0
Santa Clara	2025	LHDT1	Aggregate	Aggregate	Electricity	196.402	13079.06	0	13079.06	2746.629	8564.085	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	0	0	0
Santa Clara	2025	LHDT2	Aggregate	Aggregate	Gasoline	2512.652	91345.05	91345.05	0	37434.78	0	0.146187	0.034452	0.600885	0.001346	0	0.00022	0.002	0.03185	0.001464	0	0.000239	0.008	0.091	964.5764	136.4471	25.31105	0.005467	0.108422	0.030581	0.008804	0.002854	0.048245	0.025115	0.395081	0.149459	0.041982	0.228581	2.471298	0.036648	0.576501	0.163639	0.041982	0.228581	2.471298	0.044974	0.850878	3.765161	3.139903	0.009536	0.001349	0.00025
Santa Clara	2025	LHDT2	Aggregate	Aggregate	Diesel	4837.236	188645	188645	0	60846.34	0	1.139289	1.802658	0	0.030296	0.027005	0	0.003	0.03185	0.031666	0.028226	0	0.012	0.091	750.3571	207.2396	0	0.007043	0.005098	0	0.118219	0.032651	0	0.151622	0.10976	0	0	0	0	0.172612	0.124954	0	0	0	0	0.188496	0.387904	0.909745	0	0.00711	0.001964	0
Santa Clara	2025	LHDT2	Aggregate	Aggregate	Electricity	50.46202	3193.251	0	3193.251	669.175	2059.665	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	0	0	0
Santa Clara	2025	MCY	Aggregate	Aggregate	Gasoline	28484.89	1664414.5	1664414.5	0	56969.79	0	0.557882	0	0.129146	0.001799	0	0.003253	0.001	0.0042	0.001925	0	0.003464	0.004	0.012	187.2679	0	47.30784	0.158292	0	0.177199	0.038984	0	0.007691	1.024683	0	1.305157	3.558651	3.760078	3.860886	1.236542	0	1.419098	3.558651	3.760078	3.860886	0.008851	12.31202	0	7.965438	0.001851	0	0.000468
Santa Clara	2025	MDV	Aggregate	Aggregate	Gasoline	159532.2	5551044	5551044	0	7397814	0	0.087905	0	0.391886	0.001179	0	0.001962	0.002	0.003182	0.001282	0	0.002134	0.008	0.009091	410.3223	0	104.9535	0.003431	0	0.094137	0.006921	0	0.039073	0.014165	0	0.463643	0.092515	0.265086	1.620407	0.020668	0	0.50763	0.092515	0.265086	1.620407	0.036883	0.895922	0	3.753621	0.004056	0	0.001038
Santa Clara	2025	MDV	Aggregate	Aggregate	Diesel	2421.364	85326.8	85326.8	0	11351.14	0	0.044948	0	0	0.004686	0	0	0.002	0.003225	0.004898	0	0	0.008	0.009216	404.5816	0	0	0.000492	0	0	0.063742	0	0	0.010592	0	0	0	0	0	0.012058	0	0	0	0	0	0.0031	0.199936	0	0	0.003834	0	0
Santa Clara	2025	MDV	Aggregate	Aggregate	Electricity	2274.547	77934.96	0	77934.96	11571.06	30089.33	0	0	0	0	0	0	0.002	0.001526	0	0	0	0.008	0.004361	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	0	0	0
Santa Clara	2025	MDV	Aggregate	Aggregate	Plug-in Hyb	1542.366	64484.39	29833.21	34651.18	6377.683	10465.69	0.003036	0	0.11551	0.000507	0	0.00183	0.002	0.001388	0.000551	0	0.00199	0.008	0.003965	128.9983	0	95.11137	0.000407	0	0.041816	0.00053	0	0.02018	0.001313	0	0.173285	0.02949	0.025333	0.327899	0.001916	0	0.189725	0.02949	0.025333	0.327899	0.019431	0.199076	0	1.339893	0.001275	0	0.00094
Santa Clara	2025	MH	Aggregate	Aggregate	Gasoline	2337.876	21506.19	21506.19	0	233.8812	0	0.37652	0	0.425905	0.001612	0	0.000388	0.003	0.015756	0.001753	0	0.000422	0.012	0.045017	1947.057	0	31.4529	0.013722	0	0.036945	0.023864	0	0.045303	0.059455	0	0.154277	11.38549	0.268831	4.357209	0.086757	0	0.168914	11.38549	0.268831	4.357209	0.044879	1.426924	0	0.382931	0.019249	0	0.000311
Santa Clara	2025	MH	Aggregate	Aggregate	Diesel	994.5437	9603.893	9603.893	0	99.45437	0	3.976372	0	0	0.086098	0	0	0.004	0.015675	0.08999	0	0	0.016	0.044785	1082.401	0	0	0.005421	0	0	0.170533	0	0	0.116701	0	0	0	0	0	0.132856	0	0	0	0	0	0.160635	0.385118	0	0	0.010256	0	0
Santa Clara	2025	MHDT	Aggregate	Aggregate	Gasoline	1412.263	72039.87	72039.87	0	28256.55	0	0.394798	0.086175	0.424333	0.001347	0	0.000513	0.003	0.015756	0.001465	0	0.000558	0.012	0.045017	1746.959	526.7233	45.37618	0.012585	0.261076	0.04598	0.019987	0.007219	0.032398	0.061949	1.015127	0.253154	0.030988	0.250472	2.558011	0.090397	1.481271	0.277172	0.030988	0.250472	2.558011	0.044991	1.276089	15.1444	5.531626	0.01727	0.005207	0.000449
Santa Clara	2025	MHDT	Aggregate	Aggregate	Diesel	1058.06	435100.6	435100.6	0	125915.2	0	1.128155	12.74108	1.646559	0.012461	0.024792	0	0.003	0.015941	0.013024	0.025912	0	0.012	0.045545	1141.328	2229.374	0	0.00131	0.010957	0	0.179817	0.351239	0	0.028195	0.235896	0	0	0	0	0.032098	0.268549	0	0	0	0	0.211891	0.109646	7.535393	0	0.010808	0.021111	0
Santa Clara	2025	MHDT	Aggregate	Aggregate	Electricity	90.80851	4838.906	0	4838.906	1182.343	5314.414	0	0	0	0	0	0	0.003	0.007951	0	0	0	0.012	0.022718	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	0	0	0
Santa Clara	2025	MHDT	Aggregate	Aggregate	Natural Ga	98.90628	4590.307	4590.307	0	911.9208	0	0.12435	6.45266	0	0.001226	0.018594	0	0.003	0.016009	0.001333	0.020223	0	0.012	0.045741	979.0142	5290.545	0	0.751438	16.97256	0	0.199578	1.078512	0	0.010737	0.242504	0	0	0	0	0.766898	17.32175	0	0	0	0	1.06	2.996166	35.80775	0	0	0	0
Santa Clara	2025	OBUS	Aggregate	Aggregate	Gasoline	430.7023	18962.49	18962.49	0	8617.491	0	0.460353	0.06398	0.405045	0.000939	0	0.000255	0.003	0.01568	0.0001022	0	0.000278	0.012	0.044799	1744.286	377.0226	31.37018	0.012641	0.195762	0.035581	0.02242	0.005219	0.030806	0.061504	0.74652	0.188569	0.033827	0.158433	2.881145	0.089747	1.089321	0.206459	0.033827	0.158433	2.881145	0.04498	1.352776	5.776073	3.953891	0.017244	0.003727	0.00031
Santa Clara	2025	OBUS	Aggregate	Aggregate	Diesel	921.4116	62304.89	62304.89	0	9451.527	0	1.133246	7.151668	1.532624	0.018916	0.007596	0	0.003	0.018017	0.019772	0.007939	0	0.012	0.051478	1259.126	1532.11	0	0.001844	0.020685	0	0.198376	0.241385	0	0.039711	0.445333	0	0	0	0	0.045208	0.506978	0	0	0	0	0.216212	0.14449	7.587325	0	0.011923	0.014508	0
Santa Clara	2025	OBUS	Aggregate	Aggregate	Electricity	2.672031	221.771	0	221.771	53.46199	245.6884	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	0	0	0
Santa Clara	2025	OBUS	Aggregate	Aggregate	Natural Ga	8.125306	537.7468	537.7468	0	72.31523	0	0.164816	1.526623	0	0.000183	0.004157	0	0.003	0.016148	0.001287	0.004521	0	0.012	0.046137	987.912	1189.826	0	0.803903	4.103659	0	0.201392	0.242554	0	0.011486	0.058633	0	0	0	0	0.820442	4.188085	0	0	0	0	1.06	3.29233	7.933419	0	0	0	0
Santa Clara	2025	SBUS	Aggregate	Aggregate	Gasoline	178.2436	8812.851	8812.851	0	712.9742	0	0.487257	0.905562	0.722985	0.000866	0	0.000573	0.002	0.015721	0.000942	0	0.000623	0.008	0.044917	806.3455	2576.863	57.67146	0.010523	2.465929	0.074733	0.026439	0.084425	0.066434	0.051046	10.63602	0.42511	0.118631	0.292211	1.797789	0.074486	15.52005	0.465442	0.118631	0.292211	1.797789	0.045	1.308927	82.20747	10.20511	0.007972	0.025475	0.00057
Santa Clara	2025	SBUS	Aggregate	Aggregate	Diesel	673.2048	15283.75	15283.75	0	9748.005	0	3.614242	21.38359	0.496308	0.018677	0.018235	0	0.003	0.015721	0.019521	0.019059	0	0.012	0.044917	1139.829	2219.616	0	0.002583	0.007936	0	0.179581	0.349701	0	0.055601	0.170862	0	0	0	0	0.653298	0.194514	0	0	0	0	0.151888	0.17348	4.777291	0	0.010794	0.021018	0
Santa Clara	2025	SBUS	Aggregate	Aggregate	Electricity	4.481168	145.0761	0	145.0761	51.24766	152.8312	0	0	0	0	0	0	0.002556	0.00786	0	0	0	0.010226	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	0	0	0
Santa Clara	2025	SBUS	Aggregate	Aggregate	Natural Ga	25.28439	627.586	627.586	0	366.118	0	0.5494	5.260001	0	0.003378	0.011617	0	0.003	0.015721	0.003674	0.012635	0	0.012	0.044917	1252.115	4074.049	0	3.386209	15.12215	0	0.255252	0.830522	0	0.048382	0.216066	0	0	0	0	0.455875	15.43326	0	0	0	0	1.06	11.41153	21.33281	0	0	0	0
Santa Clara	2025	UBUS	Aggregate	Aggregate	Gasoline	46.21918	4826.658	4826.658	0	184.8767	0	0.027276	0	0.449893	0.001143	0	0.000128	0.002	0.03185	0.001243	0	0.00014	0.008	0.091	925.8676	0	36.64281	0.001993	0	0.043054	0.004209	0	0.070843	0.005515	0	0.152699	0.04366	0.092112	0.471505	0.008047	0	0.167186	0.04366	0.092112	0.471505	0.045	0.586139	0	5.942314	0.009153	0	0.000362
Santa Clara	2025	UBUS	Aggregate	Aggregate	Diesel	405.3675	44987.37	44987.37	0	1621.47	0	0.382968	0	0	0.006962	0	0	0.002	0.008238	0.0385	0.007277	0	0.032951	0.11	1121.875	0	0	0.003193	0	0	0.176752	0	0	0.06875	0	0	0	0	0	0.078266	0	0	0	0	0	0.22	0.0787	0	0	0.01063	0	0
Santa Clara	2025	UBUS	Aggregate	Aggregate	Electricity	23.31202	2427.54	0	2427.54	93.24809	4231.795	0	0	0	0	0	0	0.002	0.008977	0.01925	0	0	0.035907	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	0	0	0
Santa Clara	2025	UBUS	Aggregate	Aggregate	Natural Ga	58.16247	6762.418	6762.418	0	232.6499	0	0.060506	0	0	0.000287	0	0	0.002	0.008408	0.0385	0.0003	0	0	0.033634	0.11	1317.877	0	0	4.320397	0	0	0.268658	0	0	0.06173	0	0	0	0	0	4.409282	0	0	0	0	0.97	50.3461	0	0	0	0	0	0	0

