SOUTH ALMADEN OFFICES AIR QUALITY AND GREENHOUSE GAS EMISSION ASSESSMENT

San José, California

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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 office-retail mixed-use development located at 401 Almaden Boulevard in San José, California. The air quality impacts from this project would be associated with demolition of the existing parking lot at the site, 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 models. In addition, the potential project health risk impacts (includes construction and operation) and the impact of existing toxic air contaminant (TAC) sources affecting the nearby 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 would demolish the existing parking lot and construct up to approximately 1,727,777 square feet of office in two 16-story towers (North Tower and South Tower). The North and South Tower would have a maximum height of 282 feet to the top of the parapet. Both buildings would be connected via a podium building on floors one to four.

The North Tower would be approximately 641,340 square feet (sf) and would be comprised of approximately 586,663 sf of office space, 13,885 sf of amenity/food and beverage space, 25,136 sf of back of house operations, 2,071 sf of penthouse space, and approximately 13,585 sf would be mechanical space. The North Tower would have approximately 39,046 sf of terrace space. The proposed office space would be located on floors two to 15.

The South Tower would be approximately 984,519 sf which includes approximately 900,452 sf of office space, 26,883 sf would be for back of house operations, 25,252 sf of amenity/food and beverage space, 1,531 sf of penthouse space, and 30,401 sf of mechanical space. The South Tower would have approximately 62,872 sf of terrace space. The proposed office space would be located on floors two to 15.

Amenity/food and beverage spaces would be located on the ground floor. The project proposes three levels of below-grade parking for a total of 1,343 parking spaces.

The project is part of the San José Downtown Strategy (DTS) 2040 Plan, which is an urban design plan that guides development activities planned within the Downtown area.

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

AIR POLLUTANTS AND CONTAMINANTS

Air pollutants are governed by multiple federal and state standards to regulate and mitigate health impacts. At the federal level, there are six criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been established: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), suspended particulate matter (PM: $PM_{2.5}$ and PM_{10}), and sulfur dioxide (SO_2). California sets standards, similar to the NAAQS as California Ambient Air Quality Standards (CAAQS). Health effects of the primary criteria pollutants (i.e., the NAAQS) and their potential sources are described below and summarized in Table 1. Note that California includes pollutants or contaminants that are specific to certain industries and not associated with this project. These include hydrogen sulfide and vinyl chloride.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_X). The main sources of ROG and NO_X, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, shortness of breath, and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

Carbon monoxide is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. While CO transport is limited, it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.

Nitrogen Dioxide

Nitrogen Dioxide is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO_2 may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO_2 decreases lung function and may reduce resistance to infection. On January 22, 2010 the U.S. Environmental Protection Agency (EPA) strengthened the health-based NAAQS for NO_2.

Sulfur Dioxide

Sulfur dioxide is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels in the region. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are larger than 2.5 microns but smaller than 10 microns (PM_{10}). $PM_{2.5}$ refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less that is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM_{10} and $PM_{2.5}$. These small particles can be directly emitted into the atmosphere as by-products of fuel combustion, through abrasion, such as tire or brake lining wear, or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufactures.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants (TACs)

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the EPA and the California Air Resources Board (CARB). Some examples of TACs include: benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, or schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Table 1. Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood functions and nerve construction. • Behavioral and hearing problems in children.
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardiorespiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.
Toxic Air Contaminants	• Cars and trucks, especially diesels. • Industrial sources such as chrome platers. • Neighborhood businesses such as dry cleaners and service stations. • Building materials and product.	Cancer. Chronic eye, lung, or skin irritation. Neurological and reproductive disorders.

Source: CARB, 2009. ARB Fact Sheet: Air Pollution and Health, see: https://www.arb.ca.gov/research/health/fs/fs1/fs1.htm accessed May 1, 2018

SETTING

The South Almaden Offices Project is in the San Francisco Bay Area Air Basin. The Air Basin includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County.

This Project is within the jurisdiction of the BAAQMD. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants, and the number of days during which the region exceeds air quality standards, have fallen dramatically. Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Local Climate and Air Quality

Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Climate and topography are major influences on air quality.

Climate and Meteorology

During the summer, mostly clear skies result in warm daytime temperatures and cool nights in the Santa Clara Valley. Winter temperatures are mild, except for very cool but generally frost-less mornings. Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Wind patterns are influenced by local terrain, with a northwesterly sea breeze typically developing during the daytime. Winds are usually stronger in the spring and summer. Rainfall amounts are modest, ranging from 13 inches in the lowlands to 20 inches in the hills.

Air Pollution Potential

Ozone and fine particle pollution, or $PM_{2.5}$, are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and fine particle pollution in the winter. Most of Santa Clara County is well south of the cooler waters of the San Francisco Bay and far from the cooler marine air which usually reaches across San Mateo County in summer. Ozone frequently forms on hot summer days when the prevailing seasonal northerly winds carry ozone precursors southward across the county, causing health standards to be exceeded. Santa Clara County experiences many exceedances of the $PM_{2.5}$ standard each winter. This is due to the high population density, wood smoke, industrial and freeway traffic, and poor wintertime air circulation caused by extensive hills to the east and west that block wind flow into the region.

Attainment Status Designations

The CARB is required to designate areas of the state as attainment, nonattainment, or unclassified for all state standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A "nonattainment" designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An "unclassified" designation signifies that data does not support either an attainment or nonattainment status. The California Clean Air Act (CCAA) divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

Table 2 shows the state and federal standards for criteria pollutants and provides a summary of the attainment status for the San Francisco Bay Area with respect to national and state ambient air quality standards.

Table 2. NAAQS, CAAQS, and San Francisco Bay Area Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Carbon Monoxide (CO)	8-Hour	9 ppm ($10\ mg/m^3$)	Attainment	9 ppm ($10\ mg/m^3$)	Attainment
	1-Hour	20 ppm ($23\ mg/m^3$)	Attainment	35 ppm ($40\ mg/m^3$)	Attainment
Nitrogen Dioxide (NO_2)	Annual Mean	0.030 ppm ($57\ mg/m^3$)	Attainment	0.053 ppm ($100\ \mu g/m^3$)	Attainment
	1-Hour	0.18 ppm ($338\ \mu g/m^3$)	Attainment	0.100 ppm	Unclassified
Ozone (O_3)	8-Hour	0.07 ppm ($137\ \mu g/m^3$)	Nonattainment	0.070 ppm	Nonattainment
	1-Hour	0.09 ppm ($180\ \mu g/m^3$)	Nonattainment	Not Applicable	Not Applicable
Suspended Particulate Matter (PM_{10})	Annual Mean	$20\ \mu g/m^3$	Nonattainment	Not Applicable	Not Applicable
	24-Hour	$50\ \mu g/m^3$	Nonattainment	$150\ \mu g/m^3$	Unclassified
Suspended Particulate Matter ($PM_{2.5}$)	Annual Mean	$12\ \mu g/m^3$	Nonattainment	$12\ \mu g/m^3$	Attainment
	24-Hour	Not Applicable	Not Applicable	$35\ \mu g/m^3$	Nonattainment
Sulfur Dioxide (SO_2)	Annual Mean	Not Applicable	Not Applicable	$80\ \mu g/m^3$ (0.03 ppm)	Attainment
	24-Hour	0.04 ppm ($105\ \mu g/m^3$)	Attainment	$365\ \mu g/m^3$ (0.14 ppm)	Attainment
	1-Hour	0.25 ppm ($655\ \mu g/m^3$)	Attainment	0.075 ppm ($196\ \mu g/m^3$)	Attainment

Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s.
ppm = parts per million, mg/m^3 = milligrams per cubic meter, $\mu g/m^3$ = micrograms per cubic meter
Source: Bay Area Air Quality Management District, 2017. *Air Quality Standards and Attainment Status.* January 5.

Existing Air Pollutant Levels

BAAQMD monitors air pollution at various sites within the Bay Area. The closest air monitoring station (158 Jackson Street) that monitored O_3, CO, NO, NO_2, PM_{10}, and $PM_{2.5}$ over the past 5 years (2014 through 2018) is in the City of San José approximately 5 miles southwest of the project site. The data shows that during the past few years, the project area has exceeded the state and/or federal O_3, PM_{10}, and $PM_{2.5}$ ambient air quality standards. Table 3 lists air quality trends in data collected at the San José Station for the past 5 years and published by the BAAQMD, which is the most recent time-period available. Ozone standards are exceeded on 0 to 4 days annually in San José and 3 to 15 days throughout the Bay Area. Measured 24-hour PM_{10} and $PM_{2.5}$ concentrations are exceeded on 0 to 6 monitoring days in San José and up to 18 days at any place in the Bay Area (note these levels were influences by smoke from wildfires).

Table 3. Ambient Air Quality Concentrations from 2014 through 2018

Pollutant	Standard	2014	2015	2016	2017	2018
Ozone						
Max 1-hr concentration		89 ppb	94 ppb	87 ppb	121 ppb	78 ppb
No. days exceeded: CAAQS	90 ppb	0	0	0	3	0
Max 8-hr concentration			81 ppb	66 ppb	98 ppb	61 ppb
No. days exceeded: CAAQS	70 ppb	0	2	0	4	0
NAAQS	70 ppb	0	2	0	4	0
Carbon Monoxide						
Max 1-hr concentration		2.4 ppm	2.4 ppm	2.0 ppm	2.1 ppm	2.5 ppm
No. days exceeded: CAAQS	20 ppm	0	0	0	0	0
NAAQS	35 ppm	0	0	0	0	0
Max 8-hr concentration			1.8 ppm	1.4 ppm	1.8 ppm	2.1 ppm
No. days exceeded: CAAQS	9 ppm	0	0	0	0	0
NAAQS	9 ppm	0	0	0	0	0
PM_{10}						
Max 24-hr concentration		55 µg/m³	58 µg/m³	41 µg/m³	70 µg/m³	122 µg/m³
No. days exceeded: CAAQS	50 µg/m³	1	1	0	6	4
NAAQS	150 µg/m³	0	0	0	0	0
Max annual concentration		19.9 µg/m³	22.0 µg/m³	18.5 µg/m³	21.6 µg/m³	23.1 µg/m³
No. days exceeded: State	-	-	-	-	-	-
$PM_{2.5}$						
Max 24-hr concentration		60.4 µg/m³	49.4 µg/m³	22.6µg/m³	49.7 g/m³	133.9µg/m³
No. days exceeded: NAAQS	35 µg/m³	2	2	0	6	4
Annual Concentration			10.0 g/m³	8.4 µg/m³	9.5 µg/m³	12.8µg/m³
No. days exceeded: CAAQS	12 µg/m³	-	-	-	-	-
NAAQS	12 µg/m³	-	-	-	-	-
Nitrogen Dioxide						
Max 1-hr concentration		58 ppb	49 ppb	51 ppb	68 ppb	86 ppb
No. days exceeded: CAAQS	180 ppb	0	0	0	0	0
NAAQS	100 ppb	0	0	0	0	0
Annual Concentration		13 ppb	13 ppb	11 ppb	12 ppb	13 ppb
No. days exceeded: CAAQS	30 ppb	-	-	-	-	-
NAAQS	53 ppb	-	-	-	-	-

Source: Bay Area Air Quality Management District, 2019

Regulatory Framework

Pursuant to the Federal Clean Air Act (FCAA) of 1970, the EPA established the NAAQS. The NAAQS were established for major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the EPA and the CARB have established ambient air quality standards for common pollutants: CO, O_3, NO_2, SO_2, Pb, and PM. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are designed to protect the health and welfare of the public with a reasonable margin of safety. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each criteria pollutant.

Federal Air Quality Regulations

At the federal level, the EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the FCAA, which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implement Plan (SIP). Federal standards include both primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.[2] The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area which imposes additional control measures. Failure to submit an approvable SIP or to implement the Plan within the mandated timeframe may result in the application of sanctions on transportation funding and stationary air pollution sources in the air basin.

The 1970 FCAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The FCAA Amendments of 1990 changed deadlines for attaining NAAQS as well as the remedial actions required of areas of the nation that exceed the standards. Under the FCAA, state and local agencies in areas that exceed the NAAQS are required to develop SIPs to show how they will achieve the NAAQS by specific dates. The FCAA requires that projects receiving federal funds demonstrate conformity to the approved SIP and local air quality attainment Plan for the region. Conformity with the SIP requirements would satisfy the FCAA requirements.

[2] U.S. Environmental Protection Agency, 2013. Website: www.epa.gov/air/criteria.html. February.

State Air Quality Regulations

The CARB is the agency responsible for the coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA, adopted in 1988. The CCAA requires that all air districts in the state achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources and provides districts with the authority to regulate indirect sources.

CARB is also responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. CARB combines this data and submits the completed SIP to the EPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

California Clean Air Act

In 1988, the CCAA required that all air districts in the state endeavor to achieve and maintain CAAQS for CO, O_3, SO_2, and NO_2 by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the state standards for these pollutants are more stringent than the national standards.

California Air Resources Board Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.[3] CARB subsequently developed an Air Quality and Land Use Handbook[4] (Handbook) in 2005 that is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. The 2005 CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds.

[3] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.
[4] California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Plan Area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 300 feet of gasoline fueling stations (note that new fueling stations utilize enhanced vapor recovery systems that substantially reduce emissions).
- Within 300 feet of dry-cleaning operations (note that dry cleaning with TACs is being phased out and will be prohibited in 2023).

Bay Area Air Quality Management District

The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan

The BAAQMD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain the CAAQS. The BAAQMD's 2017 Clean Air Plan is the latest Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_X), particulate matter and greenhouse gas emissions. The Bay Area 2017 Clean Air Plan, which was adopted on April 19, 2017 by the BAAQMD's board of directors:

- Updates the Bay Area 2010 Clean Air Plan in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Continues and updates emission control measures.

BAAQMD CARE Program

The 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. The program examines TAC emissions from point sources, area sources and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. 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.

Planning Healthy Places

BAAQMD developed a guidebook that provides air quality and public health information intended to assist local governments in addressing potential air quality issues related to exposure of sensitive receptors to exposure of emissions from local sources of air pollutants. The guidance provides tools and recommended best practices that can be implemented to reduce exposures. The information is provided as recommendations to develop policies and implementing measures in city or county General Plans, neighborhood or specific plans, land use development ordinances, or into projects.

BAAQMD California Environmental Quality Act Air Quality Guidelines

The BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines[5] 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. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of their CEQA Guidelines. In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts. A recent update to the Guidelines was published in May 2017.

BAAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators and possibly new natural gas-fired boilers would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators, operation of the boilers for space and water heating and some minor emissions from cooling towers. The project would also generate emissions from vehicles traveling to and from the project.

Certain emission sources would be subject to BAAQMD Regulations and Rules. The District's rules and regulations that may apply to the project include:

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

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

Permits

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

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

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

New Source Review

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

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

BACT for Diesel Generator Engines

Since the generators will be used exclusively for emergency use during involuntary loss of power, the BACT 2 levels listed for IC compression engines in the BAAQMD BACT Guidelines would apply. The BACT 2 NOx emission factor limit is 6.9 grams per horsepower hour (g/hp-hr). The project's proposed engines will have emissions lower than the BACT 2 level and, as such, will comply with the BACT requirements.

Offsets

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

Prohibitory Rules

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

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

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

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

Stationary Diesel Airborne Toxic Control Measure

The BAAQMD administers the state's Airborne Toxic Control Measure (ACTM) for Stationary Diesel engines (section 93115, title 17 CA Code of Regulations). The project's stationary sources will be new stationary emergency standby diesel engines larger than 50 hp. Since the engines will have an uncontrolled PM emission factor of less than 0.15 g/hp-hour and operate no more than 50 hours per year, the engines will comply with the requirements of the ACTM.

Air Pollutants of Concern

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

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5

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

Toxic Air Contaminants

Toxic air contaminants 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 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.

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. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.[6] The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the state level, the CARB (a part of the California EPA) oversees regional air district activities and regulates air quality at the state level. The BAAQMD has published CEQA Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[7] Projects that have TAC emissions that could adversely affect sensitive receptors prepare health risk assessments to quantify the potential and, if appropriate, identify mitigation measures to reduce impacts. This report includes a health risk assessment that evaluates impacts form temporary project construction, long-term use of stationary equipment, and long-term traffic activity generated by the project. The detailed health risk modeling methodology used in this assessment is contained in *Attachment 1*.

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[6] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: November 21, 2014.
[7] Bay Area Air Quality Management District. 2017. *BAAQMD CEQA Air Quality Guidelines*. May.

City of San José

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 BAAQMD CEQA Guidelines and relative to state and federal standards. Identify and implement feasible air emission reduction measures.

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

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

Applicable Goals – Toxic Air Contaminants

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

Applicable Policies – Toxic Air Contaminants

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

MS-11.5 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.

Downtown Strategy 2040 Plan

The San José 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.

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 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 DTS 2040 and General Plan policies. All feasible and applicable measures will be required as part of project design or as conditions of approval.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. The closest sensitive receptors to the project site are single-family homes south of the project site across Woz Way. There are additional single-family homes and multi-family developments farther away.

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 4. Note that the Downtown Strategy Plan Draft Environmental Impact Report (DEIR) evaluated emissions of criteria air pollutants (and their precursors) and greenhouse gases from planned development that includes the Proposed Project. Operational emissions from the Proposed Project are predicted in this assessment for informational purposes only.

Table 4. BAAQMD Air Quality Exceedance 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	*Evaluated in DSP Strategy DEIR*	
NO_x	54		
PM_{10}	82 (Exhaust)		
$PM_{2.5}$	54 (Exhaust)		
CO	Not Applicable		
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)**	
Excess Cancer Risk	>10.0 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m³	>0.8 µg/m³	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	*Evaluated in DSP Strategy DEIR**		
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.			

AIR QUALITY IMPACTS AND MITIGATION MEASURES

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

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the FCAA and the CCAA. The area is also considered non-attainment for PM_{10} under the CCAA, 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 2016.3.2 was used to estimate emissions from on-site construction activity, worker construction vehicle trips, and operation of the site assuming full build-out of the project. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CARB EMission FACtors 2017 model (EMFAC2017) model was used to predict emissions from construction truck traffic and trips.[8] The model output from CalEEMod is included in *Attachment 2* and EMFAC2017 emissions modeling outputs are included in *Attachment 3*.

<u>CalEEMod Inputs</u>

Land Use Inputs

The proposed project land uses were input into CalEEMod as follows:

- 1,688,640 sf entered as "Office Park" on 3.6 acres to represent office uses[9];
- 39,137 sf entered as "Strip Mall" to represent the proposed retail/restaurant uses; and
- 1,343 parking spaces and 409,990 sf entered as "Enclosed Parking with Elevator".

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size and acreage. Inputs to CalEEMod were developed that take into account demolition of the on-site uses, excavation, and the tall building construction. CalEEMod 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 included worker traffic. The construction build-out scenario, including equipment list and schedule, were based on information provided by the project applicant.

[8] See CARB's EMFAC2017 Web Database at https://www.arb.ca.gov/emfac/2017/

[9] The 1,688,640 sf includes 1,487,115 sf of office space, 99,607 sf of BOH and mechanical space, and 101,918 sf of terraces. For the operational period emissions, only the office space square footage was used to model the general office land use.

Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was provided. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase. The construction schedule assumed that the earliest possible start date would be January 2021 and the project would be constructed over a period of approximately 51 months, or 1,297 construction workdays (based on a six days per week construction schedule). The total number of workdays was based on the number of active workdays per phase. The first earliest operational year was assumed to be 2026.

Construction Truck Traffic Emissions

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model; however, CalEEMod has not been updated to include EMFAC2017. Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions were based on estimates of worker and truck traffic provided by the applicant in the construction data worksheet.

The traffic information was combined with EMFAC2017 motor vehicle emissions factors. EMFAC2017 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trucks, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips and 20 miles for hauling (demolition material export). Since CalEEMod does not address cement or asphalt trucks, these were treated as vendor travel distances. Each concrete truck was assumed to make two trips per truck. Additionally, each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. Table 5 provides the traffic inputs that were combined with the EMFAC2017 emission database to compute vehicle emissions.

Table 5. CalEEMod Computed Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Total Trips by Trip Type			Notes
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	72% LDA 6% LDT1 22% LDT2	38% MHDT 62% HHDT	100% HDDT	
Trip Length (miles)	10.8	7.3	20.0 Demo 7.3 Vendor	5 Minute Truck Idle Time
Demolition	1,344	-	707	Demolish 155,509 sf of building
Site Preparation	3,952	-	-	
Grading/Excavation/Shoring	21,216	-	31,250	Export 250,000 cy of soil
Foundation/Below Grade Structure	4,320	-	6,956	3,478 concrete trucks
Super Structure/Steel Deck/Fireproofing	266,800	128,800	12,286	6,143 concrete trucks
Building Interior	76,560	-	-	
Building Construction	303,775	146,650	-	
Sitework	7,850	-	1,000	1,000 asphalt truck trips

Notes:
[1] Based on 2021 EMFAC2017 fleet mix for Santa Clara County
[2] Includes demolition trips estimated by CalEEMod based on amount of material to be removed.

Summary of Computed Construction Period Emissions

Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Table 6 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in the table, predicted project emissions would not exceed the BAAQMD significance thresholds. Additionally, the DTS control measures requires to implement best management practices to control dust and exhaust during construction. Therefore, air pollutant emissions from the project would be further reduced.

Table 6. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	11.3 tons	23.2 tons	1.3 tons	0.9 tons
Average daily emissions (pounds)[1]	17.5 lbs.	35.7 lbs.	2.0 lbs.	1.3 lbs.
BAAQMD Thresholds (pounds per day)	***54* lbs.**	***54* lbs.**	***82* lbs.**	***54* lbs.**
Exceed Threshold?	No	No	No	No

Notes: [1]Based on 1,297 construction workdays

Operational Period Emissions

The impact of operational emissions was addressed in the DSP DEIR and found to be significant and unavoidable. Emissions from the project were computed for information purposes. Operational air emissions from the project would be generated primarily from autos driven by future employees, customers, and vendors. 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.

Operational Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table.[10] The Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate. The default trip lengths and trip types specified by CalEEMod were used.

EMFAC2017 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMission FACtors from 2014 (EMFAC2014), which is an older CARB emission inventory for on road and off road mobile sources. Since the release of CalEEMod Version 2016.3.2, new emission factors have been produced by CARB. EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part one.[11] The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant emissions would increase. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2017, which were adjusted with the CARB EMFAC off-model adjustment factors. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support Document.[12]

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. rate. PG&E published in 2019 emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been reduced to 210 pounds CO_2 per megawatt of electricity delivered in the year 2017.[13] This CO_2 intensity factor was used in the model. However, the project would use electricity supplied by San Jose Clean Energy (SJCE) that

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[10] Hexagon Transportation Consultants, Inc., 2020. *2833 South Almaden Office Development VMT Trip Generation Estimates*. January.
[11] California Air Resource Board, 2019. *EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One*. November. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf
[12] See CARB 2018: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac
[13] PG&E, 2019. *Corporate Responsibility and Sustainability Report*. Web: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

will be 100-percent carbon free by 2021 before the project becomes operational.[14] This future change was accounted for in the model.

Project Generators

The project would include three emergency generators all on the first floor with one being for building life safety and the other two being for the future tenants. All three generators would be powered by diesel engines. One generator would be approximately 1,500 kilowatts (kW), while the other two would be approximately 750 kW.

These generators would be tested periodically and power the buildings in the event of a power failure. For modeling purposes, it was assumed that the generators would be operated primarily for testing and maintenance purposes. CARB and BAAQMD requirements limit these engine operations to 50 hours each per year of non-emergency operation. During testing periods, the engine would typically be run for less than one hour. The engine would be required to meet CARB and EPA emission standards and consume commercially available California low-sulfur diesel fuel. The generator emissions were modeled using 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 percent aerobic conditions to represent wastewater treatment plant conditions.

Existing Uses

The existing land use is a parking lot, so no existing uses were modeled.

Summary of Computed Operational Emissions

Annual emissions were calculated using CalEEMod and daily emissions were calculated assuming 365 days of operation. As shown in Table 7, operational emissions would not exceed the BAAQMD significance thresholds.

Table 7. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2026 Project Operational Emissions (*tons/year*)	9.6 tons	6.0 tons	7.2 tons	2.0 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	*No*	*No*	*No*	*No*
2026 Project Operational Emissions (*lbs./day*)[1]	52.7 lbs.	33.1 lbs.	39.2 lbs.	11.1 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	*No*	*No*	*No*	*No*
Notes: [1] Assumes 365-day operation.				

[14] Kerrie Romanow and Rosalynn Hughey, 2019. *Building reach Code for New Construction Memorandum*. August. Web: https://sanjose.legistar.com/LegislationDetail.aspx?ID=4090015&GUID=278596A7-1A2B-4248-B794-7A34E2279E85

Findings and Mitigation Measures

Both construction and operational emissions are below thresholds. However, construction period emissions will be relatively close to thresholds and, as shown in subsequent sections, will require mitigation to reduce impacts to sensitive receptors. Mitigation Measures AQ-1 and AQ-2 are presented here to ensure that construction period emissions do not exceed thresholds for any pollutant.

Mitigation Measure AQ-1: Implement BAAQMD-Recommended Measures to Control Particulate Matter Emissions during Construction. Measures to reduce DPM and PM_{10} from construction are recommended to ensure that short-term health impacts to nearby sensitive receptors are avoided.

Dust (PM_{10}) Control Measures:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
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 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.
9. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.

10. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.
11. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
12. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
13. Avoid tracking of visible soil material on to public roadways by employing the following measures if necessary: (1) Site accesses to a distance of 100 feet from public paved roads shall be treated with a 6 to 12-inch compacted layer of wood chips, mulch, or gravel and (2) washing truck tires and construction equipment of prior to leaving the site.
14. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.

Mitigation Measure AQ-2: Use Construction equipment that has low diesel particulate matter exhaust and NO_X emissions. Measures to reduce DPM and PM_{10} from construction are recommended to ensure that short-term health impacts to nearby sensitive receptors are avoided. These measures would also reduce NOx emissions.

Exhaust Emission (NOx and PM) Control Measures:

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, if feasible, otherwise,
2. 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 85 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; alternatively (or in combination).
3. Diesel engines, whether for off-road equipment or on-road vehicles, shall not be left idling for more than 2 minutes, except as provided in exceptions to the applicable state regulations (e.g., traffic conditions, safe operating conditions). The construction sites shall have posted legible and visible signs in designated queuing areas and at the construction site to clearly notify operators of idling limit.
4. Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators.

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

Project impacts related to increased community risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce new sources of TACs during construction (i.e. on-site construction and truck hauling emissions) and operation (i.e. emergency diesel generators and project traffic).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project's operation would increase traffic in the area that would increase the air pollutant and TAC emissions in the area. In addition, the project would include the installation of emergency generators powered by diesel engines that would also have TACs and air pollutants 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 that includes the project contribution.

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

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). These include existing and planning approved (but not yet constructed) residences, and residences under construction. Within the project area, the type of residences includes single-family homes and apartments. Residential receptors were assumed to include all receptor types (i.e. infants, children, and adults) with almost continuous exposure. Figure 1 shows locations of modeled receptors and the new/approved development that has yet to be constructed.

Community Risks from Project Construction – On-Site Work and Hauling Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Although it was concluded in the previous sections (see Table 6) that construction 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 issues 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, which includes on-site construction and hauling activity, was conducted. The assessment evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[15] This assessment included dispersion modeling to predict the off-site concentrations resulting from project construction, so that increased cancer risks and non-cancer health effects could be evaluated.

On-Site Construction Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment. Total emissions from all construction stages are reported in Table 8 and are on an annual basis. A trip length of a half-mile was used to represent vehicle travel while at or near the construction site to represent localized air emissions from construction. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction sites. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod for the overall construction period and are included as part of the Total $PM_{2.5}$ emissions reported in Table 8. The DPM and fugitive $PM_{2.5}$ emissions from on-road vehicles (includes haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction) were computed using EMFAC2017.

Table 8. On-site Project Construction Emissions of DPM and Fugitive $PM_{2.5}$ (in tons)

Description	2021	2022	2023	2024	2025
PM_{10} Exhaust (DPM)	0.175	0.091	0.161	0.122	0.004
$PM_{2.5}$ Fugitive	0.622	0.318	0.006	0.006	0.001

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors (residences) in the vicinity of the project construction area and construction haul routes. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[16]

Construction Sources

Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions. Combustion equipment exhaust emissions were modeled as a series of point sources with a nine-foot release height (construction equipment exhaust stack height) placed at 39-feet (12-meter) intervals throughout the construction site. This resulted in 103 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. For dispersion modeling, it was assumed that traffic emissions from on-road vehicles traveling at or near the site would occur at the construction site. Those emissions were included in the point-source modeling along with construction equipment exhaust emissions. Construction fugitive $PM_{2.5}$ dust emissions were modeled as an area source encompassing the entire construction site with a near ground level release height of 7-feet (2 meters). Construction emissions were modeled

[15] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[16] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

as occurring daily between the hours of 7:00 a.m. to 7:00 p.m. per the project applicant's construction schedule. Also, since there are several tall buildings adjacent to, or near the project construction site, the effects of building downwash on the construction equipment exhaust plumes were included in the modeling analysis. Figure 1 shows the locations of the point sources and where building downwash was applied.

Meteorological Data

The modeling used a 5-year meteorological data set (2006-2010) from the San José Airport prepared for use with the AERMOD model by the BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2020-2025 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) and 15 feet (4.5 meters) were used to represent the breathing heights of residents in nearby single-family homes and apartments. These breathing heights account for residents on the first and second residential floors, respectively.

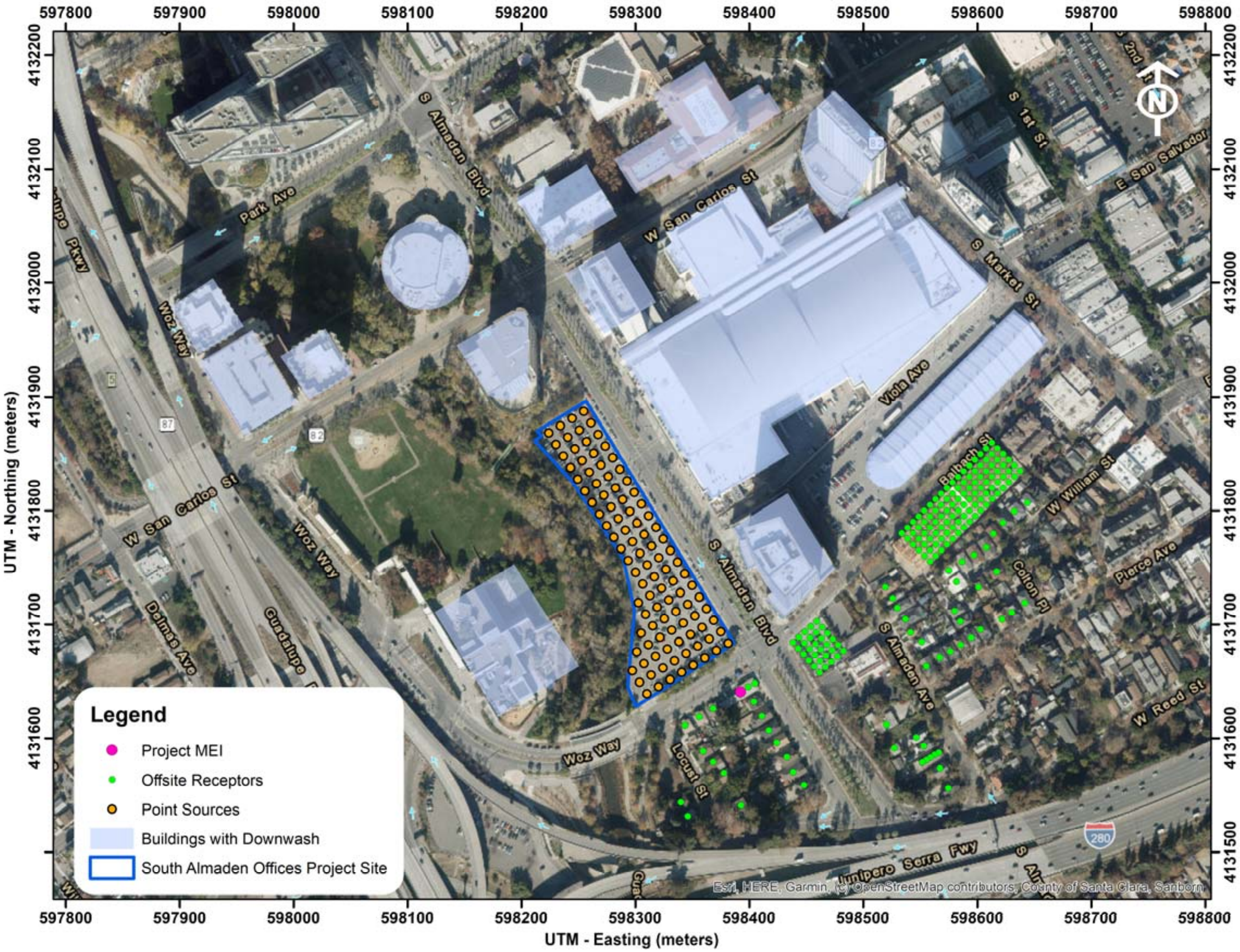
Predicted Cancer Risk and Hazards

The maximum concentrations occurred at a single-family residence at a breathing height of 5 feet. The maximum increased cancer risk at the location of the maximally exposed individual (MEI) was calculated using the annual modeled DPM concentration and using BAAQMD recommended methods. The cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. BAAQMD-recommended exposure parameters were used for the cancer risk calculations, as described in *Attachment 1*. Infant and adult exposures were assumed to occur at all residences the entire construction period. *Attachment 3* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations. Table 9 lists the results of the dispersion modeling.

Table 9. Project Construction Risk Impacts at the Offsite Residential MEI

Source	**Cancer Risk (per million)**	**Annual $PM_{2.5}$ ($\mu g/m^3$)**	**Hazard Index**
Project Construction			
Unmitigated	**69.68 (infant)**	**2.27**	0.05
Mitigated	7.96 (infant)	**0.43**	0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?			
Unmitigated	***Yes***	***Yes***	*No*
Mitigated	*No*	***Yes***	*No*

Figure 1. Project Construction Site, Source Locations, Building Downwash, Locations of Off-Site Sensitive Receptors and Maximum TAC Impacts



Community Risks from Project Operation – Traffic and Generators

Operation of the project would have long-term emissions from mobile sources (i.e. traffic) and stationary sources (i.e. generators). 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 on Highways and Local Roadways

An analysis was conducted of the impacts of TACs and $PM_{2.5}$ from increased project traffic on the highways and local roadways. The roadways analyzed included State Route 87, Interstate 280, South Almaden Boulevard, and Woz Way. Traffic volumes were based project trip distribution and the predicted project peak-hour traffic volumes along these roadway segments. Figure 2 shows the roadway segments that were screened.

Computing Roadway Risk

BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess whether roadways may have a potentially significant effect on sensitive receptors. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates predicted using EMFAC2014 and (2) adjustment of cancer risk to reflect new Office of Environmental Health Hazard Assessment (OEHHA) guidance (see *Attachment 1*).

The calculator uses EMFAC2011 emission rates for the year 2014. However, an updated version of the emissions factor model, EMFAC2014, is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic gases (TOG) for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for 2018. The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.

The project would generate 10,561 net new vehicle trips per day.[17] The effect of local traffic generated by the project was computed through use of the BAAQMD's *Roadway Screening Analysis Calculator* with input of the project's daily traffic on State Route 87, Interstate 280, South Almaden Boulevard and Woz Way.

For the highways, the new project trips were estimated by multiplying the net new vehicle trips and the trip distribution percentage. For the local roadways, the new project trips forecasted were used. The local roadway trips were estimated by taking the average peak hour volume for project trips and multiplying by ten to obtain the average daily traffic volume (ADT).

The cancer risks from all the roadways were adjusted for exposure duration since the MEI would only be exposed to the increased traffic impacts once the project would be operational. The calculator computes increased cancer risk; however, construction, which has a greater impact, would occur during the first five years. Therefore, the increased cancer risk exposure duration for

[17] Hexagon Transportation Consultants, Inc., 2019, *2833 South Almaden Office Development VMT Trip Generation Estimates*. January.

operational impacts was adjusted for 25 years of exposure (years 6-30). The distance from each roadway was used and the contribution of each roadway was then summed. Table 10 lists the cancer risks, $PM_{2.5}$ concentration, and HI values from the project's increased traffic contribution.

Operational Emergency Generator Modeling

Operation of a diesel generator would be a source of TAC emissions. The project proposes three emergency towers on the ground floor with each tower housing one generator. The exact locations are shown in Figure 2. One generator would be approximately 1,500 kilowatts (kW), while the other two would be approximately 750 kW. The exact diesel engine sizes of the generators are unknown, but the engines would be approximately 2,011 horsepower (HP) for the 1,500-kW emergency generator and approximately 1,005 HP for the 750 kW emergency generators.

The generator would be operated for testing and maintenance purposes, with a maximum of 50 hours per year of non-emergency operation under normal conditions. During testing periods, the engine would typically be run for less than one hour under light engine loads. The generator engine would be required to meet U.S. EPA emission standards and consume commercially available California low sulfur diesel fuel. The emissions from the operation of the generator were calculated using the CalEEMod model.

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

To obtain an estimate of potential cancer risks and $PM_{2.5}$ impacts from operation of the emergency generators the U.S. EPA AERMOD dispersion model was used to calculate the maximum annual DPM concentration at off-site sensitive receptor locations (nearby residences). The same receptors and breathing heights used in the construction dispersion modeling were used for the generator dispersion model. Additionally, the same BAAQMD San José Airport meteorological data was used. Stack parameters were based on BAAQMD default parameters for emergency generators.[18] Annual average DPM and $PM_{2.5}$ concentrations were modeled assuming that generator testing could occur at any time of the day.

