

UPDATE TO THE TASMAN EAST SPECIFIC PLAN AND FEIR – AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

Santa Clara, California

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INTRODUCTION

This report addresses the air quality and health risk impacts associated with buildout of the updated Tasman East Specific Plan (TESP Update or Plan) located in Sunnyvale, California. The air quality impacts from this Plan would be associated with demolition of the existing land uses, construction of the new buildings and infrastructure, and operation of the new land uses. Air pollutants associated with construction are addressed qualitatively since construction information is not known at the detail necessary to predict meaningful impacts. Operational impacts from new buildings and increased traffic were predicted using appropriate emissions models. In addition, the potential health risk impacts from traffic increases were predicted. The impact of existing toxic air contaminant (TAC) sources affecting the new sensitive receptors proposed by the Plan were also evaluated. This report was developed following guidance provided by the Bay Area Air Quality Management District (BAAQMD).¹

PROJECT DESCRIPTION

The City of Santa Clara adopted the Tasman East Specific Plan (TESP) in 2018 for the redevelopment of an industrial area 45 acres in size, bounded by Tasman Drive to the south, the Guadalupe River to the East, the Santa Clara golf course to the north, and Lafayette Street to the west. The TESP created a framework for the development of a high-density transit-oriented neighborhood, along with supportive retail services. TESP lays out allowed uses, densities, height limits and design criteria in the area as well as connections to the existing Guadalupe River trail, potential locations for parkland, and strategies for better access to transit. The Final Environmental Impact Report (FEIR) for the TESP analyzed the development of up to 4,500 dwelling units, approximately 106,000 square feet of retail space (including a 25,000 square foot grocery store) and a 600-student school in the City of Santa Clara.

The City is now proposing to update the TESP to accommodate an additional 1,500 dwelling units, approximately 20,000 square feet of retail, 20,000 square feet of co-working space, and a 10,000 square foot day care. Updated residential densities in the area would range from a minimum of 60 dwelling units per acre (du/ac) on sites less than one acre in size to a minimum of 100 du/ac for sites larger than one acre. Maximum residential densities have not yet been determined for individual properties, but the update to the Specific Plan would support a total maximum of 6,000 new residential units. Buildings in the area would be, at maximum, 220 feet in height. Additional infrastructure could also be included to support the maximum development allowed in the updated TESP.

The increase in allowable development potential provided by this plan update must also be accompanied by an equivalent increase in privately-owned public open space within the 'island', rising from a previously required minimum of 1 acre to a new required minimum of 1.65 acres. The size, shape and location(s) of this public open space will be subject to negotiation with City staff by development proponents in order to achieve a fair distribution of the burden among all property owners in proportion to their parcel sizes.

¹ Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*, May. Web: https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

SETTING

The TESP plan area is located in the City of Santa Clara, in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level that apply to the air basin and the area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}).

Air Pollutants of Concern

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

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM₁₀) and fine particulate matter where particles have a diameter of 2.5 micrometers or less (PM_{2.5}). Elevated concentrations of PM₁₀ and PM_{2.5} are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

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

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This 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. Health risks from TACs are estimated using the Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines, which were published in February of 2015.² See *Attachment 1* for a detailed

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

description of the community risk modeling methodology used in this assessment.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include the most sensitive individuals, infants, and small children. The closest sensitive receptors to the TESP area are those new residents living within the plan area in the new multi-family housing buildings constructed or under construction. However, the impacts to the new project residents were assessed as part of the current TESP FEIR. Additional sensitive receptors are located in multi-story, multi-family residential developments at further distances, across Tasman Drive.

Regulatory Setting

Federal Regulations

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

In the past decade, the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_x and particulate matter (PM_{2.5}) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_x emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.³

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

³ USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

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

State Regulations

To address the issue of diesel emissions in the state, CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*.⁴ A significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment in addition to requiring more stringent emission standards for new on-road mobile, non-road (or off-road) mobile, and stationary diesel-fueled engine sources to reduce particulate matter emissions by 90 percent. Many Plan measures have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, and adoption of regulations for low sulfur fuel in California.

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

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

Local Air District Guidance, Rules, and Regulations

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

⁴ California Air Resources Board, 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October.

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

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 current 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 (GHG) emissions.

Community Air Risk Evaluation 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.⁵ The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is 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 as part of the CARE program: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. The project site is not within a CARE area, the closest one to the project being the San José CARE area.

Overburdened Communities

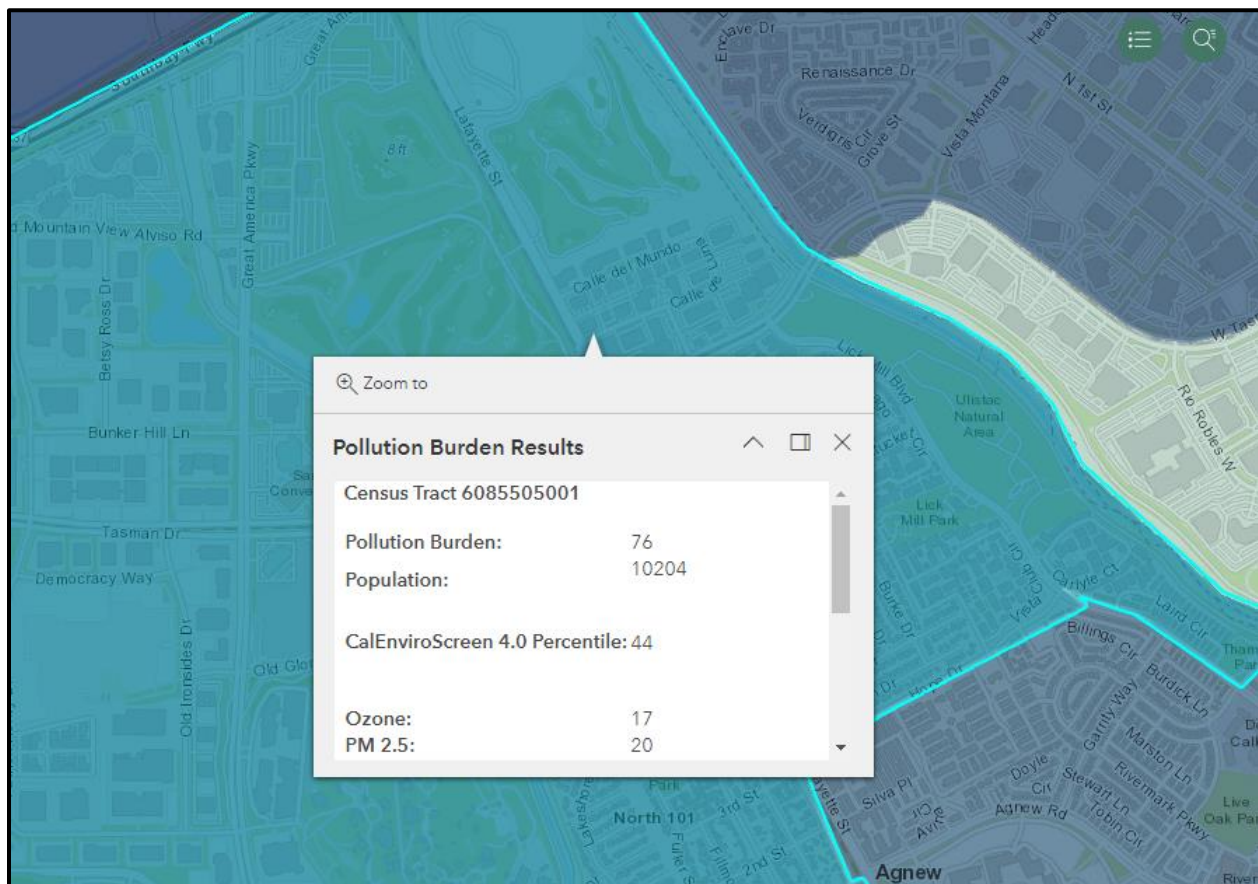
BAAQMD Regulation 2-1-24 identifies an *overburdened* community as an area located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract.⁶ The plan area is not within a BAAQMD overburdened area as identified by CalEnviroScreen as the area is scored at the 44th percentile (See Figure 1).⁷ The Areas with sensitive receptors to the east and south have similar scores.

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

⁶ See BAAQMD: https://www.baaqmd.gov/~media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofoverburdenedcommunities-pdf.pdf?la=en , accessed 10/1/2021.

⁷ OEHHA, CalEnviroScreen 4.0 Maps <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>

Figure 1. CalEnviroScreen 4.0 Results for the Project Site and Surrounding Areas



Source: CalEnviroScreen Version 4 Mapping.

Planning Healthy Places

BAAQMD developed a guidebook that provides information intended to assist local governments in addressing potential issues related to exposure of sensitive receptors to local sources of air pollutants. The guidance provides tools and recommends 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 Stationary Source Rules and Regulations

Combustion equipment associated with the proposed projects that include new diesel engines to power emergency power generators and possibly cooling towers would establish new sources of particulate matter and gaseous emissions. Emissions could result from the testing of the emergency backup generators and some minor emissions from cooling towers. Emission sources are subject to BAAQMD stationary source Regulations and Rules and would require permits.

California Environmental Quality Act Air Quality Guidelines

The BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines⁸ 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 California Environmental Quality Act (CEQA) requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for TACs, odors, and greenhouse gas (GHG) emissions.

Per Appendix G of the CEQA Guidelines and BAAQMD recommendations, air quality and GHG impacts are considered significant if implementation of the Plan would:

- 1) Conflict with or obstruct implementation of an applicable air quality plan.
- 2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.
- 3) Expose sensitive receptors to substantial pollutant concentrations.
- 4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
- 5) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- 6) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 CEQA Air Quality Guidelines. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the CEQA Air Quality Guidelines in 2017 to include the latest significance thresholds, which were used in this analysis and are summarized in Table 1 and Table 2. Impacts above these thresholds are considered potentially significant.

⁸ Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

Table 1. BAAQMD Recommended Plan-Level Air Quality Significance Thresholds

Pollutant/Contaminant	Construction	Operational
Criteria Air Pollutants and Precursors	None	1. Consistency with Current Air Quality Plan control measures 2. Projected VMT or vehicle trip increase is less than or equal to projected population increase
Risks and Hazards	None	1. Overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas) 2. Overlay zones of at least 500 feet from all freeways and high-volume roadways For this analysis – overlay zones are based on potential for sources to result in the following impacts: 1. Excess cancer risk >10.0 chances per million 2. Annual PM _{2.5} Concentration > 0.3 µg/m ³ 3. Hazard Index >1.0
Odors	None	Identify the location, and include policies to reduce the impacts, of existing or planned sources of odors

Table 2. BAAQMD Recommended Project-Level Air Quality Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO _x	54	54	10
PM ₁₀	82 (Exhaust)	82	15
PM _{2.5}	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	Single Sources Within 1,000-foot Zone of Influence	Combined Sources (Cumulative from all Sources within 1,000-foot zone of influence)	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental annual PM _{2.5}	0.3 µg/m ³	0.8 µg/m ³	
Odors	Complaints		
Detection	5 confirmed complaints per year averaged over three years		
Note: ROG = reactive organic gases, NO _x = nitrogen oxides, PM ₁₀ = coarse 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.			
*BAAQMD does not have a recommended post-2020 GHG threshold.			

Source: Bay Area Air Quality Management District, 2017

City of Santa Clara

City of Santa Clara 2010 – 2035 General Plan.

On November 16, 2010, the City of Santa Clara adopted the *City of Santa Clara 2010 – 2035 General Plan*.⁹ It updated portions of the Plan on December 9, 2014 and included the City's Climate Action Plan (CAP) as an appendix to the Plan. The City's CAP was updated in June, 2022.

The current general plan includes goals, policies, and actions to reduce air pollutants and exposure to toxic air containments. The following goals, policies, and actions are applicable to the proposed project and this assessment:

Prerequisite Policies

- 5.1.1-P24 Prior to the implementation of Phase III, the City will include a community Risk Reduction Plan ("CRRP") for acceptable Toxic Air Contaminant ("TAC") concentrations, consistent with the Bay Area Air Quality Management District ("BAAQMD") CEQA Guidelines, including risk and exposure reduction targets, measures to reduce emissions, monitoring procedures, and a public participations process.

Transportation Demand Management

- 5.8.5-P1 Require new development and City employees to implement transportation demand management programs that can include site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.
- 5.8.5-P5 Encourage transportation demand management programs that provide incentives for the use of alternative travel modes to reduce the use of single-occupant vehicles.
- 5.8.5-P9 Promote transportation demand management programs that provide education, information and coordination to connect residents and employees with alternate transportation opportunities.

Air Quality

- 5.10.2-P1 Support alternative transportation modes and efficient parking mechanisms to improve air quality.
- 5.10.2-P2 Encourage development patterns that reduce vehicle miles traveled and air pollution.
- 5.10.2-P3 Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.

⁹ City of Santa Clara, 2010. *City of Santa Clara 2010 – 2035 General Plan*. November. Web: <https://www.santaclaraca.gov/home/showdocument?id=56139>

- 5.10.2-P4 Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.
- 5.10.2-P5 Promote regional air pollution prevention plans for local industry and businesses.
- 5.10.2-P6 Require “Best Management Practices” for construction dust abatement.
Safety
- 5.10.5-P34 Implement minimum setbacks of 500 feet from roadways with average daily trips of 100,000 or more and 100 feet from railroad tracks for new residential or other uses with sensitive receptors, unless a project-specific study identifies measures, such as site design, tiered landscaping, air filtration systems, and window design, to reduce exposure, demonstrating that the potential risks can be reduced to acceptable levels.

The TESP, Certified FEIR, and Previous Air Quality Findings

The City of Santa Clara adopted the TESP and associated FEIR in 2018. The FEIR addressed air quality impacts associated with implementation of the plan. Mitigation measures applicable to individual projects were included in the FEIR to reduce impacts from construction and operation, as BAAQMD emissions and health risk thresholds still apply to individual projects.

Construction Period Impacts

Findings from the Previously Certified FEIR identify that build out of the TESP would result in temporary emissions from construction activities (e.g., demolition, site grading, asphalt paving, building construction, and architectural coating). Construction activities on-site would generate dust and particulate matter emissions from equipment (PM₁₀ and PM_{2.5}) that could temporarily impact nearby land uses, particularly sensitive receptors.

Additionally, construction equipment and associated heavy-duty truck traffic would generate diesel exhaust, a known TAC, which would pose a health risk to nearby sensitive receptors.

The following mitigation measures were included in the TESP FEIR to control dust and reduce TAC and criteria pollutant emissions during construction:

MM AQ-1.1: During any construction period ground disturbance, the applicant shall ensure that the project contractor implements the following Bay Area Air Quality Management District (BAAQMD) best management practices (BMPs):

- *All exposed unpaved 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 miles per hour (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 five 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.*
- *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.*
- *Post a publicly visible sign with the telephone number and person to contact at the construction firm 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.*
- *The contractor shall install temporary electrical service whenever possible to avoid the need for independently powered equipment (e.g., generators).*

MM AQ-1.2: Construction criteria pollutant and TAC quantification will be required on a project-level basis for individual development projects once those details are available through modeling to identify impacts and, if necessary, include measures to reduce emissions. The analysis must be submitted for City review and approval, once complete. Health risks from construction TACs shall be reduced below 10 in one million excess cancer cases, a hazard index of 1.0, and PM_{2.5} emissions of 0.3 µg/m³. Criteria pollutant emissions shall not exceed BAAQMD construction criteria pollutant emissions thresholds.

Reduction in emissions can be accomplished through, though is not limited to, the following measures

- *Construction equipment selection for low emissions;*
- *Use of alternative fuels, engine retrofits, and added exhaust devices;*
- *Low-volatile organic compound paints;*
- *Modify construction schedule; and*
- *Implementation of BAAQMD Basic and/or Additional Construction Mitigation Measures for control of fugitive dust.*

Implementation of Mitigation Measures AQ-1.1 and AQ-1.2 ensure that construction emissions impacts from individual development projects under the TESP would be reduced to a less than significant level.

Transportation Demand Management

Transportation Demand Management (TDM) programs are intended to reduce vehicle trips and parking demand by promoting the use of multimodal transportation options. As discussed in the initial TESP FEIR, the City's Climate Action Plan (CAP) requires that all residential development within the TESP area implement a plan to reduce Vehicle Miles Traveled (VMT) by a minimum

of 20 percent with a minimum of 10 percent of the reduction being achieved through a TDM Plan. Consistent with this mandate, the TESP included the following TDM Measures.