Attachment 4: Project Construction and Operation Dispersion Modeling Inputs and Risk Calculations

1881 W San Carlos St, San Jose, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Construction	0.0108	CON_DPM	21.7	0.00594	7.49E-04	5,074	1.48E-07
2023	Construction	0.0469	CON_DPM	93.8	0.02570	3.24E-03	5,074	6.38E-07
2024	Construction	0.0063	CON_DPM	12.7	0.00348	4.38E-04	5,074	8.63E-08
Total		***0.0641***		***128.2***	***0.0351***	***0.0044***		

Construction Hours

hr/day =	10	(8am - 6pm)
days/yr =	365	
hours/year =	3650	

1881 W San Carlos St, San Jose, CA

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Construction	CON_FUG	0.0118	23.7	0.00649	8.18E-04	5,074	1.61E-07
2023	Construction	CON_FUG	0.0017	3.5	0.00095	1.20E-04	5,074	2.36E-08
2024	Construction	CON_FUG	0.0007	1.3	0.00037	4.63E-05	5,074	9.13E-09
Total			***0.0143***	***28.5***	***0.0078***	***0.0010***		

Construction Hours

hr/day =	10	(8am - 6pm)
days/yr =	365	
hours/year =	3650	

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Construction	0.0025	CON_DPM	4.9	0.00135	1.70E-04	5,074	3.34E-08
2023	Construction	0.0100	CON_DPM	20.0	0.00547	6.89E-04	5,074	1.36E-07
2024	Construction	0.0010	CON_DPM	1.9	0.00052	6.58E-05	5,074	1.30E-08
Total		***0.0025***		***4.9***	***0.0013***	***0.0002***		

Construction Hours

hr/day =	10	(8am - 6pm)
days/yr =	365	
hours/year =	3650	

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Construction	CON_FUG	0.0060	11.9	0.00327	4.12E-04	5,074	8.13E-08
2023	Construction	CON_FUG	0.0017	3.5	0.00095	1.20E-04	5,074	2.36E-08
2024	Construction	CON_FUG	0.0007	1.3	0.00037	4.63E-05	5,074	9.13E-09
Total			***0.0060***	***11.9***	***0.0033***	***0.0004***		

Construction Hours

hr/day =	10	(8am - 6pm)
days/yr =	365	
hours/year =	3650	

1881 W San Carlos Street, San Jose, CA
Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations		Cancer Risk (per million)	Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	(-)	($\mu g/m^3$)
2022	0.0210	0.0686	3.73	0.00	0.09
2023	0.0903	0.0101	14.83	0.02	0.09
2024	0.0122	0.0016	0.32	0.00	0.01
Total	-	-	**18.87**	-	-
Maximum	0.0903	0.0686	**-**	**0.02**	**0.09**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations		Cancer Risk (per million)	Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	(-)	($\mu g/m^3$)
2022	0.0047	0.0347	0.84	0.001	0.04
2023	0.0193	0.0101	3.16	0.004	0.03
2024	0.0018	0.0039	0.05	0.000	0.01
Total	-	-	**4.05**	-	-
Maximum	0.0193	0.0347	**-**	**0.004**	**0.04**

- Tier 4 Interim Engine and BMPs Mitigation

Maximum Impacts at Luther Burbank School

Construction Year	Unmitigated Emissions				
	Maximum Concentrations		Child Cancer Risk	Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM2.5/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	(per million)	(-)	($\mu g/m^3$)
2022	0.0139	0.0168	0.87	0.003	0.03
2023	0.0600	0.0025	3.76	0.012	0.06
2024	0.0081	0.0010	0.51	0.002	0.01
Total	-	-	**5.1**	-	-
Maximum	0.0600	0.0168	**-**	**0.012**	**0.06**

1881 W San Carlos, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum		
							Modeled						
Exposure Year	**Exposure Duration (years)**	**Age**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**DPM Conc (ug/m3) Year**	**DPM Conc (ug/m3) Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2022	0.0210	10	0.28	2022	0.0210	-	-			
1	1	0 - 1	2022	0.0210	10	3.44	2022	0.0210	1	0.06	0.00	0.07	0.09
2	1	1 - 2	2023	0.0903	10	14.83	2023	0.0903	1	0.26	0.02	0.01	0.09
3	1	2 - 3	2024	0.0122	3	0.32	2024	0.0122	1	0.04	0.00	0.00	0.01
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**18.87**				**0.35**			

* Third trimester of pregnancy

1881 W San Carlos, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum		
							Modeled						
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2022	0.0086	10	0.12	2022	0.0086	-	-			
1	1	0 - 1	2022	0.0086	10	1.42	2022	0.0086	1	0.02	0.00	0.01	0.02
2	1	1 - 2	2023	0.0373	10	6.12	2023	0.0373	1	0.11	0.01	0.00	0.04
3	1	2 - 3	2024	0.0050	3	0.13	2024	0.0050	1	0.01	0.00	0.00	0.01
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**7.8**				**0.1**			