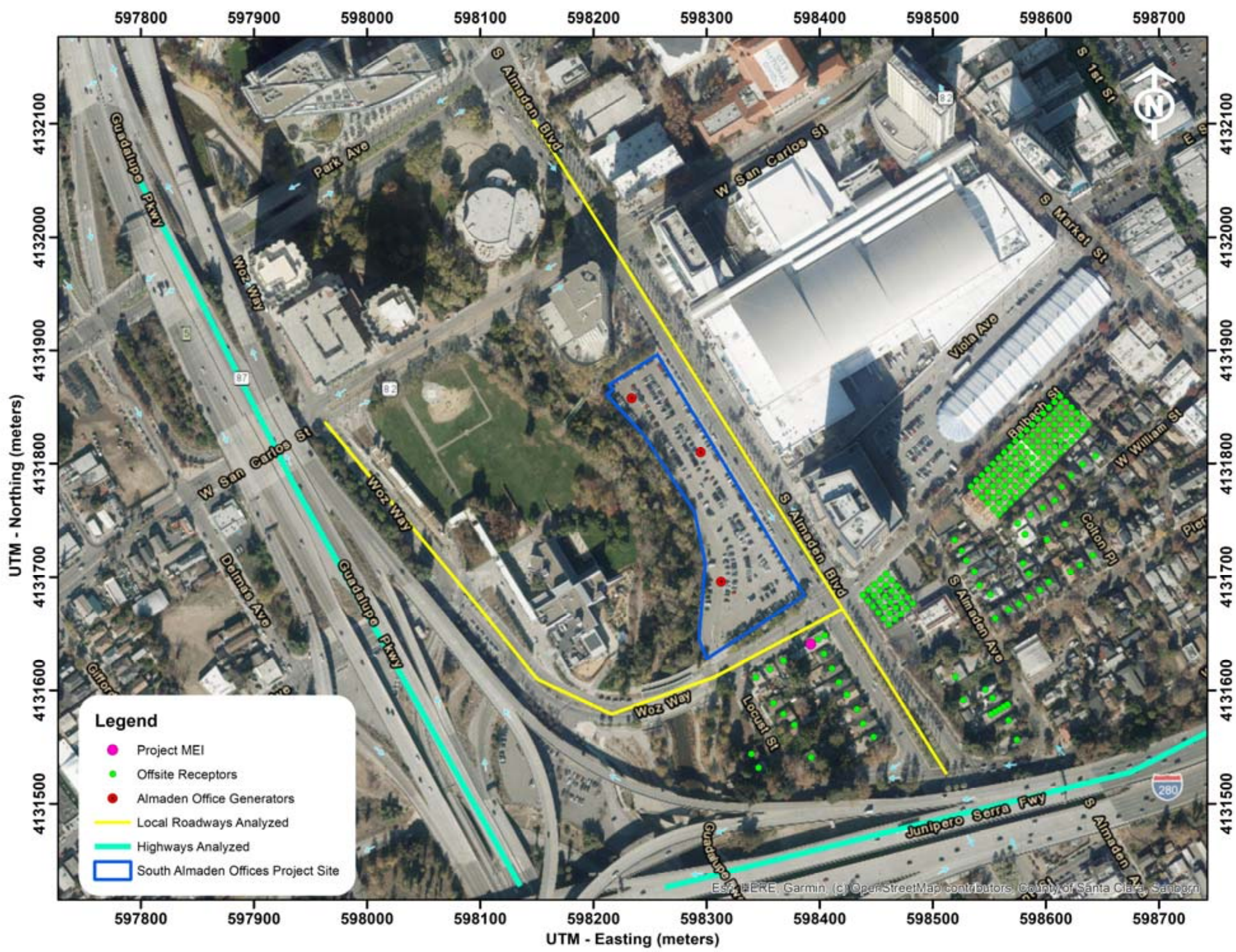
Increased cancer risks from use of the generators were calculated using the modeled maximum annual DPM concentrations and BAAQMD recommended risk assessment methods and parameters described in *Attachment 1*. These methods evaluate cancer risk due to DPM exposure and incorporate age sensitivity factors methods for infant (third trimester to two years of age) and

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

children (two years of age to 16 years). The $PM_{2.5}$ concentration and non-cancerous (i.e. Hazard Index) health risk impacts were also calculated.

To calculate the increased cancer risk from the generators, the community risks exposure duration was adjusted to account for the MEI being exposed to construction for the first five years of the thirty-year period. The exposure duration for the generator increased cancer risk was adjusted for 25 years of exposure. Table 10 lists the cancer risks, $PM_{2.5}$ concentration, and HI values from the project's generators.

Figure 2. Location of Project Roadways. Location of Project Generators, Locations of Off-Site Sensitive Receptors and Maximum TAC Impacts



Summary of Project-Related Community Risks at MEI

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

For this project, the sensitive receptor identified in Figure 2 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to five years of construction increased cancer risks and 26 years of operational (includes traffic and emergency backup generators) increased cancer risks. The cancer risks from construction and operation of the project were summed together. Unlike, the increased maximum cancer risk, the annual $PM_{2.5}$ concentration, and HI risks are not additive but based on an annual maximum risk for the entirety of the project.

As shown in Table 10, the unmitigated increased cancer risks and annual unmitigated $PM_{2.5}$ concentrations from construction and operation activities would exceed the single-source significance thresholds. With implementation of *Mitigation Measure AQ-3,* the increased cancer risk would be decreased to 9.97 per million and not exceed the BAAQMD single source threshold of greater than 10.0 per million. However, even with mitigation, the annual mitigated $PM_{2.5}$ concentration would still exceed the single-source threshold of greater than 0.3 µg/m^3. Therefore, even with the control measures outlined in the DTS for construction measures and *Mitigation Measures AQ-1 and AQ-2 the* project would have an increased community risk due to its $PM_{2.5}$ concentration.

Table 10. Construction and Operation Risk Impacts at the Offsite Project MEI

Source	Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ (µg/m^3)	Hazard Index
Unmitigated Project Construction (Years 0-5)	**69.68 (infant)**	**2.27**	0.05
Mitigated Project Construction (Years 0-5)	7.96 (infant)	**0.43**	0.01
Project Traffic (Years 6-30)	1.71	0.10	<0.03
Project Generators (Years 6-30)			
Unmitigated	1.99	<0.01	<0.01
Mitigated	0.30	-	-
Unmitigated Total/Maximum Project (Years 0-30)	**73.38**	**2.27**	0.05
Mitigated Total/Maximum Project (Years 0-30)	9.97	**0.43**	0.03
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?			
Unmitigated	***Yes***	***Yes***	*No*
Mitigated	*No*	***Yes***	*No*
Notes: The maximum annual $PM_{2.5}$ concentration and HI value for the project generators would be the same for the unmitigated and mitigated scenario			

Mitigation: Implement Mitigation Measures AQ-1 and AQ-2

Effectiveness of Mitigation Measures AQ-1 and AQ-2

CalEEMod was used to compute mitigated emissions assuming that all equipment (except cranes) met U.S. EPA Tier 4 final standards. Cranes were assumed to be electrified and temporary power line was onsite. The computed maximum increased residential cancer risk from construction would be 8.0 in one million or less, the maximum annual $PM_{2.5}$ concentration would be 0.43 µg/m^3, and the HI value would be less than 0.01. As a result, impacts would be ***significant*** with respect to community risk caused by construction activities.

Mitigation Measure AQ-3: Complete a health risk analysis of the proposed Project Generators once location and generator type have been finalized.

Prior to installation of any emergency generator, the project applicant(s) shall submit documentation that demonstrates the equipment includes diesel particulate matter filters that achieve a minimum 85-percent reduction in particulate matter emissions or submit documentation that has been reviewed and approved by the City demonstrating that the project generators will not increase lifetime cancer risk by 10 chances per million, when combined with effects from the project construction and traffic. Significant cancer risk impacts can be avoided by the following measures:

- Placement of the equipment;
- Placement and orientation of the exhaust stacks;
- Application of exhaust controls such as diesel particulate matter filters that reduce DPM by 85 percent; and/or
- Limitation to the operation hours to less than 50 hours per year.

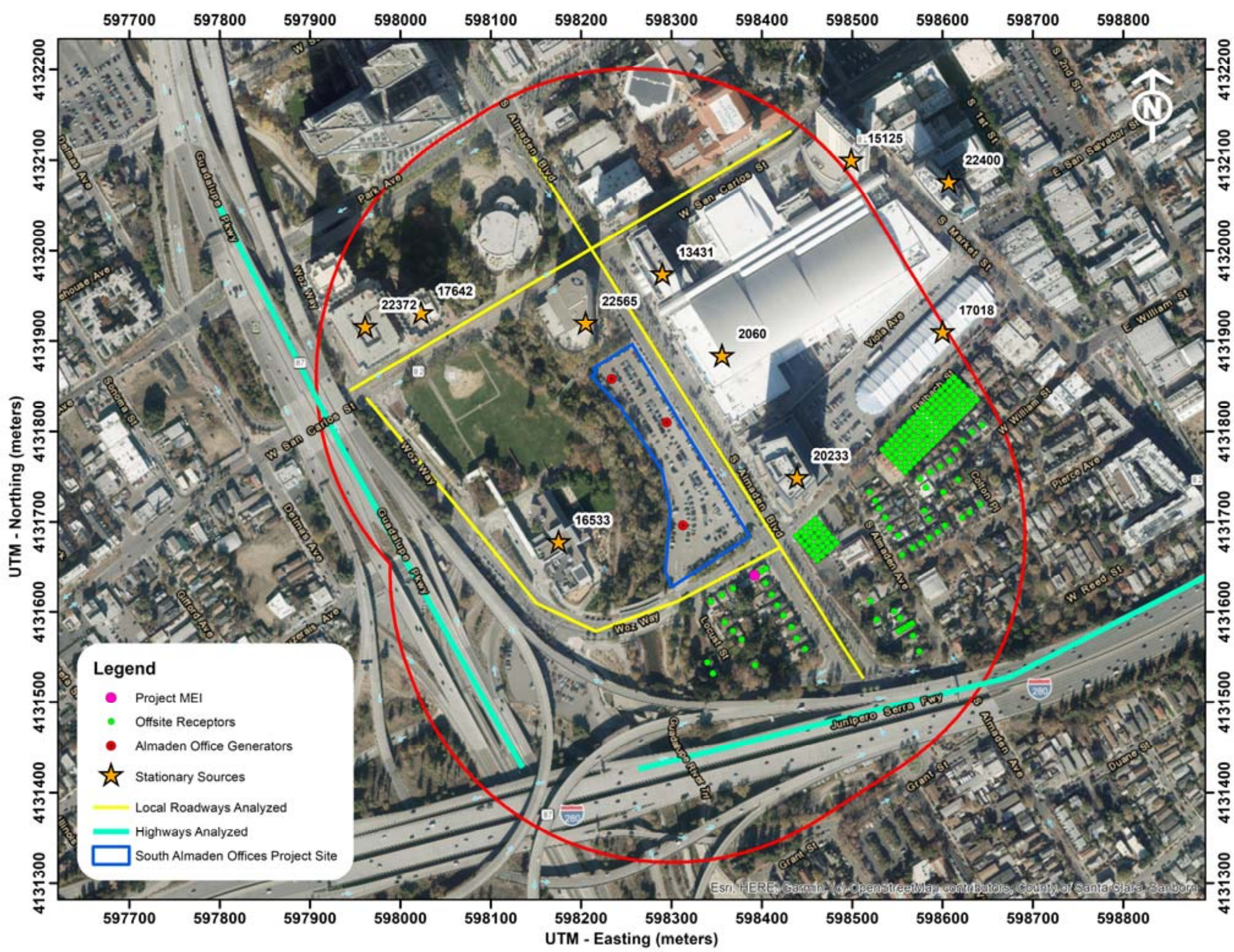
Effectiveness of Mitigation Measure AQ-3

Assuming that the generator is equipped with diesel particulate matter filters that achieve 85-percent reduction in particulate matter emissions (CARB Level 3), incremental project increased cancer risks from generators would be reduced to 0.3 chances per million. In combination with *Mitigation Measures AQ-1* and *AQ-2*, increased cancer risks from project construction and operation, including project traffic, would be reduced to 10.0 chances per million.

Cumulative Community Risks of all TAC Sources at 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 indicates that traffic on State Route 87, Interstate 280, Woz Way, South Almaden Boulevard and San Carlos Street would be near or exceed 10,000 vehicles per day. Other nearby streets are assumed to have significantly less than 10,000 vehicles per day. A review of BAAQMD's stationary source Google Earth map tool identified 10 stationary sources with the potential to affect the MEI. In addition, there are developments whose construction would contribute to the cumulative risk. The risk impacts from these developments are included within the analysis. Figure 3 shows the location of the sources affecting the MEI. Community risk impacts from these sources upon the MEI reported in Table 11. Details of the cumulative community risk calculations are included in *Attachment 4.*

Figure 3. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Highways – State Route 87 and Interstate 280

State Route 87 and Interstate 280 are freeways that are west and south of the project MEI, respectively. The project MEI is approximately 1,000 feet east of State Route 87 and approximately 500 north of Interstate 280. The BAAQMD Highway Screening Tool was used to predict the contribution of risks and $PM_{2.5}$ concentrations from traffic on these roadways.

Local Roadways

Woz Way, South Almaden Boulevard, and San Carlos Street are roadways with ADTs over 10,000 daily vehicles. The contribution of background traffic was modeled in the same manner that operational project traffic was modeled using the BAAQMD *Roadway Screening Analysis Calculator*. The local roadway trips were estimated by taking the average peak hour background volume and multiplying by ten to obtain the average daily traffic volume (ADT).[19]

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*. These stationary sources (i.e. plants) are facilities that contain sources of TACs, like a generator or gas station. This mapping tool uses Google Earth and identified the location of 10 stationary sources and their estimated risk and hazard impacts. A Stationary Source Information Form (SSIF) containing the identified sources was prepared and submitted to BAAQMD. They provided updated plant ownership, plant number in addition to source emissions and adjustments to account for new OEHHA guidance.[20] The adjusted risk values were then adjusted with the *Beta Health Risk Calculator* provided by BAAQMD. Emissions data provided by BAAQMD was used in the modeling. Note that the BAAQMD's *Risk and Hazards Emissions Screening Calculator* uses meters instead of feet to adjust for distance.

Construction Risk Impacts from Nearby Developments

Within the 1,000-ft influence area, there are three developments that are planning approved or under construction.[21] The developments under construction include the office development at 200 Park Avenue (File Number H18-045) and the Parkside Hall/Museum Place office development at 180 Park Avenue (File Number H16-024). The nearby development that has been approved include the Balbach Housing (File Number H18-057) at 500 Almaden Boulevard. It was assumed that projects currently under construction would mostly be completed before construction of this project begins, such that those projects would not contribute to the MEI risk. The construction risks from the Balbach Housing project was assumed to occur simultaneously. This project is assumed to incorporate mitigation measures that would reduce community risk impacts to less than the BAAQMD single-source thresholds for community risks and hazards.

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[19] Hexagon Transportation Consultants, Inc., 2020. *2833 South Almaden Office Development VMT Trip Generation Estimates*. January.
[20] Correspondence with Areana Flores, BAAQMD, 18 July 2019.
[21] Developments under planning review are not included within the cumulative analysis since it is speculative to include construction emissions from projects that may or may not be approved.

Summary of Cumulative Risks at MEI

Table 11 reports both the project and cumulative community risk impacts. The project would have a *significant* impact with respect to community risk caused by project construction and operation activities, since the unmitigated cancer risk and both the unmitigated and mitigated annual $PM_{2.5}$ concentration exceeds the BAAQMD single-source thresholds for community risks The mitigated cancer risk is below the single-source threshold. Additionally, the combined annual $PM_{2.5}$ concentration from all cumulative TAC sources, which includes unmitigated and mitigated, would also exceed its respective BAAQMD cumulative thresholds. Note that cumulative $PM_{2.5}$ sources, excluding the Project, would exceed the cumulative threshold. The HI, unmitigated and mitigated, does not exceed its cumulative threshold. Therefore, the project would a ***significant*** impact with respect to cumulative community risk.

Table 11. Cumulative Community Risks from TAC Sources at Project MEI

Source			Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
Project Impacts					
Unmitigated Total/Maximum Project (Years 0-30)			**73.38**	**2.27**	0.05
Mitigated Total/Maximum Project (Years 0-30)			9.97	**0.43**	0.03
Cumulative Sources					
SR 87, Link 202 (6 feet elevation) at 1,000 feet east			2.33	0.01	0.01
Interstate 280 (6 feet elevation) at 500 north			28.56	0.18	0.02
South Almaden Boulevard, ADT 18,610 (MEI at 80 feet west)			4.25	0.13	<0.03
Woz Way, ADT 10,730 (MEI at 25 feet south)			4.65	0.17	<0.03
San Carlos Street, ADT 12,705 (MEI at 1,000 feet south)			0.53	0.02	<0.03
Riverpark Tower II, LLC, a Delaware LLC	Plant #22372, generator	MEI at 1,000 feet (300 meters)	0.15	<0.01	<0.01
Legacy Partners I Riverpark I, LLC	Plant #17642, Generator	MEI at 1,000 feet (300 meters)	0.22	<0.01	<0.01
San Jose Hilton & Towers	Plant #13431, Generator	MEI at 1,000 feet (300 meters)	0.33	<0.01	<0.01
San Jose Marriott Hotel	Plant #15125, Multiple Sources	MEI at 1,000 feet (300 meters)	0.05	0.01	0.01
360 Residences c/o Gateway Nathaniel, Inc	Plant #22400, Generator	MEI at 1,000 feet (300 meters)	<0.01	<0.01	<0.01
303 Almaden Fee Owner, LLC	Plant #22565, Generator and Fire Pump	MEI at 1,000 feet (300 meters)	0.15	<0.01	<0.01
Dept of Convention & Cultural Affairs-San Jose	Plant #2060, Multiple Sources	MEI at 530 feet (160 meters)	3.30	0.19	0.01
San Jose Redevelopment Agency	Plant #17018, Generator	MEI at 680 feet (200 meters)	0.01	<0.01	<0.01
Oracle America, Inc c/o Embarcadero Realty Svcs	Plant #20233, Generator	MEI at 195 feet (60 meters)	6.73	0.01	<0.01
Children's Discovery Museum	Plant #16533, Generator	MEI at 585 feet (175 meters)	0.03	<0.01	<0.01
Nearby Construction Development - Mitigated Emissions			<10.0	<0.3	<1.0
Combined Sources		Unmitigated Mitigated	**134.68** 71.27	**3.36** **1.52**	1.27 1.25
		BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
		Exceed Threshold? Unmitigated/Mitigated	***Yes****/No*	***Yes/Yes***	*No/No*

Significant and Unavoidable Construction Health Risks

Mitigation measures AQ-1 and AQ-2 would substantially reduce cancer risk, annual $PM_{2.5}$ concentrations and hazards posed by unmitigated construction activities. However, even with the implementation of Mitigation Measures AQ-1 and AQ-2, the cumulative $PM_{2.5}$ annual concentration of 1.52 µg/m^3 would exceed the BAAQMD significance thresholds of greater than 0.8 µg/m^3. The mitigated project would contribute 0.43 µg/m^3 to the overall total of 1.52 µg/m^3.

Figure 4 shows the extent of mitigated annual $PM_{2.5}$ concentrations associated with the project at sensitive receptors. The annual $PM_{2.5}$ concentration only exceeds the single-source BAAQMD threshold during the first year of construction (2021). The subsequent years would have annual $PM_{2.5}$ concentrations below 0.3 µg/m^3.

The extent of mitigated annual $PM_{2.5}$ concentrations that exceed the single source threshold (i.e., annual $PM_{2.5}$ concentrations exceeding 0.3 µg/m^3 would occur at the single-family residences south of the project. With Mitigation Measures AQ-1 and AQ-2, these significant impacts would be limited to receptors 150 feet south of the project site. There are approximately seven residences that would be significantly affected. However, as stated above, this exceedance would only occur during the first year of construction when demolition, site preparation, grading, and foundation work are taking place. Additionally, based on the screening analysis conducted for cumulative sources, much of the project area affected by the project (i.e., area within 1,000 feet) would have cumulative annual $PM_{2.5}$ concentrations above the cumulative threshold of 0.8 µg/m^3 without the project contribution. Note that the health-based annual standard of 12 µg/m^3 for $PM_{2.5}$ was exceeded in San Jose during 2018 (the most recent year of monitoring data available), but the threshold not exceeded in the four previous years. The 24-hour standard for $PM_{2.5}$ was exceeded on 0 to 6 measurements days over the last 5 years (note measurements occur every 6th day).

Figure 4. Risk by Receptor of Mitigated Construction 2021 $PM_{2.5}$ Risk

Greenhouse Gases Emission Calculations

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2 and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Recent Regulatory Actions

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codified the state's GHG emissions target by directing CARB to reduce the state's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards

Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the state's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Executive Order EO-B-30-15 (2015) and SB 32 GHG Reduction Targets

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the state is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the state's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings;
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit-oriented housing;
- Develop walkable and bikable communities;
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_2e per capita (statewide) by 2030 and no more than 2 metric tons CO_2e per capita by 2050. The statewide per capita targets account for all emissions sectors in the state, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term state emissions reduction goal of 80 percent below 1990 levels by 2050.

Federal and State GHG Emissions

The U.S. EPA reported that in 2017, total gross nationwide GHG emissions were 6,457 MMT. These emissions were lower than peak levels of 7,370 MMT that were emitted in 2008. Relative to 1990 levels, these emissions were CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions[22]. In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was completed for the year 2011[23]. GHG emission in were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011.

Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would

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[22] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017.* Available at https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf accessed on Nov. 26, 2019.
[23] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011.* January. Available at http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf accessed Nov. 26, 2019.

occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_{2e}/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.6 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.[24] The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_{2e}/year threshold.

Impact-GHG 1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, the generator, energy and water usage, and solid waste disposal. The impact of GHG emissions were addressed in the DSP DEIR and found to be significant and unavoidable under 2040 conditions. Emissions from the project were computed for information purposes. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

<u>CalEEMod Modeling</u>

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above. CalEEMod output is included in *Attachment 2*.

<u>Service Population Emissions</u>

The project service population efficiency rate is based on the number of future full-time commercial and retail employees. The number of workers was estimated using the following rates: one office worker per 175 sf of office space and one retail worker per 650 sf of large retail space.[25] Based on the project's proposed 1,487,115 sf for office use and 39,137 sf for retail use, there would be 8,558 future full-time employees.

<u>Construction GHG Emissions</u>

GHG emissions associated with construction were computed to be a total of 7,757 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

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[24] Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

[25] Strategic Economics. 2016. *San José Market Overview and Employment Lands Analysis*. January 20.

Operational GHG Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully developed site under the proposed project. The effects from a TDM program or other project-specific sustainability measures were not included in this analysis.

To be considered an exceedance, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold in the opening and future year. Note that if the project exceeds in the opening but not the future year, then it is still considered a significant impact. Emissions from both years must be below at least one of the thresholds.

As shown in Table 12, annual emissions resulting from operation of the proposed project are predicted to be 8,288 MT of CO_2e in 2026 and 7,749 MT of CO_2e in 2030. The service population emission for the years 2026 and 2030 are predicted to be 0.97 and 0.91 MT/CO_{2e}/year/service population, respectively.

The project would exceed the 2030 bright-line threshold of 660 MT CO_2e/year in both the opening and future year. However, the project would not exceed the service population emissions "Substantial Progress" efficiency metric of 2.6 MT CO_2e/year/service population in either 2024 or 2030. Therefore, the project would not have significant GHG impact.

Table 12. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Proposed Project in 2026	Proposed Project in 2030
Area	<1	<1
Energy Consumption	1,312	1,312
Mobile	5,902	5,362
Solid Waste Generation	716	716
Water Usage	359	359
Total (MT CO_2e)	8,289	7,749
Bright Line Threshold	*660 MT CO_2e/year*	*660 MT CO_2e/year*
Service Population Emissions (MT CO_{2e}/year/service population)	0.97	0.91
Per Capita Threshold	*2.6 in 2030*	*2.6 in 2030*
Exceeds both thresholds?	***No***	***No***

Supporting Documentation

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

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

Attachment 3 includes the EMFAC2017 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 screening community risk calculations from sources affecting the MEI. Due to the large size of the BAAQMD health risk calculators, these files were not included but are available upon request and would be provided in digital format.

Attachment 6 includes the resumes of the consultants who worked on this report.

Attachment 1: 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.[26] 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.[27] 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.[28] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

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

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

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[26] 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.
[27] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[28] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

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 Modeling Output

Project Name: Boston Properties Almaden

Complete ALL Portions in Yellow

Project Size	0 Dwelling Units	3.57 total project acres disturbed	
	0 s.f. residential	99,607 s.f. other, specify: BOH / Mechanical	
	1,487,115 s.f. office/commercial	101,918 s.f. other, specify: Terraces	
	39,137 s.f. other, specify: Retail, Amenity, Food & Beverage		
	409,990 s.f. parking garage	1,343 spaces	
	0 s.f. parking lot	0 spaces	
Construction Hours	Mon-Sat 7am - 7pm + 24-hr construction up to 12 days/year		
Working Days / Month Assumed	26		

Qty	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Comments
	Demolition	**Start Date:**	**1/4/2021**	**Total phase: 1 months**	**28**		**Overall Import/Export Volumes**
		End Date:	**2/4/2021**				
4	Concrete/Industrial Saws	81	0.73	3	11	1.1	**Demolition Volume**
2	Excavators	162	0.38	6	21	4.5	Square footage of buildings to be demolished
4	Rubber-Tired Dozers	255	0.4	6	21	4.5	(*or* total tons to be hauled)
2	Tractors/Loaders/Backhoes	97	0.37	6	21	4.5	(155,509) square feet *or*
							_?_ Hauling volume (tons)
	Site Preparation	**Start Date:**	**1/4/2021**	**Total phase: 4 months**	**99**		Any pavement demolished and hauled? (Unknown) **tons**
		End Date:	**5/4/2021**				**Soil Hauling Volume**
6	Graders	174	0.41	3	37	1.1	
5	Rubber Tired Dozers	255	0.4	5	62	3.1	Export volume = (0)cubic yards?
4	Tractors/Loaders/Backhoes	97	0.37	5	62	3.1	Import volume = **(0)** cubic yards?
	Grading / Excavation / Shoring	**Start Date:**	**5/4/2021**	**Total phase: 17 months**	**437**		
		End Date:	**9/30/2022**				**Soil Hauling Volume**
3	Scrapers	361	0.48	4	40	0.4	
5	Excavators	162	0.38	5	140	1.6	Export volume = (250,000)cubic yards?
4	Graders	174	0.41	5	40	0.5	Import volume = **(0)** cubic yards?
4	Rubber Tired Dozers	255	0.4	5	140	1.6	
3	Tractors/Loaders/Backhoes	97	0.37	5	140	1.6	
	Other Equipment?						
	Foundations / Below Grade Structure	**Start Date:**	**7/1/2022**	**Total phase: 11 months**	**284**		
		End Date:	**6/1/2023**				
1	Tractor/Loader/Backhoe	97	0.37	4	142	2.0	
1	Excavators	162	0.38	4	142	2.0	
1497	*Concrete Trucks*	9	0.56	24	7	0.6	
2	*Concrete Pumps*	84	0.74	24	7	0.6	
1981	*Concrete Trucks*	9	0.56	24	12	1.0	
2	*Concrete Pumps*	84	0.74	24	12	1.0	
	Super Structure / Steel / Deck / Fireproofing	**Start Date:**	**12/1/2022**	**Total phase: 14 months**	**363**		
		End Date:	**2/2/2024**				
1	Eerection	97	0.37	4	182	2.6	
1	Plumbing / Bolt-up / Welding	162	0.38	4	182	2.6	
3	Cranes	226	0.29	5	227	4.0	
6143	*Concrete Trucks*	9	0.56	6	95	2.0	
2	*Concrete Pumps*	84	0.74	6	95	2.0	
	Building - Exterior	**Start Date:**	**6/1/2023**	**Total phase: 16 months**	**413**		**Cement Trucks? _?_ Total Round-Trips**
		End Date:	**10/1/2024**				
3	Cranes	226	0.29	5	258	3.1	Electric? (**Y**/N) ___ Otherwise assumed diesel
5	Forklifts	89	0.2	4	207	2.0	Liquid Propane (LPG)? (Y/**N**) ___ Otherwise Assumed diesel
6	Generator Sets	84	0.74	4	207	2.0	Or temporary line power? (Y/**N**) ___
8	Welders	46	0.45	6	310	4.5	
	Other Equipment?					0.0	
Building - Interior/Architectural Coating		**Start Date:**	**3/1/2023**	**Total phase: 21 months**	**524**		
		End Date:	**11/5/2024**				
5	Air Compressors	78	0.48	4	262	2.0	
15	Aerial Lift	62	0.31	5	328	3.1	
	Other Equipment?						
	SITEWORK	**Start Date:**	**3/1/2024**	**Total phase: 12 months**	**309**		
		End Date:	**3/1/2025**				
4	Cement and Mortar Mixers	9	0.56	4	155	2.0	
1	Pavers	125	0.42	4	155	2.0	**Asphalt? ___ cubic yards or (500) round trips?**
2	Paving Equipment	130	0.36	4	155	2.0	
2	Rollers	80	0.38	4	155	2.0	
1	Tractors/Loaders/Backhoes	97	0.37	4	155	2.0	
	Other Equipment?						

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

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horepower or load factor, as appropriate

Typical Equipment Type & Load Factors

OFFROAD Equipment Type	HP	Load Factor
Aerial Lifts	62	0.31
Air Compressors	78	0.48
Bore/Drill Rigs	205	0.5
Cement and Mortar Mixers	9	0.56
Concrete/Industrial Saws	81	0.73
Cranes	226	0.29
Crawler Tractors	208	0.43
Crushing/Proc. Equipment	85	0.78
Dumpers/Tenders	16	0.38
Excavators	162	0.38
Forklifts	89	0.2
Generator Sets	84	0.74
Graders	174	0.41
Off-Highway Tractors	122	0.44
Off-Highway Trucks	400	0.38
Other Construction Equipment	171	0.42
Other General Industrial Equipment	150	0.34
Other Material Handling Equipment	167	0.4
Pavers	125	0.42
Paving Equipment	130	0.36
Plate Compactors	8	0.43
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Pressure Washers	13	0.2
Pumps	84	0.74
Rollers	80	0.38
Rough Terrain Forklifts	100	0.4
Rubber Tired Dozers	255	0.4
Rubber Tired Loaders	199	0.36
Scrapers	361	0.48
Signal Boards	6	0.82
Skid Steer Loaders	64	0.37
Surfacing Equipment	253	0.3
Sweepers/Scrubbers	64	0.46
Trenchers	80	0.5
Welders	46	0.45

2833 South Almaden Office Development VMT Trip Generation Estimates

						Daily		AM Peak Hour						PM Peak Hour					
	ITE Land		% of Vehicle	%				Pk-Hr	Split		Trip			Pk-Hr	Split		Trip		
Land Use	Use Code	Location	Mode Share	Reduction	Size	Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Proposed Land Use																			
General Office Building[1]	710				1,487,115 Square Feet	9.74	14,485	1.160	86%	14%	1,484	241	1,725	1.15	16%	84%	274	1,436	1,710
- Office - Retail Internal Reduction[2]				*3%*			*-435*				*-7*	*-12*	*-19*				*-8*	*-43*	*-51*
- Location Based Reduction[3]		*Urban High-Transit*	*69%*	*31%*			*-4,356*				*-458*	*-71*	*-529*				*-82*	*-432*	*-514*
Shopping Center[1]	820				39,137 Square Feet	37.75	1,477	0.940	62%	38%	23	14	37	3.81	48%	52%	72	77	149
- Office - Retail Internal Reduction[2]							*-435*				*-12*	*-7*	*-19*				*-43*	*-8*	*-51*
- Location Based Reduction[3]		*Urban High-Transit*	*83%*	*17%*			*-177*				*-2*	*-1*	*-3*				*-5*	*-12*	*-17*
Baseline Vehicle Trips (Before Reductions)							15,962				1,507	255	1,762				346	1,513	1,859
Project Trips After Reductions							**10,561**				**1,028**	**164**	**1,192**				**208**	**1,018**	**1,226**

Notes:

[1] Source: ITE *Trip Generation Manual*, 10th Edition 2017, average trip generation rates.

[2] As prescribed by the Transportation Impact Analysis Guidelines from VTA (October 2014), the maximum trip reduction for a mixed-use development project with employment and employee-serving retail uses is equal to 3% off the office component. The maximum 3% reduction was applied to the PM peak-hour trip estimates. For the AM peak-hour trip estimates, a 50% reduction off the retail trips was applied.

[3] The project site is located within an urban low-transit area based on the City of San Jose VMT Evaluation Tool (March 14, 2018). The location-based vehicle mode shares are obtained from Table 6 of the City of San Jose Transportation Analysis Handbook (April 2018). The trip reductions are based on the percent of mode share for all of the other modes of travel beside vehicle.

Almaden Office AQ-GHG, rev June 2020

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1,688.64	1000sqft	3.57	1,688,640.00	0
Enclosed Parking with Elevator	1,343.00	Space	0.00	409,990.00	0
Strip Mall	39.14	1000sqft	0.00	39,137.00	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	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 2017 rate

Land Use - 1,487,115 sf of office (includes 99,607 sf BOH/mech & 101,918 sf of terraces), 39,137 sf of retail, 1,343 parking spaces in 409,990 sf parking garage on 3.57-acres

Construction Phase - Rev June 2020 Construction Schedule, Based on the Total Work Days per Phase, Six days/Week

Off-road Equipment - Project Equipment List, June 2020

Off-road Equipment - Project Equipment List, 6.19. 2020

Off-road Equipment - Project Equipment List, 6.19. 2020

Off-road Equipment - Project Equipment List, 6.19. 2020, Concrete Pump activity

Off-road Equipment - Project Equipment List, 6.19. 2020

Off-road Equipment - Project Equipment List, 6.19. 2020

Off-road Equipment - Project Equipment List, 6.19. 2020

Off-road Equipment - Project Equipment List, 6.19. 2020, concrete pump activity

Trips and VMT - EMFAC2017 for construction trips

Demolition - Demo 155,509 sf

Grading - 250,000 cubic yards of soil exported

Energy Use -

Construction Off-road Equipment Mitigation - Advanced BMPs and Tier 4 final mitigation, temporary power line, eletrical equipment

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	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	18.00	524.00
tblConstructionPhase	NumDays	230.00	363.00
tblConstructionPhase	NumDays	230.00	413.00
tblConstructionPhase	NumDays	20.00	28.00
tblConstructionPhase	NumDays	8.00	437.00
tblConstructionPhase	NumDays	18.00	309.00
tblConstructionPhase	NumDays	5.00	99.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblGrading	MaterialExported	0.00	250,000.00
tblLandUse	LandUseSquareFeet	537,200.00	409,990.00
tblLandUse	LandUseSquareFeet	39,140.00	39,137.00
tblLandUse	LotAcreage	38.77	3.57
tblLandUse	LotAcreage	12.09	0.00
tblLandUse	LotAcreage	0.90	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.10
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	3.10
tblOffRoadEquipment	UsageHours	8.00	4.50

tblOffRoadEquipment	UsageHours	8.00	1.60
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.60
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	0.50
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	6.00	2.00
tblOffRoadEquipment	UsageHours	8.00	4.50
tblOffRoadEquipment	UsageHours	8.00	1.60
tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	1.60
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	8.00	2.60
tblOffRoadEquipment	UsageHours	8.00	4.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	HaulingTripNumber	707.00	0.00
tblTripsAndVMT	HaulingTripNumber	31,250.00	0.00
tblTripsAndVMT	VendorTripNumber	350.00	0.00
tblTripsAndVMT	VendorTripNumber	350.00	0.00
tblTripsAndVMT	WorkerTripNumber	30.00	0.00
tblTripsAndVMT	WorkerTripNumber	38.00	0.00
tblTripsAndVMT	WorkerTripNumber	48.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	725.00	0.00
tblTripsAndVMT	WorkerTripNumber	145.00	0.00

tblTripsAndVMT	WorkerTripNumber	725.00	0.00
tblTripsAndVMT	WorkerTripNumber	25.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3246	3.4484	1.8479	3.6200e-003	1.2547	0.1623	1.4170	0.6158	0.1495	0.7653	0.0000	318.5098	318.5098	0.1019	0.0000	321.0576
2022	0.1709	1.7377	1.3563	2.6600e-003	0.6295	0.0802	0.7097	0.3122	0.0744	0.3866	0.0000	233.0671	233.0671	0.0674	0.0000	234.7523
2023	4.9634	3.6163	3.9422	7.3400e-003	0.0000	0.1503	0.1503	0.0000	0.1446	0.1446	0.0000	622.6065	622.6065	0.1212	0.0000	625.6351
2024	4.8909	2.8602	3.6942	6.3400e-003	0.0000	0.1114	0.1114	0.0000	0.1073	0.1073	0.0000	532.5441	532.5441	0.1051	0.0000	535.1727
2025	6.5100e-003	0.0576	0.0890	1.4000e-004	0.0000	2.6800e-003	2.6800e-003	0.0000	2.4900e-003	2.4900e-003	0.0000	12.0232	12.0232	3.6500e-003	0.0000	12.1145
Maximum	**4.9634**	**3.6163**	**3.9422**	**7.3400e-003**	**1.2547**	**0.1623**	**1.4170**	**0.6158**	**0.1495**	**0.7653**	**0.0000**	**622.6065**	**622.6065**	**0.1212**	**0.0000**	**625.6351**

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					
2021	0.0443	0.1921	1.9745	3.62E-03	0.4893	5.91E-03	0.4952	0.1201	5.91E-03	0.126	0	318.5094	318.5094	0.1019	0	321.0572
2022	0.03	0.1301	1.4745	2.66E-03	0.2455	4.00E-03	0.2495	0.0609	4.00E-03	0.0649	0	219.4952	219.4952	0.0639	0	221.0919

2023	4.5963	0.7942	2.0461	7.34E-03	0	4.42E-03	4.42E-03	0	4.42E-03	4.42E-03	0	256.7821	256.7821	0.0512	0	258.0613
2024	4.597	0.7972	2.0883	6.34E-03	0	4.52E-03	4.52E-03	0	4.52E-03	4.52E-03	0	257.8063	257.8063	0.0662	0	259.4618
2025	1.53E-03	6.64E-03	0.0944	1.40E-04	0	2.00E-04	2.00E-04	0	2.00E-04	2.00E-04	0	12.0231	12.0231	3.65E-03	0	12.1144
Maximum	**4.597**	**0.7972**	**2.0883**	**7.34E-03**	**0.4893**	**5.91E-03**	**0.4952**	**0.1201**	**5.91E-03**	**0.126**	**0**	**318.5094**	**318.5094**	**0.1019**	**0**	**321.0572**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**10.50**	**83.62**	**29.75**	**0.00**	**61.00**	**96.24**	**68.47**	**80.50**	**96.02**	**85.78**	**0.00**	**38.06**	**38.06**	**28.16**	**0.00**	**38.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-4-2021**	**4-3-2021**	1.6911	0.0956
2	**4-4-2021**	**7-3-2021**	0.7740	0.0492
3	**7-4-2021**	**10-3-2021**	0.6540	0.0459
4	**10-4-2021**	**1-3-2022**	0.6502	0.0459
5	**1-4-2022**	**4-3-2022**	0.5273	0.0449
6	**4-4-2022**	**7-3-2022**	0.5365	0.0458
7	**7-4-2022**	**10-3-2022**	0.5894	0.0537
8	**10-4-2022**	**1-3-2023**	0.2493	0.0148
9	**1-4-2023**	**4-3-2023**	1.0420	0.6119
10	**4-4-2023**	**7-3-2023**	2.2565	1.6032
11	**7-4-2023**	**10-3-2023**	2.6836	1.6167
12	**10-4-2023**	**1-3-2024**	2.6812	1.6167
13	**1-4-2024**	**4-3-2024**	2.3749	1.5992
14	**4-4-2024**	**7-3-2024**	2.3586	1.6059
15	**7-4-2024**	**10-3-2024**	2.3182	1.6230
16	**10-4-2024**	**1-3-2025**	0.6005	0.5021
17	**1-4-2025**	**4-3-2025**	0.0608	0.0077
		Highest	2.6836	1.6230