- Limited parking supply; dedicated electric vehicle (EV) parking
- Unbundled residential parking.
- Participation in the Tasman East Transportation Coordination Group (TETCG); includes transit passes, bikeshare programs, bicycle repair facilities, and commute information/marketing
- Transportation coordinator; trip monitoring and reporting
- Bicycle parking and amenities; electric scooter corrals

Operational Emissions

The TESP FEIR concluded that full build out of the TESP would result in long-term area and mobile source emissions from operation of the new developments. Build-out emissions would exceed BAAQMD significance threshold for reactive organic gases (ROG) and nitrogen oxides (NOx). Therefore, the following mitigation measures were included in the FEIR to reduce operational ROG and NOx emissions impacts:

MM AQ-2.1: Proposed residential development within the TESP shall implement Transportation Demand Management (TDM) programs to reduce residential vehicle miles traveled as required by the City's Climate Action Plan. The TDM programs would be reviewed and approved by the Community Development Director prior to issuance of building permits. An annual TDM monitoring report shall be submitted to the Community Development Director to document each development is meeting the required TDM program reductions.

MM AQ-2.2: Proposed development within the TESP shall incorporate additional green building measures such as rooftop solar photovoltaic (PV) systems, rough-ins for electric vehicle charging, use of efficient lighting and irrigation, and recycled water, as feasible, to the satisfaction of the Community Development Director.

MM AQ-2.3: Developed parcels shall require within their covenants, conditions, and restrictions (CC&Rs) and/or ground leases requirements for all future interior spaces to be repainted only with architectural coatings that meet the "Low-VOC" or "Super-Compliant" requirements. "Low-VOC" refers to paints that meet the more stringent regulatory limits in South Coast Air Quality Management District (AQMD) Rule 1113; however, many manufacturers have reformulated to levels well below these limits. These are referred to as "Super-Compliant" Architectural Coatings.

Even with implementation of the mitigation measures identified above, ROG and NOx emissions from operation of the projects within the TESP would be significant and unavoidable.

Exposure of New Sensitive Receptors to TACs

The TESP FEIR includes a Standard Condition of Approval to address General Plan Policy 5.10.5. Where cancer risk is identified as exceeding 10 cases per million from any single source of emissions, or 100 cases per million for cumulative sources, or annual fine particulate matter (PM_{2.5}) concentrations exceeding 0.3 µg/m³ for a single source or 0.8 µg/m³ for cumulative sources within the Plan Area and 1,000 feet of the Plan Area, the following conditions of approval shall be imposed:

- Design the site to limit exposure from sources of TACs and PM_{2.5} emissions. The final site layout shall locate operable windows and air intakes as far as possible from the Union Pacific railroad line/Lafayette Street and Tasman Drive.
- To the greatest degree possible, plant vegetation along the project site boundaries with Union Pacific railroad line/Lafayette Street and Tasman Drive and around outdoor use areas. This barrier would include trees and shrubs that provide a dense vegetative barrier.
- Install air filtration at units that have predicted PM_{2.5} concentrations above 0.3 µg/m³. Air filtration devices shall be rated MERV13 or higher. Alternately, at the approval of the City, equivalent control technology may be used if it is shown by a qualified air quality consultant or heating, ventilation, and air conditioning (HVAC) engineer that it would reduce risk below significance thresholds.
- As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.
- Ensure that any lease agreements and other property documents: (1) require cleaning, maintenance, and monitoring of the affected units for air flow leaks; (2) include assurance that new owners and tenants are provided information on the ventilation system; and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.
- Require that, prior to building occupancy, an authorized air pollutant consultant or HVAC engineer verify the installation of all necessary measures to reduce cancer risk below 10 chances per million from any source and PM_{2.5} concentrations above µg/m³ for any source and 0.8 µg/m³ for all sources.

UPDATED AIR QUALITY IMPACTS AND APPLICABLE MITIGATION MEASURES

Air pollutant emissions and associated health risks were updated for the TESP given the proposed changes to the residential densities and land uses previously described. Appropriate emissions and dispersion models were used in the analysis to develop emission rate and health risk estimates. For construction and operational land use emissions, the latest version of the California Emissions

Estimator Model (CalEEMod) Version 2020.4.0 was used to compute annual emissions, combined with motor vehicle emission factors produced by CARB's latest version of the EMFAC model, EMFAC2021 Version 1.0.1. The model output from CalEEMod along with construction inputs are included as *Attachment 2* and EMFAC2021 vehicle emissions modeling outputs are included in *Attachment 3*. Dispersion modeling was conducted using the U.S. EPA's AERMOD dispersion model.

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

The BAAQMD, with assistance from the Metropolitan Transportation Commission (MTC), has prepared and implemented a specific plan to meet the applicable laws, regulations, and programs related to air quality. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.¹⁰ The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans and specific area plans, like the TESP. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHGs.

Clean Air Plan Control Measures

Consistency of the Updated TESP with the control measures in the *Bay Area 2017 Clean Air Plan* is demonstrated by assessing whether the proposed Plan Update implements the applicable Clean Air Plan control measures. The 2017 Clean Air Plan includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. The control measures are divided into five categories that include:

- 40 measures to reduce stationary and area sources;
- 8 mobile source measures;
- 23 transportation control measures (including land use strategies);
- 4 building sector measures;
- 2 energy sector measures;
- 4 agriculture sector measures;
- 3 natural and working lands measures;
- 4 waste sector measures;
- 2 water sector measures; and
- 3 super-GHG pollutants measures.

In developing the control strategy, BAAQMD identified the full range of tools and resources available, both regulatory and non-regulatory, to develop each measure. Implementation of each control measure will rely on some combination of the following:

- Adoption and enforcement of rules to reduce emissions from stationary sources, area sources, and indirect sources.

¹⁰ Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan*.

- Revisions to the BAAQMD's permitting requirements for stationary sources.
- Enforcement of CARB rules to reduce emissions from heavy-duty diesel engines.
- Allocation of grants and other funding by the Air District and/or partner agencies.
- Promotion of best policies and practices that can be implemented by local agencies through guidance documents, model ordinances, and other measures.
- Partnerships with local governments, other public agencies, the business community, non-profits, and other groups.
- Public outreach and education.
- Enhanced air quality monitoring.
- Development of land use guidance and CEQA guidelines, and Air District review and comment on Bay Area projects pursuant to CEQA.
- Leadership and advocacy.

This approach relies upon lead agencies to assist in implementing some of the control measures. A key tool for local agency implementation is the development of land use policies and implementing measures that address new development or redevelopment in local communities. To address this impact, the General Plan's effect on implementing the Clean Air Plan is evaluated based on consistency with Clean Air Planning projections (i.e., rate of increase in population versus vehicle travel).

Consistency of the TESP with Clean Air Plan control measures was demonstrated in the TESP FEIR by assessing whether the proposed Specific Plan implements the applicable Clean Air Plan control measures. The TESP as proposed was found not to disrupt or hinder the implementation of applicable control measures.

Consistency with Clean Air Plan Projections

The adopted TESP results in an estimated additional 12,285 additional residents at buildout (4,500 dwelling units).

Since the plan area prior to adoption of TESP did not include any residences (i.e., zero population), a direct assessment of traffic growth compared to population could not be conducted. Traffic modeling conducted for the proposed 2010-2035 General Plan showed the rate of VMT growth to be less than the rate of population growth. As a result, growth under the General Plan assumptions was found to be consistent with the Clean Air Plan. VMT was estimated at 12.2 miles per service population under General Plan build-out conditions. The TESP VMT projections of 10.1 miles per capita (10.4 miles per resident) would not exceed the General Plan VMT growth rate compared to population growth and therefore, would be consistent with the Clean Air Plan from a VMT perspective.

The TESP update would add 1,500 new dwelling units and 4,095 persons. Non-residential growth would include about 50,000 square feet of office, retail, and/or day care uses. The overall VMT projections with this increase are 10.4 miles per capita (i.e., residential and workers) and 10.9 miles per new resident. VMT growth would not exceed regional growth. TESP as a high-density development close to major transit infrastructure and proposing to incorporate green building

measures would generally be consistent with the Clean Air Plan and measures intended to reduce automobile and energy use.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The Bay Area is considered a non-attainment area for ground-level ozone and PM_{2.5} under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM₁₀ under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and PM₁₀, 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), PM₁₀, and PM_{2.5} and apply to both construction period and operational period impacts.

Construction Emissions

Implementation of the TESP was found by the FEIR to result in temporarily significant emissions from construction activities associated with subsequent development including demolition, site grading, asphalt paving, building construction, and architectural coating. Emissions commonly associated with construction activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM₁₀ and PM_{2.5} emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction activities can become a nuisance and potential health hazard to those living and working nearby. The potential health risk impact from construction is addressed under Impact AIR-3.

The BAAQMD CEQA Air Quality Guidelines do not identify quantified plan level thresholds for construction emissions. There are project-level thresholds of 54 pounds per average day for NO_x, ROG and PM_{2.5} exhaust and 82 pounds per average day for PM₁₀ exhaust. Unless controlled, the combination of temporary dust from activities and diesel exhaust from construction equipment and related traffic may pose a nuisance impact to nearby receptors or exceed acceptable levels for projects. In addition, NO_x emissions during grading and soil import/export for large projects may exceed the BAAQMD NO_x emission thresholds for projects.

Construction emissions associated with the adopted TESP were considered significant. The TESP Update would include additional construction activity that would be similar to the adopted TESP. Thus, the FEIR Mitigation Measures MM AQ-1.1 and MM AQ-1.2 remain applicable and would continue to reduce these impacts to a less than significant level.

With MM AQ-1.2, future construction Projects would be required to estimate construction period emissions using modeling methodologies recommended by BAAQMD and approved by the City. The average daily emissions predicted for each construction project would be estimated and compared against BAAQMD project-level thresholds identified in Table 2. Projects that have

emissions exceeding the thresholds would be required to implement appropriate control measures listed under MM AQ-1.2 to achieve emissions below the thresholds. In addition, each individual construction project would be required to implement the dust control measures identified under MM AQ-1.1.

Operational Period Emissions

TESP operation emissions reported in the FEIR were found to exceed the BAAQMD project-level thresholds. The updated TESP increases air emissions primarily from autos driven by future residents, employees, customers, and vendors. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from the types of uses proposed by the adopted TESP and proposed update to the TESP. CalEEMod was used to estimate emissions from operation of the updated TESP project assuming full build-out.

CalEEMod Land Uses

An operational model scenario that included only the proposed land use changes for year 2030 was developed using CalEEMod. Inputs are summarized in Table 3.

Table 3. Operational Land Uses Entered into CalEEMod

Proposed Land Use Changes	Size	Units
Strip Mall (Commercial)	20	1,000 sf
Day Care Facility	10	1,000 sf
General Office (Office/Coworking space)	20	1,000 sf
Apartments Mid Rise	1,500	Dwellings

Operational Trip Generation Rates and VMT

CalEEMod allows the user to enter specific vehicle trip generation rates. The updated total weekday trip generation provided by the traffic consultant¹¹ for each change in land use, based on ITE Trip generation rates, was reduced by 32 percent as required by the adopted TESP. Total trips for each land use type were then divided by their size (i.e., either dwelling units or square footage) to develop a specific trip rate for use in CalEEMod. Saturday and Sunday trip rates were adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. Specific average trip lengths were derived by dividing the number of daily trips produced by the plan update by the VMT forecasted in the Traffic Study. Both the trip generation rates and VMT reflect TDM requirements.

EMFAC2021 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMFAC2017, which is an older CARB emission inventory for on road and off road mobile sources. Since the release of CalEEMod Version 2020.4.0, new emission factors have been produced by CARB.

¹¹ Fehr & Peers Transportation Consultants, 2022. *Memorandum Subject: Trip Generation Estimates for Tasman East Specific Plan Update*. April 27, 2022.

EMFAC2021 became available for use in January 2021. It includes the data for California's car and truck fleets and travel activity, based on available understanding of the vehicle fleet and rate of emissions understood at the time, and the effect of applicable regulations. The CalEEMod vehicle emission factors were updated with the emission rates from EMFAC2021. On road emission rates from Santa Clara County were used (See *Attachment 3*). More details about the updates in emissions calculation methodologies and data are available in the EMFAC2021 Technical Support Document.¹² Since EMFAC2021 was developed, CARB has adopted new rules that amended the *Advanced Clean Cars* regulation that are not reflected in EMFAC2021 modeling. This regulation will establish a year-by-year process, starting in 2026, so all new cars and light trucks sold in California will be zero-emission vehicles by 2035, including plug-in hybrid electric vehicles. Currently, 16 percent of new light-duty vehicles sold in California are zero emissions or plug-in hybrids. By 2030, 68 percent of new vehicles sold in California would be zero emissions.

Roadway Silt Loading

CalEEMod's default roadway silt loading factor is unsubstantiated. The road dust silt loading factor was adjusted to reflect vehicle travel fractions of different roadways in Santa Clara County. This affects the emissions of PM₁₀ and PM_{2.5} associated with vehicle travel. The silt loading factor, which is essentially a measure of dust on the roadways that becomes entrained with vehicle passage, is now based on the assumptions used by the California Air Resources Board (CARB) for predicting emissions in Santa Clara County.

Energy

Residential and office buildings were assumed to be powered by electricity using Santa Clara's Silicon Valley Clean Energy (SVCE) as the default provider. This analysis assumed the default rate assigned by CalEEMod for SVCE. The City's Reach Code prohibits natural gas usage in new residential developments and most businesses.

Wood-Burning Devices

CalEEMod default inputs assume new residential construction would include woodburning fireplaces and stoves. The project would not include wood-burning devices, as these devices are prohibited by BAAQMD Regulation 6, Rule 3.¹³ Therefore, the number of woodstoves and woodburning fireplaces in CalEEMod were set to zero and assigned as natural gas.

Summary of Operational Emissions

Annual emissions associated with the approved TESP and proposed updated are reported in Table 4 in total tons and average daily emissions, assuming 365 days of operation per year. New emissions generated by the adopted TESP are also shown. There are no emission thresholds that

¹² See CARB 2021: <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac>

¹³ Bay Area Air Quality Management District, [https://www.baaqmd.gov/~media/dotgov/files/rules/regulation-6-rule-3/documents/20191120_r0603_final-pdf.pdf?la=en](https://www.baaqmd.gov/~/media/dotgov/files/rules/regulation-6-rule-3/documents/20191120_r0603_final-pdf.pdf?la=en)

apply to potential emissions generated by a plan, such as the TESP. Therefore, the emissions estimates are compared against project-level BAAQMD thresholds to determine significance.

As shown in Table 4, average daily and annual emissions of ROG and NO_x associated with build-out of the adopted TESP would exceed the BAAQMD project-level significance thresholds. This impact was addressed in the TESP FEIR. Likewise, the TESP update would further increase annual and daily ROG and NO_x emissions associated with build-out.

Table 4 Operational Period Emissions – Based on FEIR

Scenario	ROG	NO_x	PM₁₀	PM_{2.5}
Existing TESP Annual Operational Emissions (tons) ¹	19.57 tons	16.40 tons	9.37 tons	2.93 tons
Additional TESP Operational Emissions (tons)	10.24 tons	2.00 tons	2.44 tons	0.69 tons
Total Updated TESP Operational Emissions	29.81 tons	18.40 tons	11.81 tons	3.62 tons
<i>BAAQMD Thresholds (tons per year)</i>	<i>10 tons project</i>	<i>10 tons project</i>	<i>15 tons project</i>	<i>10 tons project</i>
Updated Average Daily Net Project Operational Emissions (pounds) ¹	163 lbs.	101 lbs.	65 lbs.	20 lbs.
<i>BAAQMD Thresholds (pounds per day)</i>	<i>54 lbs. project</i>	<i>54 lbs. project</i>	<i>82 lbs. project</i>	<i>54 lbs. project</i>
¹ Based on the net increase in emissions from the 2018 adopted FEIR				
² Assumes 365-day operation.				

The adopted TESP did not exceed the BAAQMD project-level significance thresholds for PM₁₀ and PM_{2.5}. With the proposed update, BAAQMD project-level significance thresholds for PM₁₀ and PM_{2.5} would not be exceeded by the plan, in combination with emissions reported in the FEIR.

The City's CAP requires new projects implement VMT reductions, depending on the General Plan land use designation, project type and transportation district the project is located. For both the adopted TESP and the updated TESP, a 10 percent reduction target would apply to the new residential developments. Based on the transportation analysis prepared by Fehr & Peers, a 24 percent trip reduction was assumed due to trip internalization from the location, proximity of transit, and mix of proposed uses. As shown in the Attachment 2 modeling inputs, the required 10 percent TDM reduction for the TESP was also applied to the trip generation for the project.