* Third trimester of pregnancy

1881 W San Carlos, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult	Maximum		
							Modeled						
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2022	0.0047	10	0.06	2022	0.0047	-	-			
1	1	0 - 1	2022	0.0047	10	0.78	2022	0.0047	1	0.01	0.00	0.03	0.04
2	1	1 - 2	2023	0.0193	10	3.16	2023	0.0193	1	0.06	0.00	0.01	0.03
3	1	2 - 3	2024	0.0018	3	0.05	2024	0.0018	1	0.01	0.00	0.00	0.01
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**4.1**				**0.07**			

* Third trimester of pregnancy

1881 W San Carlos, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information				Maximum		
							Modeled						
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2022	0.0020	10	0.03	2022	0.0020	-	-			
1	1	0 - 1	2022	0.0020	10	0.32	2022	0.0020	1	0.01	0.00	0.01	0.01
2	1	1 - 2	2023	0.0079	10	1.30	2023	0.0079	1	0.02	0.00	0.00	0.01
3	1	2 - 3	2024	0.0000	3	0.00	2024	0.0008	1	0.00	0.00	0.00	0.00
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**1.65**				**0.03**			

* Third trimester of pregnancy

Luther Burbank School, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Westmoor High School - 1 meter - Child Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
SAF = Student Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child	Adult
Age -->	**0 - <2**	**2 - <16**	**16 - 30**
Parameter			
ASF =	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00
8-Hr BR* =	1200	520	240
A =	1	1	1
EF =	250	250	250
AT =	70	70	70
SAF =	1.00	3.73	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	5 - 6	2022	0.0139	3	0.9
2	1	6 - 7	2023	0.0600	3	3.8
3	1	7 - 8	2024	0.0081	3	0.5
4	1			0.0000	3	0.0
5	1			0.0000	3	0.0
6	1			0.0000	3	0.0
7	1			0.0000	3	0.0
8	1			0.0000	3	0.0
9	1			0.0000	3	0.0
Total Increased Cancer Risk						**5.14**

* Children assumed to be 5 years of age or older with 3 years of Construction Exposure

Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.0028	0.0168	0.0308
0.0120	0.0025	0.0625
0.0016	0.0010	0.0091

1881 W San Carlos, San Jose, CA

Standby Emergency Generator Impacts

Off-site Sensitive Receptors

MEI Location = 1.5 meter receptor height

DPM Emission Rates		
	DPM Emissions per Generator	
	Max Daily	Annual
Source Type	(lb/day)	(lb/year)
100-kW, 150-hp Generator	0.007	2.42
CalEEMod DPM Emissions	1.21E-03	tons/year

Modeling Information	
Model	AERMOD
Source	Diesel Generator Engine
Source Type	Point
Meteorological Data	2013-2017 San Jose International Meterological Data
Point Source Stack Parameters	
Generator Engine Size (hp)	200
Stack Height (ft)	10.00
Stack Diameter (ft)**	0.60
Exhaust Gas Flowrate (CFM)*	2527.73
Stack Exit Velocity (ft/sec)**	149.00
Exhaust Temperature (˚F)**	872.00
Emissions Rate (lb/hr)	0.000276

* AERMOD default

**BAAQMD default generator parameters

1881 W San Carlos St, San Jose, CA - Cancer Risks from Project Operation
Project Emergency Generator
Impacts at Off-Site Receptors- 1.5m MEI Receptor Heights
Impact at Project MEI (28-year Exposure)

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

	Infant/Child			Adult
Age -->	3rd Trimester	0 - 2	2 - 16	16 - 30
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)		Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2022	0.0000	10	0.000				
1	1	0 - 1	2022	0.0000	10	0.000				
2	1	1 - 2	2023	0.0000	10	0.000				
3	1	2 - 3	2024	0.0000	3	0.000				
4	1	3 - 4	2025	0.0001	3	0.003		0.00002	0.0000	0.0001
5	1	4 - 5	2026	0.0001	3	0.003		0.00002	0.0000	0.0001
6	1	5 - 6	2027	0.0001	3	0.003		0.00002	0.0000	0.0001
7	1	6 - 7	2028	0.0001	3	0.003		0.00002	0.0000	0.0001
8	1	7 - 8	2029	0.0001	3	0.003		0.00002	0.0000	0.0001
9	1	8 - 9	2030	0.0001	3	0.003		0.00002	0.0000	0.0001
10	1	9 - 10	2031	0.0001	3	0.003		0.00002	0.0000	0.0001
11	1	10 - 11	2032	0.0001	3	0.003		0.00002	0.0000	0.0001
12	1	11 - 12	2033	0.0001	3	0.003		0.00002	0.0000	0.0001
13	1	12 - 13	2034	0.0001	3	0.003		0.00002	0.0000	0.0001
14	1	13 - 14	2035	0.0001	3	0.003		0.00002	0.0000	0.0001
15	1	14 - 15	2036	0.0001	3	0.003		0.00002	0.0000	0.0001
16	1	15 - 16	2037	0.0001	3	0.003		0.00002	0.0000	0.0001
17	1	16-17	2038	0.0001	1	0.000		0.00002	0.0000	0.0001
18	1	17-18	2039	0.0001	1	0.000		0.00002	0.0000	0.0001
19	1	18-19	2040	0.0001	1	0.000		0.00002	0.0000	0.0001
20	1	19-20	2041	0.0001	1	0.000		0.00002	0.0000	0.0001
21	1	20-21	2042	0.0001	1	0.000		0.00002	0.0000	0.0001
22	1	21-22	2043	0.0001	1	0.000		0.00002	0.0000	0.0001
23	1	22-23	2044	0.0001	1	0.000		0.00002	0.0000	0.0001
24	1	23-24	2045	0.0001	1	0.000		0.00002	0.0000	0.0001
25	1	24-25	2046	0.0001	1	0.000		0.00002	0.0000	0.0001
26	1	25-26	2047	0.0001	1	0.000		0.00002	0.0000	0.0001
27	1	26-27	2048	0.0001	1	0.000		0.00002	0.0000	0.0001
28	1	27-28	2049	0.0001	1	0.000		0.00002	0.0000	0.0001
29	1	28-29	2050	0.0001	1	0.000		0.00002	0.0000	0.0001
30	1	29-30	2051	0.0001	1	0.000		0.00002	0.0000	0.0001
Total Increased Cancer Risk						**0.05**	**Max**	**0.00002**	**0.0000**	**0.0001**

* Third trimester of pregnancy

1881 W San Carlos, San Jose, CA - Cancer Risks from Project Operation
Project Emergency Generator
Impacts at Off-Site Luther Burbank School Child Exposure- 1m MEI Receptor Heights
Impact at Project MEI (7-year Exposure)

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
SAF = Student Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1200	520	240
A =	1	1	1	1
EF =	250	250	250	250
AT =	70	70	70	70
FAH =	1.00	1.00	3.73	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information						
			DPM Conc (ug/m3)						
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**		**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
1	1	5 - 6	2022	0.0000	3	0.00				
2	1	6 - 7	2023	0.0000	3	0.00				
3	1	7 - 8	2024	0.0000	3	0.00		0.00000	0.0001	0.0001
4	1	8 - 9	2025	0.0006	3	0.04		0.00011	0.0001	0.0007
5	1	9 - 10	2026	0.0006	3	0.04		0.00011	0.0001	0.0007
6	1	10 - 11	2027	0.0006	3	0.04		0.00011	0.0001	0.0007
7	1	11 - 12	2028	0.0006	3	0.04		0.00011	0.0001	0.0007
8	1	12 - 13	2029	0.0006	3	0.04		0.00011	0.0001	0.0007
9	1	13 - 14	2030	0.0006	3	0.04		0.00011	0.0001	0.0007
Total Increased Cancer Risk						**0.21**	**Max**	**0.00011**	**0.0001**	**0.0007**

