APOLLO MIXED USE DEVELOPMENT AIR QUALITY ASSESSMENT

San José, California

April 12, 2022
Revised May 17, 2022

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Introduction

The purpose of this report is to address air quality, community health risk, and greenhouse gas (GHG) impacts associated with the proposed Apollo Mixed-Use Development project located at 32 and 60 Stockton Avenue in San José, California. The air quality and GHG impacts from this project would be associated with the demolition of the existing land uses, construction of the new buildings and infrastructure, and operation of the project. Air pollutants and GHG emissions associated with construction and operation of the project were predicted using appropriate computer models. In addition, the potential project health risk impacts (construction and operation) and the impacts 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

The project site will encompass two parcels of land that are currently occupied by a carwash and an autobody shop. The project proposes to demolish the existing uses on the sites to construct a 16-story, 497 dwelling unit mixed-use building that would also include 7,684 square feet (sf) of retail space. The bottom two and a half stories of the building will include a parking garage that provides 398 parking spaces[2]. The project is within the San José Downtown Strategy 2040 Plan area and the Diridon Station Master Plan. Construction is expected to begin in February 2024 and be completed by November 2025.

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

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.
[2] This project description, and subsequent analysis, is based on an older, larger version of the project. The project applicant has since updated the design of the project to include fewer dwelling units, parking spaces, and a smaller retail area. However, the findings in this report are still valid since the sum-total changes to the project result in minor changes to emissions.

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

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.[3] 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 project site are the adjacent multi-family residences to the north of the project site. There are more sensitive receptors at farther distances. The project would introduce new sensitive receptors (i.e., residents) to the area.

[3] 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.[4]

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.[5] 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

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

been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

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

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, 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.[6] 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

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

community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.[7] The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. The project site is located in the San José CARE area but not within a BAAQMD overburdened area as identified by CalEnviroScreen since the Project site is scored at the 57th percentile.

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[8] 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.

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.

[7] See BAAQMD: https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en , accessed 10/1/2021.
[8] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

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-11.5 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.

Downtown Strategy 2040 Plan

The San José Downtown Strategy (DTS) 2040 Plan is an urban design plan that guides development activities planned within the Downtown area. This strategy would increase the amount of new commercial office by an additional three million sf (approximately 10,000 jobs with the new total being 14.2 million sf of commercial by the year 2040. The residential capacity would be increased up to 4,360 units. The amount of new retail development (1.4 million sf) and hotel room (3,600 rooms) capacities of the Downtown Strategy 2000 would be maintained. The integrated Final Environmental Impact Report was published December 2018.

The DTS identified less-than-significant construction period emissions if development projects are in conformance with 2017 BAAQMD CEQA Guidelines, GP Policy MS-13.1, and current City requirements that include various levels of construction emissions control measures. All projects are required to implement the following control measures:

City requirements, all projects will be required to implement the following control measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- 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.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- 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.
- 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). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- 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.

Future projects developed under the DTS that incorporate these measures and are below the screening levels would not result in a significant impact related to construction emissions of

regional criteria pollutants. Projects that exceed the screening levels would be required to complete additional project level analysis of construction-related emissions of criteria pollutants and may require additional measures to ensure that construction emissions would not exceed the threshold for average daily emissions.

Traffic-related operational emissions of regional criteria air pollutants with measures included to reduce emissions under the DTS were identified as significant and unavoidable. To reduce operational emissions associated with vehicle travel, future development will be required to implement a transportation demand management (TDM) program, consistent with the Downtown Transportation Plan.

The TDM programs may incorporate, but would not be limited to, the following Transportation Control Measures (TCMs):

- Rideshare Measures:
- Implement carpool/vanpool program (e.g., carpool ride matching for employees, assistance with vanpool formation, provision of vanpool vehicles, etc.)
- Transit Measures:
- Construct transit facilities such as bus turnouts/bus bulbs, benches, shelters, etc.
- Design and locate buildings to facilitate transit access (e.g., locate building entrances near transit stops, eliminate building setbacks, etc.)
- Services Measures:
- Provide on-site shops and services for employees, such as cafeteria, bank/ATM, dry cleaners, convenience market, etc.;
- Provide on-site childcare or contribute to off-site childcare within walking distance.
- Shuttle Measures:
- Establish mid-day shuttle service from work site to food service establishments/commercial areas;
- Provide shuttle service to transit stations/multimodal centers
- Parking Measures:
- Provide preferential parking (e.g., near building entrance, sheltered area, etc.) for carpool and vanpool vehicles;
- Implement parking fees for single occupancy vehicle commuters;
- Implement parking cash-out program for employees (i.e., non-driving employees receive transportation allowance equivalent to value of subsidized parking);
- Bicycle and Pedestrian Measures:
- Provide secure, weather-protected bicycle parking for employees;
- Provide safe, direct access for bicyclists to adjacent bicycle routes;
- Provide showers and lockers for employees bicycling or walking to work;
- Provide secure short-term bicycle parking for retail customers or non-commute trips;

- Provide direct, safe, attractive pedestrian access from Planning Area to transit stops and adjacent development;
- Other Measures:
- Implement compressed work week schedule (e.g., 4 days/40 hours, 9 days/80 hours);
- Implement home-based telecommuting program.

During project-level supplemental review of future individual development projects, the measures will be evaluated for consistency with the Downtown Strategy 2040 and General Plan policies. All feasible and applicable measures will be required as part of project design or as conditions of approval.

Diridon Station Area Plan

Approved by the City Council on June 17, 2014, the Diridon Station Area Plan (DSAP) established long-term goals for the area, including a land use plan, urban design guidelines, a framework for station expansion, transportation and parking strategies, housing strategies, and an art master plan. The City Council's certification of the associated Environmental Impact Report provided clearance for maximum development capacities in the 250-acre area. The total development capacity includes: 4,950,000 s.f. of commercial industrial, 420,000 s.f. of retail and/or restaurant, 2,588 residential units, and 900 hotel rooms.

In 2019, the City initiated a process to amend the DSAP to align it to current market conditions and planning efforts which included a DSAP Amendment Addendum to the Downtown Strategy 2040 Environmental Impact Report as required by CEQA. The City Council approved the amended DSAP on May 25, 2021, following a community engagement process. This included approving increased building height limits, among other changes.

The DSAP identified less-than-significant construction period emissions if development projects are in conformance with 2017 BAAQMD CEQA Guidelines, GP Policy MS-13.1, and current City requirements that include various levels of construction emissions control measures. All projects are required to implement the following control measures:

City requirements, all projects will be required to implement the following control measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- 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.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- 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.
- 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). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- 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.

Future projects developed under the DSAP that incorporate these measures and are below the screening levels would not result in a significant impact related to construction emissions of regional criteria pollutants. Projects that exceed the screening levels would be required to complete additional project level analysis of construction-related emissions of criteria pollutants and may require additional measures to ensure that construction emissions would not exceed the threshold for average daily emissions.

Operational emissions of regional criteria air pollutants with measures included to reduce emissions under the DSAP were identified as significant and unavoidable. To reduce operational emissions associated with vehicle travel, future development will be required to implement a Transportation Demand Management (TDM) program, consistent with the Downtown Transportation Plan.

The TDM programs may incorporate, but would not be limited to, the following Transportation Control Measures (TCMs):

- Rideshare Measures:
  - Implement carpool/vanpool program (e.g., carpool ride matching for employees, assistance with vanpool formation, provision of vanpool vehicles, etc.).
- Transit Measures:
  - Construct transit facilities such as bus turnouts/bus bulbs, benches, shelters, etc.
  - Design and locate buildings to facilitate transit access (e.g., locate building entrances near transit stops, eliminate building setbacks, etc.)
- Services Measures:
  - Provide on-site shops and services for employees, such as cafeteria, bank/ATM, dry cleaners, convenience market, etc.
  - Provide on-site child care or contribute to off-site childcare within walking distance.
- Shuttle Measures:
  - Establish mid-day shuttle service from work site to food service establishments/ commercial areas.
  - Provide shuttle service to transit stations/multimodal centers.

- Parking Measures:
  - Provide preferential parking (e.g., near building entrance, sheltered area, etc.) for carpool and vanpool vehicles.
  - Implement parking fees for single occupancy vehicle commuters.
  - Implement parking cash-out program for employees (i.e., non-driving employees receive transportation allowance equivalent to value of subsidized parking).
- Bicycle and Pedestrian Measures:
  - Provide secure, weather-protected bicycle parking for employees.
  - Provide safe, direct access for bicyclists to adjacent bicycle routes.
  - Provide showers and lockers for employees bicycling or walking to work.
  - Provide secure short-term bicycle parking for retail customers or non-commute trips.
  - Provide direct, safe, attractive pedestrian access from Planning Area to transit stops and adjacent development.
- Other Measures:
  - Implement compressed work week schedule (e.g., 4 days/40 hours, 9 days/80 hours).
  - Implement home-based telecommuting program.

During project-level supplemental review of future individual development projects, the measures will be evaluated for consistency with the DSAP and General Plan policies. All feasible and applicable measures will be required as part of project design or as conditions of approval.

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, which were used in this analysis and are summarized in Table 1. Impacts above the threshold are considered potentially significant.

Table 1. BAAQMD CEQA Significance Thresholds

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

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

*BAAQMD does not have a recommended post-2020 GHG threshold.

Source: Bay Area Air Quality Management District, 2017

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*.[9] 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) the project is included in the adopted San José DTS 2040 Plan and DSAP, 2) project would have construction and operational emissions below the BAAQMD thresholds (see Impact 2 below), 3) the project would be considered urban infill, 4) the project would be located near employment centers, 5) 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

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

emissions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CARB EMission FACtors 2021 (EMFAC2021) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.[10] The CalEEMod model output along with construction inputs are included in *Attachment 2* and EMFAC2021 vehicle emissions modeling outputs are included in *Attachment 3*.

CalEEMod Inputs

Land Use Inputs

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

Table 2. Summary of Project Land Use Inputs

Project Land Uses	Size[11]	Units	Square Feet	Acreage
Apartments High Rise	497	Dwelling Unit	486,110	11.78*
Strip Mall	7.68	1,000-sf	7,684	
Enclosed Parking with Elevator	398	Parking Space	91,571	
Notes: *CalEEMod default acreage used due to project being taller than four stories.				

Construction Inputs

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

The construction equipment worksheets 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 were provided by the applicant. 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 construction schedule assumed that the earliest possible start date would be February 2024 and would be built out over a period of approximately 22 months, or 454 construction workdays. The earliest year of full operation was assumed to be 2026.

Construction Traffic Emissions

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2017 motor vehicle emission factor model. This model has been superseded by the EMFAC2021 model; however, CalEEMod has not been updated to include EMFAC2021. Construction would produce traffic in the form of worker trips and truck traffic. The traffic-

[10] See CARB's EMFAC2021 Emissions Inventory at https://arb.ca.gov/emfac/emissions-inventory
[11] As mentioned in the project description footnote, this analysis was based on an older, larger design of the project. The quantities shown in this table are larger than the updated design of the project and would result in a more conservative analysis.

related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the estimate of demolition material to be exported, 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 trip rate by the number of days in that phase. Haul trips were estimated from the provided demolition and grading volumes by assuming each truck could carry 10 tons per load. The number of concrete and asphalt total round haul trips were provided for the project and converted to total one-way trips, assuming two trips per delivery.

The construction traffic information was combined with EMFAC2021 motor vehicle emissions factors. EMFAC2021 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod defaults, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1 and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including 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). Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On-road emission rates from the years 2024-2025 for Santa Clara County were used. 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
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	50% LDA 25% LDT1 25% LDT2	50% MHDT 50% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0	CalEEMod default distance with 5-min truck idle time.
Demolition/Site Preparation	273	-	202	11,972-sf existing building and 400 tons of pavement demolition. CalEEMod default worker trips.
Shoring/Grading/Excavation	851	-	4,018	30,947-cy soil export. 1,200-cy soil import. CalEEMod default worker trips.
Below Slab Utilities	110	-	-	CalEEMod default worker trips.
Foundation/Basement/Structure	71,820	12,420	-	CalEEMod default worker and vendor trips.
Building Construction	71,421	12,351	4,800	2,400 concrete round trips. CalEEMod default worker and vendor trips.
Architectural Coating	22,960	-	-	CalEEMod default worker trips.

Notes: [1] Based on 2024-2025 EMFAC2021 light-duty vehicle fleet mix for Santa Clara County.
[2] Includes demolition and grading trips estimated by CalEEMod based on amount of material to be removed. Cement and trips estimated based on data provided by the applicant.

Summary of Computed Construction Period Emissions

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

Table 4. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2024	0.97	1.95	0.10	0.08
2025	3.02	1.54	0.08	0.06
Average Daily Construction Emissions Per Year (pounds/day)				
2024 (223 construction workdays)	8.70	17.45	0.93	0.68
2025 (231 construction workdays)	26.17	13.35	0.74	0.49
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

The impact of operational traffic related emissions was addressed in the DTS DEIR and found to be significant and unavoidable for the entire plan. Traffic-related emissions from the project were computed in this assessment. Operational air emissions from the project would be generated primarily from autos driven by future 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 assuming full build-out.

CalEEMod Inputs

Land Uses

The project land uses were input to 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 2026 if construction begins in 2024. Emissions associated with build-out later than 2026 would be lower.

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.[12] The proposed project would produce 2,014 daily trips after a *Residential & Retail Reduction, Location-Based Reduction,* and *VMT-Based Reduction.* The daily trip generation was calculated using the size of the project and the adjusted total vehicle trips. 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 lengths and trip types specified by CalEEMod were used.

EMFAC2021 Adjustment

[12] Email from Fiona Phung, February 2, 2022. Attachment: *Apollo – Trip Generation and Volumes 02-02-22 v2.xlsx*

The vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2017, 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 January 2021. It includes the latest data on California's car and truck fleets and travel activity. The CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2021, which were adjusted with the CARB EMFAC off-model adjustment factors. On road emission rates from 2024-2025 Santa Clara County were used (See *Attachment 3*). More details about the updates in emissions calculation methodologies and data are available in the EMFAC2021 Technical Support Document.[13]

Energy

CalEEMod defaults for energy use were used, which include the 2019 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The 2020 emission factor for San Jose Clean Energy (SJCE)of 177.69 was used for this analysis[14].

The City of San José passed an ordinance in December 2020 that prohibits the use of natural gas infrastructure in new residential buildings.[15] This ordinance applies to any new construction starting August 1, 2021. All project natural gas use was set to zero and assigned to electricity use in CalEEMod.

Other Inputs

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

Wood-Burning Devices

CalEEMod default inputs assume new residential construction would include woodburning fireplaces and stoves. The project would not include wood-burning devices, as these devices are prohibited by BAAQMD Regulation 6, Rule 3.[16] Therefore, the number of woodstoves and woodburning fireplaces in CalEEMod were set to zero.

[13] See CARB 2021: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac
[14] San Jose Clean Energy Website, url: https://sanjosecleanenergy.org/commercial-rates/
[15] City of San José, 2020. "Expand Natural Gas Ban", December. Web: https://www.sanjoseca.gov/Home/Components/News/News/2210/4699
[16] Bay Area Air Quality Management District, https://www.baaqmd.gov/~/media/dotgov/files/rules/regulation-6-rule-3/documents/20191120_r0603_final-pdf.pdf?la=en

Existing Uses

The site currently consists of a carwash and an autobody shop. This use produces low operational and traffic emissions which would not considerably offset emissions from the proposed project. In addition, no project-specific trip generation rates for the existing land uses were available for this assessment. Therefore, the emissions from the existing uses were not considered.

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}	$PM_{2.5}$
2026 Annual Project Operational Emissions (*tons/year*)	3.48	0.76	1.48	0.39
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	*No*	*No*	*No*	*No*
2026 Daily Project Operational Emissions (*pounds/day*)[1]	19.07	4.17	8.11	2.14
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	*No*	*No*	*No*	*No*
Notes: [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., stationary and mobile sources).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project not include the installation of a diesel-powered emergency generator but would generate some traffic consisting of mostly light-duty vehicles, 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 risks from construction and operation sources. These sources include on-site construction activity, construction truck hauling, project generators, 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 contributions. Unlike, the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI values are not additive but based on the annual maximum values 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 to the north the 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 from Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is 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.

<u>Construction Emissions</u>

The CalEEMod and EMFAC2021 models provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from

[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.

on-road vehicles, with total emissions from all construction stages of 0.11 tons (225 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 at or near the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.02 tons (35 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, schools) 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.[19,20] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Construction Sources

Combustion equipment DPM exhaust emissions were modeled as a series of point sources with a nine-foot release height (construction equipment exhaust stack height) placed at 23 feet (7 meter) intervals throughout the construction site. This resulted in 91 individual point sources being used to represent mobile equipment DPM exhaust emissions in the construction area, with DPM emissions occurring throughout the project construction site. In addition, the following stack parameters were used: a vertical release, a stack diameter of 2.5 inches, an exhaust temperature of 918˚F, and an exit velocity of 309 feet per second. Since these are point sources, plume rise is calculated by the AERMOD dispersion model. Emissions from vehicle travel on- and off-site were also distributed among the point sources throughout the site. The locations of the point sources used for the modeling are identified in Figure 1.

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

[19] BAAQMD, 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

[20] BAAQMD, 2020, *BAAQMD Health Risk Assessment Modeling Protocol.* December. Web: https://www.baaqmd.gov/~/media/files/ab617-community-health/facility-risk-reduction/documents/baaqmd_hra_modeling_protocol-pdf.pdf?la=en

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 daily between 7:00 a.m. to 5:00 p.m. per the project applicant's construction schedule. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2024-2025 period 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), 15 feet (4.5 meters), 25 feet (7.6 meters), and 35 feet (10.7 meters) were used to represent the breathing heights on the first through fourth floors of sensitive receptors in the residences near the site. For the multi-family building bordering the project site to the north, receptor heights of 30 feet (9.1 meters) and 40 feet (12.2 meters) were used to represent the breathing heights of sensitive receptors on the third and fourth floors (first and second residential floors) in those residences.

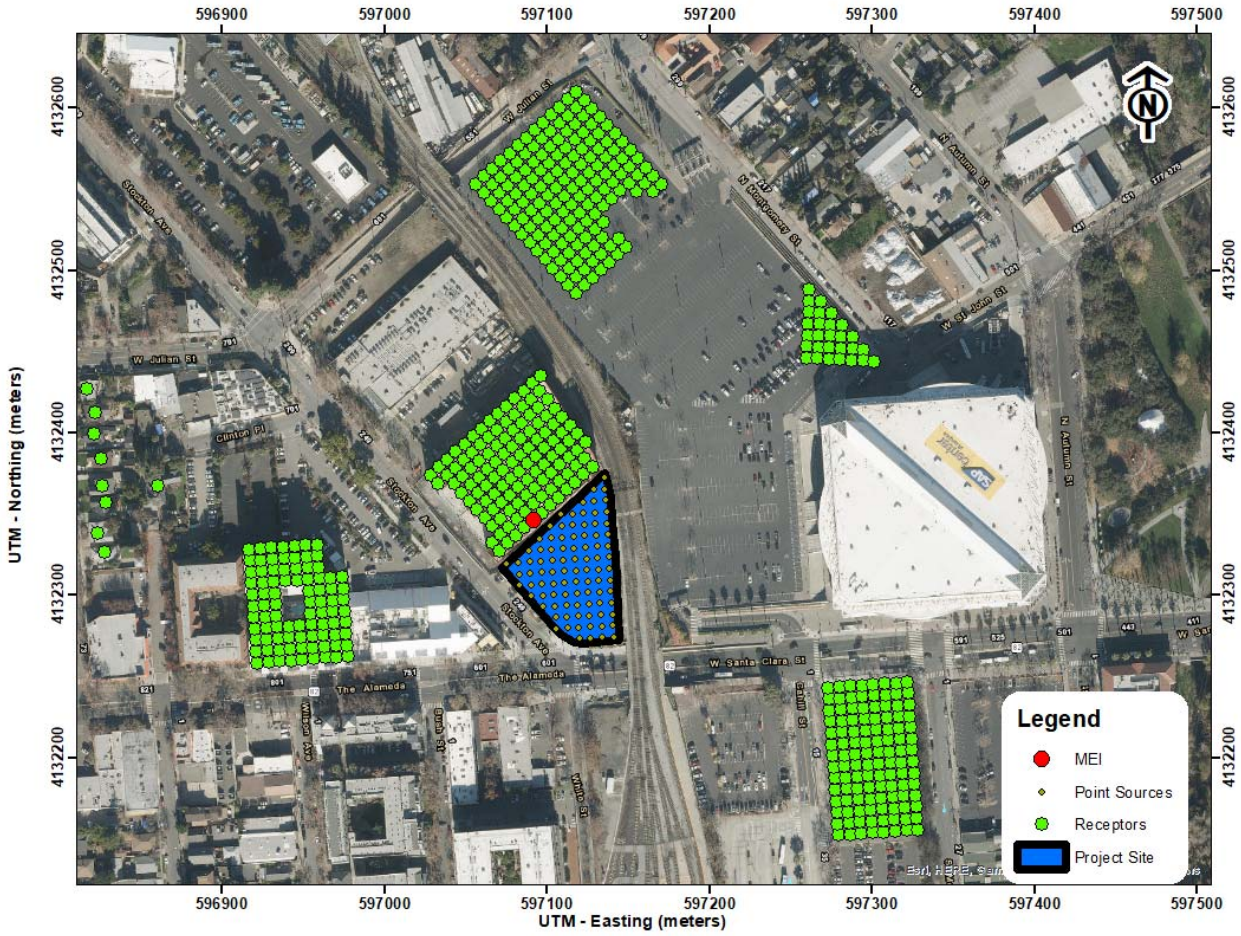
Summary of Construction Community Risk Impacts

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with the OEHHA guidance for age sensitivity factors and exposure parameters as recommended by BAAQMD, as described in *Attachment 1*. Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated and identified. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Third trimester, infant, child, 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 were identified at nearby sensitive receptors to find the MEI. Results of this assessment indicated that the construction MEI was located on the third floor/first residential level (9.1 meters) of a multi-family home north of the project site. 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.

Figure 1. Locations of Project Construction Site, Modeled DPM Point Sources, Off-Site Sensitive Receptors, and Maximum TAC Location (MEI)



Community Risks from Project Operation – Traffic

No project stationary sources (i.e., generators) were proposed. Operation of the project would have long-term emissions from mobile sources (i.e., traffic). 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. Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicle per day is considered a low-impact source of TACs.[21] This project would generate 2,014 daily trips[22] dispersed on the roadway system with a majority of the trips being from light-duty vehicles (i.e., passenger automobiles), which is a fraction of 10,000 daily vehicles. In addition, projects with

[21] BAAQMD, 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

[22] Email from Fiona Phung, February 2, 2022. Attachment: *Apollo – Trip Generation and Volumes 02-02-22 v2.xlsx*

the potential to cause or contribute to increased cancer risk from traffic include those that have attract high numbers of diesel-powered on road trucks or use off-road diesel equipment on site, such as a distribution center, a quarry, or a manufacturing facility, may potentially expose existing or future planned receptors to substantial cancer risk levels and/or health hazards. This is not a project of concern for non-BAAQMD permitted mobile sources. Therefore, emissions from project traffic are considered negligible and not included within this analysis.

Summary of Project-Related Community Risks at the Off-Site Project MEI

For this project, the sensitive receptors identified in Figure 1 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to emissions from 2 years of construction cancer risks. 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 *Mitigation Measure AQ-1 and AQ-2*, the mitigated cancer risks would no longer exceed the BAAQMD single-source significance thresholds. The unmitigated annual $PM_{2.5}$ concentration and non-cancer hazards at the MEI from project construction and operation activities would be below the single-source significance thresholds.

Table 6. Construction and Operation Risk Impacts

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Residential Sensitive Receptor				
Project Construction (Years 0-2)	Unmitigated	**44.16 (infant)**	0.17	0.03
	Mitigated*	7.10 (infant)	0.03	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated*	*No*	*No*	*No*

* Construction equipment with Tier 4 interim engines, electric cranes, electric aerial lifts, electric portable equipment, propane forklifts, BMPs as Mitigation Measures.

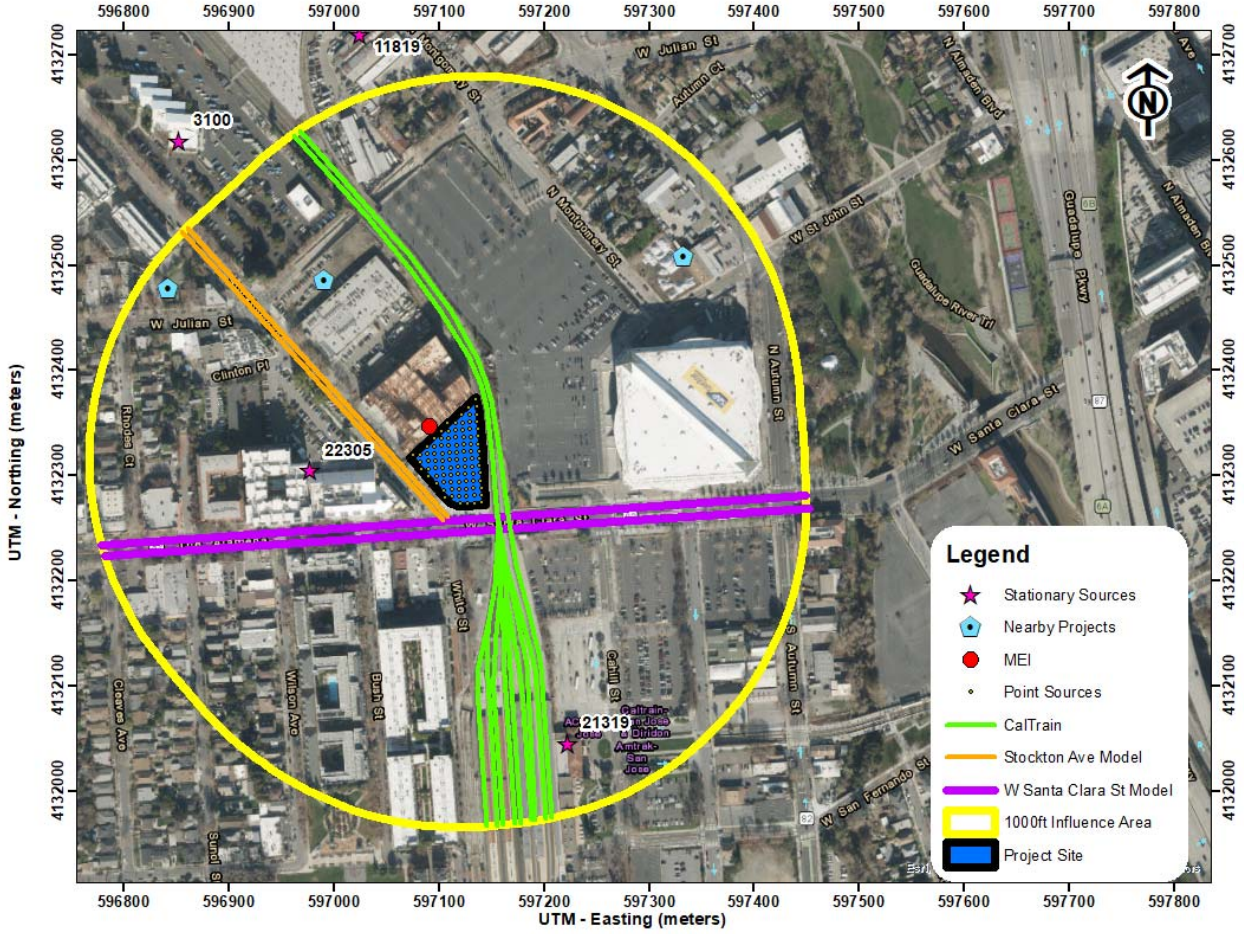
Cumulative Community Risks of all TAC Sources at the Off-Site Project MEI

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 rail lines, freeways or highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area based on provided traffic information indicated that traffic on West Santa Clara Street and Stockton 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 six stationary sources with the potential to affect the project MEI, however, one source was shut down in 2019 and one source is to be demolished as part of this project. A review of BAAQMD's highway and railway raster data identified one railway with the potential to affect the project MEI. In addition, there are several development projects whose

construction would contribute to the cumulative risk. The risk impacts from these developments are included within the analysis. Figure 2 shows the location of the sources affecting the MEI. Community risk impacts from these sources upon the MEI are 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 Santa Clara Street & Stockton Avenue

A refined analysis of potential health impacts from vehicle traffic on West Santa Clara Street and Stockton Avenue was conducted since the roadway was estimated to have average daily traffic (ADT) exceeding 10,000 vehicles. 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 the 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. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2017 emissions data. Inputs to the model include region (i.e., Santa Clara County), type of road (i.e., major/collector), truck percentage for non-state highways in Santa Clara County (3.51 percent),[23] traffic mix assigned by CT-EMFAC2017 for the county, year of analysis (2024 – construction start year), and season (annual).

The ADT for West Santa Clara Street and Stockton Avenue were based on AM and PM peak-hour background plus project traffic volumes for the nearby roadway provided by the project's traffic data.[24] The calculated ADT on West Santa Clara Street the ADT would be 20,124 and on Stockton Avenue the ADT would be 11,745. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[25] which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. For all hours of the day average speeds of 30 mph on West Santa Clara Street and Stockton Avenue were assumed for all vehicles based on posted speed limit signs on the roadway.

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, the CT-EMFAC2017 model was used to develop vehicle emission factors for the year 2024 (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 2024 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.

Rail Line Community Risk Impacts

The project site is located west of and adjacent to Caltrain and Union Pacific Railroad (UPRR) rail lines near the San José Diridon Caltrain station. Rail activity on these lines currently generates DPM and $PM_{2.5}$ emissions from locomotive exhaust. The rail lines are used primarily for passenger service; however, there is some freight service by trains using diesel fueled locomotives. Passenger rail service along these rail lines includes diesel-fueled trains for Caltrain, the Altamont Commuter Express (ACE), Amtrak-Capital Corridor, and the Amtrak-Coast Starlight trains.

[23] BAAQMD, 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] Email from Fiona Phung, February 2, 2022. Attachment: *Apollo – Trip Generation and Volumes 02-02-22 v2.xlsx*

[25] 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.

Based on the current Caltrain schedule effective August 30, 2021, there are 104 Caltrain trains passing the project site during weekdays and 32 on weekends. The ACE operates 8 trains daily between Stockton and San José with service terminating at the Diridon Station. The Amtrak-Capitol Corridor, which provides daily service between Sacramento/Auburn and San José at Diridon Station, has 12 weekday trains accessing the station and 14 trains on weekends. The Amtrak-Coast Starlight operates between Seattle and Los Angles, with 2 daily trains at the Diridon Station. In addition to the passenger trains utilizing Diridon Station, there are about 10 freight trains that use the UPPR track on a daily basis[26]. The freight trains do not stop at Diridon Station. On an annual average basis this would be a total of 103 daily passenger trains and 10 daily freight trains using diesel locomotives

Currently all of Caltrain's trains use diesel locomotives. The Peninsula Corridor Electrification Project is a key component of the Caltrain Modernization Program that would electrify the Caltrain Corridor from San Francisco to the Tamien Caltrain station in San José. As part of the program to modernize operation of the Caltrain rail corridor between San José and San Francisco, Caltrain is planning to phase in the change from using diesel locomotives to use of electric trains.[27] This plan was formally adopted on January 8, 2015[28] and electrified service is anticipated to begin in late 2024.[29]

Electrification of Caltrain would eliminate DPM emissions from these trains. Caltrain plans are that initial service between San José and San Francisco would use a mixed fleet of electric and diesel locomotives, with approximately 75 percent of the service being electric and 25 percent being diesel. After the initial implementation period, diesel locomotives would be replaced with electric trains over time as they reach the end of their service life. Caltrain's diesel-powered locomotives would continue to be used to provide service between the San José Diridon Station and Gilroy. It is expected that all of the San José to San Francisco fleet would be electric trains about five to eight years after initial electric service begins.[30]

With Caltrain electrification, starting in late 2024 there would be 19 daily weekday trips using trains with diesel locomotives. All other Caltrain trains would be electric. On an annual average basis this would be a total of 14 daily trains using diesel locomotives. Use of these diesel trains by Caltrain between San Francisco and San Jose would be phased out over time and replaced by electric trains. All trains used for freight service and the ACE and Amtrak passenger trains are assumed to use diesel powered locomotives.

Rail Line Emissions

For this evaluation the rail exposure period was assumed to begin in 2024, as this was when the third trimester/infant exposure would begin for the maximum construction cancer risk impact at

[26] *Bay Area Regional Rail Plan, Technical Memorandum 4a, Conditions, Configuration & Traffic on Existing System*, Metropolitan Transportation Commission, November 15, 2006.
[27] Caltrain, 2014. *Peninsula Corridor Electrification Project. Final Environmental Impact Report.* December 2014.
[28] Caltrain, 2015. *Peninsula Corridor Electrification Fact Sheet.* May 2015.
[29] Caltrain, 2021. *Caltrain Electrification Delayed to 2024*. June 3, 2021. See: *www.caltrain.com/about/MediaRelations/news/Caltrain_Electrification_Delayed_to_2024.html*
[30] Caltrain 2019. *Caltrain Short- Range Transit Plan: FY2018-2027*. June 6, 2019.

the project MEI. In calculating cancer risks from DPM emissions from rail line diesel locomotives a 30-year exposure period is used per BAAQMD health risk guidance.[31] In this case, the exposure period would be from 2024 through 2053. For calculating emissions from Caltrain locomotives it was assumed that during the 2024-2025 construction period all trains would use diesel locomotives. In 2026 and thereafter it was conservatively assumed that, on an annual average basis, there would be 14 daily Caltrain trips using diesel locomotives. All other Caltrain trains would be electric. All trains used for freight services and the ACE and Amtrak passenger trains were assumed to continue to use diesel powered locomotives over the entire 2024 through 2053 period. DPM emissions from diesel-fueled locomotives will be reduced over time due to regulatory requirements for reduced particulate matter emissions from diesel locomotives.