Operational emissions associated with the adopted TESP were considered significant in the FEIR. The FEIR includes three mitigation measures related to reducing ROG and NO_x emissions: MM AQ-2.1, MM AQ-2.2, and MM AQ-2.3. However, the FEIR found that, even with implementation of these measures, the impacts would be significant and unavoidable.

The TESP Update would further increase ROG and NO_x emissions above BAAQMD project thresholds. Therefore, mitigation measures MM AQ-2.1, AQ-2.2, and AQ-2.3 would still be required for the plan update. However, even with implementation of these measures, the impacts associated with the updated TESP would continue to be significant and unavoidable.

Significant ROG and NO_x Emissions during Project Operation

Ozone is not emitted directly from pollution sources. Instead, it is formed in the atmosphere through complex chemical reactions in the presence of sunlight between ROG and NO_x. As air temperatures rise, the formation of ground level ozone increases at an accelerated pace. Ozone levels are usually highest on clear, hot, windless summer afternoons, especially in inland valleys that are downwind of pollution sources.

Ozone is a powerful oxidant that is harmful to public health at high concentrations. At high levels, ozone can damage the tissues of the lungs and respiratory tract, irritating the nose, throat, and respiratory system and constricting the airways.¹⁴ Elevated ozone concentrations can aggravate other respiratory conditions such as asthma, bronchitis, and emphysema, causing increased hospital admissions. Repeated exposure to high ozone levels can make people more susceptible to respiratory infection and lung inflammation and permanently damage lung tissue. Ozone exposure can also have negative cardiovascular impacts, including chronic hardening of the arteries and acute triggering of heart attacks. Children are most at risk, as they tend to be active and outdoors in the summer, when ozone levels are highest. Seniors and people with respiratory illnesses are also especially sensitive to ozone's effects. Even healthy adults, working or exercising outdoors during high ozone levels, can be affected.

Ozone is a regional pollutant. Emissions in one part of the region can impact air quality miles downwind. Thus, efforts to reduce ozone levels focus on reducing emissions of ROG and NO_x throughout the region. The relationship between ROG and NO_x in ozone formation is complex; the ratio between the precursor pollutants influences how ozone forms. BAAQMD's ozone modeling indicates that the Bay Area is "ROG-limited" for ozone formation. This means that reducing ROG emissions in the Bay Area will be more productive in reducing ozone concentration. However, modeling also suggests that large reductions in NO_x emissions will be needed to achieve the ozone reductions required to attain the current health-based ozone standards (NAAQS and CAAQS). A certain amount of ozone formation occurs naturally, even in the absence of anthropogenic emissions of ROG and NO_x.¹⁵

When evaluated using the BAAQMD CEQA Air Quality thresholds, the TESP update would have significant emissions of ozone precursor pollutants ROG and NO_x, during operation. These emissions cannot be feasibly reduced further, as the proposed plan update includes features and mitigation measures to minimize these emissions. Such features include mix-use developments near transit, implementation of an enhanced TDM plan, and mitigation measures to reduce evaporative ROG emissions from architectural coatings. Emissions of ROG associated with consumer product use would be the overwhelming contributor to ROG emissions. These emissions cannot be controlled by the proposed plan update. Emissions associated with traffic would be the overwhelming contributor of NO_x from the plan update. A TDM plan will be implemented as part of the plan's buildout to assist in the control of emissions from traffic, but further reduction of NO_x cannot be achieved.

¹⁴ See: California Air Resource Board, Web: <https://ww2.arb.ca.gov/resources/ozone-and-health>

¹⁵ Bay Area Air Quality Management District, 2017. *Spare the Air Cool the Climate Final 2017 Clean Air Plan*. April. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a-proposed-final-cap-vol-1-pdf.pdf?la=en>

Emissions of ROG and NO_x result in a cumulatively considerable net increase of criteria pollutants for which the region is in nonattainment under an applicable ambient air quality standard. As a result, the TESP Update would result in a cumulatively considerable net increase in pollutant emissions that contribute to elevated ozone concentrations that exceed ambient air quality standards.

As stated in the BAAQMD CEQA Air Quality Guidelines, air pollution by its nature is largely a cumulative impact. Plans, like the TESP and its Update, often have significant and unavoidable adverse air quality impacts related to the cumulative impacts of growth on air quality. In addition, plans generally have implementation horizons of 20 years or more. For these reasons, it is essential for plans to incorporate all feasible strategies and measures to reduce air quality impacts.

Mitigation measures for plans are often broad in scope because of the long timeframe and comprehensive nature of plan policies and programs. Plans are the appropriate place to establish communitywide air quality policies that reinforce regional air quality plans. Plans present opportunities to establish requirements for new construction, future land uses and redevelopment projects to support continued improvements in local and regional air quality and avoid inhibiting attainment of the NAAQS and CAAQS. No single development project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a development's individual emissions contribute to existing cumulatively significant adverse air quality impacts.

The emissions from operation (i.e., build-out) of the updated plan are compared against regional emissions that lead to elevated concentrations of ozone in Table 5. By comparing plan emissions to regional emissions, the magnitude of the Plan's significance on regional air quality can be estimated. Operational emissions in comparison to regional emissions are an insignificant portion of the regional inventory (i.e., 0.03 percent and 0.04 percent mitigated). Thus, despite being above BAAQMD significance thresholds, the effect of the plan's build out would not cause regional pollutant levels to measurably change. As a result, the TESP Update would not substantially increase regional ozone levels and the health effects associated with the TESP's ROG and NO_x emissions would not be measurable.

Table 5. Comparison of Project Emissions to Air Basin Emissions¹⁶

Scenario	ROG	NO _x
Bay Area Air Basin in 2020	238 tons/day	172 tons/day
Bay Area Air Basin in 2035 ¹	238 tons/day	140 tons/day
Mitigated TESP Update	0.08 tons/day	0.05 tons/day
Operation (i.e., Build-out)	(29.81 tons/year)	(18.40 tons/year)
% of Basin in 2035	0.03%	0.04%

¹Closest year of analysis to proposed Project operational year.

¹⁶ CARB. 2022. CEPAM2019v1.03 Emission Projection Data 2020 and 2035 Estimated Annual Average Emissions San Francisco Bay Area Air Basin. <https://ww2.arb.ca.gov/applications/emissions-user-defined-query> accessed May 23, 2023 to estimate year 2020 and 2035 emissions.

Impact Air-3: Expose project sensitive receptors to substantial pollutant concentrations during operation?

Project Construction

Implementation of the updated TESP would include short-term construction sources of TACs. There are sensitive receptors about 150 feet south of the plan area (across Tasman Drive) and there will be future residents in the TESP development areas that could potentially be exposed to construction TACs during construction activity.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. The construction exhaust emissions may pose community risks for sensitive receptors such as nearby 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 would have to be conducted at a project level to address these impacts.

The adopted TESP FEIR includes MM AQ-1.2, which requires each construction project included in the TESP area to conduct a health risk assessment using modeling methodologies recommended by BAAQMD and approved by the City. Health risk impacts predicted for each construction project would be estimated and compared against BAAQMD project-level thresholds. Projects that have health risks exceeding the thresholds would be required to implement appropriate control measures listed under MM AQ-1.2 to achieve health risks below the thresholds.

The update to the TESP should continue requiring MM AQ-1.2 to estimate the health risk impacts associated with project construction.

Project Operation

The types of land uses envisioned under the TESP are not anticipated to include significant sources of TACs or PM_{2.5} such that BAAQMD's health risk thresholds would be exceeded. Stationary sources, such as diesel power generators would require permitting by BAAQMD and health risks would be assessed through the permitting process. Sources of air pollution that operate within accordance of BAAQMD rules and regulations would not cause significant exposure for on- or off-site sensitive receptors. This would be a *less-than-significant impact*.

Traffic generated as a result of TESP build-out would add to the traffic on nearby Tasman Drive, Lafayette Street, and Lick Mill Boulevard. However, projects generating less than 10,000 vehicle trips per day are considered negligible sources of TACs and PM_{2.5} emissions and thus are considered to have negligible health risks. Therefore, health risks associated with the traffic increases associated with the TESP update would be *less-than-significant impact*.

New Project Residents

In 2015, the Supreme Court determined that an analysis of the impacts of the environment on a project – known as “CEQA-in-reverse” – is only required under two limited circumstances: (1) when a statute provides an express legislative directive to consider such impacts; and (2) when a proposed project risks exacerbating environmental hazards or conditions that already exist (Cal. Supreme Court Case No. S213478). However, the Clean Air Plan contains the following goal: “reduce population exposure and protecting public health in the Bay Area.” Therefore, the potential community risk impact to future onsite receptors is addressed here.

To address exposure of sensitive receptors to substantial pollutant levels, the BAAQMD CEQA Guidelines developed thresholds that address health risks from increased cancer risk, non-cancer hazards, and increased annual concentrations of PM_{2.5}. Diesel particulate matter (DPM) is the predominant TAC in the area.

BAAQMD recommends using a 1,000-foot screening radius around a project site for purposes of identifying health risk from siting a new sensitive receptor or a new source of TACs. Nearby stationary sources of TACs (e.g., emergency back-up generators and gas stations) and traffic on local roadways could affect the proposed residences. There is a rail line along the western side of Lafayette Street that borders the western boundary of the plan area. Implementation of the proposed project is not expected to introduce any new stationary sources of operational TACs. Figure 2 shows the TESP area, the 1,000-foot influence area and the nearby stationary sources. Busy nearby roadways include Lafayette Street, Tasman Boulevard and Lick Mill Boulevard. The rail line and the Great America train station near the plan area are sources of TAC emissions from diesel-powered locomotives.

Figure 2 TESP Area and 1,000-foot Influence Area with Identified Stationary Sources



Effects on TESP Sensitive Receptors

The project would include new sensitive receptors in the form of residences and children attending daycare. Substantial sources of air pollution can adversely affect sensitive receptors proposed as part of new projects. A review of the area indicates there are local roadways, a rail line with diesel locomotives, and stationary sources within 1,000 feet of the plan area that can adversely affect new residences. The risk assessment methodology is included in *Attachment 1*.

Roadway Risk Impacts

A refined analysis of potential health impacts from vehicle traffic on Tasman Drive, Lafayette Street, and Lick Mill Boulevard was conducted since these roadways were estimated to have average daily traffic (ADT) exceeding 10,000 vehicles. The refined analysis involved predicting emissions for the traffic volume and mix of vehicle types on the roadway near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks are then computed based on the modeled exposures.

Emission Rates

This analysis involved the development of DPM, organic TACs, and PM_{2.5} emissions for traffic on the roadways. The latest version of CARB's EMFAC emissions model (EMFAC2021) was

used to develop the emissions rates needed.¹⁷ EMFAC2021 includes the latest data on California's car and truck fleets and travel activity. EMFAC2021 produce emissions rates for either specific vehicle categories or aggregate rates emissions rates using county-wide vehicle populations. However, the rates produced are only for criteria pollutants, not TACs or DPM. Therefore, CT-EMFAC2017 was also used to aid in the development of TAC emissions rates used in the analysis.

CT-EMFAC2017 is the Caltrans version of the CARB's EMFAC2017 emissions model and provides emission factors for mobile source criteria pollutants and TACs, including DPM, based on specific truck fractions input by the user. CT-EMFAC2017 uses the fraction of Non-Truck vehicles and trucks (i.e., Truck 1 and Truck 2) to develop aggregate emissions factors for each of 15 speed bins. The truck percentage derived from the CalEEMod analysis (4.5 percent)¹⁸ was input into CT-EMFAC2017 to develop emissions factors.

Next, the ratio of DPM to PM_{2.5} produced by CT-EMFAC2017 was used to derive a DPM emissions rate using EMFAC2021 rates for each speed needed. Emission processes modeled for the analysis include running exhaust and evaporative emissions for PM_{2.5}, DPM, and TOG. Fugitive PM_{2.5} emissions were also estimated using the road dust emissions factors provided by CT-EMFAC2017 and the tire wear and brake wear emissions rates provided by EMFAC2021. Inputs to the emissions models (both EMFAC2021 and CT-EMFAC2017) include region (i.e., Santa Clara), type of road (i.e., Major/Collector), year of analysis (i.e., 2030), and season (i.e., annual). Roadway emissions modeling outputs and calculations are included in *Attachment 4*. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2021 Technical Support Document.¹⁹

All PM_{2.5} emissions from all vehicles were used, rather than just the PM_{2.5} fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce PM_{2.5}. Additionally, PM_{2.5} emissions from vehicle tire and brake wear and from re-entrained roadway dust were included. DPM emissions are projected to decrease in the future and are reflected in the emissions data.

The ADT for Tasman Drive, Lafayette Street, and Lick Mill Boulevard were based on AM and PM peak-hour cumulative plus project traffic volumes for the nearby roadways provided by the project's traffic data.²⁰ The calculated ADT on Tasman Drive would be 42,053, an ADT of 35,560 for Lafayette Street, and on Lick Mill boulevard the ADT would be 24,505. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,²¹ which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. For all hours of the day an average speed of 35 mph was assumed for vehicles traveling on Lafayette Street and an average speed of 30 mph on both Tasman Drive and Lick Mill Boulevard for all vehicles, 5 mph below the posted speed limits of the roadways.

¹⁷ EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. EMFAC2021 has not yet been approved by U.S. EPA at the time this report was prepared.

¹⁸ BAAQMD, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en>

¹⁹ See CARB 2021: <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac>

²⁰ Provided by Fiona Phung, David J. Powers & Associates. November 2022.

²¹ The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current version of EMFAC does not include Burden type output with hour-by-hour traffic volume information.

Dispersion Modeling

Dispersion modeling of TAC and PM_{2.5} emissions was conducted using the EPA AERMOD air quality dispersion model, which is recommended by the BAAQMD for this type of analysis.²² TAC and PM_{2.5} emissions from traffic on Tasman Drive, Lafayette Street, and Lick Mill Boulevard within about 1,000 feet of the project site were evaluated. Vehicle traffic on the roadways was modeled using a series of volume sources along a line (line volume sources); with line segments used for opposing travel directions on each roadway. A 5-year set (2013-2017) of hourly meteorological data from the San Jose Airport prepared by the BAAQMD for use with the AERMOD model was used in the modeling. Other inputs to the model included road geometry, hourly traffic emissions, and receptor locations. Annual TAC and PM_{2.5} concentrations for 2030 from traffic on the roadways were calculated using the model. Concentrations were calculated at receptor locations spaced every 15 meters (49 feet) within the proposed project area. Receptor heights of 1.5 meters (5 feet) and 4.5 meters (15 feet), representative of breathing heights on the first and second floor residential levels, were used in the modeling. Figure 3 shows the roadway line segments used for the modeling and receptor locations at the project site where concentrations were calculated. The maximum modeled TAC and PM_{2.5} concentrations occurred at the first-floor level of the on-site receptors.

Computed Cancer and Non-Cancer Health Impacts

Cancer and non-cancer health impacts at the on-site project receptors were computed using methods recommended by BAAQMD.²³ The maximum cancer risks, PM_{2.5} concentrations, and HI impacts from Tasman Drive, Lafayette Street, and Lick Mill Boulevard at the project site are shown in Table 7. Figure 3 shows the locations where the maximum cancer risk and PM_{2.5} concentration from each roadway occurred. Details of the emission calculations, dispersion modeling, and cancer risk calculations for the receptors with the maximum cancer risk from Tasman Drive, Lafayette Street, and Lick Mill Boulevard traffic are provided in *Attachment 4*.