Attachment 5: Cumulative Community Risk from Existing TAC Sources

CT-EMFAC2017 Emissions Factors for Roadways

```
          File Name:   Santa Clara (SF) - 2022 - Annual.EF
CT-EMFAC2017 Version:   1.0.2.27401
            Run Date:   6/4/2021 11:07:10 AM
                Area:   Santa Clara (SF)
       Analysis Year:   2022
              Season:   Annual

=========================================================================

Vehicle Category        VMT Fraction            Diesel VMT Fraction     Gas VMT Fraction
                        Across Category         Within Category         Within Category
         Truck 1             0.015                   0.478                   0.522
         Truck 2             0.020                   0.940                   0.046
       Non-Truck             0.965                   0.014                   0.961

=========================================================================

               Road Type:       Major/Collector
     Silt Loading Factor:                  CARB         0.032 g/m2
Precipitation Correction:                  CARB         P = 64 days     N = 365 days

=========================================================================

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

       Pollutant Name      <= 5 mph          10 mph          15 mph          20 mph          25 mph          30 mph          35 mph          40 mph
                PM2.5      0.010417        0.006915        0.004735        0.003408        0.002622        0.002145        0.001861        0.001715
                  TOG      0.220898        0.145348        0.097291        0.068555        0.051819        0.041294        0.034513        0.030252
            Diesel PM      0.001756        0.001459        0.001108        0.000865        0.000743        0.000683        0.000662        0.000677

=========================================================================

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

       Pollutant Name   Emission Factor
                  TOG          1.418515

=========================================================================

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

       Pollutant Name   Emission Factor
                PM2.5          0.002108

=========================================================================

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

       Pollutant Name   Emission Factor
                PM2.5          0.016811

=========================================================================

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

       Pollutant Name   Emission Factor
                PM2.5          0.014871

============================END==========================================
```

Roadway Traffic Emissions and Health Risk Calculations

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - W San Carlos Street
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_EB_CAR	W San Carlos St Eastbound	EB	2	685.8	0.43	13.3	43.7	3.4	35	10,238
DPM_WB_CAR	W San Carlos St Westbound	WB	2	683.6	0.42	13.3	43.7	3.4	35	10,238
									Total	20,475

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.00066			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and DPM Emissions - DPM_EB_CAR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.81%	390	3.06E-05	9	6.66%	682	5.35E-05	17	6.50%	665	5.21E-05
2	3.15%	323	2.53E-05	10	8.16%	835	6.54E-05	18	3.85%	394	3.08E-05
3	2.32%	238	1.86E-05	11	6.33%	648	5.08E-05	19	2.35%	241	1.89E-05
4	1.00%	102	7.98E-06	12	7.66%	784	6.14E-05	20	1.19%	122	9.56E-06
5	1.00%	102	7.98E-06	13	6.83%	699	5.48E-05	21	3.02%	309	2.42E-05
6	2.16%	221	1.73E-05	14	6.66%	682	5.35E-05	22	5.01%	513	4.02E-05
7	4.67%	479	3.75E-05	15	6.00%	614	4.81E-05	23	3.32%	340	2.66E-05
8	3.35%	343	2.69E-05	16	4.34%	445	3.48E-05	24	0.66%	68	5.32E-06
								Total		10,238	

2022 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WB_CAR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.81%	390	3.05E-05	9	6.66%	682	5.33E-05	17	6.50%	665	5.20E-05
2	3.15%	323	2.52E-05	10	8.16%	835	6.52E-05	18	3.85%	394	3.07E-05
3	2.32%	238	1.86E-05	11	6.33%	648	5.06E-05	19	2.35%	241	1.88E-05
4	1.00%	102	7.96E-06	12	7.66%	784	6.13E-05	20	1.19%	122	9.53E-06
5	1.00%	102	7.96E-06	13	6.83%	699	5.46E-05	21	3.02%	309	2.41E-05
6	2.16%	221	1.72E-05	14	6.66%	682	5.33E-05	22	5.01%	513	4.00E-05
7	4.67%	479	3.74E-05	15	6.00%	614	4.80E-05	23	3.32%	340	2.65E-05
8	3.35%	343	2.68E-05	16	4.34%	445	3.47E-05	24	0.66%	68	5.30E-06
								Total		10,238	

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - W San Carlos Street
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM2.5_EB_CAR	W San Carlos St Eastbound	EB	2	685.8	0.43	13.3	44	1.3	35	10,238
PM2.5_WB_CAR	W San Carlos St Westbound	WB	2	683.6	0.42	13.3	44	1.3	35	10,238
									Total	20,475

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.001861			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_EB_CAR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	115	2.53E-05	9	7.12%	729	1.61E-04	17	7.43%	761	1.68E-04
2	0.41%	42	9.32E-06	10	4.37%	448	9.87E-05	18	8.24%	843	1.86E-04
3	0.37%	38	8.45E-06	11	4.65%	476	1.05E-04	19	5.72%	586	1.29E-04
4	0.17%	17	3.84E-06	12	5.89%	603	1.33E-04	20	4.30%	440	9.70E-05
5	0.46%	47	1.04E-05	13	6.17%	631	1.39E-04	21	3.25%	333	7.33E-05
6	0.85%	87	1.91E-05	14	6.05%	620	1.37E-04	22	3.31%	339	7.47E-05
7	3.73%	382	8.41E-05	15	7.06%	723	1.59E-04	23	2.48%	254	5.60E-05
8	7.77%	795	1.75E-04	16	7.19%	736	1.62E-04	24	1.87%	192	4.23E-05
								Total		10,238	

2022 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_WB_CAR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	115	2.52E-05	9	7.12%	729	1.60E-04	17	7.43%	761	1.67E-04
2	0.41%	42	9.29E-06	10	4.37%	448	9.83E-05	18	8.24%	843	1.85E-04
3	0.37%	38	8.43E-06	11	4.65%	476	1.05E-04	19	5.72%	586	1.29E-04
4	0.17%	17	3.83E-06	12	5.89%	603	1.32E-04	20	4.30%	440	9.67E-05
5	0.46%	47	1.03E-05	13	6.17%	631	1.39E-04	21	3.25%	333	7.31E-05
6	0.85%	87	1.91E-05	14	6.05%	620	1.36E-04	22	3.31%	339	7.45E-05
7	3.73%	382	8.39E-05	15	7.06%	723	1.59E-04	23	2.48%	254	5.58E-05
8	7.77%	795	1.75E-04	16	7.19%	736	1.62E-04	24	1.87%	192	4.21E-05
								Total		10,238	

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - W San Carlos Street
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_EB_CAR	W San Carlos St Eastbound	EB	2	685.8	0.43	13.3	44	1.3	35	10,238
TEXH_WB_CAR	W San Carlos St Westbound	WB	2	683.6	0.42	13.3	44	1.3	35	10,238
									Total	20,475

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.03451			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_EB_CAR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	115	4.69E-04	9	7.12%	729	2.98E-03	17	7.43%	761	3.11E-03
2	0.41%	42	1.73E-04	10	4.37%	448	1.83E-03	18	8.24%	843	3.45E-03
3	0.37%	38	1.57E-04	11	4.65%	476	1.95E-03	19	5.72%	586	2.39E-03
4	0.17%	17	7.13E-05	12	5.89%	603	2.46E-03	20	4.30%	440	1.80E-03
5	0.46%	47	1.92E-04	13	6.17%	631	2.58E-03	21	3.25%	333	1.36E-03
6	0.85%	87	3.55E-04	14	6.05%	620	2.53E-03	22	3.31%	339	1.39E-03
7	3.73%	382	1.56E-03	15	7.06%	723	2.95E-03	23	2.48%	254	1.04E-03
8	7.77%	795	3.25E-03	16	7.19%	736	3.01E-03	24	1.87%	192	7.84E-04
								Total		10,238	

2022 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_WB_CAR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	115	4.67E-04	9	7.12%	729	2.97E-03	17	7.43%	761	3.10E-03
2	0.41%	42	1.72E-04	10	4.37%	448	1.82E-03	18	8.24%	843	3.43E-03
3	0.37%	38	1.56E-04	11	4.65%	476	1.94E-03	19	5.72%	586	2.38E-03
4	0.17%	17	7.10E-05	12	5.89%	603	2.45E-03	20	4.30%	440	1.79E-03
5	0.46%	47	1.92E-04	13	6.17%	631	2.57E-03	21	3.25%	333	1.35E-03
6	0.85%	87	3.53E-04	14	6.05%	620	2.52E-03	22	3.31%	339	1.38E-03
7	3.73%	382	1.56E-03	15	7.06%	723	2.94E-03	23	2.48%	254	1.04E-03
8	7.77%	795	3.24E-03	16	7.19%	736	3.00E-03	24	1.87%	192	7.81E-04
								Total		10,238	

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - W San Carlos Street
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_EB_CAR	W San Carlos St Eastbound	EB	2	685.8	0.43	13.3	44	1.3	35	10,238
TEVAP_WB_CAR	W San Carlos St Westbound	WB	2	683.6	0.42	13.3	44	1.3	35	10,238
									Total	20,475