DPM and $PM_{2.5}$ emissions from trains on the rail line were calculated using EPA emission factors for locomotives[32] and CARB adjustment factors to account for fuels used in California[33]. Caltrain's current locomotive fleet consists of twenty-three 3,200 horsepower (hp) locomotives of model year or overhaul date of 1999 or later, three 3,200 hp locomotives of model year 1998, and six 3,600 hp locomotives of model year 2003.[34] The current fleet average locomotive engine size is about 3,285 hp. In estimating diesel emissions prior to electrification a fleet average locomotive engine size of 3,285 hp was used. When electrification occurs, Caltrain will initially retain the six 3,600 hp locomotives and three 3,200 hp locomotives[35]. In estimating diesel locomotive emissions for the case of electrification, an average locomotive horsepower of 3,467 hp was used. For the ACE and Amtrak passenger trains, a locomotive diesel engine horsepower of 3,200 was assumed. Emissions from the freight trains were calculated assuming they would use two diesel locomotives with 2,300 hp engines (total of 4,600 hp). Passenger trains were assumed to be traveling at an average speed of 10 mph at or near the station while arriving and departing the Diridon Station and 30 mph farther away from the station when approaching or leaving the station. The freight trains, which would bypass the station, were assumed to be traveling at 40 mph. Since the exposure duration used in calculating residential cancer risks is 30 years (in this case from 2024 through 2053), the passenger and freight train average DPM and $PM_{2.5}$ emissions were calculated based on average EPA emission factors for the periods 2024-2025 and 2026-2053.

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.[36,37] TAC and $PM_{2.5}$ emissions from traffic on the roadways and railways within 1,000 feet of the project site were evaluated. Vehicle traffic on the roadways, and train travel on the railway, was modeled using a series of adjacent volume sources along a line (line volume

[31] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines.* December 2016.
[32] *Emission Factors for Locomotives*, USEPA 2009 (EPA-420-F-09-025)
[33] *Offroad Modeling, Change Technical Memo*, Changes to the Locomotive Inventory, CARB July 2006.
[34] Caltrain *Commute Fleets*. Available at: http://www.caltrain.com/about/statsandreports.html. Accessed January 4, 2022.
[35] Caltrain 2019. *Caltrain Short- Range Transit Plan: FY2018-2027*. June 6, 2019.
[36] BAAQMD, 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
[37] BAAQMD, 2020, *BAAQMD Health Risk Assessment Modeling Protocol.* December. Web: https://www.baaqmd.gov/~/media/files/ab617-community-health/facility-risk-reduction/documents/baaqmd_hra_modeling_protocol-pdf.pdf?la=en

sources); with line segments used for the travel directions on the roadways and railway. 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, hourly traffic emissions, and receptor locations. Annual TAC and $PM_{2.5}$ concentrations for 2024 from traffic on the roadways and trains on the railway were calculated using the model. Concentrations were calculated at the project MEI with receptor heights of 30 feet (9.1 meters) to represent the breathing heights of residents in the multi-family building.

Figure 2 shows the roadway and railway segments modeled and residential MEI receptor location used in the modeling. Table 7 lists the risks and hazards from the roadway. 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* GIS website,[38] which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for new OEHHA guidance. Six sources were identified using this tool with two sources being auto body coating operations, one source being gas dispensing facilities, and two being a generator. One source was identified as shutdown in 2019, and one of the auto body coating operations will be demolished as part of this project. Therefore, only four sources will be operational. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. BAAQMD provided updated emissions data and risk values.[39]

The screening level risks and hazards provided by BAAQMD for the stationary sources were adjusted for distance using BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines, Gasoline Dispensing Facility, and Generic Equipment*. Community risk impacts from the stationary sources upon the MEI are reported in Table 7.

Construction Risk Impacts from Nearby Developments

From the City's website,[40] the following planned or approved projects are located within 1,000 feet of the proposed project:

- **Stockton Hotel** – this project is located at 292 Stockton Avenue, which is located approximately 540 feet northwest of the project site. This project would include construction of a nine-story building that would include 311 hotel rooms and 19 condominium units. A three-level below grade parking structure is also included in this project. This project was analyzed by *Illingworth & Rodkin, Inc.* This project is currently under pre-construction review. Therefore, there is potential for this project to be constructed simultaneously or consecutively with the proposed project.

[38] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65
[39] Correspondence with Matthew Hanson, Environmental Planner II, BAAQMD, February 10, 2022.
[40] City of San Jose, Private / Key Economic Development Projects Map, Web: https://gis.sanjoseca.gov/maps/devprojects/

- **715 West Julian Street** – this project is located at 715 West Julian Street, which is approximately 780 feet northwest of the project site. This project proposes the construction of a seven-story building with 249 residential units and 26,572 square feet of commercial. This project is currently under construction. Therefore, some construction could overlap with the proposed project and occur simultaneously.

- **SAP Center Garage** – this project is located west of the SAP Center, which is 615 feet northeast of the project site. This project proposes to construct a seven-story, approximately 398,000-square-foot (sf) parking garage with 1,200 parking spaces. Construction of this project is expected to begin in January 2023 and be completed by April 2024. Therefore, some construction could overlap with the proposed project or occur consecutively with the proposed project.

The mitigated construction risks and hazard impact values for certain developments were available from their air quality technical reports either conducted by *Illingworth & Rodin, Inc*. or on the City of San José Environmental Review website for Active EIRs,[41] Completed EIRs,[42] or Negative Declaration / Initial Studies.[43] For developments that did not have available construction impact results at the time of this study, it was assumed the construction risks would be less than the BAAQMD single-source thresholds for community risks and hazards. If the nearby developments were more than 500 feet from the project site, the construction risks were assumed to be half of the BAAQMD single-source thresholds due to the distance and dispersion between the source and receptors. For the purpose of this analysis, it was conservatively assumed the entire construction period from the proposed project would overlap with the nearby developments' construction schedule. This approach likely provides an overestimate of the community risk and hazard levels because it assumes that maximum impacts from the nearby development occurs concurrently with the proposed project at the proposed project's MEI. The mitigated construction risks reported in that air quality assessment were included in the cumulative risks 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 (i.e., the project MEI). The project would have an exceedance with respect to community risk caused by project construction, since the unmitigated maximum cancer risk exceeds the BAAQMD single-source threshold. 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 threshold. The combined unmitigated and mitigated cancer risk would not exceed the cumulative-source threshold. The maximum annual $PM_{2.5}$ concentration, and the HI, unmitigated and mitigated, do not exceed their single or cumulative thresholds.

[41] City of San José, *Active EIRs*, https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/active-eirs
[42] City of San José, *Completed EIRs*, https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/completed-eirs
[43] City of San José, *Negative Declaration / Initial Studies*, https://www.sanjoseca.gov/your-government/departments/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/negative-declaration-initial-studies

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				
Project Construction Impacts	Unmitigated	**44.16 (infant)**	0.17	0.03
	Mitigated	7.10 (infant)	0.03	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	***Yes***	*No*	*No*
	Mitigated	*No*	*No*	*No*
Cumulative Operational Sources				
West Santa Clara Street, ADT 20,124		0.62	0.04	<0.01
Stockton Avenue, ADT 11,745		0.52	0.04	<0.01
CalTrain		16.77	0.04	0.01
Pacific Gas and Electric Company (Facility ID #3100, Gas Station), MEI at 1000+ feet		<0.01	<0.01	<0.01
Fleet Body Worx, Inc (Facility ID #11819, Auto Body Coating Operation), MEI at 1000+ feet		-	-	<0.01
Peninsula Corridor Joint Powers Board (Facility ID #21319, Generators), MEI at 1000+ feet		0.06	<0.01	<0.01
Unison Energy, LLC (Facility ID #22305, Generators), MEI at 380 feet		0.13	0.05	<0.01
Cumulative Temporary Construction Sources				
Stockton Hotel Mitigated Construction Emissions – 540 feet northwest		<3.80	<0.06	<0.01
715 W Julian St Mitigated Construction Emissions – 780 feet northwest		<5.40	<0.04	<0.01
SAP Center Garage Unmitigated Construction Emissions – 615 feet northeast		<8.17	<0.09	<0.02
Combined Sources	Unmitigated	<79.64	<0.55	<0.14
	Mitigated	<42.58	<0.41	<0.12
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.

Implement a feasible plan to reduce DPM emissions by 80 percent such that increased cancer risk and annual $PM_{2.5}$ concentrations from construction would be reduced below TAC significance levels 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 PM (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 an 80 percent reduction in particulate matter

exhaust in comparison to uncontrolled equipment; alternatively (or in combination).

b. Use of electrical or non-diesel fueled equipment.

2. Provide line power to the site during the early phases of construction to minimize the use of diesel-powered equipment, such as generators and welders.

3. Alternatively, the applicant may develop another construction operations plan demonstrating that the construction equipment used on-site would achieve a reduction in construction diesel particulate matter emissions by 80 percent or greater. Elements of the plan could include a combination of some of the following measures:
   - Implementation of No. 1 above to use Tier 4 or alternatively fueled equipment,
   - Installation of electric power lines during early construction phases to avoid use of diesel generators and compressors,
   - Use of electrically-powered equipment,
   - Forklifts and aerial lifts used for exterior and interior building construction shall be electric or propane/natural gas powered,
   - Change in construction build-out plans to lengthen phases, and
   - Implementation of different building techniques that result in less diesel equipment usage.

   Such a construction operations plan would be subject to review by an air quality expert and approved by the City prior to construction.

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 Interim engines standards and electric aerial lifts, air compressors, concrete saws, cranes, and welders were used along with BAAQMD best management practices for construction were included. Liquid propane fueled forklifts were also included. With these implemented, the project's construction cancer risk levels (assuming infant exposure) would be reduced by 84 percent to 7.10 chances per million. Assuming a lesser level of mitigation that achieves an 80-percent reduction, increased cancer risks would be reduced to below 10 chances per million. As a result, the project's construction and operational risks would be reduced below the BAAQMD single-source thresholds.

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

The City's General Plan Policy MS-11.1 requires new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs to avoid significant risks to health and safety required when new residential are proposed near existing sources of TACs. BAAQMD's recommended thresholds for health risks and hazards, shown in Table 1, are used to evaluate on-site exposure.

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.[44] 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.

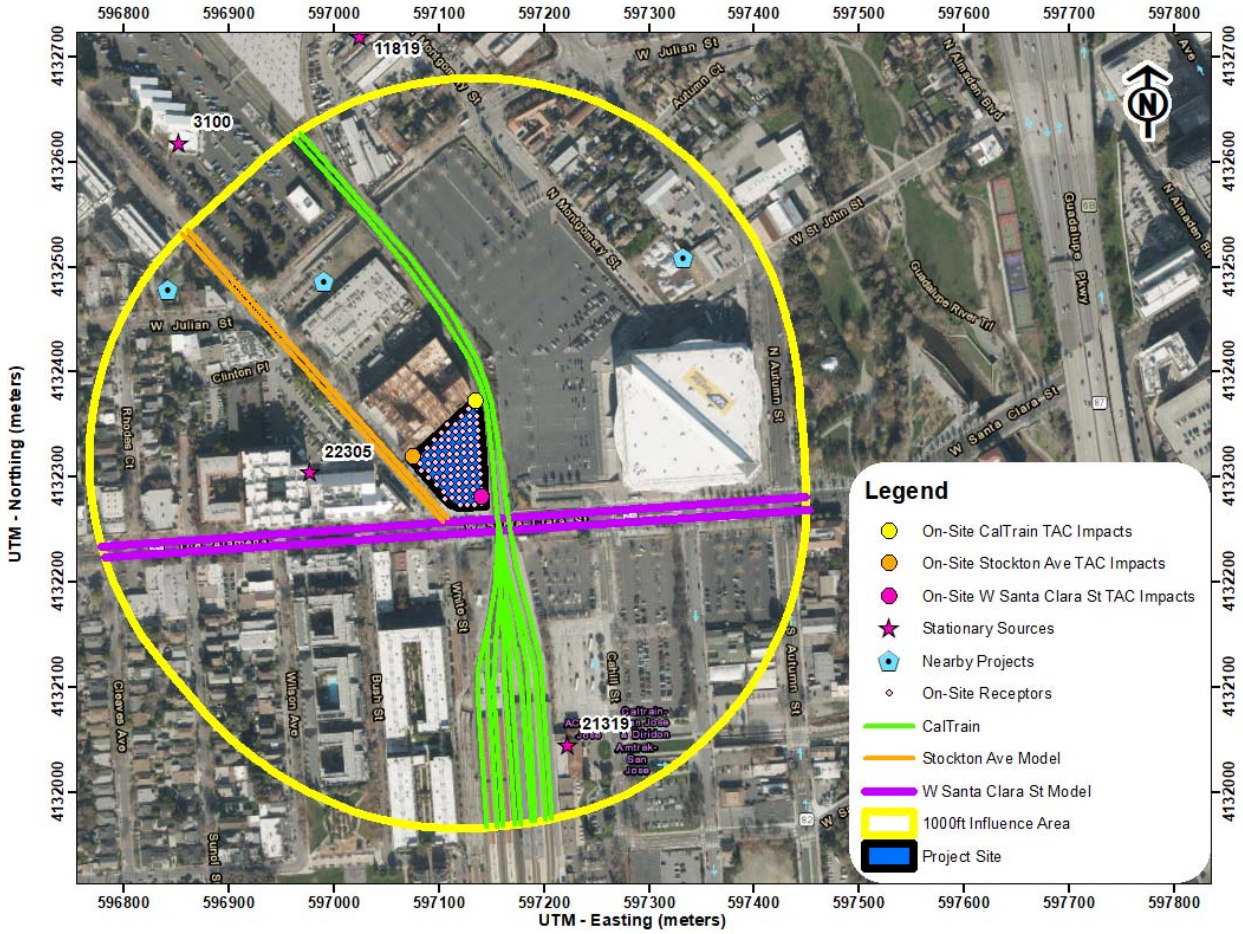
Local Roadways – West Santa Clara Street and Stockton Avenue

The roadway analysis for the project residents was conducted in the same manner as described above for the off-site MEI. However, year 2026 (operational year) emission factors were conservatively assumed as being representative of future conditions, instead of 2024 (construction year). An analysis based on 2026 resulted in an increased ADT on West Santa Clara Street of 20,504, and 11,967 on Stockton Avenue. The project set of receptors were placed within the project site and were spaced every 23 feet (7 meter). Roadway impacts were modeled at receptor heights of 26 feet (7.9 meters) and 36 feet (11 meters) representing sensitive receptors on the second and third floors (first and second residential levels) of the future residential building based on provided project plans. The portions of West Santa Clara Street and Stockton 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 residential areas for 24 hours per day for 350 days per year. The highest impacts from both roadways occurred at a second-floor (first residential level) receptor nearest to each roadway. Cancer risks associated with each roadway are greatest closest to those roadways and decrease with distance. 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.*

[44] 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. Locations of Project Site, On-Site Residential Receptors, Roadway/Railway Segments Evaluated, Nearby TAC and $PM_{2.5}$ Sources, and Maximum Roadway/Railway TAC Impacts



Railway – CalTrain

The railway analysis for the project residents was conducted in the same manner as described above for the off-site MEI. However, year 2026 (operational year) emission factors were conservatively assumed as being representative of future conditions, instead of 2024 (construction year). The highest impacts from the railway occurred at the second-floor (first residential level) receptor in the eastern edge of the project site closest to the railway. Table 8 shows the health risk assessment results from the railway.

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.

Construction Risk Impacts from Nearby Developments

The construction risk impacts from nearby developments on the project residents was conducted in the same manner as described above for the off-site MEI.

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, only the railway exceeds the single-source thresholds. No cumulative-source thresholds are exceeded.

Table 8. 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 Santa Clara Street, ADT 20,504	1.84	0.07	<0.01
Stockton Avenue, ADT 11,967	1.54	0.07	<0.01
CalTrain	9.90	0.01	<0.01
Pacific Gas and Electric Company (Facility ID #3100, Gasoline Dispensing Operation), MEI at 1000+ feet	<0.01	<0.01	<0.01
Fleet Body Worx, Inc (Facility ID #11819, Auto Body Coating Operation), MEI at 1000+ feet	-	-	<0.01
Peninsula Corridor Joint Powers Board (Facility ID #21319, Generators), MEI at 1000+ feet	0.10	<0.01	<0.01
Unison Energy, LLC (Facility ID #22305, Generators), MEI at 300 feet	0.19	0.07	<0.01
Cumulative Temporary Construction Sources			
Stockton Hotel Mitigated Construction Emissions – 540 feet northwest	<3.80	<0.06	<0.01
715 W Julian St Mitigated Construction Emissions – 780 feet northwest	<5.40	<0.04	<0.01
SAP Center Garage Unmitigated Construction Emissions – 615 feet northeast	<8.17	<0.09	<0.02
BAAQMD Single-Source Threshold	***10***	***0.3***	***1.0***
Exceed Threshold?	*No*	*No*	*No*
Combined Sources	<30.95	<0.43	<0.11
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. 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 and operation. 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 construction 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.[45] 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.[46] 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.[47] 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

[45] 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.
[46] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[47] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

8-hour breathing rates. 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: Apollo - 32 & 60 Stockton Ave

See Equipment Type TAB for type, horsepower and load factor

Complete ALL Portions in Yellow

Project Size	497	Dwelling Units	total project acres disturbed
	369,547	s.f. residential	
	7,684	s.f. retail	
	0	s.f. office/commercial	
	116,563	s.f. other, specify:	Amenities/hallways/lobby/leasing
	91,571	s.f. parking garage	398 spaces
	N/A	s.f. parking lot	N/A spaces
Construction Hours	7 am	to	5 pm

Pile Driving? Y/N? NO

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? Y/N? NO

IF YES (if BOTH separate values) --> N/A

Kilowatts/Horsepower: _____ N/A

Fuel Type: ___Diesel_____ N/A

Location in project (Plans Desired if Available): N/A

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

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
	Demolition / Site Preparation	**Start Date:**	**2/24/2024**	**Total phase:**	**21**			**Overall Import/Export Volumes**
		End Date:	**3/25/2024**					
1	Concrete/Industrial Saws	81	0.73	4	21	4	84	**Demolition Volume**
1	Excavators	158	0.38	6.5	21	6.5	136.5	Square footage of buildings to be demolished
1	Rubber-Tired Dozers	247	0.4	6	21	6	126	(*or* total tons to be hauled)
						0	0	**11972** square feet *or*
2	Tractors/Loaders/Backhoes	97	0.37	6	21	6	252	**1,230** Hauling volume (tons)
								Any pavement demolished and hauled? **Asphalt 400 tons**
	Shoring / Grading / Excavation	**Start Date:**	**3/26/2024**	**Total phase:**	**37**			
		End Date:	**5/15/2024**					**Soil Hauling Volume**
1	Excavators	158	0.38	7	37	7	259	Export volume = **30,947** cubic yards?
3	Tractors/Loaders/Backhoes	97	0.37	7	37	7	777	Import volume = **1,200** cubic yards?
2	Augercast Pile Drill Rig	221	0.5	6	37	6	444	
2	Skid Steer Loader	65	0.37	6	37	6	444	
1	Rollers	80	0.38	7	37	7	259	
	Below Slab Utilities	**Start Date:**	**5/16/2024**	**Total phase:**	**22**			
		End Date:	**6/15/2024**					
2	Tractor/Loader/Backhoes	97	0.37	7	22	7	308	Ejector Pits/Utility Trenches
	Foundation/ Basement / Structure	**Start Date:**	**6/16/2024**	**Total phase:**	**180**			
		End Date:	**2/21/2025**					
2	Tractor/Loader/Backhoes	97	0.37	7	180	7	2520	
2	Concrete Pumper	220	0.42	8	180	8	2880	
1	Tractors/Loaders/Backhoes	97	0.37	7	180	7.03910615	1260	
1	Cranes	231	0.29	8	180	8.04469274	1440	Electric? (Y/N) Y Otherwise assumed diesel
1	Welders	46	0.45	4	180	4.02234637	720	Electric? (Y/N) Y Otherwise assumed diesel
	Building - Exterior	**Start Date:**	**11/23/2024**	**Total phase:**	**179**			**Concrete Trucks? 2,400 Total Round-Trips**
		End Date:	**7/31/2025**					
1	Cranes	231	0.29	8	179	8	1432	Electric? (Y/N) Y Otherwise assumed diesel
4	Forklifts	89	0.2	6	179	6	4296	Liquid Propane (LPG)? (Y/N) Y Otherwise Assumed diesel
0	Generator Sets					0	0	Or temporary line power? (Y/N) Y
1	Tractors/Loaders/Backhoes	97	0.37	5	179	5	895	
1	Welders	46	0.45	5	179	5	895	
	Other Equipment?							
	Building - Interior/Architectural Coating	**Start Date:**	**10/14/2024**	**Total phase:**	**287**			
		End Date:	**11/18/2025**					
1	Air Compressors	78	0.48	6	287	6	1722	
2	Aerial Lift	62	0.31	8	287	8	4592	

Equipment types listed in "Equipment Types" worksheet tab.

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

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Construction Criteria Air Pollutants						
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	**CO2e**	
Year	Tons				MT	
Construction Equipment						
2024	0.12	0.51	0.04	0.02	560.66	
2025	0.12	0.50	0.04	0.02	567.00	
EMFAC						
2024	0.85	1.43	0.06	0.06	282.12	
2025	2.90	1.04	0.04	0.04	202.18	
Total Construction Emissions by Year						
2024	0.97	1.95	0.10	0.08	842.78	
2025	3.02	1.54	0.08	0.06	769.18	
	Total Construction Emissions					
Tons	3.99	3.49	0.19	0.13	1611.96	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2024	8.70	17.45	0.93	0.68		**223**
2025	26.17	13.35	0.74	0.49		**231**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		
	Total Construction Emissions					
Pounds	34.87	30.80	1.67	1.17	0.00	
Average	17.59	15.36	0.83	0.59	0.00	454.00
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Operational Criteria Air Pollutants						
Unmitigated	ROG	NOX	Total PM10	Total PM2.5		
Year	Tons					
Total	3.48	0.76	1.48	0.39		
	Existing Use Emissions					
Total	0.00	0.00	0.00	0.00		
	Net Annual Operational Emissions					
Tons/year	3.48	0.76	1.48	0.39		
Threshold - Tons/year	**10.0**	**10.0**	**15.0**	**10.0**		
	Average Daily Emissions					
Pounds Per Day	19.07	4.17	8.11	2.14		
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Category	**CO2e**			
	Project	Existing	Project 2030	Existing
Area	6.18	0.00	6.18	0.00
Energy	306.78	0.00	306.78	0.00
Mobile	1438.27	0.00	1340.61	0.00
Waste	119.03	0.00	119.03	0.00
Water	40.67	0.00	40.67	0.00
TOTAL	1910.93	0.00	1813.27	0.00
Net GHG Emissions		1910.93		1813.27
Service Population	1560.58			
Per Capita Emissions		1.22		1.16

	497	units
CA DOF 2020 =	3.14	pphh

Traffic Consultant Trip Gen					CalEEMod Default		
Land Use	**Size**	**Daily Trips**	**New Trips**	**Weekday Trip Gen**	**Weekday**	**Sat**	**Sun**
Apartments High Rise	497	2256	1705	***3.43***	4.45	4.53	3.59
Residential & Retail Reduction		*-69*			*Rev*	***3.49***	***2.77***
Location-Based Reduction		*-284*					
VMT Based Reduction		*-198*					

Land Use	**Size**	**Daily Trips**	**New Trips**	**Weekday Trip Gen**	**Weekday**	**Sat**	**Sun**
Strip Mall	7.684	418	309	***40.21***	44.32	42.04	20.43
Residential & Retail Reduction		*-63*			*Rev*	***38.14***	***18.54***
Location-Based Reduction		*-46*					

ITE Vehicle Trip Generation Estimates - Apollo

	Reduction		VMT			Daily		AM Peak Hour						PM Peak Hour					
									Split		Trip				Split		Trip		
Land Use	**%**	**Place Type**	**Existing**	**Project**	**Size**	**Rate**	**Trip**	**Rate**	**AMIn In**	**AMOut Out**	**In**	**Out**	**Total**	**Rate**	**PMIn In**	**PMOut Out**	**In**	**Out**	**Total**
Proposed Land Uses																			
#222 - Multifamily Housing (High-Rise)					**497** Dwelling Units	4.540	2,256	0.270	34%	66%	46	88	134	0.320	56%	44%	89	70	159
Residential & Retail Reduction [3]	*15%*						*-69*				*-1*	*-2*	*-3*				*-4*	*-4*	*-8*
Location-Based Reduction [1]	*13%*	an Low-Transit					*-284*				*-6*	*-11*	*-17*				*-11*	*-9*	*-20*
VMT-Based Reduction [2]	*10.40%*		9.23	8.27			*-198*				*-4*	*-8*	*-12*				*-8*	*-6*	*-14*
#822 - Strip Retail Plaza (<40k)					**7,684** Square Feet	54.450	418	2.360	60%	40%	11	7	18	6.590	50%	50%	26	25	51
Residential & Retail Reduction [3]	*15%*						*-63*				*-2*	*-1*	*-3*				*-4*	*-4*	*-8*
Location-Based Reduction [1]	*13%*	an Low-Transit					*-46*				*-1*	*-1*	*-2*				*-3*	*-3*	*-6*
Baseline Vehicle Trips (Before Reductions)							*2,674*				*57*	*95*	*152*				*115*	*95*	*210*
Project Trips After Reduct							**2,019**				**43**	**72**	**115**				**85**	**69**	**154**
Total Residential Trips at Project Driveway [4]							**1,705**				**35**	**67**	**102**				**66**	**51**	**117**

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

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

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

[3] The following trip reductions are prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014).
Mixed-Used Development Project
with residential and retail components - 15% off the smaller trip generator

[4] The proposed development will not provide on-site parking for the retail use. Therefore, only residential trips will enter and exit the project site driveway.

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	398.00	Space	3.58	91,571.00	0
Apartments High Rise	497.00	Dwelling Unit	8.02	486,110.00	1421
Strip Mall	7.68	1000sqft	0.18	7,684.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	San Jose Clean Energy				
CO2 Intensity (lb/MWhr)	177.69	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SJCE 2020 Greensource Rate

Land Use - Default acreage used since building over 4 stories. Residential square footage is residential units + amenities/leasing/other.

Construction Phase - Construction schedule provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Trips and VMT - All trips entered into EMFAC2021

Date: 4/12/2022 12:13 PM

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Demolition -

Grading - Acreage of site entered.

Vehicle Trips - Trip gen info provided by applicant.

Vehicle Emission Factors - Emission factors from EMFAC2021

Woodstoves - No hearths

Energy Use - Reach code bans natural gas. Added natural gas into electricity usage.

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - All equipment t4i, BMP. Electric cranes, aerial lifts, portable equipment (air compressors, saws, welders), propane (CNG in CalEEMOD) forklifts

Fleet Mix - Fleet mix from EMFAC2021

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	30.00	37.00
tblConstructionPhase	NumDays	300.00	180.00
tblConstructionPhase	NumDays	20.00	287.00
tblConstructionPhase	NumDays	300.00	179.00
tblEnergyUse	NT24E	3,054.10	4,007.27
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24E	70.89	1,649.95
tblEnergyUse	T24E	2.46	3.17
tblEnergyUse	T24NG	5,226.68	0.00
tblEnergyUse	T24NG	2.34	0.00
tblFireplaces	FireplaceDayYear	11.14	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	74.55	0.00
tblFireplaces	NumberNoFireplace	19.88	0.00
tblFireplaces	NumberWood	84.49	0.00
tblFleetMix	HHD	6.3120e-003	7.5470e-003
tblFleetMix	HHD	6.3120e-003	7.5470e-003
tblFleetMix	HHD	6.3120e-003	7.5470e-003

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tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDA	0.57	0.53
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LDT2	0.19	0.23
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.2090e-003	5.8310e-003
tblFleetMix	LHD2	5.2090e-003	5.8310e-003
tblFleetMix	LHD2	5.2090e-003	5.8310e-003
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MH	2.6680e-003	2.5100e-003
tblFleetMix	MH	2.6680e-003	2.5100e-003
tblFleetMix	MH	2.6680e-003	2.5100e-003
tblFleetMix	MHD	8.0910e-003	9.4770e-003
tblFleetMix	MHD	8.0910e-003	9.4770e-003
tblFleetMix	MHD	8.0910e-003	9.4770e-003
tblFleetMix	OBUS	8.8400e-004	1.0590e-003
tblFleetMix	OBUS	8.8400e-004	1.0590e-003

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tblFleetMix	OBUS	8.8400e-004	1.0590e-003
tblFleetMix	SBUS	8.8700e-004	6.8400e-004
tblFleetMix	SBUS	8.8700e-004	6.8400e-004
tblFleetMix	SBUS	8.8700e-004	6.8400e-004
tblFleetMix	UBUS	3.6400e-004	4.1000e-004
tblFleetMix	UBUS	3.6400e-004	4.1000e-004
tblFleetMix	UBUS	3.6400e-004	4.1000e-004
tblGrading	MaterialExported	0.00	30,947.00
tblGrading	MaterialImported	0.00	1,200.00
tblLandUse	LandUseSquareFeet	159,200.00	91,571.00
tblLandUse	LandUseSquareFeet	497,000.00	486,110.00
tblLandUse	LandUseSquareFeet	7,680.00	7,684.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.50
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	5.00

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tblProjectCharacteristics	CO2IntensityFactor	807.98	177.69
tblTripsAndVMT	HaulingTripNumber	122.00	0.00
tblTripsAndVMT	VendorTripNumber	69.00	0.00
tblTripsAndVMT	VendorTripNumber	69.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	399.00	0.00
tblTripsAndVMT	WorkerTripNumber	80.00	0.00
tblTripsAndVMT	WorkerTripNumber	399.00	0.00
tblVehicleEF	HHD	0.02	0.22
tblVehicleEF	HHD	0.05	0.11
tblVehicleEF	HHD	6.31	5.15
tblVehicleEF	HHD	0.41	0.73
tblVehicleEF	HHD	5.9100e-003	7.3800e-004
tblVehicleEF	HHD	1,010.86	795.67
tblVehicleEF	HHD	1,358.12	1,554.97
tblVehicleEF	HHD	0.05	0.01
tblVehicleEF	HHD	0.16	0.13
tblVehicleEF	HHD	0.22	0.25
tblVehicleEF	HHD	5.0000e-006	8.0000e-006
tblVehicleEF	HHD	5.31	4.01
tblVehicleEF	HHD	2.65	1.70
tblVehicleEF	HHD	2.32	2.76
tblVehicleEF	HHD	2.4220e-003	2.0130e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	1.0000e-006	0.00

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tblVehicleEF	HHD	2.3170e-003	1.9190e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8910e-003	8.7830e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	2.0000e-006	1.0600e-004
tblVehicleEF	HHD	7.9000e-005	3.4000e-005
tblVehicleEF	HHD	0.43	0.32
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.03	0.02
tblVehicleEF	HHD	3.5000e-005	3.0300e-004
tblVehicleEF	HHD	2.0000e-006	0.00
tblVehicleEF	HHD	9.4050e-003	6.9240e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	2.0000e-006	1.0600e-004
tblVehicleEF	HHD	7.9000e-005	3.4000e-005
tblVehicleEF	HHD	0.49	0.58
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.08	0.13
tblVehicleEF	HHD	3.5000e-005	3.0300e-004
tblVehicleEF	HHD	3.0000e-006	0.00
tblVehicleEF	LDA	1.3660e-003	1.6750e-003
tblVehicleEF	LDA	0.04	0.06
tblVehicleEF	LDA	0.47	0.57
tblVehicleEF	LDA	1.93	2.55
tblVehicleEF	LDA	220.20	235.10
tblVehicleEF	LDA	46.75	60.77
tblVehicleEF	LDA	3.5660e-003	3.6780e-003
tblVehicleEF	LDA	0.02	0.03

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tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.15	0.21
tblVehicleEF	LDA	0.04	7.1220e-003
tblVehicleEF	LDA	1.1800e-003	1.0710e-003
tblVehicleEF	LDA	1.5670e-003	1.7910e-003
tblVehicleEF	LDA	0.02	2.4930e-003
tblVehicleEF	LDA	1.0860e-003	9.8600e-004
tblVehicleEF	LDA	1.4410e-003	1.6470e-003
tblVehicleEF	LDA	0.03	0.25
tblVehicleEF	LDA	0.08	0.07
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	4.9090e-003	6.2070e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.16	0.25
tblVehicleEF	LDA	2.1780e-003	2.3240e-003
tblVehicleEF	LDA	4.6300e-004	6.0100e-004
tblVehicleEF	LDA	0.03	0.25
tblVehicleEF	LDA	0.08	0.07
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	7.1350e-003	9.0460e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.18	0.28
tblVehicleEF	LDT1	2.7310e-003	5.0100e-003
tblVehicleEF	LDT1	0.05	0.09
tblVehicleEF	LDT1	0.71	1.21
tblVehicleEF	LDT1	2.08	4.52
tblVehicleEF	LDT1	264.87	316.42
tblVehicleEF	LDT1	56.84	82.70
tblVehicleEF	LDT1	4.8810e-003	7.9710e-003

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tblVehicleEF	LDT1	0.02	0.04
tblVehicleEF	LDT1	0.05	0.10
tblVehicleEF	LDT1	0.19	0.34
tblVehicleEF	LDT1	0.04	9.2110e-003
tblVehicleEF	LDT1	1.4310e-003	1.7060e-003
tblVehicleEF	LDT1	1.8820e-003	2.6150e-003
tblVehicleEF	LDT1	0.02	3.2240e-003
tblVehicleEF	LDT1	1.3170e-003	1.5700e-003
tblVehicleEF	LDT1	1.7300e-003	2.4040e-003
tblVehicleEF	LDT1	0.06	0.53
tblVehicleEF	LDT1	0.12	0.15
tblVehicleEF	LDT1	0.05	0.00
tblVehicleEF	LDT1	0.01	0.02
tblVehicleEF	LDT1	0.07	0.41
tblVehicleEF	LDT1	0.22	0.46
tblVehicleEF	LDT1	2.6210e-003	3.1280e-003
tblVehicleEF	LDT1	5.6300e-004	8.1800e-004
tblVehicleEF	LDT1	0.06	0.53
tblVehicleEF	LDT1	0.12	0.15
tblVehicleEF	LDT1	0.05	0.00
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.07	0.41
tblVehicleEF	LDT1	0.24	0.50
tblVehicleEF	LDT2	2.4210e-003	2.4020e-003
tblVehicleEF	LDT2	0.05	0.07
tblVehicleEF	LDT2	0.65	0.74
tblVehicleEF	LDT2	2.52	3.24
tblVehicleEF	LDT2	280.92	326.78
tblVehicleEF	LDT2	60.84	83.29