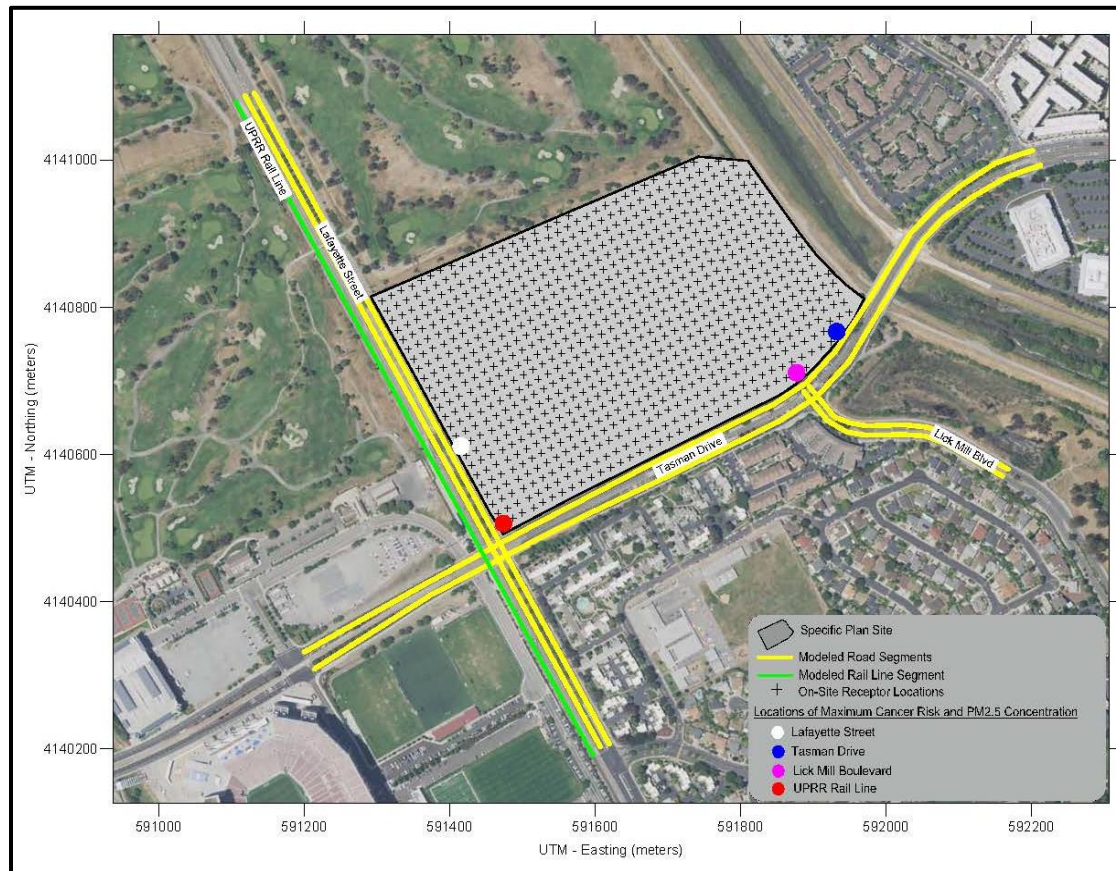
Railroad Risk Impacts

The TESP area is located a near rail line used for freight and passenger rail service. The southeastern portion of the project along Lafayette Street is across from the Great America train station with the nearest rail line about 100 feet from the project site boundary. Trains traveling on the rail line generate TAC and PM_{2.5} emissions from diesel locomotives. Due to the proximity of the rail line to the TESP area, potential health risks to future project residents from DPM emissions were evaluated.

²² BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012

²³ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. January 2016.

Figure 3 TESP Area, On-site Residential Receptors, Roadway and Rail Line Segment Evaluated



Altamont Commuter Express (ACE), Amtrak's Capitol Corridor and Coast Starlight passenger trains use this rail line. Based on current Amtrak schedules, the Amtrak Capitol Corridor, which provides service between Sacramento/Auburn and San Jose, has 12 weekday trains and 14 weekend trains on these rail lines. The Amtrak Coast Starlight operates between Seattle and Los Angeles, with two daily trains. The ACE operates eight trains daily between Stockton and San José. In addition to the passenger trains, there are about two freight trains that use the rail lines on a daily basis.²⁴ All trains are assumed to use diesel-powered locomotives.

DPM and PM_{2.5} emissions from trains on the rail line were calculated using EPA emission factors for locomotives²⁵ and CARB adjustment factors to account for fuels used in California.²⁶ For passenger trains it was assumed that these trains use one 3,200 hp diesel locomotives and would continue to do so in the future. Emissions from freight trains were calculated assuming they would use two locomotives with 2,300 hp engines (total of 4,600 hp). Passenger and freight trains that would not stop at the Great America Station were assumed to be traveling at an average speed of 40 mph in the vicinity of the project site. Passenger trains (Capitol Corridor and ACE) stopping at the Great America Station were assumed to be traveling at 30 mph when approaching and

²⁴ U.S. Department of Transportation, Federal Railroad Administration, U.S. DOT Crossing Inventory Form for DOT Crossing Inventory Number 749963T, accessed January 22, 2018.

²⁵ U.S. EPA, 2009. *Emission Factors for Locomotives* (EPA-420-F-09-025).

²⁶ CARB, 2006. *Offroad Modeling, Change Technical Memo, Changes to the Locomotive Inventory*. July.

departing the station and an average speed of 10 mph in the vicinity of the station. Passenger (Coast Starlight) and freight trains bypassing the station were assumed to be traveling at 40 mph.

Emissions of DPM were developed for the year 2030, which was assumed to be the first year of full build-out, noting that full build-out would likely occur later than 2030. Emissions for 2030 were conservatively assumed to be representative of future conditions over the 30-year period that cancer risks are evaluated (2030-2059). DPM emissions from diesel-fueled locomotives will be reduced over time due to regulatory requirements for reduced particulate matter emissions from diesel locomotives. As such, use of DPM emissions for 2030 is a conservative estimate of emissions over the entire 30-year exposure period.

Modeling of locomotive emissions was conducted using the EPA's AERMOD dispersion model and with a 5-year set (2013-2017) hourly meteorological data from the San José Airport prepared by the BAAQMD for use with the AERMOD model. Locomotive emissions from train travel within about 1,000 feet of the project site were modeled as line sources comprised of a series of adjacent volume sources with a release height of 5 meters (16 feet) along the centerline of the rail line near the project site. Concentrations were calculated at receptor locations spaced every 15 meters (49 feet) within the proposed project area. Receptor heights of 1.5 meters (5 feet) and 4.5 meters (15 feet), representative of breathing heights on the first and second floor residential levels, were used in the modeling. Figure 3 shows the railroad line segments used for the modeling and receptor locations at the project site where concentrations were calculated. The maximum modeled DPM, cancer risk, and PM_{2.5} concentrations occurred in the southern corner of the TESP area near the intersection of Lafayette Street and Tasman Drive on the first-floor level.

Cancer risks at the project site receptors were calculated from the maximum modeled long-term average DPM concentrations using methods recommended by BAAQMD.²⁷ The maximum cancer risk, PM_{2.5} concentration, and HI impacts from the rail line at the project site are provided in Table 6. Figure 3 shows the locations where the maximum cancer risk and PM_{2.5} concentration from each roadway occurred. Details of the emission calculations, dispersion modeling and cancer risk calculations are contained in Attachment 4.

Stationary Source TAC Impacts

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Screening Analysis Tool*. This mapping tool uses Google Earth to identify the locations of stationary sources and their estimated risk and hazard impacts²⁸. Plants 1636 (Alzeta Corporation) and 23330 (EPZ Inc.) are within the TESP area and would be removed, posing no risk to the new residents. Additionally, the Plants 19158 (Ameresco Santa Clara LLC) and 17246 (City of Santa Clara – Fairway Glen Storm) were identified by the BAAQMD screening tool as being within 1,000 ft of the TESP area but are actually not located within the 1,000-foot radius. Therefore, these sources were not included in the analysis. The BAAQMD tool identified the following on- and off-site sources that could affect new residents:

²⁷ BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. January 2016.

²⁸ See <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools>, accessed January 29, 2015.

- Plant 1636 (Alzeta Corporation) is a manufacturing facility located at 2343 Calle Del Mundo (within the plan area). The facility is a source of PM_{2.5} emissions with screening levels, per the BAAQMD screening data, below the BAAQMD single-source thresholds.
- Plant 23330 (EPZ Inc.) is a manufacturing facility located at 2262 Calle Del Mundo (within the plan area). The facility is a source of TAC and PM_{2.5} emissions with screening levels, per BAAQMD screening data, below the single-source thresholds.
- Plant 24828 (Zayo Group) is an emergency back-up generator located at 5101 Lafayette Street, adjacent to the plan area. The generator is a source of TAC and PM_{2.5} emissions with screening levels, per BAAQMD screening data, below the single-source thresholds.
- Plant 22633 (City of Santa Clara) is an emergency back-up generator located at 2501 Stars and Stripes, about 500 feet west of the plan area. At BAAQMD's recommendation, risk and PM_{2.5} concentrations from the diesel generator were adjusted based on BAAQMD's *Distance Adjustment Multiplier Tool for Diesel Internal Combustion (IC) Engines*. According to the BAAQMD screening data (and adjusted for the 500-foot distance), this facility would result in risk levels below thresholds of significance.

Summary of Single-Source Health Risks

Table 6 shows the contribution of risk from each source affecting the TESP area. The maximum cancer risk from each source was individually below the BAAQMD threshold of significance for cancer risk and hazard index. For PM_{2.5}, two sources of PM_{2.5} emissions were found to cause significant exposures across the site: Lafayette Street and Tasman Drive traffic. Figure 4 shows the areas affected by these sources, which include the southwestern and southeastern portions of the site. PM_{2.5} from Lafayette Street traffic affects the southwestern area that is within 115 feet of the Lafayette Street edge of travel. PM_{2.5} from Tasman Drive traffic affects the southeastern area that is within 50 feet of the Tasman Drive edge of travel.

Any development with sensitive receptors within these affected areas would expose them to significant exposure of PM_{2.5} concentrations. This would be a potentially *significant impact*.

Cumulative Community Risk

As discussed above, the project site is impacted by multiple sources of TACs. Table 6 shows the maximum health risks associated with each source affecting the plan area. The sum of impacts from combined sources (i.e., sources within 1,000 feet of the project) would be above the BAAQMD threshold of significance for PM_{2.5}. The cumulative cancer risk would be below the thresholds. This would be a potentially *significant impact*.

TABLE 6 Maximum Community Risk Levels at TESP Area

Source	Lifetime Cancer Risk (per million)	Annual PM _{2.5} (µg/m ³)	Acute or Chronic Hazard Index
Lafayette Street at 25 feet	5.4	0.53	<0.01
Tasman Drive at 25 feet	4.3	0.36	<0.01
Lick Mill Boulevard at 150 feet	1.4	0.10	<0.01
Alzeta Corporation (Facility ID #1636, Manufacturing) – On Site	0.01	<0.01	0.03
EPZ Inc. (Facility ID #23330, Manufacturing) – On Site	NA	<0.01	<0.01
Zayo Group, LLC (Facility ID #24828, Generator) – On Site	4.95	0.01	<0.01
City of Santa Clara (Facility ID #22633, Generator) MEI at 495 feet	0.68	NA	<0.01
UPRR Rail Line Great America Station. MEI at 110 feet	9.1	0.01	<0.01
Total	25.84	1.03	<0.10
<i>Single-Source Threshold</i>	>10.0	>0.3	>1.0
<i>BAAQMD Cumulative Source Threshold</i>	>100.0	>0.8	>10.0
Exceeds Thresholds?			
Single:	No	Yes	No
Cumulative:	No	Yes	No

Note: Bold values indicate values above threshold. The actual cumulative level would be less than presented as this value represents the sum of the maximum impacts even though the maximum from each source does not occur at any one location.

The adopted TESP includes a standard condition of approval:

Where cancer risk is identified in Figure 3.2-1 as exceeding 10 cases per million from any single source or annual PM_{2.5} concentrations exceeding 0.3 µg/m³ or 0.8 µg/m³ for cumulative sources within the Plan Area and 1,000 feet of the Plan Area, the following conditions of approval shall be imposed:

- Design the site to limit exposure from sources of TACs and fine particulate matter (PM_{2.5}) emissions. The final site layout shall locate operable windows and air intakes as far as possible from the Union Pacific railroad line/Lafayette Street and Tasman Drive.
- To the greatest degree possible, plant vegetation along the project site boundaries with Union Pacific railroad line/Lafayette Street and Tasman Drive and around outdoor use areas. This barrier would include trees and shrubs that provide a dense vegetative barrier.
- Install air filtration at units that have predicted PM_{2.5} concentrations above 0.3 µg/m³. Air filtration devices shall be rated MERV13 or higher. Alternately, at the approval of the City, equivalent control technology may be used if it is shown by a qualified air quality consultant or heating, ventilation, and air conditioning (HVAC) engineer that it would reduce risk below significance thresholds.
- As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.

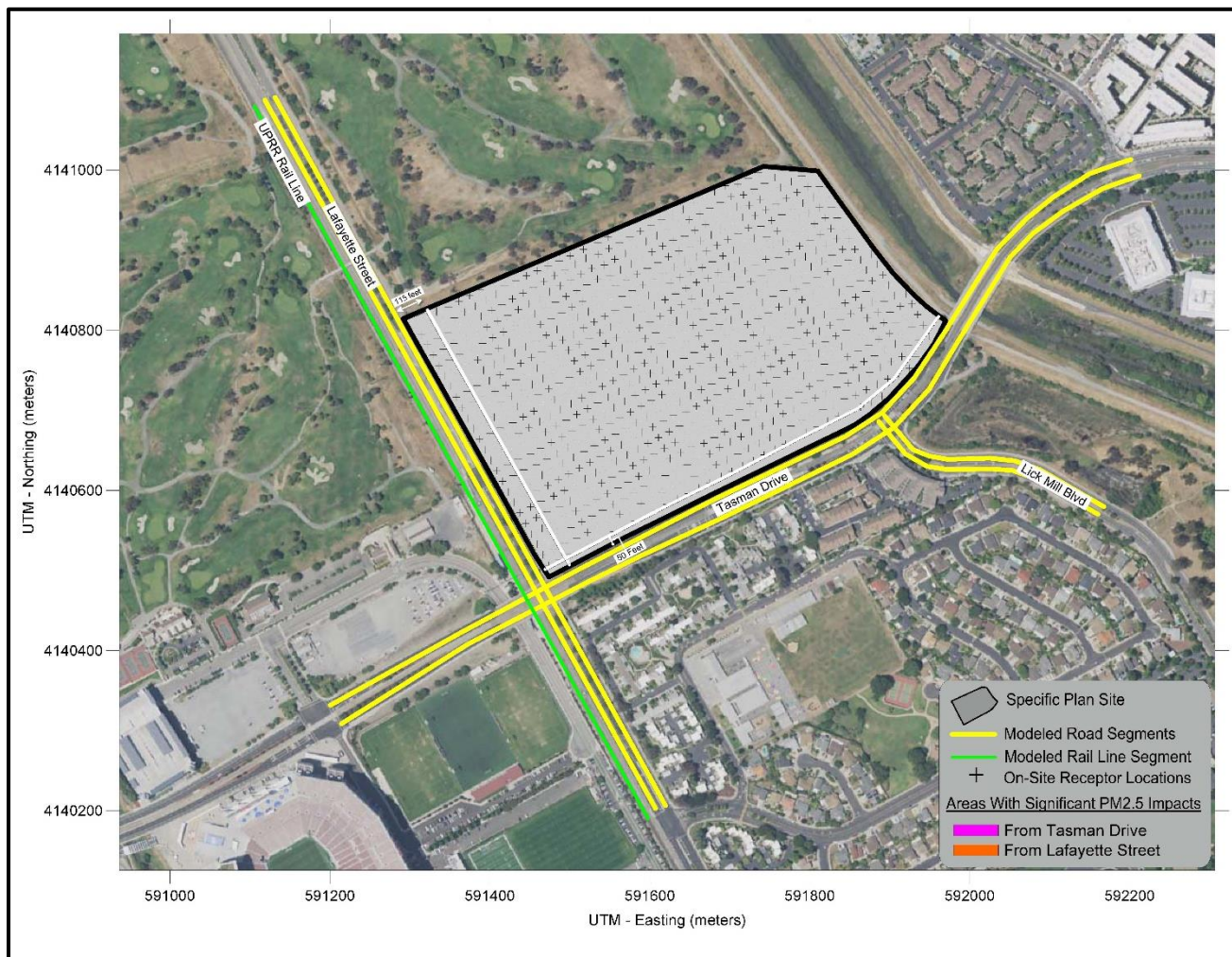
- *Ensure that any lease agreements and other property documents (1) require cleaning, maintenance, and monitoring of the affected units for air flow leaks; (2) include assurance that new owners and tenants are provided information on the ventilation system; and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.*
- *Require that, prior to building occupancy, an authorized air pollutant consultant or HVAC engineer verify the installation of all necessary measures to reduce cancer risk below 10 chances per million from any source and PM_{2.5} concentrations above 0.3 µg/m³ for any source and 0.8 µg/m³ for all sources.*

Given the analysis conducted for the TESP update, the standard conditions of approval would need to be updated. A revised standard condition of approval is provided below:

Where cancer risk is identified in Figure 4 below as exceeding annual PM_{2.5} concentrations of 0.3 µg/m³ or 0.8 µg/m³ for cumulative sources within the Plan Area and 1,000 feet of the Plan Area, the following conditions of approval shall be imposed:

- Design the site to limit exposure from sources of TACs and fine particulate matter (PM_{2.5}) emissions. The final site layout shall locate operable windows and air intakes as far as possible from Lafayette Street and Tasman Drive.
- To the greatest degree possible, plant vegetation along the project site boundaries with Lafayette Street and Tasman Drive and around outdoor use areas. This barrier would include trees and shrubs that provide a dense vegetative barrier.
- Install air filtration at units that have predicted PM_{2.5} concentrations above 0.3 µg/m³. Air filtration devices shall be rated MERV13 or higher. Alternately, at the approval of the City, equivalent control technology may be used if it is shown by a qualified air quality consultant or heating, ventilation, and air conditioning (HVAC) engineer that it would reduce risk below significance thresholds.
- As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.
- Ensure that any lease agreements and other property documents (1) require cleaning, maintenance, and monitoring of the affected units for air flow leaks; (2) include assurance that new owners and tenants are provided information on the ventilation system; and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.
- Require that, prior to building occupancy, an authorized air pollutant consultant or HVAC engineer verify the installation of all necessary measures to reduce PM_{2.5} concentrations above 0.3 µg/m³ for any source and 0.8 µg/m³ for all sources.