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle per Hour (g/hour)	1.41852			
Emissions per Vehicle per Mile (g/VMT)	0.04053			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EB_CAR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	115	5.50E-04	9	7.12%	729	3.50E-03	17	7.43%	761	3.65E-03
2	0.41%	42	2.03E-04	10	4.37%	448	2.15E-03	18	8.24%	843	4.05E-03
3	0.37%	38	1.84E-04	11	4.65%	476	2.28E-03	19	5.72%	586	2.81E-03
4	0.17%	17	8.37E-05	12	5.89%	603	2.89E-03	20	4.30%	440	2.11E-03
5	0.46%	47	2.26E-04	13	6.17%	631	3.03E-03	21	3.25%	333	1.60E-03
6	0.85%	87	4.16E-04	14	6.05%	620	2.97E-03	22	3.31%	339	1.63E-03
7	3.73%	382	1.83E-03	15	7.06%	723	3.47E-03	23	2.48%	254	1.22E-03
8	7.77%	795	3.82E-03	16	7.19%	736	3.53E-03	24	1.87%	192	9.20E-04
								Total		10,238	

2022 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WB_CAR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	115	5.48E-04	9	7.12%	729	3.48E-03	17	7.43%	761	3.64E-03
2	0.41%	42	2.02E-04	10	4.37%	448	2.14E-03	18	8.24%	843	4.03E-03
3	0.37%	38	1.84E-04	11	4.65%	476	2.28E-03	19	5.72%	586	2.80E-03
4	0.17%	17	8.34E-05	12	5.89%	603	2.88E-03	20	4.30%	440	2.11E-03
5	0.46%	47	2.25E-04	13	6.17%	631	3.02E-03	21	3.25%	333	1.59E-03
6	0.85%	87	4.15E-04	14	6.05%	620	2.96E-03	22	3.31%	339	1.62E-03
7	3.73%	382	1.83E-03	15	7.06%	723	3.46E-03	23	2.48%	254	1.22E-03
8	7.77%	795	3.80E-03	16	7.19%	736	3.52E-03	24	1.87%	192	9.18E-04
								Total		10,238	

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - W San Carlos Street
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_EB_CAR	W San Carlos St Eastbound	EB	2	685.8	0.43	13.3	44	1.3	35	10,238
FUG_WB_CAR	W San Carlos St Westbound	WB	2	683.6	0.42	13.3	44	1.3	35	10,238
									Total	20,475

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00211			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681			
Road Dust - Emissions per Vehicle (g/VMT)	0.01487			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03379			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_EB_CAR

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	115	4.59E-04	9	7.12%	729	2.91E-03	17	7.43%	761	3.04E-03
2	0.41%	42	1.69E-04	10	4.37%	448	1.79E-03	18	8.24%	843	3.37E-03
3	0.37%	38	1.53E-04	11	4.65%	476	1.90E-03	19	5.72%	586	2.34E-03
4	0.17%	17	6.98E-05	12	5.89%	603	2.41E-03	20	4.30%	440	1.76E-03
5	0.46%	47	1.88E-04	13	6.17%	631	2.53E-03	21	3.25%	333	1.33E-03
6	0.85%	87	3.47E-04	14	6.05%	620	2.48E-03	22	3.31%	339	1.36E-03
7	3.73%	382	1.53E-03	15	7.06%	723	2.89E-03	23	2.48%	254	1.02E-03
8	7.77%	795	3.18E-03	16	7.19%	736	2.94E-03	24	1.87%	192	7.67E-04
								Total		10,238	

2022 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_WB_CAR

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	115	4.57E-04	9	7.12%	729	2.91E-03	17	7.43%	761	3.03E-03
2	0.41%	42	1.69E-04	10	4.37%	448	1.79E-03	18	8.24%	843	3.36E-03
3	0.37%	38	1.53E-04	11	4.65%	476	1.90E-03	19	5.72%	586	2.33E-03
4	0.17%	17	6.95E-05	12	5.89%	603	2.40E-03	20	4.30%	440	1.76E-03
5	0.46%	47	1.88E-04	13	6.17%	631	2.52E-03	21	3.25%	333	1.33E-03
6	0.85%	87	3.46E-04	14	6.05%	620	2.47E-03	22	3.31%	339	1.35E-03
7	3.73%	382	1.52E-03	15	7.06%	723	2.88E-03	23	2.48%	254	1.01E-03
8	7.77%	795	3.17E-03	16	7.19%	736	2.93E-03	24	1.87%	192	7.65E-04
								Total		10,238	

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - Bascom Avenue
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_EB_BAS	Bascom Avenue Northbound	NB	3	685.8	0.43	17.0	55.7	3.4	35	11,178
DPM_WB_BAS	Bascom Avenue Southbound	SB	3	683.6	0.42	17.0	55.7	3.4	35	11,178
									Total	22,355

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.00066			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and DPM Emissions - DPM_EB_BAS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.81%	426	3.34E-05	9	6.66%	745	5.84E-05	17	6.50%	726	5.69E-05
2	3.15%	352	2.76E-05	10	8.16%	912	7.14E-05	18	3.85%	430	3.37E-05
3	2.32%	260	2.03E-05	11	6.33%	708	5.55E-05	19	2.35%	263	2.06E-05
4	1.00%	111	8.72E-06	12	7.66%	856	6.71E-05	20	1.19%	133	1.04E-05
5	1.00%	111	8.72E-06	13	6.83%	763	5.98E-05	21	3.02%	337	2.64E-05
6	2.16%	241	1.89E-05	14	6.66%	745	5.84E-05	22	5.01%	560	4.38E-05
7	4.67%	522	4.09E-05	15	6.00%	671	5.26E-05	23	3.32%	371	2.91E-05
8	3.35%	374	2.93E-05	16	4.34%	485	3.80E-05	24	0.66%	74	5.81E-06
								Total		11,178	

2022 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WB_BAS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.81%	426	3.33E-05	9	6.66%	745	5.82E-05	17	6.50%	726	5.67E-05
2	3.15%	352	2.75E-05	10	8.16%	912	7.12E-05	18	3.85%	430	3.36E-05
3	2.32%	260	2.03E-05	11	6.33%	708	5.53E-05	19	2.35%	263	2.05E-05
4	1.00%	111	8.69E-06	12	7.66%	856	6.69E-05	20	1.19%	133	1.04E-05
5	1.00%	111	8.69E-06	13	6.83%	763	5.96E-05	21	3.02%	337	2.63E-05
6	2.16%	241	1.88E-05	14	6.66%	745	5.82E-05	22	5.01%	560	4.37E-05
7	4.67%	522	4.08E-05	15	6.00%	671	5.24E-05	23	3.32%	371	2.90E-05
8	3.35%	374	2.92E-05	16	4.34%	485	3.79E-05	24	0.66%	74	5.79E-06
								Total		11,178	

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - Bascom Avenue
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM2.5_EB_BAS	Bascom Avenue Northbound	NB	3	685.8	0.43	17.0	56	1.3	35	11,178
PM2.5_WB_BAS	Bascom Avenue Southbound	SB	3	683.6	0.42	17.0	56	1.3	35	11,178
									Total	22,355

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.001861			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_EB_BAS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	125	2.76E-05	9	7.12%	796	1.75E-04	17	7.43%	831	1.83E-04
2	0.41%	46	1.02E-05	10	4.37%	489	1.08E-04	18	8.24%	921	2.03E-04
3	0.37%	42	9.23E-06	11	4.65%	520	1.15E-04	19	5.72%	639	1.41E-04
4	0.17%	19	4.20E-06	12	5.89%	658	1.45E-04	20	4.30%	481	1.06E-04
5	0.46%	51	1.13E-05	13	6.17%	689	1.52E-04	21	3.25%	363	8.00E-05
6	0.85%	95	2.09E-05	14	6.05%	677	1.49E-04	22	3.31%	370	8.16E-05
7	3.73%	417	9.19E-05	15	7.06%	789	1.74E-04	23	2.48%	278	6.11E-05
8	7.77%	868	1.91E-04	16	7.19%	804	1.77E-04	24	1.87%	209	4.61E-05
								Total		11,178	

2022 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_WB_BAS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	125	2.75E-05	9	7.12%	796	1.75E-04	17	7.43%	831	1.82E-04
2	0.41%	46	1.01E-05	10	4.37%	489	1.07E-04	18	8.24%	921	2.02E-04
3	0.37%	42	9.20E-06	11	4.65%	520	1.14E-04	19	5.72%	639	1.40E-04
4	0.17%	19	4.18E-06	12	5.89%	658	1.44E-04	20	4.30%	481	1.06E-04
5	0.46%	51	1.13E-05	13	6.17%	689	1.51E-04	21	3.25%	363	7.98E-05
6	0.85%	95	2.08E-05	14	6.05%	677	1.49E-04	22	3.31%	370	8.13E-05
7	3.73%	417	9.16E-05	15	7.06%	789	1.73E-04	23	2.48%	278	6.09E-05
8	7.77%	868	1.91E-04	16	7.19%	804	1.76E-04	24	1.87%	209	4.60E-05
								Total		11,178	