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tblVehicleEF	LDT2	4.9510e-003	5.3470e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.05	0.06
tblVehicleEF	LDT2	0.21	0.29
tblVehicleEF	LDT2	0.04	8.8560e-003
tblVehicleEF	LDT2	1.2560e-003	1.2430e-003
tblVehicleEF	LDT2	1.6140e-003	2.0020e-003
tblVehicleEF	LDT2	0.02	3.1000e-003
tblVehicleEF	LDT2	1.1560e-003	1.1440e-003
tblVehicleEF	LDT2	1.4840e-003	1.8410e-003
tblVehicleEF	LDT2	0.06	0.28
tblVehicleEF	LDT2	0.11	0.08
tblVehicleEF	LDT2	0.05	0.00
tblVehicleEF	LDT2	9.5280e-003	9.2320e-003
tblVehicleEF	LDT2	0.06	0.21
tblVehicleEF	LDT2	0.24	0.33
tblVehicleEF	LDT2	2.7790e-003	3.2300e-003
tblVehicleEF	LDT2	6.0200e-004	8.2300e-004
tblVehicleEF	LDT2	0.06	0.28
tblVehicleEF	LDT2	0.11	0.08
tblVehicleEF	LDT2	0.05	0.00
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.21
tblVehicleEF	LDT2	0.27	0.36
tblVehicleEF	LHD1	4.6670e-003	5.0240e-003
tblVehicleEF	LHD1	6.7660e-003	6.5110e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.18	0.19
tblVehicleEF	LHD1	0.61	0.77

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tblVehicleEF	LHD1	0.99	2.16
tblVehicleEF	LHD1	8.66	8.48
tblVehicleEF	LHD1	749.59	747.67
tblVehicleEF	LHD1	11.02	17.34
tblVehicleEF	LHD1	7.4200e-004	6.3000e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.50	0.52
tblVehicleEF	LHD1	0.27	0.40
tblVehicleEF	LHD1	8.7200e-004	6.8700e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	9.8310e-003	9.4180e-003
tblVehicleEF	LHD1	8.5970e-003	0.01
tblVehicleEF	LHD1	2.3200e-004	1.9000e-004
tblVehicleEF	LHD1	8.3400e-004	6.5700e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4580e-003	2.3550e-003
tblVehicleEF	LHD1	8.1790e-003	0.01
tblVehicleEF	LHD1	2.1300e-004	1.7400e-004
tblVehicleEF	LHD1	1.7170e-003	0.12
tblVehicleEF	LHD1	0.06	0.03
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	9.0400e-004	0.00
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	0.19	0.17
tblVehicleEF	LHD1	0.06	0.10
tblVehicleEF	LHD1	8.4000e-005	8.3000e-005
tblVehicleEF	LHD1	7.3150e-003	7.3000e-003

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tblVehicleEF	LHD1	1.0900e-004	1.7100e-004
tblVehicleEF	LHD1	1.7170e-003	0.12
tblVehicleEF	LHD1	0.06	0.03
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	9.0400e-004	0.00
tblVehicleEF	LHD1	0.10	0.09
tblVehicleEF	LHD1	0.19	0.17
tblVehicleEF	LHD1	0.07	0.11
tblVehicleEF	LHD2	2.8270e-003	2.9010e-003
tblVehicleEF	LHD2	6.0420e-003	5.9100e-003
tblVehicleEF	LHD2	6.5340e-003	0.01
tblVehicleEF	LHD2	0.14	0.14
tblVehicleEF	LHD2	0.54	0.49
tblVehicleEF	LHD2	0.55	1.18
tblVehicleEF	LHD2	13.60	13.61
tblVehicleEF	LHD2	727.00	794.48
tblVehicleEF	LHD2	7.15	9.38
tblVehicleEF	LHD2	1.7170e-003	1.6800e-003
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.60	0.73
tblVehicleEF	LHD2	0.15	0.22
tblVehicleEF	LHD2	1.4660e-003	1.4060e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.1700e-004	8.1000e-005
tblVehicleEF	LHD2	1.4020e-003	1.3460e-003

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tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.7000e-003	2.6660e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.0800e-004	7.5000e-005
tblVehicleEF	LHD2	8.4300e-004	0.06
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	4.5700e-004	0.00
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.08	0.08
tblVehicleEF	LHD2	0.03	0.05
tblVehicleEF	LHD2	7.0160e-003	7.6510e-003
tblVehicleEF	LHD2	7.1000e-005	9.3000e-005
tblVehicleEF	LHD2	8.4300e-004	0.06
tblVehicleEF	LHD2	0.03	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.5700e-004	0.00
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.08	0.08
tblVehicleEF	LHD2	0.04	0.06
tblVehicleEF	MCY	0.32	0.15
tblVehicleEF	MCY	0.25	0.17
tblVehicleEF	MCY	18.17	11.99
tblVehicleEF	MCY	9.11	7.93
tblVehicleEF	MCY	209.94	186.84
tblVehicleEF	MCY	60.17	46.31
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	7.3810e-003
tblVehicleEF	MCY	1.14	0.55

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tblVehicleEF	MCY	0.27	0.12
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	2.0610e-003	1.9450e-003
tblVehicleEF	MCY	2.9290e-003	3.4700e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.9240e-003	1.8180e-003
tblVehicleEF	MCY	2.7480e-003	3.2560e-003
tblVehicleEF	MCY	0.90	3.85
tblVehicleEF	MCY	0.66	3.56
tblVehicleEF	MCY	0.48	0.00
tblVehicleEF	MCY	2.16	0.99
tblVehicleEF	MCY	0.51	3.77
tblVehicleEF	MCY	1.91	1.27
tblVehicleEF	MCY	2.0780e-003	1.8470e-003
tblVehicleEF	MCY	5.9500e-004	4.5800e-004
tblVehicleEF	MCY	0.90	0.09
tblVehicleEF	MCY	0.66	3.56
tblVehicleEF	MCY	0.48	0.00
tblVehicleEF	MCY	2.70	1.20
tblVehicleEF	MCY	0.51	3.77
tblVehicleEF	MCY	2.08	1.38
tblVehicleEF	MDV	2.6580e-003	2.9620e-003
tblVehicleEF	MDV	0.06	0.08
tblVehicleEF	MDV	0.67	0.81
tblVehicleEF	MDV	2.67	3.40
tblVehicleEF	MDV	339.08	392.60
tblVehicleEF	MDV	72.17	99.29
tblVehicleEF	MDV	6.5120e-003	6.9830e-003
tblVehicleEF	MDV	0.03	0.04

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tblVehicleEF	MDV	0.05	0.07
tblVehicleEF	MDV	0.24	0.35
tblVehicleEF	MDV	0.04	8.9510e-003
tblVehicleEF	MDV	1.3050e-003	1.2470e-003
tblVehicleEF	MDV	1.6620e-003	1.9840e-003
tblVehicleEF	MDV	0.02	3.1330e-003
tblVehicleEF	MDV	1.2040e-003	1.1490e-003
tblVehicleEF	MDV	1.5280e-003	1.8240e-003
tblVehicleEF	MDV	0.06	0.32
tblVehicleEF	MDV	0.12	0.08
tblVehicleEF	MDV	0.06	0.00
tblVehicleEF	MDV	0.01	0.01
tblVehicleEF	MDV	0.06	0.24
tblVehicleEF	MDV	0.28	0.41
tblVehicleEF	MDV	3.3510e-003	3.8790e-003
tblVehicleEF	MDV	7.1400e-004	9.8200e-004
tblVehicleEF	MDV	0.06	0.32
tblVehicleEF	MDV	0.12	0.08
tblVehicleEF	MDV	0.06	0.00
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.06	0.24
tblVehicleEF	MDV	0.31	0.45
tblVehicleEF	MH	7.6660e-003	9.9190e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.68	0.93
tblVehicleEF	MH	1.87	2.26
tblVehicleEF	MH	1,445.75	1,674.32
tblVehicleEF	MH	17.15	21.62
tblVehicleEF	MH	0.06	0.07

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tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.21	1.44
tblVehicleEF	MH	0.24	0.30
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.4000e-004	2.8100e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2870e-003	3.3150e-003
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	2.2100e-004	2.5800e-004
tblVehicleEF	MH	0.52	28.55
tblVehicleEF	MH	0.04	7.36
tblVehicleEF	MH	0.19	0.00
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	0.01	0.18
tblVehicleEF	MH	0.08	0.10
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.7000e-004	2.1400e-004
tblVehicleEF	MH	0.52	28.55
tblVehicleEF	MH	0.04	7.36
tblVehicleEF	MH	0.19	0.00
tblVehicleEF	MH	0.07	0.09
tblVehicleEF	MH	0.01	0.18
tblVehicleEF	MH	0.09	0.11
tblVehicleEF	MHD	3.6600e-003	0.01
tblVehicleEF	MHD	1.3680e-003	9.5250e-003
tblVehicleEF	MHD	8.6830e-003	7.9190e-003
tblVehicleEF	MHD	0.40	0.66

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tblVehicleEF	MHD	0.19	0.26
tblVehicleEF	MHD	0.97	0.93
tblVehicleEF	MHD	69.63	156.70
tblVehicleEF	MHD	1,051.19	1,196.53
tblVehicleEF	MHD	8.85	7.91
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.13	0.15
tblVehicleEF	MHD	7.3550e-003	5.6890e-003
tblVehicleEF	MHD	0.38	0.84
tblVehicleEF	MHD	1.45	0.91
tblVehicleEF	MHD	1.70	1.39
tblVehicleEF	MHD	2.7700e-004	1.4450e-003
tblVehicleEF	MHD	0.13	0.05
tblVehicleEF	MHD	7.0640e-003	9.6350e-003
tblVehicleEF	MHD	1.1200e-004	9.6000e-005
tblVehicleEF	MHD	2.6500e-004	1.3820e-003
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	6.7520e-003	9.2100e-003
tblVehicleEF	MHD	1.0300e-004	8.9000e-005
tblVehicleEF	MHD	3.3400e-004	0.02
tblVehicleEF	MHD	0.02	5.1060e-003
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.8000e-004	0.00
tblVehicleEF	MHD	0.01	0.03
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	6.6100e-004	1.4520e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	8.8000e-005	7.8000e-005

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tblVehicleEF	MHD	3.3400e-004	0.02
tblVehicleEF	MHD	0.02	5.1060e-003
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	1.8000e-004	0.00
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	0.02	0.04
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	OBUS	7.0720e-003	7.5520e-003
tblVehicleEF	OBUS	2.9940e-003	9.8650e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.61	0.53
tblVehicleEF	OBUS	0.35	0.40
tblVehicleEF	OBUS	1.73	1.78
tblVehicleEF	OBUS	95.34	88.16
tblVehicleEF	OBUS	1,283.24	1,344.05
tblVehicleEF	OBUS	14.49	14.24
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.13	0.16
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.40	0.36
tblVehicleEF	OBUS	1.45	0.93
tblVehicleEF	OBUS	1.11	0.99
tblVehicleEF	OBUS	1.3100e-004	3.9000e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	7.5500e-003	0.01
tblVehicleEF	OBUS	1.4900e-004	1.2900e-004
tblVehicleEF	OBUS	1.2600e-004	3.7300e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	7.2100e-003	0.01

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tblVehicleEF	OBUS	1.3700e-004	1.1800e-004
tblVehicleEF	OBUS	1.0720e-003	0.07
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.05	0.04
tblVehicleEF	OBUS	4.8300e-004	0.00
tblVehicleEF	OBUS	0.02	0.04
tblVehicleEF	OBUS	0.04	0.08
tblVehicleEF	OBUS	0.08	0.09
tblVehicleEF	OBUS	9.0500e-004	8.3300e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.4300e-004	1.4100e-004
tblVehicleEF	OBUS	1.0720e-003	0.07
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.05
tblVehicleEF	OBUS	4.8300e-004	0.00
tblVehicleEF	OBUS	0.03	0.06
tblVehicleEF	OBUS	0.04	0.08
tblVehicleEF	OBUS	0.09	0.09
tblVehicleEF	SBUS	0.06	0.08
tblVehicleEF	SBUS	5.4710e-003	0.09
tblVehicleEF	SBUS	5.3640e-003	4.9930e-003
tblVehicleEF	SBUS	2.48	1.73
tblVehicleEF	SBUS	0.45	0.84
tblVehicleEF	SBUS	0.76	0.68
tblVehicleEF	SBUS	344.98	188.59
tblVehicleEF	SBUS	1,025.26	1,007.35
tblVehicleEF	SBUS	4.41	3.84
tblVehicleEF	SBUS	0.05	0.02
tblVehicleEF	SBUS	0.13	0.12

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tblVehicleEF	SBUS	5.3260e-003	4.5020e-003
tblVehicleEF	SBUS	3.24	1.31
tblVehicleEF	SBUS	4.17	2.24
tblVehicleEF	SBUS	0.95	0.50
tblVehicleEF	SBUS	3.0570e-003	1.1130e-003
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	5.4000e-005	4.2000e-005
tblVehicleEF	SBUS	2.9250e-003	1.0640e-003
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.7030e-003	2.6360e-003
tblVehicleEF	SBUS	0.03	0.01
tblVehicleEF	SBUS	5.0000e-005	3.9000e-005
tblVehicleEF	SBUS	6.4100e-004	0.03
tblVehicleEF	SBUS	6.2050e-003	8.3130e-003
tblVehicleEF	SBUS	0.27	0.19
tblVehicleEF	SBUS	2.9200e-004	0.00
tblVehicleEF	SBUS	0.08	0.05
tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	3.2860e-003	1.7120e-003
tblVehicleEF	SBUS	9.7970e-003	9.3590e-003
tblVehicleEF	SBUS	4.4000e-005	3.8000e-005
tblVehicleEF	SBUS	6.4100e-004	0.03
tblVehicleEF	SBUS	6.2050e-003	8.3130e-003
tblVehicleEF	SBUS	0.39	0.31
tblVehicleEF	SBUS	2.9200e-004	0.00
tblVehicleEF	SBUS	0.09	0.15

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tblVehicleEF	SBUS	0.01	0.02
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	UBUS	1.74	0.53
tblVehicleEF	UBUS	1.7570e-003	3.7120e-003
tblVehicleEF	UBUS	13.20	6.31
tblVehicleEF	UBUS	0.14	0.50
tblVehicleEF	UBUS	1,654.13	1,064.85
tblVehicleEF	UBUS	1.40	3.15
tblVehicleEF	UBUS	0.28	0.16
tblVehicleEF	UBUS	1.1340e-003	6.0350e-003
tblVehicleEF	UBUS	0.71	0.29
tblVehicleEF	UBUS	0.01	0.04
tblVehicleEF	UBUS	0.07	0.13
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	5.1700e-003	5.5470e-003
tblVehicleEF	UBUS	1.5000e-005	1.2000e-005
tblVehicleEF	UBUS	0.03	0.04
tblVehicleEF	UBUS	8.3320e-003	0.01
tblVehicleEF	UBUS	4.9450e-003	5.3030e-003
tblVehicleEF	UBUS	1.4000e-005	1.1000e-005
tblVehicleEF	UBUS	2.7000e-005	0.01
tblVehicleEF	UBUS	2.5800e-004	3.7810e-003
tblVehicleEF	UBUS	1.3000e-005	0.00
tblVehicleEF	UBUS	0.03	0.06
tblVehicleEF	UBUS	5.2000e-005	7.9860e-003
tblVehicleEF	UBUS	7.3620e-003	0.01
tblVehicleEF	UBUS	0.01	8.5860e-003
tblVehicleEF	UBUS	1.4000e-005	3.1000e-005
tblVehicleEF	UBUS	2.7000e-005	0.01

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tblVehicleEF	UBUS	2.5800e-004	3.7810e-003
tblVehicleEF	UBUS	1.3000e-005	0.00
tblVehicleEF	UBUS	1.78	0.60
tblVehicleEF	UBUS	5.2000e-005	7.9860e-003
tblVehicleEF	UBUS	8.0600e-003	0.01
tblVehicleTrips	ST_TR	4.53	3.49
tblVehicleTrips	ST_TR	42.04	38.14
tblVehicleTrips	SU_TR	3.59	2.77
tblVehicleTrips	SU_TR	20.43	18.54
tblVehicleTrips	WD_TR	4.45	3.43
tblVehicleTrips	WD_TR	44.32	40.21
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	9.94	0.00
tblWoodstoves	NumberNoncatalytic	9.94	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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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
Year	tons/yr										MT/yr					
2024	0.8457	1.4305	1.7831	3.2400e-003	0.0627	0.0625	0.1252	7.4200e-003	0.0592	0.0666	0.0000	280.5222	280.5222	0.0638	0.0000	282.1159
2025	2.9030	1.0377	1.3349	2.3200e-003	0.0000	0.0422	0.0422	0.0000	0.0398	0.0398	0.0000	200.9621	200.9621	0.0486	0.0000	202.1765
Maximum	**2.9030**	**1.4305**	**1.7831**	**3.2400e-003**	**0.0627**	**0.0625**	**0.1252**	**7.4200e-003**	**0.0592**	**0.0666**	**0.0000**	**280.5222**	**280.5222**	**0.0638**	**0.0000**	**282.1159**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.7378	0.9313	1.9504	2.4200e-003	0.0282	5.1900e-003	0.0334	3.3400e-003	5.1900e-003	8.5300e-003	0.0000	212.5726	212.5726	0.0463	0.0000	213.7307
2025	2.8057	0.4394	2.5617	9.0000e-004	0.0000	5.0600e-003	5.0600e-003	0.0000	5.0600e-003	5.0600e-003	0.0000	88.1427	88.1427	0.0224	0.0000	88.7034
Maximum	**2.8057**	**0.9313**	**2.5617**	**2.4200e-003**	**0.0282**	**5.1900e-003**	**0.0334**	**3.3400e-003**	**5.1900e-003**	**8.5300e-003**	**0.0000**	**212.5726**	**212.5726**	**0.0463**	**0.0000**	**213.7307**

	ROG	NOx	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	**5.48**	**44.47**	**-44.71**	**40.29**	**54.99**	**90.21**	**77.02**	**54.99**	**89.64**	**87.22**	**0.00**	**37.54**	**37.54**	**38.79**	**0.00**	**37.55**

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

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1	**2-24-2024**	**5-23-2024**	0.3386	0.3024
2	**5-24-2024**	**8-23-2024**	0.3825	0.2342
3	**8-24-2024**	**11-23-2024**	0.8747	0.6412
4	**11-24-2024**	**2-23-2025**	1.6026	1.1888
5	**2-24-2025**	**5-23-2025**	1.1053	0.8926
6	**5-24-2025**	**8-23-2025**	1.0761	0.8913
7	**8-24-2025**	**9-30-2025**	0.3621	0.3292
		Highest	1.6026	1.1888

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.3936	0.0425	3.6905	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7900e-003	0.0000	6.1800
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	303.3396	303.3396	0.0563	6.8300e-003	306.7828
Mobile	1.0862	0.7192	6.7045	0.0153	1.4483	0.0104	1.4587	0.3612	9.7300e-003	0.3709	0.0000	1,416.4296	1,416.4296	0.0774	0.0668	1,438.2666
Waste						0.0000	0.0000		0.0000	0.0000	48.0439	0.0000	48.0439	2.8393	0.0000	119.0267
Water						0.0000	0.0000		0.0000	0.0000	11.6579	20.2275	31.8855	0.0439	0.0258	40.6731
Total	**3.4798**	**0.7617**	**10.3950**	**0.0155**	**1.4483**	**0.0309**	**1.4792**	**0.3612**	**0.0302**	**0.3914**	**59.7018**	**1,746.0320**	**1,805.7338**	**3.0227**	**0.0994**	**1,910.9294**

Mitigated Operational

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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					
Area	2.3936	0.0425	3.6905	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7900e-003	0.0000	6.1800
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	303.3396	303.3396	0.0563	6.8300e-003	306.7828
Mobile	1.0862	0.7192	6.7045	0.0153	1.4483	0.0104	1.4587	0.3612	9.7300e-003	0.3709	0.0000	1,416.4296	1,416.4296	0.0774	0.0668	1,438.2666
Waste						0.0000	0.0000		0.0000	0.0000	48.0439	0.0000	48.0439	2.8393	0.0000	119.0267
Water						0.0000	0.0000		0.0000	0.0000	11.6579	20.2275	31.8855	0.0439	0.0258	40.6731
Total	**3.4798**	**0.7617**	**10.3950**	**0.0155**	**1.4483**	**0.0309**	**1.4792**	**0.3612**	**0.0302**	**0.3914**	**59.7018**	**1,746.0320**	**1,805.7338**	**3.0227**	**0.0994**	**1,910.9294**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition/Site Preparation	Demolition	2/24/2024	3/25/2024	5	21	
2	Shoring/Grading/Excavation	Grading	3/26/2024	5/15/2024	5	37	
3	Below Slab Utilities	Trenching	5/16/2024	6/15/2024	5	22	
4	Foundation/Basement/Structure	Building Construction	6/16/2024	2/21/2025	5	180	
5	Architectural Coating	Architectural Coating	10/14/2024	11/18/2025	5	287	

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6	Building Construction	Building Construction	11/23/2024	7/31/2025	5	179	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 90

Acres of Paving: 3.58

Residential Indoor: 984,373; Residential Outdoor: 328,124; Non-Residential Indoor: 11,526; Non-Residential Outdoor: 3,842; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition/Site Preparation	Concrete/Industrial Saws	1	4.00	81	0.73
Demolition/Site Preparation	Excavators	1	6.50	158	0.38
Demolition/Site Preparation	Rubber Tired Dozers	1	6.00	247	0.40
Demolition/Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Shoring/Grading/Excavation	Bore/Drill Rigs	2	6.00	221	0.50
Shoring/Grading/Excavation	Excavators	1	7.00	158	0.38
Shoring/Grading/Excavation	Rollers	1	7.00	80	0.38
Shoring/Grading/Excavation	Skid Steer Loaders	2	6.00	65	0.37
Shoring/Grading/Excavation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Below Slab Utilities	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Foundation/Basement/Structure	Cranes	1	8.00	231	0.29
Foundation/Basement/Structure	Pumps	2	8.00	84	0.74
Foundation/Basement/Structure	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Foundation/Basement/Structure	Welders	1	4.00	46	0.45
Architectural Coating	Aerial Lifts	2	8.00	63	0.31
Architectural Coating	Air Compressors	1	6.00	78	0.48
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	4	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	5.00	97	0.37

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Building Construction	Welders	1	5.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition/Site Preparation	5	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Shoring/Grading/Excavation	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Below Slab Utilities	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundation/Basement/Structure	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition/Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0132	0.0000	0.0132	1.9900e-003	0.0000	1.9900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0109	0.1036	0.1069	1.9000e-004		4.7500e-003	4.7500e-003		4.4100e-003	4.4100e-003	0.0000	16.9142	16.9142	4.6900e-003	0.0000	17.0315

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Total	**0.0109**	**0.1036**	**0.1069**	**1.9000e-004**	**0.0132**	**4.7500e-003**	**0.0179**	**1.9900e-003**	**4.4100e-003**	**6.4000e-003**	**0.0000**	**16.9142**	**16.9142**	**4.6900e-003**	**0.0000**	**17.0315**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					5.9200e-003	0.0000	5.9200e-003	9.0000e-004	0.0000	9.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7400e-003	0.0585	0.1060	1.6000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	14.0915	14.0915	4.5600e-003	0.0000	14.2054

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Total	**2.7400e-003**	**0.0585**	**0.1060**	**1.6000e-004**	**5.9200e-003**	**2.6000e-004**	**6.1800e-003**	**9.0000e-004**	**2.6000e-004**	**1.1600e-003**	**0.0000**	**14.0915**	**14.0915**	**4.5600e-003**	**0.0000**	**14.2054**

Mitigated Construction Off-Site

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

3.3 Shoring/Grading/Excavation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0495	0.0000	0.0495	5.4300e-003	0.0000	5.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0198	0.1934	0.2864	6.0000e-004		8.1300e-003	8.1300e-003		7.4800e-003	7.4800e-003	0.0000	52.5162	52.5162	0.0170	0.0000	52.9408

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Total	**0.0198**	**0.1934**	**0.2864**	**6.0000e-004**	**0.0495**	**8.1300e-003**	**0.0577**	**5.4300e-003**	**7.4800e-003**	**0.0129**	**0.0000**	**52.5162**	**52.5162**	**0.0170**	**0.0000**	**52.9408**

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					0.0223	0.0000	0.0223	2.4400e-003	0.0000	2.4400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0111	0.2232	0.3934	6.0000e-004		2.2000e-003	2.2000e-003		2.2000e-003	2.2000e-003	0.0000	52.5161	52.5161	0.0170	0.0000	52.9407

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Total	**0.0111**	**0.2232**	**0.3934**	**6.0000e-004**	**0.0223**	**2.2000e-003**	**0.0245**	**2.4400e-003**	**2.2000e-003**	**4.6400e-003**	**0.0000**	**52.5161**	**52.5161**	**0.0170**	**0.0000**	**52.9407**

Mitigated Construction Off-Site

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

3.4 Below Slab Utilities - 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					
Off-Road	2.7700e-003	0.0279	0.0430	6.0000e-005		1.2800e-003	1.2800e-003		1.1800e-003	1.1800e-003	0.0000	5.2698	5.2698	1.7000e-003	0.0000	5.3125
Total	**2.7700e-003**	**0.0279**	**0.0430**	**6.0000e-005**		**1.2800e-003**	**1.2800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**5.2698**	**5.2698**	**1.7000e-003**	**0.0000**	**5.3125**

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Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.3400e-003	0.0261	0.0451	6.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	5.2698	5.2698	1.7000e-003	0.0000	5.3125
Total	**1.3400e-003**	**0.0261**	**0.0451**	**6.0000e-005**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**5.2698**	**5.2698**	**1.7000e-003**	**0.0000**	**5.3125**

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Mitigated Construction Off-Site

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

3.5 Foundation/Basement/Structure - 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					
Off-Road	0.1022	0.9339	1.1299	2.0200e-003		0.0411	0.0411		0.0393	0.0393	0.0000	173.9558	173.9558	0.0324	0.0000	174.7647
Total	**0.1022**	**0.9339**	**1.1299**	**2.0200e-003**		**0.0411**	**0.0411**		**0.0393**	**0.0393**	**0.0000**	**173.9558**	**173.9558**	**0.0324**	**0.0000**	**174.7647**

Unmitigated 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**

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	0.0301	0.5856	1.0125	1.5200e-003		2.1900e-003	2.1900e-003		2.1900e-003	2.1900e-003	0.0000	131.2810	131.2810	0.0200	0.0000	131.7818
Total	**0.0301**	**0.5856**	**1.0125**	**1.5200e-003**		**2.1900e-003**	**2.1900e-003**		**2.1900e-003**	**2.1900e-003**	**0.0000**	**131.2810**	**131.2810**	**0.0200**	**0.0000**	**131.7818**

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 Foundation/Basement/Structure - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0255	0.2317	0.3011	5.4000e-004		9.4800e-003	9.4800e-003		9.0600e-003	9.0600e-003	0.0000	46.5650	46.5650	8.5700e-003	0.0000	46.7793
Total	**0.0255**	**0.2317**	**0.3011**	**5.4000e-004**		**9.4800e-003**	**9.4800e-003**		**9.0600e-003**	**9.0600e-003**	**0.0000**	**46.5650**	**46.5650**	**8.5700e-003**	**0.0000**	**46.7793**

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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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	8.0600e-003	0.1567	0.2710	4.1000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004	0.0000	35.1446	35.1446	5.2900e-003	0.0000	35.2769
Total	**8.0600e-003**	**0.1567**	**0.2710**	**4.1000e-004**		**5.9000e-004**	**5.9000e-004**		**5.9000e-004**	**5.9000e-004**	**0.0000**	**35.1446**	**35.1446**	**5.2900e-003**	**0.0000**	**35.2769**

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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Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 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	0.6914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1200e-003	0.0647	0.1139	1.8000e-004		2.2600e-003	2.2600e-003		2.2100e-003	2.2100e-003	0.0000	15.6858	15.6858	3.1300e-003	0.0000	15.7640
Total	**0.6985**	**0.0647**	**0.1139**	**1.8000e-004**		**2.2600e-003**	**2.2600e-003**		**2.2100e-003**	**2.2100e-003**	**0.0000**	**15.6858**	**15.6858**	**3.1300e-003**	**0.0000**	**15.7640**

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					

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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					
Archit. Coating	0.6914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.6914**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

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Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.7897					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0275	0.2514	0.4590	7.3000e-004		7.9700e-003	7.9700e-003		7.8100e-003	7.8100e-003	0.0000	63.2935	63.2935	0.0126	0.0000	63.6079
Total	**2.8172**	**0.2514**	**0.4590**	**7.3000e-004**		**7.9700e-003**	**7.9700e-003**		**7.8100e-003**	**7.8100e-003**	**0.0000**	**63.2935**	**63.2935**	**0.0126**	**0.0000**	**63.6079**

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					

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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					
Archit. Coating	2.7897					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.7897**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

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

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Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Building Construction - 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					
Off-Road	0.0115	0.1070	0.1030	1.9000e-004		5.0000e-003	5.0000e-003		4.6300e-003	4.6300e-003	0.0000	16.1805	16.1805	4.8800e-003	0.0000	16.3025
Total	**0.0115**	**0.1070**	**0.1030**	**1.9000e-004**		**5.0000e-003**	**5.0000e-003**		**4.6300e-003**	**4.6300e-003**	**0.0000**	**16.1805**	**16.1805**	**4.8800e-003**	**0.0000**	**16.3025**

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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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	1.1300e-003	0.0379	0.3934	9.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004	0.0000	9.4143	9.4143	3.0400e-003	0.0000	9.4904
Total	**1.1300e-003**	**0.0379**	**0.3934**	**9.0000e-005**		**4.4000e-004**	**4.4000e-004**		**4.4000e-004**	**4.4000e-004**	**0.0000**	**9.4143**	**9.4143**	**3.0400e-003**	**0.0000**	**9.4904**

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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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 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0603	0.5546	0.5748	1.0600e-003		0.0247	0.0247		0.0229	0.0229	0.0000	91.1037	91.1037	0.0274	0.0000	91.7893
Total	**0.0603**	**0.5546**	**0.5748**	**1.0600e-003**		**0.0247**	**0.0247**		**0.0229**	**0.0229**	**0.0000**	**91.1037**	**91.1037**	**0.0274**	**0.0000**	**91.7893**

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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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	7.8800e-003	0.2827	2.2908	5.0000e-004		4.4800e-003	4.4800e-003		4.4800e-003	4.4800e-003	0.0000	52.9981	52.9981	0.0171	0.0000	53.4266
Total	**7.8800e-003**	**0.2827**	**2.2908**	**5.0000e-004**		**4.4800e-003**	**4.4800e-003**		**4.4800e-003**	**4.4800e-003**	**0.0000**	**52.9981**	**52.9981**	**0.0171**	**0.0000**	**53.4266**

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

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	1.0862	0.7192	6.7045	0.0153	1.4483	0.0104	1.4587	0.3612	9.7300e-003	0.3709	0.0000	1,416.4296	1,416.4296	0.0774	0.0668	1,438.2666
Unmitigated	1.0862	0.7192	6.7045	0.0153	1.4483	0.0104	1.4587	0.3612	9.7300e-003	0.3709	0.0000	1,416.4296	1,416.4296	0.0774	0.0668	1,438.2666

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	1,704.71	1,734.53	1376.69	3,838,821	3,838,821
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	308.81	292.92	142.39	435,470	435,470
Total	2,013.52	2,027.45	1,519.08	4,274,291	4,274,291

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
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

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Enclosed Parking with Elevator	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
Apartments High Rise	0.525374	0.039228	0.232277	0.130076	0.023447	0.005831	0.009477	0.007547	0.001059	0.000410	0.022079	0.000684	0.002510
Enclosed Parking with Elevator	0.525374	0.039228	0.232277	0.130076	0.023447	0.005831	0.009477	0.007547	0.001059	0.000410	0.022079	0.000684	0.002510
Strip Mall	0.525374	0.039228	0.232277	0.130076	0.023447	0.005831	0.009477	0.007547	0.001059	0.000410	0.022079	0.000684	0.002510

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	303.3396	303.3396	0.0563	6.8300e-003	306.7828
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	303.3396	303.3396	0.0563	6.8300e-003	306.7828
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

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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					
Apartments High Rise	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
Enclosed Parking with Elevator	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	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	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
Enclosed Parking with Elevator	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	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	3.18013e+006	256.3151	0.0476	5.7700e-003	259.2246
Enclosed Parking with Elevator	498146	40.1500	7.4600e-003	9.0000e-004	40.6058
Strip Mall	85292.4	6.8745	1.2800e-003	1.5000e-004	6.9525
Total		**303.3396**	**0.0563**	**6.8200e-003**	**306.7828**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	3.18013e+006	256.3151	0.0476	5.7700e-003	259.2246
Enclosed Parking with Elevator	498146	40.1500	7.4600e-003	9.0000e-004	40.6058
Strip Mall	85292.4	6.8745	1.2800e-003	1.5000e-004	6.9525
Total		**303.3396**	**0.0563**	**6.8200e-003**	**306.7828**

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6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3936	0.0425	3.6905	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7900e-003	0.0000	6.1800
Unmitigated	2.3936	0.0425	3.6905	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7900e-003	0.0000	6.1800

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	0.3481					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9344					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1110	0.0425	3.6905	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7900e-003	0.0000	6.1800

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Total	**2.3936**	**0.0425**	**3.6905**	**2.0000e-004**		**0.0205**	**0.0205**		**0.0205**	**0.0205**	**0.0000**	**6.0353**	**6.0353**	**5.7900e-003**	**0.0000**	**6.1800**

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	0.3481					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9344					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1110	0.0425	3.6905	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7900e-003	0.0000	6.1800
Total	**2.3936**	**0.0425**	**3.6905**	**2.0000e-004**		**0.0205**	**0.0205**		**0.0205**	**0.0205**	**0.0000**	**6.0353**	**6.0353**	**5.7900e-003**	**0.0000**	**6.1800**

7.0 Water Detail

7.1 Mitigation Measures Water

	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	MT/yr			
Mitigated	31.8855	0.0439	0.0258	40.6731
Unmitigated	31.8855	0.0439	0.0258	40.6731

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	32.3816 / 20.4145	31.3377	0.0431	0.0254	39.9737
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.568877 / 0.348667	0.5477	7.6000e-004	4.5000e-004	0.6994
Total		**31.8855**	**0.0439**	**0.0258**	**40.6731**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	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

Apartments High Rise	32.3816 / 20.4145	31.3377	0.0431	0.0254	39.9737
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.568877 / 0.348667	0.5477	7.6000e-004	4.5000e-004	0.6994
Total		**31.8855**	**0.0439**	**0.0258**	**40.6731**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	48.0439	2.8393	0.0000	119.0267
Unmitigated	48.0439	2.8393	0.0000	119.0267

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

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Land Use	tons	MT/yr			
Apartments High Rise	228.62	46.4078	2.7426	0.0000	114.9734
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	8.06	1.6361	0.0967	0.0000	4.0534
Total		**48.0439**	**2.8393**	**0.0000**	**119.0267**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	228.62	46.4078	2.7426	0.0000	114.9734
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	8.06	1.6361	0.0967	0.0000	4.0534
Total		**48.0439**	**2.8393**	**0.0000**	**119.0267**

9.0 Operational Offroad

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

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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	398.00	Space	3.58	91,571.00	0
Apartments High Rise	497.00	Dwelling Unit	8.02	486,110.00	1421
Strip Mall	7.68	1000sqft	0.18	7,684.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	San Jose Clean Energy				
CO2 Intensity (lb/MWhr)	177.69	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SJCE 2020 Greensource Rate

Land Use - Default acreage used since building over 4 stories. Residential square footage is residential units + amenities/leasing/other.