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	2/4/2021	6	28	
2	Site Preparation	Site Preparation	1/4/2021	4/28/2021	6	99	
3	Grading/Excavation	Grading	5/4/2021	9/24/2022	6	437	
4	Foundations/Below Grade	Trenching	7/1/2022	5/27/2023	6	284	
5	Super Structure/Steel	Building Construction	12/1/2022	1/27/2024	6	363	
6	Architectural Coating	Architectural Coating	3/1/2023	10/31/2024	6	524	
7	Building Construction	Building Construction	6/1/2023	9/24/2024	6	413	
8	Paving	Paving	3/1/2024	2/24/2025	6	309	

Acres of Grading (Site Preparation Phase): 40.84

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 2,591,666; Non-Residential Outdoor: 863,889; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	4	1.10	81	0.73
Demolition	Excavators	2	4.50	158	0.38
Demolition	Rubber Tired Dozers	4	4.50	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	4.50	97	0.37
Site Preparation	Graders	6	1.10	187	0.41
Site Preparation	Rubber Tired Dozers	5	3.10	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	3.10	97	0.37
Grading/Excavation	Excavators	5	1.60	158	0.38
Grading/Excavation	Graders	4	0.50	187	0.41
Grading/Excavation	Rubber Tired Dozers	4	1.60	247	0.40
Grading/Excavation	Scrapers	3	0.40	367	0.48
Grading/Excavation	Tractors/Loaders/Backhoes	3	1.60	97	0.37

Foundations/Below Grade	Excavators	1	2.00	158	0.38
Foundations/Below Grade	Pumps	4	1.00	84	0.74
Foundations/Below Grade	Tractors/Loaders/Backhoes	1	2.00	97	0.37
Super Structure/Steel	Cranes	3	4.00	231	0.29
Super Structure/Steel	Forklifts	0	0.00	89	0.20
Super Structure/Steel	Generator Sets	1	2.60	84	0.74
Super Structure/Steel	Pumps	2	2.00	84	0.74
Super Structure/Steel	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Super Structure/Steel	Welders	1	2.60	46	0.45
Architectural Coating	Aerial Lifts	15	3.10	63	0.31
Architectural Coating	Air Compressors	5	2.00	78	0.48
Building Construction	Cranes	3	3.10	231	0.29
Building Construction	Forklifts	5	2.00	89	0.20
Building Construction	Generator Sets	6	2.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Welders	8	4.50	46	0.45
Paving	Cement and Mortar Mixers	4	2.00	9	0.56
Paving	Pavers	1	2.00	130	0.42
Paving	Paving Equipment	2	2.00	132	0.36
Paving	Rollers	2	2.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	2.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	12	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	15	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation	19	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundations/Below Grade	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Super Structure/Steel	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Architectural Coating	20	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	22	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	10	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

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

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					0.0765	0.0000	0.0765	0.0116	0.0000	0.0116	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0425	0.4328	0.2426	4.5000e-004		0.0215	0.0215		0.0199	0.0199	0.0000	39.2288	39.2288	0.0116	0.0000	39.5185
Total	**0.0425**	**0.4328**	**0.2426**	**4.5000e-004**	**0.0765**	**0.0215**	**0.0981**	**0.0116**	**0.0199**	**0.0315**	**0.0000**	**39.2288**	**39.2288**	**0.0116**	**0.0000**	**39.5185**

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					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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					0.0299	0.0000	0.0299	2.2600e-003	0.0000	2.2600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.3700e-003	0.0233	0.2491	4.5000e-004		7.2000e-004	7.2000e-004		7.2000e-004	7.2000e-004	0.0000	39.2287	39.2287	0.0116	0.0000	39.5184
Total	**5.3700e-003**	**0.0233**	**0.2491**	**4.5000e-004**	**0.0299**	**7.2000e-004**	**0.0306**	**2.2600e-003**	**7.2000e-004**	**2.9800e-003**	**0.0000**	**39.2287**	**39.2287**	**0.0116**	**0.0000**	**39.5184**

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 Site Preparation - 2021

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					0.5992	0.0000	0.5992	0.3198	0.0000	0.3198	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1332	1.4396	0.6328	1.3300e-003		0.0673	0.0673		0.0619	0.0619	0.0000	116.6999	116.6999	0.0377	0.0000	117.6434
Total	**0.1332**	**1.4396**	**0.6328**	**1.3300e-003**	**0.5992**	**0.0673**	**0.6665**	**0.3198**	**0.0619**	**0.3817**	**0.0000**	**116.6999**	**116.6999**	**0.0377**	**0.0000**	**117.6434**

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					0.2337	0.0000	0.2337	0.0624	0.0000	0.0624	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0163	0.0704	0.6689	1.3300e-003		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003	0.0000	116.6997	116.6997	0.0377	0.0000	117.6433
Total	**0.0163**	**0.0704**	**0.6689**	**1.3300e-003**	**0.2337**	**2.1700e-003**	**0.2359**	**0.0624**	**2.1700e-003**	**0.0645**	**0.0000**	**116.6997**	**116.6997**	**0.0377**	**0.0000**	**117.6433**

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 Grading/Excavation - 2021

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					0.5789	0.0000	0.5789	0.2844	0.0000	0.2844	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.1489	1.5761	0.9725	1.8500e-003		0.0735	0.0735		0.0676	0.0676	0.0000	162.5812	162.5812	0.0526	0.0000	163.8957
Total	**0.1489**	**1.5761**	**0.9725**	**1.8500e-003**	**0.5789**	**0.0735**	**0.6524**	**0.2844**	**0.0676**	**0.3521**	**0.0000**	**162.5812**	**162.5812**	**0.0526**	**0.0000**	**163.8957**

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					0.2258	0.0000	0.2258	0.0555	0.0000	0.0555	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.0983	1.0566	1.8500e-003		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	162.5810	162.5810	0.0526	0.0000	163.8955
Total	**0.0227**	**0.0983**	**1.0566**	**1.8500e-003**	**0.2258**	**3.0300e-003**	**0.2288**	**0.0555**	**3.0300e-003**	**0.0585**	**0.0000**	**162.5810**	**162.5810**	**0.0526**	**0.0000**	**163.8955**

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 Grading/Excavation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6295	0.0000	0.6295	0.3122	0.0000	0.3122	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1371	1.4282	1.0134	2.0400e-003		0.0650	0.0650		0.0598	0.0598	0.0000	178.9986	178.9986	0.0579	0.0000	180.4459
Total	**0.1371**	**1.4282**	**1.0134**	**2.0400e-003**	**0.6295**	**0.0650**	**0.6945**	**0.3122**	**0.0598**	**0.3721**	**0.0000**	**178.9986**	**178.9986**	**0.0579**	**0.0000**	**180.4459**

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					0.2455	0.0000	0.2455	0.0609	0.0000	0.0609	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0250	0.1083	1.1632	2.0400e-003		3.3300e-003	3.3300e-003		3.3300e-003	3.3300e-003	0.0000	178.9984	178.9984	0.0579	0.0000	180.4457
Total	**0.0250**	**0.1083**	**1.1632**	**2.0400e-003**	**0.2455**	**3.3300e-003**	**0.2488**	**0.0609**	**3.3300e-003**	**0.0642**	**0.0000**	**178.9984**	**178.9984**	**0.0579**	**0.0000**	**180.4457**

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 Foundations/Below Grade - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0212	0.1855	0.2559	4.2000e-004		9.6300e-003	9.6300e-003		9.3500e-003	9.3500e-003	0.0000	36.6817	36.6817	5.7800e-003	0.0000	36.8262
Total	**0.0212**	**0.1855**	**0.2559**	**4.2000e-004**		**9.6300e-003**	**9.6300e-003**		**9.3500e-003**	**9.3500e-003**	**0.0000**	**36.6817**	**36.6817**	**5.7800e-003**	**0.0000**	**36.8262**

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

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	4.6000e-003	0.0200	0.2839	4.2000e-004		6.1000e-004	6.1000e-004		6.1000e-004	6.1000e-004	0.0000	36.6816	36.6816	5.7800e-003	0.0000	36.8262
Total	**4.6000e-003**	**0.0200**	**0.2839**	**4.2000e-004**		**6.1000e-004**	**6.1000e-004**		**6.1000e-004**	**6.1000e-004**	**0.0000**	**36.6816**	**36.6816**	**5.7800e-003**	**0.0000**	**36.8262**

Mitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	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 Foundations/Below Grade - 2023

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0157	0.1353	0.2038	3.4000e-004		6.6400e-003	6.6400e-003		6.4400e-003	6.4400e-003	0.0000	29.2586	29.2586	4.5200e-003	0.0000	29.3716

Total	**0.0157**	**0.1353**	**0.2038**	**3.4000e-004**		**6.6400e-003**	**6.6400e-003**		**6.4400e-003**	**6.4400e-003**	**0.0000**	**29.2586**	**29.2586**	**4.5200e-003**	**0.0000**	**29.3716**

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	3.6700e-003	0.0159	0.2264	3.4000e-004		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	29.2586	29.2586	4.5200e-003	0.0000	29.3715
Total	**3.6700e-003**	**0.0159**	**0.2264**	**3.4000e-004**		**4.9000e-004**	**4.9000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**29.2586**	**29.2586**	**4.5200e-003**	**0.0000**	**29.3715**

Mitigated Construction Off-Site

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

3.6 Super Structure/Steel - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1240	0.0871	2.0000e-004		5.4900e-003	5.4900e-003		5.2100e-003	5.2100e-003	0.0000	17.3868	17.3868	3.7300e-003	0.0000	17.4801
Total	**0.0126**	**0.1240**	**0.0871**	**2.0000e-004**		**5.4900e-003**	**5.4900e-003**		**5.2100e-003**	**5.2100e-003**	**0.0000**	**17.3868**	**17.3868**	**3.7300e-003**	**0.0000**	**17.4801**

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	4.4000e-004	1.9200e-003	0.0274	2.0000e-004		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.8152	3.8152	1.9000e-004	0.0000	3.8200
Total	**4.4000e-004**	**1.9200e-003**	**0.0274**	**2.0000e-004**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.8152**	**3.8152**	**1.9000e-004**	**0.0000**	**3.8200**

Mitigated Construction Off-Site

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

3.6 Super Structure/Steel - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1362	1.3173	0.9909	2.3300e-003		0.0571	0.0571		0.0541	0.0541	0.0000	200.9118	200.9118	0.0427	0.0000	201.9790
Total	**0.1362**	**1.3173**	**0.9909**	**2.3300e-003**		**0.0571**	**0.0571**		**0.0541**	**0.0541**	**0.0000**	**200.9118**	**200.9118**	**0.0427**	**0.0000**	**201.9790**

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	5.1300e-003	0.0222	0.3164	2.3300e-003		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	44.0861	44.0861	2.0200e-003	0.0000	44.1366
Total	**5.1300e-003**	**0.0222**	**0.3164**	**2.3300e-003**		**6.8000e-004**	**6.8000e-004**		**6.8000e-004**	**6.8000e-004**	**0.0000**	**44.0861**	**44.0861**	**2.0200e-003**	**0.0000**	**44.1366**

Mitigated Construction Off-Site

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

3.6 Super Structure/Steel - 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	9.8400e-003	0.0939	0.0750	1.8000e-004		3.9500e-003	3.9500e-003		3.7400e-003	3.7400e-003	0.0000	15.4546	15.4546	3.2600e-003	0.0000	15.5362

Total	9.8400e-003	0.0939	0.0750	1.8000e-004		3.9500e-003	3.9500e-003		3.7400e-003	3.7400e-003	0.0000	15.4546	15.4546	3.2600e-003	0.0000	15.5362

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	3.9000e-004	1.7100e-003	0.0243	1.8000e-004		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	3.3912	3.3912	1.5000e-004	0.0000	3.3950
Total	**3.9000e-004**	**1.7100e-003**	**0.0243**	**1.8000e-004**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**3.3912**	**3.3912**	**1.5000e-004**	**0.0000**	**3.3950**

Mitigated Construction Off-Site

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

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5474					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0682	0.6905	1.2269	1.9300e-003		0.0225	0.0225		0.0219	0.0219	0.0000	168.0781	168.0781	0.0397	0.0000	169.0697
Total	**4.6156**	**0.6905**	**1.2269**	**1.9300e-003**		**0.0225**	**0.0225**		**0.0219**	**0.0219**	**0.0000**	**168.0781**	**168.0781**	**0.0397**	**0.0000**	**169.0697**

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					

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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	4.5474					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0380	0.7468	1.3705	1.9300e-003		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	168.0779	168.0779	0.0397	0.0000	169.0695
Total	**4.5854**	**0.7468**	**1.3705**	**1.9300e-003**		**2.9600e-003**	**2.9600e-003**		**2.9600e-003**	**2.9600e-003**	**0.0000**	**168.0779**	**168.0779**	**0.0397**	**0.0000**	**169.0695**

Mitigated Construction Off-Site

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

3.7 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	4.5474					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0658	0.6668	1.2273	1.9300e-003		0.0203	0.0203		0.0197	0.0197	0.0000	168.0781	168.0781	0.0395	0.0000	169.0648
Total	**4.6132**	**0.6668**	**1.2273**	**1.9300e-003**		**0.0203**	**0.0203**		**0.0197**	**0.0197**	**0.0000**	**168.0781**	**168.0781**	**0.0395**	**0.0000**	**169.0648**

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					
Archit. Coating	4.5474					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0380	0.7468	1.3705	1.9300e-003		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	168.0779	168.0779	0.0395	0.0000	169.0646
Total	**4.5854**	**0.7468**	**1.3705**	**1.9300e-003**		**2.9600e-003**	**2.9600e-003**		**2.9600e-003**	**2.9600e-003**	**0.0000**	**168.0779**	**168.0779**	**0.0395**	**0.0000**	**169.0646**

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**

3.8 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1959	1.4732	1.5206	2.7400e-003		0.0640	0.0640		0.0621	0.0621	0.0000	224.3580	224.3580	0.0343	0.0000	225.2149

Total	**0.1959**	**1.4732**	**1.5206**	**2.7400e-003**		**0.0640**	**0.0640**		**0.0621**	**0.0621**	**0.0000**	**224.3580**	**224.3580**	**0.0343**	**0.0000**	**225.2149**

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	2.1500e-003	9.3400e-003	0.1329	2.7400e-003		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	15.3596	15.3596	4.9700e-003	0.0000	15.4837
Total	**2.1500e-003**	**9.3400e-003**	**0.1329**	**2.7400e-003**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**	**0.0000**	**15.3596**	**15.3596**	**4.9700e-003**	**0.0000**	**15.4837**

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**

3.8 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	0.2291	1.7490	1.8940	3.4500e-003		0.0705	0.0705		0.0683	0.0683	0.0000	281.9786	281.9786	0.0421	0.0000	283.0298
Total	**0.2291**	**1.7490**	**1.8940**	**3.4500e-003**		**0.0705**	**0.0705**		**0.0683**	**0.0683**	**0.0000**	**281.9786**	**281.9786**	**0.0421**	**0.0000**	**283.0298**

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					

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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	2.7100e-003	0.0117	0.1670	3.4500e-003		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	19.3044	19.3044	6.2400e-003	0.0000	19.4604
Total	**2.7100e-003**	**0.0117**	**0.1670**	**3.4500e-003**		**3.6000e-004**	**3.6000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**19.3044**	**19.3044**	**6.2400e-003**	**0.0000**	**19.4604**

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**

3.9 Paving - 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	0.0388	0.3506	0.4979	7.9000e-004		0.0167	0.0167		0.0155	0.0155	0.0000	67.0329	67.0329	0.0204	0.0000	67.5419
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0388**	**0.3506**	**0.4979**	**7.9000e-004**		**0.0167**	**0.0167**		**0.0155**	**0.0155**	**0.0000**	**67.0329**	**67.0329**	**0.0204**	**0.0000**	**67.5419**

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

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	8.5400e-003	0.0370	0.5265	7.9000e-004		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003	0.0000	67.0328	67.0328	0.0204	0.0000	67.5418
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.5400e-003**	**0.0370**	**0.5265**	**7.9000e-004**		**1.1400e-003**	**1.1400e-003**		**1.1400e-003**	**1.1400e-003**	**0.0000**	**67.0328**	**67.0328**	**0.0204**	**0.0000**	**67.5418**

Mitigated Construction Off-Site

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

3.9 Paving - 2025

Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	6.5100e-003	0.0576	0.0890	1.4000e-004		2.6800e-003	2.6800e-003		2.4900e-003	2.4900e-003	0.0000	12.0232	12.0232	3.6500e-003	0.0000	12.1145

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.5100e-003**	**0.0576**	**0.0890**	**1.4000e-004**		**2.6800e-003**	**2.6800e-003**		**2.4900e-003**	**2.4900e-003**	**0.0000**	**12.0232**	**12.0232**	**3.6500e-003**	**0.0000**	**12.1145**

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	1.5300e-003	6.6400e-003	0.0944	1.4000e-004		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	12.0231	12.0231	3.6500e-003	0.0000	12.1144
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5300e-003**	**6.6400e-003**	**0.0944**	**1.4000e-004**		**2.0000e-004**	**2.0000e-004**		**2.0000e-004**	**2.0000e-004**	**0.0000**	**12.0231**	**12.0231**	**3.6500e-003**	**0.0000**	**12.1144**

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**

Alamden Office Building AQ/GHG Operation Only

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1,487.12	1000sqft	3.57	1,487,115.00	0
Enclosed Parking with Elevator	1,343.00	Space	0.00	409,990.00	0
Strip Mall	39.14	1000sqft	0.00	39,137.00	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	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2017 210

Land Use - 1,487,115 sf of office (does not include 99,607 sf BOH/mech & 101,918 sf of terraces), 39,137 sf of retail, 1,343 parking spaces in 409,990 sf parking garage on 3.57-acres

Construction Phase - Operation Only Model

Off-road Equipment - Project Applicant Construction Equipment List

Off-road Equipment - Project Applicant Construction Equipment List

Trips and VMT - 500 asphalt round trips = 1000 one way trips

Demolition - Demo 155,509 sf

Grading - Export 250,000-cy of soil

Architectural Coating -

Vehicle Trips - Project-Specific Trip Generation Rate

Vehicle Emission Factors - 2030 EMFAC2017 Santa Clara County Vehicle Emissions

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Energy Use -

Water And Wastewater - 100% aerobic waste treatment

Construction Off-road Equipment Mitigation -

Energy Mitigation - SJCE reach code 100% carbon free energy in 2021 and beyond

Stationary Sources - Emergency Generators and Fire Pumps - One diesel fuel fired standby engine generator rated 1500KW/1875KVA, 227/480V, 3-phase, 4-wire, 60Hz, 18000RPM for building life safety located in a dedicated room. Space for up to two future tenant generators rated 750KW/937.5KVA each

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	0.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17

tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblLandUse	LandUseSquareFeet	1,487,120.00	1,487,115.00
tblLandUse	LandUseSquareFeet	537,200.00	409,990.00
tblLandUse	LandUseSquareFeet	39,140.00	39,137.00

tblLandUse	LotAcreage	34.14	3.57
tblLandUse	LotAcreage	12.09	0.00
tblLandUse	LotAcreage	0.90	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,005.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,011.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleEF	HHD	0.27	0.02
tblVehicleEF	HHD	0.06	0.05
tblVehicleEF	HHD	0.06	0.00
tblVehicleEF	HHD	1.43	6.28
tblVehicleEF	HHD	0.94	0.41
tblVehicleEF	HHD	4.01	6.6850e-003
tblVehicleEF	HHD	4,037.05	930.05
tblVehicleEF	HHD	1,498.85	1,226.35
tblVehicleEF	HHD	12.27	0.05
tblVehicleEF	HHD	12.16	5.20
tblVehicleEF	HHD	1.59	2.52
tblVehicleEF	HHD	19.20	2.31
tblVehicleEF	HHD	3.6830e-003	2.1460e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.6600e-003	0.02
tblVehicleEF	HHD	1.3500e-004	1.0000e-006

tblVehicleEF	HHD	3.5230e-003	2.0530e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8550e-003	8.9050e-003
tblVehicleEF	HHD	5.4140e-003	0.02
tblVehicleEF	HHD	1.2400e-004	1.0000e-006
tblVehicleEF	HHD	1.0100e-004	1.0000e-006
tblVehicleEF	HHD	4.6010e-003	5.8000e-005
tblVehicleEF	HHD	0.37	0.42
tblVehicleEF	HHD	6.4000e-005	1.0000e-006
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.1900e-004	2.8400e-004
tblVehicleEF	HHD	0.07	2.0000e-006
tblVehicleEF	HHD	0.04	8.6530e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.8800e-004	1.0000e-006
tblVehicleEF	HHD	1.0100e-004	1.0000e-006
tblVehicleEF	HHD	4.6010e-003	5.8000e-005
tblVehicleEF	HHD	0.43	0.49
tblVehicleEF	HHD	6.4000e-005	1.0000e-006
tblVehicleEF	HHD	0.15	0.07
tblVehicleEF	HHD	4.1900e-004	2.8400e-004
tblVehicleEF	HHD	0.08	2.0000e-006
tblVehicleEF	LDA	1.8990e-003	9.5900e-004
tblVehicleEF	LDA	2.1050e-003	0.03
tblVehicleEF	LDA	0.33	0.41
tblVehicleEF	LDA	0.63	1.72
tblVehicleEF	LDA	181.37	199.86
tblVehicleEF	LDA	42.51	42.17
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.03	0.13

tblVehicleEF	LDA	1.1470e-003	9.2900e-004
tblVehicleEF	LDA	1.8260e-003	1.2750e-003
tblVehicleEF	LDA	1.0560e-003	8.5500e-004
tblVehicleEF	LDA	1.6790e-003	1.1720e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	4.7560e-003	3.2470e-003
tblVehicleEF	LDA	0.03	0.17
tblVehicleEF	LDA	0.03	0.12
tblVehicleEF	LDA	1.8150e-003	9.0000e-005
tblVehicleEF	LDA	4.3500e-004	0.00
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	6.9190e-003	4.7160e-003
tblVehicleEF	LDA	0.03	0.17
tblVehicleEF	LDA	0.03	0.13
tblVehicleEF	LDT1	3.6800e-003	1.6710e-003
tblVehicleEF	LDT1	4.5270e-003	0.04
tblVehicleEF	LDT1	0.55	0.54
tblVehicleEF	LDT1	1.12	1.85
tblVehicleEF	LDT1	233.07	241.46
tblVehicleEF	LDT1	54.62	51.55
tblVehicleEF	LDT1	0.05	0.03
tblVehicleEF	LDT1	0.06	0.15
tblVehicleEF	LDT1	1.4520e-003	1.0700e-003
tblVehicleEF	LDT1	2.1870e-003	1.4610e-003
tblVehicleEF	LDT1	1.3350e-003	9.8400e-004
tblVehicleEF	LDT1	2.0110e-003	1.3440e-003

tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.12	0.09
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	9.1170e-003	6.5000e-003
tblVehicleEF	LDT1	0.09	0.36
tblVehicleEF	LDT1	0.06	0.15
tblVehicleEF	LDT1	2.3350e-003	2.5670e-003
tblVehicleEF	LDT1	5.6500e-004	0.00
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.12	0.09
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.01	9.4830e-003
tblVehicleEF	LDT1	0.09	0.36
tblVehicleEF	LDT1	0.07	0.17
tblVehicleEF	LDT2	2.9960e-003	1.7260e-003
tblVehicleEF	LDT2	3.1970e-003	0.04
tblVehicleEF	LDT2	0.49	0.56
tblVehicleEF	LDT2	0.89	2.29
tblVehicleEF	LDT2	264.16	249.80
tblVehicleEF	LDT2	61.38	53.79
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.17
tblVehicleEF	LDT2	1.3060e-003	1.0250e-003
tblVehicleEF	LDT2	2.0190e-003	1.3400e-003
tblVehicleEF	LDT2	1.2010e-003	9.4400e-004
tblVehicleEF	LDT2	1.8570e-003	1.2320e-003
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	7.4390e-003	6.5530e-003

tblVehicleEF	LDT2	0.06	0.34
tblVehicleEF	LDT2	0.04	0.18
tblVehicleEF	LDT2	2.6450e-003	9.4800e-003
tblVehicleEF	LDT2	6.2800e-004	8.5000e-005
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.01	9.5240e-003
tblVehicleEF	LDT2	0.06	0.34
tblVehicleEF	LDT2	0.05	0.20
tblVehicleEF	LHD1	3.9820e-003	4.1480e-003
tblVehicleEF	LHD1	8.6490e-003	5.1950e-003
tblVehicleEF	LHD1	0.01	9.0230e-003
tblVehicleEF	LHD1	0.14	0.18
tblVehicleEF	LHD1	0.61	0.47
tblVehicleEF	LHD1	1.67	0.89
tblVehicleEF	LHD1	8.93	8.25
tblVehicleEF	LHD1	641.43	698.55
tblVehicleEF	LHD1	26.94	10.09
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.53	0.30
tblVehicleEF	LHD1	0.67	0.23
tblVehicleEF	LHD1	7.8900e-004	9.1500e-004
tblVehicleEF	LHD1	0.01	9.9010e-003
tblVehicleEF	LHD1	0.01	7.0190e-003
tblVehicleEF	LHD1	6.6500e-004	2.1000e-004
tblVehicleEF	LHD1	7.5500e-004	8.7500e-004
tblVehicleEF	LHD1	2.6030e-003	2.4750e-003
tblVehicleEF	LHD1	9.7020e-003	6.6710e-003
tblVehicleEF	LHD1	6.1100e-004	1.9300e-004

tblVehicleEF	LHD1	1.8620e-003	1.4030e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7200e-004
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.15	0.04
tblVehicleEF	LHD1	8.9000e-005	8.0000e-005
tblVehicleEF	LHD1	6.2670e-003	6.8120e-003
tblVehicleEF	LHD1	3.0000e-004	1.0000e-004
tblVehicleEF	LHD1	1.8620e-003	1.4030e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7200e-004
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.16	0.05
tblVehicleEF	LHD2	2.5430e-003	2.5050e-003
tblVehicleEF	LHD2	5.3180e-003	5.3390e-003
tblVehicleEF	LHD2	3.2330e-003	4.8110e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.45	0.49
tblVehicleEF	LHD2	0.88	0.48
tblVehicleEF	LHD2	13.62	13.00
tblVehicleEF	LHD2	675.95	679.81
tblVehicleEF	LHD2	21.83	6.44
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.22	0.38
tblVehicleEF	LHD2	0.26	0.12
tblVehicleEF	LHD2	1.0460e-003	1.5020e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3120e-003	0.01
tblVehicleEF	LHD2	3.7400e-004	1.0600e-004
tblVehicleEF	LHD2	1.0000e-003	1.4370e-003
tblVehicleEF	LHD2	2.7080e-003	2.7110e-003
tblVehicleEF	LHD2	8.8860e-003	0.01
tblVehicleEF	LHD2	3.4400e-004	9.8000e-005
tblVehicleEF	LHD2	5.1500e-004	6.4200e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	1.3300e-004	1.2400e-004
tblVehicleEF	LHD2	6.5670e-003	6.5570e-003
tblVehicleEF	LHD2	2.3300e-004	6.4000e-005
tblVehicleEF	LHD2	5.1500e-004	6.4200e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0800e-004	3.7400e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.05	0.02
tblVehicleEF	MCY	0.46	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	17.52	17.61
tblVehicleEF	MCY	10.34	9.20
tblVehicleEF	MCY	171.38	209.76
tblVehicleEF	MCY	42.85	59.23

tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.1570e-003	2.1380e-003
tblVehicleEF	MCY	3.3210e-003	2.8620e-003
tblVehicleEF	MCY	2.0120e-003	1.9940e-003
tblVehicleEF	MCY	3.1070e-003	2.6760e-003
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.12	2.13
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.11	1.88
tblVehicleEF	MCY	2.0640e-003	2.0760e-003
tblVehicleEF	MCY	6.5900e-004	5.8600e-004
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.66	2.67
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.30	2.04
tblVehicleEF	MDV	5.1180e-003	1.7720e-003
tblVehicleEF	MDV	7.2260e-003	0.04
tblVehicleEF	MDV	0.68	0.55
tblVehicleEF	MDV	1.51	2.32
tblVehicleEF	MDV	358.67	301.13
tblVehicleEF	MDV	82.28	63.46
tblVehicleEF	MDV	0.07	0.04
tblVehicleEF	MDV	0.11	0.18
tblVehicleEF	MDV	1.3880e-003	1.0340e-003
tblVehicleEF	MDV	2.0820e-003	1.3440e-003

tblVehicleEF	MDV	1.2780e-003	9.5400e-004
tblVehicleEF	MDV	1.9150e-003	1.2360e-003
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.01	6.8870e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.10	0.20
tblVehicleEF	MDV	3.5870e-003	2.9760e-003
tblVehicleEF	MDV	8.4800e-004	6.2800e-004
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	9.9830e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.11	0.22
tblVehicleEF	MH	8.2310e-003	5.0270e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.45	0.31
tblVehicleEF	MH	3.72	1.64
tblVehicleEF	MH	1,184.19	1,350.27
tblVehicleEF	MH	56.79	15.54
tblVehicleEF	MH	0.84	1.06
tblVehicleEF	MH	0.62	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.8300e-004	2.1200e-004
tblVehicleEF	MH	3.2210e-003	3.2970e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.1200e-004	1.9500e-004

tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.3200e-004	1.5400e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	3.8320e-003
tblVehicleEF	MHD	2.7470e-003	1.0340e-003
tblVehicleEF	MHD	0.03	8.3830e-003
tblVehicleEF	MHD	0.37	0.41
tblVehicleEF	MHD	0.25	0.15
tblVehicleEF	MHD	3.74	0.87
tblVehicleEF	MHD	131.96	65.10
tblVehicleEF	MHD	1,167.79	993.45
tblVehicleEF	MHD	59.45	8.55
tblVehicleEF	MHD	0.34	0.34
tblVehicleEF	MHD	1.04	1.43
tblVehicleEF	MHD	9.99	1.69
tblVehicleEF	MHD	5.2000e-005	1.6200e-004
tblVehicleEF	MHD	3.0080e-003	7.0060e-003
tblVehicleEF	MHD	8.2100e-004	1.1200e-004
tblVehicleEF	MHD	5.0000e-005	1.5500e-004

tblVehicleEF	MHD	2.8710e-003	6.6960e-003
tblVehicleEF	MHD	7.5400e-004	1.0300e-004
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.23	0.04
tblVehicleEF	MHD	1.2710e-003	6.1800e-004
tblVehicleEF	MHD	0.01	9.4800e-003
tblVehicleEF	MHD	6.6000e-004	8.5000e-005
tblVehicleEF	MHD	6.4300e-004	2.8900e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	3.8200e-004	1.6800e-004
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.25	0.05
tblVehicleEF	OBUS	0.01	7.0980e-003
tblVehicleEF	OBUS	4.0840e-003	2.1970e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.64
tblVehicleEF	OBUS	0.30	0.26
tblVehicleEF	OBUS	4.08	1.58
tblVehicleEF	OBUS	110.55	97.36
tblVehicleEF	OBUS	1,272.30	1,210.85
tblVehicleEF	OBUS	64.94	13.46
tblVehicleEF	OBUS	0.24	0.43
tblVehicleEF	OBUS	0.85	1.45

tblVehicleEF	OBUS	2.74	1.13
tblVehicleEF	OBUS	2.2000e-005	1.4200e-004
tblVehicleEF	OBUS	2.8340e-003	7.8820e-003
tblVehicleEF	OBUS	9.3800e-004	1.5600e-004
tblVehicleEF	OBUS	2.1000e-005	1.3600e-004
tblVehicleEF	OBUS	2.6900e-003	7.5260e-003
tblVehicleEF	OBUS	8.6200e-004	1.4400e-004
tblVehicleEF	OBUS	1.1660e-003	1.0620e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.26	0.08
tblVehicleEF	OBUS	1.0660e-003	9.2400e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2100e-004	1.3300e-004
tblVehicleEF	OBUS	1.1660e-003	1.0620e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.3200e-004	4.8700e-004
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.08
tblVehicleEF	SBUS	0.81	0.07
tblVehicleEF	SBUS	7.6490e-003	4.4040e-003
tblVehicleEF	SBUS	0.06	6.3380e-003
tblVehicleEF	SBUS	8.87	2.93
tblVehicleEF	SBUS	0.48	0.37
tblVehicleEF	SBUS	7.57	0.86

tblVehicleEF	SBUS	1,023.58	337.48
tblVehicleEF	SBUS	1,008.60	970.50
tblVehicleEF	SBUS	61.81	5.06
tblVehicleEF	SBUS	4.35	2.71
tblVehicleEF	SBUS	1.72	3.09
tblVehicleEF	SBUS	10.76	1.18
tblVehicleEF	SBUS	2.1870e-003	2.0480e-003
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	8.4940e-003	0.02
tblVehicleEF	SBUS	1.1020e-003	6.8000e-005
tblVehicleEF	SBUS	2.0920e-003	1.9600e-003
tblVehicleEF	SBUS	2.5880e-003	2.6690e-003
tblVehicleEF	SBUS	8.1060e-003	0.02
tblVehicleEF	SBUS	1.0130e-003	6.2000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
tblVehicleEF	SBUS	1.05	0.32
tblVehicleEF	SBUS	1.7580e-003	4.1400e-004
tblVehicleEF	SBUS	0.07	0.06
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.40	0.04
tblVehicleEF	SBUS	0.01	3.2190e-003
tblVehicleEF	SBUS	9.7440e-003	9.2880e-003
tblVehicleEF	SBUS	7.4900e-004	5.0000e-005
tblVehicleEF	SBUS	3.7080e-003	8.7000e-004
tblVehicleEF	SBUS	0.03	8.3040e-003
tblVehicleEF	SBUS	1.53	0.46
tblVehicleEF	SBUS	1.7580e-003	4.1400e-004
tblVehicleEF	SBUS	0.08	0.07
tblVehicleEF	SBUS	0.02	0.05

tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	0.23	1.86
tblVehicleEF	UBUS	0.05	2.1860e-003
tblVehicleEF	UBUS	3.04	14.11
tblVehicleEF	UBUS	7.59	0.14
tblVehicleEF	UBUS	1,937.16	1,668.67
tblVehicleEF	UBUS	126.43	1.40
tblVehicleEF	UBUS	4.75	0.71
tblVehicleEF	UBUS	13.02	0.02
tblVehicleEF	UBUS	0.54	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.10	5.1160e-003
tblVehicleEF	UBUS	1.3960e-003	1.5000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.10	4.8930e-003
tblVehicleEF	UBUS	1.2840e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005
tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.65	9.2610e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.4020e-003	1.4000e-005
tblVehicleEF	UBUS	2.5990e-003	6.1000e-005
tblVehicleEF	UBUS	0.04	8.1400e-004
tblVehicleEF	UBUS	1.5170e-003	3.6000e-005
tblVehicleEF	UBUS	0.48	1.90
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003

tblVehicleEF	UBUS	0.71	0.01
tblVehicleTrips	ST_TR	2.46	1.45
tblVehicleTrips	ST_TR	42.04	20.96
tblVehicleTrips	SU_TR	1.05	0.62
tblVehicleTrips	SU_TR	20.43	10.19
tblVehicleTrips	WD_TR	11.03	6.52
tblVehicleTrips	WD_TR	44.32	22.10
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 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	6.7941	2.4000e-004	0.0262	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546
Energy	0.1318	1.1979	1.0062	7.1900e-003		0.0910	0.0910		0.0910	0.0910	0.0000	4,098.4420	4,098.4420	0.4109	0.1038	4,139.6309
Mobile	2.1080	3.6638	18.0434	0.0583	6.9960	0.0423	7.0382	1.8718	0.0396	1.9114	0.0000	5,357.0316	5,357.0316	0.2132	0.0000	5,362.3622

Stationary	0.1650	0.7377	0.4206	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5593	76.5593	0.0107	0.0000	76.8276
Waste						0.0000	0.0000		0.0000	0.0000	289.0835	0.0000	289.0835	17.0843	0.0000	716.1921
Water						0.0000	0.0000		0.0000	0.0000	94.5395	192.3269	286.8664	0.3520	0.2111	358.5694
Total	**9.1988**	**5.5996**	**19.4964**	**0.0662**	**6.9960**	**0.1577**	**7.1536**	**1.8718**	**0.1550**	**2.0268**	**383.6230**	**9,724.4110**	**10,108.0340**	**18.0713**	**0.3148**	**10,653.6368**

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	6.7941	2.4000e-004	0.0262	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546
Energy	0.1318	1.1979	1.0062	7.1900e-003		0.0910	0.0910		0.0910	0.0910	0.0000	1,304.0422	1,304.0422	0.0250	0.0239	1,311.79
Mobile	2.1080	3.6638	18.0434	0.0583	6.9960	0.0423	7.0382	1.8718	0.0396	1.9114	0.0000	5,357.0316	5,357.0316	0.2132	0.0000	5,362.36
Stationary	0.1650	0.7377	0.4206	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5593	76.5593	0.0107	0.0000	76.8276
Waste						0.0000	0.0000		0.0000	0.0000	289.0835	0.0000	289.0835	17.0843	0.0000	716.1921
Water						0.0000	0.0000		0.0000	0.0000	94.5395	192.3269	286.8664	0.3520	0.2111	358.5694
Total	**9.1988**	**5.5996**	**19.4964**	**0.0662**	**6.9960**	**0.1577**	**7.1536**	**1.8718**	**0.1550**	**2.0268**	**383.6230**	**6,930.0112**	**7,313.6342**	**17.6854**	**0.2350**	**7,825.80**

	ROG	**NOx**	**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**	**28.74**	**27.65**	**2.14**	**25.36**	**26.54**