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - Bascom Avenue
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_EB_BAS	Bascom Avenue Northbound	NB	3	685.8	0.43	17.0	56	1.3	35	11,178
TEXH_WB_BAS	Bascom Avenue Southbound	SB	3	683.6	0.42	17.0	56	1.3	35	11,178
									Total	22,355

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.03451			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_EB_BAS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	125	5.12E-04	9	7.12%	796	3.25E-03	17	7.43%	831	3.39E-03
2	0.41%	46	1.89E-04	10	4.37%	489	2.00E-03	18	8.24%	921	3.76E-03
3	0.37%	42	1.71E-04	11	4.65%	520	2.12E-03	19	5.72%	639	2.61E-03
4	0.17%	19	7.78E-05	12	5.89%	658	2.69E-03	20	4.30%	481	1.96E-03
5	0.46%	51	2.10E-04	13	6.17%	689	2.82E-03	21	3.25%	363	1.48E-03
6	0.85%	95	3.87E-04	14	6.05%	677	2.76E-03	22	3.31%	370	1.51E-03
7	3.73%	417	1.70E-03	15	7.06%	789	3.22E-03	23	2.48%	278	1.13E-03
8	7.77%	868	3.55E-03	16	7.19%	804	3.28E-03	24	1.87%	209	8.56E-04
								Total		11,178	

2022 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_WB_BAS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	125	5.10E-04	9	7.12%	796	3.24E-03	17	7.43%	831	3.38E-03
2	0.41%	46	1.88E-04	10	4.37%	489	1.99E-03	18	8.24%	921	3.75E-03
3	0.37%	42	1.71E-04	11	4.65%	520	2.12E-03	19	5.72%	639	2.60E-03
4	0.17%	19	7.76E-05	12	5.89%	658	2.68E-03	20	4.30%	481	1.96E-03
5	0.46%	51	2.09E-04	13	6.17%	689	2.81E-03	21	3.25%	363	1.48E-03
6	0.85%	95	3.86E-04	14	6.05%	677	2.76E-03	22	3.31%	370	1.51E-03
7	3.73%	417	1.70E-03	15	7.06%	789	3.21E-03	23	2.48%	278	1.13E-03
8	7.77%	868	3.54E-03	16	7.19%	804	3.27E-03	24	1.87%	209	8.53E-04
								Total		11,178	

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - Bascom Avenue
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_EB_BAS	Bascom Avenue Northbound	NB	3	685.8	0.43	17.0	56	1.3	35	11,178
TEVAP_WB_BAS	Bascom Avenue Southbound	SB	3	683.6	0.42	17.0	56	1.3	35	11,178
									Total	22,355

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle per Hour (g/hour)	1.41852			
Emissions per Vehicle per Mile (g/VMT)	0.04053			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EB_BAS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	125	6.01E-04	9	7.12%	796	3.82E-03	17	7.43%	831	3.99E-03
2	0.41%	46	2.22E-04	10	4.37%	489	2.35E-03	18	8.24%	921	4.42E-03
3	0.37%	42	2.01E-04	11	4.65%	520	2.49E-03	19	5.72%	639	3.07E-03
4	0.17%	19	9.14E-05	12	5.89%	658	3.16E-03	20	4.30%	481	2.31E-03
5	0.46%	51	2.47E-04	13	6.17%	689	3.31E-03	21	3.25%	363	1.74E-03
6	0.85%	95	4.55E-04	14	6.05%	677	3.25E-03	22	3.31%	370	1.78E-03
7	3.73%	417	2.00E-03	15	7.06%	789	3.78E-03	23	2.48%	278	1.33E-03
8	7.77%	868	4.17E-03	16	7.19%	804	3.86E-03	24	1.87%	209	1.01E-03
								Total		11,178	

2022 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WB_BAS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	125	5.99E-04	9	7.12%	796	3.80E-03	17	7.43%	831	3.97E-03
2	0.41%	46	2.21E-04	10	4.37%	489	2.34E-03	18	8.24%	921	4.40E-03
3	0.37%	42	2.00E-04	11	4.65%	520	2.49E-03	19	5.72%	639	3.06E-03
4	0.17%	19	9.11E-05	12	5.89%	658	3.15E-03	20	4.30%	481	2.30E-03
5	0.46%	51	2.46E-04	13	6.17%	689	3.30E-03	21	3.25%	363	1.74E-03
6	0.85%	95	4.53E-04	14	6.05%	677	3.24E-03	22	3.31%	370	1.77E-03
7	3.73%	417	1.99E-03	15	7.06%	789	3.77E-03	23	2.48%	278	1.33E-03
8	7.77%	868	4.15E-03	16	7.19%	804	3.84E-03	24	1.87%	209	1.00E-03
								Total		11,178	

1881 W San Carlos St, San Jose, CA - Off-Site Residential
Cumulative Operation - Bascom Avenue
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_EB_BAS	Bascom Avenue Northbound	NB	3	685.8	0.43	17.0	56	1.3	35	11,178
FUG_WB_BAS	Bascom Avenue Southbound	SB	3	683.6	0.42	17.0	56	1.3	35	11,178
									Total	22,355

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00211			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681			
Road Dust - Emissions per Vehicle (g/VMT)	0.01487			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03379			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_EB_BAS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.12%	125	5.01E-04	9	7.12%	796	3.18E-03	17	7.43%	831	3.32E-03
2	0.41%	46	1.85E-04	10	4.37%	489	1.96E-03	18	8.24%	921	3.68E-03
3	0.37%	42	1.68E-04	11	4.65%	520	2.08E-03	19	5.72%	639	2.56E-03
4	0.17%	19	7.62E-05	12	5.89%	658	2.63E-03	20	4.30%	481	1.92E-03
5	0.46%	51	2.06E-04	13	6.17%	689	2.76E-03	21	3.25%	363	1.45E-03
6	0.85%	95	3.79E-04	14	6.05%	677	2.71E-03	22	3.31%	370	1.48E-03
7	3.73%	417	1.67E-03	15	7.06%	789	3.16E-03	23	2.48%	278	1.11E-03
8	7.77%	868	3.47E-03	16	7.19%	804	3.21E-03	24	1.87%	209	8.38E-04
								Total		11,178	

2022 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_WB_BAS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.12%	125	4.99E-04	9	7.12%	796	3.17E-03	17	7.43%	831	3.31E-03
2	0.41%	46	1.84E-04	10	4.37%	489	1.95E-03	18	8.24%	921	3.67E-03
3	0.37%	42	1.67E-04	11	4.65%	520	2.07E-03	19	5.72%	639	2.55E-03
4	0.17%	19	7.59E-05	12	5.89%	658	2.62E-03	20	4.30%	481	1.92E-03
5	0.46%	51	2.05E-04	13	6.17%	689	2.75E-03	21	3.25%	363	1.45E-03
6	0.85%	95	3.78E-04	14	6.05%	677	2.70E-03	22	3.31%	370	1.48E-03
7	3.73%	417	1.66E-03	15	7.06%	789	3.15E-03	23	2.48%	278	1.11E-03
8	7.77%	868	3.46E-03	16	7.19%	804	3.20E-03	24	1.87%	209	8.35E-04
								Total		11,178	

1881 W San Carlos St, San Jose, CA - West San Carlos Street Traffic - TACs & PM2
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (1.5 meter receptor height)

Emission Year	2022
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location
Meteorological Conditions	
BAAQMD San Jose Int. Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0042	0.2756	0.3240

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.2850	0.2702	0.0149

1881 W San Carlos St, San Jose, CA - W San Carlos Street Traffic Cancer Risk
Impacts at Construction Residential MEI - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2022	10	0.0042	0.2756	0.3240	0.058	0.021	0.0015	0.08
1	1	0 - 1	2022	10	0.0042	0.2756	0.3240	0.695	0.258	0.0179	0.97
2	1	1 - 2	2023	10	0.0042	0.2756	0.3240	0.695	0.258	0.0179	0.97
3	1	2 - 3	2024	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
4	1	3 - 4	2025	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
5	1	4 - 5	2026	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
6	1	5 - 6	2027	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
7	1	6 - 7	2028	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
8	1	7 - 8	2029	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
9	1	8 - 9	2030	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
10	1	9 - 10	2031	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
11	1	10 - 11	2032	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
12	1	11 - 12	2033	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
13	1	12 - 13	2034	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
14	1	13 - 14	2035	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
15	1	14 - 15	2036	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
16	1	15 - 16	2037	3	0.0042	0.2756	0.3240	0.109	0.041	0.0028	0.15
17	1	16 - 17	2038	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
18	1	17 - 18	2039	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
19	1	18 - 19	2040	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
20	1	19 - 20	2041	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
21	1	20 - 21	2042	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
22	1	21 - 22	2043	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
23	1	22 - 23	2044	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
24	1	23 - 24	2045	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
25	1	24 - 25	2046	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
26	1	25 - 26	2047	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
27	1	26 - 27	2048	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
28	1	27 - 28	2049	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
29	1	28 - 29	2050	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
30	1	29 - 30	2051	1	0.0042	0.2756	0.3240	0.012	0.005	0.0003	0.02
Total Increased Cancer Risk								3.15	1.171	0.081	**4.40**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00	0.27	0.29