Construction Phase - Construction schedule provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Off-road Equipment - Construction equipment info provided by applicant.

Trips and VMT - All trips entered into EMFAC2021

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Demolition -

Grading - Acreage of site entered.

Vehicle Trips - Trip gen info provided by applicant.

Vehicle Emission Factors - Emission factors from EMFAC2021

Woodstoves - No hearths

Energy Use - Reach code bans natural gas. Added natural gas into electricity usage.

Water And Wastewater - 100% aerobic

Construction Off-road Equipment Mitigation - All equipment t4i, BMP. Electric cranes, aerial lifts, portable equipment (air compressors, saws, welders), propane (CNG in CalEEMOD) forklifts

Fleet Mix - Fleet mix from EMFAC2021

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	CNG
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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
tblConstructionPhase	NumDays	20.00	21.00
tblConstructionPhase	NumDays	30.00	37.00
tblConstructionPhase	NumDays	300.00	180.00
tblConstructionPhase	NumDays	20.00	287.00
tblConstructionPhase	NumDays	300.00	179.00
tblEnergyUse	NT24E	3,054.10	4,007.27
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24E	70.89	1,649.95
tblEnergyUse	T24E	2.46	3.17
tblEnergyUse	T24NG	5,226.68	0.00
tblEnergyUse	T24NG	2.34	0.00
tblFireplaces	FireplaceDayYear	11.14	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	74.55	0.00
tblFireplaces	NumberNoFireplace	19.88	0.00
tblFireplaces	NumberWood	84.49	0.00
tblFleetMix	HHD	6.1320e-003	7.8440e-003
tblFleetMix	HHD	6.1320e-003	7.8440e-003
tblFleetMix	HHD	6.1320e-003	7.8440e-003

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tblFleetMix	LDA	0.58	0.51
tblFleetMix	LDA	0.58	0.51
tblFleetMix	LDA	0.58	0.51
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.18	0.24
tblFleetMix	LDT2	0.18	0.24
tblFleetMix	LDT2	0.18	0.24
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.3980e-003	6.1700e-003
tblFleetMix	LHD2	5.3980e-003	6.1700e-003
tblFleetMix	LHD2	5.3980e-003	6.1700e-003
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MH	2.5260e-003	2.2720e-003
tblFleetMix	MH	2.5260e-003	2.2720e-003
tblFleetMix	MH	2.5260e-003	2.2720e-003
tblFleetMix	MHD	8.2190e-003	9.6590e-003
tblFleetMix	MHD	8.2190e-003	9.6590e-003
tblFleetMix	MHD	8.2190e-003	9.6590e-003
tblFleetMix	OBUS	8.5200e-004	1.0640e-003
tblFleetMix	OBUS	8.5200e-004	1.0640e-003

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tblFleetMix	OBUS	8.5200e-004	1.0640e-003
tblFleetMix	SBUS	8.3700e-004	6.8100e-004
tblFleetMix	SBUS	8.3700e-004	6.8100e-004
tblFleetMix	SBUS	8.3700e-004	6.8100e-004
tblFleetMix	UBUS	3.3500e-004	3.9600e-004
tblFleetMix	UBUS	3.3500e-004	3.9600e-004
tblFleetMix	UBUS	3.3500e-004	3.9600e-004
tblLandUse	LandUseSquareFeet	159,200.00	91,571.00
tblLandUse	LandUseSquareFeet	497,000.00	486,110.00
tblLandUse	LandUseSquareFeet	7,680.00	7,684.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.50
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblProjectCharacteristics	CO2IntensityFactor	807.98	177.69
tblTripsAndVMT	HaulingTripNumber	122.00	0.00

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tblTripsAndVMT	VendorTripNumber	69.00	0.00
tblTripsAndVMT	VendorTripNumber	69.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	0.00
tblTripsAndVMT	WorkerTripNumber	23.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	399.00	0.00
tblTripsAndVMT	WorkerTripNumber	80.00	0.00
tblTripsAndVMT	WorkerTripNumber	399.00	0.00
tblVehicleEF	HHD	0.02	0.20
tblVehicleEF	HHD	0.05	0.09
tblVehicleEF	HHD	6.28	5.00
tblVehicleEF	HHD	0.41	0.63
tblVehicleEF	HHD	6.6850e-003	8.7300e-004
tblVehicleEF	HHD	930.05	719.71
tblVehicleEF	HHD	1,226.35	1,395.93
tblVehicleEF	HHD	0.05	9.4370e-003
tblVehicleEF	HHD	0.15	0.12
tblVehicleEF	HHD	0.19	0.22
tblVehicleEF	HHD	2.0000e-006	4.0000e-006
tblVehicleEF	HHD	5.20	3.81
tblVehicleEF	HHD	2.52	1.45
tblVehicleEF	HHD	2.31	2.60
tblVehicleEF	HHD	2.1460e-003	1.7380e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	2.0530e-003	1.6560e-003
tblVehicleEF	HHD	0.03	0.03

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tblVehicleEF	HHD	8.9050e-003	8.7860e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	1.0000e-006	4.0000e-005
tblVehicleEF	HHD	5.8000e-005	1.3000e-005
tblVehicleEF	HHD	0.42	0.31
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	2.5000e-005	1.1400e-004
tblVehicleEF	HHD	2.0000e-006	0.00
tblVehicleEF	HHD	8.6530e-003	6.2150e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	1.0000e-006	4.0000e-005
tblVehicleEF	HHD	5.8000e-005	1.3000e-005
tblVehicleEF	HHD	0.49	0.54
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.07	0.10
tblVehicleEF	HHD	2.5000e-005	1.1400e-004
tblVehicleEF	HHD	2.0000e-006	0.00
tblVehicleEF	LDA	9.5900e-004	1.2510e-003
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.40	0.48
tblVehicleEF	LDA	1.69	2.09
tblVehicleEF	LDA	199.86	218.64
tblVehicleEF	LDA	42.17	55.99
tblVehicleEF	LDA	3.1760e-003	3.1650e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.02	0.02

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tblVehicleEF	LDA	0.12	0.18
tblVehicleEF	LDA	0.04	7.0780e-003
tblVehicleEF	LDA	9.1600e-004	8.3800e-004
tblVehicleEF	LDA	1.2750e-003	1.4820e-003
tblVehicleEF	LDA	0.02	2.4770e-003
tblVehicleEF	LDA	8.4300e-004	7.7100e-004
tblVehicleEF	LDA	1.1720e-003	1.3620e-003
tblVehicleEF	LDA	0.02	0.23
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.00
tblVehicleEF	LDA	3.2350e-003	4.3400e-003
tblVehicleEF	LDA	0.02	0.17
tblVehicleEF	LDA	0.12	0.20
tblVehicleEF	LDA	1.9770e-003	2.1610e-003
tblVehicleEF	LDA	4.1700e-004	5.5400e-004
tblVehicleEF	LDA	0.02	0.23
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.00
tblVehicleEF	LDA	4.6990e-003	6.3290e-003
tblVehicleEF	LDA	0.02	0.17
tblVehicleEF	LDA	0.13	0.22
tblVehicleEF	LDT1	1.6710e-003	3.2730e-003
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.53	0.90
tblVehicleEF	LDT1	1.82	3.41
tblVehicleEF	LDT1	241.46	296.02
tblVehicleEF	LDT1	51.55	76.24
tblVehicleEF	LDT1	3.7700e-003	5.8700e-003
tblVehicleEF	LDT1	0.02	0.03

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tblVehicleEF	LDT1	0.03	0.07
tblVehicleEF	LDT1	0.15	0.27
tblVehicleEF	LDT1	0.04	9.1380e-003
tblVehicleEF	LDT1	1.0550e-003	1.2600e-003
tblVehicleEF	LDT1	1.4610e-003	2.0740e-003
tblVehicleEF	LDT1	0.02	3.1980e-003
tblVehicleEF	LDT1	9.7000e-004	1.1590e-003
tblVehicleEF	LDT1	1.3440e-003	1.9070e-003
tblVehicleEF	LDT1	0.05	0.47
tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	0.04	0.00
tblVehicleEF	LDT1	6.4760e-003	0.01
tblVehicleEF	LDT1	0.06	0.36
tblVehicleEF	LDT1	0.15	0.34
tblVehicleEF	LDT1	2.3890e-003	2.9260e-003
tblVehicleEF	LDT1	5.1000e-004	7.5400e-004
tblVehicleEF	LDT1	0.05	0.47
tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	0.04	0.00
tblVehicleEF	LDT1	9.4480e-003	0.02
tblVehicleEF	LDT1	0.06	0.36
tblVehicleEF	LDT1	0.17	0.37
tblVehicleEF	LDT2	1.7260e-003	1.8780e-003
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.55	0.64
tblVehicleEF	LDT2	2.25	2.73
tblVehicleEF	LDT2	249.80	304.99
tblVehicleEF	LDT2	53.79	77.16
tblVehicleEF	LDT2	4.0490e-003	4.5010e-003

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tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.17	0.25
tblVehicleEF	LDT2	0.04	8.8380e-003
tblVehicleEF	LDT2	1.0100e-003	9.8900e-004
tblVehicleEF	LDT2	1.3400e-003	1.6580e-003
tblVehicleEF	LDT2	0.02	3.0930e-003
tblVehicleEF	LDT2	9.3000e-004	9.1000e-004
tblVehicleEF	LDT2	1.2320e-003	1.5240e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.09	0.06
tblVehicleEF	LDT2	0.05	0.00
tblVehicleEF	LDT2	6.5290e-003	6.8650e-003
tblVehicleEF	LDT2	0.05	0.19
tblVehicleEF	LDT2	0.18	0.27
tblVehicleEF	LDT2	2.4710e-003	3.0150e-003
tblVehicleEF	LDT2	5.3200e-004	7.6300e-004
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.09	0.06
tblVehicleEF	LDT2	0.05	0.00
tblVehicleEF	LDT2	9.4890e-003	0.01
tblVehicleEF	LDT2	0.05	0.19
tblVehicleEF	LDT2	0.20	0.29
tblVehicleEF	LHD1	4.1480e-003	4.3350e-003
tblVehicleEF	LHD1	5.1950e-003	4.0280e-003
tblVehicleEF	LHD1	9.0230e-003	0.02
tblVehicleEF	LHD1	0.18	0.18
tblVehicleEF	LHD1	0.47	0.54
tblVehicleEF	LHD1	0.89	2.05

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tblVehicleEF	LHD1	8.25	7.81
tblVehicleEF	LHD1	698.55	665.93
tblVehicleEF	LHD1	10.09	15.88
tblVehicleEF	LHD1	7.2900e-004	5.8900e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.30	0.31
tblVehicleEF	LHD1	0.23	0.33
tblVehicleEF	LHD1	9.1500e-004	6.6600e-004
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	9.9010e-003	9.3430e-003
tblVehicleEF	LHD1	7.0190e-003	9.1890e-003
tblVehicleEF	LHD1	2.1000e-004	1.3400e-004
tblVehicleEF	LHD1	8.7500e-004	6.3700e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4750e-003	2.3360e-003
tblVehicleEF	LHD1	6.6710e-003	8.7610e-003
tblVehicleEF	LHD1	1.9300e-004	1.2300e-004
tblVehicleEF	LHD1	1.4030e-003	0.09
tblVehicleEF	LHD1	0.05	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.7200e-004	0.00
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.18	0.12
tblVehicleEF	LHD1	0.04	0.08
tblVehicleEF	LHD1	8.0000e-005	7.6000e-005
tblVehicleEF	LHD1	6.8120e-003	6.4980e-003
tblVehicleEF	LHD1	1.0000e-004	1.5700e-004

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tblVehicleEF	LHD1	1.4030e-003	0.09
tblVehicleEF	LHD1	0.05	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.7200e-004	0.00
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.18	0.12
tblVehicleEF	LHD1	0.05	0.09
tblVehicleEF	LHD2	2.5050e-003	2.5080e-003
tblVehicleEF	LHD2	5.3390e-003	4.4570e-003
tblVehicleEF	LHD2	4.8110e-003	8.7200e-003
tblVehicleEF	LHD2	0.13	0.14
tblVehicleEF	LHD2	0.49	0.38
tblVehicleEF	LHD2	0.48	1.11
tblVehicleEF	LHD2	13.00	13.36
tblVehicleEF	LHD2	679.81	713.03
tblVehicleEF	LHD2	6.44	8.54
tblVehicleEF	LHD2	1.6660e-003	1.6800e-003
tblVehicleEF	LHD2	0.06	0.07
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.38	0.50
tblVehicleEF	LHD2	0.12	0.18
tblVehicleEF	LHD2	1.5020e-003	1.4560e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.0600e-004	5.7000e-005
tblVehicleEF	LHD2	1.4370e-003	1.3930e-003
tblVehicleEF	LHD2	0.04	0.03

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tblVehicleEF	LHD2	2.7110e-003	2.6340e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	9.8000e-005	5.2000e-005
tblVehicleEF	LHD2	6.4200e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.7400e-004	0.00
tblVehicleEF	LHD2	0.10	0.08
tblVehicleEF	LHD2	0.06	0.07
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	1.2400e-004	1.2800e-004
tblVehicleEF	LHD2	6.5570e-003	6.8600e-003
tblVehicleEF	LHD2	6.4000e-005	8.4000e-005
tblVehicleEF	LHD2	6.4200e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.7400e-004	0.00
tblVehicleEF	LHD2	0.11	0.10
tblVehicleEF	LHD2	0.06	0.07
tblVehicleEF	LHD2	0.02	0.05
tblVehicleEF	MCY	0.32	0.14
tblVehicleEF	MCY	0.25	0.16
tblVehicleEF	MCY	17.61	11.05
tblVehicleEF	MCY	9.20	7.83
tblVehicleEF	MCY	209.76	185.58
tblVehicleEF	MCY	59.23	42.83
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	6.3410e-003
tblVehicleEF	MCY	1.14	0.51

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tblVehicleEF	MCY	0.27	0.10
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	2.1380e-003	1.9970e-003
tblVehicleEF	MCY	2.8620e-003	3.4160e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.9940e-003	1.8640e-003
tblVehicleEF	MCY	2.6760e-003	3.1970e-003
tblVehicleEF	MCY	0.89	3.68
tblVehicleEF	MCY	0.63	3.56
tblVehicleEF	MCY	0.47	0.00
tblVehicleEF	MCY	2.13	0.89
tblVehicleEF	MCY	0.46	3.78
tblVehicleEF	MCY	1.88	1.13
tblVehicleEF	MCY	2.0760e-003	1.8350e-003
tblVehicleEF	MCY	5.8600e-004	4.2300e-004
tblVehicleEF	MCY	0.89	0.08
tblVehicleEF	MCY	0.63	3.56
tblVehicleEF	MCY	0.47	0.00
tblVehicleEF	MCY	2.67	1.09
tblVehicleEF	MCY	0.46	3.78
tblVehicleEF	MCY	2.04	1.23
tblVehicleEF	MDV	1.7720e-003	2.0970e-003
tblVehicleEF	MDV	0.04	0.07
tblVehicleEF	MDV	0.54	0.66
tblVehicleEF	MDV	2.29	2.78
tblVehicleEF	MDV	301.13	364.04
tblVehicleEF	MDV	63.46	91.48
tblVehicleEF	MDV	5.2660e-003	5.4050e-003
tblVehicleEF	MDV	0.02	0.03

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tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.18	0.27
tblVehicleEF	MDV	0.04	8.8920e-003
tblVehicleEF	MDV	1.0200e-003	9.7100e-004
tblVehicleEF	MDV	1.3440e-003	1.6080e-003
tblVehicleEF	MDV	0.02	3.1120e-003
tblVehicleEF	MDV	9.4000e-004	8.9400e-004
tblVehicleEF	MDV	1.2360e-003	1.4780e-003
tblVehicleEF	MDV	0.06	0.28
tblVehicleEF	MDV	0.10	0.07
tblVehicleEF	MDV	0.06	0.00
tblVehicleEF	MDV	6.8620e-003	8.0910e-003
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.20	0.30
tblVehicleEF	MDV	2.9760e-003	3.5970e-003
tblVehicleEF	MDV	6.2800e-004	9.0400e-004
tblVehicleEF	MDV	0.06	0.28
tblVehicleEF	MDV	0.10	0.07
tblVehicleEF	MDV	0.06	0.00
tblVehicleEF	MDV	9.9460e-003	0.01
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.22	0.33
tblVehicleEF	MH	5.0270e-003	6.0740e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.31	0.37
tblVehicleEF	MH	1.64	1.92
tblVehicleEF	MH	1,350.27	1,656.25
tblVehicleEF	MH	15.54	20.13
tblVehicleEF	MH	0.05	0.07

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tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.06	1.28
tblVehicleEF	MH	0.24	0.30
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.1200e-004	2.3300e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2970e-003	3.3360e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.9500e-004	2.1400e-004
tblVehicleEF	MH	0.35	20.30
tblVehicleEF	MH	0.03	4.90
tblVehicleEF	MH	0.14	0.00
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	5.8500e-003	0.12
tblVehicleEF	MH	0.07	0.09
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.5400e-004	1.9900e-004
tblVehicleEF	MH	0.35	20.30
tblVehicleEF	MH	0.03	4.90
tblVehicleEF	MH	0.14	0.00
tblVehicleEF	MH	0.05	0.06
tblVehicleEF	MH	5.8500e-003	0.12
tblVehicleEF	MH	0.08	0.10
tblVehicleEF	MHD	3.8320e-003	0.02
tblVehicleEF	MHD	1.0340e-003	9.4650e-003
tblVehicleEF	MHD	8.3830e-003	6.5780e-003
tblVehicleEF	MHD	0.41	0.63

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tblVehicleEF	MHD	0.15	0.16
tblVehicleEF	MHD	0.87	0.72
tblVehicleEF	MHD	65.10	143.38
tblVehicleEF	MHD	993.45	1,074.54
tblVehicleEF	MHD	8.55	6.79
tblVehicleEF	MHD	9.3710e-003	0.02
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	7.7400e-003	4.7600e-003
tblVehicleEF	MHD	0.34	0.73
tblVehicleEF	MHD	1.43	0.58
tblVehicleEF	MHD	1.69	1.22
tblVehicleEF	MHD	1.6200e-004	6.5500e-004
tblVehicleEF	MHD	0.13	0.04
tblVehicleEF	MHD	7.0060e-003	5.4200e-003
tblVehicleEF	MHD	1.1200e-004	8.2000e-005
tblVehicleEF	MHD	1.5500e-004	6.2600e-004
tblVehicleEF	MHD	0.06	0.02
tblVehicleEF	MHD	6.6960e-003	5.1780e-003
tblVehicleEF	MHD	1.0300e-004	7.6000e-005
tblVehicleEF	MHD	2.8900e-004	0.01
tblVehicleEF	MHD	0.01	3.4200e-003
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.6800e-004	0.00
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	6.1800e-004	1.3200e-003
tblVehicleEF	MHD	9.4800e-003	0.01
tblVehicleEF	MHD	8.5000e-005	6.7000e-005

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tblVehicleEF	MHD	2.8900e-004	0.01
tblVehicleEF	MHD	0.01	3.4200e-003
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	1.6800e-004	0.00
tblVehicleEF	MHD	0.01	0.03
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.05	0.04
tblVehicleEF	OBUS	7.0980e-003	7.5210e-003
tblVehicleEF	OBUS	2.1970e-003	0.01
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.64	0.55
tblVehicleEF	OBUS	0.26	0.29
tblVehicleEF	OBUS	1.58	1.46
tblVehicleEF	OBUS	97.36	89.81
tblVehicleEF	OBUS	1,210.85	1,245.37
tblVehicleEF	OBUS	13.46	12.02
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.12	0.15
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.43	0.33
tblVehicleEF	OBUS	1.45	0.83
tblVehicleEF	OBUS	1.13	0.93
tblVehicleEF	OBUS	1.4200e-004	3.1100e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	7.8820e-003	0.01
tblVehicleEF	OBUS	1.5600e-004	1.1800e-004
tblVehicleEF	OBUS	1.3600e-004	2.9700e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	7.5260e-003	0.01

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tblVehicleEF	OBUS	1.4400e-004	1.0900e-004
tblVehicleEF	OBUS	1.0620e-003	0.07
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.05	0.04
tblVehicleEF	OBUS	4.8700e-004	0.00
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.08
tblVehicleEF	OBUS	0.08	0.07
tblVehicleEF	OBUS	9.2400e-004	8.4600e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.3300e-004	1.1900e-004
tblVehicleEF	OBUS	1.0620e-003	0.07
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.06	0.05
tblVehicleEF	OBUS	4.8700e-004	0.00
tblVehicleEF	OBUS	0.02	0.05
tblVehicleEF	OBUS	0.05	0.08
tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	SBUS	0.07	0.08
tblVehicleEF	SBUS	4.4040e-003	0.09
tblVehicleEF	SBUS	6.3380e-003	5.2160e-003
tblVehicleEF	SBUS	2.93	1.82
tblVehicleEF	SBUS	0.37	0.72
tblVehicleEF	SBUS	0.86	0.67
tblVehicleEF	SBUS	337.48	181.81
tblVehicleEF	SBUS	970.50	941.81
tblVehicleEF	SBUS	5.06	3.93
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.12	0.11

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tblVehicleEF	SBUS	6.4910e-003	4.8480e-003
tblVehicleEF	SBUS	2.71	1.09
tblVehicleEF	SBUS	3.09	1.57
tblVehicleEF	SBUS	1.18	0.52
tblVehicleEF	SBUS	2.0480e-003	7.4600e-004
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	8.5750e-003
tblVehicleEF	SBUS	6.8000e-005	4.6000e-005
tblVehicleEF	SBUS	1.9600e-003	7.1300e-004
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.6690e-003	2.6100e-003
tblVehicleEF	SBUS	0.02	8.1870e-003
tblVehicleEF	SBUS	6.2000e-005	4.2000e-005
tblVehicleEF	SBUS	8.7000e-004	0.04
tblVehicleEF	SBUS	8.3040e-003	9.3350e-003
tblVehicleEF	SBUS	0.32	0.20
tblVehicleEF	SBUS	4.1400e-004	0.00
tblVehicleEF	SBUS	0.06	0.04
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.04	0.03
tblVehicleEF	SBUS	3.2190e-003	1.6390e-003
tblVehicleEF	SBUS	9.2880e-003	8.7390e-003
tblVehicleEF	SBUS	5.0000e-005	3.9000e-005
tblVehicleEF	SBUS	8.7000e-004	0.04
tblVehicleEF	SBUS	8.3040e-003	9.3350e-003
tblVehicleEF	SBUS	0.46	0.32
tblVehicleEF	SBUS	4.1400e-004	0.00
tblVehicleEF	SBUS	0.07	0.13

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tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.04	0.03
tblVehicleEF	UBUS	1.86	0.63
tblVehicleEF	UBUS	2.1860e-003	2.5020e-003
tblVehicleEF	UBUS	14.11	7.38
tblVehicleEF	UBUS	0.14	0.53
tblVehicleEF	UBUS	1,668.67	969.99
tblVehicleEF	UBUS	1.40	3.03
tblVehicleEF	UBUS	0.28	0.15
tblVehicleEF	UBUS	1.2560e-003	4.5820e-003
tblVehicleEF	UBUS	0.71	0.26
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.07	0.15
tblVehicleEF	UBUS	0.03	0.06
tblVehicleEF	UBUS	5.1160e-003	4.8220e-003
tblVehicleEF	UBUS	1.5000e-005	1.3000e-005
tblVehicleEF	UBUS	0.03	0.05
tblVehicleEF	UBUS	8.3320e-003	0.01
tblVehicleEF	UBUS	4.8930e-003	4.6090e-003
tblVehicleEF	UBUS	1.4000e-005	1.2000e-005
tblVehicleEF	UBUS	6.1000e-005	7.0380e-003
tblVehicleEF	UBUS	8.1400e-004	2.0980e-003
tblVehicleEF	UBUS	3.6000e-005	0.00
tblVehicleEF	UBUS	0.03	0.05
tblVehicleEF	UBUS	1.7600e-004	7.8780e-003
tblVehicleEF	UBUS	9.2610e-003	8.3780e-003
tblVehicleEF	UBUS	0.01	7.3890e-003
tblVehicleEF	UBUS	1.4000e-005	3.0000e-005
tblVehicleEF	UBUS	6.1000e-005	7.0380e-003

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tblVehicleEF	UBUS	8.1400e-004	2.0980e-003
tblVehicleEF	UBUS	3.6000e-005	0.00
tblVehicleEF	UBUS	1.90	0.69
tblVehicleEF	UBUS	1.7600e-004	7.8780e-003
tblVehicleEF	UBUS	0.01	9.1730e-003
tblVehicleTrips	ST_TR	4.53	3.49
tblVehicleTrips	ST_TR	42.04	38.14
tblVehicleTrips	SU_TR	3.59	2.77
tblVehicleTrips	SU_TR	20.43	18.54
tblVehicleTrips	WD_TR	4.45	3.43
tblVehicleTrips	WD_TR	44.32	40.21
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	9.94	0.00
tblWoodstoves	NumberNoncatalytic	9.94	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

Date: 4/12/2022 11:22 AM

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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					
Area	2.3930	0.0425	3.6842	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7600e-003	0.0000	6.1793
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	303.3396	303.3396	0.0563	6.8300e-003	306.7828
Mobile	0.9238	0.5708	5.6986	0.0143	1.4483	8.4100e-003	1.4567	0.3612	7.8400e-003	0.3690	0.0000	1,321.1730	1,321.1730	0.0642	0.0598	1,340.6102
Waste						0.0000	0.0000		0.0000	0.0000	48.0439	0.0000	48.0439	2.8393	0.0000	119.0267
Water						0.0000	0.0000		0.0000	0.0000	11.6579	20.2275	31.8855	0.0439	0.0258	40.6731
Total	**3.3167**	**0.6132**	**9.3828**	**0.0145**	**1.4483**	**0.0289**	**1.4772**	**0.3612**	**0.0283**	**0.3895**	**59.7018**	**1,650.7754**	**1,710.4772**	**3.0095**	**0.0925**	**1,813.2722**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.3930	0.0425	3.6842	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7600e-003	0.0000	6.1793
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	303.3396	303.3396	0.0563	6.8300e-003	306.7828
Mobile	0.9238	0.5708	5.6986	0.0143	1.4483	8.4100e-003	1.4567	0.3612	7.8400e-003	0.3690	0.0000	1,321.1730	1,321.1730	0.0642	0.0598	1,340.6102
Waste						0.0000	0.0000		0.0000	0.0000	48.0439	0.0000	48.0439	2.8393	0.0000	119.0267
Water						0.0000	0.0000		0.0000	0.0000	11.6579	20.2275	31.8855	0.0439	0.0258	40.6731

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Total	**3.3167**	**0.6132**	**9.3828**	**0.0145**	**1.4483**	**0.0289**	**1.4772**	**0.3612**	**0.0283**	**0.3895**	**59.7018**	**1,650.7754**	**1,710.4772**	**3.0095**	**0.0925**	**1,813.2722**

	ROG	NOx	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	0.9238	0.5708	5.6986	0.0143	1.4483	8.4100e-003	1.4567	0.3612	7.8400e-003	0.3690	0.0000	1,321.1730	1,321.1730	0.0642	0.0598	1,340.6102
Unmitigated	0.9238	0.5708	5.6986	0.0143	1.4483	8.4100e-003	1.4567	0.3612	7.8400e-003	0.3690	0.0000	1,321.1730	1,321.1730	0.0642	0.0598	1,340.6102

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	1,704.71	1,734.53	1376.69	3,838,821	3,838,821
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	308.81	292.92	142.39	435,470	435,470
Total	2,013.52	2,027.45	1,519.08	4,274,291	4,274,291

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

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Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	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
Apartments High Rise	0.514977	0.035448	0.239576	0.135703	0.024260	0.006170	0.009659	0.007844	0.001064	0.000396	0.021950	0.000681	0.002272
Enclosed Parking with Elevator	0.514977	0.035448	0.239576	0.135703	0.024260	0.006170	0.009659	0.007844	0.001064	0.000396	0.021950	0.000681	0.002272
Strip Mall	0.514977	0.035448	0.239576	0.135703	0.024260	0.006170	0.009659	0.007844	0.001064	0.000396	0.021950	0.000681	0.002272

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	303.3396	303.3396	0.0563	6.8300e-003	306.7828
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	303.3396	303.3396	0.0563	6.8300e-003	306.7828
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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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					
Apartments High Rise	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
Enclosed Parking with Elevator	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	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	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
Enclosed Parking with Elevator	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	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	3.18013e+006	256.3151	0.0476	5.7700e-003	259.2246
Enclosed Parking with Elevator	498146	40.1500	7.4600e-003	9.0000e-004	40.6058
Strip Mall	85292.4	6.8745	1.2800e-003	1.5000e-004	6.9525
Total		**303.3396**	**0.0563**	**6.8200e-003**	**306.7828**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	3.18013e+006	256.3151	0.0476	5.7700e-003	259.2246
Enclosed Parking with Elevator	498146	40.1500	7.4600e-003	9.0000e-004	40.6058
Strip Mall	85292.4	6.8745	1.2800e-003	1.5000e-004	6.9525
Total		**303.3396**	**0.0563**	**6.8200e-003**	**306.7828**

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6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3930	0.0425	3.6842	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7600e-003	0.0000	6.1793
Unmitigated	2.3930	0.0425	3.6842	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7600e-003	0.0000	6.1793

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	0.3481					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9344					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	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

Landscaping	0.1104	0.0425	3.6842	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7600e-003	0.0000	6.1793
Total	**2.3930**	**0.0425**	**3.6842**	**2.0000e-004**		**0.0205**	**0.0205**		**0.0205**	**0.0205**	**0.0000**	**6.0353**	**6.0353**	**5.7600e-003**	**0.0000**	**6.1793**

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	0.3481					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9344					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1104	0.0425	3.6842	2.0000e-004		0.0205	0.0205		0.0205	0.0205	0.0000	6.0353	6.0353	5.7600e-003	0.0000	6.1793
Total	**2.3930**	**0.0425**	**3.6842**	**2.0000e-004**		**0.0205**	**0.0205**		**0.0205**	**0.0205**	**0.0000**	**6.0353**	**6.0353**	**5.7600e-003**	**0.0000**	**6.1793**

7.0 Water Detail

7.1 Mitigation Measures Water

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	31.8855	0.0439	0.0258	40.6731
Unmitigated	31.8855	0.0439	0.0258	40.6731

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	32.3816 / 20.4145	31.3377	0.0431	0.0254	39.9737
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.568877 / 0.348667	0.5477	7.6000e-004	4.5000e-004	0.6994
Total		**31.8855**	**0.0439**	**0.0258**	**40.6731**

Mitigated

	Indoor/Outdoor Use	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

Land Use	Mgal	MT/yr			
Apartments High Rise	32.3816 / 20.4145	31.3377	0.0431	0.0254	39.9737
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.568877 / 0.348667	0.5477	7.6000e-004	4.5000e-004	0.6994
Total		**31.8855**	**0.0439**	**0.0258**	**40.6731**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	48.0439	2.8393	0.0000	119.0267
Unmitigated	48.0439	2.8393	0.0000	119.0267

8.2 Waste by Land Use

Unmitigated

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

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	228.62	46.4078	2.7426	0.0000	114.9734
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	8.06	1.6361	0.0967	0.0000	4.0534
Total		**48.0439**	**2.8393**	**0.0000**	**119.0267**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	228.62	46.4078	2.7426	0.0000	114.9734
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	8.06	1.6361	0.0967	0.0000	4.0534
Total		**48.0439**	**2.8393**	**0.0000**	**119.0267**

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 3: EMFAC2021 Emissions Calculations

Summary of Construction Traffic Emissions (EMFAC2021)

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2	CH4	N2O	CO2e
					Tons							*Metric Tons*		
Criteria Pollutants														
2024	0.1244	0.5148	1.4112	0.0057	0.3519	0.0417	0.3936	0.0529	0.0168	0.0698	544.6977	0.0288	0.0511	560.6598
2025	0.1202	0.5046	1.3599	0.0058	0.3632	0.0428	0.4059	0.0546	0.0171	0.0718	550.9633	0.0282	0.0515	567.0035
Toxic Air Contaminants (1.0 Mile Trip Length)														
2024	0.1081	0.1571	0.5023	0.0007	0.0326	0.0040	0.0366	0.0049	0.0017	0.0066	64.4759	0.0109	0.0086	67.3095
2025	0.1051	0.1572	0.4831	0.0007	0.0337	0.0040	0.0377	0.0051	0.0017	0.0068	65.1889	0.0105	0.0086	68.0139