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	2.1080	3.6638	18.0434	0.0583	6.9960	0.0423	7.0382	1.8718	0.0396	1.9114	0.0000	5,357.0316	5,357.0316	0.2132	0.0000	5,362.3622
Unmitigated	2.1080	3.6638	18.0434	0.0583	6.9960	0.0423	7.0382	1.8718	0.0396	1.9114	0.0000	5,357.0316	5,357.0316	0.2132	0.0000	5,362.3622

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	9,696.02	2,156.32	922.01	17,601,707	17,601,707
Strip Mall	864.99	820.37	398.84	1,219,746	1,219,746
Total	10,561.02	2,976.70	1,320.85	18,821,453	18,821,453

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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
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
Enclosed Parking with Elevator	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
General Office Building	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728
Strip Mall	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,794.3998	2,794.3998	0.3859	0.0798	2,827.8395
NaturalGas Mitigated	0.1318	1.1979	1.0062	7.1900e-003		0.0910	0.0910		0.0910	0.0910	0.0000	1,304.0422	1,304.0422	0.0250	0.0239	1,311.7914
NaturalGas Unmitigated	0.1318	1.1979	1.0062	7.1900e-003		0.0910	0.0910		0.0910	0.0910	0.0000	1,304.0422	1,304.0422	0.0250	0.0239	1,311.7914

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					
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
General Office Building	2.43441e+007	0.1313	1.1933	1.0024	7.1600e-003		0.0907	0.0907		0.0907	0.0907	0.0000	1,299.0924	1,299.0924	0.0249	0.0238	1,306.8123
Strip Mall	92754.7	5.0000e-004	4.5500e-003	3.8200e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	4.9497	4.9497	9.0000e-005	9.0000e-005	4.9792

Total		0.1318	1.1979	1.0062	7.1900e-003		0.0910	0.0910		0.0910	0.0910	0.0000	1,304.0422	1,304.0422	0.0250	0.0239	1,311.7914

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					
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
General Office Building	2.43441e+007	0.1313	1.1933	1.0024	7.1600e-003		0.0907	0.0907		0.0907	0.0907	0.0000	1,299.0924	1,299.0924	0.0249	0.0238	1,306.8123
Strip Mall	92754.7	5.0000e-004	4.5500e-003	3.8200e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	4.9497	4.9497	9.0000e-005	9.0000e-005	4.9792
Total		**0.1318**	**1.1979**	**1.0062**	**7.1900e-003**		**0.0910**	**0.0910**		**0.0910**	**0.0910**	**0.0000**	**1,304.0422**	**1,304.0422**	**0.0250**	**0.0239**	**1,311.7914**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	2.40254e+006	228.8526	0.0316	6.5400e-003	231.5912
General Office Building	2.65153e+007	2,525.6952	0.3488	0.0722	2,555.9193
Strip Mall	418375	39.8520	5.5000e-003	1.1400e-003	40.3289
Total		**2,794.3998**	**0.3859**	**0.0798**	**2,827.8395**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	6.7941	2.4000e-004	0.0262	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546
Unmitigated	6.7941	2.4000e-004	0.0262	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546

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	0.8044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9873					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-003	2.4000e-004	0.0262	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546
Total	**6.7941**	**2.4000e-004**	**0.0262**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0513**	**0.0513**	**1.3000e-004**	**0.0000**	**0.0546**

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	0.8044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9873					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4000e-003	2.4000e-004	0.0262	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546
Total	**6.7941**	**2.4000e-004**	**0.0262**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0513**	**0.0513**	**1.3000e-004**	**0.0000**	**0.0546**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	286.8664	0.3520	0.2111	358.5694
Unmitigated	286.8664	0.3520	0.2111	358.5694

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	264.311 / 161.997	283.7539	0.3481	0.2088	354.6790
Strip Mall	2.8992 / 1.77693	3.1125	3.8200e-003	2.2900e-003	3.8904
Total		**286.8664**	**0.3520**	**0.2111**	**358.5694**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	264.311 / 161.997	283.7539	0.3481	0.2088	354.6790
Strip Mall	2.8992 / 1.77693	3.1125	3.8200e-003	2.2900e-003	3.8904

Total		286.8664	0.3520	0.2111	358.5694

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	289.0835	17.0843	0.0000	716.1921
Unmitigated	289.0835	17.0843	0.0000	716.1921

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1383.02	280.7406	16.5913	0.0000	695.5229
Strip Mall	41.1	8.3429	0.4931	0.0000	20.6693
Total		**289.0835**	**17.0843**	**0.0000**	**716.1921**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1383.02	280.7406	16.5913	0.0000	695.5229
Strip Mall	41.1	8.3429	0.4931	0.0000	20.6693
Total		**289.0835**	**17.0843**	**0.0000**	**716.1921**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	2011	0.73	Diesel
Emergency Generator	2	0	50	1005	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel	0.1650	0.7377	0.4206	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5593	76.5593	0.0107	0.0000	76.8276
Total	**0.1650**	**0.7377**	**0.4206**	**7.9000e-004**		**0.0243**	**0.0243**		**0.0243**	**0.0243**	**0.0000**	**76.5593**	**76.5593**	**0.0107**	**0.0000**	**76.8276**

11.0 Vegetation

Alamden Office Building AQ/GHG Operation Only
Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1,487.12	1000sqft	3.57	1,487,115.00	0
Enclosed Parking with Elevator	1,343.00	Space	0.00	409,990.00	0
Strip Mall	39.14	1000sqft	0.00	39,137.00	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	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2017 210

Land Use - 1,487,115 sf of office (does not include 99,607 sf BOH/mech & 101,918 sf of terraces), 39,137 sf of retail, 1,343 parking spaces in 409,990 sf parking garage on 3.57-acres

Construction Phase - Operation Only Model

Off-road Equipment - Project Applicant Construction Equipment List

Off-road Equipment - Project Applicant Construction Equipment List

Trips and VMT - 500 asphalt round trips = 1000 one way trips

Demolition - Demo 155,509 sf

Grading - Export 250,000-cy of soil

Architectural Coating -

Vehicle Trips - Project-Specific Trip Generation Rate

Area Coating -

Energy Use -

Water And Wastewater - 100% aerobic waste treatment

Construction Off-road Equipment Mitigation -

Energy Mitigation - SJCE reach code 100% carbon free energy in 2021 and beyond

Stationary Sources - Emergency Generators and Fire Pumps - One diesel fuel fired standby engine generator rated 1500KW/1875KVA, 227/480V, 3-phase, 4-wire, 60Hz, 18000RPM for building life safety located in a dedicated room. Space for up to two future tenant generators rated 750KW/937.5KVA each

Vehicle Emission Factors - 2026 EMFAC2017 Santa Clara County Vehicle Emissions

Vehicle Emission Factors -

Vehicle Emission Factors -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	5.00	0.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.01	0.02

tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0300e-003	5.4009e-003
tblFleetMix	LHD2	5.0300e-003	5.4009e-003
tblFleetMix	LHD2	5.0300e-003	5.4009e-003
tblFleetMix	MCY	5.2040e-003	4.9788e-003
tblFleetMix	MCY	5.2040e-003	4.9788e-003
tblFleetMix	MCY	5.2040e-003	4.9788e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MH	6.8100e-004	7.4215e-004
tblFleetMix	MH	6.8100e-004	7.4215e-004
tblFleetMix	MH	6.8100e-004	7.4215e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.1950e-003	1.5279e-003
tblFleetMix	OBUS	2.1950e-003	1.5279e-003
tblFleetMix	OBUS	2.1950e-003	1.5279e-003
tblFleetMix	SBUS	6.3800e-004	9.1499e-004
tblFleetMix	SBUS	6.3800e-004	9.1499e-004
tblFleetMix	SBUS	6.3800e-004	9.1499e-004
tblFleetMix	UBUS	1.5020e-003	1.2248e-003
tblFleetMix	UBUS	1.5020e-003	1.2248e-003
tblFleetMix	UBUS	1.5020e-003	1.2248e-003
tblLandUse	LandUseSquareFeet	1,487,120.00	1,487,115.00
tblLandUse	LandUseSquareFeet	537,200.00	409,990.00
tblLandUse	LandUseSquareFeet	39,140.00	39,137.00
tblLandUse	LotAcreage	34.14	3.57

tblLandUse	LotAcreage	12.09	0.00
tblLandUse	LotAcreage	0.90	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	1,005.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	2,011.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	50.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	2.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	0.00	18.00
tblVehicleEF	HHD	0.31	0.02
tblVehicleEF	HHD	0.06	0.05
tblVehicleEF	HHD	0.07	0.00
tblVehicleEF	HHD	1.52	6.31
tblVehicleEF	HHD	0.93	0.41
tblVehicleEF	HHD	3.74	5.9100e-003
tblVehicleEF	HHD	4,207.12	1,010.86
tblVehicleEF	HHD	1,529.11	1,358.12
tblVehicleEF	HHD	11.80	0.05
tblVehicleEF	HHD	13.04	5.31
tblVehicleEF	HHD	1.80	2.65
tblVehicleEF	HHD	19.31	2.32
tblVehicleEF	HHD	5.9270e-003	2.4220e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	6.0050e-003	0.02
tblVehicleEF	HHD	1.1600e-004	1.0000e-006
tblVehicleEF	HHD	5.6710e-003	2.3170e-003

tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8440e-003	8.8910e-003
tblVehicleEF	HHD	5.7450e-003	0.02
tblVehicleEF	HHD	1.0700e-004	1.0000e-006
tblVehicleEF	HHD	9.5000e-005	2.0000e-006
tblVehicleEF	HHD	4.6590e-003	7.9000e-005
tblVehicleEF	HHD	0.39	0.43
tblVehicleEF	HHD	6.0000e-005	1.0000e-006
tblVehicleEF	HHD	0.09	0.03
tblVehicleEF	HHD	4.0300e-004	3.9700e-004
tblVehicleEF	HHD	0.08	2.0000e-006
tblVehicleEF	HHD	0.04	9.4050e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7900e-004	0.00
tblVehicleEF	HHD	9.5000e-005	2.0000e-006
tblVehicleEF	HHD	4.6590e-003	7.9000e-005
tblVehicleEF	HHD	0.46	0.49
tblVehicleEF	HHD	6.0000e-005	1.0000e-006
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	4.0300e-004	3.9700e-004
tblVehicleEF	HHD	0.09	3.0000e-006
tblVehicleEF	LDA	2.5670e-003	1.3660e-003
tblVehicleEF	LDA	3.2680e-003	0.04
tblVehicleEF	LDA	0.41	0.47
tblVehicleEF	LDA	0.84	1.94
tblVehicleEF	LDA	206.01	220.20
tblVehicleEF	LDA	48.83	46.75
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.04	0.15
tblVehicleEF	LDA	1.5230e-003	1.1910e-003

tblVehicleEF	LDA	2.1880e-003	1.5670e-003
tblVehicleEF	LDA	1.4020e-003	1.0960e-003
tblVehicleEF	LDA	2.0120e-003	1.4410e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.07	0.08
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	6.4390e-003	4.9190e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.04	0.16
tblVehicleEF	LDA	2.0620e-003	9.3000e-005
tblVehicleEF	LDA	5.0200e-004	0.00
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.07	0.08
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	9.3640e-003	7.1490e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.05	0.18
tblVehicleEF	LDT1	5.5980e-003	2.7310e-003
tblVehicleEF	LDT1	7.5190e-003	0.05
tblVehicleEF	LDT1	0.76	0.71
tblVehicleEF	LDT1	1.67	2.09
tblVehicleEF	LDT1	262.03	264.87
tblVehicleEF	LDT1	61.70	56.84
tblVehicleEF	LDT1	0.07	0.05
tblVehicleEF	LDT1	0.09	0.19
tblVehicleEF	LDT1	1.9540e-003	1.4440e-003
tblVehicleEF	LDT1	2.6790e-003	1.8820e-003
tblVehicleEF	LDT1	1.7980e-003	1.3280e-003
tblVehicleEF	LDT1	2.4630e-003	1.7300e-003
tblVehicleEF	LDT1	0.06	0.06

tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.01	0.01
tblVehicleEF	LDT1	0.13	0.47
tblVehicleEF	LDT1	0.10	0.22
tblVehicleEF	LDT1	2.6280e-003	2.6150e-003
tblVehicleEF	LDT1	6.4500e-004	0.00
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.13	0.47
tblVehicleEF	LDT1	0.11	0.24
tblVehicleEF	LDT2	3.9270e-003	2.4210e-003
tblVehicleEF	LDT2	4.6800e-003	0.05
tblVehicleEF	LDT2	0.58	0.66
tblVehicleEF	LDT2	1.13	2.54
tblVehicleEF	LDT2	296.40	280.92
tblVehicleEF	LDT2	69.39	60.84
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.08	0.21
tblVehicleEF	LDT2	1.6390e-003	1.2680e-003
tblVehicleEF	LDT2	2.3480e-003	1.6140e-003
tblVehicleEF	LDT2	1.5070e-003	1.1670e-003
tblVehicleEF	LDT2	2.1590e-003	1.4840e-003
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	0.09	0.11
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	9.7420e-003	9.5470e-003
tblVehicleEF	LDT2	0.06	0.39

tblVehicleEF	LDT2	0.06	0.24
tblVehicleEF	LDT2	2.9680e-003	0.01
tblVehicleEF	LDT2	7.1300e-004	8.8000e-005
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	0.09	0.11
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.07	0.27
tblVehicleEF	LHD1	4.6790e-003	4.6670e-003
tblVehicleEF	LHD1	0.01	6.7660e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.14	0.18
tblVehicleEF	LHD1	0.81	0.61
tblVehicleEF	LHD1	2.14	0.99
tblVehicleEF	LHD1	8.97	8.66
tblVehicleEF	LHD1	665.14	749.59
tblVehicleEF	LHD1	29.84	11.02
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.82	0.50
tblVehicleEF	LHD1	0.85	0.27
tblVehicleEF	LHD1	8.4500e-004	8.7200e-004
tblVehicleEF	LHD1	0.01	9.8310e-003
tblVehicleEF	LHD1	0.01	8.5970e-003
tblVehicleEF	LHD1	8.1100e-004	2.3200e-004
tblVehicleEF	LHD1	8.0900e-004	8.3400e-004
tblVehicleEF	LHD1	2.5630e-003	2.4580e-003
tblVehicleEF	LHD1	0.01	8.1790e-003
tblVehicleEF	LHD1	7.4600e-004	2.1300e-004
tblVehicleEF	LHD1	2.3230e-003	1.7170e-003

tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.2230e-003	9.0400e-004
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.30	0.46
tblVehicleEF	LHD1	0.21	0.06
tblVehicleEF	LHD1	9.0000e-005	8.4000e-005
tblVehicleEF	LHD1	6.5140e-003	7.3150e-003
tblVehicleEF	LHD1	3.3800e-004	1.0900e-004
tblVehicleEF	LHD1	2.3230e-003	1.7170e-003
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.2230e-003	9.0400e-004
tblVehicleEF	LHD1	0.13	0.10
tblVehicleEF	LHD1	0.30	0.46
tblVehicleEF	LHD1	0.23	0.07
tblVehicleEF	LHD2	2.9160e-003	2.8270e-003
tblVehicleEF	LHD2	6.1790e-003	6.0420e-003
tblVehicleEF	LHD2	4.7100e-003	6.5340e-003
tblVehicleEF	LHD2	0.12	0.14
tblVehicleEF	LHD2	0.49	0.54
tblVehicleEF	LHD2	0.99	0.55
tblVehicleEF	LHD2	13.82	13.60
tblVehicleEF	LHD2	689.53	727.00
tblVehicleEF	LHD2	22.84	7.15
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.42	0.60
tblVehicleEF	LHD2	0.35	0.15
tblVehicleEF	LHD2	1.1530e-003	1.4660e-003
tblVehicleEF	LHD2	0.01	0.01

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8100e-004	1.1700e-004
tblVehicleEF	LHD2	1.1040e-003	1.4020e-003
tblVehicleEF	LHD2	2.7010e-003	2.7000e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5100e-004	1.0800e-004
tblVehicleEF	LHD2	6.3900e-004	8.4300e-004
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.6200e-004	4.5700e-004
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.05	0.20
tblVehicleEF	LHD2	0.06	0.03
tblVehicleEF	LHD2	1.3500e-004	1.3000e-004
tblVehicleEF	LHD2	6.7010e-003	7.0160e-003
tblVehicleEF	LHD2	2.4600e-004	7.1000e-005
tblVehicleEF	LHD2	6.3900e-004	8.4300e-004
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.6200e-004	4.5700e-004
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	0.05	0.20
tblVehicleEF	LHD2	0.07	0.04
tblVehicleEF	MCY	0.45	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	18.05	18.17
tblVehicleEF	MCY	10.25	9.11
tblVehicleEF	MCY	170.65	209.94
tblVehicleEF	MCY	44.05	60.17
tblVehicleEF	MCY	1.14	1.14

tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	2.0890e-003	2.0610e-003
tblVehicleEF	MCY	3.4880e-003	2.9290e-003
tblVehicleEF	MCY	1.9500e-003	1.9240e-003
tblVehicleEF	MCY	3.2730e-003	2.7480e-003
tblVehicleEF	MCY	0.89	1.80
tblVehicleEF	MCY	0.66	0.66
tblVehicleEF	MCY	0.48	0.96
tblVehicleEF	MCY	2.16	2.16
tblVehicleEF	MCY	0.54	1.75
tblVehicleEF	MCY	2.16	1.91
tblVehicleEF	MCY	2.0660e-003	2.0780e-003
tblVehicleEF	MCY	6.7200e-004	5.9500e-004
tblVehicleEF	MCY	0.89	1.80
tblVehicleEF	MCY	0.66	0.66
tblVehicleEF	MCY	0.48	0.96
tblVehicleEF	MCY	2.69	2.70
tblVehicleEF	MCY	0.54	1.75
tblVehicleEF	MCY	2.35	2.08
tblVehicleEF	MDV	7.0480e-003	2.6580e-003
tblVehicleEF	MDV	0.01	0.06
tblVehicleEF	MDV	0.85	0.68
tblVehicleEF	MDV	2.04	2.69
tblVehicleEF	MDV	400.76	339.08
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tblVehicleEF	MDV	0.10	0.05
tblVehicleEF	MDV	0.17	0.24
tblVehicleEF	MDV	1.7210e-003	1.3170e-003
tblVehicleEF	MDV	2.4070e-003	1.6620e-003
tblVehicleEF	MDV	1.5860e-003	1.2150e-003

tblVehicleEF	MDV	2.2130e-003	1.5280e-003
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.15	0.12
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.10	0.40
tblVehicleEF	MDV	0.15	0.28
tblVehicleEF	MDV	4.0100e-003	3.3510e-003
tblVehicleEF	MDV	9.5900e-004	7.1400e-004
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.15	0.12
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.10	0.40
tblVehicleEF	MDV	0.16	0.31
tblVehicleEF	MH	0.02	7.6660e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.24	0.68
tblVehicleEF	MH	4.69	1.87
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tblVehicleEF	MH	0.72	0.24
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.0090e-003	2.4000e-004
tblVehicleEF	MH	3.2210e-003	3.2870e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	9.2700e-004	2.2100e-004
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tblVehicleEF	MH	0.23	0.19
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.02	1.01
tblVehicleEF	MH	0.27	0.08
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.6000e-004	1.7000e-004
tblVehicleEF	MH	0.64	0.52
tblVehicleEF	MH	0.05	0.04
tblVehicleEF	MH	0.23	0.19
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	1.01
tblVehicleEF	MH	0.30	0.09
tblVehicleEF	MHD	0.02	3.6600e-003
tblVehicleEF	MHD	3.4340e-003	1.3680e-003
tblVehicleEF	MHD	0.04	8.6830e-003
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tblVehicleEF	MHD	3.0880e-003	7.0640e-003
tblVehicleEF	MHD	8.3800e-004	1.1200e-004
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tblVehicleEF	MHD	2.9480e-003	6.7520e-003

tblVehicleEF	MHD	7.7100e-004	1.0300e-004
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tblVehicleEF	MHD	0.02	0.09
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tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.0900e-004	1.8000e-004
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tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.31	0.05
tblVehicleEF	OBUS	0.01	7.0720e-003
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tblVehicleEF	OBUS	2.69	1.11

tblVehicleEF	OBUS	2.0000e-005	1.3100e-004
tblVehicleEF	OBUS	2.8820e-003	7.5500e-003
tblVehicleEF	OBUS	8.7800e-004	1.4900e-004
tblVehicleEF	OBUS	2.0000e-005	1.2600e-004
tblVehicleEF	OBUS	2.7360e-003	7.2100e-003
tblVehicleEF	OBUS	8.0800e-004	1.3700e-004
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tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.1900e-004	4.8300e-004
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tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	9.7600e-004	5.4000e-005
tblVehicleEF	SBUS	4.8280e-003	2.9250e-003
tblVehicleEF	SBUS	2.6090e-003	2.7030e-003
tblVehicleEF	SBUS	0.01	0.03
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tblVehicleEF	SBUS	3.3660e-003	6.4100e-004
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tblVehicleEF	SBUS	3.3660e-003	6.4100e-004
tblVehicleEF	SBUS	0.03	6.2050e-003
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tblVehicleEF	SBUS	0.11	0.09
tblVehicleEF	SBUS	0.02	0.04
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tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.15	5.1700e-003
tblVehicleEF	UBUS	1.2080e-003	1.5000e-005
tblVehicleEF	UBUS	0.24	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3320e-003
tblVehicleEF	UBUS	0.15	4.9450e-003
tblVehicleEF	UBUS	1.1100e-003	1.4000e-005
tblVehicleEF	UBUS	2.0830e-003	2.7000e-005
tblVehicleEF	UBUS	0.03	2.5800e-004
tblVehicleEF	UBUS	1.1550e-003	1.3000e-005
tblVehicleEF	UBUS	0.36	0.03
tblVehicleEF	UBUS	7.3900e-003	1.4520e-003
tblVehicleEF	UBUS	0.58	7.3620e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.2750e-003	1.4000e-005
tblVehicleEF	UBUS	2.0830e-003	2.7000e-005
tblVehicleEF	UBUS	0.03	2.5800e-004
tblVehicleEF	UBUS	1.1550e-003	1.3000e-005
tblVehicleEF	UBUS	0.62	1.78
tblVehicleEF	UBUS	7.3900e-003	1.4520e-003
tblVehicleEF	UBUS	0.64	8.0600e-003

tblVehicleTrips	ST_TR	2.46	1.45
tblVehicleTrips	ST_TR	42.04	20.96
tblVehicleTrips	SU_TR	1.05	0.62
tblVehicleTrips	SU_TR	20.43	10.19
tblVehicleTrips	WD_TR	11.03	6.52
tblVehicleTrips	WD_TR	44.32	22.10
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 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	6.7941	2.4000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546
Energy	0.1318	1.1979	1.0062	7.1900e-003		0.0910	0.0910		0.0910	0.0910	0.0000	4,098.4420	4,098.4420	0.4109	0.1038	4,139.6309
Mobile	2.5332	4.1120	20.5860	0.0626	6.9951	0.0494	7.0446	1.8715	0.0462	1.9178	0.0000	5,895.2090	5,895.2090	0.2540	0.0000	5,901.5577
Stationary	0.1650	0.7377	0.4206	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5593	76.5593	0.0107	0.0000	76.8276

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Waste						0.0000	0.0000		0.0000	0.0000	289.0835	0.0000	289.0835	17.0843	0.0000	716.1921
Water						0.0000	0.0000		0.0000	0.0000	94.5395	192.3269	286.8664	0.3520	0.2111	358.5694
Total	**9.6240**	**6.0479**	**22.0392**	**0.0706**	**6.9951**	**0.1648**	**7.1600**	**1.8715**	**0.1616**	**2.0332**	**383.6230**	**10,262.5884**	**10,646.2114**	**18.1120**	**0.3148**	**11,192.8323**

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	6.7941	2.40E-04	0.0263	0		9.00E-05	9.00E-05		9.00E-05	9.00E-05	0	0.0513	0.0513	1.30E-04	0	0.0546
Energy	0.1318	1.1979	1.0062	7.19E-03		0.091	0.091		0.091	0.091	0	1,304.04	1,304.04	0.025	0.0239	1,311.79
Mobile	2.5332	4.112	20.586	0.0626	6.9951	0.0494	7.0446	1.8715	0.0462	1.9178	0	5,895.21	5,895.21	0.254	0	5,901.56
Stationary	0.165	0.7377	0.4206	7.90E-04		0.0243	0.0243		0.0243	0.0243	0	76.5593	76.5593	0.0107	0	76.8276
Waste						0	0		0	0	289.0835	0	289.0835	17.0843	0	716.1921
Water						0	0		0	0	94.5395	192.3269	286.8664	0.352	0.2111	358.5694
Total	**9.624**	**6.0479**	**22.0392**	**0.0706**	**6.9951**	**0.1648**	**7.16**	**1.8715**	**0.1616**	**2.0332**	**383.623**	**7,468.19**	**7,851.81**	**17.7261**	**0.235**	**8,364.99**

	ROG	**NOx**	**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**	**27.23**	**26.25**	**2.13**	**25.36**	**25.26**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	2.5332	4.1120	20.5860	0.0626	6.9951	0.0494	7.0446	1.8715	0.0462	1.9178	0.0000	5,895.2090	5,895.2090	0.2540	0.0000	5,901.5577
Unmitigated	2.5332	4.1120	20.5860	0.0626	6.9951	0.0494	7.0446	1.8715	0.0462	1.9178	0.0000	5,895.2090	5,895.2090	0.2540	0.0000	5,901.5577

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	9,696.02	2,156.32	922.01	17,601,707	17,601,707
Strip Mall	864.99	820.37	398.84	1,219,746	1,219,746
Total	10,561.02	2,976.70	1,320.85	18,821,453	18,821,453

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
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
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
Enclosed Parking with Elevator	0.593877	0.053382	0.174267	0.106373	0.020945	0.005401	0.013559	0.022807	0.001528	0.001225	0.004979	0.000915	0.000742
General Office Building	0.593877	0.053382	0.174267	0.106373	0.020945	0.005401	0.013559	0.022807	0.001528	0.001225	0.004979	0.000915	0.000742
Strip Mall	0.593877	0.053382	0.174267	0.106373	0.020945	0.005401	0.013559	0.022807	0.001528	0.001225	0.004979	0.000915	0.000742

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Percent of Electricity Use Generated with Renewable Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,794.3998	2,794.3998	0.3859	0.0798	2,827.8395
NaturalGas Mitigated	0.1318	1.1979	1.0062	7.1900e-003		0.0910	0.0910		0.0910	0.0910	0.0000	1,304.0422	1,304.0422	0.0250	0.0239	1,311.7914
NaturalGas Unmitigated	0.1318	1.1979	1.0062	7.1900e-003		0.0910	0.0910		0.0910	0.0910	0.0000	1,304.0422	1,304.0422	0.0250	0.0239	1,311.7914

5.2 Energy by Land Use - NaturalGas

Unmitigated

Land Use	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
	kBTU/yr	tons/yr										MT/yr					
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
General Office Building	2.43441e+007	0.1313	1.1933	1.0024	7.1600e-003		0.0907	0.0907		0.0907	0.0907	0.0000	1,299.0924	1,299.0924	0.0249	0.0238	1,306.8123
Strip Mall	92754.7	5.0000e-004	4.5500e-003	3.8200e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	4.9497	4.9497	9.0000e-005	9.0000e-005	4.9792

Total		0.1318	1.1979	1.0062	7.1900e-003		0.0910	0.0910		0.0910	0.0910	0.0000	1,304.0422	1,304.0422	0.0250	0.0239	1,311.7914

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					
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
General Office Building	2.43441e+007	0.1313	1.1933	1.0024	7.1600e-003		0.0907	0.0907		0.0907	0.0907	0.0000	1,299.0924	1,299.0924	0.0249	0.0238	1,306.8123
Strip Mall	92754.7	5.0000e-004	4.5500e-003	3.8200e-003	3.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	4.9497	4.9497	9.0000e-005	9.0000e-005	4.9792
Total		**0.1318**	**1.1979**	**1.0062**	**7.1900e-003**		**0.0910**	**0.0910**		**0.0910**	**0.0910**	**0.0000**	**1,304.0422**	**1,304.0422**	**0.0250**	**0.0239**	**1,311.7914**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	2.40254e+006	228.8526	0.0316	6.5400e-003	231.5912
General Office Building	2.65153e+007	2,525.6952	0.3488	0.0722	2,555.9193
Strip Mall	418375	39.8520	5.5000e-003	1.1400e-003	40.3289
Total		**2,794.3998**	**0.3859**	**0.0798**	**2,827.8395**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	6.7941	2.4000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546
Unmitigated	6.7941	2.4000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546

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	0.8044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9873					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4200e-003	2.4000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546
Total	**6.7941**	**2.4000e-004**	**0.0263**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0513**	**0.0513**	**1.3000e-004**	**0.0000**	**0.0546**

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	0.8044					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9873					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.4200e-003	2.4000e-004	0.0263	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	0.0513	0.0513	1.3000e-004	0.0000	0.0546
Total	**6.7941**	**2.4000e-004**	**0.0263**	**0.0000**		**9.0000e-005**	**9.0000e-005**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0513**	**0.0513**	**1.3000e-004**	**0.0000**	**0.0546**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e

Category	MT/yr			
Mitigated	286.8664	0.3520	0.2111	358.5694
Unmitigated	286.8664	0.3520	0.2111	358.5694

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	264.311 / 161.997	283.7539	0.3481	0.2088	354.6790
Strip Mall	2.8992 / 1.77693	3.1125	3.8200e-003	2.2900e-003	3.8904
Total		**286.8664**	**0.3520**	**0.2111**	**358.5694**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
General Office Building	264.311 / 161.997	283.7539	0.3481	0.2088	354.6790
Strip Mall	2.8992 / 1.77693	3.1125	3.8200e-003	2.2900e-003	3.8904

Total		286.8664	0.3520	0.2111	358.5694

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	289.0835	17.0843	0.0000	716.1921
Unmitigated	289.0835	17.0843	0.0000	716.1921

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1383.02	280.7406	16.5913	0.0000	695.5229
Strip Mall	41.1	8.3429	0.4931	0.0000	20.6693
Total		**289.0835**	**17.0843**	**0.0000**	**716.1921**

Mitigated

Land Use	Waste Disposed	Total CO2	CH4	N2O	CO2e
	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	1383.02	280.7406	16.5913	0.0000	695.5229
Strip Mall	41.1	8.3429	0.4931	0.0000	20.6693
Total		**289.0835**	**17.0843**	**0.0000**	**716.1921**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	50	2011	0.73	Diesel
Emergency Generator	2	0	50	1005	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (750 - 9999 HP)	0.1650	0.7377	0.4206	7.9000e-004		0.0243	0.0243		0.0243	0.0243	0.0000	76.5593	76.5593	0.0107	0.0000	76.8276
Total	**0.1650**	**0.7377**	**0.4206**	**7.9000e-004**		**0.0243**	**0.0243**		**0.0243**	**0.0243**	**0.0000**	**76.5593**	**76.5593**	**0.0107**	**0.0000**	**76.8276**

11.0 Vegetation

Attachment 3: EMFAC2017 Emissions and CARB SAFE Off-Model Adjustment Factors

Summary of Construction Traffic Emissions (EMFAC2017)

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
	Tons										*Metric Tons*
Criteria Pollutants											
2021	0.311	3.422	2.773	0.016	0.795	0.217	1.012	0.120	0.113	0.233	1,513
2022	0.251	2.953	2.538	0.015	0.802	0.197	0.999	0.121	0.093	0.214	1,486
2023	0.192	2.365	2.332	0.015	0.802	0.185	0.987	0.121	0.082	0.203	1,426
2024	0.182	2.355	2.230	0.014	0.802	0.185	0.987	0.121	0.082	0.203	1,397
2025	0.026	0.352	0.323	0.002	0.121	0.028	0.149	0.018	0.012	0.031	206
Toxic Air Contaminants (0.5 Mile Trip Length)											
2021	0.182	0.711	0.906	0.001	0.039	0.013	0.052	0.006	0.007	0.013	147
2022	0.170	0.696	0.904	0.001	0.040	0.011	0.051	0.006	0.006	0.012	147
2023	0.159	0.653	0.903	0.001	0.040	0.010	0.050	0.006	0.005	0.011	141
2024	0.151	0.648	0.884	0.001	0.040	0.010	0.050	0.006	0.005	0.011	139
2025	0.022	0.097	0.130	0.000	0.006	0.002	0.008	0.001	0.001	0.002	20

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	48	0	1,344	0	707	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	14,515	0	14,140
Site Preparation	38	0	3,762	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	40,630	0	0
Grading/Excavation/Shoring	48	0	20,976	0	31,250	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	226,541	0	625,000
Foundation/Below Grade Structure	15	0	4,260	0	6,956	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	46,008	0	50,779
Super Strucuture/Steel Deck/Fire Proofing	725	350	263,175	127,050	12,286	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	2,842,290	927,465	89,688
Building Interior	145	0	75,980	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	820,584	0	0
Building Construction	725	350	299,425	144,550	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3,233,790	1,055,215	0
Sitework	25	0	7,725	0	1,000	10.8	7.3	7.3	LD_Mix	HDT_Mix	HHDT	83,430	0	7,300

Number of Days Per Year				
2021	1/4/2021	12/31/21	362	
2022	1/1/22	12/31/22	365	
2023	1/1/23	12/31/23	365	
2024	1/1/24	12/31/24	365	
2025	1/1/25	2/24/25	55	
			1512	**1297** ***Total Workdays***

Phase	**Start Date**	**End Date**	**Days/Week**	**Workdays**
Demolition	1/4/2021	2/4/2021	6	28
Site Preparation	1/4/2021	4/28/2021	6	99
Grading/Excavation/Shoring	5/4/2021	9/24/2022	6	437
Foundation/Below Grade Structure	7/1/2022	5/27/2023	6	284
Super Strucuture/Steel Deck/Fire Proofing	12/1/2022	1/27/2024	6	363
Building Interior	3/1/2023	10/31/2024	6	524
Building Construction	6/1/2023	9/24/2024	6	413
Sitework	3/1/2024	2/24/2025	6	309

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
	Grams										
Hauling	132131.30	3648579.17	826494.66	11739.162	235285.07	123945.49	359230.6	35402.93	73565.41	108968.34	1278139766
Vendor	410730.42	8741411.26	2512989.3	27621.303	592821.32	358422.14	951243.5	89200.77	214280.17	303480.95	2973053288
Worker	634923.99	574909.76	7169509.9	19536.037	2185028.49	339496.94	2524525.4	328777.36	141199.98	469977.34	2068959916
Total (g)	1177785.71	12964900.19	10508994	58896.50241	3013134.886	821864.5705	3834999.5	453381.0653	429045.5625	882426.6278	6320152970
Total (lbs)	2596.57	28582.71	23168.37	129.84	6642.83	1811.9	8454.73	999.53	945.88	1945.42	13933552.21
Total (tons)	1.2983	14.291	11.584	0.065	3.321	0.9060	4.2274	0.4998	0.473	0.973	6966.78
Total (MT)											6320.15

YEAR	*Tons*										
2021	0.3108	3.4216	2.7735	0.0155	0.7952	0.2169	1.0121	0.1197	0.1132	0.2329	1513.1583
2022											
2023											
2024											
2025											

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

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

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

Enter NA in the date field if adjustments do not apply

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
	Grams										
Hauling	89572.04	3178447.66	723516.77	11438.279	235285.07	103591.89	338877.0	35402.93	54066.75	89469.67	1246464948
Vendor	268230.38	7412687.80	2170744.2	26973.347	592821.32	297164.71	889986.0	89200.77	155705.22	244905.99	2904883440
Worker	585194.42	507973.25	6644625.8	18946.439	2185028.49	338907.72	2523936.2	328777.36	140656.51	469433.87	2005458265
Total (g)	942996.83	11099108.72	9538886.7	57358.06537	3013134.886	739664.3245	3752799.2	453381.0653	350428.474	803809.5392	6156806653
Total (lbs)	2078.95	24469.35	21029.65	126.45	6642.83	1630.7	8273.51	999.53	772.56	1772.10	13573435.23
Total (tons)	1.0395	12.235	10.515	0.063	3.321	0.8153	4.1368	0.4998	0.386	0.886	6786.72
Total (MT)											6156.81

YEAR	*Tons*										
2021											
2022	0.2509	2.9535	2.5383	0.0153	0.8018	0.1968	0.9986	0.1206	0.0932	0.2139	1486.2662
2023											
2024											
2025											

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

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

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

Enter NA in the date field if adjustments do not apply

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
	Grams										
Hauling	42698.85	2514690.02	642746.32	10868.135	235285.07	95436.29	330721.4	35402.93	46238.29	81641.22	1186144021
Vendor	137851.79	5918737.61	1913010.9	25802.744	592821.32	261731.57	854552.9	89200.77	121831.60	211032.38	2781152067
Worker	542120.77	452538.42	6206868.2	18266.459	2185028.49	338377.50	2523406.0	328777.36	140167.24	468944.61	1941692970
Total (g)	722671.41	8885966.059	8762625.4	54937.33763	3013134.886	695545.374	3708680.3	453381.0653	308237.1356	761618.2008	5908989058
Total (lbs)	1593.22	19590.20	19318.28	121.12	6642.83	1533.4	8176.24	999.53	679.55	1679.08	13027090.95
Total (tons)	0.7966	9.795	9.659	0.061	3.321	0.7667	4.0881	0.4998	0.340	0.840	6513.55
Total (MT)											5908.99

YEAR	*Tons*										
2021											
2022											
2023	0.1923	2.3646	2.3317	0.0146	0.8018	0.1851	0.9869	0.1206	0.0820	0.2027	1426.4425
2024											
2025											

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

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

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

Enter NA in the date field if adjustments do not apply

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
	Grams										
Hauling	42580.98	2516475.33	646688.75	10692.667	235285.07	95681.56	330966.6	35402.93	46448.95	81851.88	1167356850
Vendor	135290.78	5925390.37	1893032.5	25424.069	592821.32	262063.66	854885.0	89200.77	122176.28	211377.05	2740894059
Worker	504815.20	407001.99	5839858.8	17926.348	2185028.49	337900.08	2522928.6	328777.36	139726.43	468503.80	1878099700
Total (g)	682686.95	8848867.683	8379580.1	54043.08434	3013134.886	695645.3037	3708780.2	453381.0653	308351.6622	761732.7275	5786350608
Total (lbs)	1505.07	19508.41	18473.81	119.14	6642.83	1533.6	8176.46	999.53	679.80	1679.33	12756719.45
Total (tons)	0.7525	9.754	9.237	0.060	3.321	0.7668	4.0882	0.4998	0.340	0.840	6378.36
Total (MT)											5786.35