Figure 4 TESP Area Affected by Sources of Air Pollution and TACs



Impact AIR-4: Create objectionable odors affecting a substantial number of people?

The adopted TESP FEIR determined odor impacts to be *less than significant*. The update to the adopted TESP would increase localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off site by resulting in confirmed odor complaints. The adopted TESP plan does not identify any typical sources of odors that could lead to objectionable odors that generate frequent odor complaints. Therefore, neither would the TESP update.

GHG Emissions

The CalEEMod model was used to estimate annual emissions associated with the TESP Update and existing TESP scenario. In 2030, annual emissions of the existing TESP are estimated to be 21,974 MT of CO₂e, as shown in Table 7. The Plan Update would increase GHG emissions by an estimated 6,510 MT of CO₂e per year, for a total annual GHG emissions estimate of 28,484 MT of CO₂e. Thus,

the plan update represents a 30 percent increase in GHG emissions. However, population would increase with the plan such that the emissions per capita would decrease slightly.

TABLE 7. Annual Project GHG Emissions (CO₂e) in Metric Tons and Metric Tons per Capita, 2030

Source Category	Approved TESP Emissions	Additional Emissions from Plan Update	Total Emissions
Area	237	47	284
Energy Consumption	5,617	1,441	7,058
Mobile	14,381	4,475	18,856
Solid Waste Generation	1,152	373	1,525
Water Usage	587	174	761
Total (Metric Tons per Year)	21,974	6,510	28,484
GHG Per Capita (Efficiency Metric Tons per Year)	1.74 ¹	1.59 ²	1.71

¹ Based on 12,600 population. ² Based on 4,095 population

Impact AIR-5: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The City of Santa Clara Climate Action Plan²⁹ serves as a Qualified Greenhouse Gas Reduction Strategy or a community-wide plan approved by BAAQMD to GHG emissions in accordance with AB 32 goals.

On April 20, 2022, BAAQMD adopted new thresholds of significance for operational GHG emissions from land use projects for projects. The following framework is how BAAQMD will determine GHG significance moving forward.³⁰ Note BAAQMD intends that the thresholds apply to projects that begin the CEQA process after adoption of the thresholds, unless otherwise directed by the lead agency. The new thresholds of significance are:

- A. Projects must include, at a minimum, the following project design elements:
 - a. Buildings
 - i. The project will not include natural gas appliances or natural gas plumbing (in both residential and non-residential development).
 - ii. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
 - b. Transportation
 - i. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's

²⁹ City of Santa Clara, 2022. *Santa Clara Climate Action Plan*. June. Available at <https://www.santaclaraca.gov/home/showpublisheddocument/78208/637970130098870000> accessed January 20, 2023.

³⁰ Justification Report: BAAQMD CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Project and Plans. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en>

Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:

1. Residential Projects: 15 percent below the existing VMT per capita
 2. Office Projects: 15 percent below the existing VMT per employee
 3. Retail Projects: no net increase in existing VMT
- ii. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b).

Any new land use project would have to include either section A or B from the above list, not both, to be considered in compliance with BAAQMD's GHG thresholds of significance.

Individual projects within the TESP area would be subject to the City's CAP, which is considered a qualified plan, and may be required to complete the CAP compliance checklist for new development projects. Therefore, the Plan Update would meet Threshold B and its impacts are considered less-than-significant.

Impact AIR-6: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The adopted TESP FEIR was found not to conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan. The update to the plan would not change this conclusion. The updated TESP would comply with requirements of the Green Building Code. For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures and water-efficient irrigation systems. The updated TESP would not change relevant GHG emissions reduction measures included in the adopted TESP FEIR.

Supporting Documentation

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

Attachment 2 includes the CalEEMod output for project construction and operational criteria air pollutant. Also included are any modeling assumptions.

Attachment 3 includes the EMFAC2021 emissions modeling to support CalEEMod modeling.

Attachment 4 is the cumulative health risk calculations from existing TAC sources affecting the TESP area. The AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

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 2015.³¹ 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.³² 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.³³ 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,

³¹ 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.

³² CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.

³³ 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:

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

Where:

CPF = Cancer potency factor (mg/kg-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)

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

Where:

C_{air} = concentration in air (µg/m³)

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

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

Parameter	Exposure Type →	Infant		Child	Adult
	Age Range →	3 rd 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) 80 th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95 th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95 th 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*
* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.					

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 ($\mu\text{g}/\text{m}^3$).

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 Inputs and Outputs

Operational Criteria Air Pollutants							
Unmitigated	ROG	NOX	Total PM10	Total PM2.5			
Year	Tons						
TESP 2018 Emissions	19.57	16.40	9.37	2.93			
Total	10.24	2.00	2.44	0.69			
Existing Use Emissions							
Total							
Net Annual Operational Emissions							
Tons/year	29.81	18.40	11.81	3.62			
Threshold - Tons/year	10.0	10.0	15.0	10.0			
Average Daily Emissions							
Pounds Per Day	163.34	100.81	64.73	19.82			
Threshold - lbs/day	54.0	54.0	82.0	54.0			
Category	CO2e						
	Project 2030	TESP 2030	Project 2040	TESP 2040			
Area	46.88	237.00					
Energy	1441.27	5617.00					
Mobile	4474.87	14381.00					
Waste	373.45	1152.00					
Water	174.21	587.00					
TOTAL	6510.70	21974.00	0.00	0.00			
Total GHG Emissions		28,485		0.00			
Service Population	0.00						
Per Capita Emissions		#DIV/0!		#DIV/0!			
0 units CA DOF 1920 = 0 pphh							

Traffic Consultant Trip Gen						CalEEMod Default		
Land Use		Size	Daily Trips	New Trips	Weekday Trip Gen	Weekday	Sat	Sun
Strip Mall	ksf	20	1074	734	36.71	44.32	42.04	20.43
MXD % Reduction		24%	-258			Rev	34.82	16.92
TDM Reduction		10%	-82					
Day Care Center	ksf	10	476	326	32.58	47.62	6.22	5.84
MXD % Reduction		24%	-114			Rev	4.25	4.00
TDM Reduction		10%	-36					
Apartments Mid Rise	DU	1500	7109	4863	3.24	5.44	4.91	4.09
MXD % Reduction		24%	-1706			Rev	2.93	2.44
TDM Reduction		10%	-540					
General Office Building	ksf	20	286	195	9.77	9.74	2.21	0.7
MXD % Reduction		24%	-69			Rev	2.22	0.70
TDM Reduction		10%	-22					

Table 3-4: Project Vehicle Trip Generation

Land Uses	ITE Code	Units	Quantity	Daily Trips	AM			PM		
					In	Out	Total	In	Out	Total
Proposed Uses										
Strip Retail Plaza (<40k) (Adj Streets, 7-9A, 4-6P)	822	KSF	20	1,074	27	18	45	64	64	128
Day Care Center (Adj Streets, 7-9A, 4-6P)	565	KSF	10	476	58	52	110	52	59	111
Multifamily Housing (Mid- Rise) Not Close to Rail Transit (Adj Streets, 7-9A, 4-6P)	221	Dwelling Units	1,500	7,109	149	499	648	357	228	585
General Office Building (Adj Streets, 7-9A, 4-6P)	710	KSF	20	286	37	5	42	7	37	44
Total Added Trips				8,945	271	574	845	480	388	868
MXD % Reduction				24%	31%			37%		
MXD Trip Reductions				(2,147)	(84)	(178)	(262)	(178)	(144)	(321)
Net New Project Trips without TDM				6,798	187	396	583	302	244	547
Tasman East Required TDM % Reduction				10%	10%			10%		
TDM Trip Reductions				(680)	(19)	(40)	(58)	(30)	(24)	(55)
Net New Project Trips with TDM Reduction				6,118	168	356	525	272	220	492

Source: Fehr & Peers, 2022.

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	20.00	1000sqft	0.46	20,000.00	0
Day-Care Center	10.00	1000sqft	0.23	10,000.00	0
Apartments Mid Rise	1,500.00	Dwelling Unit	10.00	1,500,000.00	4290
Strip Mall	20.00	1000sqft	0.46	20,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2030
Utility Company	Silicon Valley Power				
CO2 Intensity (lb/MWahr)	307.98	CH4 Intensity (lb/MWahr)	0.033	N2O Intensity (lb/MWahr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Portion of E. Tasman
- Construction Phase - No construction computations
- Off-road Equipment - No construction computations
- Grading -
- Vehicle Trips - Project specific trips and vmt/trip
- Vehicle Emission Factors - EMFAC2021 Vehicle Emissions Factors Santa Clara County 2030.
- Vehicle Emission Factors -
- Vehicle Emission Factors -

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Road Dust - Santa Clara Road Dust

Woodstoves - No Hearths

Energy Use - Santa Clara 2020 Reach Code - no natural gas - convert to electricity.

Water And Wastewater - Wastewater treatment 100% aerobic - no septic tanks or lagoons.

Fleet Mix - EMFAC2021 fleet mix Santa Clara County 2030.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	10.00	0.00
tblEnergyUse	NT24E	3,054.10	3,978.74
tblEnergyUse	NT24E	1.28	1.55
tblEnergyUse	NT24E	7.84	7.86
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	NT24NG	0.93	0.00
tblEnergyUse	NT24NG	0.06	0.00
tblEnergyUse	T24E	70.89	1,602.68
tblEnergyUse	T24E	1.39	6.47
tblEnergyUse	T24E	5.45	10.18
tblEnergyUse	T24E	2.46	3.15
tblEnergyUse	T24NG	5,226.68	0.00
tblEnergyUse	T24NG	17.34	0.00
tblEnergyUse	T24NG	16.14	0.00
tblEnergyUse	T24NG	2.34	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFleetMix	HHD	6.1320e-003	7.8440e-003
tblFleetMix	HHD	6.1320e-003	7.8440e-003
tblFleetMix	HHD	6.1320e-003	7.8440e-003
tblFleetMix	HHD	6.1320e-003	7.8440e-003
tblFleetMix	LDA	0.58	0.51
tblFleetMix	LDA	0.58	0.51
tblFleetMix	LDA	0.58	0.51

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tblFleetMix	LDA	0.58	0.51
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.18	0.24
tblFleetMix	LDT2	0.18	0.24
tblFleetMix	LDT2	0.18	0.24
tblFleetMix	LDT2	0.18	0.24
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.3980e-003	6.1700e-003
tblFleetMix	LHD2	5.3980e-003	6.1700e-003
tblFleetMix	LHD2	5.3980e-003	6.1700e-003
tblFleetMix	LHD2	5.3980e-003	6.1700e-003
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MH	2.5260e-003	2.2720e-003
tblFleetMix	MH	2.5260e-003	2.2720e-003
tblFleetMix	MH	2.5260e-003	2.2720e-003
tblFleetMix	MH	2.5260e-003	2.2720e-003

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tblFleetMix	MHD	8.2190e-003	9.6590e-003
tblFleetMix	MHD	8.2190e-003	9.6590e-003
tblFleetMix	MHD	8.2190e-003	9.6590e-003
tblFleetMix	MHD	8.2190e-003	9.6590e-003
tblFleetMix	OBUS	8.5200e-004	1.0640e-003
tblFleetMix	OBUS	8.5200e-004	1.0640e-003
tblFleetMix	OBUS	8.5200e-004	1.0640e-003
tblFleetMix	OBUS	8.5200e-004	1.0640e-003
tblFleetMix	SBUS	8.3700e-004	6.8100e-004
tblFleetMix	SBUS	8.3700e-004	6.8100e-004
tblFleetMix	SBUS	8.3700e-004	6.8100e-004
tblFleetMix	SBUS	8.3700e-004	6.8100e-004
tblFleetMix	UBUS	3.3500e-004	3.9600e-004
tblFleetMix	UBUS	3.3500e-004	3.9600e-004
tblFleetMix	UBUS	3.3500e-004	3.9600e-004
tblFleetMix	UBUS	3.3500e-004	3.9600e-004
tblLandUse	LotAcreage	39.47	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblRoadDust	RoadSiltLoading	0.1	0.04
tblVehicleEF	HHD	0.02	0.20
tblVehicleEF	HHD	0.05	0.09
tblVehicleEF	HHD	6.28	5.00
tblVehicleEF	HHD	0.41	0.63
tblVehicleEF	HHD	6.6850e-003	8.7300e-004
tblVehicleEF	HHD	930.05	719.71
tblVehicleEF	HHD	1,226.35	1,395.93
tblVehicleEF	HHD	0.05	9.4370e-003
tblVehicleEF	HHD	0.15	0.12

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tblVehicleEF	HHD	0.19	0.22
tblVehicleEF	HHD	2.0000e-006	4.0000e-006
tblVehicleEF	HHD	5.20	3.42
tblVehicleEF	HHD	2.52	1.45
tblVehicleEF	HHD	2.31	2.60
tblVehicleEF	HHD	2.1460e-003	1.7380e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	2.0530e-003	1.6560e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.9050e-003	8.7860e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	1.0000e-006	4.0000e-005
tblVehicleEF	HHD	5.8000e-005	1.3000e-005
tblVehicleEF	HHD	0.42	0.31
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	2.5000e-005	1.1400e-004
tblVehicleEF	HHD	2.0000e-006	0.00
tblVehicleEF	HHD	8.6530e-003	6.2150e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	1.0000e-006	4.0000e-005
tblVehicleEF	HHD	5.8000e-005	1.3000e-005
tblVehicleEF	HHD	0.49	0.54
tblVehicleEF	HHD	1.0000e-006	0.00

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tblVehicleEF	HHD	0.07	0.10
tblVehicleEF	HHD	2.5000e-005	1.1400e-004
tblVehicleEF	HHD	2.0000e-006	0.00
tblVehicleEF	LDA	9.5900e-004	1.2510e-003
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.40	0.48
tblVehicleEF	LDA	1.69	2.09
tblVehicleEF	LDA	199.86	212.85
tblVehicleEF	LDA	42.17	54.77
tblVehicleEF	LDA	3.1760e-003	3.1650e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.12	0.18
tblVehicleEF	LDA	0.04	7.0780e-003
tblVehicleEF	LDA	9.1600e-004	8.3800e-004
tblVehicleEF	LDA	1.2750e-003	1.4820e-003
tblVehicleEF	LDA	0.02	2.4770e-003
tblVehicleEF	LDA	8.4300e-004	7.7100e-004
tblVehicleEF	LDA	1.1720e-003	1.3620e-003
tblVehicleEF	LDA	0.02	0.23
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.00
tblVehicleEF	LDA	3.2350e-003	4.3400e-003
tblVehicleEF	LDA	0.02	0.17
tblVehicleEF	LDA	0.12	0.20
tblVehicleEF	LDA	1.9770e-003	2.1040e-003
tblVehicleEF	LDA	4.1700e-004	5.4100e-004
tblVehicleEF	LDA	0.02	0.23
tblVehicleEF	LDA	0.06	0.06