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/Site Preparation	13	0	273	0	202	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2948.4	0	4040
Shoring/Grading/Excavation	23	0	851	0	4018	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	9190.8	0	80360
Below Slab Utilities	5	0	110	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1188	0	0
Foundation/Basement/Structure	399	69	71820	12420	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	775656	90666	0
Building Construction	399	69	71421	12351	4800	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	771346.8	90162.3	96000
Architectural Coating	80	0	22960	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	247968	0	0

Number of Days Per Year					
2024	2/24/24	12/31/24	312	223	
2025	1/1/25	11/18/25	322	231	
			634	**454**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition/Site Preparation	2/24/2024	3/25/2024	5	21
Shoring/Grading/Excavation	3/26/2024	5/15/2024	5	37
Below Slab Utilities	5/16/2024	6/15/2024	5	22
Foundation/Basement/Structure	6/16/2024	2/21/2025	5	180
Building Construction	11/23/2024	7/31/2025	5	179
Architectural Coating	10/14/2024	11/18/2025	5	287

Source: EMFAC2021 (v1.0.0) 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	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_DM	PM10_RUN	PM10_IDL	PM10_STR	PM10_DM	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSO	ROG_RUNLO	ROG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSO	TOG_RUNLO	TOG_DIURN	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
Santa Clara	2024	HHDT	Aggregate	Aggregate	Gasoline	2.588708	115.1526	115.1526	0	51.79487	7.013725	0	1.695629	0.003612	0	0.001433	0.005	0.03384	0.003929	0	0.001559	0.02	0.096686	2170.143	0	50.05673	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	0.021454	0	0.000495
Santa Clara	2024	HHDT	Aggregate	Aggregate	Diesel	8486.693	1001095	1001095	0	124748.4	1.894567	62.88367	2.898867	0.025674	0.03017	0	0.008877	0.027454	0.026835	0.031534	0	0.035082	0.07844	1634.533	1200089	0	0.000777	0.23663	0	0.257521	1.890745	0	0.016732	5.094584	0	0	0	0	0.019048	5.799796	0	0	0	0	0.215084	0.082524	74.10576	0	0.015478	0.113641	0
Santa Clara	2024	HHDT	Aggregate	Aggregate	Electricity	28.33039	2794.261	0	2794.261	378.7946	0	0	0	0	0	0	0.008585	0.014055	0	0	0	0.034341	0.040158	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	HHDT	Aggregate	Aggregate	Natural Ga	794.401	54591.27	54591.27	0	7249.717	1.128254	13.55515	0	0.001724	0.024776	0	0.009	0.047521	0.001875	0.026946	0	0.036	0.135775	1388.265	10589.52	0	2.344742	36.30276	0	0.283007	2.158743	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 Clara	2024	LDA	Aggregate	Aggregate	Gasoline	600108.2	22290344	22290344	0	2786617	0.042281	0	0.257993	0.001177	0	0.001931	0.002	0.002656	0.00128	0	0.0021	0.008	0.007587	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 Clara	2024	LDA	Aggregate	Aggregate	Diesel	1750.024	51573.48	51573.48	0	7442.61	0.213181	0	0	0.016747	0	0	0.002	0.002706	0.017504	0	0	0.008	0.00773	232.7849	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 Clara	2024	LDA	Aggregate	Aggregate	Electricity	57627.4	2472767	0	2472767	282733	0	0	0	0	0	0	0.002	0.001533	0	0	0	0.008	0.00438	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Plug-in Hyb	17457.1	767059.2	381568.7	385490.5	85801.64	0.003264	0	0.4687	0.000618	0	0.002058	0.002	0.001377	0.000672	0	0.002238	0.008	0.003935	138.6993	0	74.45751	0.000357	0	0.1568	0.000388	0	0.055629	0.001412	0	0.796754	0.034587	0.031374	0.447104	0.00206	0	0.872345	0.034587	0.031374	0.447104	0.019502	0.214038	0	5.888845	0.001371	0	0.000736
Santa Clara	2024	LDT1	Aggregate	Aggregate	Gasoline	52693.37	1706864	1706864	0	234793.4	0.128357	0	0.381294	0.001737	0	0.002678	0.002	0.00324	0.001889	0	0.002913	0.008	0.009258	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	0.040475	0.762621	0	5.253053	0.003252	0	0.000857
Santa Clara	2024	LDT1	Aggregate	Aggregate	Diesel	23.46233	343.9308	343.9308	0	66.44459	1.651932	0	0	0.239373	0	0	0.002	0.003724	0.250196	0	0	0.008	0.01064	415.4307	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 Clara	2024	LDT1	Aggregate	Aggregate	Electricity	211.0028	8008.646	0	8008.646	994.4346	0	0	0	0	0	0	0.002	0.001539	0	0	0	0.008	0.004397	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LDT1	Aggregate	Aggregate	Plug-in Hyb	67.64578	3164.46	1414.302	1750.158	332.479	0.002933	0	0.4687	0.000367	0	0.001373	0.002	0.001389	0.0004	0	0.001493	0.008	0.003967	124.6157	0	79.97615	0.000319	0	0.15591	0.000344	0	0.05495	0.001268	0	0.796754	0.02032	0.017638	0.279628	0.001851	0	0.872345	0.02032	0.017638	0.279628	0.018771	0.192305	0	5.888845	0.001232	0	0.000791
Santa Clara	2024	LDT2	Aggregate	Aggregate	Gasoline	285585.4	10322758	10322758	0	1336438	0.069091	0	0.334237	0.001227	0	0.001959	0.002	0.003127	0.001334	0	0.00213	0.008	0.008936	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 Clara	2024	LDT2	Aggregate	Aggregate	Diesel	1015.453	37944.26	37944.26	0	4835.434	0.041515	0	0	0.004813	0	0	0.002	0.003113	0.005031	0	0	0.008	0.008895	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 Clara	2024	LDT2	Aggregate	Aggregate	Electricity	1597.567	55532.59	0	55532.59	8150.927	0	0	0	0	0	0	0.002	0.001526	0	0	0	0.008	0.004359	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LDT2	Aggregate	Aggregate	Plug-in Hyb	2116.58	94757.71	44376.61	50381.09	10402.99	0.003073	0	0.4687	0.000467	0	0.001662	0.002	0.001383	0.000508	0	0.001808	0.008	0.003953	130.578	0	86.60619	0.000334	0	0.155965	0.000361	0	0.054992	0.001329	0	0.796754	0.021831	0.019927	0.309385	0.001939	0	0.872345	0.021831	0.019927	0.309385	0.019635	0.201506	0	5.888845	0.001291	0	0.000856
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Gasoline	19314.14	722529.3	722529.3	0	287751.9	0.172795	0.036221	0.633985	0.001534	0	0.000302	0.002	0.0273	0.001668	0	0.000328	0.008	0.078	872.9955	119.2079	25.73223	0.008333	0.113121	0.0327	0.009677	0.002988	0.050823	0.041628	0.415023	0.162188	0.047402	0.263136	2.768514	0.060744	0.605601	0.177575	0.047402	0.263136	2.768514	0.044898	1.136594	3.756209	3.083172	0.00863	0.001178	0.000254
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Diesel	10107.74	398004.1	398004.1	0	127142.6	1.556402	1.92168	0	0.035057	0.026804	0	0.003	0.0273	0.036642	0.028016	0	0.012	0.078	632.9651	131.3094	0	0.008006	0.005098	0	0.099724	0.020688	0	0.172364	0.10976	0	0	0	0	0.196225	0.124954	0	0	0	0	0.177281	0.473592	0.909745	0	0.005998	0.001244	0
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Electricity	70.82836	5110.544	0	5110.544	989.4273	0	0	0	0	0	0	0.002	0.01365	0	0	0	0.008	0.039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Gasoline	2506.906	91452.57	91452.57	0	37349.16	0.161867	0.036635	0.633678	0.00139	0	0.000239	0.002	0.03185	0.001512	0	0.000259	0.008	0.091	981.6545	137.7625	25.46939	0.006204	0.114931	0.032387	0.00943	0.003022	0.050739	0.028705	0.420058	0.15902	0.04419	0.238167	2.558385	0.041886	0.612948	0.174107	0.04419	0.238167	2.558385	0.044971	0.893936	3.762546	3.087348	0.009705	0.001362	0.000252
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Diesel	4663.455	183558.4	183558.4	0	58660.4	1.25838	1.895403	0	0.032055	0.027	0	0.003	0.03185	0.033504	0.028221	0	0.012	0.091	758.5711	209.8195	0	0.007406	0.005098	0	0.119513	0.033057	0	0.159442	0.10976	0	0	0	0	0.181514	0.124954	0	0	0	0	0.184132	0.41186	0.909745	0	0.007188	0.001988	0
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Electricity	18.33259	1253.286	0	1253.286	242.668	0	0	0	0	0	0	0.002	0.015925	0	0	0	0.008	0.0455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	MCY	Aggregate	Aggregate	Gasoline	28171.51	1660222.3	1660222.3	0	56343.02	0.598844	0	0.148555	0.001827	0	0.003177	0.001	0.0042	0.001954	0	0.00338	0.004	0.012	190.6913	0	51.77839	0.171772	0	0.189534	0.040955	0	0.008948	1.123169	0	1.402019	3.559276	3.75283	3.900294	1.354171	0	1.524416	3.559276	3.75283	3.900294	0.008808	14.38328	0	7.689677	0.001885	0	0.000512
Santa Clara	2024	MDV	Aggregate	Aggregate	Gasoline	156642.4	5468054	5468054	0	726101.1	0.101279	0	0.42828	0.001229	0	0.002042	0.002	0.003184	0.001336	0	0.002221	0.008	0.009096	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 Clara	2024	MDV	Aggregate	Aggregate	Diesel	2400.615	86292.69	86292.69	0	11318.82	0.048844	0	0	0.004909	0	0	0.002	0.003206	0.005131	0	0	0.008	0.009159	409.13	0	0	0.00051	0	0	0.064459	0	0	0.012498	0	0	0	0	0	0.012498	0	0	0	0	0	0.0031	0.201538	0	0	0.003877	0	0
Santa Clara	2024	MDV	Aggregate	Aggregate	Electricity	1678.684	58660.63	0	58660.63	8578.496	0	0	0	0	0	0	0.002	0.001525	0	0	0	0.008	0.004358	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	MDV	Aggregate	Aggregate	Plug-in Hyb	1250.857	52904.03	25301.52	27602.51	6147.963	0.003138	0	0.4687	0.000561	0	0.00195	0.002	0.001382	0.00061	0	0.002121	0.008	0.003948	133.3485	0	105.0137	0.00034	0	0.155221	0.000365	0	0.05443	0.001357	0	0.796754	0.025507	0.022449	0.341695	0.00198	0	0.872345	0.025507	0.022449	0.341695	0.020087	0.205781	0	5.888845	0.001318	0	0.001038
Santa Clara	2024	MH	Aggregate	Aggregate	Gasoline	2420.57	22012.3	22012.3	0	242.1538	0.420938	0	0.419963	0.001679	0	0.000404	0.003	0.015756	0.001826	0	0.000439	0.012	0.045017	1947.501	0	31.65056	0.015478	0	0.037539	0.025731	0	0.04407	0.06827	0	0.159123	12.21143	0.286769	4.596479	0.09962	0	0.174219	12.21143	0.286769	4.596479	0.044846	1.682224	0	3.497247	0.019253	0	0.000313
Santa Clara	2024	MH	Aggregate	Aggregate	Diesel	977.3606	9498.302	9498.302	0	977.3606	4.117169	0	0	0.091772	0	0	0.004	0.015675	0.095921	0	0	0.016	0.044785	1081.931	0	0	0.005558	0	0	0.170459	0	0	0.11965	0	0	0	0	0	0.136214	0	0	0	0	0	0.155539	0.397281	0	0	0.010252	0	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Gasoline	1414.552	71600.35	71600.35	0	28302.35	0.470752	0.088485	0.440963	0.001362	0	0.000533	0.003	0.015756	0.001482	0	0.000579	0.012	0.045017	1770.464	532.0924	46.27323	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	0.017503	0.00526	0.000457
Santa Clara	2024	MHDT	Aggregate	Aggregate	Diesel	1039.053	4340443.6	4340443.6	0	123939	1.232824	13.14099	1.642732	0.014397	0.029902	0	0.003	0.015941	0.015048	0.031254	0	0.012	0.045546	1147.78	2249.406	0	0.001507	0.01158	0	0.180833	0.354395	0	0.032455	0.249319	0	0	0	0	0.036947	0.283831	0	0	0	0	0.210532	0.120871	7.556027	0	0.010869	0.021301	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Electricity	30.91601	1660.353	0	1660.353	407.4536	0	0	0	0	0	0	0.003	0.007956	0	0	0	0.012	0.022732	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Natural Ga	90.59449	4303.581	4303.581	0	827.6228	0.133415	6.499719	0	0.001179	0.018131	0	0.003	0.016007	0.001282	0.019719	0	0.012	0.045734	985.7588	5307.411	0	0.74573	17.31409	0	0.200953	1.08195	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 Clara	2024	OBUS	Aggregate	Aggregate	Gasoline	443.1467	19894.31	19894.31	0	8866.48	0.49672	0.06506	0.408547	0.000907	0	0.000252	0.003	0.01568	0.000987	0	0.000274	0.012	0.044799	1765.144	379.5369	31.62131	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	0.01745	0.003752	0.000313
Santa Clara	2024	OBUS	Aggregate	Aggregate	Diesel	893.1376	61949.05	61949.05	0	9141.625	1.178643	7.363387	1.543157	0.019849	0.008167	0	0.003	0.018015	0.020746	0.008536	0	0.012	0.051472	1273.38	1538.564	0	0.001935	0.020479	0	0.200622	0.242401	0	0.04166	0.440905	0	0	0	0	0.047427	0.501937	0	0	0	0	0.216021	0.150181	7.500483	0	0.012058	0.014569	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Electricity	1.087481	92.50105	0	92.50105	21.75833	0	0	0	0	0	0	0.003	0.00784	0	0	0	0.012	0.022399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Natural Ga	7.05737	469.3876	469.3876	0	62.81059	0.190585	1.537414	0	0.00106	0.003899	0	0.003	0.016148	0.001153	0.004241	0	0.012	0.046137	1004.237	1191.581	0	0.789796	4.236895	0	0.20472	0.242912	0	0.011285	0.060537	0	0	0	0	0.806045	4.324062	0	0	0	0	1.06	3.254325	7.353064	0	0	0	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Gasoline	172.6948	8584.866	8584.866	0	690.7791	0.50288	0.925939	0.716801	0.000864	0	0.000567	0.002	0.015721	0.000939	0	0.000616	0.008	0.044917	810.994	2590.288	58.15601	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	0.008018	0.025608	0.000575
Santa Clara	2024	SBUS	Aggregate	Aggregate	Diesel	670.5958	15345.26	15345.26	0	9710.228	3.821388	21.90481	0.482851	0.019766	0.019703	0	0.003	0.015721	0.02066	0.020594	0	0.012	0.044917	1144.573	2229.746	0	0.002665	0.008001	0	0.180328	0.351297	0	0.057376	0.172257	0	0	0	0	0.065318	0.196101	0	0	0	0	0.148025	0.1775	4.677792	0	0.010838	0.021114	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Electricity	2.064666	64.35501	0	64.35501	23.64639	0	0	0	0	0	0	0.002	0.002539	0.00786	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
Santa Clara	2024	SBUS	Aggregate	Aggregate	Natural Ga	24.3995	612.0941	612.0941	0	353.3048	0.567729	5.270895	0	0.003378	0.011357	0	0.003	0.015721	0.003674	0.012352	0	0.012	0.044917	1261.954	4069.912	0	3.436672	15.25665	0	0.257258	0.829678	0	0.049103	0.217987	0	0	0	0	3.507376	15.57053	0	0	0	0	1.06	11.64901	20.74693	0	0	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Gasoline	46.08313	4812.451	4812.451	0	184.3325	0.022257	0	0.486921	0.001143	0	0.000128	0.002	0.03185	0.001243	0	0.00014	0.008	0.091	926.1489	0	36.873	0.002057	0	0.045328	0.003566	0	0.078766	0.005717	0	0.161759	0.038099	0.092116	0.456438	0.008343	0	0.177106	0.038099	0.092116	0.456438	0.045	0.580123	0	6.063512	0.009156	0	0.000365
Santa Clara	2024	UBUS	Aggregate	Aggregate	Diesel	437.4745	48917.61	48917.61	0	1749.898	0.386257	0	0	0.007023	0	0	0.003	0.03185	0.00734	0	0	0.012	0.0332	0.11	1101.14	0	0.037215	0	0	0.173485	0	0	0.069208	0	0	0	0	0	0.078788	0	0	0	0	0	0.187908	0.079368	0	0	0.010434	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Electricity	5.347565	235.0626	0	235.0626	21.39026	0	0	0	0	0	0	0.003	0.00888	0.01925	0	0	0.012	0.03552	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Natural Ga	42.58696	4865.187	4865.187	0	170.3478	0.058788	0	0	0.000282	0	0	0.003	0.00818	0.0385	0.000295	0	0.012	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, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDLE	PM10_STR	PM10_PM	PM10_PM	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
Santa Clara	2025	HHDT	Aggregate	Aggregate	Gasoline	2.330359	124.9448	124.9448	0	46.62582	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	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	0.018373	5.781684	0	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	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
Santa Clara	2025	HHDT	Aggregate	Aggregate	Natural Ga	832.405	55779.38	55779.38	0	7555.504	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	0	2.299347	35.93114	0	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	0.038209	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	0.18842	0	0	0.015236	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	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	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
Santa Clara	2025	LDA	Aggregate	Aggregate	Plug-in Hyb	19037.66	825567.7	401013	424554.8	78720.74	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	0.115355	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	0.038056	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	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	0.338158	0	0	0	0	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	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
Santa Clara	2025	LDT1	Aggregate	Aggregate	Plug-in Hyb	98.13198	4519.182	1961.286	2557.896	405.7758	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	0.06257	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	0.014949	0	0.394233	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	0.039332	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	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	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
Santa Clara	2025	LDT2	Aggregate	Aggregate	Plug-in Hyb	2561.885	112327.2	51267.44	61059.78	10593.4	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	0.001893	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	0.152112	0.035118	0.61458	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	130656.7	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	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	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
Santa Clara	2025	LHDT2	Aggregate	Aggregate	Gasoline	2512.652	91345.05	91345.05	0	37434.78	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	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	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	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
Santa Clara	2025	MCY	Aggregate	Aggregate	Gasoline	28484.89	166414.5	166414.5	0	56969.79	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	739781.4	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	0.044948	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	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	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
Santa Clara	2025	MDV	Aggregate	Aggregate	Plug-in Hyb	1542.366	64484.39	29833.21	34651.18	6377.683	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	0.37652	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	3.382931	0.019249	0	0.000311
Santa Clara	2025	MH	Aggregate	Aggregate	Diesel	994.5437	9603.893	9603.893	0	99.45437	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	0.132856	0	0	0	0	0	0.166635	0.385118	0	0	0.010256	0	0
Santa Clara	2025	MHDT	Aggregate	Aggregate	Gasoline	1412.263	72039.87	72039.87	0	28256.55	0.394798	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	0.060397	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	10548.06	435100.6	435100.6	0	125915.2	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	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	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
Santa Clara	2025	MHDT	Aggregate	Aggregate	Natural Ga	98.90628	4590.307	4590.307	0	911.9208	0.12435	6.45266	0	0.002126	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	0.766898	17.32175	0	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	0.460353	0.06398	0.405045	0.000939	0	0.000255	0.003	0.01568	0.001022	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	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	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	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
Santa Clara	2025	OBUS	Aggregate	Aggregate	Natural Ga	8.125306	537.7468	537.7468	0	72.31523	0.164816	1.526623	0	0.001183	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	0.820442	4.188085	0	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	0.487257	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	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	0.063298	0.194514	0	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	0	0	0	0	0	0	0.002	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
Santa Clara	2025	SBUS	Aggregate	Aggregate	Natural Ga	25.28439	627.586	627.586	0	366.118	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	3.455875	15.43326	0	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	0.027276	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	0.004259	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	0.382968	0	0	0.006962	0	0	0.008	0.03238	0.0385	0.007277	0	0	0.032951	0.11	1121.875	0	0	0.003193	0	0	0.176752	0	0	0.06875	0	0	0	0	0.078266	0	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	0	0	0	0	0	0	0.008	0.008977	0.01925	0	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
Santa Clara	2025	UBUS	Aggregate	Aggregate	Natural Ga	58.16247	6762.418	6762.418	0	232.6499	0.060506	0	0	0.000287	0	0	0.008408	0.0385	0.0003	0	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	0.97	50.3461	0	0	0	0	0

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PM	PM2.5_PM	PM10_RUI	PM10_IDLE	PM10_STR	PM10_PM	PM10_PM	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2026	HHDT	Aggregate	Aggregate	Gasoline	1.890208	133.7551	133.7551	0	37.81927	3.912832	0	0.833967	0.00242	0	0.001119	0.005	0.0327	0.002632	0	0.001218	0.02	0.093428	2030.337	0	50.00574	0.151681	0	0.000277	0.138602	0	0.029726	0.841165	0	0.001504	0.124256	1.119044	7.839877	1.227426	0	0.001647	0.124256	1.119044	7.839877	0.044272	33.21272	0	2.727013	0.020072	0	0.000494
Santa Clara	2026	HHDT	Aggregate	Aggregate	Diesel	8867.795	1016012	1016012	0	130549	1.761105	62.03312	2.955473	0.025195	0.027767	0	0.008774	0.027513	0.026334	0.029023	0	0.035095	0.07861	1583.151	11526.41	0	0.000725	0.23528	0	0.249426	1.815991	0	0.015602	5.065515	0	0	0	0	0	0.017762	5.766703	0	0	0	0	0.215914	0.07407	73.94194	0	0.014991	0.109148	0
Santa Clara	2026	HHDT	Aggregate	Aggregate	Electricity	110.5302	11535.57	0	11535.57	1443.078	0	0	0	0	0	0	0.008558	0.014729	0	0	0	0.034232	0.042083	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	2026	HHDT	Aggregate	Aggregate	Natural Ga	863.4608	56635.39	56635.39	0	7769.707	0.976371	12.77067	0	0.001645	0.025604	0	0.009	0.049192	0.001789	0.027847	0	0.036	0.140547	1365.074	10446.87	0	2.127999	33.90059	0	0.278279	2.129663	0	0.043949	0.508241	0	0	0	0	0	2.18721	34.62523	0	0	0	0	0.835034	12.62839	75.02016	0	0	0	0
Santa Clara	2026	LDA	Aggregate	Aggregate	Gasoline	598869.8	22031466	22031466	0	2780456	0.034968	0	0.23463	0.001102	0	0.001828	0.002	0.002655	0.001199	0	0.001988	0.008	0.007585	268.3766	0	67.64288	0.001934	0	0.063951	0.004196	0	0.031426	0.007138	0	0.285908	0.083161	0.217573	1.338275	0.010415	0	0.313033	0.083161	0.217573	1.338275	0.036474	0.659308	0	2.884139	0.002659	0	0.000669
Santa Clara	2026	LDA	Aggregate	Aggregate	Diesel	1478.944	42434.32	42434.32	0	6277.405	0.163286	0	0	0.013397	0	0	0.002	0.002717	0.014003	0	0	0.008	0.007761	228.026	0	0	0.001079	0	0	0.035926	0	0	0.023239	0	0	0	0	0	0	0.026457	0	0	0	0	0	0.0031	0.307439	0	0	0.002161	0	0
Santa Clara	2026	LDA	Aggregate	Aggregate	Electricity	64495.24	2739705	0	2739705	312996.4	0	0	0	0	0	0	0.002	0.001535	0	0	0	0.008	0.004385	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	2026	LDA	Aggregate	Aggregate	Plug-in Hyb	20380.43	866414.1	412496.8	453917.3	84273.1	0.003124	0	0.11551	0.000542	0	0.001902	0.002	0.001386	0.000589	0	0.002068	0.008	0.00396	132.7519	0	64.33622	0.000421	0	0.042044	0.000552	0	0.020392	0.001351	0	0.173285	0.040391	0.037456	0.436203	0.001971	0	0.189725	0.040391	0.037456	0.436203	0.019017	0.204877	0	1.339893	0.001312	0	0.000636
Santa Clara	2026	LDT1	Aggregate	Aggregate	Gasoline	50750.47	1625960	1625960	0	225981.5	0.104002	0	0.340042	0.001548	0	0.002421	0.002	0.003241	0.001684	0	0.002633	0.008	0.009261	319.1884	0	83.2086	0.005058	0	0.092241	0.008041	0	0.036412	0.022051	0	0.461638	0.148727	0.41724	2.377298	0.032177	0	0.505436	0.148727	0.41724	2.377298	0.036833	1.219346	0	4.549174	0.003156	0	0.000823
Santa Clara	2026	LDT1	Aggregate	Aggregate	Diesel	18.47771	256.5587	256.5587	0	50.46	1.626008	0	0	0.235786	0	0	0.002	0.003714	0.246448	0	0	0.008	0.010612	414.3219	0	0	0.013655	0	0	0.065277	0	0	0.293995	0	0	0	0	0	0	0.334693	0	0	0	0	0	0.0031	1.580267	0	0	0.003926	0	0
Santa Clara	2026	LDT1	Aggregate	Aggregate	Electricity	263.5822	10628.88	0	10628.88	1254.204	0	0	0	0	0	0	0.002	0.001536	0	0	0	0.008	0.004388	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	2026	LDT1	Aggregate	Aggregate	Plug-in Hyb	130.6819	5898.082	2516.052	3382.03	540.3696	0.002799	0	0.11551	0.000332	0	0.001311	0.002	0.001397	0.000362	0	0.001426	0.008	0.003992	118.9473	0	69.43161	0.000375	0	0.041793	0.000489	0	0.020158	0.00121	0	0.173285	0.023415	0.020044	0.275174	0.001766	0	0.189725	0.023415	0.020044	0.275174	0.017917	0.183572	0	1.339893	0.001176	0	0.000686
Santa Clara	2026	LDT2	Aggregate	Aggregate	Gasoline	296178.9	10561285	10561285	0	1383934	0.057197	0	0.297788	0.00115	0	0.001868	0.002	0.003134	0.00125	0	0.002032	0.008	0.008953	332.1248	0	84.47809	0.002453	0	0.074444	0.005294	0	0.035027	0.009395	0	0.338458	0.076755	0.212879	1.330363	0.013709	0	0.370569	0.076755	0.212879	1.330363	0.037798	0.757265	0	3.299571	0.003283	0	0.000835
Santa Clara	2026	LDT2	Aggregate	Aggregate	Diesel	1079.589	39200.14	39200.14	0	5104.36	0.037108	0	0	0.004598	0	0	0.002	0.00313	0.004806	0	0	0.008	0.008943	302.0718	0	0	0.000595	0	0	0.047592	0	0	0.012807	0	0	0	0	0	0	0.01458	0	0	0	0	0	0.0031	0.12935	0	0	0.002862	0	0
Santa Clara	2026	LDT2	Aggregate	Aggregate	Electricity	2705.079	90693.22	0	90693.22	13682.37	0	0	0	0	0	0	0.002	0.001528	0	0	0	0.008	0.004365	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	2026	LDT2	Aggregate	Aggregate	Plug-in Hyb	2986.353	127896.3	57308.29	70587.98	12348.57	0.00294	0	0.11551	0.000411	0	0.00154	0.002	0.001392	0.000447	0	0.001675	0.008	0.003978	124.9411	0	76.35739	0.000394	0	0.041776	0.000513	0	0.020142	0.001271	0	0.173285	0.025698	0.023308	0.30414	0.001855	0	0.189725	0.025698	0.023308	0.30414	0.018799	0.192822	0	1.339893	0.001235	0	0.000755
Santa Clara	2026	LHDT1	Aggregate	Aggregate	Gasoline	19567.35	734252.9	734252.9	0	291524.3	0.134825	0.034078	0.592259	0.00144	0	0.000258	0.002	0.0273	0.001567	0	0.00028	0.008	0.078	841.5517	116.9335	25.61185	0.00645	0.107779	0.030306	0.00767	0.002904	0.048837	0.03157	0.390607	0.14863	0.042429	0.244239	2.568634	0.046067	0.569973	0.162731	0.042429	0.244239	2.568634	0.044952	1.000325	3.761042	3.194844	0.00832	0.001156	0.000253
Santa Clara	2026	LHDT1	Aggregate	Aggregate	Diesel	10635.31	416619.3	416619.3	0	133778.8	1.219281	1.732484	0	0.030022	0.026603	0	0.003	0.0273	0.031379	0.027806	0	0.012	0.078	625.228	128.0664	0	0.006994	0.005098	0	0.098505	0.020177	0	0.150578	0.10976	0	0	0	0	0	0.171423	0.124954	0	0	0	0	0.184377	0.40172	0.909745	0	0.005924	0.001213	0
Santa Clara	2026	LHDT1	Aggregate	Aggregate	Electricity	378.0593	23974.57	0	23974.57	5290.738	0	0	0	0	0	0	0.002	0.01365	0	0	0	0.008	0.039	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2026	LHDT2	Aggregate	Aggregate	Gasoline	2513.651	91174.03	91174.03	0	37449.66	0.127191	0.033359	0.581518	0.001301	0	0.0002	0.002	0.03185	0.001415	0	0.000218	0.008	0.091	950.6797	135.3583	25.11699	0.00457	0.105616	0.029314	0.007823	0.002803	0.047205	0.020413	0.382638	0.142338	0.039798	0.221425	2.401547	0.029786	0.558345	0.155842	0.039798	0.221425	2.401547	0.04499	0.781956	3.768092	3.147796	0.009398	0.001338	0.000248
Santa Clara	2026	LHDT2	Aggregate	Aggregate	Diesel	4995.258	193100.7	193100.7	0	62834.06	1.030069	1.717944	0	0.028773	0.027014	0	0.003	0.03185	0.030074	0.028235	0	0.012	0.091	744.6842	205.1133	0	0.00672	0.005098	0	0.117325	0.032316	0	0.144681	0.10976	0	0	0	0	0	0.16471	0.124954	0	0	0	0	0.19232	0.367309	0.909745	0	0.007056	0.001944	0
Santa Clara	2026	LHDT2	Aggregate	Aggregate	Electricity	96.38373	5822.064	0	5822.064	1278.565	0	0	0	0	0	0	0.002	0.015925	0	0	0	0.008	0.0455	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2026	MCY	Aggregate	Aggregate	Gasoline	28797.04	167092.5	167092.5	0	57594.08	0.54585	0	0.123182	0.001818	0	0.003256	0.001	0.0042	0.001945	0	0.00347	0.004	0.012	186.8446	0	46.30646	0.154451	0	0.172746	0.038475	0	0.007381	0.991178	0	1.267526	3.558543	3.769688	3.854231	1.200425	0	1.378329	3.558543	3.769688	3.854231	0.008889	11.99329	0	7.931677	0.001847	0	0.000458
Santa Clara	2026	MDV	Aggregate	Aggregate	Gasoline	162557.9	5631323	5631323	0	753924.4	0.077249	0	0.361249	0.00113	0	0.001888	0.002	0.003182	0.001228	0	0.002053	0.008	0.00909	402.7076	0	102.7358	0.003084	0	0.087398	0.006351	0	0.037495	0.012544	0	0.424623	0.087977	0.255029	1.559913	0.018304	0	0.464909	0.087977	0.255029	1.559913	0.037518	0.838043	0	3.531694	0.003981	0	0.001016
Santa Clara	2026	MDV	Aggregate	Aggregate	Diesel	2430.299	84111.54	84111.54	0	11337.22	0.040802	0	0	0.004381	0	0	0.002	0.003241	0.004579	0	0	0.008	0.009261	399.673	0	0	0.000469	0	0	0.062969	0	0	0.010103	0	0	0	0	0	0	0.011502	0	0	0	0	0	0.0031	0.197458	0	0	0.003787	0	0
Santa Clara	2026	MDV	Aggregate	Aggregate	Electricity	2850.956	95858.35	0	95858.35	14435.41	0	0	0	0	0	0	0.002	0.001528	0	0	0	0.008	0.004365	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	2026	MDV	Aggregate	Aggregate	Plug-in Hyb	1813.351	74577.72	33714.26	40863.46	7498.208	0.002966	0	0.11551	0.000463	0	0.001713	0.002	0.001392	0.000504	0	0.001863	0.008	0.003977	126.0521	0	93.79299	0.000396	0	0.041612	0.000513	0	0.019989	0.001283	0	0.173285	0.029908	0.026996	0.337381	0.001872	0	0.189725	0.029908	0.026996	0.337381	0.018987	0.194537	0	1.339893	0.001246	0	0.000927
Santa Clara	2026	MH	Aggregate	Aggregate	Gasoline	2263.186	21108.38	21108.38	0	226.4092	0.335195	0	0.432131	0.001549	0	0.000374	0.003	0.015756	0.001685	0	0.000406	0.012	0.045017	1946.632	0	31.26805	0.012049	0	0.036404	0.022132	0	0.046519	0.050974	0	0.149854	10.64717	0.254614	4.131655	0.074381	0	0.164071	10.64717	0.254614	4.131655	0.044921	1.181993	0	3.275797	0.019244	0	0.000309
Santa Clara	2026	MH	Aggregate	Aggregate	Diesel	1010.774	9718.417	9718.417	0	101.0774	3.846579	0	0	0.08072	0	0	0.004	0.015675	0.084369	0	0	0.016	0.044785	1082.849	0	0	0.005293	0	0	0.170603	0	0	0.11395	0	0	0	0	0	0	0.129725	0	0	0	0	0	0.16529	0.373655	0	0	0.010261	0	0
Santa Clara	2026	MHDT	Aggregate	Aggregate	Gasoline	1410.726	72468.64	72468.64	0	28225.8	0.333028	0.083566	0.407845	0.001339	0	0.000499	0.003	0.015756	0.001457	0	0.000542	0.012	0.045017	1727.179	521.8124	44.55752	0.010627	0.263675	0.044579	0.017598	0.007127	0.032029	0.051634	1.01721	0.242322	0.028744	0.236552	2.400687	0.075345	1.48431	0.265312	0.028744	0.236552	2.400687	0.044997	1.050142	15.1686	5.262786	0.017075	0.005159	0.00044
Santa Clara	2026	MHDT	Aggregate	Aggregate	Diesel	10675.11	435455.4	435455.4	0	127504.2	1.02886	12.38939	1.644141	0.010796	0.020382	0	0.003	0.015941	0.011284	0.021304	0	0.012	0.045545	1134.952	2210.329	0	0.001134	0.010419	0	0.178812	0.348238	0	0.024422	0.224312	0	0	0	0	0	0.027803	0.255363	0	0	0	0	0.213113	0.099563	7.520816	0	0.010747	0.02093	0
Santa Clara	2026	MHDT	Aggregate	Aggregate	Electricity	167.5841	8816.663	0	8816.663	2173.174	0	0	0	0	0	0	0.003	0.007951	0	0	0	0.012	0.022716	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	2026	MHDT	Aggregate	Aggregate	Natural Ga	107.6314	4901.771	4901.771	0	1001.682	0.116472	6.407029	0	0.002266	0.018977	0	0.003	0.01601	0.001377	0.020639	0	0.012	0.045743	973.703	5277.958	0	0.755705	16.66564	0	0.198496	1.075946	0	0.010798	0.238119	0	0	0	0	0	0.771252	17.00851	0	0	0	0	1.06	2.995274	36.69576	0	0	0	0
Santa Clara	2026	OBUS	Aggregate	Aggregate	Gasoline	419.1997	18162.11	18162.11	0	8387.348	0.418185	0.062602	0.399155	0.00097	0	0.000258	0.003	0.01568	0.001055	0	0.000281	0.012	0.044799	1724.911	374.6239	31.08783	0.011431	0.195819	0.035179	0.020728	0.005108	0.030453	0.055331	0.746751	0.186435	0.035194	0.177337	3.200029	0.080739	1.089657	0.204123	0.035194	0.177337	3.200029	0.04499	1.215872	5.777453	3.882011	0.017053	0.003704	0.000307
Santa Clara	2026	OBUS	Aggregate	Aggregate	Diesel	949.0452	62674.48	62674.48	0	9750.025	1.092349	6.912226	1.518478	0.018173	0.007147	0	0.003	0.018049	0.018995	0.00747	0	0.012	0.05157	1245.043	1523.794	0	0.001766	0.020826	0	0.196157	0.240074	0	0.038011	0.448385	0	0	0	0	0	0.043273	0.510453	0	0	0	0	0.216379	0.139488	7.649271	0	0.01179	0.014429	0
Santa Clara	2026	OBUS	Aggregate	Aggregate	Electricity	4.484159	364.7881	0	364.7881	89.71906	0	0	0	0	0	0	0.003	0.00784	0	0	0	0.012	0.022399	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2026	OBUS	Aggregate	Aggregate	Natural Ga	9.101244	599.9791	599.9791	0	81.00107	0.145347	1.518344	0	0.001276	0.004354	0	0.003	0.016148	0.001388	0.004735	0	0.012	0.046137	975.0003	1187.914	0	0.81456	4.001439	0	0.19876	0.242164	0	0.011638	0.057173	0	0	0	0	0	0.831318	4.083762	0	0	0	0	1.06	3.321042	8.378673	0	0	0	0
Santa Clara	2026	SBUS	Aggregate	Aggregate	Gasoline	183.7933	9054.551	9054.551	0	735.1732	0.474165	0.887577	0.73371	0.000873	0	0.00058	0.002	0.015721	0.00095	0	0.000631	0.008	0.044917	802.4349	2565.528	57.27504	0.01005	2.4667	0.074539	0.025921	0.082658	0.067212	0.048718	10.63718	0.423572	0.1241	0.322638	1.96833	0.07109	15.52175	0.463758	0.1241	0.322638	1.96833	0.045	1.246814	82.21455	10.07789	0.007933	0.025363	0.000566
Santa Clara	2026	SBUS	Aggregate	Aggregate	Diesel	674.9981	15210.89	15210.89	0	9773.973	3.406071	20.83077	0.509343	0.017715	0.016839	0	0.003	0.015721	0.018516	0.017601	0	0.012	0.044917	1135.538	2209.663	0	0.002498	0.007888	0	0.178905	0.348133	0	0.053781	0.169828	0	0	0	0	0	0.061225	0.193336	0	0	0	0	0.155771	0.169257	4.880858	0	0.010753	0.020924	0
Santa Clara	2026	SBUS	Aggregate	Aggregate	Electricity	7.587222	244.2395	0	244.2395	87.39442	0	0	0	0	0	0	0.002	0.00786	0	0	0	0.01027	0.022459	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2026	SBUS	Aggregate	Aggregate	Natural Ga	26.16468	642.5523	642.5523	0	378.8645	0.532059	5.249897	0	0.003378	0.011858	0	0.003	0.015721	0.003674	0.012897	0	0.012	0.044917	1243.421	4080.833	0	3.338467	14.99739	0	0.25348	0.831904	0	0.0477	0.214283	0	0	0	0	0	3.407151	15.30593	0	0	0	0	1.06	11.18687	21.87624	0	0	0	0
Santa Clara	2026	UBUS	Aggregate	Aggregate	Gasoline	46.35522	4840.865	4840.865	0	185.4209	0.026897	0	0.439741	0.001143	0	0.000128	0.002	0.03185	0.001243	0	0.00014	0.008	0.091	925.6516	0	36.30949	0.001945	0	0.042807	0.004209	0	0.069602	0.005374	0	0.151507	0.043604	0.092107	0.471119	0.007841	0	0.165881	0.043604	0.092107	0.471119	0.045	0.590355	0	5.738214	0.009151	0	0.000359
Santa Clara	2026	UBUS	Aggregate	Aggregate	Diesel	396.77	44084.04	44084.04	0	1587.08	0.382074	0	0	0.006946	0	0	0.008221	0.0385	0.00726	0	0	0.032883	0.11	1110.339	0	0	0.004187	0	0	0.174934	0	0	0.068625	0	0	0	0	0	0	0.078125	0	0	0	0	0	0.22	0.078518	0	0	0.010521	0	0
Santa Clara	2026	UBUS	Aggregate	Aggregate	Electricity	28.65959	2995.558	0	2995.558	114.6384	0	0	0	0	0	0	0.008972	0.01925	0	0	0	0.035887	0.055	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Santa Clara	2026	UBUS	Aggregate	Aggregate	Natural Ga	62.84535	7257.192	7257.192	0	251.3814	0.060787	0	0	0.000288	0	0	0.008445	0.0385	0.000301	0	0	0.033781	0.11	1320.935	0	0	4.332576	0	0	0.269281	0	0	0.061904	0	0	0	0	0	0	4.421712	0	0	0	0	0	0.97	50.5588	0	0	0	0	0