YEAR	*Tons*										
2021											
2022											
2023											
2024	0.1817	2.3547	2.2298	0.0144	0.8018	0.1851	0.9869	0.1206	0.0821	0.2027	1396.8373
2025											

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
NA	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005
2022	1.0004	1.0003	1.0004	1.0018	1.0014
2023	1.0007	1.0006	1.0007	1.0032	1.0027
2024	1.0012	1.0010	1.0011	1.0051	1.0044
2025	1.0018	1.0016	1.0016	1.0074	1.0065
2026	1.0023	1.0022	1.0020	1.0091	1.0083
2027	1.0028	1.0028	1.0024	1.0105	1.0102
2028	1.0034	1.0035	1.0028	1.0117	1.0120
2029	1.0040	1.0042	1.0032	1.0129	1.0138
2030	1.0047	1.0051	1.0037	1.0142	1.0156
2031	1.0054	1.0061	1.0042	1.0155	1.0173
2032	1.0061	1.0072	1.0047	1.0169	1.0189
2033	1.0068	1.0083	1.0052	1.0182	1.0204
2034	1.0075	1.0095	1.0058	1.0196	1.0218
2035	1.0081	1.0108	1.0063	1.0210	1.0232
2036	1.0088	1.0121	1.0069	1.0223	1.0244
2037	1.0094	1.0134	1.0074	1.0236	1.0255
2038	1.0099	1.0148	1.0079	1.0248	1.0265
2039	1.0104	1.0161	1.0085	1.0259	1.0274
2040	1.0109	1.0174	1.0090	1.0270	1.0281
2041	1.0113	1.0186	1.0095	1.0279	1.0288
2042	1.0116	1.0198	1.0099	1.0286	1.0294
2043	1.0119	1.0207	1.0103	1.0293	1.0299
2044	1.0122	1.0216	1.0106	1.0299	1.0303
2045	1.0124	1.0225	1.0109	1.0303	1.0306
2046	1.0125	1.0233	1.0111	1.0308	1.0309
2047	1.0127	1.0240	1.0113	1.0311	1.0311
2048	1.0128	1.0246	1.0115	1.0314	1.0313
2049	1.0128	1.0252	1.0116	1.0316	1.0315
2050	1.0129	1.0257	1.0117	1.0318	1.0316
Enter Year: 2024	**1.0012**	**1.001**	**1.0011**	**1.0051**	**1.0044**

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

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

Enter NA in the date field if adjustments do not apply

Summary of Construction Traffic Emissions (EMFAC2017)

CATEGORY	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
	Grams										
Hauling	42361.38	2501429.65	649268.78	10483.096	235285.07	95709.21	330994.3	35402.93	46453.04	81855.97	1144891498
Vendor	133083.00	5903815.55	1877358.6	24985.275	592821.32	262039.47	854860.8	89200.77	122180.56	211381.33	2694145908
Worker	472500.00	369625.59	5519491.5	17586.993	2185028.49	337488.57	2522517.1	328777.36	139346.82	468124.18	1814473120
Total (g)	647944.39	8774870.78	8046118.8	53055.36443	3013134.886	695237.2533	3708372.1	453381.0653	307980.4167	761361.4819	5653510525
Total (lbs)	1428.47	19345.28	17738.66	116.97	6642.83	1532.7	8175.56	999.53	678.98	1678.51	12463857.2
Total (tons)	0.7142	9.673	8.869	0.058	3.321	0.7664	4.0878	0.4998	0.339	0.839	6231.93
Total (MT)											5653.51

YEAR	*Tons*										
2021											
2022											
2023											
2024											
2025	0.0260	0.3518	0.3226	0.0021	0.1208	0.0279	0.1487	0.0182	0.0123	0.0305	205.6502

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

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

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

Enter NA in the date field if adjustments do not apply

CalEEMod EMFAC2017 Emission Factors Input — Year 2026

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004667	0.002827	0.00366	0.024581591	0.007072	0	0	0.059089	0
A	CH4_RUNEX	0.001366	0.002731	0.002421	0.002658	0.006766	0.006042	0.001368	0.048196739	0.002994	1.740623	0.322636	0.005471	0.007666
A	CH4_STREX	0.037668	0.048087	0.053787	0.059284	0.01193	0.006534	0.008683	4.41955E-07	0.016313	0.001757	0.251748	0.005364	0.021211
A	CO_IDLEX	0	0	0	0	0.181133	0.135072	0.395395	6.312916051	0.608593	0	0	2.477558	0
A	CO_RUNEX	0.470702	0.713398	0.660069	0.67636	0.614851	0.539388	0.193142	0.407888609	0.35403	13.20374	18.16544	0.449129	0.676059
A	CO_STREX	1.942342	2.094896	2.537292	2.688431	0.986313	0.549762	0.974119	0.005910001	1.731489	0.139137	9.112103	0.757026	1.865376
A	CO2_NBIO_IDLEX	0	0	0	0	8.664375	13.59577	69.62637	1010.863198	95.34232	0	0	344.9774	0
A	CO2_NBIO_RUNEX	220.2019	264.8733	280.9156	339.0796	749.5934	726.996	1051.185	1358.122651	1283.241	1654.125	209.9417	1025.262	1445.753
A	CO2_NBIO_STREX	46.74942	56.84445	60.83851	72.17283	11.01943	7.147686	8.852125	0.047796651	14.49277	1.395763	60.16678	4.41435	17.15363
A	NOX_IDLEX	0	0	0	0	0.052779	0.086502	0.384054	5.313842098	0.401134	0	0	3.237041	0
A	NOX_RUNEX	0.024319	0.052355	0.048719	0.054591	0.501705	0.60498	1.445388	2.645781643	1.452791	0.710904	1.142407	4.169337	1.212147
A	NOX_STREX	0.146785	0.185778	0.214688	0.241181	0.274	0.153209	1.698467	2.32114605	1.111138	0.012275	0.270461	0.952464	0.240339
A	PM10_IDLEX	0	0	0	0	0.000872	0.001466	0.000277	0.002421971	0.000131	0	0	0.003057	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061011269	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009831	0.010801	0.012	0.035565238	0.012	0.033326	0.004	0.010812	0.013148
A	PM10_RUNEX	0.001191	0.001444	0.001268	0.001317	0.008597	0.014576	0.007064	0.024793091	0.00755	0.00517	0.002061	0.027088	0.020231
A	PM10_STREX	0.001567	0.001882	0.001614	0.001662	0.000232	0.000117	0.000112	6.07666E-07	0.000149	1.52E-05	0.002929	5.43E-05	0.00024
A	PM25_IDLEX	0	0	0	0	0.000834	0.001402	0.000265	0.002317197	0.000126	0	0	0.002925	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026147687	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002458	0.0027	0.003	0.00889131	0.003	0.008332	0.001	0.002703	0.003287
A	PM25_RUNEX	0.001096	0.001328	0.001167	0.001215	0.008179	0.013921	0.006752	0.023720525	0.00721	0.004945	0.001924	0.025902	0.019315
A	PM25_STREX	0.001441	0.00173	0.001484	0.001528	0.000213	0.000108	0.000103	5.58726E-07	0.000137	1.4E-05	0.002748	4.99E-05	0.000221
A	ROG_DIURN	0.031026	0.063386	0.056043	0.063565	0.001717	0.000843	0.000334	1.73946E-06	0.001072	2.71E-05	1.796069	0.000641	0.521835
A	ROG_HTSK	0.07546	0.124908	0.10677	0.116658	0.064563	0.033077	0.016141	7.87131E-05	0.015877	0.000258	0.658739	0.006205	0.044593
A	ROG_IDLEX	0	0	0	0	0.019371	0.01467	0.018199	0.425464995	0.0479	0	0	0.274128	0
A	ROG_RESTL	0.028067	0.053388	0.054637	0.062343	0.000904	0.000457	0.00018	9.87177E-07	0.000483	1.3E-05	0.964052	0.000292	0.192731
A	ROG_RUNEX	0.004919	0.011315	0.009547	0.010801	0.082268	0.103701	0.013929	0.025230325	0.020648	0.025271	2.163162	0.076133	0.053216
A	ROG_RUNLS	0.185854	0.473603	0.387491	0.396121	0.458804	0.204792	0.087699	0.000396674	0.180023	0.001452	1.752085	0.040739	1.014315
A	ROG_STREX	0.160651	0.222735	0.243054	0.281273	0.059664	0.032087	0.044627	2.31009E-06	0.083133	0.007362	1.911911	0.030553	0.084521
A	SO2_IDLEX	0	0	0	0	8.4E-05	0.00013	0.000661	0.009404557	0.000905	0	0	0.003286	0
A	SO2_RUNEX	9.28E-05	0.002615	0.010025	0.003351	0.007315	0.007016	0.010025	0.012421666	0.012348	0.010671	0.002078	0.009797	0.014185
A	SO2_STREX	0	0	8.76E-05	0.000714	0.000109	7.07E-05	8.76E-05	4.72987E-07	0.000143	1.38E-05	0.000595	4.37E-05	0.00017
A	TOG_DIURN	0.031026	0.063386	0.056043	0.063565	0.001717	0.000843	0.000334	1.73946E-06	0.001072	2.71E-05	1.796069	0.000641	0.521835
A	TOG_HTSK	0.07546	0.124908	0.10677	0.116658	0.064563	0.033077	0.016141	7.87131E-05	0.015877	0.000258	0.658739	0.006205	0.044593
A	TOG_IDLEX	0	0	0	0	0.027158	0.019579	0.024791	0.489206564	0.061489	0	0	0.393293	0
A	TOG_RESTL	0.028067	0.053388	0.054637	0.062343	0.000904	0.000457	0.00018	9.87177E-07	0.000483	1.3E-05	0.964052	0.000292	0.192731
A	TOG_RUNEX	0.007149	0.016504	0.013895	0.015681	0.099279	0.120104	0.017205	0.076057465	0.027322	1.776895	2.697331	0.090583	0.068739
A	TOG_RUNLS	0.185854	0.473603	0.387491	0.396121	0.458804	0.204792	0.087699	0.000396674	0.180023	0.001452	1.752085	0.040739	1.014315
A	TOG_STREX	0.175893	0.243867	0.266113	0.307959	0.065324	0.035131	0.04886	2.52926E-06	0.09102	0.00806	2.081516	0.033451	0.09254

CalEEMod EMFAC2017 Fleet Mix Input **Year 2026**

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.593877	0.053382	0.174267	0.106373	0.020945	0.005401	0.013559	0.022807	0.001528	0.001225	0.004979	0.000915	0.000742

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles						
Year		NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
NA		1	1	1	1	1
2021		1.0002	1.0001	1.0002	1.0009	1.0005
2022		1.0004	1.0003	1.0004	1.0018	1.0014
2023		1.0007	1.0006	1.0007	1.0032	1.0027
2024		1.0012	1.0010	1.0011	1.0051	1.0044
2025		1.0018	1.0016	1.0016	1.0074	1.0065
2026		1.0023	1.0022	1.0020	1.0091	1.0083
2027		1.0028	1.0028	1.0024	1.0105	1.0102
2028		1.0034	1.0035	1.0028	1.0117	1.0120
2029		1.0040	1.0042	1.0032	1.0129	1.0138
2030		1.0047	1.0051	1.0037	1.0142	1.0156
2031		1.0054	1.0061	1.0042	1.0155	1.0173
2032		1.0061	1.0072	1.0047	1.0169	1.0189
2033		1.0068	1.0083	1.0052	1.0182	1.0204
2034		1.0075	1.0095	1.0058	1.0196	1.0218
2035		1.0081	1.0108	1.0063	1.0210	1.0232
2036		1.0088	1.0121	1.0069	1.0223	1.0244
2037		1.0094	1.0134	1.0074	1.0236	1.0255
2038		1.0099	1.0148	1.0079	1.0248	1.0265
2039		1.0104	1.0161	1.0085	1.0259	1.0274
2040		1.0109	1.0174	1.0090	1.0270	1.0281
2041		1.0113	1.0186	1.0095	1.0279	1.0288
2042		1.0116	1.0198	1.0099	1.0286	1.0294
2043		1.0119	1.0207	1.0103	1.0293	1.0299
2044		1.0122	1.0216	1.0106	1.0299	1.0303
2045		1.0124	1.0225	1.0109	1.0303	1.0306
2046		1.0125	1.0233	1.0111	1.0308	1.0309
2047		1.0127	1.0240	1.0113	1.0311	1.0311
2048		1.0128	1.0246	1.0115	1.0314	1.0313
2049		1.0128	1.0252	1.0116	1.0316	1.0315
2050		1.0129	1.0257	1.0117	1.0318	1.0316
Enter Year:	**2026**	**1.0023**	**1.0022**	**1.002**	**1.0091**	**1.0083**

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

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

Enter NA in the date field if adjustments do not apply

CalEEMod EMFAC2017 Emission Factors Input — Year 2030

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004148	0.002505	0.003832	0.024231453	0.007098	0	0	0.070082	0
A	CH4_RUNEX	0.000959	0.001671	0.001726	0.001772	0.005195	0.005339	0.001034	0.04518098	0.002197	1.859484	0.319087	0.004404	0.005027
A	CH4_STREX	0.028931	0.035248	0.041821	0.043924	0.009023	0.004811	0.008383	4.34672E-07	0.015222	0.002186	0.24786	0.006338	0.019545
A	CO_IDLEX	0	0	0	0	0.17731	0.131894	0.405402	6.28489984	0.644155	0	0	2.927328	0
A	CO_RUNEX	0.411156	0.540474	0.559142	0.551517	0.468742	0.489111	0.152189	0.405949458	0.262856	14.11073	17.60732	0.374881	0.311691
A	CO_STREX	1.716961	1.849789	2.287973	2.324828	0.890393	0.484256	0.872515	0.006685308	1.577018	0.139137	9.199577	0.858725	1.635194
A	CO2_NBIO_IDLEX	0	0	0	0	8.251826	13.00041	65.09769	930.0496847	97.36242	0	0	337.4754	0
A	CO2_NBIO_RUNEX	199.8584	241.4555	249.7974	301.1272	698.5465	679.813	993.4479	1226.348086	1210.85	1668.671	209.7572	970.5049	1350.267
A	CO2_NBIO_STREX	42.16672	51.55301	53.79124	63.46105	10.09364	6.438033	8.550649	0.051649278	13.46187	1.401901	59.22586	5.059627	15.54123
A	NOX_IDLEX	0	0	0	0	0.045908	0.074209	0.341766	5.199426871	0.431935	0	0	2.710433	0
A	NOX_RUNEX	0.019319	0.033468	0.034489	0.035665	0.299902	0.384329	1.428316	2.517362076	1.448391	0.706433	1.137409	3.086533	1.063099
A	NOX_STREX	0.125333	0.151052	0.168209	0.179169	0.225227	0.124883	1.689216	2.314548745	1.129093	0.015157	0.270173	1.184451	0.23668
A	PM10_IDLEX	0	0	0	0	0.000915	0.001502	0.000162	0.002145897	0.000142	0	0	0.002048	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061109857	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009901	0.010844	0.012	0.035621239	0.012	0.033326	0.004	0.010676	0.013189
A	PM10_RUNEX	0.000929	0.00107	0.001025	0.001034	0.007019	0.013839	0.007006	0.023790073	0.007882	0.005116	0.002138	0.021245	0.016043
A	PM10_STREX	0.001275	0.001461	0.00134	0.001344	0.00021	0.000106	0.000112	5.80093E-07	0.000156	1.52E-05	0.002862	6.76E-05	0.000212
A	PM25_IDLEX	0	0	0	0	0.000875	0.001437	0.000155	0.002053066	0.000136	0	0	0.00196	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026189939	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002475	0.002711	0.003	0.00890531	0.003	0.008332	0.001	0.002669	0.003297
A	PM25_RUNEX	0.000855	0.000984	0.000944	0.000954	0.006671	0.013218	0.006696	0.022760894	0.007526	0.004893	0.001994	0.02031	0.015312
A	PM25_STREX	0.001172	0.001344	0.001232	0.001236	0.000193	9.76E-05	0.000103	5.33374E-07	0.000144	1.4E-05	0.002676	6.22E-05	0.000195
A	ROG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	ROG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	ROG_IDLEX	0	0	0	0	0.01734	0.013466	0.01847	0.422100311	0.050126	0	0	0.322319	0
A	ROG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	ROG_RUNEX	0.003247	0.0065	0.006553	0.006887	0.072661	0.0982	0.011844	0.024014489	0.016744	0.026969	2.128511	0.060159	0.038911
A	ROG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	ROG_STREX	0.118715	0.154126	0.182707	0.199251	0.043726	0.022756	0.041407	2.2699E-06	0.076636	0.009261	1.877593	0.036024	0.074231
A	SO2_IDLEX	0	0	0	0	7.99E-05	0.000124	0.000618	0.00865265	0.000924	0	0	0.003219	0
A	SO2_RUNEX	9E-05	0.002567	0.00948	0.002976	0.006812	0.006557	0.00948	0.011212041	0.011649	0.010417	0.002076	0.009288	0.013242
A	SO2_STREX	0	0	8.46E-05	0.000628	9.99E-05	6.37E-05	8.46E-05	5.11111E-07	0.000133	1.39E-05	0.000586	5.01E-05	0.000154
A	TOG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	TOG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	TOG_IDLEX	0	0	0	0	0.02413	0.017772	0.025282	0.485180108	0.063906	0	0	0.463821	0
A	TOG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	TOG_RUNEX	0.004716	0.009483	0.009524	0.009983	0.08579	0.112949	0.014288	0.071682245	0.021563	1.898202	2.666273	0.071678	0.048331
A	TOG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	TOG_STREX	0.129977	0.168749	0.200041	0.218155	0.047875	0.024915	0.045336	2.48526E-06	0.083906	0.01014	2.04481	0.039442	0.081274

CalEEMod EMFAC2017 Fleet Mix Input

Year **2030**

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728

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

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

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

Enter NA in the date field if adjustments do not apply

Source: EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: Santa Clara
Calendar Year: 2021, 2022, 2023, 2024, 2025, 2026, 2030
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX, RESTLOSS and DIURN