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tblVehicleEF	LDA	0.02	0.00
tblVehicleEF	LDA	4.6990e-003	6.3290e-003
tblVehicleEF	LDA	0.02	0.17
tblVehicleEF	LDA	0.13	0.22
tblVehicleEF	LDT1	1.6710e-003	3.2730e-003
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.53	0.90
tblVehicleEF	LDT1	1.82	3.41
tblVehicleEF	LDT1	241.46	289.93
tblVehicleEF	LDT1	51.55	75.02
tblVehicleEF	LDT1	3.7700e-003	5.8700e-003
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.03	0.07
tblVehicleEF	LDT1	0.15	0.27
tblVehicleEF	LDT1	0.04	9.1380e-003
tblVehicleEF	LDT1	1.0550e-003	1.2600e-003
tblVehicleEF	LDT1	1.4610e-003	2.0740e-003
tblVehicleEF	LDT1	0.02	3.1980e-003
tblVehicleEF	LDT1	9.7000e-004	1.1590e-003
tblVehicleEF	LDT1	1.3440e-003	1.9070e-003
tblVehicleEF	LDT1	0.05	0.47
tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	0.04	0.00
tblVehicleEF	LDT1	6.4760e-003	0.01
tblVehicleEF	LDT1	0.06	0.36
tblVehicleEF	LDT1	0.15	0.34
tblVehicleEF	LDT1	2.3890e-003	2.8660e-003
tblVehicleEF	LDT1	5.1000e-004	7.4200e-004
tblVehicleEF	LDT1	0.05	0.47

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tblVehicleEF	LDT1	0.09	0.12
tblVehicleEF	LDT1	0.04	0.00
tblVehicleEF	LDT1	9.4480e-003	0.02
tblVehicleEF	LDT1	0.06	0.36
tblVehicleEF	LDT1	0.17	0.37
tblVehicleEF	LDT2	1.7260e-003	1.8780e-003
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.55	0.64
tblVehicleEF	LDT2	2.25	2.73
tblVehicleEF	LDT2	249.80	293.05
tblVehicleEF	LDT2	53.79	74.63
tblVehicleEF	LDT2	4.0490e-003	4.4940e-003
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.17	0.25
tblVehicleEF	LDT2	0.04	8.8380e-003
tblVehicleEF	LDT2	1.0100e-003	9.8900e-004
tblVehicleEF	LDT2	1.3400e-003	1.6580e-003
tblVehicleEF	LDT2	0.02	3.0930e-003
tblVehicleEF	LDT2	9.3000e-004	9.1000e-004
tblVehicleEF	LDT2	1.2320e-003	1.5240e-003
tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.09	0.06
tblVehicleEF	LDT2	0.05	0.00
tblVehicleEF	LDT2	6.5290e-003	6.8650e-003
tblVehicleEF	LDT2	0.05	0.19
tblVehicleEF	LDT2	0.18	0.27
tblVehicleEF	LDT2	2.4710e-003	2.8970e-003
tblVehicleEF	LDT2	5.3200e-004	7.3800e-004

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tblVehicleEF	LDT2	0.05	0.25
tblVehicleEF	LDT2	0.09	0.06
tblVehicleEF	LDT2	0.05	0.00
tblVehicleEF	LDT2	9.4890e-003	0.01
tblVehicleEF	LDT2	0.05	0.19
tblVehicleEF	LDT2	0.20	0.29
tblVehicleEF	LHD1	4.1480e-003	4.3350e-003
tblVehicleEF	LHD1	5.1950e-003	4.0280e-003
tblVehicleEF	LHD1	9.0230e-003	0.02
tblVehicleEF	LHD1	0.18	0.18
tblVehicleEF	LHD1	0.47	0.54
tblVehicleEF	LHD1	0.89	2.05
tblVehicleEF	LHD1	8.25	7.81
tblVehicleEF	LHD1	698.55	665.93
tblVehicleEF	LHD1	10.09	15.88
tblVehicleEF	LHD1	7.2900e-004	5.8900e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.05	0.04
tblVehicleEF	LHD1	0.30	0.31
tblVehicleEF	LHD1	0.23	0.33
tblVehicleEF	LHD1	9.1500e-004	6.6600e-004
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	9.9010e-003	9.3430e-003
tblVehicleEF	LHD1	7.0190e-003	9.1890e-003
tblVehicleEF	LHD1	2.1000e-004	1.3400e-004
tblVehicleEF	LHD1	8.7500e-004	6.3700e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4750e-003	2.3360e-003

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tblVehicleEF	LHD1	6.6710e-003	8.7610e-003
tblVehicleEF	LHD1	1.9300e-004	1.2300e-004
tblVehicleEF	LHD1	1.4030e-003	0.09
tblVehicleEF	LHD1	0.05	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.7200e-004	0.00
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.18	0.12
tblVehicleEF	LHD1	0.04	0.08
tblVehicleEF	LHD1	8.0000e-005	7.6000e-005
tblVehicleEF	LHD1	6.8120e-003	6.4980e-003
tblVehicleEF	LHD1	1.0000e-004	1.5700e-004
tblVehicleEF	LHD1	1.4030e-003	0.09
tblVehicleEF	LHD1	0.05	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.7200e-004	0.00
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.18	0.12
tblVehicleEF	LHD1	0.05	0.09
tblVehicleEF	LHD2	2.5050e-003	2.5080e-003
tblVehicleEF	LHD2	5.3390e-003	4.4570e-003
tblVehicleEF	LHD2	4.8110e-003	8.7200e-003
tblVehicleEF	LHD2	0.13	0.14
tblVehicleEF	LHD2	0.49	0.38
tblVehicleEF	LHD2	0.48	1.11
tblVehicleEF	LHD2	13.00	13.36
tblVehicleEF	LHD2	679.81	713.03
tblVehicleEF	LHD2	6.44	8.54
tblVehicleEF	LHD2	1.6660e-003	1.6800e-003

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tblVehicleEF	LHD2	0.06	0.07
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	0.07	0.08
tblVehicleEF	LHD2	0.38	0.50
tblVehicleEF	LHD2	0.12	0.18
tblVehicleEF	LHD2	1.5020e-003	1.4560e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	1.0600e-004	5.7000e-005
tblVehicleEF	LHD2	1.4370e-003	1.3930e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.7110e-003	2.6340e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	9.8000e-005	5.2000e-005
tblVehicleEF	LHD2	6.4200e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.7400e-004	0.00
tblVehicleEF	LHD2	0.10	0.08
tblVehicleEF	LHD2	0.06	0.07
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	1.2400e-004	1.2800e-004
tblVehicleEF	LHD2	6.5570e-003	6.8600e-003
tblVehicleEF	LHD2	6.4000e-005	8.4000e-005
tblVehicleEF	LHD2	6.4200e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.7400e-004	0.00

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tblVehicleEF	LHD2	0.11	0.10
tblVehicleEF	LHD2	0.06	0.07
tblVehicleEF	LHD2	0.02	0.05
tblVehicleEF	MCY	0.32	0.14
tblVehicleEF	MCY	0.25	0.16
tblVehicleEF	MCY	17.61	11.05
tblVehicleEF	MCY	9.20	7.83
tblVehicleEF	MCY	209.76	185.58
tblVehicleEF	MCY	59.23	42.83
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	6.3410e-003
tblVehicleEF	MCY	1.14	0.51
tblVehicleEF	MCY	0.27	0.10
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	2.1380e-003	1.9970e-003
tblVehicleEF	MCY	2.8620e-003	3.4160e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.9940e-003	1.8640e-003
tblVehicleEF	MCY	2.6760e-003	3.1970e-003
tblVehicleEF	MCY	0.89	3.68
tblVehicleEF	MCY	0.63	3.56
tblVehicleEF	MCY	0.47	0.00
tblVehicleEF	MCY	2.13	0.89
tblVehicleEF	MCY	0.46	3.78
tblVehicleEF	MCY	1.88	1.13
tblVehicleEF	MCY	2.0760e-003	1.8350e-003
tblVehicleEF	MCY	5.8600e-004	4.2300e-004
tblVehicleEF	MCY	0.89	0.08
tblVehicleEF	MCY	0.63	3.56

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tblVehicleEF	MCY	0.47	0.00
tblVehicleEF	MCY	2.67	1.09
tblVehicleEF	MCY	0.46	3.78
tblVehicleEF	MCY	2.04	1.23
tblVehicleEF	MDV	1.7720e-003	2.0970e-003
tblVehicleEF	MDV	0.04	0.07
tblVehicleEF	MDV	0.54	0.66
tblVehicleEF	MDV	2.29	2.78
tblVehicleEF	MDV	301.13	349.58
tblVehicleEF	MDV	63.46	88.38
tblVehicleEF	MDV	5.2660e-003	5.3820e-003
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.18	0.27
tblVehicleEF	MDV	0.04	8.8920e-003
tblVehicleEF	MDV	1.0200e-003	9.7100e-004
tblVehicleEF	MDV	1.3440e-003	1.6080e-003
tblVehicleEF	MDV	0.02	3.1120e-003
tblVehicleEF	MDV	9.4000e-004	8.9400e-004
tblVehicleEF	MDV	1.2360e-003	1.4780e-003
tblVehicleEF	MDV	0.06	0.28
tblVehicleEF	MDV	0.10	0.07
tblVehicleEF	MDV	0.06	0.00
tblVehicleEF	MDV	6.8620e-003	8.0910e-003
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.20	0.30
tblVehicleEF	MDV	2.9760e-003	3.4540e-003
tblVehicleEF	MDV	6.2800e-004	8.7400e-004
tblVehicleEF	MDV	0.06	0.28

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tblVehicleEF	MDV	0.10	0.07
tblVehicleEF	MDV	0.06	0.00
tblVehicleEF	MDV	9.9460e-003	0.01
tblVehicleEF	MDV	0.05	0.21
tblVehicleEF	MDV	0.22	0.33
tblVehicleEF	MH	5.0270e-003	6.0740e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.31	0.37
tblVehicleEF	MH	1.64	1.92
tblVehicleEF	MH	1,350.27	1,656.25
tblVehicleEF	MH	15.54	20.13
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.06	1.28
tblVehicleEF	MH	0.24	0.30
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	2.1200e-004	2.3300e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.2970e-003	3.3360e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.9500e-004	2.1400e-004
tblVehicleEF	MH	0.35	20.30
tblVehicleEF	MH	0.03	4.90
tblVehicleEF	MH	0.14	0.00
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	5.8500e-003	0.12
tblVehicleEF	MH	0.07	0.09

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tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.5400e-004	1.9900e-004
tblVehicleEF	MH	0.35	20.30
tblVehicleEF	MH	0.03	4.90
tblVehicleEF	MH	0.14	0.00
tblVehicleEF	MH	0.05	0.06
tblVehicleEF	MH	5.8500e-003	0.12
tblVehicleEF	MH	0.08	0.10
tblVehicleEF	MHD	3.8320e-003	0.02
tblVehicleEF	MHD	1.0340e-003	9.4650e-003
tblVehicleEF	MHD	8.3830e-003	6.5780e-003
tblVehicleEF	MHD	0.41	0.63
tblVehicleEF	MHD	0.15	0.16
tblVehicleEF	MHD	0.87	0.72
tblVehicleEF	MHD	65.10	143.38
tblVehicleEF	MHD	993.45	1,074.54
tblVehicleEF	MHD	8.55	6.79
tblVehicleEF	MHD	9.3710e-003	0.02
tblVehicleEF	MHD	0.12	0.14
tblVehicleEF	MHD	7.7400e-003	4.7600e-003
tblVehicleEF	MHD	0.34	0.63
tblVehicleEF	MHD	1.43	0.58
tblVehicleEF	MHD	1.69	1.22
tblVehicleEF	MHD	1.6200e-004	6.5500e-004
tblVehicleEF	MHD	0.13	0.04
tblVehicleEF	MHD	7.0060e-003	5.4200e-003
tblVehicleEF	MHD	1.1200e-004	8.2000e-005
tblVehicleEF	MHD	1.5500e-004	6.2600e-004
tblVehicleEF	MHD	0.06	0.02

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tblVehicleEF	MHD	6.6960e-003	5.1780e-003
tblVehicleEF	MHD	1.0300e-004	7.6000e-005
tblVehicleEF	MHD	2.8900e-004	0.01
tblVehicleEF	MHD	0.01	3.4200e-003
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.6800e-004	0.00
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	6.1800e-004	1.3200e-003
tblVehicleEF	MHD	9.4800e-003	0.01
tblVehicleEF	MHD	8.5000e-005	6.7000e-005
tblVehicleEF	MHD	2.8900e-004	0.01
tblVehicleEF	MHD	0.01	3.4200e-003
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	1.6800e-004	0.00
tblVehicleEF	MHD	0.01	0.03
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.05	0.04
tblVehicleEF	OBUS	7.0980e-003	7.5210e-003
tblVehicleEF	OBUS	2.1970e-003	0.01
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.64	0.55
tblVehicleEF	OBUS	0.26	0.29
tblVehicleEF	OBUS	1.58	1.46
tblVehicleEF	OBUS	97.36	89.81
tblVehicleEF	OBUS	1,210.85	1,245.37
tblVehicleEF	OBUS	13.46	12.02
tblVehicleEF	OBUS	0.01	0.01

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tblVehicleEF	OBUS	0.12	0.15
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.43	0.33
tblVehicleEF	OBUS	1.45	0.83
tblVehicleEF	OBUS	1.13	0.93
tblVehicleEF	OBUS	1.4200e-004	3.1100e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	7.8820e-003	0.01
tblVehicleEF	OBUS	1.5600e-004	1.1800e-004
tblVehicleEF	OBUS	1.3600e-004	2.9700e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	7.5260e-003	0.01
tblVehicleEF	OBUS	1.4400e-004	1.0900e-004
tblVehicleEF	OBUS	1.0620e-003	0.07
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.05	0.04
tblVehicleEF	OBUS	4.8700e-004	0.00
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.08
tblVehicleEF	OBUS	0.08	0.07
tblVehicleEF	OBUS	9.2400e-004	8.4600e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.3300e-004	1.1900e-004
tblVehicleEF	OBUS	1.0620e-003	0.07
tblVehicleEF	OBUS	0.02	0.01
tblVehicleEF	OBUS	0.06	0.05
tblVehicleEF	OBUS	4.8700e-004	0.00
tblVehicleEF	OBUS	0.02	0.05
tblVehicleEF	OBUS	0.05	0.08

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tblVehicleEF	OBUS	0.08	0.08
tblVehicleEF	SBUS	0.07	0.08
tblVehicleEF	SBUS	4.4040e-003	0.09
tblVehicleEF	SBUS	6.3380e-003	5.2160e-003
tblVehicleEF	SBUS	2.93	1.82
tblVehicleEF	SBUS	0.37	0.72
tblVehicleEF	SBUS	0.86	0.67
tblVehicleEF	SBUS	337.48	181.81
tblVehicleEF	SBUS	970.50	941.81
tblVehicleEF	SBUS	5.06	3.93
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.12	0.11
tblVehicleEF	SBUS	6.4910e-003	4.8480e-003
tblVehicleEF	SBUS	2.71	1.05
tblVehicleEF	SBUS	3.09	1.57
tblVehicleEF	SBUS	1.18	0.52
tblVehicleEF	SBUS	2.0480e-003	7.4600e-004
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.02	8.5750e-003
tblVehicleEF	SBUS	6.8000e-005	4.6000e-005
tblVehicleEF	SBUS	1.9600e-003	7.1300e-004
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.6690e-003	2.6100e-003
tblVehicleEF	SBUS	0.02	8.1870e-003
tblVehicleEF	SBUS	6.2000e-005	4.2000e-005
tblVehicleEF	SBUS	8.7000e-004	0.04
tblVehicleEF	SBUS	8.3040e-003	9.3350e-003
tblVehicleEF	SBUS	0.32	0.20

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tblVehicleEF	SBUS	4.1400e-004	0.00
tblVehicleEF	SBUS	0.06	0.04
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.04	0.03
tblVehicleEF	SBUS	3.2190e-003	1.6390e-003
tblVehicleEF	SBUS	9.2880e-003	8.7390e-003
tblVehicleEF	SBUS	5.0000e-005	3.9000e-005
tblVehicleEF	SBUS	8.7000e-004	0.04
tblVehicleEF	SBUS	8.3040e-003	9.3350e-003
tblVehicleEF	SBUS	0.46	0.32
tblVehicleEF	SBUS	4.1400e-004	0.00
tblVehicleEF	SBUS	0.07	0.13
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	0.04	0.03
tblVehicleEF	UBUS	1.86	0.63
tblVehicleEF	UBUS	2.1860e-003	2.5020e-003
tblVehicleEF	UBUS	14.11	7.38
tblVehicleEF	UBUS	0.14	0.53
tblVehicleEF	UBUS	1,668.67	969.99
tblVehicleEF	UBUS	1.40	3.03
tblVehicleEF	UBUS	0.28	0.15
tblVehicleEF	UBUS	1.2560e-003	4.5820e-003
tblVehicleEF	UBUS	0.71	0.26
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	0.07	0.15
tblVehicleEF	UBUS	0.03	0.06
tblVehicleEF	UBUS	5.1160e-003	4.8220e-003
tblVehicleEF	UBUS	1.5000e-005	1.3000e-005
tblVehicleEF	UBUS	0.03	0.05