CalEEMod EMFAC2021 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.525374	0.039228	0.232277	0.130076	0.023447	0.005831	0.009477	0.007547	0.001059	0.00041	0.022079	0.000684	0.00251

CalEEMod EMFAC2021 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.005024	0.002901	0.014329	0.224308568	0.007552	0	0	0.077545	0
A	CH4_RUNEX	0.001675	0.00501	0.002402	0.002962	0.006511	0.00591	0.009525	0.111846137	0.009865	0.533854641	0.154451	0.090415	0.009919
A	CH4_STREX	0.056959	0.091594	0.07317	0.0841	0.020518	0.010947	0.007919	7.49827E-08	0.016116	0.003711567	0.172746	0.004993	0.025168
A	CO_IDLEX	0	0	0	0	0.193382	0.139764	0.664762	5.153655195	0.53297	0	0	1.729088	0
A	CO_RUNEX	0.573055	1.207794	0.74197	0.807087	0.767637	0.490256	0.257149	0.733099915	0.401188	6.307010922	11.99329	0.836984	0.927158
A	CO_STREX	2.554061	4.515511	3.238665	3.39519	2.163001	1.175504	0.934813	0.000737725	1.778436	0.497532984	7.931677	0.675054	2.264736
A	CO2_NBIO_IDLEX	0	0	0	0	8.476906	13.60976	156.6958	795.6699429	88.15791	0	0	188.587	0
A	CO2_NBIO_RUNEX	235.102	316.4191	326.7826	392.6003	747.6667	794.4808	1196.529	1554.973392	1344.054	1064.852599	186.8446	1007.354	1674.317
A	CO2_NBIO_STREX	60.77252	82.69943	83.28568	99.28707	17.33995	9.379616	7.914622	0.013527798	14.24203	3.148221534	46.30646	3.836494	21.6173
A	NOX_IDLEX	0	0	0	0	0.04434	0.086409	0.837392	4.013652026	0.3605	0	0	1.308491	0
A	NOX_RUNEX	0.030375	0.103204	0.056004	0.074529	0.516639	0.725632	0.906229	1.701647234	0.930849	0.294278253	0.54585	2.244119	1.44219
A	NOX_STREX	0.20795	0.337562	0.292244	0.347081	0.400976	0.21716	1.391692	2.760133946	0.991531	0.038127875	0.123182	0.502734	0.298756
A	PM10_IDLEX	0	0	0	0	0.000687	0.001406	0.001445	0.002012959	0.00039	0	0	0.001113	0
A	PM10_PMBW	0.007122	0.009211	0.008856	0.008951	0.077204	0.090087	0.045088	0.081458247	0.049896	0.125580022	0.012	0.044699	0.044944
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009418	0.010663	0.012	0.035131691	0.012	0.044105924	0.004	0.010543	0.013261
A	PM10_RUNEX	0.001071	0.001706	0.001243	0.001247	0.012107	0.020463	0.009635	0.024769283	0.014798	0.005547054	0.001945	0.011633	0.027752
A	PM10_STREX	0.001791	0.002615	0.002002	0.001984	0.00019	8.13E-05	9.63E-05	3.29375E-07	0.000129	1.21095E-05	0.00347	4.23E-05	0.000281
A	PM25_IDLEX	0	0	0	0	0.000657	0.001346	0.001382	0.001919468	0.000373	0	0	0.001064	0
A	PM25_PMBW	0.002493	0.003224	0.0031	0.003133	0.027021	0.03153	0.015781	0.028510387	0.017464	0.043953008	0.0042	0.015645	0.01573
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002355	0.002666	0.003	0.008782923	0.003	0.011026481	0.001	0.002636	0.003315
A	PM25_RUNEX	0.000986	0.00157	0.001144	0.001149	0.011546	0.019561	0.00921	0.02369428	0.014149	0.005303299	0.001818	0.011114	0.026508
A	PM25_STREX	0.001647	0.002404	0.001841	0.001824	0.000174	7.48E-05	8.86E-05	3.02848E-07	0.000118	1.11343E-05	0.003256	3.89E-05	0.000258
A	ROG_DIURN	0.254504	0.529723	0.279092	0.322903	0.116726	0.060196	0.021313	0.000106002	0.073271	0.010212124	3.854231	0.032962	28.55295
A	ROG_HTSK	0.07369	0.147578	0.075291	0.084543	0.028726	0.014862	0.005106	3.36143E-05	0.016123	0.003780717	3.558543	0.008313	7.360966
A	ROG_IDLEX	0	0	0	0	0.020461	0.015058	0.024261	0.32445582	0.04037	0	0	0.189085	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.006207	0.021876	0.009232	0.012163	0.073128	0.102722	0.027662	0.017018907	0.041494	0.059153068	0.991178	0.051281	0.070828
A	ROG_RUNLS	0.190989	0.413908	0.208399	0.244508	0.165357	0.082688	0.042018	0.000302729	0.081242	0.00798618	3.769688	0.021611	0.176029
A	ROG_STREX	0.254258	0.45831	0.332523	0.408327	0.100626	0.053154	0.043043	4.06848E-07	0.08541	0.013136414	1.267526	0.028372	0.103602
A	SO2_IDLEX	0	0	0	0	8.25E-05	0.00013	0.001452	0.006923512	0.000833	0	0	0.001712	0
A	SO2_RUNEX	0.002324	0.003128	0.00323	0.003879	0.0073	0.007651	0.011344	0.014049606	0.012819	0.008586151	0.001847	0.009359	0.016412
A	SO2_STREX	0.000601	0.000818	0.000823	0.000982	0.000171	9.27E-05	7.82E-05	1.33736E-07	0.000141	3.11234E-05	0.000458	3.79E-05	0.000214
A	TOG_DIURN	0.254504	0.529723	0.279092	0.322903	0.116726	0.060196	0.021313	0.000106002	0.073271	0.010212124	0.085098	0.032962	28.55295
A	TOG_HTSK	0.07369	0.147578	0.075291	0.084543	0.028726	0.014862	0.005106	3.36143E-05	0.016123	0.003780717	3.558543	0.008313	7.360966
A	TOG_IDLEX	0	0	0	0	0.028987	0.020219	0.041853	0.579654551	0.053441	0	0	0.308305	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.009046	0.031907	0.013457	0.017701	0.08958	0.119	0.040924	0.131035808	0.057178	0.601092032	1.200425	0.149659	0.091829
A	TOG_RUNLS	0.190989	0.413908	0.208399	0.244508	0.165357	0.082688	0.042018	0.000302729	0.081242	0.00798618	3.769688	0.021611	0.176029
A	TOG_STREX	0.27838	0.501792	0.364071	0.447067	0.110173	0.058197	0.047127	4.45447E-07	0.093513	0.01438272	1.378329	0.031064	0.113431
A	N2O_IDLEX	0	0	0	0	0.00063	0.00168	0.024186	0.128345993	0.012682	0	0	0.024778	0
A	N2O_RUNEX	0.003678	0.007971	0.005347	0.006983	0.039725	0.080555	0.153578	0.248265947	0.156351	0.163683708	0.038475	0.124	0.068939
A	N2O_STREX	0.027983	0.036165	0.034432	0.036101	0.033064	0.017628	0.005689	8.0417E-06	0.013951	0.006034849	0.007381	0.004502	0.032161

Source: EMFAC2021 (v1.0.1) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2030
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN. PHEV calculated based on total VMT.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	NOx_RUNEX	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PMP	PM2.5_PMT	PM10_PMP	PM10_PMT	PM10_RUN	PM10_IDL	PM10_STR	PM10_TOT	CO2_RUNEX	CO2_IDLEX	CO2_STREX	CH4_RUNEX	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_DIUR	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_DIUR	NH3_RUNEX	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNEX	SOx_IDLEX	SOx_STREX
Santa Clara	2030	HHDT	Aggregate	Aggregate	Gasoline	1.487616	172.8499	172.8499	0	29.76421	2.911619	0	0.534862	0.001674	0	0.000674	0.005	0.032468	0.00182	0	0.000733	0.02	0.092765	1924.768	0	48.04273	0.102337	0	0.000224	0.119593	0	0.0192	0.501241	0	0.001214	0.064624	0.580293	4.097317	0.731409	0	0.00133	0.064624	0.580293	4.097317	0.0445	26.13927	0	4.442251	0.019028	0	0.000475
Santa Clara	2030	HHDT	Aggregate	Aggregate	Diesel	9231.234	1024357	1024357	0	136537.8	1.56454	61.29817	2.88955	0.024765	0.0244	0	0.008788	0.028144	0.025885	0.025504	0	0.035154	0.080413	1474.596	10772.22	0	0.000646	0.235119	0	0.232323	1.697167	0	0.013904	5.062058	0	0	0	0	0.015828	5.762768	0	0	0	0	0.217216	0.061916	74.26736	0	0.013964	0.102006	0
Santa Clara	2030	HHDT	Aggregate	Aggregate	Electricity	530.2501	54761.35	0	54761.35	6663.697	0	0	0	0	0	0	0.008533	0.015514	0	0	0	0.03413	0.044327	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	2030	HHDT	Aggregate	Aggregate	Natural Ga	938.2726	57937.93	57937.93	0	8287.795	0.731127	11.54643	0	0.001557	0.027291	0	0.009	0.05172	0.001694	0.029682	0	0.036	0.147772	1322.875	10241.21	0	1.710465	30.09558	0	0.269677	2.087739	0	0.033169	0.444488	0	0	0	0	1.755601	30.73125	0	0	0	0	0.811239	11.16082	76.40969	0	0	0	0
Santa Clara	2030	LDA	Aggregate	Aggregate	Gasoline	602124.6	21985013	21985013	0	2796634	0.027128	0	0.204379	0.000885	0	0.001532	0.002	0.002653	0.000962	0	0.001666	0.008	0.00758	252.5101	0	62.99349	0.00146	0	0.051774	0.003674	0	0.028877	0.005055	0	0.223494	0.069299	0.197319	1.209286	0.007376	0	0.244698	0.069299	0.197319	1.209286	0.039301	0.56355	0	2.385556	0.002496	0	0.000623
Santa Clara	2030	LDA	Aggregate	Aggregate	Diesel	966.5715	27899.12	27899.12	0	4169.431	0.084622	0	0	0.00656	0	0	0.002	0.002722	0.006857	0	0	0.008	0.007776	216.2434	0	0	0.000652	0	0	0.034069	0	0	0.014035	0	0	0	0	0	0.015978	0	0	0	0	0	0.0031	0.244061	0	0	0.002049	0	0
Santa Clara	2030	LDA	Aggregate	Aggregate	Electricity	74807.28	2981995	0	2981995	356618	0	0	0	0	0	0	0.002	0.001537	0	0	0	0.008	0.004391	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	2030	LDA	Aggregate	Aggregate	Plug-in Hyb	2466.152	986083.3	441285.3	544798	101975.4	0.002937	0	0.11551	0.000402	0	0.001538	0.002	0.001398	0.000437	0	0.001673	0.008	0.003994	124.7883	0	62.09864	0.00039	0	0.041401	0.000504	0	0.019792	0.00127	0	0.173285	0.041078	0.050398	0.518869	0.001853	0	0.189725	0.041078	0.050398	0.518869	0.018326	0.192609	0	1.339893	0.001234	0	0.000614
Santa Clara	2030	LDT1	Aggregate	Aggregate	Gasoline	47587.45	1511766	1511766	0	212019.3	0.06744	0	0.276451	0.001181	0	0.001933	0.002	0.003236	0.001284	0	0.002102	0.008	0.009245	301.4361	0	77.09479	0.003341	0	0.071607	0.005993	0	0.032827	0.01396	0	0.342108	0.122517	0.361736	2.125938	0.020371	0	0.374565	0.122517	0.361736	2.125938	0.038435	0.913385	0	3.462484	0.00208	0	0.000762
Santa Clara	2030	LDT1	Aggregate	Aggregate	Diesel	0.768467	17.0557	17.0557	0	2.625517	0.541325	0	0	0.080932	0	0	0.002	0.003285	0.084591	0	0	0.008	0.009386	366.951	0	0	0.006227	0	0	0.057813	0	0	0.134063	0	0	0	0	0	0.152622	0	0	0	0	0	0.0031	0.953187	0	0	0.003477	0	0
Santa Clara	2030	LDT1	Aggregate	Aggregate	Electricity	459.5988	19527.57	0	19527.57	2229.168	0	0	0	0	0	0	0.002	0.001532	0	0	0	0.008	0.004379	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	2030	LDT1	Aggregate	Aggregate	Plug-in Hyb	311.9596	13308.96	5503.171	7805.787	1289.953	0.002713	0	0.11551	0.000237	0	0.000982	0.002	0.001404	0.000258	0	0.001068	0.008	0.004012	115.302	0	67.68965	0.00036	0	0.041331	0.000464	0	0.019726	0.001173	0	0.173285	0.023088	0.020052	0.277122	0.001712	0	0.189725	0.023088	0.020052	0.277122	0.017367	0.177967	0	1.339893	0.00114	0	0.000669
Santa Clara	2030	LDT2	Aggregate	Aggregate	Gasoline	315384	11011602	11011602	0	1467133	0.042522	0	0.254325	0.000923	0	0.001563	0.002	0.003147	0.001004	0	0.001699	0.008	0.008992	313.0844	0	78.91261	0.001939	0	0.061959	0.004491	0	0.03252	0.007052	0	0.272663	0.065379	0.191547	1.192189	0.010291	0	0.298532	0.065379	0.191547	1.192189	0.039832	0.659365	0	2.809133	0.003095	0	0.00078
Santa Clara	2030	LDT2	Aggregate	Aggregate	Diesel	1158.99	40906.35	40906.35	0	5439.347	0.030058	0	0	0.003988	0	0	0.002	0.003143	0.004169	0	0	0.008	0.008981	285.9943	0	0	0.000559	0	0	0.045059	0	0	0.012039	0	0	0	0	0	0.013706	0	0	0	0	0	0.0031	0.125642	0	0	0.00271	0	0
Santa Clara	2030	LDT2	Aggregate	Aggregate	Electricity	5453.194	171699	0	171699	27128.05	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 Clara	2030	LDT2	Aggregate	Aggregate	Plug-in Hyb	4846.712	193738.5	82854.31	110884.1	20041.15	0.002806	0	0.11551	0.000301	0	0.001204	0.002	0.001402	0.000327	0	0.00131	0.008	0.004007	119.2524	0	74.25998	0.000371	0	0.041171	0.000476	0	0.019577	0.001214	0	0.173285	0.026751	0.026025	0.323076	0.001771	0	0.189725	0.026751	0.026025	0.323076	0.017953	0.184065	0	1.339893	0.001179	0	0.000734
Santa Clara	2030	LHDT1	Aggregate	Aggregate	Gasoline	19753.02	727605.5	727605.5	0	294290.5	0.082552	0.030634	0.51718	0.001329	0	0.000195	0.002	0.0273	0.001446	0	0.000212	0.008	0.078	802.0575	113.4696	25.10498	0.003719	0.099174	0.025985	0.00491	0.002766	0.044981	0.016744	0.351327	0.123637	0.032922	0.194989	2.054962	0.024432	0.512656	0.135367	0.032922	0.194989	2.054962	0.045	0.768194	3.76818	3.242124	0.007929	0.001122	0.000248
Santa Clara	2030	LHDT1	Aggregate	Aggregate	Diesel	11269.28	427352.8	427352.8	0	141753.3	0.789576	1.444738	0	0.023821	0.026284	0	0.003	0.0273	0.024898	0.027472	0	0.012	0.078	617.2105	123.3953	0	0.005662	0.005098	0	0.097242	0.019441	0	0.121909	0.10976	0	0	0	0	0.138785	0.124954	0	0	0	0	0.199336	0.314077	0.909745	0	0.005848	0.001169	0
Santa Clara	2030	LHDT1	Aggregate	Aggregate	Electricity	2074.538	117461.4	0	117461.4	29061.96	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
Santa Clara	2030	LHDT2	Aggregate	Aggregate	Gasoline	2461.018	87198.4	87198.4	0	36665.5	0.076883	0.029634	0.510604	0.001202	0	0.000149	0.002	0.03185	0.001308	0	0.000162	0.008	0.091	909.7177	131.684	24.47216	0.00272	0.095769	0.024975	0.005151	0.002617	0.043301	0.011255	0.340122	0.118021	0.031894	0.187158	2.069204	0.016423	0.496305	0.129219	0.031894	0.187158	2.069204	0.045	0.659048	3.775132	3.178541	0.008993	0.001302	0.000242
Santa Clara	2030	LHDT2	Aggregate	Aggregate	Diesel	5433.248	199824.8	199824.8	0	68343.42	0.748874	1.460368	0	0.024929	0.026926	0	0.003	0.03185	0.026056	0.028143	0	0.012	0.091	728.4033	198.6254	0	0.005847	0.005098	0	0.11476	0.031294	0	0.125888	0.10976	0	0	0	0	0.143315	0.124954	0	0	0	0	0.202684	0.318068	0.909745	0	0.006902	0.001882	0
Santa Clara	2030	LHDT2	Aggregate	Aggregate	Electricity	523.4249	28364.01	0	28364.01	6941.368	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
Santa Clara	2030	MCY	Aggregate	Aggregate	Gasoline	29945.67	170059	170059	0	59891.34	0.509869	0	0.103081	0.001864	0	0.003197	0.001	0.0042	0.001997	0	0.003416	0.004	0.012	185.5769	0	42.83228	0.142987	0	0.157242	0.036967	0	0.006341	0.890508	0	1.134366	3.555147	3.783469	3.680755	1.091848	0	1.234067	3.555147	3.783469	3.680755	0.009004	11.04655	0	7.830862	0.001835	0	0.000423
Santa Clara	2030	MDV	Aggregate	Aggregate	Gasoline	174344	5962227	5962227	0	807535.9	0.050767	0	0.286849	0.000902	0	0.001551	0.002	0.003188	0.000981	0	0.001687	0.008	0.00911	378.9313	0	95.79397	0.002213	0	0.068559	0.004925	0	0.033878	0.008456	0	0.317272	0.072796	0.219895	1.355815	0.012339	0	0.347373	0.072796	0.219895	1.355815	0.03954	0.69525	0	2.93398	0.003746	0	0.000947
Santa Clara	2030	MDV	Aggregate	Aggregate	Diesel	2406.787	79682.09	79682.09	0	11072.82	0.026422	0	0	0.003049	0	0	0.002	0.00327	0.003187	0	0	0.008	0.009343	380.8057	0	0	0.000373	0	0	0.059996	0	0	0.008029	0	0	0	0	0	0.00914	0	0	0	0	0	0.0031	0.181562	0	0	0.003608	0	0
Santa Clara	2030	MDV	Aggregate	Aggregate	Electricity	5418.753	169876.9	0	169876.9	26922.58	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 Clara	2030	MDV	Aggregate	Aggregate	Plug-in Hyb	2963.422	115546.2	49482.19	66063.98	12253.75	0.00281	0	0.11551	0.000321	0	0.001277	0.002	0.001403	0.000349	0	0.001389	0.008	0.004008	119.4157	0	90.62083	0.00037	0	0.041054	0.000474	0	0.019467	0.001215	0	0.173285	0.028447	0.028695	0.345627	0.001773	0	0.189725	0.028447	0.028695	0.345627	0.017986	0.184317	0	1.339893	0.001181	0	0.000896
Santa Clara	2030	MH	Aggregate	Aggregate	Gasoline	2034.688	19970.26	19970.26	0	203.5502	0.205296	0	0.454071	0.001366	0	0.000326	0.003	0.015756	0.001486	0	0.000355	0.012	0.045017	1945.26	0	30.65867	0.006703	0	0.034694	0.016757	0	0.050507	0.023566	0	0.135475	7.46433	0.181652	3.092727	0.034387	0	0.148329	7.46433	0.181652	3.092727	0.045	0.391655	0	2.922173	0.019231	0	0.000303
Santa Clara	2030	MH	Aggregate	Aggregate	Diesel	1064.938	10092.31	10092.31	0	106.4938	3.402012	0	0	0.062183	0	0	0.004	0.015675	0.064995	0	0	0.016	0.044785	1084.369	0	0	0.00483	0	0	0.170843	0	0	0.103997	0	0	0	0	0	0.118394	0	0	0	0	0	0.181066	0.332398	0	0	0.010275	0	0
Santa Clara	2030	MHDT	Aggregate	Aggregate	Gasoline	1369.784	69786.55	69786.55	0	27406.63	0.182504	0.074436	0.34723	0.001338	0	0.000467	0.003	0.015756	0.001455	0	0.000508	0.012	0.045017	1664.876	504.5675	41.89188	0.006139	0.269683	0.040602	0.011558	0.006658	0.029379	0.027836	1.022884	0.21089	0.021107	0.176695	1.842352	0.040618	1.49259	0.230898	0.021107	0.176695	1.842352	0.045	0.52486	15.23455	4.434866	0.016459	0.004988	0.000414
Santa Clara	2030	MHDT	Aggregate	Aggregate	Diesel	10679.13	4158333.4	415833.4	0	127641.8	0.730884	11.4465	1.543564	0.006512	0.00966	0	0.003	0.015941	0.006806	0.010097	0	0.012	0.045547	1109.144	2139.822	0	0.000682	0.00913	0	0.174746	0.33713	0	0.014684	0.196569	0	0	0	0	0.016716	0.223779	0	0	0	0	0.21635	0.072794	7.506963	0	0.010503	0.020263	0
Santa Clara	2030	MHDT	Aggregate	Aggregate	Electricity	991.1386	51102.91	0	51102.91	12793.33	0	0	0	0	0	0	0.003	0.007951	0	0	0	0.012	0.022716	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	2030	MHDT	Aggregate	Aggregate	Natural Ga	136.8437	5799.937	5799.937	0	1320.474	0.096762	6.249105	0	0.001362	0.019752	0	0.003	0.016004	0.001481	0.021482	0	0.012	0.045726	958.0225	5202.364	0	0.762569	15.80303	0	0.195299	1.060536	0	0.010896	0.225794	0	0	0	0	0.778258	16.12815	0	0	0	0	1.06	2.989146	38.55016	0	0	0	0
Santa Clara	2030	OBUS	Aggregate	Aggregate	Gasoline	373.8509	15017.96	15017.96	0	7480.008	0.303475	0.05759	0.379431	0.001075	0	0.000273	0.003	0.01568	0.001169	0	0.000296	0.012	0.044799	1659.483	366.2829	30.178	0.008294	0.194656	0.033726	0.01556	0.004647	0.028492	0.039512	0.74712	0.179242	0.035188	0.193999	3.485652	0.057656	1.090195	0.196247	0.035188	0.193999	3.485652	0.045	0.869951	5.779659	3.676722	0.016406	0.003621	0.000298
Santa Clara	2030	OBUS	Aggregate	Aggregate	Diesel	1041.415	64198.49	64198.49	0	10721.4	0.980356	5.976871	1.366725	0.015111	0.005302	0	0.003	0.018208	0.015794	0.005542	0	0.012	0.052023	1187.709	1474.191	0	0.001456	0.020843	0	0.187124	0.232259	0	0.031354	0.448735	0	0	0	0	0.035694	0.51085	0	0	0	0	0.217102	0.12266	7.728975	0	0.011247	0.01396	0
Santa Clara	2030	OBUS	Aggregate	Aggregate	Electricity	23.4704	1822.619	0	1822.619	468.5957	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
Santa Clara	2030	OBUS	Aggregate	Aggregate	Natural Ga	12.4197	789.0472	789.0472	0	110.5354	0.10256	1.499304	0	0.00148	0.004808	0	0.003	0.016148	0.001609	0.005229	0	0.012	0.046137	931.8762	1168.573	0	0.837982	3.766358	0	0.189969	0.238221	0	0.011973	0.053814	0	0	0	0	0.855222	3.843845	0	0	0	0	1.06	3.384146	9.402647	0	0	0	0
Santa Clara	2030	SBUS	Aggregate	Aggregate	Gasoline	198.1997	9649.073	9649.073	0	792.7989	0.406238	0.82859	0.759705	0.000888	0	0.000598	0.002	0.015721	0.000966	0	0.00065	0.008	0.044917	789.8243	2529.341	55.78331	0.007921	2.470848	0.074041	0.023184	0.077325	0.068817	0.038133	10.64152	0.418393	0.132523	0.393216	2.367471	0.055643	15.52808	0.458087	0.132523	0.393216	2.367471	0.045	0.979717	82.24088	9.529837	0.007808	0.025005	0.000551
Santa Clara	2030	SBUS	Aggregate	Aggregate	Diesel	659.3029	14502.39	14502.39	0	9546.705	2.539504	18.10728	0.550768	0.01404	0.011608	0	0.003	0.015721	0.014674	0.012133	0	0.012	0.044917	1118.5	2161.652	0	0.002094	0.007833	0	0.17622	0.340569	0	0.04508	0.168645	0	0	0	0	0.051321	0.19199	0	0	0	0	0.171795	0.148382	5.367405	0	0.010592	0.02047	0
Santa Clara	2030	SBUS	Aggregate	Aggregate	Electricity	42.27556	1362.719	0	1362.719	492.3385	0	0	0	0	0	0	0.002	0.00592	0.00786	0	0	0	0.010366	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 Clara	2030	SBUS	Aggregate	Aggregate	Natural Ga	29.19835	683.5221	683.5221	0	422.7921	0.477489	5.21952	0	0.003378	0.012583	0	0.003	0.015721	0.003674	0.013685	0	0.012	0.044917	1216.036	4101.156	0	3.18823	14.62233	0	0.247897	0.836047	0	0.045554	0.208924	0	0	0	0	3.253822	14.92316	0	0	0	0	1.06	10.47986	23.50992	0	0	0	0
Santa Clara	2030	UBUS	Aggregate	Aggregate	Gasoline	46.8994	4897.693	4897.693	0	187.5976	0.01748	0	0.295043	0.001197	0	0.000134	0.002	0.03185	0.001302	0	0.000145	0.008	0.091	850.5412	0	34.89923	0.001406	0	0.028862	0.003131	0	0.052846	0.003661	0	0.096632	0.024197	0.090857	0.324693	0.005342	0	0.1058	0.024197	0.090857	0.324693	0.045	0.587543	0	6.131541	0.008408	0	0.000345
Santa Clara	2030	UBUS	Aggregate	Aggregate	Diesel	338.5092	37119.08	37119.08	0	1354.037	0.396482	0	0	0.007209	0	0	0.002	0.008494	0.0385	0.007535	0	0	0.033977	0.11	1140.779	0	0	0.003281	0	0	0.17973	0	0	0.070632	0	0	0	0	0.080409	0	0	0	0	0	0.22	0.081446	0	0	0.010809	0	0
Santa Clara	2030	UBUS	Aggregate	Aggregate	Electricity	78.67225	8935.028	0	8935.028	314.689	0	0	0	0	0	0	0.002	0.007594	0.01925	0	0	0	0.030375	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 Clara	2030	UBUS	Aggregate	Aggregate	Natural Ga	76.82557	8920.557	8920.557	0	307.3023	0.058538	0	0	0.000282	0	0	0.00815	0.0385	0.000294	0	0	0	0.032599	0.11	1296.487	0	0	4.23523	0	0	0.264297	0	0	0.060513	0	0	0	0	4.322362	0	0	0	0	0	0.97	48.85872	0	0	0	0	0