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLEX	NOx_STRE	PM2.5_RUI	PM2.5_IDL	PM2.5_STF	PM2.5_PM	PM2.5_PM	PM10_RUN	PM10_IDLE	PM10_STR	PM10_PM1	PM10_PMI	CO2_RUNE	CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	N2O_RUNE	N2O_IDLEX	N2O_STRE	ROG_RUNE	ROG_IDLEX	ROG_STRE	ROG_HOTS	ROG_RUNL	ROG_RESTI	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNL	TOG_RESTI	TOG_DIURI	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
Santa Clara	2021	HHDT	Aggregate	Aggregate	Gasoline	5.162845	484.6824	103.2982	4.062598	0	0.407731	0.001311	0	0.000823	0.005	0.02646	0.001426	0	0.000895	0.02	0.06174	2025.269	0	47.29512	0.112325	0	0.000414	0.149526	0	0.012575	0.585782	0	0.002169	0.156953	0.96912	0.038977	0.070674	0.854771	0	0.002374	0.156953	0.96912	0.038977	0.070674	32.05552	0	5.02137	0.020042	0	0.000468
Santa Clara	2021	HHDT	Aggregate	Aggregate	Diesel	8105.749	988266.7	86260.08	4.147844	63.6365	1.887942	0.058758	0.087222	0	0.008868	0.026073	0.061415	0.091165	0	0.035473	0.060837	1528.481	11606.57	0	0.006422	0.218177	0	0.240256	1.824391	0	0.138263	4.697294	0	0	0	0	0	0.157402	5.347512	0	0	0	0	0	0.5229	60.00634	0	0.01444	0.109653	0
Santa Clara	2021	HHDT	Aggregate	Aggregate	Natural Ga	336.2009	13706.54	1311.183	1.939434	21.5699	0	0.005088	0.034407	0	0.009	0.02646	0.005318	0.035962	0	0.036	0.06174	3233.282	4101.533	0	3.57235	1.261083	0	0.659126	0.836124	0	0.176593	0.0496	0	0	0	0	0	3.788896	1.323011	0	0	0	0	0	10.63714	21.51231	0	0	0	0
Santa Clara	2021	LDA	Aggregate	Aggregate	Gasoline	715693.3	26189161	3369392	0.044609	0	0.21159	0.001358	0	0.001822	0.002	0.01575	0.001477	0	0.001981	0.008	0.03675	266.3197	0	56.92202	0.002711	0	0.058853	0.004863	0	0.027764	0.010662	0	0.269366	0.108645	0.230465	0.191774	0.221801	0.015551	0	0.294921	0.108645	0.230465	0.191774	0.221801	0.690036	0	2.392069	0.002635	0	0.000563
Santa Clara	2021	LDA	Aggregate	Aggregate	Diesel	6670.999	255156.4	31695.34	0.087271	0	0	0.007648	0	0	0.002	0.01575	0.007994	0	0	0.008	0.03675	205.4073	0	0	0.000708	0	0	0.032287	0	0	0.015244	0	0	0	0	0	0	0.017354	0	0	0	0	0	0	0.210705	0	0	0.001942	0	0
Santa Clara	2021	LDA	Aggregate	Aggregate	Electricity	24022.27	869835.7	117842.5	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2021	LDT1	Aggregate	Aggregate	Gasoline	71628.15	2413668	331256	0.105802	0	0.272111	0.001862	0	0.002385	0.002	0.01575	0.002025	0	0.002594	0.008	0.03675	308.1227	0	66.19689	0.005661	0	0.076866	0.008066	0	0.03002	0.024911	0	0.384911	0.189186	0.681609	0.358705	0.461608	0.036311	0	0.421425	0.189186	0.681609	0.358705	0.461608	1.200263	0	2.537143	0.003049	0	0.000655
Santa Clara	2021	LDT1	Aggregate	Aggregate	Diesel	39.89374	725.5582	131.2284	1.268412	0	0	0.168474	0	0	0.002	0.01575	0.176091	0	0	0.008	0.03675	413.9966	0	0	0.010139	0	0	0.065074	0	0	0.218297	0	0	0	0	0	0	0.248517	0	0	0	0	0	0	1.237222	0	0	0.003914	0	0
Santa Clara	2021	LDT1	Aggregate	Aggregate	Electricity	483.8807	18039.76	2391.303	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2021	LDT2	Aggregate	Aggregate	Gasoline	246759.9	8311704	1150425	0.087782	0	0.326789	0.001356	0	0.001737	0.002	0.01575	0.001475	0	0.001889	0.008	0.03675	338.518	0	73.70907	0.004072	0	0.077467	0.007118	0	0.035187	0.01674	0	0.36702	0.133338	0.446757	0.285742	0.307995	0.024414	0	0.40184	0.133338	0.446757	0.285742	0.307995	0.930639	0	3.014399	0.00335	0	0.000729
Santa Clara	2021	LDT2	Aggregate	Aggregate	Diesel	1518.218	59025.65	7458.416	0.041668	0	0	0.004904	0	0	0.002	0.01575	0.005126	0	0	0.008	0.03675	282.8504	0	0	0.000657	0	0	0.04446	0	0	0.01415	0	0	0	0	0	0	0.016109	0	0	0	0	0	0	0.12212	0	0	0.002674	0	0
Santa Clara	2021	LDT2	Aggregate	Aggregate	Electricity	2166.546	67548.49	10876.24	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2021	LHDT1	Aggregate	Aggregate	Gasoline	16540.61	571642.7	246430.4	0.262338	0.03949	0.549198	0.002191	0	0.000401	0.002	0.03276	0.002383	0	0.000436	0.008	0.07644	1017.255	122.0379	19.14342	0.012124	0.123606	0.02716	0.015765	0.003154	0.042297	0.059375	0.45228	0.137987	0.130258	0.89758	0.02599	0.052227	0.08664	0.659966	0.151079	0.130258	0.89758	0.02599	0.052227	1.086844	3.748723	1.811769	0.010067	0.001208	0.000189
Santa Clara	2021	LHDT1	Aggregate	Aggregate	Diesel	10609.08	409397.3	133448.8	1.862203	2.152154	0	0.023297	0.02704	0	0.003	0.03276	0.02435	0.028263	0	0.012	0.07644	552.5074	134.745	0	0.007585	0.005098	0	0.086846	0.02118	0	0.163311	0.10976	0	0	0	0	0	0.185919	0.124954	0	0	0	0	0	0.686231	0.909745	0	0.005223	0.001274	0
Santa Clara	2021	LHDT2	Aggregate	Aggregate	Gasoline	2219.575	77018.29	33068.36	0.272207	0.039035	0.535592	0.002122	0	0.00036	0.002	0.03822	0.002307	0	0.000392	0.008	0.08918	1160.22	140.2323	21.7453	0.010038	0.122897	0.026292	0.016913	0.003077	0.040901	0.045762	0.447168	0.133103	0.127611	0.884759	0.023996	0.048928	0.066776	0.652507	0.145731	0.127611	0.884759	0.023996	0.048928	0.835401	3.750559	1.839341	0.011481	0.001388	0.000215
Santa Clara	2021	LHDT2	Aggregate	Aggregate	Diesel	4214.571	160661.6	53014	1.542154	2.158821	0	0.022944	0.027219	0	0.003	0.03822	0.023981	0.02845	0	0.012	0.08918	621.5562	215.9968	0	0.007204	0.005098	0	0.0977	0.033952	0	0.155094	0.10976	0	0	0	0	0	0.176564	0.124954	0	0	0	0	0	0.650931	0.909745	0	0.005876	0.002042	0
Santa Clara	2021	MCY	Aggregate	Aggregate	Gasoline	32119.63	239436.8	64239.26	1.15497	0	0.270443	0.001772	0	0.00303	0.001	0.00504	0.001893	0	0.003213	0.004	0.01176	210.3906	0	61.75755	0.33122	0	0.25818	0.066438	0	0.015338	2.253066	0	1.967635	0.716612	2.132348	1.002545	1.822873	2.774349	0	2.14098	0.716612	2.132348	1.002545	1.822873	19.56337	0	8.976601	0.002082	0	0.000611
Santa Clara	2021	MDV	Aggregate	Aggregate	Gasoline	149542.9	4865312	690430.3	0.11839	0	0.410054	0.001476	0	0.002019	0.002	0.01575	0.001604	0	0.002194	0.008	0.03675	409.4409	0	89.81723	0.005494	0	0.095775	0.008922	0	0.03884	0.024634	0	0.48393	0.15482	0.49034	0.340146	0.361645	0.034949	0	0.529797	0.15482	0.49034	0.340146	0.361645	1.127252	0	3.59329	0.004052	0	0.000889
Santa Clara	2021	MDV	Aggregate	Aggregate	Diesel	3426.389	128242	16726.03	0.044109	0	0	0.004602	0	0	0.002	0.01575	0.00481	0	0	0.008	0.03675	370.3019	0	0	0.000514	0	0	0.058206	0	0	0.011068	0	0	0	0	0	0	0.0126	0	0	0	0	0	0	0.188966	0	0	0.003501	0	0
Santa Clara	2021	MDV	Aggregate	Aggregate	Electricity	687.5446	22639.78	3509.471	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2021	MH	Aggregate	Aggregate	Gasoline	2931.22	26379	293.2393	0.474084	0	0.332292	0.001724	0	0.000381	0.003	0.05586	0.001875	0	0.000414	0.012	0.13034	1782.907	0	26.40751	0.017557	0	0.033119	0.028008	0	0.03399	0.078746	0	0.143103	0.096257	2.347589	0.039223	0.115979	0.114906	0	0.15668	0.096257	2.347589	0.039223	0.115979	2.065959	0	3.165436	0.017643	0	0.000261
Santa Clara	2021	MH	Aggregate	Aggregate	Diesel	984.446	9504.941	98.4446	4.382014	0	0	0.092722	0	0	0.004	0.05586	0.096914	0	0	0.016	0.13034	1031.304	0	0	0.005198	0	0	0.162107	0	0	0.111901	0	0	0	0	0	0	0.127391	0	0	0	0	0	0	0.400207	0	0	0.00975	0	0
Santa Clara	2021	MHDT	Aggregate	Aggregate	Gasoline	1410.134	72248.39	28213.97	0.591018	0.088168	0.389628	0.001358	0	0.000497	0.003	0.05586	0.001477	0	0.00054	0.012	0.13034	1752.404	539.4334	40.1358	0.018696	0.257865	0.042095	0.027833	0.0072	0.028931	0.092815	1.007984	0.233354	0.09611	0.563096	0.020857	0.043005	0.135436	1.470848	0.255494	0.09611	0.563096	0.020857	0.043005	2.155492	15.06152	5.301778	0.017341	0.005338	0.000397
Santa Clara	2021	MHDT	Aggregate	Aggregate	Diesel	9487.148	545455.1	96101.91	3.194916	8.74953	1.398943	0.080969	0.02675	0	0.003	0.05586	0.08463	0.02796	0	0.012	0.13034	1081.992	930.4887	0	0.009431	0.005843	0	0.170074	0.14626	0	0.203046	0.125806	0	0	0	0	0	0.231153	0.143221	0	0	0	0	0	0.573058	2.609835	0	0.010222	0.008791	0
Santa Clara	2021	OBUS	Aggregate	Aggregate	Gasoline	502.2127	24696.47	10048.27	0.501682	0.065104	0.329488	0.000916	0	0.000212	0.003	0.05586	0.000996	0	0.00023	0.012	0.13034	1793.018	381.4064	26.74037	0.014791	0.200187	0.030949	0.025044	0.005583	0.026445	0.070359	0.746923	0.159737	0.026848	0.294072	0.016083	0.036997	0.102667	1.089908	0.174892	0.026848	0.294072	0.016083	0.036997	1.576822	5.778528	3.351004	0.017743	0.003774	0.000265
Santa Clara	2021	OBUS	Aggregate	Aggregate	Diesel	767.9729	54443.73	7049.223	2.779706	13.63199	1.84	0.044765	0.045778	0	0.003	0.05586	0.046789	0.047848	0	0.012	0.13034	1202.163	1945.083	0	0.005321	0.035079	0	0.188963	0.30574	0	0.114561	0.755235	0	0	0	0	0	0.130419	0.859777	0	0	0	0	0	0.397353	8.822131	0	0.011357	0.018376	0
Santa Clara	2021	SBUS	Aggregate	Aggregate	Gasoline	235.3456	11037.57	941.3825	0.448701	0.923977	0.560273	0.001205	0	0.000494	0.002	0.3192	0.001311	0	0.000537	0.008	0.7448	872.735	2601.946	49.24562	0.012804	2.443216	0.058897	0.025163	0.088108	0.05292	0.063019	10.60409	0.336056	0.060254	0.423958	0.009983	0.025	0.091957	15.47346	0.367939	0.060254	0.423958	0.009983	0.025	1.371308	82.01386	8.8054	0.008636	0.025748	0.000487
Santa Clara	2021	SBUS	Aggregate	Aggregate	Diesel	1013.214	32006.31	11692.35	6.970742	45.79682	0.74176	0.043352	0.053733	0	0.003	0.3192	0.045313	0.056163	0	0.012	0.7448	1153.149	3727.733	0	0.004763	0.013307	0	0.181259	0.585948	0	0.102551	0.286497	0	0	0	0	0	0.116746	0.326154	0	0	0	0	0	0.279558	5.707206	0	0.010894	0.035218	0
Santa Clara	2021	UBUS	Aggregate	Aggregate	Gasoline	8.415569	1059.368	33.66228	0.456042	0	1.173674	0.000327	0	9.66E-05	0.003	0.05586	0.000355	0	0.000105	0.012	0.13034	2351.957	0	104.4673	0.006811	0	0.169572	0.0345	0	0.088962	0.022728	0	0.727258	0.171351	1.189018	0.028073	0.044636	0.033164	0	0.796256	0.171351	1.189018	0.028073	0.044636	0.499495	0	8.852622	0.023275	0	0.001034
Santa Clara	2021	UBUS	Aggregate	Aggregate	Diesel	423.0651	46463.12	1692.26	0.803452	0	0	0.005651	0	0	0.008475	0.029326	0.005907	0	0	0.033966	0.068427	1481.161	0	0	0.077358	0	0	0.232818	0	0	0.001105	0	0	0	0	0	0	0.078949	0	0	0	0	0	0	0.131304	0	0	0.014002	0	0
Santa Clara	2021	UBUS	Aggregate	Aggregate	Natural Ga	103.9599	12318.22	415.8396	0.489341	0	0	0.003183	0	0	0.008475	0.029034	0.003327	0	0	0.033899	0.067745	2016.304	0	0	6.413624	0	0	0.411037	0	0	0.091638	0	0	0	0	0	0	6.545574	0	0	0	0	0	0	49.80412	0	0	0	0	0
Santa Clara	2022	HHDT	Aggregate	Aggregate	Gasoline	4.973172	516.9338	99.50323	3.654204	0	0.338391	0.001246	0	0.000744	0.005	0.02646	0.001344	0	0.00081	0.02	0.06174	1964.961	0	46.86739	0.097725	0	0.00044	0.140899	0	0.010576	0.494672	0	0.002301	0.136891	0.830556	0.033943	0.061166	0.721824	0	0.00252	0.136891	0.830556	0.033943	0.061166	30.00648	0	5.27737	0.019445	0	0.000464
Santa Clara	2022	HHDT	Aggregate	Aggregate	Diesel	8277.463	1011013	88031.26	3.535499	63.08378	2.080194	0.033949	0.03347	0	0.008873	0.026088	0.035484	0.034983	0	0.035494	0.060872	1486.606	11783.13	0	0.003901	0.215524	0	0.233674	1.852143	0	0.08399	4.640183	0	0	0	0	0	0.095616	5.282495	0	0	0	0	0	0.366847	63.30293	0	0.014045	0.111321	0
Santa Clara	2022	HHDT	Aggregate	Aggregate	Natural Ga	348.7902	14223.14	1360.282	1.755776	21.14752	0	0.004789	0.030991	0	0.009	0.02646	0.005006	0.032392	0	0.036	0.06174	3203.692	4060.116	0	3.511574	1.248503	0	0.653093	0.827681	0	0.161697	0.045805	0	0	0	0	0	3.710887	1.306054	0	0	0	0	0	10.70122	21.55662	0	0	0	0
Santa Clara	2022	LDA	Aggregate	Aggregate	Gasoline	733557.7	26455304	3456649	0.03872	0	0.197227	0.001299	0	0.001748	0.002	0.01575	0.001413	0	0.001902	0.008	0.03675	259.2126	0	55.39361	0.002345	0	0.054199	0.004449	0	0.026685	0.009015	0	0.243726	0.100881	0.22086	0.178182	0.20337	0.013151	0	0.266848	0.100881	0.22086	0.178182	0.20337	0.63218	0	2.325265	0.002565	0	0.000548
Santa Clara	2022	LDA	Aggregate	Aggregate	Diesel	7146.668	268335.1	33963.02	0.071556	0	0	0.006579	0	0	0.002	0.01575	0.006877	0	0	0.008	0.03675	200.3149	0	0	0.000626	0	0	0.031487	0	0	0.013485	0	0	0	0	0	0	0.015352	0	0	0	0	0	0	0.198488	0	0	0.001894	0	0
Santa Clara	2022	LDA	Aggregate	Aggregate	Electricity	25894.61	943282.8	126428	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2022	LDT1	Aggregate	Aggregate	Gasoline	73556.92	2443329	340743.8	0.091156	0	0.251292	0.001724	0	0.002226	0.002	0.01575	0.001875	0	0.002421	0.008	0.03675	300.527	0	64.49485	0.004882	0	0.070027	0.007217	0	0.028775	0.021236	0	0.344801	0.173613	0.628849	0.332831	0.420667	0.030964	0	0.377511	0.173613	0.628849	0.332831	0.420667	1.068397	0	2.450832	0.002974	0	0.000638
Santa Clara	2022	LDT1	Aggregate	Aggregate	Diesel	36.8388	667.9121	121.0603	1.185315	0	0	0.157566	0	0	0.002	0.01575	0.164691	0	0	0.008	0.03675	408.3259	0	0	0.009501	0	0	0.064183	0	0	0.204561	0	0	0	0	0	0	0.232879	0	0	0	0	0	0	1.159574	0	0	0.00386	0	0
Santa Clara	2022	LDT1	Aggregate	Aggregate	Electricity	624.8771	24059.07	3099.469	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2022	LDT2	Aggregate	Aggregate	Gasoline	250455.4	8295824	1167439	0.077278	0	0.299792	0.001307	0	0.001684	0.002	0.01575	0.001421	0	0.001831	0.008	0.03675	327.6413	0	71.42656	0.003665	0	0.072415	0.006473	0	0.033384	0.014906	0	0.339292	0.128171	0.436499	0.281495	0.299507	0.021744	0	0.371482	0.128171	0.436499	0.281495	0.299507	0.860463	0	2.923834	0.003242	0	0.000707
Santa Clara	2022	LDT2	Aggregate	Aggregate	Diesel	1663.513	62652.21	8136.947	0.039252	0	0	0.004754	0	0	0.002	0.01575	0.004969	0	0	0.008	0.03675	275.5741	0	0	0.000647	0	0	0.043316	0	0	0.013935	0	0	0	0	0	0	0.015864	0	0	0	0	0	0	0.123161	0	0	0.002605	0	0
Santa Clara	2022	LDT2	Aggregate	Aggregate	Electricity	2695.96	82111.52	13502.44	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2022	LHDT1	Aggregate	Aggregate	Gasoline	16536.9	566343.8	246375.2	0.235238	0.038471	0.530556	0.002161	0	0.000388	0.002	0.03276	0.00235	0	0.000422	0.008	0.07644	1006.569	121.1222	18.98971	0.01086	0.121305	0.025473	0.014262	0.003125	0.041267	0.052874	0.440699	0.129054	0.125369	0.861898	0.025267	0.050121	0.077153	0.643067	0.141298	0.125369	0.861898	0.025267	0.050121	0.97349	3.751848	1.764958	0.009961	0.001199	0.000188
Santa Clara	2022	LHDT1	Aggregate	Aggregate	Diesel	11104.44	423266.4	139679.8	1.613919	2.033114	0	0.021273	0.026869	0	0.003	0.03276	0.022235	0.028084	0	0.012	0.07644	544.3042	133.047	0	0.007318	0.005098	0	0.085557	0.020913	0	0.157544	0.10976	0	0	0	0	0	0.179353	0.124954	0	0	0	0	0	0.661457	0.909745	0	0.005146	0.001258	0
Santa Clara	2022	LHDT2	Aggregate	Aggregate	Gasoline	2253.3	77523.96	33570.81	0.240034	0.037891	0.516259	0.002078	0	0.00034	0.002	0.03822	0.00226	0	0.000377	0.008	0.08918	1147.291	139.0737	21.54397	0.008737	0.120275	0.024583	0.015135	0.003045	0.039911	0.039365	0.434196	0.123837	0.121118	0.819863	0.023133	0.046225	0.057441	0.633578	0.135586	0.121118	0.819863	0.023133	0.046225	0.722025	3.75488	1.776904	0.011353	0.001376	0.000213
Santa Clara	2022	LHDT2	Aggregate	Aggregate	Diesel	4438.985	166319.5	55836.85	1.346918	2.041795	0	0.021771	0.027131	0	0.003	0.03822	0.022756	0.028358	0	0.012	0.08918	612.5422	213.4891	0	0.007003	0.005098	0	0.096283	0.033558	0	0.150761	0.10976	0	0	0	0	0	0.171631	0.124954	0	0	0	0	0	0.634383	0.909745	0	0.005791	0.002018	0
Santa Clara	2022	MCY	Aggregate	Aggregate	Gasoline	32925.36	241011	65850.71	1.151611	0	0.270649	0.001812	0	0.002978	0.001	0.00504	0.001937	0	0.003161	0.004	0.01176	210.2729	0	61.39967	0.328946	0	0.256691	0.06628	0	0.015352	2.228751	0	1.954835	0.704215	2.060677	0.995009	1.817765	2.753726	0	2.127328	0.704215	2.060677	0.995009	1.817765	19.18808	0	9.0045	0.002081	0	0.000608
Santa Clara	2022	MDV	Aggregate	Aggregate	Gasoline	151961.1	4876240	702265.7	0.099589	0	0.371177	0.001397	0	0.001912	0.002	0.01575	0.001519	0	0.002079	0.008	0.03675	396.236	0	86.90417	0.004621	0	0.087878	0.007887	0	0.036541	0.019446	0	0.437645	0.147462	0.472734	0.331376	0.347901	0.028322	0	0.479161	0.147462	0.472734	0.331376	0.347901	0.980018	0	3.406111	0.003921	0	0.00086
Santa Clara	2022	MDV	Aggregate	Aggregate	Diesel	3721.225	135478.8	18101.22	0.038775	0	0	0.004203	0	0	0.002	0.01575	0.004393	0	0	0.008	0.03675	360.3121	0	0	0.000478	0	0	0.056636	0	0	0.010285	0	0	0	0	0	0	0.011709	0	0	0	0	0	0	0.184421	0	0	0.003406	0	0
Santa Clara	2022	MDV	Aggregate	Aggregate	Electricity	1080.167	34834.41	5508.057	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2022	MH	Aggregate	Aggregate	Gasoline	2891.835	26265.33	289.2991	0.413359	0	0.334516	0.001633	0	0.000362	0.003	0.05586	0.001776	0	0.000394	0.012	0.13034	1756.095	0	25.97914	0.015124	0	0.032419	0.025426	0	0.034963	0.066433	0	0.137518	0.088945	2.156488	0.036513	0.106238	0.096939	0	0.150564	0.088945	2.156488	0.036513	0.106238	1.697423	0	3.037213	0.017378	0	0.000257
Santa Clara	2022	MH	Aggregate	Aggregate	Diesel	1019.353	9712.32	101.9353	4.184918	0	0	0.085576	0	0	0.004	0.05586	0.089445	0	0	0.016	0.13034	1018.587	0	0	0.005027	0	0	0.160108	0	0	0.108225	0	0	0	0	0	0	0.123206	0	0	0	0	0	0	0.382773	0	0	0.009629	0	0
Santa Clara	2022	MHDT	Aggregate	Aggregate	Gasoline	1456.112	75284.48	29133.88	0.474932	0.088412	0.377896	0.001319	0	0.000469	0.003	0.05586	0.001435	0	0.00051	0.012	0.13034	1722.789	532.6547	39.09903	0.014881	0.262553	0.04023	0.023376	0.007484	0.029181	0.072945	1.011617	0.219187	0.087649	0.506692	0.018903	0.038182	0.106442	1.47615	0.239982	0.087649	0.506692	0.018903	0.038182	1.680953	15.10368	4.939745	0.017048	0.005271	0.000387
Santa Clara	2022	MHDT	Aggregate	Aggregate	Diesel	9430.024	555923.8	94917.85	2.277066	7.413096	1.687822	0.039812	0.015538	0	0.003	0.05586	0.041612	0.01624	0	0.012	0.13034	1050.628	914.98	0	0.004378	0.004667	0	0.165144	0.143822	0	0.094265	0.100481	0	0	0	0	0	0.107314	0.11439	0	0	0	0	0	0.32147	2.58681	0	0.009926	0.008644	0
Santa Clara	2022	OBUS	Aggregate	Aggregate	Gasoline	501.9655	24150.25	10043.33	0.443255	0.065137	0.32561	0.000952	0	0.000213	0.003	0.05586	0.001035	0	0.000232	0.012	0.13034	1767.375	377.9272	26.38965	0.013022	0.200837	0.030332	0.022732	0.005646	0.026387	0.061436	0.747416	0.156088	0.026802	0.295531	0.015889	0.036065	0.089647	1.090627	0.170897	0.026802	0.295531	0.015889	0.036065	1.365657	5.781487	3.261978	0.01749	0.00374	0.000261
Santa Clara	2022	OBUS	Aggregate	Aggregate	Diesel	762.3964	53839.19	6991.348	2.314382	10.4182	2.005848	0.021086	0.015288	0	0.003	0.05586	0.02204	0.015979	0	0.012	0.13034	1185.916	1892.098	0	0.002538	0.027964	0	0.18641	0.297411	0	0.054653	0.602048	0	0	0	0	0	0.062218	0.685386	0	0	0	0	0	0.239321	8.657847	0	0.011204	0.017876	0
Santa Clara	2022	SBUS	Aggregate	Aggregate	Gasoline	249.3134	11500.83	997.2534	0.430325	0.924415	0.566946	0.001196	0	0.000498	0.002	0.3192	0.001301	0	0.000541	0.008	0.7448	865.5448	2582.545	48.67377	0.011856	2.442701	0.058309	0.024366	0.088243	0.053528	0.058325	10.61061	0.332747	0.061157	0.415506	0.010413	0.025261	0.085108	15.48298	0.364316	0.061157	0.415506	0.010413	0.025261	1.259002	82.05319	8.624782	0.008565	0.025556	0.000482
Santa Clara	2022	SBUS	Aggregate	Aggregate	Diesel	1014.086	31965.96	11702.42	6.765334	45.00081	0.786274	0.040218	0.05033	0	0.003	0.3192	0.042037	0.052605	0	0.012	0.7448	1145.085	3716.49	0	0.004669	0.013069	0	0.179991	0.584181	0	0.100532	0.281366	0	0	0	0	0	0.114448	0.320314	0	0	0	0	0	0.27746	5.867721	0	0.010818	0.035112	0
Santa Clara	2022	UBUS	Aggregate	Aggregate	Gasoline	8.419396	1059.849	33.67758	0.491797	0	1.236285	0.000328	0	9.7E-05	0.003	0.05586	0.000356	0	0.000105	0.012	0.13034	2351.817	0	104.599	0.006789	0	0.178596	0.036386	0	0.091633	0.022728	0	0.768536	0.190076	1.35875	0.031079	0.049249	0.033164	0	0.84145	0.190076	1.35875	0.031079	0.049249	0.527722	0	8.852622	0.023273	0	0.001035
Santa Clara	2022	UBUS	Aggregate	Aggregate	Diesel	423.2358	46482.16	1692.943	0.803453	0	0	0.005651	0	0	0.008415	0.029326	0.005907	0	0	0.033661	0.068427	1481.178	0	0	0.077358	0	0	0.232821	0	0	0.001105	0	0	0	0	0	0	0.078949	0	0	0	0	0	0	0.131304	0	0	0.014002	0	0
Santa Clara	2022	UBUS	Aggregate	Aggregate	Natural Ga	104.0289	12325.91	416.1154	0.48934	0	0	0.003183	0	0	0.008475	0.029034	0.003327	0	0	0.033899	0.067746	2016.3	0	0	6.413607	0	0	0.411036	0	0	0.091638	0	0	0	0	0	0	6.545556	0	0	0	0	0	0	49.80397	0	0	0	0	0
Santa Clara	2023	HHDT	Aggregate	Aggregate	Gasoline	4.815448	553.4124	96.34748	3.178298	0	0.254165	0.001157	0	0.000623	0.005	0.02646	0.001259	0	0.000677	0.02	0.06174	1915.642	0	46.38676	0.084318	0	0.000462	0.130889	0	0.008571	0.409676	0	0.002416	0.109047	0.558691	0.026465	0.047808	0.597798	0	0.002645	0.109047	0.558691	0.026465	0.047808	27.8207	0	5.57125	0.018957	0	0.000459
Santa Clara	2023	HHDT	Aggregate	Aggregate	Diesel	8401.79	1034051	89180.29	2.696198	57.80539	2.360147	0.023887	0.026373	0	0.008879	0.026103	0.024967	0.027565	0	0.035514	0.060907	1411.729	11326.45	0	0.001106	0.214953	0	0.221904	1.78036	0	0.023817	4.627869	0	0	0	0	0	0.027114	5.268477	0	0	0	0	0	0.233741	67.52667	0	0.013337	0.107007	0
Santa Clara	2023	HHDT	Aggregate	Aggregate	Natural Ga	360.3246	14693.25	1405.266	1.588314	20.76108	0	0.004529	0.028055	0	0.009	0.02646	0.004734	0.029323	0	0.036	0.06174	3174.275	4018.428	0	3.456549	1.237751	0	0.647097	0.819183	0	0.148044	0.042416	0	0	0	0	0	3.64007	1.291393	0	0	0	0	0	10.76049	21.60789	0	0	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Gasoline	751359.6	26739811	3542534	0.034059	0	0.184615	0.001247	0	0.001682	0.002	0.01575	0.001356	0	0.001829	0.008	0.03675	252.091	0	53.87356	0.002048	0	0.050071	0.004113	0	0.025656	0.007696	0	0.221504	0.094205	0.212597	0.166193	0.187545	0.011228	0	0.242518	0.094205	0.212597	0.166193	0.187545	0.586148	0	2.259775	0.002495	0	0.000533
Santa Clara	2023	LDA	Aggregate	Aggregate	Diesel	7591.987	280497.7	36090.42	0.058579	0	0	0.005598	0	0	0.002	0.01575	0.005851	0	0	0.008	0.03675	195.1926	0	0	0.000552	0	0	0.030682	0	0	0.011887	0	0	0	0	0	0	0.013532	0	0	0	0	0	0	0.188023	0	0	0.001845	0	0
Santa Clara	2023	LDA	Aggregate	Aggregate	Electricity	28074.67	1034348	136585.9	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2023	LDT1	Aggregate	Aggregate	Gasoline	75517.84	2475367	350251	0.078745	0	0.232751	0.001604	0	0.002087	0.002	0.01575	0.001745	0	0.00227	0.008	0.03675	292.8794	0	62.80265	0.004214	0	0.063907	0.006493	0	0.02759	0.018087	0	0.309393	0.159698	0.584022	0.309209	0.384203	0.026384	0	0.338746	0.159698	0.584022	0.309209	0.384203	0.955745	0	2.366858	0.002898	0	0.000621
Santa Clara	2023	LDT1	Aggregate	Aggregate	Diesel	34.1777	620.5176	112.4335	1.098891	0	0	0.146297	0	0	0.002	0.01575	0.152912	0	0	0.008	0.03675	401.6268	0	0	0.008837	0	0	0.06313	0	0	0.190256	0	0	0	0	0	0	0.216594	0	0	0	0	0	0	1.080107	0	0	0.003797	0	0
Santa Clara	2023	LDT1	Aggregate	Aggregate	Electricity	788.4144	31182.48	3917.01	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2023	LDT2	Aggregate	Aggregate	Gasoline	254167.5	8294772	1184412	0.06837	0	0.275999	0.001263	0	0.001639	0.002	0.01575	0.001374	0	0.001783	0.008	0.03675	316.8848	0	69.17216	0.003305	0	0.067695	0.00592	0	0.031692	0.013288	0	0.313842	0.123254	0.427158	0.276975	0.291298	0.019387	0	0.343617	0.123254	0.427158	0.276975	0.291298	0.800025	0	2.837237	0.003136	0	0.000685
Santa Clara	2023	LDT2	Aggregate	Aggregate	Diesel	1802.688	66004.69	8781.203	0.037098	0	0	0.004581	0	0	0.002	0.01575	0.004788	0	0	0.008	0.03675	268.3329	0	0	0.000636	0	0	0.042178	0	0	0.01369	0	0	0	0	0	0	0.015585	0	0	0	0	0	0	0.124122	0	0	0.002537	0	0
Santa Clara	2023	LDT2	Aggregate	Aggregate	Electricity	3304.555	98384.64	16510.28	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2023	LHDT1	Aggregate	Aggregate	Gasoline	16555.13	562142	246646.7	0.210457	0.037398	0.511224	0.002127	0	0.000377	0.002	0.03276	0.002314	0	0.00041	0.008	0.07644	994.5276	120.0678	18.82225	0.009676	0.118805	0.02387	0.012895	0.003089	0.040194	0.046707	0.428491	0.120584	0.120359	0.829144	0.024473	0.047994	0.068155	0.625253	0.132025	0.120359	0.829144	0.024473	0.047994	0.867722	3.754766	1.724	0.009842	0.001188	0.000186
Santa Clara	2023	LHDT1	Aggregate	Aggregate	Diesel	11594.64	435998.6	145846	1.400562	1.919948	0	0.019496	0.026734	0	0.003	0.03276	0.020378	0.027943	0	0.012	0.07644	535.8142	131.265	0	0.007088	0.005098	0	0.084223	0.020633	0	0.152594	0.10976	0	0	0	0	0	0.173718	0.124954	0	0	0	0	0	0.641529	0.909745	0	0.005065	0.001241	0
Santa Clara	2023	LHDT2	Aggregate	Aggregate	Gasoline	2285.018	77947.41	34043.37	0.21093	0.036728	0.496392	0.002042	0	0.000333	0.002	0.03822	0.00222	0	0.000363	0.008	0.08918	1132.921	137.76	21.32176	0.007566	0.117557	0.022949	0.013529	0.00301	0.038884	0.03359	0.420989	0.114958	0.114086	0.752468	0.022171	0.043386	0.049014	0.614306	0.125864	0.114086	0.752468	0.022171	0.043386	0.620201	3.758932	1.718516	0.011211	0.001363	0.000211
Santa Clara	2023	LHDT2	Aggregate	Aggregate	Diesel	4660.728	171541.4	58626.09	1.17888	1.93121	0	0.020832	0.02707	0	0.003	0.03822	0.021774	0.028294	0	0.012	0.08918	603.2432	210.8377	0	0.00683	0.005098	0	0.094821	0.033141	0	0.147052	0.10976	0	0	0	0	0	0.167409	0.124954	0	0	0	0	0	0.621451	0.909745	0	0.005703	0.001993	0
Santa Clara	2023	MCY	Aggregate	Aggregate	Gasoline	33683.49	242470.7	67366.97	1.148719	0	0.270672	0.00184	0	0.002859	0.001	0.00504	0.001969	0	0.003039	0.004	0.01176	210.1672	0	61.03922	0.326994	0	0.255241	0.066143	0	0.01536	2.208057	0	1.941958	0.689105	1.969445	0.985054	1.809555	2.736079	0	2.11358	0.689105	1.969445	0.985054	1.809555	18.86893	0	9.034026	0.00208	0	0.000604
Santa Clara	2023	MDV	Aggregate	Aggregate	Gasoline	154431.4	4896063	714241.1	0.085683	0	0.336488	0.001332	0	0.001823	0.002	0.01575	0.001448	0	0.001982	0.008	0.03675	383.1839	0	84.08131	0.004049	0	0.08064	0.007039	0	0.034344	0.016817	0	0.396565	0.140569	0.457303	0.323766	0.336538	0.024505	0	0.434185	0.140569	0.457303	0.323766	0.336538	0.891357	0	3.240031	0.003792	0	0.000832
Santa Clara	2023	MDV	Aggregate	Aggregate	Diesel	4004.429	142223.9	19410.39	0.034292	0	0	0.003829	0	0	0.002	0.01575	0.004002	0	0	0.008	0.03675	350.448	0	0	0.000445	0	0	0.055086	0	0	0.009578	0	0	0	0	0	0	0.010904	0	0	0	0	0	0	0.180483	0	0	0.003313	0	0
Santa Clara	2023	MDV	Aggregate	Aggregate	Electricity	1532.638	48234.63	7794.674	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2023	MH	Aggregate	Aggregate	Gasoline	2857.04	26157.03	285.8182	0.361451	0	0.336127	0.001555	0	0.000345	0.003	0.05586	0.001691	0	0.000375	0.012	0.13034	1731.827	0	25.56622	0.013045	0	0.031746	0.02323	0	0.035777	0.05596	0	0.132332	0.081683	1.97006	0.033844	0.096831	0.081657	0	0.144887	0.081683	1.97006	0.033844	0.096831	1.390474	0	2.91812	0.017138	0	0.000253
Santa Clara	2023	MH	Aggregate	Aggregate	Diesel	1053.778	9907.819	105.3778	4.0099	0	0	0.079211	0	0	0.004	0.05586	0.082793	0	0	0.016	0.13034	1007.175	0	0	0.004873	0	0	0.158314	0	0	0.104917	0	0	0	0	0	0	0.119441	0	0	0	0	0	0	0.367033	0	0	0.009521	0	0
Santa Clara	2023	MHDT	Aggregate	Aggregate	Gasoline	1507.68	78317.15	30165.67	0.385258	0.088623	0.367592	0.001293	0	0.000446	0.003	0.05586	0.001406	0	0.000485	0.012	0.13034	1697.438	526.34	38.16999	0.011942	0.266499	0.038604	0.019927	0.007724	0.029367	0.057622	1.014767	0.206928	0.080059	0.455824	0.017154	0.033931	0.084081	1.480746	0.22656	0.080059	0.455824	0.017154	0.033931	1.316681	15.14023	4.623501	0.016798	0.005209	0.000378
Santa Clara	2023	MHDT	Aggregate	Aggregate	Diesel	9262.822	558718.8	92583.75	1.59247	5.703996	2.12952	0.007398	0.005414	0	0.003	0.05586	0.007733	0.005658	0	0.012	0.13034	1010.629	886.4048	0	0.000529	0.003602	0	0.158857	0.13933	0	0.011387	0.077551	0	0	0	0	0	0.012963	0.088286	0	0	0	0	0	0.113094	2.687765	0	0.009548	0.008374	0
Santa Clara	2023	OBUS	Aggregate	Aggregate	Gasoline	503.4572	23697.77	10073.17	0.401971	0.065148	0.321785	0.000992	0	0.000219	0.003	0.05586	0.001079	0	0.000239	0.012	0.13034	1743.614	374.6133	26.08015	0.011771	0.201157	0.029667	0.020963	0.005691	0.026276	0.05538	0.74759	0.152323	0.027045	0.299878	0.01619	0.03654	0.080811	1.090882	0.166775	0.027045	0.299878	0.01619	0.03654	1.211154	5.782545	3.193149	0.017254	0.003707	0.000258
Santa Clara	2023	OBUS	Aggregate	Aggregate	Diesel	753.4001	53354.33	6899.877	1.902854	8.28017	2.210652	0.009253	0.002705	0	0.003	0.05586	0.009671	0.002705	0	0.012	0.13034	1163.247	1820.683	0	0.000567	0.024706	0	0.182846	0.286186	0	0.012205	0.531913	0	0	0	0	0	0.013895	0.605542	0	0	0	0	0	0.141032	9.053135	0	0.01099	0.017201	0
Santa Clara	2023	SBUS	Aggregate	Aggregate	Gasoline	263.5229	11968.77	1054.092	0.420713	0.924728	0.578334	0.001201	0	0.000506	0.002	0.3192	0.001307	0	0.00055	0.008	0.7448	859.0893	2565.057	48.16666	0.011122	2.441451	0.057864	0.023879	0.088232	0.054355	0.054742	10.61517	0.330464	0.063152	0.426847	0.010977	0.026004	0.07988	15.48964	0.361817	0.063152	0.426847	0.010977	0.026004	1.167899	82.08092	8.465591	0.008501	0.025383	0.000477
Santa Clara	2023	SBUS	Aggregate	Aggregate	Diesel	1013.614	31894.7	11696.96	6.544978	44.13946	0.832887	0.040645	0.046993	0	0.003	0.3192	0.042483	0.049118	0	0.012	0.7448	1136.76	3703.284	0	0.004568	0.012858	0	0.178683	0.582105	0	0.098352	0.27682	0	0	0	0	0	0.111967	0.315138	0	0	0	0	0	0.275014	6.038953	0	0.01074	0.034987	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Gasoline	8.423223	1060.331	33.69289	0.150806	0	0.638272	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.542	0	88.49758	0.007038	0	0.09018	0.015696	0	0.066738	0.022728	0	0.374288	0.008476	0.037646	0.001991	0.00493	0.033164	0	0.409798	0.008476	0.037646	0.001991	0.00493	0.258128	0	8.852622	0.019362	0	0.000876
Santa Clara	2023	UBUS	Aggregate	Aggregate	Diesel	430.5287	46874.38	1722.115	0.802545	0	0	0.005646	0	0	0.008398	0.029403	0.005901	0	0	0.033594	0.068607	1480.062	0	0	0.077245	0	0	0.232645	0	0	0.001104	0	0	0	0	0	0	0.078834	0	0	0	0	0	0	0.131094	0	0	0.013992	0	0
Santa Clara	2023	UBUS	Aggregate	Aggregate	Natural Ga	96.97562	11960.41	387.9025	0.491564	0	0	0.003198	0	0	0.008538	0.028723	0.003341	0	0	0.034153	0.06702	2024.074	0	0	6.451045	0	0	0.412621	0	0	0.092173	0	0	0	0	0	0	6.583765	0	0	0	0	0	0	50.12464	0	0	0	0	0
Santa Clara	2024	HHDT	Aggregate	Aggregate	Gasoline	4.844178	594.9439	96.86829	3.020299	0	0.189099	0.00112	0	0.000551	0.005	0.02646	0.001219	0	0.0006	0.02	0.06174	1864.547	0	45.62595	0.076898	0	0.000429	0.12764	0	0.006341	0.362275	0	0.002245	0.090273	0.457367	0.02213	0.039608	0.528631	0	0.002458	0.090273	0.457367	0.02213	0.039608	27.06461	0	5.743732	0.018451	0	0.000452
Santa Clara	2024	HHDT	Aggregate	Aggregate	Diesel	8656.54	1058418	92089.71	2.703911	57.44438	2.359952	0.02415	0.025633	0	0.008883	0.026117	0.025242	0.026792	0	0.035534	0.060947	1388.989	11174.98	0	0.001112	0.214832	0	0.21833	1.756551	0	0.023933	4.625274	0	0	0	0	0	0.027246	5.265522	0	0	0	0	0	0.237639	67.56762	0	0.013122	0.105576	0
Santa Clara	2024	HHDT	Aggregate	Aggregate	Natural Ga	370.7651	15119.11	1445.984	1.4401	20.42228	0	0.004303	0.025442	0	0.009	0.02646	0.004498	0.026593	0	0.036	0.06174	3139.748	3971.23	0	3.408101	1.228196	0	0.640058	0.809561	0	0.135992	0.039404	0	0	0	0	0	3.577682	1.278365	0	0	0	0	0	10.81294	21.6569	0	0	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Gasoline	768835.9	26997720	3625782	0.030395	0	0.173438	0.001204	0	0.001624	0.002	0.01575	0.001305	0	0.001766	0.008	0.03675	244.9997	0	52.35424	0.001806	0	0.046341	0.003843	0	0.024653	0.006637	0	0.202005	0.088504	0.205724	0.155728	0.174002	0.009684	0	0.22117	0.088504	0.205724	0.155728	0.174002	0.54881	0	2.188955	0.002424	0	0.000518
Santa Clara	2024	LDA	Aggregate	Aggregate	Diesel	8011.408	291515.9	38101.09	0.048102	0	0	0.004683	0	0	0.002	0.01575	0.004895	0	0	0.008	0.03675	190.0661	0	0	0.000484	0	0	0.029876	0	0	0.010417	0	0	0	0	0	0	0.011859	0	0	0	0	0	0	0.179098	0	0	0.001797	0	0
Santa Clara	2024	LDA	Aggregate	Aggregate	Electricity	30564.28	1142137	148311.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2024	LDT1	Aggregate	Aggregate	Gasoline	77491.49	2505945	359867.4	0.068518	0	0.216191	0.0015	0	0.001966	0.002	0.01575	0.001632	0	0.002137	0.008	0.03675	285.2357	0	61.12483	0.003656	0	0.0584	0.005889	0	0.026446	0.015495	0	0.278192	0.147313	0.544925	0.287739	0.351787	0.022607	0	0.304585	0.147313	0.544925	0.287739	0.351787	0.864479	0	2.286362	0.002823	0	0.000605
Santa Clara	2024	LDT1	Aggregate	Aggregate	Diesel	31.54053	577.7803	104.3445	1.003934	0	0	0.132094	0	0	0.002	0.01575	0.138066	0	0	0.008	0.03675	393.8059	0	0	0.007979	0	0	0.061901	0	0	0.171786	0	0	0	0	0	0	0.195567	0	0	0	0	0	0	0.993473	0	0	0.003723	0	0
Santa Clara	2024	LDT1	Aggregate	Aggregate	Electricity	971.3075	39285.07	4827.402	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2024	LDT2	Aggregate	Aggregate	Gasoline	257922.1	8298132	1201453	0.060942	0	0.254985	0.001226	0	0.001602	0.002	0.01575	0.001333	0	0.001742	0.008	0.03675	306.3042	0	66.94798	0.002992	0	0.063272	0.005453	0	0.030095	0.011904	0	0.290499	0.118569	0.418242	0.272186	0.28339	0.017369	0	0.31806	0.118569	0.418242	0.272186	0.28339	0.750324	0	2.754987	0.003031	0	0.000663
Santa Clara	2024	LDT2	Aggregate	Aggregate	Diesel	1933.864	68985.44	9385.607	0.034803	0	0	0.004306	0	0	0.002	0.01575	0.004501	0	0	0.008	0.03675	261.017	0	0	0.000618	0	0	0.041028	0	0	0.013297	0	0	0	0	0	0	0.015138	0	0	0	0	0	0	0.124646	0	0	0.002468	0	0
Santa Clara	2024	LDT2	Aggregate	Aggregate	Electricity	3976.567	115838.7	19819.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Gasoline	16595.29	558796.3	247245.2	0.188441	0.036329	0.492017	0.002119	0	0.000367	0.002	0.03276	0.002304	0	0.0004	0.008	0.07644	981.413	118.8928	18.64229	0.008635	0.116255	0.022385	0.011684	0.00305	0.039132	0.041266	0.416309	0.11274	0.115621	0.802453	0.023685	0.04598	0.060215	0.607477	0.123436	0.115621	0.802453	0.023685	0.04598	0.775411	3.757388	1.688646	0.009712	0.001177	0.000184
Santa Clara	2024	LHDT1	Aggregate	Aggregate	Diesel	12077.34	447738.5	151917.7	1.216004	1.816109	0	0.017946	0.026621	0	0.003	0.03276	0.018757	0.027824	0	0.012	0.07644	527.1415	129.4169	0	0.006889	0.005098	0	0.082859	0.020343	0	0.148312	0.10976	0	0	0	0	0	0.168843	0.124954	0	0	0	0	0	0.625521	0.909745	0	0.004983	0.001223	0
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Gasoline	2318.351	78374.99	34539.98	0.186009	0.035621	0.477152	0.002016	0	0.000324	0.002	0.03822	0.002192	0	0.000352	0.008	0.08918	1117.473	136.319	21.08444	0.006588	0.114918	0.021458	0.012162	0.002973	0.037878	0.028759	0.40841	0.106844	0.107467	0.691039	0.021248	0.040757	0.041965	0.595951	0.11698	0.107467	0.691039	0.021248	0.040757	0.534699	3.762482	1.666987	0.011058	0.001349	0.000209
Santa Clara	2024	LHDT2	Aggregate	Aggregate	Diesel	4877.312	176304.8	61350.45	1.033956	1.829953	0	0.02008	0.027033	0	0.003	0.03822	0.020988	0.028255	0	0.012	0.08918	593.7458	208.0708	0	0.006684	0.005098	0	0.093329	0.032706	0	0.143898	0.10976	0	0	0	0	0	0.163818	0.124954	0	0	0	0	0	0.61131	0.909745	0	0.005613	0.001967	0
Santa Clara	2024	MCY	Aggregate	Aggregate	Gasoline	34431.37	243797	68862.74	1.146289	0	0.270709	0.001865	0	0.002752	0.001	0.00504	0.001997	0	0.00293	0.004	0.01176	210.0772	0	60.71341	0.325313	0	0.253919	0.066025	0	0.015366	2.190481	0	1.930344	0.676373	1.887358	0.97629	1.802995	2.721006	0	2.101179	0.676373	1.887358	0.97629	1.802995	18.59611	0	9.061179	0.002079	0	0.000601
Santa Clara	2024	MDV	Aggregate	Aggregate	Gasoline	156824.5	4915330	725874.3	0.073555	0	0.30496	0.001269	0	0.001735	0.002	0.01575	0.00138	0	0.001887	0.008	0.03675	370.2473	0	81.24522	0.003533	0	0.07385	0.006301	0	0.032254	0.014431	0	0.358405	0.133918	0.442951	0.315236	0.324744	0.021047	0	0.392407	0.133918	0.442951	0.315236	0.324744	0.809607	0	3.072017	0.003664	0	0.000804
Santa Clara	2024	MDV	Aggregate	Aggregate	Diesel	4279.344	148384.4	20665.8	0.030793	0	0	0.003552	0	0	0.002	0.01575	0.003712	0	0	0.008	0.03675	340.7089	0	0	0.00042	0	0	0.053555	0	0	0.009041	0	0	0	0	0	0	0.010293	0	0	0	0	0	0	0.1773	0	0	0.003221	0	0
Santa Clara	2024	MDV	Aggregate	Aggregate	Electricity	2041.893	62655.19	10349.93	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2024	MH	Aggregate	Aggregate	Gasoline	2827.424	26048.95	282.8555	0.319474	0	0.337369	0.001496	0	0.000332	0.003	0.05586	0.001627	0	0.000361	0.012	0.13034	1698.665	0	25.10838	0.011423	0	0.03111	0.021443	0	0.036462	0.047898	0	0.127627	0.075126	1.794574	0.031457	0.088456	0.069892	0	0.139736	0.075126	1.794574	0.031457	0.088456	1.158649	0	2.813821	0.01681	0	0.000248
Santa Clara	2024	MH	Aggregate	Aggregate	Diesel	1087.572	10089.67	108.7572	3.8575	0	0	0.073619	0	0	0.004	0.05586	0.076948	0	0	0.016	0.13034	992.182	0	0	0.004739	0	0	0.155957	0	0	0.102018	0	0	0	0	0	0	0.116141	0	0	0	0	0	0	0.353157	0	0	0.00938	0	0
Santa Clara	2024	MHDT	Aggregate	Aggregate	Gasoline	1564.857	81219.94	31309.66	0.31759	0.088787	0.357983	0.00128	0	0.000432	0.003	0.05586	0.001392	0	0.000469	0.012	0.13034	1664.466	518.4053	37.21256	0.009834	0.269491	0.03713	0.017321	0.007911	0.029454	0.046731	1.017203	0.195989	0.074177	0.415581	0.016077	0.031122	0.06819	1.484301	0.214584	0.074177	0.415581	0.016077	0.031122	1.055715	15.16855	4.34781	0.016471	0.00513	0.000368