* Third trimester of pregnancy

1881 W San Carlos St, San Jose, CA - Bascom Avenue Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (1.5 meter receptor height)

Emission Year	2022
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location
Meteorological Conditions	
BAAQMD San Jose Int. Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0007	0.0379	0.0444

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0391	0.0371	0.0020

1881 W San Carlos St, San Jose, CA - Bascom Avenue Traffic Cancer Risk
Impacts at Construction Residential MEI - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	
0	0.25	-0.25 - 0*	2022	10	0.0007	0.0379	0.0444	0.009	0.003	0.0002	0.01
1	1	0 - 1	2022	10	0.0007	0.0379	0.0444	0.107	0.036	0.0025	0.14
2	1	1 - 2	2023	10	0.0007	0.0379	0.0444	0.107	0.036	0.0025	0.14
3	1	2 - 3	2024	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
4	1	3 - 4	2025	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
5	1	4 - 5	2026	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
6	1	5 - 6	2027	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
7	1	6 - 7	2028	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
8	1	7 - 8	2029	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
9	1	8 - 9	2030	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
10	1	9 - 10	2031	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
11	1	10 - 11	2032	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
12	1	11 - 12	2033	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
13	1	12 - 13	2034	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
14	1	13 - 14	2035	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
15	1	14 - 15	2036	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
16	1	15 - 16	2037	3	0.0007	0.0379	0.0444	0.017	0.006	0.0004	0.02
17	1	16 - 17	2038	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
18	1	17 - 18	2039	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
19	1	18 - 19	2040	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
20	1	19 - 20	2041	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
21	1	20 - 21	2042	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
22	1	21 - 22	2043	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
23	1	22 - 23	2044	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
24	1	23 - 24	2045	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
25	1	24 - 25	2046	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
26	1	25 - 26	2047	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
27	1	26 - 27	2048	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
28	1	27 - 28	2049	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
29	1	28 - 29	2050	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
30	1	29 - 30	2051	1	0.0007	0.0379	0.0444	0.002	0.001	0.0000	0.00
Total Increased Cancer Risk								0.48	0.161	0.011	**0.66**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00	0.04	0.04

* Third trimester of pregnancy

1881 W San Carlos St, San Jose, CA - West San Carlos Street Traffic - TACs & PM2
AERMOD Risk Modeling Parameters and Maximum Concentrations
at OnSite Receptors (4.5 meter receptor height)

Emission Year	2022
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location
Meteorological Conditions	
BAAQMD San Jose Int. Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0039	0.1664	0.1956

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.1721	0.1631	0.0090

1881 W San Carlos St, San Jose, CA - W San Carlos Street Traffic Cancer Risk
Impacts at OnSite Receptors - 4.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	
0	0.25	-0.25 - 0*	2022	10	0.0039	0.1664	0.1956	0.053	0.013	0.0009	0.07
1	1	0 - 1	2022	10	0.0039	0.1664	0.1956	0.641	0.156	0.0108	0.81
2	1	1 - 2	2023	10	0.0039	0.1664	0.1956	0.641	0.156	0.0108	0.81
3	1	2 - 3	2024	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
4	1	3 - 4	2025	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
5	1	4 - 5	2026	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
6	1	5 - 6	2027	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
7	1	6 - 7	2028	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
8	1	7 - 8	2029	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
9	1	8 - 9	2030	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
10	1	9 - 10	2031	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
11	1	10 - 11	2032	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
12	1	11 - 12	2033	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
13	1	12 - 13	2034	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
14	1	13 - 14	2035	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
15	1	14 - 15	2036	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
16	1	15 - 16	2037	3	0.0039	0.1664	0.1956	0.101	0.025	0.0017	0.13
17	1	16 - 17	2038	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
18	1	17 - 18	2039	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
19	1	18 - 19	2040	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
20	1	19 - 20	2041	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
21	1	20 - 21	2042	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
22	1	21 - 22	2043	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
23	1	22 - 23	2044	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
24	1	23 - 24	2045	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
25	1	24 - 25	2046	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
26	1	25 - 26	2047	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
27	1	26 - 27	2048	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
28	1	27 - 28	2049	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
29	1	28 - 29	2050	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
30	1	29 - 30	2051	1	0.0039	0.1664	0.1956	0.011	0.003	0.0002	0.01
Total Increased Cancer Risk								2.90	0.707	0.049	**3.66**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00	0.16	0.17

* Third trimester of pregnancy

1881 W San Carlos St, San Jose, CA - West San Carlos Street Traffic - TACs & PM2
AERMOD Risk Modeling Parameters and Maximum Concentrations
at OnSite Receptors (7.6 meter receptor height)

Emission Year	2022
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions	
BAAQMD San Jose Int. Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0023	0.0740	0.0870

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0766	0.0726	0.0040

1881 W San Carlos St, San Jose, CA - W San Carlos Street Traffic Cancer Risk
Impacts at OnSite Receptors - 7.6 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	
0	0.25	-0.25 - 0*	2022	10	0.0023	0.0740	0.0870	0.031	0.006	0.0004	0.04
1	1	0 - 1	2022	10	0.0023	0.0740	0.0870	0.378	0.069	0.0048	0.45
2	1	1 - 2	2023	10	0.0023	0.0740	0.0870	0.378	0.069	0.0048	0.45
3	1	2 - 3	2024	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
4	1	3 - 4	2025	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
5	1	4 - 5	2026	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
6	1	5 - 6	2027	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
7	1	6 - 7	2028	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
8	1	7 - 8	2029	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
9	1	8 - 9	2030	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
10	1	9 - 10	2031	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
11	1	10 - 11	2032	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
12	1	11 - 12	2033	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
13	1	12 - 13	2034	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
14	1	13 - 14	2035	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
15	1	14 - 15	2036	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
16	1	15 - 16	2037	3	0.0023	0.0740	0.0870	0.059	0.011	0.0008	0.07
17	1	16 - 17	2038	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
18	1	17 - 18	2039	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
19	1	18 - 19	2040	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
20	1	19 - 20	2041	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
21	1	20 - 21	2042	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
22	1	21 - 22	2043	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
23	1	22 - 23	2044	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
24	1	23 - 24	2045	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
25	1	24 - 25	2046	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
26	1	25 - 26	2047	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
27	1	26 - 27	2048	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
28	1	27 - 28	2049	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
29	1	28 - 29	2050	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
30	1	29 - 30	2051	1	0.0023	0.0740	0.0870	0.007	0.001	0.0001	0.01
Total Increased Cancer Risk								1.71	0.315	0.022	**2.05**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00	0.07	0.08

* Third trimester of pregnancy

1881 W San Carlos St, San Jose, CA - Bascom Avenue Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at OnSite Receptors (4.5 meter receptor height)

Emission Year	2022
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions

BAAQMD San Jose Int. Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0009	0.0484	0.0568

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0500	0.0474	0.0026

1881 W San Carlos St, San Jose, CA - Bascom Avenue Traffic Cancer Risk
Impacts at OnSite Receptors - 4.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	
0	0.25	-0.25 - 0*	2022	10	0.0009	0.0484	0.0568	0.012	0.004	0.0003	0.02
1	1	0 - 1	2022	10	0.0009	0.0484	0.0568	0.140	0.045	0.0031	0.19
2	1	1 - 2	2023	10	0.0009	0.0484	0.0568	0.140	0.045	0.0031	0.19
3	1	2 - 3	2024	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
4	1	3 - 4	2025	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
5	1	4 - 5	2026	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
6	1	5 - 6	2027	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
7	1	6 - 7	2028	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
8	1	7 - 8	2029	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
9	1	8 - 9	2030	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
10	1	9 - 10	2031	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
11	1	10 - 11	2032	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
12	1	11 - 12	2033	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
13	1	12 - 13	2034	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
14	1	13 - 14	2035	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
15	1	14 - 15	2036	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
16	1	15 - 16	2037	3	0.0009	0.0484	0.0568	0.022	0.007	0.0005	0.03
17	1	16 - 17	2038	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
18	1	17 - 18	2039	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
19	1	18 - 19	2040	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
20	1	19 - 20	2041	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
21	1	20 - 21	2042	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
22	1	21 - 22	2043	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
23	1	22 - 23	2044	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
24	1	23 - 24	2045	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
25	1	24 - 25	2046	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
26	1	25 - 26	2047	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
27	1	26 - 27	2048	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
28	1	27 - 28	2049	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
29	1	28 - 29	2050	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
30	1	29 - 30	2051	1	0.0009	0.0484	0.0568	0.002	0.001	0.0001	0.00
Total Increased Cancer Risk								0.63	0.206	0.014	**0.85**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00	0.05	0.05