CalEEMod EMFAC2021 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.514977	0.035448	0.239576	0.135703	0.02426	0.00617	0.009659	0.007844	0.001064	0.000396	0.02195	0.000681	0.002272

CalEEMod EMFAC2021 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004335	0.002508	0.015544	0.200689575	0.007521	0	0	0.081907	0
A	CH4_RUNEX	0.001251	0.003273	0.001878	0.002097	0.004028	0.004457	0.009465	0.087739612	0.010745	0.633168094	0.142987	0.08726	0.006074
A	CH4_STREX	0.045719	0.070684	0.060357	0.065129	0.016442	0.00872	0.006578	4.40093E-08	0.013432	0.002502449	0.157242	0.005216	0.022777
A	CO_IDLEX	0	0	0	0	0.182077	0.135546	0.628457	4.997868655	0.549826	0	0	1.823721	0
A	CO_RUNEX	0.484447	0.895501	0.639473	0.660784	0.544761	0.383737	0.155266	0.628349624	0.288528	7.378159276	11.04655	0.716417	0.371762
A	CO_STREX	2.08878	3.413929	2.729559	2.781248	2.051418	1.109837	0.71851	0.00087263	1.464305	0.531636543	7.830862	0.671301	1.918466
A	CO2_NBIO_IDLEX	0	0	0	0	7.808851	13.36322	143.3801	719.710734	89.80588	0	0	181.8136	0
A	CO2_NBIO_RUNEX	218.6415	296.0222	304.9904	364.0422	665.9344	713.025	1074.538	1395.928332	1245.372	969.9926525	185.5769	941.807	1656.25
A	CO2_NBIO_STREX	55.99265	76.24029	77.1602	91.4769	15.88489	8.544837	6.787068	0.009437452	12.01881	3.025945099	42.83228	3.929487	20.12804
A	NOX_IDLEX	0	0	0	0	0.036306	0.076255	0.72827	3.806064714	0.333548	0	0	1.088868	0
A	NOX_RUNEX	0.023158	0.066035	0.041164	0.048222	0.312391	0.495733	0.584719	1.446947564	0.825827	0.255958394	0.509869	1.567888	1.278466
A	NOX_STREX	0.178975	0.272625	0.247045	0.271696	0.32724	0.178285	1.220957	2.603954429	0.931305	0.025581732	0.103081	0.520702	0.298107
A	PM10_IDLEX	0	0	0	0	0.000666	0.001456	0.000655	0.001737607	0.000311	0	0	0.000746	0
A	PM10_PMBW	0.007078	0.009138	0.008838	0.008892	0.0744	0.086908	0.04333	0.082108579	0.049981	0.147119217	0.012	0.043749	0.04494
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009343	0.010534	0.012	0.035145225	0.012	0.05700071	0.004	0.010442	0.013343
A	PM10_RUNEX	0.000838	0.00126	0.000989	0.000971	0.009189	0.01687	0.00542	0.023402177	0.012621	0.004822062	0.001997	0.008575	0.022807
A	PM10_STREX	0.001482	0.002074	0.001658	0.001608	0.000134	5.67E-05	8.23E-05	1.43954E-07	0.000118	1.26121E-05	0.003416	4.58E-05	0.000233
A	PM25_IDLEX	0	0	0	0	0.000637	0.001393	0.000626	0.001655588	0.000297	0	0	0.000713	0
A	PM25_PMBW	0.002477	0.003198	0.003093	0.003112	0.02604	0.030418	0.015165	0.028738003	0.017493	0.051491726	0.0042	0.015312	0.015729
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002336	0.002634	0.003	0.008786306	0.003	0.014250178	0.001	0.00261	0.003336
A	PM25_RUNEX	0.000771	0.001159	0.00091	0.000894	0.008761	0.016127	0.005178	0.022386582	0.012067	0.00460949	0.001864	0.008187	0.021783
A	PM25_STREX	0.001362	0.001907	0.001524	0.001478	0.000123	5.22E-05	7.56E-05	1.3236E-07	0.000109	1.15963E-05	0.003197	4.21E-05	0.000214
A	ROG_DIURN	0.227323	0.469769	0.248439	0.276762	0.087274	0.048494	0.014918	4.02275E-05	0.069383	0.007038146	3.680755	0.041692	20.29626
A	ROG_HTSK	0.060745	0.120653	0.063468	0.068938	0.020831	0.011136	0.00342	1.26947E-05	0.014014	0.002098044	3.555147	0.009335	4.900484
A	ROG_IDLEX	0	0	0	0	0.01758	0.01365	0.020875	0.311156106	0.039789	0	0	0.197824	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.00434	0.013675	0.006865	0.008091	0.050519	0.082873	0.014952	0.014289903	0.031966	0.05310504	0.890508	0.040189	0.050568
A	ROG_RUNLS	0.170881	0.355945	0.18526	0.207423	0.123377	0.065349	0.028627	0.000113992	0.077263	0.007877766	3.783469	0.027699	0.119258
A	ROG_STREX	0.197184	0.337555	0.26551	0.301161	0.07823	0.041209	0.034167	2.38553E-07	0.071386	0.008378471	1.134366	0.029472	0.088942
A	SO2_IDLEX	0	0	0	0	7.6E-05	0.000128	0.00132	0.006214699	0.000846	0	0	0.001639	0
A	SO2_RUNEX	0.002161	0.002926	0.003015	0.003597	0.006498	0.00686	0.010167	0.012580529	0.011835	0.007389377	0.001835	0.008739	0.016224
A	SO2_STREX	0.000554	0.000754	0.000763	0.000904	0.000157	8.45E-05	6.71E-05	9.32988E-08	0.000119	2.99145E-05	0.000423	3.88E-05	0.000199
A	TOG_DIURN	0.227323	0.469769	0.248439	0.276762	0.087274	0.048494	0.014918	4.02275E-05	0.069383	0.007038146	0.080793	0.041692	20.29626
A	TOG_HTSK	0.060745	0.120653	0.063468	0.068938	0.020831	0.011136	0.00342	1.26947E-05	0.014014	0.002098044	3.555147	0.009335	4.900484
A	TOG_IDLEX	0	0	0	0	0.0248	0.018097	0.03926	0.541395418	0.052568	0	0	0.32342	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.006329	0.019954	0.010004	0.011775	0.060583	0.095343	0.026358	0.103810529	0.046832	0.694289379	1.091848	0.133799	0.062589
A	TOG_RUNLS	0.170881	0.355945	0.18526	0.207423	0.123377	0.065349	0.028627	0.000113992	0.077263	0.007877766	3.783469	0.027699	0.119258
A	TOG_STREX	0.215892	0.36958	0.2907	0.329734	0.085652	0.045119	0.037409	2.61185E-07	0.078158	0.009173371	1.234067	0.032269	0.097381
A	N2O_IDLEX	0	0	0	0	0.000589	0.00168	0.022195	0.116327365	0.013129	0	0	0.023481	0
A	N2O_RUNEX	0.003165	0.00587	0.004501	0.005405	0.035467	0.074134	0.137514	0.223022009	0.151496	0.151061958	0.036967	0.112558	0.068485
A	N2O_STREX	0.025397	0.032408	0.031653	0.032172	0.028461	0.015119	0.00476	3.77164E-06	0.011347	0.00458201	0.006341	0.004848	0.033159

Attachment 4: Project Construction Dispersion Modeling Inputs and Risk Calculations

Apollo Mixed Use, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2024	Construction	0.0665	Point	91	132.9	0.03641	4.59E-03	5.04E-05
2025	Construction	0.0462	Point	91	92.5	0.02534	3.19E-03	3.51E-05
Total		***0.1127***			***225.4***	***0.0617***	***0.0078***	

Emissions assumed to be evenly distributed over each construction areas

hr/day =	10	(7am -5pm)
days/yr =	365	
hours/year =	3650	

Apollo Mixed Use, San Jose, CA

PM2.5 Fugitive Dust Construction Emissions for Modeling

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)	DPM Emission Rate $g/s/m^2$
2024	Construction	CON_FUG	0.0123	24.7	0.00676	8.51E-04	4433.4	1.92E-07
2025	Construction	CON_FUG	0.0051	10.1	0.00278	3.50E-04	4433.4	7.89E-08
Total			***0.0174***	***34.8***	***0.0095***	***0.0012***		

Emissions assumed to be evenly distributed over each construction areas

hr/day =	10	(7am -5pm)
days/yr =	365	
hours/year =	3650	

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Emissions per Point Source (g/s)
2024	Construction	0.0091	Point	91	18.3	0.00501	6.31E-04	6.94E-06
2025	Construction	0.0091	Point	91	18.2	0.00499	6.28E-04	6.90E-06
Total		***0.0182***			***36.5***	***0.0100***	***0.0013***	

Emissions assumed to be evenly distributed over each construction areas

hr/day =	10	(7am -5pm)
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)	DPM Emission Rate $g/s/m^2$
2024	Construction	CON_FUG	0.0083	16.5	0.00452	5.70E-04	4433.4	1.28E-07
2025	Construction	CON_FUG	0.0051	10.1	0.00278	3.50E-04	4433.4	7.89E-08
Total			***0.0133***	***26.6***	***0.0073***	***0.0009***		

Emissions assumed to be evenly distributed over each construction areas

hr/day =	10	(7am -5pm)
days/yr =	365	
hours/year =	3650	

Apollo Mixed Use, San Jose, CA
Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2024	0.1512	0.0172	26.88	0.43	0.03	0.17
2025	0.1052	0.0071	17.28	0.30	0.02	0.11
Total	-	-	**44.16**	**0.74**		-
Maximum	0.1512	0.0172	**-**	**-**	**0.03**	**0.17**

Maximum Impacts at MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Infant/Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2024	0.0208	0.0115	3.70	0.06	0.004	0.03
2025	0.0207	0.0071	3.40	0.06	0.004	0.03
Total	-	-	**7.10**	**0.12**	-	-
Maximum	0.0208	0.0115	**-**	**-**	**0.004**	**0.03**

- Tier 4 Interim Engine, eBMP, electric generators and welders as mitigation.

Apollo Mixed Use, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 12.2 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						
							Modeled				Maximum		
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*	2024	0.1230	10	1.67	2024	0.1230	-	-			
1	1	0 - 1	2024	0.1230	10	20.19	2024	0.1230	1	0.35	0.025	0.01	0.13
2	1	1 - 2	2025	0.0856	10	14.05	2025	0.0856	1	0.25	0.017	0.00	0.09
3	1	2 - 3		0.0000	3	0.00		0.0000	1	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						**35.92**				**0.60**			

* Third trimester of pregnancy

Apollo Mixed Use, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 9.1 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	
				DPM Conc (ug/m3)	Age	Infant/Child		Modeled DPM Conc (ug/m3)	Age	Adult			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2024	0.1512	10	2.06	2024	0.1512	-	-			
1	1	0 - 1	2024	0.1512	10	24.83	2024	0.1512	1	0.43	0.030	0.02	0.17
2	1	1 - 2	2025	0.1052	10	17.28	2025	0.1052	1	0.30	0.021	0.01	0.11
3	1	2 - 3		0.0000	3	0.00		0.0000	1	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						**44.16**				**0.74**			

* Third trimester of pregnancy

Apollo Mixed Use, 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	
				DPM Conc (ug/m3)	Age	Infant/Child		Modeled DPM Conc (ug/m3)	Age	Adult			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2024	0.0557	10	0.76	2024	0.0557	-	-			
1	1	0 - 1	2024	0.0557	10	9.15	2024	0.0557	1	0.16	0.011	0.015	0.07
2	1	1 - 2	2025	0.0388	10	6.37	2025	0.0388	1	0.11	0.008	0.006	0.04
3	1	2 - 3		0.0000	3	0.00		0.0000	1	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						**16.28**				**0.27**			

* Third trimester of pregnancy

Apollo Mixed Use, 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						
						Infant/Child		Modeled		Adult	Adult	Maximum		
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*	2024	0.0581	10	0.79	2024	0.0581	-	-			
1	1	0 - 1	2024	0.0581	10	9.54	2024	0.0581	1	0.17	0.01	0.016	0.07
2	1	1 - 2	2025	0.0404	10	6.64	2025	0.0404	1	0.12	0.01	0.007	0.05
3	1	2 - 3		0.0000	3	0.00		0.0000	1	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						**16.97**				**0.28**			

* Third trimester of pregnancy

Apollo Mixed Use, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 12.2 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						
							Modeled				Maximum		
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*	2024	0.0169	10	0.23	2024	0.0169	-	-			
1	1	0 - 1	2024	0.0169	10	2.78	2024	0.0169	1	0.05	0.0034	0.008	0.02
2	1	1 - 2	2025	0.0168	10	2.77	2025	0.0168	1	0.05	0.0034	0.005	0.02
3	1	2 - 3		0.0000	3	0.00		0.0000	1	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						**5.77**				**0.10**			

* Third trimester of pregnancy

Apollo Mixed Use, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 9.1 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						
							Modeled				Maximum		
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*	2024	0.0208	10	0.28	2024	0.0208	-	-			
1	1	0 - 1	2024	0.0208	10	3.41	2024	0.0208	1	0.06	0.0042	0.011	0.03
2	1	1 - 2	2025	0.0207	10	3.40	2025	0.0207	1	0.06	0.0041	0.007	0.03
3	1	2 - 3		0.0000	3	0.00		0.0000	1	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						**7.10**				**0.12**			

* Third trimester of pregnancy

Apollo Mixed Use, 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		
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult			
Exposure Year	Exposure Duration (years)	Age	Year	Annual	Sensitivity Factor	Cancer Risk (per million)	Year	Annual	Sensitivity Factor	Cancer Risk (per million)	Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2024	0.0077	10	0.10	2024	0.0077	-	-			
1	1	0 - 1	2024	0.0077	10	1.26	2024	0.0077	1	0.02	0.002	0.01	0.02
2	1	1 - 2	2025	0.0076	10	1.25	2025	0.0076	1	0.02	0.002	0.01	0.01
3	1	2 - 3		0.0000	3	0.00		0.0000	1	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						**2.62**				**0.04**			

* Third trimester of pregnancy

Apollo Mixed Use, 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				Adult - Exposure Information				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled		Age	Adult			
Exposure	Exposure				Sensitivity	Cancer	DPM Conc (ug/m3)		Sensitivity	Cancer	Hazard	Fugitive	Total
Year	Duration (years)	Age	Year	Annual	Factor	Risk (per million)	Year	Annual	Factor	Risk (per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2024	0.0080	10	0.11	2024	0.0080	-	-			
1	1	0 - 1	2024	0.0080	10	1.31	2024	0.0080	1	0.02	0.002	0.01	0.02
2	1	1 - 2	2025	0.0080	10	1.31	2025	0.0080	1	0.02	0.002	0.01	0.01
3	1	2 - 3		0.0000	3	0.00		0.0000	1	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						**2.73**				**0.05**			

* Third trimester of pregnancy

Attachment 5: Cumulative Community Risk from Existing TAC Sources

```
|
           File Name:   Local Roadways 2024.EF
CT-EMFAC2017 Version:   1.0.2.27401
            Run Date:   3/24/2022 10:29:59 AM
                Area:   Santa Clara (SF)
       Analysis Year:   2024
              Season:   Annual

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

Vehicle Category        VMT Fraction            Diesel VMT Fraction     Gas VMT Fraction
                        Across Category         Within Category         Within Category
         Truck 1             0.015                  0.495                   0.505
         Truck 2             0.020                  0.937                   0.048
       Non-Truck             0.965                  0.014                   0.955

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

               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        30 mph          35 mph
                PM2.5      0.001693        0.001451
                  TOG      0.034349        0.028781
            Diesel PM      0.000339        0.000339

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

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

       Pollutant Name   Emission Factor
                  TOG          1.303551

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

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          0.016805

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

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

       Pollutant Name   Emission Factor
                PM2.5          0.014840

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

```
          File Name:   Local Roadways 2026.EF
CT-EMFAC2017 Version:   1.0.2.27401
            Run Date:   3/24/2022 10:43:02 AM
                Area:   Santa Clara (SF)
       Analysis Year:   2026
              Season:   Annual

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

Vehicle Category        VMT Fraction            Diesel VMT Fraction     Gas VMT Fraction
                        Across Category         Within Category         Within Category
         Truck 1             0.015                  0.508                    0.492
         Truck 2             0.020                  0.935                    0.049
       Non-Truck             0.965                  0.015                    0.949

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

              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        30 mph          35 mph
                PM2.5      0.001561        0.001341
                  TOG      0.031092        0.026106
            Diesel PM      0.000314        0.000317

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

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

       Pollutant Name   Emission Factor
                  TOG         1.210741

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

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

       Pollutant Name   Emission Factor
                PM2.5         0.002109

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

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

       Pollutant Name   Emission Factor
                PM2.5         0.016799

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

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

       Pollutant Name   Emission Factor
                PM2.5         0.014818

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

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = **2024**

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	31.7	3.4	30	5,872
DPM_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	31.7	3.4	30	5,872
									Total	11,745

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.00034			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and DPM Emissions - DPM_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.90%	229	4.96E-06	9	6.42%	377	8.16E-06	17	5.62%	330	7.14E-06
2	2.58%	151	3.28E-06	10	7.34%	431	9.33E-06	18	3.27%	192	4.15E-06
3	2.87%	168	3.64E-06	11	6.42%	377	8.16E-06	19	2.35%	138	2.99E-06
4	3.32%	195	4.23E-06	12	6.88%	404	8.75E-06	20	0.86%	50	1.09E-06
5	2.18%	128	2.77E-06	13	6.25%	367	7.94E-06	21	3.09%	182	3.94E-06
6	3.38%	199	4.30E-06	14	6.19%	363	7.87E-06	22	4.13%	242	5.25E-06
7	6.02%	353	7.65E-06	15	5.10%	300	6.49E-06	23	2.52%	148	3.21E-06
8	4.64%	273	5.90E-06	16	3.78%	222	4.81E-06	24	0.92%	54	1.17E-06
								Total		5,872	

2024 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.90%	229	4.96E-06	9	6.42%	377	8.16E-06	17	5.62%	330	7.14E-06
2	2.58%	151	3.28E-06	10	7.34%	431	9.33E-06	18	3.27%	192	4.16E-06
3	2.87%	168	3.64E-06	11	6.42%	377	8.16E-06	19	2.35%	138	2.99E-06
4	3.32%	195	4.23E-06	12	6.88%	404	8.75E-06	20	0.86%	50	1.09E-06
5	2.18%	128	2.77E-06	13	6.25%	367	7.95E-06	21	3.09%	182	3.94E-06
6	3.38%	199	4.30E-06	14	6.19%	363	7.87E-06	22	4.13%	242	5.25E-06
7	6.02%	353	7.65E-06	15	5.10%	300	6.49E-06	23	2.52%	148	3.21E-06
8	4.64%	273	5.90E-06	16	3.78%	222	4.81E-06	24	0.92%	54	1.17E-06
								Total		5,872	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = **2024**

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	32	1.3	30	5,872
PM2.5_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	32	1.3	30	5,872
									Total	11,745

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.001693			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	68	7.31E-06	9	7.11%	418	4.52E-05	17	7.39%	434	4.69E-05
2	0.42%	25	2.65E-06	10	4.39%	258	2.79E-05	18	8.18%	480	5.19E-05
3	0.41%	24	2.58E-06	11	4.66%	274	2.96E-05	19	5.70%	334	3.62E-05
4	0.26%	15	1.66E-06	12	5.89%	346	3.74E-05	20	4.27%	251	2.71E-05
5	0.50%	29	3.17E-06	13	6.15%	361	3.91E-05	21	3.26%	191	2.07E-05
6	0.90%	53	5.74E-06	14	6.04%	355	3.83E-05	22	3.30%	194	2.09E-05
7	3.79%	223	2.41E-05	15	7.01%	412	4.46E-05	23	2.46%	145	1.56E-05
8	7.76%	456	4.93E-05	16	7.14%	419	4.53E-05	24	1.87%	110	1.19E-05
								Total		5,872	

2024 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	68	7.32E-06	9	7.11%	418	4.52E-05	17	7.39%	434	4.69E-05
2	0.42%	25	2.65E-06	10	4.39%	258	2.79E-05	18	8.18%	480	5.19E-05
3	0.41%	24	2.58E-06	11	4.66%	274	2.96E-05	19	5.70%	334	3.62E-05
4	0.26%	15	1.66E-06	12	5.89%	346	3.74E-05	20	4.27%	251	2.72E-05
5	0.50%	29	3.17E-06	13	6.15%	361	3.91E-05	21	3.26%	191	2.07E-05
6	0.90%	53	5.74E-06	14	6.04%	355	3.84E-05	22	3.30%	194	2.09E-05
7	3.79%	223	2.41E-05	15	7.01%	412	4.46E-05	23	2.46%	145	1.56E-05
8	7.76%	456	4.93E-05	16	7.14%	419	4.53E-05	24	1.87%	110	1.19E-05
								Total		5,872	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2024

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	32	1.3	30	5,872
TEXH_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	32	1.3	30	5,872
									Total	11,745

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.03435			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	68	1.48E-04	9	7.11%	418	9.16E-04	17	7.39%	434	9.52E-04
2	0.42%	25	5.38E-05	10	4.39%	258	5.65E-04	18	8.18%	480	1.05E-03
3	0.41%	24	5.23E-05	11	4.66%	274	6.01E-04	19	5.70%	334	7.34E-04
4	0.26%	15	3.37E-05	12	5.89%	346	7.59E-04	20	4.27%	251	5.51E-04
5	0.50%	29	6.44E-05	13	6.15%	361	7.93E-04	21	3.26%	191	4.20E-04
6	0.90%	53	1.16E-04	14	6.04%	355	7.78E-04	22	3.30%	194	4.25E-04
7	3.79%	223	4.88E-04	15	7.01%	412	9.04E-04	23	2.46%	145	3.17E-04
8	7.76%	456	1.00E-03	16	7.14%	419	9.20E-04	24	1.87%	110	2.40E-04
								Total		5,872	

2024 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	68	1.48E-04	9	7.11%	418	9.17E-04	17	7.39%	434	9.52E-04
2	0.42%	25	5.38E-05	10	4.39%	258	5.65E-04	18	8.18%	480	1.05E-03
3	0.41%	24	5.23E-05	11	4.66%	274	6.01E-04	19	5.70%	334	7.34E-04
4	0.26%	15	3.37E-05	12	5.89%	346	7.59E-04	20	4.27%	251	5.51E-04
5	0.50%	29	6.44E-05	13	6.15%	361	7.93E-04	21	3.26%	191	4.20E-04
6	0.90%	53	1.16E-04	14	6.04%	355	7.78E-04	22	3.30%	194	4.25E-04
7	3.79%	223	4.89E-04	15	7.01%	412	9.04E-04	23	2.46%	145	3.17E-04
8	7.76%	456	1.00E-03	16	7.14%	419	9.20E-04	24	1.87%	110	2.40E-04
								Total		5,872	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2024

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	32	1.3	30	5,872
TEVAP_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	32	1.3	30	5,872
									Total	11,745

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle per Hour (g/hour)	1.30355			
Emissions per Vehicle per Mile (g/VMT)	0.04345			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	68	1.88E-04	9	7.11%	418	1.16E-03	17	7.39%	434	1.20E-03
2	0.42%	25	6.81E-05	10	4.39%	258	7.15E-04	18	8.18%	480	1.33E-03
3	0.41%	24	6.62E-05	11	4.66%	274	7.60E-04	19	5.70%	334	9.28E-04
4	0.26%	15	4.26E-05	12	5.89%	346	9.60E-04	20	4.27%	251	6.97E-04
5	0.50%	29	8.14E-05	13	6.15%	361	1.00E-03	21	3.26%	191	5.31E-04
6	0.90%	53	1.47E-04	14	6.04%	355	9.84E-04	22	3.30%	194	5.37E-04
7	3.79%	223	6.18E-04	15	7.01%	412	1.14E-03	23	2.46%	145	4.01E-04
8	7.76%	456	1.27E-03	16	7.14%	419	1.16E-03	24	1.87%	110	3.04E-04
								Total		5,872	

2024 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	68	1.88E-04	9	7.11%	418	1.16E-03	17	7.39%	434	1.20E-03
2	0.42%	25	6.81E-05	10	4.39%	258	7.15E-04	18	8.18%	480	1.33E-03
3	0.41%	24	6.62E-05	11	4.66%	274	7.61E-04	19	5.70%	334	9.29E-04
4	0.26%	15	4.26E-05	12	5.89%	346	9.60E-04	20	4.27%	251	6.97E-04
5	0.50%	29	8.15E-05	13	6.15%	361	1.00E-03	21	3.26%	191	5.31E-04
6	0.90%	53	1.47E-04	14	6.04%	355	9.84E-04	22	3.30%	194	5.37E-04
7	3.79%	223	6.18E-04	15	7.01%	412	1.14E-03	23	2.46%	145	4.01E-04
8	7.76%	456	1.27E-03	16	7.14%	419	1.16E-03	24	1.87%	110	3.04E-04
								Total		5,872	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = **2024**

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	32	1.3	30	5,872
FUG_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	32	1.3	30	5,872
									Total	11,745

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
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)	0.01484			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03375			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	68	1.46E-04	9	7.11%	418	9.01E-04	17	7.39%	434	9.35E-04
2	0.42%	25	5.29E-05	10	4.39%	258	5.55E-04	18	8.18%	480	1.04E-03
3	0.41%	24	5.14E-05	11	4.66%	274	5.91E-04	19	5.70%	334	7.21E-04
4	0.26%	15	3.31E-05	12	5.89%	346	7.46E-04	20	4.27%	251	5.41E-04
5	0.50%	29	6.33E-05	13	6.15%	361	7.79E-04	21	3.26%	191	4.12E-04
6	0.90%	53	1.14E-04	14	6.04%	355	7.64E-04	22	3.30%	194	4.17E-04
7	3.79%	223	4.80E-04	15	7.01%	412	8.88E-04	23	2.46%	145	3.12E-04
8	7.76%	456	9.83E-04	16	7.14%	419	9.04E-04	24	1.87%	110	2.36E-04
								Total		5,872	

2024 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	68	1.46E-04	9	7.11%	418	9.01E-04	17	7.39%	434	9.35E-04
2	0.42%	25	5.29E-05	10	4.39%	258	5.55E-04	18	8.18%	480	1.04E-03
3	0.41%	24	5.14E-05	11	4.66%	274	5.91E-04	19	5.70%	334	7.21E-04
4	0.26%	15	3.31E-05	12	5.89%	346	7.46E-04	20	4.27%	251	5.41E-04
5	0.50%	29	6.33E-05	13	6.15%	361	7.79E-04	21	3.26%	191	4.13E-04
6	0.90%	53	1.14E-04	14	6.04%	355	7.65E-04	22	3.30%	194	4.18E-04
7	3.79%	223	4.80E-04	15	7.01%	412	8.88E-04	23	2.46%	145	3.12E-04
8	7.76%	456	9.83E-04	16	7.14%	419	9.04E-04	24	1.87%	110	2.36E-04
								Total		5,872	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - West Santa Clara Street
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2024

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_WSC	W Santa Clara St Northbound	EB	2	670.6	0.42	13.3	43.7	3.4	30	10,062
DPM_WB_WSC	W Santa Clara St Southbound	WB	2	671.6	0.42	13.3	43.7	3.4	30	10,062
									Total	20,124

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.00034			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and DPM Emissions - DPM_EB_WSC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.90%	392	1.54E-05	9	6.42%	646	2.53E-05	17	5.62%	565	2.22E-05
2	2.58%	259	1.02E-05	10	7.34%	738	2.90E-05	18	3.27%	329	1.29E-05
3	2.87%	288	1.13E-05	11	6.42%	646	2.53E-05	19	2.35%	236	9.28E-06
4	3.32%	334	1.31E-05	12	6.88%	692	2.72E-05	20	0.86%	86	3.39E-06
5	2.18%	219	8.60E-06	13	6.25%	629	2.47E-05	21	3.09%	311	1.22E-05
6	3.38%	340	1.33E-05	14	6.19%	623	2.44E-05	22	4.13%	415	1.63E-05
7	6.02%	605	2.38E-05	15	5.10%	513	2.01E-05	23	2.52%	254	9.96E-06
8	4.64%	467	1.83E-05	16	3.78%	381	1.49E-05	24	0.92%	92	3.62E-06
								Total		10,062	

2024 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WB_WSC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.90%	392	1.54E-05	9	6.42%	646	2.54E-05	17	5.62%	565	2.22E-05
2	2.58%	259	1.02E-05	10	7.34%	738	2.90E-05	18	3.27%	329	1.29E-05
3	2.87%	288	1.13E-05	11	6.42%	646	2.54E-05	19	2.35%	236	9.29E-06
4	3.32%	334	1.31E-05	12	6.88%	692	2.72E-05	20	0.86%	86	3.40E-06
5	2.18%	219	8.61E-06	13	6.25%	629	2.47E-05	21	3.09%	311	1.22E-05
6	3.38%	340	1.34E-05	14	6.19%	623	2.45E-05	22	4.13%	415	1.63E-05
7	6.02%	605	2.38E-05	15	5.10%	513	2.02E-05	23	2.52%	254	9.97E-06
8	4.64%	467	1.84E-05	16	3.78%	381	1.50E-05	24	0.92%	92	3.63E-06
								Total		10,062	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - West Santa Clara Street
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2024

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_WSC	W Santa Clara St Northbound	EB	2	670.6	0.42	13.3	44	1.3	30	10,062
PM2.5_WB_WSC	W Santa Clara St Southbound	WB	2	671.6	0.42	13.3	44	1.3	30	10,062
									Total	20,124

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.001693			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_EB_WSC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	116	2.27E-05	9	7.11%	716	1.40E-04	17	7.39%	743	1.46E-04
2	0.42%	42	8.24E-06	10	4.39%	441	8.65E-05	18	8.18%	823	1.61E-04
3	0.41%	41	8.00E-06	11	4.66%	469	9.20E-05	19	5.70%	573	1.12E-04
4	0.26%	26	5.16E-06	12	5.89%	593	1.16E-04	20	4.27%	430	8.43E-05
5	0.50%	50	9.85E-06	13	6.15%	619	1.21E-04	21	3.26%	328	6.42E-05
6	0.90%	91	1.78E-05	14	6.04%	607	1.19E-04	22	3.30%	332	6.50E-05
7	3.79%	381	7.47E-05	15	7.01%	706	1.38E-04	23	2.46%	248	4.85E-05
8	7.76%	781	1.53E-04	16	7.14%	718	1.41E-04	24	1.87%	188	3.68E-05
								Total		10,062	

2024 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_WB_WSC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	116	2.27E-05	9	7.11%	716	1.40E-04	17	7.39%	743	1.46E-04
2	0.42%	42	8.25E-06	10	4.39%	441	8.66E-05	18	8.18%	823	1.61E-04
3	0.41%	41	8.02E-06	11	4.66%	469	9.21E-05	19	5.70%	573	1.12E-04
4	0.26%	26	5.16E-06	12	5.89%	593	1.16E-04	20	4.27%	430	8.44E-05
5	0.50%	50	9.87E-06	13	6.15%	619	1.21E-04	21	3.26%	328	6.43E-05
6	0.90%	91	1.78E-05	14	6.04%	607	1.19E-04	22	3.30%	332	6.51E-05
7	3.79%	381	7.48E-05	15	7.01%	706	1.39E-04	23	2.46%	248	4.86E-05
8	7.76%	781	1.53E-04	16	7.14%	718	1.41E-04	24	1.87%	188	3.68E-05
								Total		10,062	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - West Santa Clara Street
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2024

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_WSC	W Santa Clara St Northbound	EB	2	670.6	0.42	13.3	44	1.3	30	10,062
TEXH_WB_WSC	W Santa Clara St Southbound	WB	2	671.6	0.42	13.3	44	1.3	30	10,062
									Total	20,124

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.03435			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_EB_WSC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	116	4.61E-04	9	7.11%	716	2.85E-03	17	7.39%	743	2.95E-03
2	0.42%	42	1.67E-04	10	4.39%	441	1.75E-03	18	8.18%	823	3.27E-03
3	0.41%	41	1.62E-04	11	4.66%	469	1.87E-03	19	5.70%	573	2.28E-03
4	0.26%	26	1.05E-04	12	5.89%	593	2.36E-03	20	4.27%	430	1.71E-03
5	0.50%	50	2.00E-04	13	6.15%	619	2.46E-03	21	3.26%	328	1.30E-03
6	0.90%	91	3.62E-04	14	6.04%	607	2.42E-03	22	3.30%	332	1.32E-03
7	3.79%	381	1.52E-03	15	7.01%	706	2.81E-03	23	2.46%	248	9.85E-04
8	7.76%	781	3.11E-03	16	7.14%	718	2.86E-03	24	1.87%	188	7.46E-04
								Total		10,062	

2024 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_WB_WSC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	116	4.61E-04	9	7.11%	716	2.85E-03	17	7.39%	743	2.96E-03
2	0.42%	42	1.67E-04	10	4.39%	441	1.76E-03	18	8.18%	823	3.28E-03
3	0.41%	41	1.63E-04	11	4.66%	469	1.87E-03	19	5.70%	573	2.28E-03
4	0.26%	26	1.05E-04	12	5.89%	593	2.36E-03	20	4.27%	430	1.71E-03
5	0.50%	50	2.00E-04	13	6.15%	619	2.46E-03	21	3.26%	328	1.31E-03
6	0.90%	91	3.62E-04	14	6.04%	607	2.42E-03	22	3.30%	332	1.32E-03
7	3.79%	381	1.52E-03	15	7.01%	706	2.81E-03	23	2.46%	248	9.86E-04
8	7.76%	781	3.11E-03	16	7.14%	718	2.86E-03	24	1.87%	188	7.48E-04
								Total		10,062	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - West Santa Clara Street
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2024

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_WSC	W Santa Clara St Northbound	EB	2	670.6	0.42	13.3	44	1.3	30	10,062
TEVAP_WB_WSC	W Santa Clara St Southbound	WB	2	671.6	0.42	13.3	44	1.3	30	10,062
									Total	20,124