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tblVehicleEF	UBUS	8.3320e-003	0.01
tblVehicleEF	UBUS	4.8930e-003	4.6090e-003
tblVehicleEF	UBUS	1.4000e-005	1.2000e-005
tblVehicleEF	UBUS	6.1000e-005	7.0380e-003
tblVehicleEF	UBUS	8.1400e-004	2.0980e-003
tblVehicleEF	UBUS	3.6000e-005	0.00
tblVehicleEF	UBUS	0.03	0.05
tblVehicleEF	UBUS	1.7600e-004	7.8780e-003
tblVehicleEF	UBUS	9.2610e-003	8.3780e-003
tblVehicleEF	UBUS	0.01	7.3890e-003
tblVehicleEF	UBUS	1.4000e-005	3.0000e-005
tblVehicleEF	UBUS	6.1000e-005	7.0380e-003
tblVehicleEF	UBUS	8.1400e-004	2.0980e-003
tblVehicleEF	UBUS	3.6000e-005	0.00
tblVehicleEF	UBUS	1.90	0.69
tblVehicleEF	UBUS	1.7600e-004	7.8780e-003
tblVehicleEF	UBUS	0.01	9.1730e-003
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TL	7.30	44.87
tblVehicleTrips	CC_TL	7.30	3.11
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TL	7.30	44.87
tblVehicleTrips	CNW_TL	7.30	3.11
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TL	9.50	44.87
tblVehicleTrips	CW_TL	9.50	3.11
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	DV_TP	58.00	0.00
tblVehicleTrips	DV_TP	19.00	0.00

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tblVehicleTrips	DV_TP	40.00	0.00
tblVehicleTrips	HO_TL	5.70	6.88
tblVehicleTrips	HS_TL	4.80	6.88
tblVehicleTrips	HW_TL	10.80	6.88
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PB_TP	14.00	0.00
tblVehicleTrips	PB_TP	4.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	PR_TP	28.00	100.00
tblVehicleTrips	PR_TP	77.00	100.00
tblVehicleTrips	PR_TP	45.00	100.00
tblVehicleTrips	ST_TR	4.91	2.93
tblVehicleTrips	ST_TR	6.22	4.25
tblVehicleTrips	ST_TR	2.21	2.22
tblVehicleTrips	ST_TR	42.04	34.82
tblVehicleTrips	SU_TR	4.09	2.44
tblVehicleTrips	SU_TR	5.84	4.00
tblVehicleTrips	SU_TR	20.43	16.92
tblVehicleTrips	WD_TR	5.44	3.24
tblVehicleTrips	WD_TR	47.62	32.58
tblVehicleTrips	WD_TR	9.74	9.77
tblVehicleTrips	WD_TR	44.32	36.71
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00

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tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	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	7.4706	0.1523	11.1190	7.4000e-004		0.0637	0.0637		0.0637	0.0637	0.0000	46.2829	46.2829	0.0179	5.1000e-004	46.8832
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1,431.8967	1,431.8967	0.1534	0.0186	1,441.27
Mobile	2.7687	1.8447	18.6314	0.0477	2.3503	0.0284	2.3786	0.5965	0.0265	0.6230	0.0000	4,411.4819	4,411.4819	0.2009	0.1959	4,474.87
Waste						0.0000	0.0000		0.0000	0.0000	150.7411	0.0000	150.7411	8.9085	0.0000	373.4547
Water						0.0000	0.0000		0.0000	0.0000	36.5109	110.1797	146.6907	0.1375	0.0808	174.2149
Total	10.2393	1.997	29.7504	0.0485	2.3503	0.0921	2.4424	0.5965	0.0902	0.6867	187.2520	5,999.8412	6,187.0933	9.4182	0.2958	6,510.6991

Mitigated Operational

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	7.4706	0.1523	11.1190	7.4000e-004		0.0637	0.0637		0.0637	0.0637	0.0000	46.2829	46.2829	0.0179	5.1000e-004	46.8832
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1,431.8967	1,431.8967	0.1534	0.0186	1,441.2744
Mobile	2.7687	1.8447	18.6314	0.0477	2.3503	0.0284	2.3786	0.5965	0.0265	0.6230	0.0000	4,411.4819	4,411.4819	0.2009	0.1959	4,474.8719
Waste						0.0000	0.0000		0.0000	0.0000	150.7411	0.0000	150.7411	8.9085	0.0000	373.4547
Water						0.0000	0.0000		0.0000	0.0000	36.5109	110.1797	146.6907	0.1375	0.0808	174.2149
Total	10.2393	1.9970	29.7504	0.0485	2.3503	0.0921	2.4424	0.5965	0.0902	0.6867	187.2520	5,999.8412	6,187.0933	9.4182	0.2958	6,510.6991

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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					

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

Mitigated	2.7687	1.8447	18.6314	0.0477	2.3503	0.0284	2.3786	0.5965	0.0265	0.6230	0.0000	4,411.4819	4,411.4819	0.2009	0.1959	4,474.8719
Unmitigated	2.7687	1.8447	18.6314	0.0477	2.3503	0.0284	2.3786	0.5965	0.0265	0.6230	0.0000	4,411.4819	4,411.4819	0.2009	0.1959	4,474.8719

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Apartments Mid Rise	4,860.00	4,395.00	3660.00	11,575,325	11,575,325
Day-Care Center	325.80	42.50	40.00		
General Office Building	195.40	44.40	14.00	2,415,837	2,415,837
Strip Mall	734.20	696.40	338.40	761,022	761,022
Total	6,115.40	5,178.30	4,052.40	14,752,183	14,752,183

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	6.88	6.88	6.88	31.00	15.00	54.00	100	0	0
Day-Care Center	0.00	0.00	0.00	12.70	82.30	5.00	100	0	0
General Office Building	44.87	44.87	44.87	33.00	48.00	19.00	100	0	0
Strip Mall	3.11	3.11	3.11	16.60	64.40	19.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.514977	0.035448	0.239576	0.135703	0.024260	0.006170	0.009659	0.007844	0.001064	0.000396	0.021950	0.000681	0.002272
Day-Care Center	0.514977	0.035448	0.239576	0.135703	0.024260	0.006170	0.009659	0.007844	0.001064	0.000396	0.021950	0.000681	0.002272
General Office Building	0.514977	0.035448	0.239576	0.135703	0.024260	0.006170	0.009659	0.007844	0.001064	0.000396	0.021950	0.000681	0.002272
Strip Mall	0.514977	0.035448	0.239576	0.135703	0.024260	0.006170	0.009659	0.007844	0.001064	0.000396	0.021950	0.000681	0.002272

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - Natural Gas

Unmitigated

[illegible]

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

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Day-Care Center	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	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	9.48429e+006	1,324.9305	0.1420	0.0172	1,333.6076
Day-Care Center	105700	14.7660	1.5800e-003	1.9000e-004	14.8627
General Office Building	438400	61.2433	6.5600e-003	8.0000e-004	61.6444

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Strip Mall	221600	30.9569	3.3200e-003	4.0000e-004	31.1597
Total		1,431.8967	0.1534	0.0186	1,441.2744

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	9.48429e+006	1,324.9305	0.1420	0.0172	1,333.6076
Day-Care Center	105700	14.7660	1.5800e-003	1.9000e-004	14.8627
General Office Building	438400	61.2433	6.5600e-003	8.0000e-004	61.6444
Strip Mall	221600	30.9569	3.3200e-003	4.0000e-004	31.1597
Total		1,431.8967	0.1534	0.0186	1,441.2744

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	7.4706	0.1523	11.1190	7.4000e-004		0.0637	0.0637		0.0637	0.0637	0.0000	46.2829	46.2829	0.0179	5.1000e-004	46.8832
Unmitigated	7.4706	0.1523	11.1190	7.4000e-004		0.0637	0.0637		0.0637	0.0637	0.0000	46.2829	46.2829	0.0179	5.1000e-004	46.8832

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	1.0820					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0535					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.8400e-003	0.0243	0.0103	1.5000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	28.0888	28.0888	5.4000e-004	5.1000e-004	28.2558
Landscaping	0.3323	0.1281	11.1087	5.9000e-004		0.0618	0.0618		0.0618	0.0618	0.0000	18.1941	18.1941	0.0173	0.0000	18.6275
Total	7.4706	0.1523	11.1190	7.4000e-004		0.0637	0.0637		0.0637	0.0637	0.0000	46.2829	46.2829	0.0179	5.1000e-004	46.8832

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

SubCategory										tons/yr							MT/yr						
Architectural Coating	1.0820					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	6.0535					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.8400e-003	0.0243	0.0103	1.5000e-004		1.9600e-003	1.9600e-003		1.9600e-003	1.9600e-003	0.0000	28.0888	28.0888	5.4000e-004	5.1000e-004	28.2558							
Landscaping	0.3323	0.1281	11.1087	5.9000e-004		0.0618	0.0618		0.0618	0.0618	0.0000	18.1941	18.1941	0.0173	0.0000	18.6275							
Total	7.4706	0.1523	11.1190	7.4000e-004		0.0637	0.0637		0.0637	0.0637	0.0000	46.2829	46.2829	0.0179	5.1000e-004	46.8832							

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	146.6907	0.1375	0.0808	174.2149
Unmitigated	146.6907	0.1375	0.0808	174.2149

7.2 Water by Land Use

Unmitigated

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

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	97.731 / 61.613	138.5777	0.1302	0.0766	164.6420
Day-Care Center	0.428896 / 1.10287	1.0152	6.1000e-004	3.4000e-004	1.1322
General Office Building	3.55467 / 2.17867	5.0099	4.7300e-003	2.7800e-003	5.9577
Strip Mall	1.48145 / 0.907986	2.0879	1.9700e-003	1.1600e-003	2.4829
Total		146.6907	0.1375	0.0808	174.2149

Mitigated

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	97.731 / 61.613	138.5777	0.1302	0.0766	164.6420
Day-Care Center	0.428896 / 1.10287	1.0152	6.1000e-004	3.4000e-004	1.1322
General Office Building	3.55467 / 2.17867	5.0099	4.7300e-003	2.7800e-003	5.9577
Strip Mall	1.48145 / 0.907986	2.0879	1.9700e-003	1.1600e-003	2.4829
Total		146.6907	0.1375	0.0808	174.2149

8.0 Waste Detail

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	150.7411	8.9085	0.0000	373.4547
Unmitigated	150.7411	8.9085	0.0000	373.4547

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	690	140.0638	8.2775	0.0000	347.0021
Day-Care Center	13	2.6389	0.1560	0.0000	6.5377
General Office Building	18.6	3.7756	0.2231	0.0000	9.3540
Strip Mall	21	4.2628	0.2519	0.0000	10.5609
Total		150.7411	8.9085	0.0000	373.4547

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

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	690	140.0638	8.2775	0.0000	347.0021
Day-Care Center	13	2.6389	0.1560	0.0000	6.5377
General Office Building	18.6	3.7756	0.2231	0.0000	9.3540
Strip Mall	21	4.2628	0.2519	0.0000	10.5609
Total		150.7411	8.9085	0.0000	373.4547

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

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

11.0 Vegetation

Attachment 3: CalEEMod EMFAC2021 Calculations

CalEEMod EMFAC2021 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	0.004335	0.002508	0.015544	0.200689575	0.007521	0	0	0.081907	0
A	CH4_RUNEX	0.001251	0.003273	0.001878	0.002097	0.004028	0.004457	0.009465	0.087739612	0.010745	0.633168094	0.142987	0.08726	0.006074
A	CH4_STREX	0.045719	0.070684	0.060357	0.065129	0.016442	0.00872	0.006578	4.40093E-08	0.013432	0.002502449	0.157242	0.005216	0.022777
A	CO_IDLEX	0	0	0	0	0.182077	0.135546	0.628457	4.997868655	0.549826	0	0	1.823721	0
A	CO_RUNEX	0.484467	0.895508	0.639484	0.660796	0.544761	0.383737	0.155266	0.628349624	0.288528	7.378159276	11.04655	0.716417	0.371762
A	CO_STREX	2.08878	3.413929	2.729559	2.781248	2.051418	1.109837	0.71851	0.00087263	1.464305	0.531636543	7.830862	0.671301	1.918466
A	CO2_NBIO_IDLEX	0	0	0	0	7.808851	13.36322	143.3801	719.710734	89.80588	0	0	181.8136	0
A	CO2_NBIO_RUNEX	212.8469	289.9302	293.0501	349.5802	665.9344	713.025	1074.538	1395.928332	1245.372	969.9926525	185.5769	941.807	1656.25
A	CO2_NBIO_STREX	54.76765	75.02353	74.63055	88.38252	15.88489	8.544837	6.787068	0.009437452	12.01881	3.025945099	42.83228	3.929487	20.12804
A	NOX_IDLEX	0	0	0	0	0.036306	0.076255	0.630169	3.42443431	0.333548	0	0	1.045112	0
A	NOX_RUNEX	0.023158	0.066035	0.041164	0.048222	0.312391	0.495733	0.584719	1.446947564	0.825827	0.255958394	0.509869	1.567888	1.278466
A	NOX_STREX	0.178975	0.272625	0.247045	0.271696	0.32724	0.178285	1.220957	2.603954429	0.931305	0.025581732	0.103081	0.520702	0.298107
A	PM10_IDLEX	0	0	0	0	0.000666	0.001456	0.000655	0.001737607	0.000311	0	0	0.000746	0
A	PM10_PMBW	0.007078	0.009138	0.008838	0.008892	0.0744	0.086908	0.04333	0.082108579	0.049981	0.147119217	0.012	0.043749	0.04494
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009343	0.010534	0.012	0.035145225	0.012	0.05700071	0.004	0.010442	0.013343
A	PM10_RUNEX	0.000838	0.00126	0.000989	0.000971	0.009189	0.01687	0.00542	0.023402177	0.012621	0.004822062	0.001997	0.008575	0.022807
A	PM10_STREX	0.001482	0.002074	0.001658	0.001608	0.000134	5.67E-05	8.23E-05	1.43954E-07	0.000118	1.26121E-05	0.003416	4.58E-05	0.000233
A	PM25_IDLEX	0	0	0	0	0.000637	0.001393	0.000626	0.001655588	0.000297	0	0	0.000713	0
A	PM25_PMBW	0.002477	0.003198	0.003093	0.003112	0.02604	0.030418	0.015165	0.028738003	0.017493	0.051491726	0.0042	0.015312	0.015729
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002336	0.002634	0.003	0.008786306	0.003	0.014250178	0.001	0.00261	0.003336
A	PM25_RUNEX	0.000771	0.001159	0.00091	0.000894	0.008761	0.016127	0.005178	0.022386582	0.012067	0.00460949	0.001864	0.008187	0.021783
A	PM25_STREX	0.001362	0.001907	0.001524	0.001478	0.000123	5.22E-05	7.56E-05	1.3236E-07	0.000109	1.15963E-05	0.003197	4.21E-05	0.000214
A	ROG_DIURN	0.227323	0.469769	0.248439	0.276762	0.087274	0.048494	0.014918	4.02275E-05	0.069383	0.007038146	3.680755	0.041692	20.29626
A	ROG_HTSK	0.060745	0.120653	0.063468	0.068938	0.020831	0.011136	0.00342	1.26947E-05	0.014014	0.002098044	3.555147	0.009335	4.900484
A	ROG_IDLEX	0	0	0	0	0.01758	0.01365	0.020875	0.311156106	0.039789	0	0	0.197824	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.00434	0.013675	0.006865	0.008091	0.050519	0.082873	0.014952	0.014289903	0.031966	0.05310504	0.890508	0.040189	0.050568
A	ROG_RUNLS	0.170881	0.355945	0.18526	0.207423	0.123377	0.065349	0.028627	0.000113992	0.077263	0.007877766	3.783469	0.027699	0.119258
A	ROG_STREX	0.197184	0.337555	0.26551	0.301161	0.07823	0.041209	0.034167	2.38553E-07	0.071386	0.008378471	1.134366	0.029472	0.088942
A	SO2_IDLEX	0	0	0	0	7.6E-05	0.000128	0.00132	0.006214699	0.000846	0	0	0.001639	0
A	SO2_RUNEX	0.002104	0.002866	0.002897	0.003454	0.006498	0.00686	0.010167	0.012580529	0.011835	0.007389377	0.001835	0.008739	0.016224
A	SO2_STREX	0.000541	0.000742	0.000738	0.000874	0.000157	8.45E-05	6.71E-05	9.32988E-08	0.000119	2.99145E-05	0.000423	3.88E-05	0.000199
A	TOG_DIURN	0.227323	0.469769	0.248439	0.276762	0.087274	0.048494	0.014918	4.02275E-05	0.069383	0.007038146	0.080793	0.041692	20.29626
A	TOG_HTSK	0.060745	0.120653	0.063468	0.068938	0.020831	0.011136	0.00342	1.26947E-05	0.014014	0.002098044	3.555147	0.009335	4.900484
A	TOG_IDLEX	0	0	0	0	0.0248	0.018097	0.03926	0.541395418	0.052568	0	0	0.32342	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.006329	0.019954	0.010004	0.011775	0.060583	0.095343	0.026358	0.103810529	0.046832	0.694289379	1.091848	0.133799	0.062589
A	TOG_RUNLS	0.170881	0.355945	0.18526	0.207423	0.123377	0.065349	0.028627	0.000113992	0.077263	0.007877766	3.783469	0.027699	0.119258
A	TOG_STREX	0.215892	0.36958	0.2907	0.329734	0.085652	0.045119	0.037409	2.61185E-07	0.078158	0.009173371	1.234067	0.032269	0.097381
A	N2O_IDLEX	0	0	0	0	0.000589	0.00168	0.022195	0.116327365	0.013129	0	0	0.023481	0
A	N2O_RUNEX	0.003165	0.00587	0.004494	0.005382	0.035467	0.074134	0.137514	0.223022009	0.151496	0.151061958	0.036967	0.112558	0.068485
A	N2O_STREX	0.025397	0.032408	0.031653	0.032172	0.028461	0.015119	0.00476	3.77164E-06	0.011347	0.00458201	0.006341	0.004848	0.033159