* Third trimester of pregnancy

1881 W San Carlos St, San Jose, CA - Bascom Avenue Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at OnSite Receptors (7.6 meter receptor height)

Emission Year	2022
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions

BAAQMD San Jose Int. Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0007	0.0428	0.0503

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0443	0.0419	0.0023

1881 W San Carlos St, San Jose, CA - Bascom Avenue Traffic Cancer Risk
Impacts at OnSite Receptors - 7.6 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Age Sensitivity Factor**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	**DPM**	**Exhaust TOG**	**Evaporative TOG**	
0	0.25	-0.25 - 0*	2022	10	0.0007	0.0428	0.0503	0.010	0.003	0.0002	0.01
1	1	0 - 1	2022	10	0.0007	0.0428	0.0503	0.122	0.040	0.0028	0.16
2	1	1 - 2	2023	10	0.0007	0.0428	0.0503	0.122	0.040	0.0028	0.16
3	1	2 - 3	2024	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
4	1	3 - 4	2025	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
5	1	4 - 5	2026	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
6	1	5 - 6	2027	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
7	1	6 - 7	2028	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
8	1	7 - 8	2029	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
9	1	8 - 9	2030	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
10	1	9 - 10	2031	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
11	1	10 - 11	2032	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
12	1	11 - 12	2033	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
13	1	12 - 13	2034	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
14	1	13 - 14	2035	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
15	1	14 - 15	2036	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
16	1	15 - 16	2037	3	0.0007	0.0428	0.0503	0.019	0.006	0.0004	0.03
17	1	16 - 17	2038	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
18	1	17 - 18	2039	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
19	1	18 - 19	2040	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
20	1	19 - 20	2041	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
21	1	20 - 21	2042	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
22	1	21 - 22	2043	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
23	1	22 - 23	2044	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
24	1	23 - 24	2045	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
25	1	24 - 25	2046	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
26	1	25 - 26	2047	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
27	1	26 - 27	2048	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
28	1	27 - 28	2049	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
29	1	28 - 29	2050	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
30	1	29 - 30	2051	1	0.0007	0.0428	0.0503	0.002	0.001	0.0000	0.00
Total Increased Cancer Risk								0.55	0.182	0.013	**0.75**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00	0.04	0.04

* Third trimester of pregnancy

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**1/6/2021**
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	1881 W San Carlos
Address	1881 W San Carlos
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Residential
Project Size (# of units or building square feet)	218du
Comments:	

For Air District assistance, the following steps must be completed:

1. Complete all the contact and project information requested in Table A ncomplete forms will not be processed. Please include a project site map.

2. Download and install the free program Google Earth, **http://www.google.com/earth/download/ge/,** and then download the county specific Google Earth stationary source application files from the District's website, **http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.** The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

3. Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

4. Identify stationary sources within at least a 1000ft radius of project site. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in Table B lue section only.

6. Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

7. Email this completed form to District staff. District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	Plant No.	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
1000+	19793	San Jose Water Company	1999 W San Carlos St	28.88	0.01	0.04		Generators		2018 Dataset
1000+	110390	Valero Refining Company	2211 Stevens Creek Blvd	11.46	0.05	--		Gas Dispensing Facility		2018 Dataset

Construction MEI

Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
0.04	1.2	0.000	0.00
0.02	0.2	0.001	#VALUE!

Project Site

Distance from Receptor (feet) or MEI[1]	FACID (Plant No.)	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
800	19793	0.06	1.73	0.001	0.002
1000	110390	0.01	0.17	0.001	#VALUE!

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

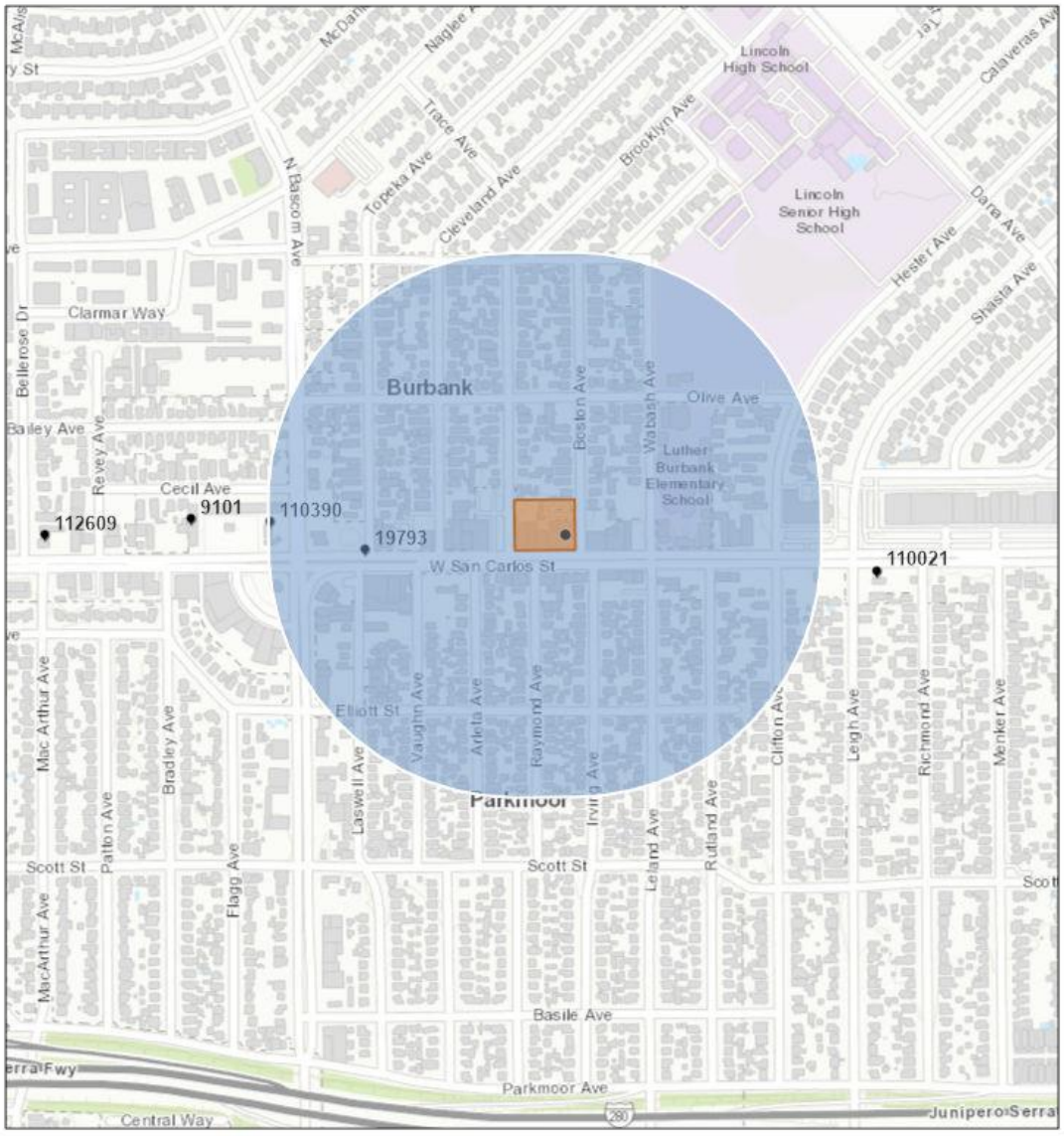
Date last updated:
03/13/2018

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 4,505,147.63 ft²

Jan 6 2021 11:07:13 Pacific Standard Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	2	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	19793	San Jose Water Company	1999 W San Carlos St	San Jose	CA
2	110390	Valero Refining Company	2211 Stevens Creek Blvd	San Jose	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	95128	Santa Clara	28.880	0.010	0.040	Generators	1
2	95128	Santa Clara	11.460	0.050	0.000	Gas Dispensing Facility	1

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.