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle per Hour (g/hour)	1.30355			
Emissions per Vehicle per Mile (g/VMT)	0.04345			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EB_WSC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	116	5.83E-04	9	7.11%	716	3.60E-03	17	7.39%	743	3.74E-03
2	0.42%	42	2.11E-04	10	4.39%	441	2.22E-03	18	8.18%	823	4.14E-03
3	0.41%	41	2.05E-04	11	4.66%	469	2.36E-03	19	5.70%	573	2.88E-03
4	0.26%	26	1.32E-04	12	5.89%	593	2.98E-03	20	4.27%	430	2.16E-03
5	0.50%	50	2.53E-04	13	6.15%	619	3.11E-03	21	3.26%	328	1.65E-03
6	0.90%	91	4.57E-04	14	6.04%	607	3.06E-03	22	3.30%	332	1.67E-03
7	3.79%	381	1.92E-03	15	7.01%	706	3.55E-03	23	2.46%	248	1.25E-03
8	7.76%	781	3.93E-03	16	7.14%	718	3.61E-03	24	1.87%	188	9.44E-04
								Total		10,062	

2024 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WB_WSC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	116	5.84E-04	9	7.11%	716	3.60E-03	17	7.39%	743	3.74E-03
2	0.42%	42	2.12E-04	10	4.39%	441	2.22E-03	18	8.18%	823	4.14E-03
3	0.41%	41	2.06E-04	11	4.66%	469	2.36E-03	19	5.70%	573	2.89E-03
4	0.26%	26	1.33E-04	12	5.89%	593	2.98E-03	20	4.27%	430	2.17E-03
5	0.50%	50	2.53E-04	13	6.15%	619	3.12E-03	21	3.26%	328	1.65E-03
6	0.90%	91	4.58E-04	14	6.04%	607	3.06E-03	22	3.30%	332	1.67E-03
7	3.79%	381	1.92E-03	15	7.01%	706	3.56E-03	23	2.46%	248	1.25E-03
8	7.76%	781	3.94E-03	16	7.14%	718	3.62E-03	24	1.87%	188	9.46E-04
								Total		10,062	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - West Santa Clara Street
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2024

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_WSC	W Santa Clara St Northbound	EB	2	670.6	0.42	13.3	44	1.3	30	10,062
FUG_WB_WSC	W Santa Clara St Southbound	WB	2	671.6	0.42	13.3	44	1.3	30	10,062
									Total	20,124

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
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)	0.01484			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03375			

Emisson Factors from CT-EMFAC2017

2024 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_EB_WSC

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	116	4.53E-04	9	7.11%	716	2.80E-03	17	7.39%	743	2.90E-03
2	0.42%	42	1.64E-04	10	4.39%	441	1.72E-03	18	8.18%	823	3.21E-03
3	0.41%	41	1.60E-04	11	4.66%	469	1.83E-03	19	5.70%	573	2.24E-03
4	0.26%	26	1.03E-04	12	5.89%	593	2.31E-03	20	4.27%	430	1.68E-03
5	0.50%	50	1.96E-04	13	6.15%	619	2.42E-03	21	3.26%	328	1.28E-03
6	0.90%	91	3.55E-04	14	6.04%	607	2.37E-03	22	3.30%	332	1.30E-03
7	3.79%	381	1.49E-03	15	7.01%	706	2.76E-03	23	2.46%	248	9.68E-04
8	7.76%	781	3.05E-03	16	7.14%	718	2.81E-03	24	1.87%	188	7.34E-04
								Total		10,062	

2024 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_WB_WSC

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	116	4.53E-04	9	7.11%	716	2.80E-03	17	7.39%	743	2.91E-03
2	0.42%	42	1.64E-04	10	4.39%	441	1.73E-03	18	8.18%	823	3.22E-03
3	0.41%	41	1.60E-04	11	4.66%	469	1.84E-03	19	5.70%	573	2.24E-03
4	0.26%	26	1.03E-04	12	5.89%	593	2.32E-03	20	4.27%	430	1.68E-03
5	0.50%	50	1.97E-04	13	6.15%	619	2.42E-03	21	3.26%	328	1.28E-03
6	0.90%	91	3.56E-04	14	6.04%	607	2.38E-03	22	3.30%	332	1.30E-03
7	3.79%	381	1.49E-03	15	7.01%	706	2.76E-03	23	2.46%	248	9.69E-04
8	7.76%	781	3.06E-03	16	7.14%	718	2.81E-03	24	1.87%	188	7.35E-04
								Total		10,062	

Apollo Mixed Use, San Jose, CA - West San Carlos Street Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (9.1 meter receptor height)

Emission Year	2024
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	9.1 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions

BAAQMD San Jose International Met D	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	0.0006	0.0420	0.0531

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	0.0434	0.0413	0.0021

Apollo Mixed Use, San Jose, CA - Stockton Avenue Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (9.1 meter receptor height)

Emission Year	2024
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	9.1 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions

BAAQMD San Jose International Met D	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	0.0004	0.0422	0.0533

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	0.0436	0.0415	0.0021

Apollo Mixed Use, San Jose, CA - West San Carlos Street Traffic Cancer Risk
Impacts at Construction Residential MEI - 9.1 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)			
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL
0	0.25	-0.25 - 0*	2023	10	0.0006	0.0420	0.0531	0.008	0.003	0.0002	0.01
1	1	0 - 1	2023	10	0.0006	0.0420	0.0531	0.094	0.039	0.0029	0.14
2	1	1 - 2	2024	10	0.0006	0.0420	0.0531	0.094	0.039	0.0029	0.14
3	1	2 - 3	2025	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
4	1	3 - 4	2026	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
5	1	4 - 5	2027	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
6	1	5 - 6	2028	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
7	1	6 - 7	2029	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
8	1	7 - 8	2030	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
9	1	8 - 9	2031	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
10	1	9 - 10	2032	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
11	1	10 - 11	2033	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
12	1	11 - 12	2034	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
13	1	12 - 13	2035	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
14	1	13 - 14	2036	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
15	1	14 - 15	2037	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
16	1	15 - 16	2038	3	0.0006	0.0420	0.0531	0.015	0.006	0.0005	0.02
17	1	16-17	2039	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
18	1	17-18	2040	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
19	1	18-19	2041	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
20	1	19-20	2042	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
21	1	20-21	2043	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
22	1	21-22	2044	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
23	1	22-23	2045	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
24	1	23-24	2046	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
25	1	24-25	2047	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
26	1	25-26	2048	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
27	1	26-27	2049	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
28	1	27-28	2050	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
29	1	28-29	2051	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
30	1	29-30	2052	1	0.0006	0.0420	0.0531	0.002	0.001	0.0001	0.00
Total Increased Cancer Risk								0.42	0.179	0.013	**0.62**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00011	0.04	0.04

* Third trimester of pregnancy

Apollo Mixed Use, San Jose, CA - Stockton Avenue Traffic Cancer Risk
Impacts at Construction Residential MEI - 9.1 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*	2023	10	0.0004	0.0422	0.0533	0.006	0.003	0.0002	0.01
1	1	0 - 1	2023	10	0.0004	0.0422	0.0533	0.072	0.040	0.0029	0.11
2	1	1 - 2	2024	10	0.0004	0.0422	0.0533	0.072	0.040	0.0029	0.11
3	1	2 - 3	2025	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
4	1	3 - 4	2026	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
5	1	4 - 5	2027	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
6	1	5 - 6	2028	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
7	1	6 - 7	2029	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
8	1	7 - 8	2030	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
9	1	8 - 9	2031	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
10	1	9 - 10	2032	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
11	1	10 - 11	2033	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
12	1	11 - 12	2034	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
13	1	12 - 13	2035	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
14	1	13 - 14	2036	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
15	1	14 - 15	2037	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
16	1	15 - 16	2038	3	0.0004	0.0422	0.0533	0.011	0.006	0.0005	0.02
17	1	16-17	2039	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
18	1	17-18	2040	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
19	1	18-19	2041	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
20	1	19-20	2042	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
21	1	20-21	2043	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
22	1	21-22	2044	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
23	1	22-23	2045	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
24	1	23-24	2046	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
25	1	24-25	2047	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
26	1	25-26	2048	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
27	1	26-27	2049	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
28	1	27-28	2050	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
29	1	28-29	2051	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
30	1	29-30	2052	1	0.0004	0.0422	0.0533	0.001	0.001	0.0001	0.00
Total Increased Cancer Risk								0.33	0.179	0.013	**0.52**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.00009	0.04	0.04

* Third trimester of pregnancy

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = **2026**

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	31.7	3.4	30	5,983
DPM_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	31.7	3.4	30	5,983
									Total	11,967

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.00031			

Emisson Factors from CT-EMFAC2017

2026 Hourly Traffic Volumes and DPM Emissions - DPM_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.98%	238	4.77E-06	9	6.44%	385	7.73E-06	17	5.53%	331	6.64E-06
2	2.67%	160	3.20E-06	10	7.40%	442	8.88E-06	18	3.14%	188	3.77E-06
3	2.84%	170	3.41E-06	11	6.32%	378	7.58E-06	19	2.35%	140	2.82E-06
4	3.30%	197	3.96E-06	12	6.88%	412	8.26E-06	20	0.86%	52	1.03E-06
5	2.16%	129	2.59E-06	13	6.27%	375	7.52E-06	21	3.08%	184	3.69E-06
6	3.30%	197	3.96E-06	14	6.21%	372	7.45E-06	22	4.21%	252	5.06E-06
7	6.03%	361	7.24E-06	15	5.13%	307	6.16E-06	23	2.62%	157	3.15E-06
8	4.56%	273	5.48E-06	16	3.88%	232	4.66E-06	24	0.85%	51	1.02E-06
								Total		5,983	

2026 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.98%	238	4.77E-06	9	6.44%	385	7.73E-06	17	5.53%	331	6.64E-06
2	2.67%	160	3.21E-06	10	7.40%	442	8.88E-06	18	3.14%	188	3.77E-06
3	2.84%	170	3.41E-06	11	6.32%	378	7.58E-06	19	2.35%	140	2.82E-06
4	3.30%	197	3.96E-06	12	6.88%	412	8.26E-06	20	0.86%	52	1.03E-06
5	2.16%	129	2.59E-06	13	6.27%	375	7.52E-06	21	3.08%	184	3.69E-06
6	3.30%	197	3.96E-06	14	6.21%	372	7.46E-06	22	4.21%	252	5.06E-06
7	6.03%	361	7.24E-06	15	5.13%	307	6.16E-06	23	2.62%	157	3.15E-06
8	4.56%	273	5.48E-06	16	3.88%	232	4.66E-06	24	0.85%	51	1.02E-06
								Total		5,983	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2026

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	32	1.3	30	5,983
PM2.5_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	32	1.3	30	5,983
									Total	11,967

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.001561			

Emisson Factors from CT-EMFAC2017

2026 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	69	6.86E-06	9	7.11%	426	4.24E-05	17	7.38%	442	4.41E-05
2	0.42%	25	2.51E-06	10	4.39%	262	2.62E-05	18	8.18%	489	4.88E-05
3	0.41%	24	2.42E-06	11	4.66%	279	2.78E-05	19	5.70%	341	3.40E-05
4	0.26%	16	1.56E-06	12	5.89%	352	3.51E-05	20	4.27%	256	2.55E-05
5	0.50%	30	2.98E-06	13	6.15%	368	3.67E-05	21	3.26%	195	1.94E-05
6	0.90%	54	5.39E-06	14	6.04%	361	3.60E-05	22	3.30%	197	1.97E-05
7	3.79%	227	2.26E-05	15	7.01%	420	4.18E-05	23	2.46%	147	1.47E-05
8	7.76%	464	4.63E-05	16	7.14%	427	4.26E-05	24	1.87%	112	1.11E-05
								Total		5,983	

2026 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	69	6.86E-06	9	7.11%	426	4.24E-05	17	7.38%	442	4.41E-05
2	0.42%	25	2.51E-06	10	4.39%	262	2.62E-05	18	8.18%	489	4.88E-05
3	0.41%	24	2.42E-06	11	4.66%	279	2.78E-05	19	5.70%	341	3.40E-05
4	0.26%	16	1.56E-06	12	5.89%	352	3.51E-05	20	4.27%	256	2.55E-05
5	0.50%	30	2.98E-06	13	6.15%	368	3.67E-05	21	3.26%	195	1.94E-05
6	0.90%	54	5.40E-06	14	6.04%	361	3.60E-05	22	3.30%	197	1.97E-05
7	3.79%	227	2.26E-05	15	7.01%	420	4.19E-05	23	2.46%	147	1.47E-05
8	7.76%	464	4.63E-05	16	7.14%	427	4.26E-05	24	1.87%	112	1.11E-05
								Total		5,983	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2026

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	32	1.3	30	5,983
TEXH_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	32	1.3	30	5,983
									Total	11,967

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.03109			

Emisson Factors from CT-EMFAC2017

2026 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	69	1.37E-04	9	7.11%	426	8.45E-04	17	7.38%	442	8.78E-04
2	0.42%	25	5.00E-05	10	4.39%	262	5.21E-04	18	8.18%	489	9.72E-04
3	0.41%	24	4.82E-05	11	4.66%	279	5.54E-04	19	5.70%	341	6.77E-04
4	0.26%	16	3.10E-05	12	5.89%	352	7.00E-04	20	4.27%	256	5.08E-04
5	0.50%	30	5.93E-05	13	6.15%	368	7.31E-04	21	3.26%	195	3.87E-04
6	0.90%	54	1.07E-04	14	6.04%	361	7.17E-04	22	3.30%	197	3.92E-04
7	3.79%	227	4.50E-04	15	7.01%	420	8.33E-04	23	2.46%	147	2.93E-04
8	7.76%	464	9.23E-04	16	7.14%	427	8.48E-04	24	1.87%	112	2.22E-04
								Total		5,983	

2026 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	69	1.37E-04	9	7.11%	426	8.45E-04	17	7.38%	442	8.78E-04
2	0.42%	25	5.00E-05	10	4.39%	262	5.21E-04	18	8.18%	489	9.72E-04
3	0.41%	24	4.82E-05	11	4.66%	279	5.54E-04	19	5.70%	341	6.77E-04
4	0.26%	16	3.10E-05	12	5.89%	352	7.00E-04	20	4.27%	256	5.08E-04
5	0.50%	30	5.93E-05	13	6.15%	368	7.31E-04	21	3.26%	195	3.87E-04
6	0.90%	54	1.07E-04	14	6.04%	361	7.18E-04	22	3.30%	197	3.92E-04
7	3.79%	227	4.50E-04	15	7.01%	420	8.34E-04	23	2.46%	147	2.93E-04
8	7.76%	464	9.23E-04	16	7.14%	427	8.49E-04	24	1.87%	112	2.22E-04
								Total		5,983	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2026

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	32	1.3	30	5,983
TEVAP_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	32	1.3	30	5,983
									Total	11,967

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle per Hour (g/hour)	1.21074			
Emissions per Vehicle per Mile (g/VMT)	0.04036			

Emisson Factors from CT-EMFAC2017

2026 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	69	1.77E-04	9	7.11%	426	1.10E-03	17	7.38%	442	1.14E-03
2	0.42%	25	6.49E-05	10	4.39%	262	6.77E-04	18	8.18%	489	1.26E-03
3	0.41%	24	6.25E-05	11	4.66%	279	7.19E-04	19	5.70%	341	8.79E-04
4	0.26%	16	4.02E-05	12	5.89%	352	9.08E-04	20	4.27%	256	6.59E-04
5	0.50%	30	7.69E-05	13	6.15%	368	9.49E-04	21	3.26%	195	5.03E-04
6	0.90%	54	1.39E-04	14	6.04%	361	9.31E-04	22	3.30%	197	5.09E-04
7	3.79%	227	5.84E-04	15	7.01%	420	1.08E-03	23	2.46%	147	3.80E-04
8	7.76%	464	1.20E-03	16	7.14%	427	1.10E-03	24	1.87%	112	2.88E-04
								Total		5,983	

2026 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	69	1.77E-04	9	7.11%	426	1.10E-03	17	7.38%	442	1.14E-03
2	0.42%	25	6.49E-05	10	4.39%	262	6.77E-04	18	8.18%	489	1.26E-03
3	0.41%	24	6.25E-05	11	4.66%	279	7.19E-04	19	5.70%	341	8.79E-04
4	0.26%	16	4.02E-05	12	5.89%	352	9.09E-04	20	4.27%	256	6.59E-04
5	0.50%	30	7.69E-05	13	6.15%	368	9.49E-04	21	3.26%	195	5.03E-04
6	0.90%	54	1.39E-04	14	6.04%	361	9.31E-04	22	3.30%	197	5.09E-04
7	3.79%	227	5.84E-04	15	7.01%	420	1.08E-03	23	2.46%	147	3.80E-04
8	7.76%	464	1.20E-03	16	7.14%	427	1.10E-03	24	1.87%	112	2.88E-04
								Total		5,983	

Apollo Mixed Use, San Jose, CA - Off-Site Residential
Cumulative Operation - Stockton Avenue
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = **2026**

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_NB_STK	Stockton Avenue Northbound	NB	1	370.1	0.23	9.7	32	1.3	30	5,983
FUG_SB_STK	Stockton Avenue Southbound	SB	1	370.2	0.23	9.7	32	1.3	30	5,983
									Total	11,967

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00211			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01680			
Road Dust - Emissions per Vehicle (g/VMT)	0.01482			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03373			

Emisson Factors from CT-EMFAC2017

2026 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_STK

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	69	1.48E-04	9	7.11%	426	9.17E-04	17	7.38%	442	9.52E-04
2	0.42%	25	5.42E-05	10	4.39%	262	5.65E-04	18	8.18%	489	1.05E-03
3	0.41%	24	5.23E-05	11	4.66%	279	6.01E-04	19	5.70%	341	7.35E-04
4	0.26%	16	3.36E-05	12	5.89%	352	7.59E-04	20	4.27%	256	5.51E-04
5	0.50%	30	6.43E-05	13	6.15%	368	7.93E-04	21	3.26%	195	4.20E-04
6	0.90%	54	1.17E-04	14	6.04%	361	7.78E-04	22	3.30%	197	4.25E-04
7	3.79%	227	4.88E-04	15	7.01%	420	9.04E-04	23	2.46%	147	3.17E-04
8	7.76%	464	1.00E-03	16	7.14%	427	9.20E-04	24	1.87%	112	2.41E-04
								Total		5,983	

2026 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_STK

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	69	1.48E-04	9	7.11%	426	9.17E-04	17	7.38%	442	9.52E-04
2	0.42%	25	5.42E-05	10	4.39%	262	5.66E-04	18	8.18%	489	1.05E-03
3	0.41%	24	5.23E-05	11	4.66%	279	6.01E-04	19	5.70%	341	7.35E-04
4	0.26%	16	3.36E-05	12	5.89%	352	7.59E-04	20	4.27%	256	5.51E-04
5	0.50%	30	6.43E-05	13	6.15%	368	7.93E-04	21	3.26%	195	4.20E-04
6	0.90%	54	1.17E-04	14	6.04%	361	7.78E-04	22	3.30%	197	4.26E-04
7	3.79%	227	4.88E-04	15	7.01%	420	9.04E-04	23	2.46%	147	3.18E-04
8	7.76%	464	1.00E-03	16	7.14%	427	9.20E-04	24	1.87%	112	2.41E-04
								Total		5,983	

Apollo Mixed Use, San Jose, CA - West San Carlos Street Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site Receptors (7.9 meter receptor height)

Emission Year	2025
Receptor Information	Maximum On-Site Receptor
Number of Receptors	91
Receptor Height	7.9 meters
Receptor Distances	7 meters

Meteorological Conditions

BAAQMD San Jose International Met D	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction School MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0011	0.0640	0.0831

Construction School MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0726	0.0694	0.0032

Apollo Mixed Use, San Jose, CA - Stockton Avenue Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site Receptors (7.9 meter receptor height)

Emission Year	2026
Receptor Information	Maximum On-Site Receptor
Number of Receptors	91
Receptor Height	7.9 meters
Receptor Distances	7 meters

Meteorological Conditions

BAAQMD San Jose International Met D	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction School MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0009	0.0602	0.0782

Construction School MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0684	0.0653	0.0030

Apollo Mixed Use, San Jose, CA - West San Carlos Street Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site Receptors (11 meter receptor height)

Emission Year	2026
Receptor Information	Maximum On-Site Receptor
Number of Receptors	91
Receptor Height	11 meters
Receptor Distances	7 meters

Meteorological Conditions

BAAQMD San Jose International Met D	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction School MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0006	0.0362	0.0470

Construction School MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0411	0.0392	0.0018

Apollo Mixed Use, San Jose, CA - Stockton Avenue Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site Receptors (11 meter receptor height)

Emission Year	2026
Receptor Information	Maximum On-Site Receptor
Number of Receptors	91
Receptor Height	11 meters
Receptor Distances	7 meters

Meteorological Conditions

BAAQMD San Jose International Met D	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Wind Direction	Variable

Construction School MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.0005	0.0327	0.0425

Construction School MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0371	0.0355	0.0016

Apollo Mixed Use, San Jose, CA - West San Carlos Street Traffic Cancer Risk
Impacts at On-Site 2nd Floor Receptors - 7.9 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 $(\mu g/m^3)$
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

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
8-Hr BR* =	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

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	1	-0.25 - 0*	2025	10	0.0011	0.0640	0.0831	0.044	0.014	0.0011	0.06
1	1	0 - 1	2025	10	0.0011	0.0640	0.0831	0.146	0.047	0.0036	0.20
2	1	1 - 2	2026	10	0.0011	0.0640	0.0831	0.146	0.047	0.0036	0.20
3	1	2 - 3	2027	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
4	1	3 - 4	2028	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
5	1	4 - 5	2029	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
6	1	5 - 6	2030	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
7	1	6 - 7	2031	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
8	1	7 - 8	2032	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
9	1	8 - 9	2033	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
10	1	9 - 10	2034	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
11	1	10 - 11	2035	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
12	1	11 - 12	2036	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
13	1	12 - 13	2037	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
14	1	13 - 14	2038	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
15	1	14 - 15	2039	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
16	1	15 - 16	2040	3	0.0011	0.0640	0.0831	0.071	0.023	0.0018	0.10
17	1	16-17	2041	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
18	1	17-18	2042	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
19	1	18-19	2043	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
20	1	19-20	2044	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
21	1	20-21	2045	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
22	1	21-22	2046	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
23	1	22-23	2047	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
24	1	23-24	2048	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
25	1	24-25	2049	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
26	1	25-26	2050	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
27	1	26-27	2051	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
28	1	27-28	2052	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
29	1	28-29	2053	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
30	1	29-30	2054	1	0.0011	0.0640	0.0831	0.003	0.001	0.0001	0.00
Total Increased Cancer Risk								1.367	0.442	0.034	**1.84**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0002	0.07	0.07

* Third trimester of pregnancy

Apollo Mixed Use, San Jose, CA - Stockton Avenue Traffic Cancer Risk
Impacts at On-Site 2nd Floor Receptors - 7.9 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 $(\mu g/m^3)$
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

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
8-Hr BR* =	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

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	1	-0.25 - 0*	2025	10	0.0009	0.0602	0.0782	0.035	0.013	0.0010	0.05
1	1	0 - 1	2025	10	0.0009	0.0602	0.0782	0.116	0.044	0.0034	0.16
2	1	1 - 2	2026	10	0.0009	0.0602	0.0782	0.116	0.044	0.0034	0.16
3	1	2 - 3	2027	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
4	1	3 - 4	2028	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
5	1	4 - 5	2029	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
6	1	5 - 6	2030	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
7	1	6 - 7	2031	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
8	1	7 - 8	2032	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
9	1	8 - 9	2033	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
10	1	9 - 10	2034	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
11	1	10 - 11	2035	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
12	1	11 - 12	2036	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
13	1	12 - 13	2037	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
14	1	13 - 14	2038	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
15	1	14 - 15	2039	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
16	1	15 - 16	2040	3	0.0009	0.0602	0.0782	0.056	0.022	0.0016	0.08
17	1	16-17	2041	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
18	1	17-18	2042	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
19	1	18-19	2043	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
20	1	19-20	2044	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
21	1	20-21	2045	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
22	1	21-22	2046	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
23	1	22-23	2047	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
24	1	23-24	2048	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
25	1	24-25	2049	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
26	1	25-26	2050	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
27	1	26-27	2051	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
28	1	27-28	2052	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
29	1	28-29	2053	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
30	1	29-30	2054	1	0.0009	0.0602	0.0782	0.002	0.001	0.0001	0.00
Total Increased Cancer Risk								1.089	0.416	0.032	**1.54**

Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0002	0.07	0.07

* Third trimester of pregnancy

Apollo Mixed Use, San Jose, CA - Stockton Avenue Traffic Cancer Risk
Impacts at On-Site 3rd Floor Receptors - 11 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 $(\mu g/m^3)$
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

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
8-Hr BR* =	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

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	1	-0.25 - 0*	2025	10	0.0006	0.0362	0.0470	0.023	0.008	0.0006	0.03
1	1	0 - 1	2025	10	0.0006	0.0362	0.0470	0.075	0.027	0.0020	0.10
2	1	1 - 2	2026	10	0.0006	0.0362	0.0470	0.075	0.027	0.0020	0.10
3	1	2 - 3	2027	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
4	1	3 - 4	2028	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
5	1	4 - 5	2029	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
6	1	5 - 6	2030	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
7	1	6 - 7	2031	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
8	1	7 - 8	2032	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
9	1	8 - 9	2033	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
10	1	9 - 10	2034	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
11	1	10 - 11	2035	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
12	1	11 - 12	2036	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
13	1	12 - 13	2037	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
14	1	13 - 14	2038	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
15	1	14 - 15	2039	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
16	1	15 - 16	2040	3	0.0006	0.0362	0.0470	0.036	0.013	0.0010	0.05
17	1	16-17	2041	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
18	1	17-18	2042	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
19	1	18-19	2043	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
20	1	19-20	2044	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
21	1	20-21	2045	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
22	1	21-22	2046	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
23	1	22-23	2047	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
24	1	23-24	2048	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
25	1	24-25	2049	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
26	1	25-26	2050	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
27	1	26-27	2051	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
28	1	27-28	2052	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
29	1	28-29	2053	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
30	1	29-30	2054	1	0.0006	0.0362	0.0470	0.001	0.001	0.0000	0.00
Total Increased Cancer Risk								0.702	0.250	0.019	**0.97**

Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0001	0.04	0.04

* Third trimester of pregnancy

Apollo Mixed Use, San Jose, CA - Stockton Avenue Traffic Cancer Risk
Impacts at On-Site 3rd Floor Receptors - 11 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 $(\mu g/m^3)$
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

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
8-Hr BR* =	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

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	1	-0.25 - 0*	2025	10	0.0005	0.0327	0.0425	0.017	0.007	0.0006	0.03
1	1	0 - 1	2025	10	0.0005	0.0327	0.0425	0.058	0.024	0.0018	0.08
2	1	1 - 2	2026	10	0.0005	0.0327	0.0425	0.058	0.024	0.0018	0.08
3	1	2 - 3	2027	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
4	1	3 - 4	2028	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
5	1	4 - 5	2029	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
6	1	5 - 6	2030	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
7	1	6 - 7	2031	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
8	1	7 - 8	2032	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
9	1	8 - 9	2033	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
10	1	9 - 10	2034	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
11	1	10 - 11	2035	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
12	1	11 - 12	2036	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
13	1	12 - 13	2037	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
14	1	13 - 14	2038	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
15	1	14 - 15	2039	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
16	1	15 - 16	2040	3	0.0005	0.0327	0.0425	0.028	0.012	0.0009	0.04
17	1	16-17	2041	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
18	1	17-18	2042	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
19	1	18-19	2043	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
20	1	19-20	2044	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
21	1	20-21	2045	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
22	1	21-22	2046	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
23	1	22-23	2047	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
24	1	23-24	2048	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
25	1	24-25	2049	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
26	1	25-26	2050	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
27	1	26-27	2051	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
28	1	27-28	2052	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
29	1	28-29	2053	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
30	1	29-30	2054	1	0.0005	0.0327	0.0425	0.001	0.000	0.0000	0.00
Total Increased Cancer Risk								0.545	0.226	0.017	**0.79**

Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0001	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	**2/22/2022**
Contact Name	Zachary Palm
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x117
Email	zpalm@illingworthrodkin.com
Project Name	Apollo Mixed Use
Address	38 & 60 Stockton Avenue
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Mixed Use
Project Size (# of units or building square feet)	497du
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 E[illegible] 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 [illegible]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	Distance Adjustment Multiplier	Adjusted Cancer Risk Estimate	Adjusted Hazard Risk	Adjusted PM2.5
Construction MEIs														
1000+	3100	Pacific Gas and Electric Company	308 Stockton Street	0.24	0.00	0.00		Gasoline Dispensing Operation, (1) Nat. Gas Generator		2018 Dataset	0.02	0.00	0.000	0.00
1000+	11819	Fleet Body Worx Inc	345 N Montgomery St		0.00			Auto Body Coating Operation		2018 Dataset	0.13	0.00	0.000	0.00
1000+	21319	Peninsula Corridor Joint Powers Board	65 Cahill Road	1.47	0.00	0.00		Generators		2018 Dataset	0.04	0.06	0.000	0.00
380	22305	Unison Energy, LLC	155 Stockton Avenue	0.75	0.00	0.29		Generators		2018 Dataset	0.18	0.13	0.000	0.05

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
1000+	3100	0.02	0.00	0.000	0.000
1000+	11819	0.13	0.00	0.000	0.000
780	21319	0.07	0.10	0.000	0.000
300	22305	0.25	0.19	0.000	0.071

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.

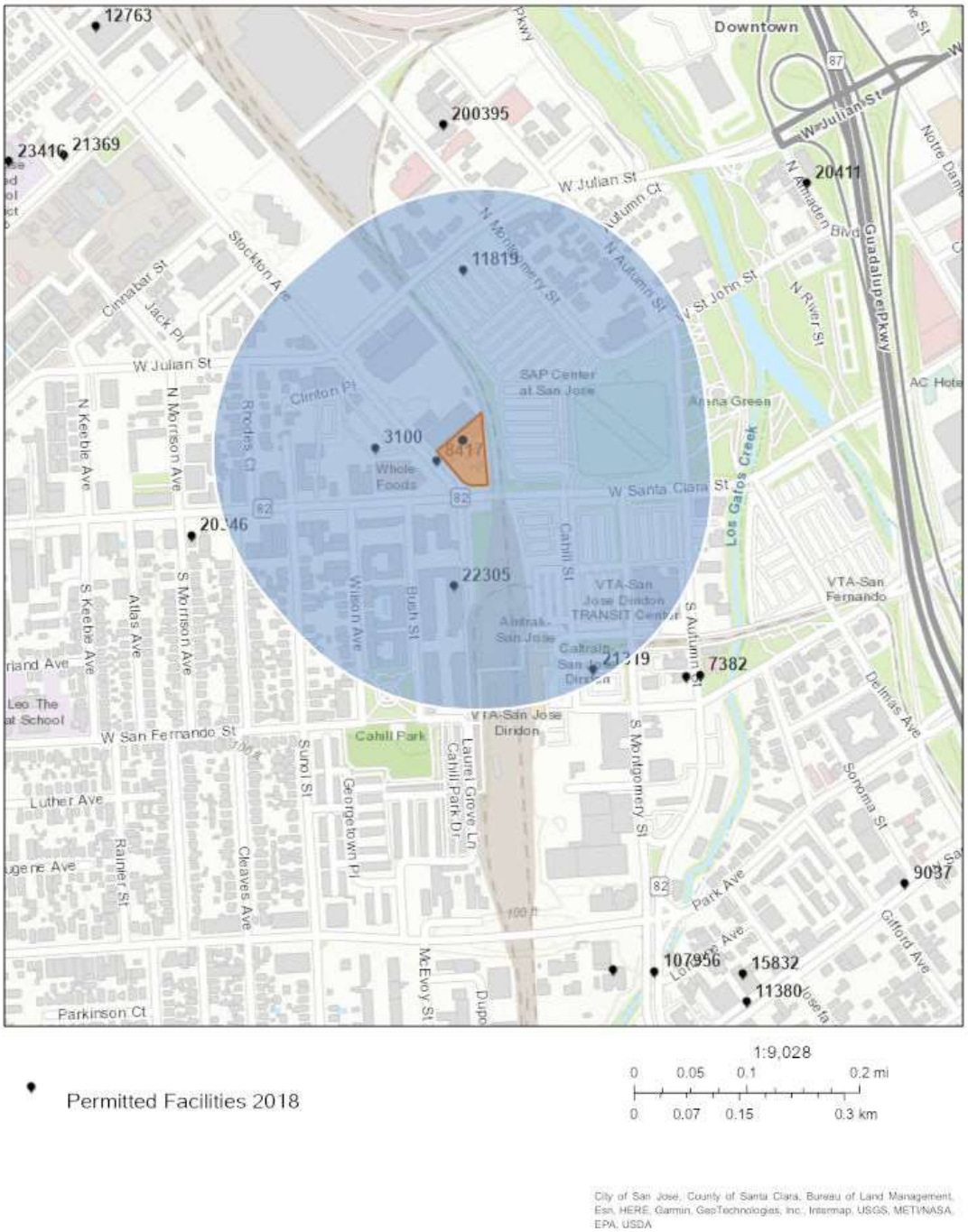
Date last updated:
03/13/2018

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 4,474,126.88 ft²

Feb 22 2022 14:34:27 Pacific Standard Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	5	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	3100	Pacific Gas and Electric Company	308 Stockton Street	San Jose	CA
2	8417	Century Collision & Repair	60 Stockton Ave	San Jose	CA
3	11819	Fleet Body Worx Inc	345 N Montgomery St	San Jose	CA
4	21319	Peninsula Corridor Joint Powers Board	65 Cahill Road	San Jose	CA
5	22305	Unison Energy, LLC	155 Stockton Avenue	San Jose	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	95126	Santa Clara	0.240	0.000	0.000	Contact BAAQMD	1
2	95126	Santa Clara	0.000	0.000	0.000	Contact BAAQMD	1
3	95110	Santa Clara	0.000	0.000	0.000	Contact BAAQMD	1
4	95126	Santa Clara	1.470	0.000	0.000	Generators	1
5	95126	Santa Clara	0.750	0.000	0.290	Generators	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.