Santa Clara	2024	MHDT	Aggregate	Aggregate	Diesel	9624.848	566389.2	95988.07	1.610171	5.459844	2.136352	0.007492	0.004673	0	0.003	0.05586	0.00783	0.004884	0	0.012	0.13034	997.0565	869.0377	0	0.000527	0.003515	0	0.156723	0.136601	0	0.01135	0.075674	0	0	0	0	0	0.012921	0.086149	0	0	0	0	0	0.114514	2.701556	0	0.00942	0.00821	0
Santa Clara	2024	OBUS	Aggregate	Aggregate	Gasoline	504.7356	23300.26	10098.75	0.360432	0.065159	0.318556	0.00103	0	0.000226	0.003	0.05586	0.00112	0	0.000245	0.012	0.13034	1712.694	370.3334	25.70448	0.010554	0.201432	0.02907	0.019268	0.00573	0.026194	0.04937	0.747749	0.148852	0.027254	0.303972	0.016446	0.036927	0.07204	1.091114	0.162974	0.027254	0.303972	0.016446	0.036927	1.073358	5.783505	3.116445	0.016948	0.003665	0.000254
Santa Clara	2024	OBUS	Aggregate	Aggregate	Diesel	763.9429	53010.14	7005.878	1.952588	8.368625	2.211523	0.009711	0.002619	0	0.003	0.05586	0.01015	0.002738	0	0.012	0.13034	1156.149	1829.903	0	0.000579	0.025071	0	0.181731	0.287635	0	0.01246	0.539782	0	0	0	0	0	0.014185	0.6145	0	0	0	0	0	0.143603	9.166694	0	0.010923	0.017288	0
Santa Clara	2024	SBUS	Aggregate	Aggregate	Gasoline	277.2219	12408.76	1108.888	0.391846	0.925198	0.582393	0.001195	0	0.000512	0.002	0.3192	0.0013	0	0.000557	0.008	0.7448	849.9257	2540.147	47.46214	0.010004	2.441578	0.057304	0.022787	0.088525	0.054796	0.049026	16.62205	0.32698	0.063489	0.424105	0.011364	0.026144	0.071538	15.49967	0.358002	0.063489	0.424105	0.011364	0.026144	1.061031	82.12266	8.250612	0.008411	0.025137	0.00047
Santa Clara	2024	SBUS	Aggregate	Aggregate	Diesel	1011.343	31782.11	11670.76	6.305713	43.19427	0.882346	0.039225	0.043673	0	0.003	0.3192	0.040998	0.045648	0	0.012	0.7448	1127.045	3685.79	0	0.004462	0.012671	0	0.177156	0.579355	0	0.09606	0.272808	0	0	0	0	0	0.109357	0.310572	0	0	0	0	0	0.272311	6.223874	0	0.010648	0.034822	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Gasoline	8.427049	1060.813	33.7082	0.179651	0	0.688867	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.507	0	88.60685	0.007013	0	0.097882	0.017812	0	0.068509	0.022728	0	0.407643	0.01024	0.051815	0.002284	0.005364	0.033164	0	0.446318	0.01024	0.051815	0.002284	0.005364	0.280937	0	8.852622	0.019361	0	0.000877
Santa Clara	2024	UBUS	Aggregate	Aggregate	Diesel	430.6994	46893.42	1722.798	0.802546	0	0	0.005646	0	0	0.008399	0.029403	0.005901	0	0	0.033598	0.068607	1480.079	0	0	0.077245	0	0	0.232648	0	0	0.001104	0	0	0	0	0	0	0.078834	0	0	0	0	0	0	0.131094	0	0	0.013992	0	0
Santa Clara	2024	UBUS	Aggregate	Aggregate	Natural Ga	97.04458	11968.1	388.1783	0.491562	0	0	0.003197	0	0	0.008538	0.028723	0.003341	0	0	0.034153	0.06702	2024.066	0	0	6.451003	0	0	0.412619	0	0	0.092172	0	0	0	0	0	0	6.583722	0	0	0	0	0	0	50.12428	0	0	0	0	0
Santa Clara	2025	HHDT	Aggregate	Aggregate	Gasoline	5.092026	640.9591	101.8812	2.919948	0	0.157583	0.001116	0	0.00053	0.005	0.02646	0.001214	0	0.000577	0.02	0.06174	1825.867	0	44.49464	0.073801	0	0.000415	0.125671	0	0.005317	0.342518	0	0.00217	0.080914	0.407773	0.020048	0.035638	0.499802	0	0.002375	0.080914	0.407773	0.020048	0.035638	27.21952	0	5.566613	0.018068	0	0.00044
Santa Clara	2025	HHDT	Aggregate	Aggregate	Diesel	8817.731	1079688	94137.56	2.689248	57.21961	2.360479	0.024147	0.025022	0	0.008888	0.026131	0.025239	0.026153	0	0.035552	0.060971	1361.701	11015.05	0	0.001109	0.21503	0	0.21404	1.731413	0	0.02388	4.629535	0	0	0	0	0	0.027185	5.270373	0	0	0	0	0	0.239469	67.69892	0	0.012865	0.104065	0
Santa Clara	2025	HHDT	Aggregate	Aggregate	Natural Ga	379.6544	15481.95	1480.652	1.307834	20.11278	0	0.004103	0.023104	0	0.009	0.02646	0.004289	0.024149	0	0.036	0.06174	3103.536	3922.175	0	3.364949	1.219652	0	0.632676	0.799561	0	0.12525	0.036711	0	0	0	0	0	3.522105	1.266717	0	0	0	0	0	10.85973	21.70548	0	0	0	0
Santa Clara	2025	LDA	Aggregate	Aggregate	Gasoline	786105.4	27236278	3706855	0.027552	0	0.163324	0.001159	0	0.001575	0.002	0.01575	0.001261	0	0.001713	0.008	0.03675	237.9166	0	50.83268	0.001606	0	0.042879	0.003629	0	0.023647	0.00579	0	0.184593	0.083639	0.200535	0.147048	0.163063	0.008448	0	0.202106	0.083639	0.200535	0.147048	0.163063	0.517934	0	2.110104	0.002354	0	0.000503
Santa Clara	2025	LDA	Aggregate	Aggregate	Diesel	8408.263	301340.6	39989.41	0.039798	0	0	0.004032	0	0	0.002	0.01575	0.004215	0	0	0.008	0.03675	184.9022	0	0	0.000435	0	0	0.029064	0	0	0.009373	0	0	0	0	0	0	0.01067	0	0	0	0	0	0	0.171859	0	0	0.001748	0	0
Santa Clara	2025	LDA	Aggregate	Aggregate	Electricity	33370.49	1267724	161634.6	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2025	LDT1	Aggregate	Aggregate	Gasoline	79443.86	2534356	368884.5	0.060086	0	0.20134	0.001411	0	0.00186	0.002	0.01575	0.001534	0	0.002022	0.008	0.03675	277.5553	0	59.43963	0.003183	0	0.053371	0.005387	0	0.025325	0.013318	0	0.250415	0.136457	0.510963	0.268896	0.323671	0.019433	0	0.274173	0.136457	0.510963	0.268896	0.323671	0.787157	0	2.198178	0.002747	0	0.000588
Santa Clara	2025	LDT1	Aggregate	Aggregate	Diesel	29.01082	540.1586	96.9227	0.906563	0	0	0.119117	0	0	0.002	0.01575	0.124503	0	0	0.008	0.03675	384.823	0	0	0.007233	0	0	0.060489	0	0	0.155733	0	0	0	0	0	0	0.177292	0	0	0	0	0	0	0.910026	0	0	0.003638	0	0
Santa Clara	2025	LDT1	Aggregate	Aggregate	Electricity	1175.118	48439.55	5836.574	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2025	LDT2	Aggregate	Aggregate	Gasoline	261669.8	8305167	1218340	0.05477	0	0.236657	0.001191	0	0.001569	0.002	0.01575	0.001296	0	0.001707	0.008	0.03675	295.8626	0	64.74241	0.002718	0	0.05916	0.005064	0	0.028625	0.010701	0	0.269168	0.114065	0.408613	0.267022	0.275618	0.015615	0	0.294706	0.114065	0.408613	0.267022	0.275618	0.707429	0	2.670232	0.002928	0	0.000641
Santa Clara	2025	LDT2	Aggregate	Aggregate	Diesel	2060.035	71668.54	9958.002	0.033505	0	0	0.004246	0	0	0.002	0.01575	0.004438	0	0	0.008	0.03675	253.7132	0	0	0.000614	0	0	0.03988	0	0	0.013214	0	0	0	0	0	0	0.015043	0	0	0	0	0	0	0.125847	0	0	0.002399	0	0
Santa Clara	2025	LDT2	Aggregate	Aggregate	Electricity	4719.984	134602.3	23464.47	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2025	LHDT1	Aggregate	Aggregate	Gasoline	16670.08	556704.7	248359.3	0.169211	0.035277	0.472669	0.002107	0	0.00036	0.002	0.03276	0.002292	0	0.000391	0.008	0.07644	967.3498	117.6043	18.45036	0.007764	0.113694	0.021006	0.010624	0.003009	0.03807	0.036731	0.404312	0.10545	0.111143	0.778995	0.023007	0.044168	0.053598	0.589971	0.115454	0.111143	0.778995	0.023007	0.044168	0.699373	3.75965	1.658867	0.009573	0.001164	0.000183
Santa Clara	2025	LHDT1	Aggregate	Aggregate	Diesel	12557.44	458805.3	157956.8	1.056459	1.720637	0	0.016591	0.026543	0	0.003	0.03276	0.017341	0.027743	0	0.012	0.07644	518.3028	127.5135	0	0.006718	0.005098	0	0.08147	0.020043	0	0.144635	0.10976	0	0	0	0	0	0.164657	0.124954	0	0	0	0	0	0.612677	0.909745	0	0.0049	0.001205	0
Santa Clara	2025	LHDT2	Aggregate	Aggregate	Gasoline	2350.687	78766.4	35021.74	0.164861	0.034559	0.458423	0.002001	0	0.000317	0.002	0.03822	0.002176	0	0.000345	0.008	0.08918	1101.004	134.7497	20.83503	0.005841	0.112336	0.020064	0.010996	0.002935	0.0369	0.025143	0.396329	0.099263	0.101257	0.638691	0.020438	0.03848	0.036689	0.578322	0.10868	0.101257	0.638691	0.020438	0.03848	0.471051	3.765359	1.622672	0.010895	0.001333	0.000206
Santa Clara	2025	LHDT2	Aggregate	Aggregate	Diesel	5093.542	180822.6	64070.35	0.910052	1.737542	0	0.01951	0.027031	0	0.003	0.03822	0.020392	0.028253	0	0.012	0.08918	584.1014	205.2058	0	0.006561	0.005098	0	0.091813	0.032255	0	0.141257	0.10976	0	0	0	0	0	0.160811	0.124954	0	0	0	0	0	0.603673	0.909745	0	0.005522	0.00194	0
Santa Clara	2025	MCY	Aggregate	Aggregate	Gasoline	35193.54	245144.5	70387.08	1.144207	0	0.270585	0.001897	0	0.002751	0.001	0.00504	0.002031	0	0.00293	0.004	0.01176	210.0048	0	60.42942	0.323881	0	0.252792	0.065921	0	0.015365	2.175798	0	1.920785	0.666814	1.818229	0.96962	1.799017	2.708329	0	2.090983	0.666814	1.818229	0.96962	1.799017	18.36541	0	9.087517	0.002078	0	0.000598
Santa Clara	2025	MDV	Aggregate	Aggregate	Gasoline	159353.4	4938255	737907	0.063986	0	0.27705	0.001219	0	0.001669	0.002	0.01575	0.001325	0	0.001816	0.008	0.03675	357.5234	0	78.47795	0.003117	0	0.067735	0.005703	0	0.030326	0.012553	0	0.324637	0.127905	0.429181	0.308843	0.316083	0.018315	0	0.355437	0.127905	0.429181	0.308843	0.316083	0.747249	0	2.926745	0.003538	0	0.000777
Santa Clara	2025	MDV	Aggregate	Aggregate	Diesel	4539.599	153903.5	21844.52	0.027748	0	0	0.003286	0	0	0.002	0.01575	0.003434	0	0	0.008	0.03675	330.9311	0	0	0.000397	0	0	0.052018	0	0	0.008545	0	0	0	0	0	0	0.009728	0	0	0	0	0	0	0.174315	0	0	0.003128	0	0
Santa Clara	2025	MDV	Aggregate	Aggregate	Electricity	2605.246	77957.64	13157.39	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2025	MH	Aggregate	Aggregate	Gasoline	2804.725	25962.4	280.5847	0.284441	0	0.338374	0.00145	0	0.000322	0.003	0.05586	0.001577	0	0.00035	0.012	0.13034	1667.641	0	24.6655	0.010137	0	0.030504	0.019937	0	0.037073	0.041598	0	0.123275	0.069134	1.619836	0.029331	0.080979	0.060699	0	0.134971	0.069134	1.619836	0.029331	0.080979	0.981783	0	2.72063	0.016503	0	0.000244
Santa Clara	2025	MH	Aggregate	Aggregate	Diesel	1120.152	10258.27	112.0152	3.721278	0	0	0.068611	0	0	0.004	0.05586	0.071713	0	0	0.016	0.13034	977.5306	0	0	0.004617	0	0	0.153654	0	0	0.099404	0	0	0	0	0	0	0.113165	0	0	0	0	0	0	0.340592	0	0	0.009241	0	0
Santa Clara	2025	MHDT	Aggregate	Aggregate	Gasoline	1625.583	84052.77	32524.67	0.265984	0.088924	0.349428	0.001273	0	0.000421	0.003	0.05586	0.001385	0	0.000457	0.012	0.13034	1634.243	510.7588	36.34684	0.008233	0.271859	0.035906	0.015329	0.00806	0.029502	0.038458	1.019238	0.186917	0.069212	0.381699	0.015194	0.028782	0.056317	1.48727	0.204651	0.069212	0.381699	0.015194	0.028782	0.857049	15.19219	4.114665	0.016172	0.005054	0.00036
Santa Clara	2025	MHDT	Aggregate	Aggregate	Diesel	9962.606	572190	99142.65	1.623143	5.250027	2.142411	0.007557	0.004081	0	0.003	0.05586	0.007898	0.004265	0	0.012	0.13034	982.4191	853.0081	0	0.000524	0.003447	0	0.154423	0.134081	0	0.011292	0.074218	0	0	0	0	0	0.012855	0.084492	0	0	0	0	0	0.115604	2.715124	0	0.009281	0.008059	0
Santa Clara	2025	OBUS	Aggregate	Aggregate	Gasoline	506.3512	22978.17	10131.07	0.327074	0.065168	0.315008	0.001066	0	0.000232	0.003	0.05586	0.00116	0	0.000252	0.012	0.13034	1681.342	365.8664	25.34402	0.009574	0.201653	0.02851	0.017866	0.005766	0.026079	0.044553	0.747887	0.145668	0.027385	0.307778	0.016648	0.037216	0.065012	1.091315	0.159488	0.027385	0.307778	0.016648	0.037216	0.954434	5.784337	3.055397	0.016638	0.003621	0.000251
Santa Clara	2025	OBUS	Aggregate	Aggregate	Diesel	782.1911	52548.02	7198.345	1.95709	8.598349	2.212905	0.009792	0.0027	0	0.003	0.05586	0.010235	0.002822	0	0.012	0.13034	1138.746	1851.156	0	0.000581	0.026021	0	0.178995	0.290976	0	0.012519	0.560218	0	0	0	0	0	0.014252	0.637766	0	0	0	0	0	0.144046	9.461612	0	0.010758	0.017489	0
Santa Clara	2025	SBUS	Aggregate	Aggregate	Gasoline	290.9191	12845.38	1163.676	0.367517	0.925641	0.585868	0.001189	0	0.000518	0.002	0.3192	0.001293	0	0.000563	0.008	0.7448	841.5393	2517.353	46.87031	0.009128	2.441397	0.056689	0.021807	0.088923	0.055087	0.04463	10.62852	0.323186	0.063718	0.42144	0.011749	0.026293	0.065124	15.50911	0.353848	0.063718	0.42144	0.011749	0.026293	0.960805	82.16193	8.088543	0.008328	0.024911	0.000464
Santa Clara	2025	SBUS	Aggregate	Aggregate	Diesel	1007.891	31639.37	11630.92	6.052423	42.15267	0.934599	0.037784	0.040436	0	0.003	0.3192	0.039493	0.042264	0	0.012	0.7448	1116.779	3665.356	0	0.004348	0.012518	0	0.175542	0.576143	0	0.093618	0.269508	0	0	0	0	0	0.106577	0.306814	0	0	0	0	0	0.269189	6.423201	0	0.010551	0.034628	0
Santa Clara	2025	UBUS	Aggregate	Aggregate	Gasoline	8.430876	1061.294	33.7235	0.211238	0	0.744273	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.474	0	88.72677	0.006987	0	0.106267	0.020012	0	0.070643	0.022728	0	0.44417	0.012793	0.070677	0.002709	0.005994	0.033164	0	0.48631	0.012793	0.070677	0.002709	0.005994	0.305915	0	8.852622	0.019361	0	0.000878
Santa Clara	2025	UBUS	Aggregate	Aggregate	Diesel	410.7255	44103.54	1642.902	0.800339	0	0	0.005633	0	0	0.008361	0.029559	0.005887	0	0	0.033445	0.069044	1523.804	0	0	0.076969	0	0	0.239521	0	0	0.0011	0	0	0	0	0	0	0.078552	0	0	0	0	0	0	0.130582	0	0	0.014405	0	0
Santa Clara	2025	UBUS	Aggregate	Aggregate	Natural Ga	117.2581	14784.71	469.0324	0.494633	0	0	0.003215	0	0	0.008626	0.028293	0.00336	0	0	0.034503	0.066018	2034.799	0	0	6.502692	0	0	0.414807	0	0	0.092911	0	0	0	0	0	0	6.636474	0	0	0	0	0	0	50.56702	0	0	0	0	0
Santa Clara	2026	HHDT	Aggregate	Aggregate	Gasoline	5.364051	687.2244	107.3239	2.901553	0	0.123525	0.001111	0	0.000507	0.005	0.02646	0.001208	0	0.000551	0.02	0.06174	1793.744	0	43.34586	0.071804	0	0.000401	0.125752	0	0.004225	0.328519	0	0.002095	0.071383	0.359736	0.017912	0.031562	0.479375	0	0.002294	0.071383	0.359736	0.017912	0.031562	27.34619	0	5.359666	0.017751	0	0.000429
Santa Clara	2026	HHDT	Aggregate	Aggregate	Diesel	8924.437	1100302	95711.65	2.666493	57.09144	2.360255	0.024019	0.024355	0	0.008892	0.026143	0.025105	0.025456	0	0.035569	0.061	1333.335	10856.43	0	0.001103	0.215452	0	0.209582	1.70648	0	0.02374	4.638633	0	0	0	0	0	0.027027	5.28073	0	0	0	0	0	0.240406	67.90439	0	0.012597	0.102566	0
Santa Clara	2026	HHDT	Aggregate	Aggregate	Natural Ga	387.4411	15797.92	1511.02	1.192172	19.8411	0	0.00393	0.021114	0	0.009	0.02646	0.004107	0.022069	0	0.036	0.06174	3065.609	3870.947	0	3.327201	1.212401	0	0.624944	0.789118	0	0.11581	0.034377	0	0	0	0	0	3.473439	1.256776	0	0	0	0	0	10.90096	21.7521	0	0	0	0
Santa Clara	2026	LDA	Aggregate	Aggregate	Gasoline	803316.6	27422437	3786948	0.025361	0	0.154822	0.001114	0	0.001523	0.002	0.01575	0.001211	0	0.001657	0.008	0.03675	231.4803	0	49.42279	0.001444	0	0.039822	0.003461	0	0.022774	0.005111	0	0.169499	0.079374	0.196051	0.139366	0.153495	0.007458	0	0.18558	0.079374	0.196051	0.139366	0.153495	0.493181	0	2.036512	0.002291	0	0.000489
Santa Clara	2026	LDA	Aggregate	Aggregate	Diesel	8761.921	309411.2	41704.47	0.032668	0	0	0.003405	0	0	0.002	0.01575	0.003558	0	0	0.008	0.03675	180.2059	0	0	0.00039	0	0	0.028326	0	0	0.008395	0	0	0	0	0	0	0.009557	0	0	0	0	0	0	0.1654	0	0	0.001704	0	0
Santa Clara	2026	LDA	Aggregate	Aggregate	Electricity	36166.94	1348329	174853.1	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2026	LDT1	Aggregate	Aggregate	Gasoline	81395.88	2557716	377984.9	0.053242	0	0.188746	0.001327	0	0.001762	0.002	0.01575	0.001443	0	0.001916	0.008	0.03675	270.6234	0	57.88564	0.002789	0	0.048967	0.004978	0	0.02436	0.011517	0	0.226362	0.126829	0.481219	0.251831	0.29879	0.016805	0	0.247838	0.126829	0.481219	0.251831	0.29879	0.722924	0	2.115706	0.002678	0	0.000573
Santa Clara	2026	LDT1	Aggregate	Aggregate	Diesel	24.30234	480.229	84.15979	0.751234	0	0	0.097028	0	0	0.002	0.01575	0.101415	0	0	0.008	0.03675	372.5093	0	0	0.005976	0	0	0.058553	0	0	0.128651	0	0	0	0	0	0	0.14646	0	0	0	0	0	0	0.792282	0	0	0.003522	0	0
Santa Clara	2026	LDT1	Aggregate	Aggregate	Electricity	1379.343	55720.71	6839.142	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2026	LDT2	Aggregate	Aggregate	Gasoline	265561.6	8306944	1235817	0.049643	0	0.220704	0.001151	0	0.001529	0.002	0.01575	0.001251	0	0.001663	0.008	0.03675	286.3694	0	62.68706	0.002482	0	0.055421	0.00474	0	0.027321	0.009671	0	0.249939	0.109665	0.398388	0.261316	0.267778	0.014111	0	0.273652	0.109665	0.398388	0.261316	0.267778	0.671341	0	2.592866	0.002834	0	0.00062
Santa Clara	2026	LDT2	Aggregate	Aggregate	Diesel	2179.627	73932.77	10496.07	0.032487	0	0	0.004202	0	0	0.002	0.01575	0.004392	0	0	0.008	0.03675	247.1738	0	0	0.000611	0	0	0.038852	0	0	0.013153	0	0	0	0	0	0	0.014974	0	0	0	0	0	0	0.127038	0	0	0.002337	0	0
Santa Clara	2026	LDT2	Aggregate	Aggregate	Electricity	5458.528	152393.5	27053.7	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2026	LHDT1	Aggregate	Aggregate	Gasoline	16770.98	556033.5	249862.6	0.151754	0.034252	0.4537	0.002099	0	0.000353	0.002	0.03276	0.002282	0	0.000384	0.008	0.07644	952.5009	116.2163	18.24638	0.006932	0.111178	0.019754	0.009676	0.002968	0.037044	0.032329	0.392624	0.098793	0.106906	0.759705	0.022308	0.042351	0.047175	0.572916	0.108166	0.106906	0.759705	0.022308	0.042351	0.625576	3.761779	1.633174	0.009426	0.00115	0.000181
Santa Clara	2026	LHDT1	Aggregate	Aggregate	Diesel	13027.47	469567.8	163869.1	0.916096	1.632082	0	0.01538	0.026486	0	0.003	0.03276	0.016075	0.027684	0	0.012	0.07644	509.3228	125.5551	0	0.006568	0.005098	0	0.080058	0.019736	0	0.141402	0.10976	0	0	0	0	0	0.160976	0.124954	0	0	0	0	0	0.602151	0.909745	0	0.004815	0.001187	0
Santa Clara	2026	LHDT2	Aggregate	Aggregate	Gasoline	2384.455	79271.91	35524.83	0.145318	0.033553	0.440969	0.001987	0	0.00031	0.002	0.03822	0.002161	0	0.000337	0.008	0.08918	1083.731	133.0723	20.57258	0.005077	0.109892	0.018805	0.009942	0.002898	0.036006	0.021298	0.384876	0.092353	0.095204	0.589436	0.019579	0.036144	0.031078	0.56161	0.101115	0.095204	0.589436	0.019579	0.036144	0.403421	3.768218	1.582332	0.010724	0.001317	0.000204
Santa Clara	2026	LHDT2	Aggregate	Aggregate	Diesel	5304.447	185191.7	66723.26	0.80174	1.652316	0	0.01903	0.027033	0	0.003	0.03822	0.01989	0.028255	0	0.012	0.08918	574.2945	202.2523	0	0.006455	0.005098	0	0.090271	0.031791	0	0.138973	0.10976	0	0	0	0	0	0.158212	0.124954	0	0	0	0	0	0.59759	0.909745	0	0.005429	0.001912	0
Santa Clara	2026	MCY	Aggregate	Aggregate	Gasoline	35953.12	246713	71906.25	1.142407	0	0.270461	0.001924	0	0.002748	0.001	0.00504	0.002061	0	0.002929	0.004	0.01176	209.9417	0	60.16678	0.322636	0	0.251748	0.06583	0	0.015364	2.163162	0	1.911911	0.658739	1.752085	0.964052	1.796069	2.697331	0	2.081516	0.658739	1.752085	0.964052	1.796069	18.16544	0	9.112103	0.002078	0	0.000595
Santa Clara	2026	MDV	Aggregate	Aggregate	Gasoline	162018.4	4957363	750433	0.056427	0	0.253115	0.001168	0	0.001607	0.002	0.01575	0.001271	0	0.001748	0.008	0.03675	345.9595	0	75.91844	0.002781	0	0.062361	0.005221	0	0.028648	0.011068	0	0.29528	0.122339	0.415764	0.302987	0.308674	0.016149	0	0.323295	0.122339	0.415764	0.302987	0.308674	0.699315	0	2.804675	0.003424	0	0.000751
Santa Clara	2026	MDV	Aggregate	Aggregate	Diesel	4789.871	158691.3	22971.85	0.025016	0	0	0.003022	0	0	0.002	0.01575	0.003159	0	0	0.008	0.03675	322.1951	0	0	0.000375	0	0	0.050645	0	0	0.008076	0	0	0	0	0	0	0.009194	0	0	0	0	0	0	0.17154	0	0	0.003046	0	0
Santa Clara	2026	MDV	Aggregate	Aggregate	Electricity	3176.215	92681.92	15973.91	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2026	MH	Aggregate	Aggregate	Gasoline	2786.201	25915.09	278.7315	0.25296	0	0.339641	0.001408	0	0.000312	0.003	0.05586	0.001531	0	0.00034	0.012	0.13034	1639.481	0	24.24107	0.008941	0	0.029975	0.018592	0	0.037661	0.035657	0	0.119443	0.063018	1.433405	0.027247	0.073774	0.05203	0	0.130775	0.063018	1.433405	0.027247	0.073774	0.815894	0	2.636102	0.016224	0	0.00024
Santa Clara	2026	MH	Aggregate	Aggregate	Diesel	1151.648	10425.3	115.1648	3.596484	0	0	0.063829	0	0	0.004	0.05586	0.066715	0	0	0.016	0.13034	964.1862	0	0	0.004499	0	0	0.151557	0	0	0.096864	0	0	0	0	0	0	0.110273	0	0	0	0	0	0	0.328457	0	0	0.009115	0	0
Santa Clara	2026	MHDT	Aggregate	Aggregate	Gasoline	1687.725	86801.44	33768.01	0.226062	0.089038	0.342531	0.00127	0	0.000413	0.003	0.05586	0.001382	0	0.000449	0.012	0.13034	1607.82	503.7098	35.57567	0.007011	0.273723	0.034894	0.013789	0.008178	0.029559	0.032131	1.02093	0.179349	0.064867	0.352453	0.014504	0.026884	0.046886	1.489739	0.196365	0.064867	0.352453	0.014504	0.026884	0.704545	15.21187	3.914871	0.015911	0.004985	0.000352
Santa Clara	2026	MHDT	Aggregate	Aggregate	Diesel	10254.12	577160.2	101941.7	1.628767	5.068172	2.147618	0.007577	0.00351	0	0.003	0.05586	0.007919	0.003668	0	0.012	0.13034	967.4707	838.5754	0	0.00052	0.003382	0	0.152073	0.131812	0	0.011192	0.072819	0	0	0	0	0	0.012741	0.082899	0	0	0	0	0	0.116231	2.729189	0	0.00914	0.007922	0
Santa Clara	2026	OBUS	Aggregate	Aggregate	Gasoline	507.9074	22731.23	10162.21	0.292264	0.065184	0.313239	0.001097	0	0.000236	0.003	0.05586	0.001193	0	0.000256	0.012	0.13034	1652.302	361.5422	24.97816	0.008515	0.201911	0.028115	0.016502	0.005795	0.026094	0.039151	0.748116	0.143279	0.027364	0.310267	0.016664	0.036978	0.057129	1.09165	0.156872	0.027364	0.310267	0.016664	0.036978	0.834386	5.785715	2.984205	0.016351	0.003578	0.000247
Santa Clara	2026	OBUS	Aggregate	Aggregate	Diesel	796.7643	52087.07	7352.266	1.959254	8.776183	2.213983	0.009877	0.002762	0	0.003	0.05586	0.010324	0.002887	0	0.012	0.13034	1122.18	1865.346	0	0.000584	0.026755	0	0.176391	0.293206	0	0.012574	0.576038	0	0	0	0	0	0.014314	0.655776	0	0	0	0	0	0.144399	9.689916	0	0.010602	0.017623	0
Santa Clara	2026	SBUS	Aggregate	Aggregate	Gasoline	305.0164	13306.38	1220.066	0.347767	0.925925	0.597767	0.00119	0	0.000524	0.002	0.3192	0.001294	0	0.00057	0.008	0.7448	833.8886	2496.465	46.34384	0.008421	2.440565	0.056313	0.021096	0.088976	0.055917	0.041057	10.63268	0.320756	0.065141	0.427694	0.012263	0.026924	0.059911	15.51518	0.351188	0.065141	0.427694	0.012263	0.026924	0.883814	82.1872	7.947598	0.008252	0.024705	0.000459
Santa Clara	2026	SBUS	Aggregate	Aggregate	Diesel	1004.235	31497.44	11588.73	5.783794	41.00653	0.989807	0.036341	0.03731	0	0.003	0.3192	0.037984	0.038997	0	0.012	0.7448	1106.109	3641.859	0	0.004224	0.012401	0	0.173865	0.57245	0	0.090951	0.266981	0	0	0	0	0	0.10354	0.303937	0	0	0	0	0	0.265493	6.63799	0	0.01045	0.034406	0
Santa Clara	2026	UBUS	Aggregate	Aggregate	Gasoline	8.434703	1061.776	33.73881	0.23219	0	0.781025	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.429	0	88.80542	0.006971	0	0.111797	0.02141	0	0.072132	0.022728	0	0.468399	0.016436	0.092409	0.003318	0.006895	0.033164	0	0.512838	0.016436	0.092409	0.003318	0.006895	0.322483	0	8.852622	0.01936	0	0.000879
Santa Clara	2026	UBUS	Aggregate	Aggregate	Diesel	404.8528	43393.97	1619.411	0.799803	0	0	0.005629	0	0	0.008352	0.029636	0.005884	0	0	0.033407	0.06915	1509.977	0	0	0.076902	0	0	0.237347	0	0	0.001099	0	0	0	0	0	0	0.078484	0	0	0	0	0	0	0.130458	0	0	0.014275	0	0
Santa Clara	2026	UBUS	Aggregate	Aggregate	Natural Ga	123.3704	15521.01	493.4817	0.495108	0	0	0.003218	0	0	0.008639	0.028227	0.003363	0	0	0.034558	0.065863	2036.46	0	0	6.510688	0	0	0.415146	0	0	0.093025	0	0	0	0	0	0	6.644635	0	0	0	0	0	0	50.63551	0	0	0	0	0
Santa Clara	2030	HHDT	Aggregate	Aggregate	Gasoline	6.644908	846.0095	132.9513	2.895279	0	0.044486	0.001084	0	0.000414	0.005	0.02646	0.001179	0	0.00045	0.02	0.06174	1677.599	0	40.07141	0.06849	0	0.000337	0.127319	0	0.001575	0.302922	0	0.001761	0.044849	0.220711	0.012382	0.020645	0.442024	0	0.001928	0.044849	0.220711	0.012382	0.020645	28.21474	0	5.186707	0.016601	0	0.000397
Santa Clara	2030	HHDT	Aggregate	Aggregate	Diesel	9431.66	1177485	101453.9	2.539781	56.05241	2.353151	0.023044	0.021785	0	0.008907	0.026186	0.024086	0.02277	0	0.035627	0.061101	1202.821	10016.29	0	0.001063	0.214358	0	0.189067	1.574421	0	0.022896	4.615071	0	0	0	0	0	0.026066	5.253907	0	0	0	0	0	0.238872	67.80499	0	0.011364	0.094629	0
Santa Clara	2030	HHDT	Aggregate	Aggregate	Natural Ga	400.4237	16329.01	1561.653	0.881174	19.09434	0	0.003462	0.015749	0	0.009	0.02646	0.003619	0.016461	0	0.036	0.06174	2899.524	3653.632	0	3.225286	1.19295	0	0.591087	0.744817	0	0.090199	0.028054	0	0	0	0	0	3.341906	1.230036	0	0	0	0	0	11.01311	21.88788	0	0	0	0
Santa Clara	2030	LDA	Aggregate	Aggregate	Gasoline	869969.1	28403709	4092414	0.020358	0	0.132956	0.000879	0	0.001249	0.002	0.01575	0.000956	0	0.001359	0.008	0.03675	211.6944	0	44.94162	0.001023	0	0.030835	0.003085	0	0.020493	0.003388	0	0.12606	0.065117	0.180811	0.11416	0.123291	0.004944	0	0.13802	0.065117	0.180811	0.11416	0.123291	0.43107	0	1.801842	0.002095	0	0.000445
Santa Clara	2030	LDA	Aggregate	Aggregate	Diesel	10023.63	337674.2	47693.27	0.01676	0	0	0.001829	0	0	0.002	0.01575	0.001912	0	0	0.008	0.03675	166.1368	0	0	0.000273	0	0	0.026114	0	0	0.005885	0	0	0	0	0	0	0.006699	0	0	0	0	0	0	0.146966	0	0	0.001571	0	0
Santa Clara	2030	LDA	Aggregate	Aggregate	Electricity	46172.96	1625146	221619.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2030	LDT1	Aggregate	Aggregate	Gasoline	88972.38	2670256	412660.2	0.034308	0	0.154254	0.000998	0	0.001379	0.002	0.01575	0.001085	0	0.001499	0.008	0.03675	248.8135	0	52.89319	0.001722	0	0.036164	0.003879	0	0.021779	0.00667	0	0.15755	0.095382	0.371981	0.194977	0.219194	0.009733	0	0.172497	0.095382	0.371981	0.194977	0.219194	0.548445	0	1.868724	0.002462	0	0.000523
Santa Clara	2030	LDT1	Aggregate	Aggregate	Diesel	12.41764	352.1646	54.72798	0.189506	0	0	0.017188	0	0	0.002	0.01575	0.017965	0	0	0.008	0.03675	322.0531	0	0	0.001569	0	0	0.050622	0	0	0.033785	0	0	0	0	0	0	0.038462	0	0	0	0	0	0	0.286183	0	0	0.003045	0	0
Santa Clara	2030	LDT1	Aggregate	Aggregate	Electricity	2180.044	81488.93	10672.84	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2030	LDT2	Aggregate	Aggregate	Gasoline	281546.9	8446247	1307139	0.035247	0	0.174198	0.000925	0	0.001282	0.002	0.01575	0.001006	0	0.001394	0.008	0.03675	256.344	0	55.96845	0.00178	0	0.043514	0.003847	0	0.023481	0.006634	0	0.189401	0.09208	0.348635	0.233116	0.234964	0.00968	0	0.20737	0.09208	0.348635	0.233116	0.234964	0.568541	0	2.344012	0.002537	0	0.000554
Santa Clara	2030	LDT2	Aggregate	Aggregate	Diesel	2576.298	81354.46	12261.45	0.02908	0	0	0.003937	0	0	0.002	0.01575	0.004115	0	0	0.008	0.03675	226.4921	0	0	0.000595	0	0	0.035601	0	0	0.01282	0	0	0	0	0	0	0.014595	0	0	0	0	0	0	0.129762	0	0	0.002141	0	0
Santa Clara	2030	LDT2	Aggregate	Aggregate	Electricity	8320.478	213767.2	40645.17	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2030	LHDT1	Aggregate	Aggregate	Gasoline	17444.25	563109.1	259893.3	0.098098	0.030587	0.387515	0.002081	0	0.000333	0.002	0.03276	0.002264	0	0.000362	0.008	0.07644	897.5407	110.5325	17.36665	0.004317	0.101968	0.015524	0.006844	0.002802	0.033538	0.018245	0.350811	0.075233	0.094381	0.739315	0.019801	0.035959	0.026623	0.511903	0.082371	0.094381	0.739315	0.019801	0.035959	0.368714	3.768698	1.531971	0.008882	0.001094	0.000172
Santa Clara	2030	LHDT1	Aggregate	Aggregate	Diesel	14887.61	510107.2	187267.4	0.522674	1.343027	0	0.011738	0.026289	0	0.003	0.03276	0.012269	0.027477	0	0.012	0.07644	478.8761	118.3357	0	0.006165	0.005098	0	0.075273	0.018601	0	0.13273	0.10976	0	0	0	0	0	0.151104	0.124954	0	0	0	0	0	0.579164	0.909745	0	0.004527	0.001119	0
Santa Clara	2030	LHDT2	Aggregate	Aggregate	Gasoline	2535.293	81915.35	37772.09	0.091162	0.030032	0.379653	0.001975	0	0.000297	0.002	0.03822	0.002148	0	0.000323	0.008	0.08918	1021.816	126.3902	19.57212	0.00327	0.10112	0.014626	0.00699	0.00275	0.032936	0.012455	0.344716	0.06918	0.074032	0.436992	0.016932	0.02908	0.018175	0.503009	0.075743	0.074032	0.436992	0.016932	0.02908	0.249204	3.775612	1.472175	0.010112	0.001251	0.000194
Santa Clara	2030	LHDT2	Aggregate	Aggregate	Diesel	6126.051	201454.9	77058.01	0.503536	1.378592	0	0.017789	0.026933	0	0.003	0.03822	0.018593	0.028151	0	0.012	0.08918	540.7481	191.3797	0	0.006181	0.005098	0	0.084998	0.030082	0	0.133066	0.10976	0	0	0	0	0	0.151486	0.124954	0	0	0	0	0	0.586662	0.909745	0	0.005112	0.001809	0
Santa Clara	2030	MCY	Aggregate	Aggregate	Gasoline	38839.87	253703.2	77679.74	1.137409	0	0.270173	0.001994	0	0.002676	0.001	0.00504	0.002138	0	0.002862	0.004	0.01176	209.7572	0	59.22586	0.319087	0	0.24786	0.065566	0	0.015364	2.128511	0	1.877593	0.631299	1.487321	0.946881	1.786807	2.666273	0	2.04481	0.631299	1.487321	0.946881	1.786807	17.60732	0	9.199577	0.002076	0	0.000586
Santa Clara	2030	MDV	Aggregate	Aggregate	Gasoline	173606	5113918	803848	0.03715	0	0.190209	0.00093	0	0.001318	0.002	0.01575	0.001012	0	0.001433	0.008	0.03675	309.7804	0	67.68816	0.001872	0	0.04685	0.004005	0	0.024192	0.007071	0	0.21174	0.103941	0.361114	0.278651	0.281249	0.010317	0	0.231829	0.103941	0.361114	0.278651	0.281249	0.571385	0	2.441594	0.003066	0	0.00067
Santa Clara	2030	MDV	Aggregate	Aggregate	Diesel	5652.323	175214.3	26820.46	0.016338	0	0	0.001999	0	0	0.002	0.01575	0.00209	0	0	0.008	0.03675	295.1303	0	0	0.000296	0	0	0.04639	0	0	0.006382	0	0	0	0	0	0	0.007265	0	0	0	0	0	0	0.160558	0	0	0.00279	0	0
Santa Clara	2030	MDV	Aggregate	Aggregate	Electricity	5412.776	143464.5	26723.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
Santa Clara	2030	MH	Aggregate	Aggregate	Gasoline	2781.183	26082.35	278.2296	0.161957	0	0.344848	0.001294	0	0.000284	0.003	0.05586	0.001408	0	0.000309	0.012	0.13034	1534.746	0	22.64387	0.005412	0	0.028477	0.014768	0	0.039513	0.01789	0	0.108156	0.041368	0.780207	0.020421	0.050661	0.026105	0	0.118417	0.041368	0.780207	0.020421	0.050661	0.321425	0	2.382509	0.015188	0	0.000224
Santa Clara	2030	MH	Aggregate	Aggregate	Diesel	1271.562	11026.54	127.1562	3.194675	0	0	0.048471	0	0	0.004	0.05586	0.050662	0	0	0.016	0.13034	913.8987	0	0	0.004117	0	0	0.143652	0	0	0.088635	0	0	0	0	0	0	0.100905	0	0	0	0	0	0	0.288665	0	0	0.00864	0	0
Santa Clara	2030	MHDT	Aggregate	Aggregate	Gasoline	1942.274	96462.8	38861.02	0.137179	0.089333	0.328382	0.001276	0	0.000397	0.003	0.05586	0.001388	0	0.000432	0.012	0.13034	1512.526	477.0555	33.02741	0.004329	0.277482	0.032379	0.010371	0.008413	0.029895	0.018098	1.025296	0.159937	0.053505	0.276198	0.013009	0.02236	0.026409	1.49611	0.175111	0.053505	0.276198	0.013009	0.02236	0.365535	15.26266	3.370143	0.014968	0.004721	0.000327
Santa Clara	2030	MHDT	Aggregate	Aggregate	Diesel	11245.42	599136.6	111242.1	1.636194	4.546441	2.164606	0.007568	0.002068	0	0.003	0.05586	0.00791	0.002162	0	0.012	0.13034	909.8747	786.5238	0	0.000503	0.003226	0	0.14302	0.123631	0	0.010837	0.069445	0	0	0	0	0	0.012337	0.079058	0	0	0	0	0	0.11784	2.775159	0	0.008596	0.007431	0
Santa Clara	2030	OBUS	Aggregate	Aggregate	Gasoline	521.2442	22324.56	10429.05	0.201397	0.065222	0.308429	0.001191	0	0.000252	0.003	0.05586	0.001295	0	0.000274	0.012	0.13034	1542.791	344.1269	23.61734	0.005871	0.202191	0.026706	0.012891	0.005853	0.026143	0.025703	0.748687	0.134449	0.027407	0.319238	0.017082	0.037276	0.037506	1.092483	0.147204	0.027407	0.319238	0.017082	0.037276	0.529537	5.789149	2.766701	0.015267	0.003405	0.000234
Santa Clara	2030	OBUS	Aggregate	Aggregate	Diesel	845.8557	51263.29	7867.551	1.991442	9.302951	2.216948	0.010285	0.002947	0	0.003	0.05586	0.01075	0.003081	0	0.012	0.13034	1066.293	1893.973	0	0.000596	0.028932	0	0.167606	0.297706	0	0.012842	0.6229	0	0	0	0	0	0.01462	0.709124	0	0	0	0	0	0.14672	10.36618	0	0.010074	0.017893	0
Santa Clara	2030	SBUS	Aggregate	Aggregate	Gasoline	362.3014	15198.78	1449.205	0.285961	0.92653	0.616868	0.001215	0	0.000547	0.002	0.3192	0.001322	0	0.000595	0.008	0.7448	803.9675	2414.339	44.56576	0.00626	2.435971	0.055823	0.018735	0.089714	0.057177	0.030067	10.64152	0.317303	0.073145	0.474779	0.014584	0.030637	0.043873	15.52808	0.347407	0.073145	0.474779	0.014584	0.030637	0.649967	82.24088	7.563743	0.007956	0.023892	0.000441
Santa Clara	2030	SBUS	Aggregate	Aggregate	Diesel	980.5629	30722.11	11315.56	4.472027	34.94152	1.257143	0.029756	0.025511	0	0.003	0.3192	0.031102	0.026664	0	0.012	0.7448	1052.894	3501.127	0	0.003486	0.012263	0	0.1655	0.550328	0	0.075046	0.264022	0	0	0	0	0	0.085434	0.300569	0	0	0	0	0	0.238791	7.720739	0	0.009947	0.033077	0
Santa Clara	2030	UBUS	Aggregate	Aggregate	Gasoline	8.45001	1063.703	33.80004	0.336697	0	0.964336	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.157	0	89.19596	0.006892	0	0.139066	0.027885	0	0.079916	0.022728	0	0.589249	0.05182	0.313542	0.009109	0.015639	0.033164	0	0.645153	0.05182	0.313542	0.009109	0.015639	0.405122	0	8.852622	0.019358	0	0.000883
Santa Clara	2030	UBUS	Aggregate	Aggregate	Diesel	376.8943	42036.62	1507.577	0.804174	0	0	0.005656	0	0	0.008428	0.029265	0.005912	0	0	0.03371	0.068284	1523.264	0	0	0.077448	0	0	0.239436	0	0	0.001107	0	0	0	0	0	0	0.079041	0	0	0	0	0	0	0.131472	0	0	0.0144	0	0
Santa Clara	2030	UBUS	Aggregate	Aggregate	Natural Ga	152.2876	16985.28	609.1502	0.487691	0	0	0.003174	0	0	0.008428	0.029265	0.003317	0	0	0.03371	0.068284	2010.534	0	0	6.385838	0	0	0.40986	0	0	0.091241	0	0	0	0	0	0	6.517216	0	0	0	0	0	0	49.56612	0	0	0	0	0

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

Project Construction

Almaden Office Buildings, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Emissions per Point Source (g/s)
2021	Construction	0.1749	Point	103	349.7	0.07985	1.01E-02	9.77E-05
2022	Construction	0.0912	Point	103	182.5	0.04166	5.25E-03	5.10E-05
2023	Construction	0.1605	Point	103	321.1	0.07331	9.24E-03	8.97E-05
2024	Construction	0.1216	Point	103	243.3	0.05554	7.00E-03	6.79E-05
2025	Construction	0.0042	Point	103	8.4	0.00193	2.43E-04	2.36E-06
Total		***0.5525***			***1096.58***	***0.25***	***0.03***	

hr/day =	12	(7am - 7pm)
days/yr =	365	
hours/year =	4380	

PM2.5 Fugitive Dust Construction Emissions for Modeling

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	Emission Rate $g/s/m^2$
2021	Construction	CON_FUG	0.622	1243.5	0.28390	3.58E-02	14,849	2.41E-06
2022	Construction	CON_FUG	0.318	636.4	0.14529	1.83E-02	14,849	1.23E-06
2023	Construction	CON_FUG	0.006	12.0	0.00273	3.45E-04	14,849	2.32E-08
2024	Construction	CON_FUG	0.006	12.0	0.00273	3.45E-04	14,849	2.32E-08
2025	Construction	CON_FUG	0.001	1.8	0.00041	5.19E-05	14,850	3.50E-09
Total			***0.953***	***1879.9***	***0.4292***	***0.0541***		

hr/day =	12	(7am - 7pm)
days/yr =	365	
hours/year =	4380	

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Emissions per Point Source (g/s)
2021	Construction	0.0159	Point	103	31.8	0.00726	9.15E-04	8.89E-06
2022	Construction	0.0150	Point	103	30.1	0.00687	8.66E-04	8.40E-06
2023	Construction	0.0147	Point	103	29.3	0.00670	8.44E-04	8.19E-06
2024	Construction	0.0148	Point	103	29.5	0.00674	8.49E-04	8.24E-06
2025	Construction	0.0017	Point	103	3.5	0.00079	1.00E-04	9.71E-07
Total		***0.0621***			***120.75***	***0.03***	***0.00***	

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

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

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	Emission Rate $g/s/m^2$
2021	Construction	CON_FUG	0.126	252.1	0.05755	7.25E-03	14,849	4.88E-07
2022	Construction	CON_FUG	0.067	133.8	0.03054	3.85E-03	14,849	2.59E-07
2023	Construction	CON_FUG	0.006	12.0	0.00273	3.45E-04	14,849	2.32E-08
2024	Construction	CON_FUG	0.006	12.0	0.00273	3.45E-04	14,849	2.32E-08
2025	Construction	CON_FUG	0.001	1.8	0.00041	5.19E-05	14,850	3.50E-09
Total			***0.206***	***385.9***	***0.0881***	***0.0111***		

hr/day = 12 (7am - 7pm)
days/yr = 365
hours/year = 4380

YEAR	Unmitigated DPM	DPM EMFAC2017	Unmitigated Emissions	Mitigated DPM	DPM EMFAC2017	Mitigated Emissions
	DPM					
2021	0.162	0.013	0.175	0.006	0.010	0.016
2022	0.080	0.011	0.091	0.004	0.011	0.015
2023	0.150	0.010	0.161	0.004	0.010	0.015
2024	0.111	0.010	0.122	0.005	0.010	0.015
2025	0.003	0.002	0.004	0.000	0.002	0.002
	Fugitive PM2.5					
	Unmitigated Fug PM2.5	Fug PM2.5 EMFAC2017	Unmitigated Emissions	Mitigated Fug PM2.5	Fug PM2.5 EMFAC2017	Mitigated Emissions
2021	0.616	0.006	0.622	0.120	0.006	0.126
2022	0.312	0.006	0.318	0.061	0.006	0.067
2023	0.000	0.006	0.006	0.000	0.006	0.006
2024	0.000	0.006	0.006	0.000	0.006	0.006
2025	0.000	0.001	0.001	0.000	0.001	0.001

Almaden Office Buildings, San Jose, CA
Construction Health Impacts Summary

Maximum Impacts at Construction MEI Location - Unmitigated

Emissions Year	Maximum Concentrations Exhaust PM10/DPM (μg/m^3)	Maximum Concentrations Fugitive PM2.5 (μg/m^3)	Cancer Risk (per million) Child	Cancer Risk (per million) Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration (μg/m^3)
2021	0.2278	2.0426	40.51	0.65	0.046	2.27
2022	0.1189	1.0425	19.52	0.34	0.024	1.16
2023	0.2092	0.0197	5.41	0.60	0.042	0.23
2024	0.1585	0.0197	4.10	0.45	0.032	0.18
2025	0.0055	0.0030	0.14	0.02	0.001	0.01
Total	-	-	**69.7**	**2.1**	-	-
Maximum	0.2278	2.0426	**-**	**-**	**0.05**	**2.27**
BAAQMD THRESHOLD			>10.0	>10.0	>1.0	>0.3

Maximum Impacts at Construction MEI Location - With Mitigation

Emissions Year	Maximum Concentrations Exhaust PM10/DPM (μg/m^3)	Maximum Concentrations Fugitive PM2.5 (μg/m^3)	Cancer Risk (per million) Child	Cancer Risk (per million) Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration (μg/m^3)
2021	0.0207	0.4136	3.69	0.06	0.004	0.43
2022	0.0196	0.2195	3.22	0.06	0.004	0.24
2023	0.0191	0.0197	0.49	0.05	0.004	0.04
2024	0.0192	0.0197	0.50	0.06	0.004	0.04
2025	0.0023	0.0030	0.06	0.01	0.000	0.01
Total	-	-	**8.0**	**0.2**	-	-
Maximum	0.0207	0.4136	**-**	**-**	**0.00**	**0.43**
BAAQMD THRESHOLD			*>10.0*	*>10.0*	*>1.0*	*>0.3*

Almaden Office Buildings, San Jose, CA
Maximum DPM Cancer Risk Calculations From Construction - Unmitigated Emissions
Impacts at Off-Site Receptors-5 feet 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

Exposure Year	**Exposure Duration (years)**	**Age**	**Infant/Child - Exposure Information DPM Conc (ug/m3) Year**	**Annual**	**Age Sensitivity Factor**	**Infant/Child Cancer Risk (per million)**	**Adult - Exposure Information Modeled DPM Conc (ug/m3) Year**	**Annual**	**Age Sensitivity Factor**	**Adult Cancer Risk (per million)**
0	0.25	-0.25 - 0*	2021	0.2278	10	3.10	2021	0.2278	-	-
1	1	0 - 1	2021	0.2278	10	37.42	2021	0.2278	1	0.65
2	1	1 - 2	2022	0.1189	10	19.52	2022	0.1189	1	0.34
3	1	2 - 3	2023	0.2092	3	5.41	2023	0.2092	1	0.60
4	1	3 - 4	2024	0.1585	3	4.10	2024	0.1585	1	0.45
5	1	4 - 5	2025	0.0055	3	0.14	2025	0.0055	1	0.02
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						**69.7**				**2.07**

* Third trimester of pregnancy

Hazard Index	**Maximum Fugitive PM2.5**	**Total PM2.5**
0.05	**2.04**	**2.27**
0.05	2.04	2.27
0.02	1.04	1.16
0.04	0.02	0.23
0.03	0.02	0.18
0.00	0.00	0.01

Almaden Office Buildings, San Jose, CA
Maximum DPM Cancer Risk Calculations From Construction - Mitigated Emissions
Impacts at Off-Site Receptors - 5 Feet

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

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

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

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

Values

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			**Infant/Child**	**Adult - Exposure Information**			**Adult**
	Exposure				**Age**	**Cancer**	**Modeled**		**Age**	**Cancer**
Exposure	**Duration**		**DPM Conc (ug/m3)**		**Sensitivity**	**Risk**	**DPM Conc (ug/m3)**		**Sensitivity**	**Risk**
Year	**(years)**	**Age**	**Year**	**Annual**	**Factor**	**(per million)**	**Year**	**Annual**	**Factor**	**(per million)**
0	0.25	-0.25 - 0*	2021	0.0207	10	0.28	2021	0.0207	-	-
1	1	0 - 1	2021	0.0207	10	3.40	2021	0.0207	1	0.06
2	1	1 - 2	2022	0.0196	10	3.22	2022	0.0196	1	0.06
3	1	2 - 3	2023	0.0191	3	0.49	2023	0.0191	1	0.05
4	1	3 - 4	2024	0.0192	3	0.50	2024	0.0192	1	0.06
5	1	4 - 5	2025	0.0023	3	0.06	2025	0.0023	1	0.01
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						**8.0**				**0.23**

* Third trimester of pregnancy

Hazard Index	**Maximum Fugitive PM2.5**	**Total PM2.5**
0.00	**0.41**	**0.43**
0.00	0.41	0.43
0.00	0.22	0.24
0.00	0.02	0.04
0.00	0.02	0.04
0.00	0.00	0.01

Project Generators

Almaden Offices, San Jose, CA

Standby Emergency Generator Impacts

Off-site Sensitive Receptors

DPM Emission Rates		
	DPM Emissions per Generator	
	Max Daily	Annual
Source Type	(lb/day)	(lb/year)
1x 1500 kW Generator , 2x 720 kW	0.0444	16.20
CalEEMod DPM Emissions	8.10E-03	tons/year

Modeling Information		
Model	AERMOD	
Source	Diesel Generator Engine	
Source Type	Point	
Meteorological Data	2006-2010 BAAQMD San Jose Airport Meteorological Data	
Point Source Stack Parameters		
Generator Engine Size (hp)	1340	
Stack Height (ft)	12.00	near ground level release
Stack Diameter (ft)	0.60	
Exhaust Gas Flowrate (CFM)*	2527.73	
Stack Exit Velocity (ft/sec)**	149.00	
Exhaust Temperature (˚F)**	872.00	
Emissions Rate (lb/hr)	0.001849	

* AERMOD default

**BAAQMD default generator parameters

Almaden Offices, San Jose, CA - Cancer Risks from Project Operation
Project Emergency Generator
Impacts at Off-Site Receptors-1.5 meter receptor height
Impact at Project MEI (25-year Exposure)

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

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

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

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

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

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

	Exposure Year	Exposure Duration (years)	Age	Infant/Child - Exposure Information DPM Conc (ug/m3) Year	Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)
Construction	0	0.25	-0.25 - 0*	2021	0.0000	10	0.00
	1	1	0 - 1	2021	0.0000	10	0.00
	2	1	1 - 2	2022	0.0000	10	0.00
	3	1	2 - 3	2023	0.0000	0	0.00
	4	1	3 - 4	2024	0.0000	0	0.00
	5	1	4 - 5	2025	0.0000	0	0.00
Operation	6	1	5 - 6	2026	0.0090	0	0.00
	7	1	6 - 7	2027	0.0090	0	0.00
	8	1	7 - 8	2028	0.0090	0	0.00
	9	1	8 - 9	2029	0.0090	0	0.00
	10	1	9 - 10	2030	0.0090	3	0.23
	11	1	10 - 11	2031	0.0090	3	0.23
	12	1	11 - 12	2032	0.0090	3	0.23
	13	1	12 - 13	2033	0.0090	3	0.23
	14	1	13 - 14	2034	0.0090	3	0.23
	15	1	14 - 15	2035	0.0090	3	0.23
	16	1	15 - 16	2036	0.0090	3	0.23
	17	1	16-17	2037	0.0090	1	0.03
	18	1	17-18	2038	0.0090	1	0.03
	19	1	18-19	2039	0.0090	1	0.03
	20	1	19-20	2040	0.0090	1	0.03
	21	1	20-21	2041	0.0090	1	0.03
	22	1	21-22	2042	0.0090	1	0.03
	23	1	22-23	2043	0.0090	1	0.03
	24	1	23-24	2044	0.0090	1	0.03
	25	1	24-25	2045	0.0090	1	0.03
	26	1	25-26	2046	0.0090	1	0.03
	27	1	26-27	2047	0.0090	1	0.03
	28	1	27-28	2048	0.0090	1	0.03
	29	1	28-29	2049	0.0090	1	0.03
	30	1	29-30	2050	0.0090	1	0.03
	Total Increased Cancer Risk						**2.0**

* Third trimester of pregnancy

Roadway Screening for Increased Project on Local Roadways

Almaden Office Buildings, San Jose, CA
Roadway Adjustment Factors
Impacts at Off-Site Receptors

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 - 9	2 - 16	16 - 30
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

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

Roadway Cancer Risk by Year

			Infant/Child - Exposure Information			Infant/Child
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk
Year	(years)	Age	Year	Annual	Factor	(per million)
0	0.25	-0.25 - 0*	2021	0.0000	10	0.00
1	1	0 - 1	2021	0.0000	10	0.00
2	1	1 - 2	2022	0.0000	10	0.00
3	1	2 - 3	2023	0.0000	3	0.00
4	1	3 - 4	2024	0.0000	3	0.00
5	1	4 - 5	2025	0.0000	3	0.00
6	1	5 - 6	2026	1.0000	3	25.86
7	1	6 - 7	2027	1.0000	3	25.86
8	1	7 - 8	2028	1.0000	3	25.86
9	1	8 - 9	2029	1.0000	3	25.86
10	1	9 - 10	2030	1.0000	3	25.86
11	1	10 - 11	2031	1.0000	3	25.86
12	1	11 - 12	2032	1.0000	3	25.86
13	1	12 - 13	2033	1.0000	3	25.86
14	1	13 - 14	2034	1.0000	3	25.86
15	1	14 - 15	2035	1.0000	3	25.86
16	1	15 - 16	2036	1.0000	3	25.86
17	1	16-17	2037	1.0000	1	2.87
18	1	17-18	2038	1.0000	1	2.87
19	1	18-19	2039	1.0000	1	2.87
20	1	19-20	2040	1.0000	1	2.87
21	1	20-21	2041	1.0000	1	2.87
22	1	21-22	2042	1.0000	1	2.87
23	1	22-23	2043	1.0000	1	2.87
24	1	23-24	2044	1.0000	1	2.87
25	1	24-25	2045	1.0000	1	2.87
26	1	25-26	2046	1.0000	1	2.87
27	1	26-27	2047	1.0000	1	2.87
28	1	27-28	2048	1.0000	1	2.87
29	1	28-29	2049	1.0000	1	2.87
30	1	29-30	2050	1.0000	1	2.87
Total Increased Cancer Risk						324.63

* Third trimester of pregnancy

Lifetime Roadway Cancer Risk by Year

			Infant/Child - Exposure Information			Infant/Child
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk
Year	(years)	Age	Year	Annual	Factor	(per million)
0	0.25	-0.25 - 0*	2019	1.0000	10	14.18
1	1	0 - 1	2020	1.0000	10	164.25
2	1	1 - 2	2021	1.0000	10	164.25
3	1	2 - 3	2022	1.0000	3	25.86
4	1	3 - 4	2023	1.0000	3	25.86
5	1	4 - 5	2024	1.0000	3	25.86
6	1	5 - 6	2025	1.0000	3	25.86
7	1	6 - 7	2026	1.0000	3	25.86
8	1	7 - 8	2027	1.0000	3	25.86
9	1	8 - 9	2028	1.0000	3	25.86
10	1	9 - 10	2029	1.0000	3	25.86
11	1	10 - 11	2030	1.0000	3	25.86
12	1	11 - 12	2031	1.0000	3	25.86
13	1	12 - 13	2032	1.0000	3	25.86
14	1	13 - 14	2033	1.0000	3	25.86
15	1	14 - 15	2034	1.0000	3	25.86
16	1	15 - 16	2035	1.0000	3	25.86
17	1	16-17	2036	1.0000	1	2.87
18	1	17-18	2037	1.0000	1	2.87
19	1	18-19	2038	1.0000	1	2.87
20	1	19-20	2039	1.0000	1	2.87
21	1	20-21	2040	1.0000	1	2.87
22	1	21-22	2041	1.0000	1	2.87
23	1	22-23	2042	1.0000	1	2.87
24	1	23-24	2043	1.0000	1	2.87
25	1	24-25	2044	1.0000	1	2.87
26	1	25-26	2045	1.0000	1	2.87
27	1	26-27	2046	1.0000	1	2.87
28	1	27-28	2047	1.0000	1	2.87
29	1	28-29	2048	1.0000	1	2.87
30	1	29-30	2049	1.0000	1	2.87
Total Increased Cancer Risk						744.9

Adjusted Cancer Risk	324.6268767
Lifetime Cancer Risk	744.874773
Factor	0.43581403

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara	
Roadway Direction	East-West	
Side of the Roadway	South	
Distance from Roadway	25	feet
Annual Average Daily Traffic (ADT)	5,890	

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.097 (μg/m³)

Cancer Risk

3.81 (per million)

Woz Way

Cumulative plus project volumes from traffic report

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018	Adjusted for Expsoure Duration (25 Years)
2.62	1.14
(per million)	(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light-and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust. 0.44
2. Roadways were modeled using CALINE4 Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara	
Roadway Direction	North-South	
Side of the Roadway	West	
Distance from Roadway	60	feet
Annual Average Daily Traffic (ADT)	3,590	

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.028 (μg/m³)

Cancer Risk

1.40 (per million)

Almaden Boulevard

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018	Adjusted for Expsoure Duration (25 Years)
0.96	0.42
(per million)	(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light-and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust. 0.436
2. Roadways were modeled using CALINE4 Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

- County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.
- Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.
- Side of the Roadway: Identify on which side of the roadway the project is located.
- Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.
- Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara	
Roadway Direction	East-West	
Side of the Roadway	North	
Distance from Roadway	500	feet
Annual Average Daily Traffic (ADT)	3,168	

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.007 (µg/m³)

Cancer Risk

0.40 (per million)

Interstate 280

Cumulative plus project volumes from traffic report

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018	Adjusted for Expsoure Duration (25 Years)
0.28	0.12
(per million)	(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust. 0.44
2. Roadways were modeled using CALINE4 Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

- County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.
- Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.
- Side of the Roadway: Identify on which side of the roadway the project is located.
- Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.
- Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara	
Roadway Direction	North-South	
Side of the Roadway	West	
Distance from Roadway	800	feet
Annual Average Daily Traffic (ADT)	2,112	

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.002 (µg/m³)

Cancer Risk

0.09 (per million)

State Route 87

Cumulative plus project volumes from traffic report

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018	Adjusted for Expsoure Duration (25 Years)
0.06	0.03
(per million)	(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust. 0.44
2. Roadways were modeled using CALINE4 Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Attachment 5: Cumulative Community Risk from Existing TAC Sources

Roadways

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

- County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.
- Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.
- Side of the Roadway: Identify on which side of the roadway the project is located.
- Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.
- Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	West
Distance from Roadway	80 feet
Annual Average Daily Traffic (ADT)	18,610

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.125 (μg/m³)

Cancer Risk

6.19 (per million)

Alamaden Boulevard

Cumulative plus project volumes from traffic report

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

4.25

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

- County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.
- Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.
- Side of the Roadway: Identify on which side of the roadway the project is located.
- Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.
- Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	South
Distance from Roadway	1000 feet
Annual Average Daily Traffic (ADT)	12,705

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.019 (μg/m³)

Cancer Risk

0.77 (per million)

San Carlos Street

Background Traffic Volumes

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

0.53

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

- County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.
- Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.
- Side of the Roadway: Identify on which side of the roadway the project is located.
- Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.
- Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara	
Roadway Direction	East-West	
Side of the Roadway	South	
Distance from Roadway	25	feet
Annual Average Daily Traffic (ADT)	10,730	

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average

0.172 ($\mu g/m^3$)

Cancer Risk

6.77 (per million)

Woz Way

Background Traffic Volumes

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

4.65

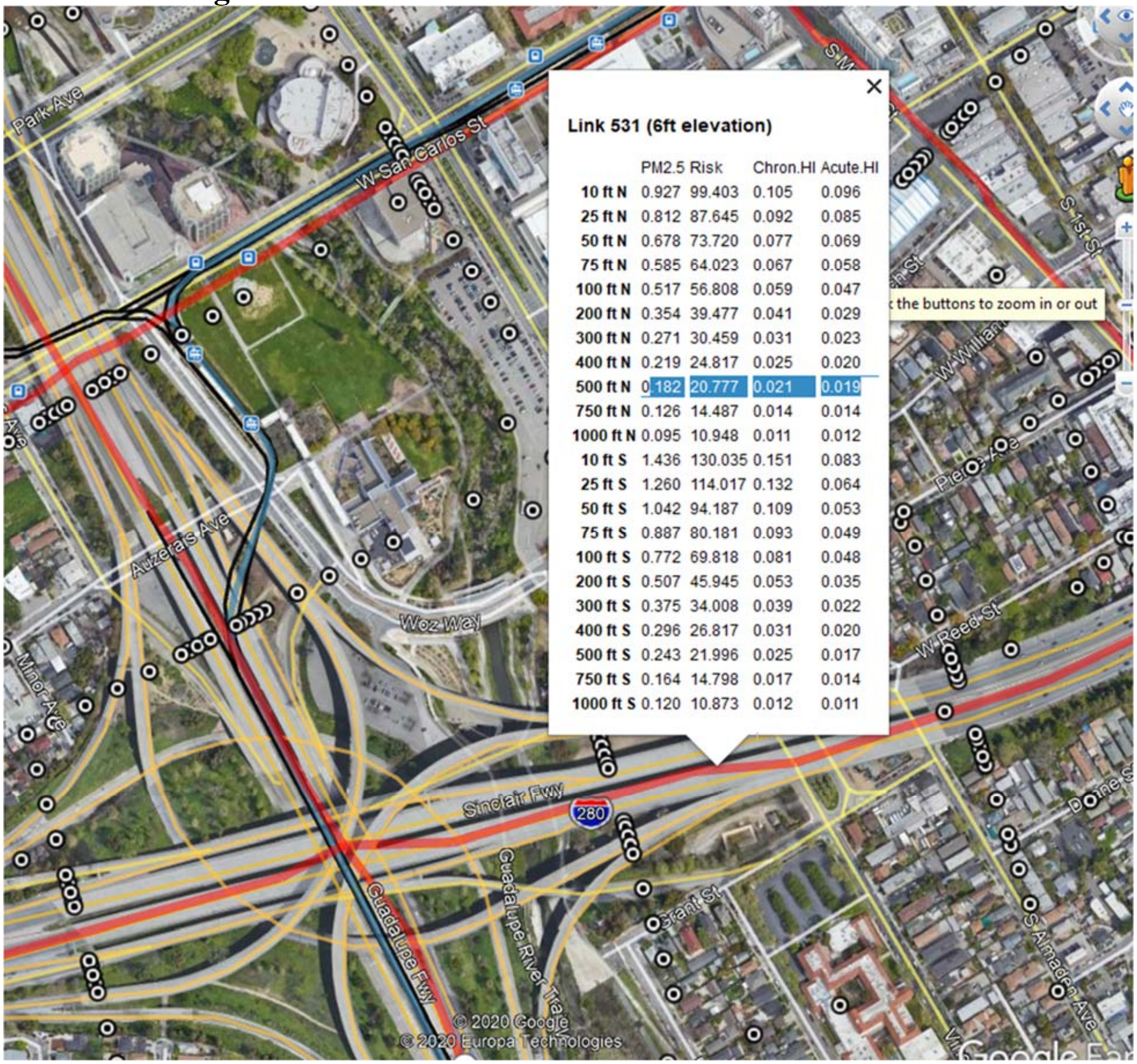
(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

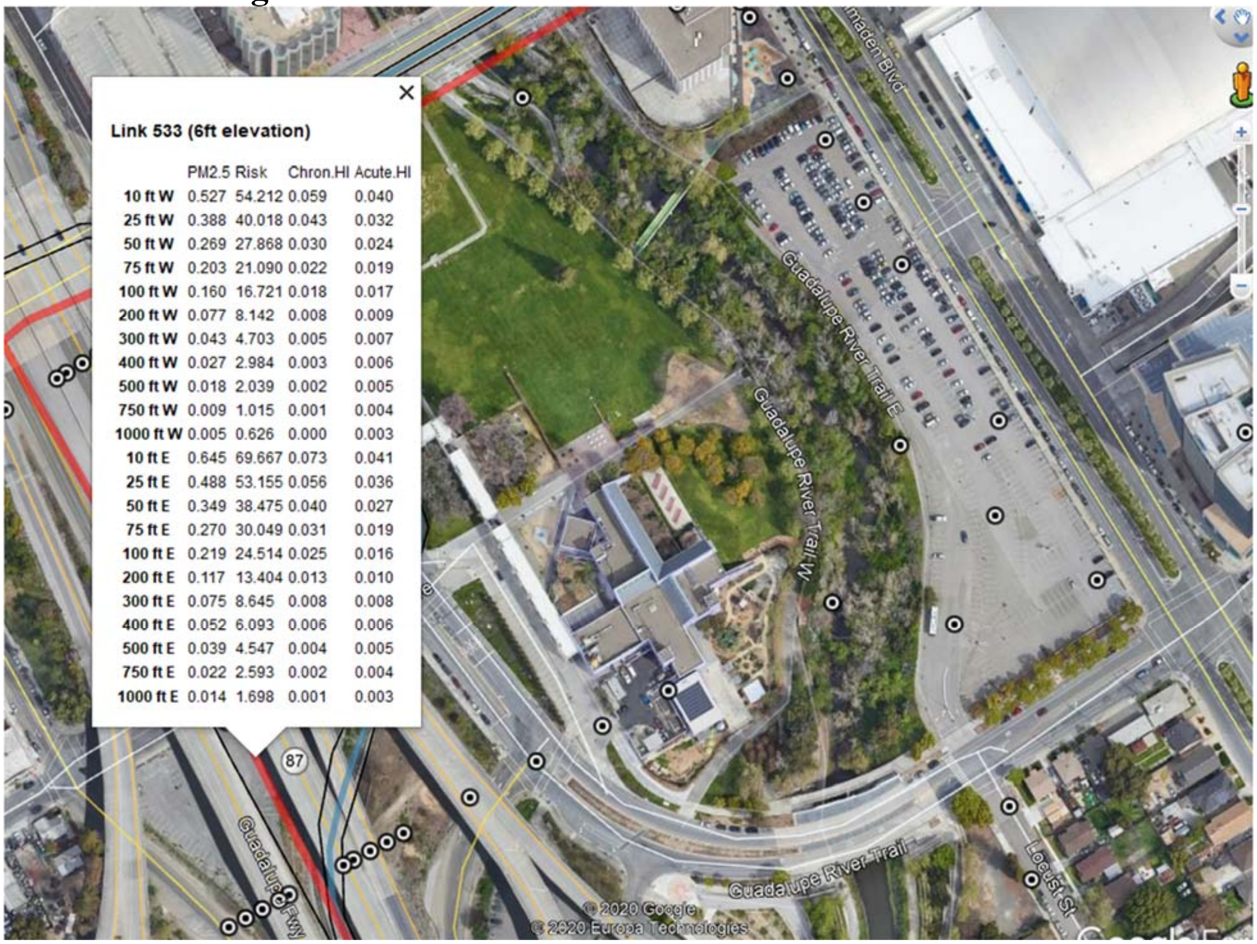
1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

I-280 Screening Tool Risk



	PM2.5	Risk	Chron.HI	Acute.HI
10 ft N	0.927	99.403	0.105	0.096
25 ft N	0.812	87.645	0.092	0.085
50 ft N	0.678	73.720	0.077	0.069
75 ft N	0.585	64.023	0.067	0.058
100 ft N	0.517	56.808	0.059	0.047
200 ft N	0.354	39.477	0.041	0.029
300 ft N	0.271	30.459	0.031	0.023
400 ft N	0.219	24.817	0.025	0.020
500 ft N	0.182	20.777	0.021	0.019
750 ft N	0.126	14.487	0.014	0.014
1000 ft N	0.095	10.948	0.011	0.012
10 ft S	1.436	130.035	0.151	0.083
25 ft S	1.260	114.017	0.132	0.064
50 ft S	1.042	94.187	0.109	0.053
75 ft S	0.887	80.181	0.093	0.049
100 ft S	0.772	69.818	0.081	0.048
200 ft S	0.507	45.945	0.053	0.035
300 ft S	0.375	34.008	0.039	0.022
400 ft S	0.296	26.817	0.031	0.020
500 ft S	0.243	21.996	0.025	0.017
750 ft S	0.164	14.798	0.017	0.014
1000 ft S	0.120	10.873	0.012	0.011

SR-87 Screening Risk



Link 533 (6ft elevation)

	PM2.5	Risk	Chron.HI	Acute.HI
10 ft W	0.527	54.212	0.059	0.040
25 ft W	0.388	40.018	0.043	0.032
50 ft W	0.269	27.868	0.030	0.024
75 ft W	0.203	21.090	0.022	0.019
100 ft W	0.160	16.721	0.018	0.017
200 ft W	0.077	8.142	0.008	0.009
300 ft W	0.043	4.703	0.005	0.007
400 ft W	0.027	2.984	0.003	0.006
500 ft W	0.018	2.039	0.002	0.005
750 ft W	0.009	1.015	0.001	0.004
1000 ft W	0.005	0.626	0.000	0.003
10 ft E	0.645	69.667	0.073	0.041
25 ft E	0.488	53.155	0.056	0.036
50 ft E	0.349	38.475	0.040	0.027
75 ft E	0.270	30.049	0.031	0.019
100 ft E	0.219	24.514	0.025	0.016
200 ft E	0.117	13.404	0.013	0.010
300 ft E	0.075	8.645	0.008	0.008
400 ft E	0.052	6.093	0.006	0.006
500 ft E	0.039	4.547	0.004	0.005
750 ft E	0.022	2.593	0.002	0.004
1000 ft E	0.014	1.698	0.001	0.003

Stationary Sources

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

BAAQMD RESPONSE TO SSIF REQUEST

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	6/4/2019
Contact Name	Mimi McNamara
Affiliation	Illingworth & Rodkin, Inc
Phone	707-753-4561
Email	[illegible]odkin.com
Project Name	Almaden Office Buildings
Address	South of 303 Almaden
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Office
Project Size (# of units or building square feet)	1,250,333-sf
Comments: I would like daily emission files for all the stationary sources listed below	

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

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

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

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

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

5. List the stationary source information Table B blue 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]	FACID (Plant No.)	FNAME	FSTREET	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
TBD	22372	Riverpark Tower II, LLC, a Delaware LLC	300 Park Avenue	4.05	0.01	0.00	S3	Generator		Emissions file attached. Use Health Risk Calculator
TBD	17642	Legacy Partners I Riverpark I, LLC	333 W San Carlos St	41.74	0.02	0.05	S1,S2	Generator (2)		
TBD	13431	San Jose Hilton & Towers	300 Almaden Boulevard	92.46	0.05	0.12	S1	Generator		
TBD	15125	San Jose Marriott Hotel	301 So Market Street	6.59	0.01	0.01	Multiple	Multiple		
TBD	22400	360 Residences c/o Gateway Nathaniel, Inc	360 So Market Street	1.94	0.00	0.00	S1	Generator		
TBD	22565	303 Almaden Fee Owner, LLC	303 Almaden Boulevard	71.32	0.04	0.09	S1, S2	Generator, Fire Pump		
TBD	2060	Dept of Convention & Cultural Affairs-San Jose	408 Almaden Avenue	15.85	0.01	0.02	Multiple	Multiple		
TBD	17018	San Jose Redevelopment Agency	435 So Market Street	5.34	0.01	0.01	S1	Generator		
TBD	20233	Oracle America, Inc c/o Embarcadero Realty Svcs	488 Almaden Boulevard	7.45	0.02	0.01	S1	Generator		
TBD	16533	Children's Discovery Museum	180 Woz Way	3.17	0.00	0.00	S1	Generator		

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
    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.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

ADJUSTED RISK VALUES

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	6/4/2019
Contact Name	Mimi McNamara
Affiliation	Illingworth & Rodkin, Inc
Phone	707-753-4561
Email	mmcnamara@illingworthrodkin.com
Project Name	Almaden Office Buildings
Address	South of 303 Almaden
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Office
Project Size (# of units or building square feet)	1,250,333-sf
Comments: I would like daily emission files for all the stationary sources listed below	

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

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

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

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

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

5. List the stationary source information in Table B blue 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]	FACID (Plant No.)	FNAME	FSTREET	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments
TBD	22372	Riverpark Tower II, LLC, a Delaware LLC	300 Park Avenue	4.05	0.01	0.00		Generator		
TBD	17642	Legacy Partners I Riverpark I, LLC	333 W San Carlos St	41.74	0.02	0.05		Generator		
TBD	13431	San Jose Hilton & Towers	300 Almaden Boulevard	92.46	0.05	0.12		Generator		
TBD	15125	San Jose Marriott Hotel	301 So Market Street	6.59	0.01	0.01		Generator		
TBD	22400	360 Residences c/o Gateway Nathaniel, Inc	360 So Market Street	1.94	0.00	0.00		Generator		
TBD	22565	303 Almaden Fee Owner, LLC	303 Almaden Boulevard	71.32	0.04	0.09		Generator		
TBD	2060	Dept of Convention & Cultural Affairs-San Jose	408 Almaden Avenue	15.85	0.01	0.02		Generator		
TBD	17018	San Jose Redevelopment Agency	435 So Market Street	5.34	0.01	0.01		Generator		
TBD	20233	Oracle America, Inc c/o Embarcadero Realty Svcs	488 Almaden Boulevard	7.45	0.02	0.01		Generator		
TBD	16533	Children's Discovery Museum	180 Woz Way	3.17	0.00	0.00		Generator		

MEI Distance	Maximum Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
MEI at 1,000 feet (300 meters)	0.15	<0.01	<0.01
MEI at 1,000 feet (300 meters)	0.22	<0.01	<0.01
MEI at 1,000 feet (300 meters)	0.33	<0.01	<0.01
MEI at 1,000 feet (300 meters)	0.1	0.01	0.01
MEI at 1,000 feet (300 meters)	<0.1	<0.01	<0.01
MEI at 1,000 feet (300 meters)	0.15	<0.01	<0.01
MEI at 530 feet (160 meters)	3.3	0.19	0.01
MEI at 680 feet (200 meters)	<0.1	<0.01	<0.01
MEI at 195 feet (60 meters)	6.7	0.01	<0.01
MEI at 585 feet (175 meters)	0.03	<0.01	<0.01

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
    - 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.

Attachment 6: Resumes of Report Preparers

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality

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Cotati, California 94931

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MIMI MCNAMARA

Ms. McNamara joined Illingworth & Rodkin, Inc in 2018 after graduating from the University of California, Davis with a Bachelor of Science in Environmental Science and Management with an emphasis on Climate Change and Air Quality. While attending Davis, she interned with the Alpha Jet Atmospheric eXperiment (AJAX) at the NASA Ames Research Center in Mountain View where she gained hands on experience collecting and analyzing various atmospheric chemical constituents. This internship along with her classes helped Ms. McNamara develop an interest in analyzing air quality within an urban planning setting.

Since joining I&R, Ms. McNamara has prepared a variety of technical air quality reports in compliance with CEQA for multi-family residences, commercial developments, and hotels. She can model air quality impacts within CalEEMod and analyze community health risk impacts using AERMOD. Additionally, she assists on transportation projects for Caltrans by preparing construction and operational models with RCEM and CT-EMFAC, respectively.

PROFESSIONAL EXPERIENCE

July 2018 to present Staff Consultant	Illingworth & Rodkin, Inc. Cotati, California
June 2017-September 2017, June 2016-August 2016 Instrument Management & Data Analysis Intern	NASA Ames Research Center Alpha Jet Atmospheric eXperiment (AJAX) Moffett Field, California

EDUCATION

2018	University of California, Davis B.S. Environmental Science & Management: Climate Change & Air Quality Focus

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JAMES A. REYFF

Mr. Reyff is a Meteorologist with expertise in the areas of air quality and acoustics. His expertise includes meteorology, air quality emissions estimation, transportation/land use air quality studies, air quality field studies, greenhouse gas studies and environmental noise studies. He is familiar with federal, state and local air quality and noise regulations and has developed effective working relationships with many regulatory agencies.

During the past 31 years, Mr. Reyff has prepared Air Quality Technical Reports for over 20 major Caltrans highway projects and conducted over 300 air quality analyses for other land use development projects. These projects included microscale analyses, calculation of project emissions (e.g., ozone precursor pollutants, fine particulate matter, diesel particulate matter, and greenhouse gases), health risk assessments, and preparation of air quality conformity determinations. Mr. Reyff has advised decisions of federal and local air quality agencies regarding impact assessment methodologies and air quality conformity issues. He has conducted air quality evaluations for specific plans and General Plan updates and advised City and County staff on these topics.

Mr. Reyff has been responsible for a variety of meteorological and air quality field investigations in support of air permitting and compliance determinations. He has conducted air quality analyses of diesel generators in support of regulatory permitting requirements and environmental compliance issues. Mr. Reyff has designed and implemented meteorological and air quality monitoring programs throughout the Western United States including Alaska. Programs include field investigations to characterize baseline levels of air toxics in rural areas, as well as regulatory air quality and meteorological monitoring. He was the Meteorologist involved in a long-term monitoring program at the Port of Oakland that evaluated meteorological conditions and fine particulate matter concentrations in neighborhoods adjacent to the Port.

Mr. Reyff has conducted over 15 major acoustical technical studies for transportation systems. He has managed several research studies for Caltrans including a noise study that evaluated long-range diffraction and reflection of traffic noise from sound walls under different meteorological conditions. Mr. Reyff has also evaluated noise from power plants, quarries and other industrial facilities. He has also been actively involved in research regarding underwater sound effects from construction on fish and marine mammals.

PROFESSIONAL EXPERIENCE

1995-Present — Illingworth & Rodkin, Inc.
Senior Consultant — Cotati, California

1989-1995 — Woodward-Clyde Consultants (URS)
Project Meteorologist — Oakland, California

1988-1989 — Oceanroutes (Weather News)
Post Voyage Route Analyst — Sunnyvale, California

EDUCATION

1986 San Francisco State University
B.S. Major: Geoscience (Meteorology)

PROFESSIONAL SOCIETIES

American Meteorological Society
Institute of Noise Control Engineering

AWARDS

FHWA Environmental Excellence Award – 2005
Caltrans Excellence in Transportation, Environment - 2005