CalEEMod EMFAC2021 Fleet Mix Input												Year	2030
FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.514977	0.035448	0.239576	0.135703	0.02426	0.00617	0.009659	0.007844	0.001064	0.000396	0.02195	0.000681	0.002272
Day-Care Center	0.514977	0.035448	0.239576	0.135703	0.02426	0.00617	0.009659	0.007844	0.001064	0.000396	0.02195	0.000681	0.002272
General Office Building	0.514977	0.035448	0.239576	0.135703	0.02426	0.00617	0.009659	0.007844	0.001064	0.000396	0.02195	0.000681	0.002272
Strip Mall	0.514977	0.035448	0.239576	0.135703	0.02426	0.00617	0.009659	0.007844	0.001064	0.000396	0.02195	0.000681	0.002272

Attachment 4: Cumulative Risk Information and Calculations

Rail Line Emissions

Tasman East Specific Plan, Santa Clara, CA

DPM Modeling - Rail Line Information and DPM and PM2.5 Emission Rates

Diesel-Powered Passenger and Freight Trains

Year	Description	Model No. Lines	Link Width (ft)	Link Width (m)	Link Length (ft)	Link Length (miles)	Link Length (m)	Release Height (m)	No. Trains per Day	Train Travel Speed (mph)	DPM Emission Rates			
											Average Daily Emission Rate (g/mi/day)	Average Daily Emission Rate (g/day)	Link Emission Rate (g/s)	Link Emission Rate (lb/hr)
2030	Commuter Trains - North of Station	1	12	3.7	1,721	0.33	524	5.0	18	30	26.5	8.6	1.00E-04	7.94E-04
	Commuter Trains - at/near Station	1	12	3.7	1,042	0.20	317	5.0	18	10	31.8	6.3	7.27E-05	5.77E-04
	Commuter Trains - South of Station	1	12	3.7	576	0.11	175	5.0	18	30	26.5	2.9	3.35E-05	2.66E-04
	Amtrak - bypass Station	1	12	3.7	3,338	0.63	1,017	5.0	2	40	2.2	1.4	1.59E-05	1.26E-04
	Freight Trains - bypass Station	1	12	3.7	3,338	0.63	1,017	5.0	2	40	4.6	2.9	3.40E-05	2.70E-04
	Total	-	-	-	-	-	-	-	59	-	91.7	22.1	2.56E-04	2.03E-03

Notes: Emission based on Emission Factors for Locomotives, USEPA 2009 (EPA-420-F-09-025)

Average emissions calculated for 2030.

Fuel correction factors from Offroad Modeling Change Technical memo, Changes to the Locomotive Inventory, CARB July 2006.

PM2.5 calculated as 92% of PM emissions (CARB CEIDERS PM2.5 fractions)

Passenger trains assumed to operate for

24 hours per day

Freight trains assumed to operate for

24 hours per day

Commuter Trains that Stop at Station (ACE and Capitol Corridor)			
	2030		
	At/Near Station	Away From Station	Total
Arrive/Depart Station			
Passenger trains - weekday	20	20	20
Passenger trains - weekend	14	14	14
Passenger trains - Sat only	0	0	0
Total Trains	34	34	34
Annual average daily trains	18	18	18
Locomotive horsepower	3200	3200	3200
Locomotive engine load =	0.2	0.5	
Commuter Trains that Bypass Station (Amtrak Coast Starlight)			
	2030		
	At/Near Station	Away From Station	Total
Arrive/Depart Station			
Passenger trains - weekday =	0	2	2
Passenger trains - weekend =	0	2	2
Passenger trains - Sat only =	0	0	0
Total Trains =	0	4	4
Annual average daily trains =	0	2	2
Locomotive horsepower =	3200	3200	3200
Locomotive engine load =	0.2	0.5	
Freight Trains - All Diesel & Bypass Station			
Freight trains per day		2	
Locomotive horsepower		2300	
Locomotives per train		2	
Total horsepower		4600	
Locomotive engine load		0.5	

Locomotive DPM Emission Factors (g/hp-hr)

Train Type	2030
Passenger	0.038
Freight	0.048

* average emissions for period.

PM2.5 to PM ratio = 0.92

DPM to PM ratio = 1

CARB Fuel Adj Factor

2010 2011+

Passenger 0.717 0.709

Freight 0.851 0.840

Roadway Emission Calculations

Emission Factors

File Name: Santa Clara (SF) - 2030 - Annual.EF
EMFAC2021/CT-EMFAC2017:
Run Date: 12/16/2022 13:47
Area: Santa Clara (SF)
Analysis Year: 2030
Season: Annual

Vehicle Category	VT	Diesel VT	Gas VT
	Fraction	Fraction	Fraction
	Across	Within	Within
	Category	Category	Category
Truck 1	0.015	0.525	0.475
Truck 2	0.02	0.932	0.051
Non-Truck	0.965	0.015	0.941

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

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

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph
PM2.5	0.006981	0.00460072	0.00315213	0.00227278	0.0017321	0.0013976	0.00119635	0.0010906	0.00105935	0.00109175	0.0011839	0.00133432	0.00154916
TOG	0.0969559	0.06235782	0.04144823	0.02912639	0.02182446	0.01723586	0.01428484	0.01242325	0.01134543	0.01089287	0.01100845	0.01171916	0.0131412
Diesel PM	0.0006142	0.00053664	0.00043374	0.00035862	0.00031656	0.00030052	0.00030571	0.00033088	0.00037534	0.00043862	0.00052215	0.00062396	0.00074
DEOG	0.0079859	0.0056553	0.00289559	0.00138039	0.0009305	0.00072266	0.00058299	0.00048966	0.00043001	0.00039865	0.00039187	0.00041308	0.00045057

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

Pollutant Name	Emission Factor
TOG	0.9911853

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

Pollutant Name	
PM2.5	0.0020338

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

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph	55 mph	60 mph	65 mph
PM2.5	0.0036897	0.00422904	0.00475952	0.00528096	0.00554498	0.00561967	0.00561601	0.00510205	0.00404004	0.00299618	0.00234932	0.00204785	0.00174639

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

Pollutant Name	Emission Factor
PM2.5	0.014798

END

Tasman Drive

E. Tasman Specific Plan, Santa Clara, CA - Roadway Modeling Emissions

E. Tasman Drive

DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions

Year = 2030

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_NBTS	Northbound Tasman	N	2	1236	0.77	13.3	43.7	3.4	30	21,027
DPM_S BTS	Southbound Tasman	S	2	1236	0.77	13.3	43.7	3.4	30	21,027
										42,053

Emission Factors - DPM

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.00030			

Emission Factors from EMFAC2021/CT-EMFAC2017

2030 Hourly Traffic Volumes and DPM Emissions - DPM_NBTS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.98%	836	5.36E-05	9	6.45%	1355	8.69E-05	17	5.61%	1179	7.56E-05
2	2.63%	553	3.55E-05	10	7.45%	1567	1.00E-04	18	3.20%	673	4.31E-05
3	2.86%	600	3.85E-05	11	6.39%	1344	8.61E-05	19	2.19%	461	2.95E-05
4	3.25%	683	4.38E-05	12	7.01%	1473	9.44E-05	20	0.85%	178	1.14E-05
5	2.18%	459	2.94E-05	13	6.28%	1320	8.46E-05	21	3.09%	649	4.16E-05
6	3.30%	695	4.45E-05	14	6.17%	1296	8.31E-05	22	4.26%	896	5.75E-05
7	6.05%	1273	8.16E-05	15	5.10%	1073	6.88E-05	23	2.58%	542	3.47E-05
8	4.43%	932	5.97E-05	16	3.87%	814	5.22E-05	24	0.84%	177	1.13E-05
Total										21,027	

2030 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_S BTS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.98%	836	5.36E-05	9	6.45%	1355	8.69E-05	17	5.61%	1179	7.56E-05
2	2.63%	553	3.55E-05	10	7.45%	1567	1.00E-04	18	3.20%	673	4.31E-05
3	2.86%	600	3.85E-05	11	6.39%	1344	8.61E-05	19	2.19%	461	2.95E-05
4	3.25%	683	4.38E-05	12	7.01%	1473	9.44E-05	20	0.85%	178	1.14E-05
5	2.18%	459	2.94E-05	13	6.28%	1320	8.46E-05	21	3.09%	649	4.16E-05
6	3.30%	695	4.45E-05	14	6.17%	1296	8.31E-05	22	4.26%	896	5.75E-05
7	6.05%	1273	8.16E-05	15	5.10%	1073	6.88E-05	23	2.58%	542	3.47E-05
8	4.43%	932	5.97E-05	16	3.87%	814	5.22E-05	24	0.84%	177	1.13E-05
Total										21,027	

Analysis Year = 2030

Vehicle Type	2030 Vehicles (veh/day)
Truck 1 (MDT)	631
Truck 2 (HDT)	841
Non-Truck	40,581
All	42,053

Increase From 2030 1.00
Vehicles/Direction 21,027
Avg Vehicles/Hour/Direct 876

Traffic Data Year = 2030

Project Traffic Report	AADT Total	Total Truck
E Tasman Drive	42,053	1,472

Percent of Total Vehicles 3.5%

	% Per				% Per				% Per		
Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile
1	1.15%	241	7.19E-05	9	7.11%	1496	4.46E-04	17	7.39%	1554	4.63E-04
2	0.42%	88	2.63E-05	10	4.39%	1233	2.75E-04	18	8.18%	1721	5.13E-04
3	0.40%	85	2.53E-05	11	4.66%	980	2.92E-04	19	5.70%	1198	3.57E-04
4	0.26%	54	1.61E-05	12	5.89%	1238	3.69E-04	20	4.28%	899	2.68E-04
5	0.49%	104	3.10E-05	13	6.15%	1293	3.86E-04	21	3.25%	684	2.04E-04
6	0.90%	190	5.66E-05	14	6.04%	1270	3.79E-04	22	3.30%	694	2.07E-04
7	3.79%	796	2.37E-04	15	7.01%	1475	4.40E-04	23	2.46%	518	1.54E-04
8	7.76%	1632	4.87E-04	16	7.14%	1502	4.48E-04	24	1.86%	392	1.17E-04
Total										21,027	

E. Tasman Drive

Year = 2030

[illegible]

Speed Category	1	2	3	4
Travel Speed (mph)	30			
All Vehicles TOG Emissions per Vehicle (g/VMT)	0.01724			
Diesel Vehicles TOG Emissions per Vehicle (g/VMT)	0.00072			
Gasoline Vehicles Emissions per Vehicle (g/VMT)	0.01651			

Emission Factors from EMFAC2021/CT-EMFAC2017

	% Per			% Per			% Per				
Hour	Hour	VPH	g/s	Hour	Hour	VPH	g/s	Hour	Hour	VPH	g/s
1	1.15%	241	8.49E-04	9	7.11%	1496	5.27E-03	17	7.39%	1554	5.48E-03
2	0.42%	88	3.11E-04	10	4.39%	923	3.25E-03	18	8.18%	1721	6.06E-03
3	0.40%	85	2.99E-04	11	4.66%	980	3.45E-03	19	5.70%	1198	4.22E-03
4	0.26%	54	1.90E-04	12	5.89%	1238	4.36E-03	20	4.28%	899	3.17E-03
5	0.49%	104	3.66E-04	13	6.15%	1293	4.56E-03	21	3.25%	684	2.41E-03
6	0.90%	190	6.69E-04	14	6.04%	1270	4.47E-03	22	3.30%	694	2.44E-03
7	3.79%	796	2.81E-03	15	7.01%	1475	5.19E-03	23	2.46%	518	1.82E-03
8	7.76%	1632	5.75E-03	16	7.14%	1502	5.29E-03	24	1.86%	392	1.38E-03
Total									21,027		

	% Per				% Per				% Per		
Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile
1	1.15%	241	8.49E-04	9	7.11%	1496	5.27E-03	17	7.39%	1554	5.48E-03
2	0.42%	88	3.11E-04	10	4.39%	923	3.25E-03	18	8.18%	1721	6.06E-03
3	0.40%	85	2.99E-04	11	4.66%	980	3.45E-03	19	5.70%	1198	4.22E-03
4	0.26%	54	1.90E-04	12	5.89%	1238	4.36E-03	20	4.28%	899	3.17E-03
5	0.49%	104	3.66E-04	13	6.15%	1293	4.56E-03	21	3.25%	684	2.41E-03
6	0.90%	190	6.69E-04	14	6.04%	1270	4.47E-03	22	3.30%	694	2.44E-03
7	3.79%	796	2.81E-03	15	7.01%	1475	5.19E-03	23	2.46%	518	1.82E-03
8	7.76%	1632	5.75E-03	16	7.14%	1502	5.29E-03	24	1.86%	392	1.38E-03
Total										21,027	

	% Per				% Per				% Per		
Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile
1	1.15%	241	1.70E-03	9	7.11%	1496	1.05E-02	17	7.39%	1554	1.10E-02
2	0.42%	88	6.22E-04	10	4.39%	923	6.50E-03	18	8.18%	1721	1.21E-02
3	0.40%	85	5.98E-04	11	4.66%	980	6.91E-03	19	5.70%	1198	8.45E-03
4	0.26%	54	3.81E-04	12	5.89%	1238	8.73E-03	20	4.28%	899	6.34E-03
5	0.49%	104	7.32E-04	13	6.15%	1293	9.12E-03	21	3.25%	684	4.82E-03
6	0.90%	190	1.34E-03	14	6.04%	1270	8.95E-03	22	3.30%	694	4.89E-03
7	3.79%	796	5.61E-03	15	7.01%	1475	1.04E-02	23	2.46%	518	3.65E-03
8	7.76%	1632	1.15E-02	16	7.14%	1502	1.06E-02	24	1.86%	392	2.76E-03
									Total	21,027	

[illegible]

Lafayette Street

Tasman East Specific Plan, Santa Clara, CA - Roadway Modeling Emissions

Lafayette Street

DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions

Year = 2030

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_NBLF	Northbound Lafayette	N	2	1010	0.63	13.3	43.7	3.4	35	17,780
DPM_SBLF	Southbound Lafayette	S	2	1010	0.63	13.3	43.7	3.4	35	17,780
										35,560

Emission Factors - DPM

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle (g/VMT)	0.00031			

Emission Factors from EMFAC2021/CT-EMFAC2017

2030 Hourly Traffic Volumes and DPM Emissions - DPM_NBLF

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.98%	707	3.77E-05	9	6.45%	1146	6.11E-05	17	5.61%	997	5.31E-05
2	2.63%	468	2.49E-05	10	7.45%	1325	7.07E-05	18	3.20%	569	3.03E-05
3	2.86%	508	2.71E-05	11	6.39%	1136	6.06E-05	19	2.19%	389	2.08E-05
4	3.25%	577	3.08E-05	12	7.01%	1246	6.64E-05	20	0.85%	151	8.03E-06
5	2.18%	388	2.07E-05	13	6.28%	1116	5.95E-05	21	3.09%	549	2.93E-05
6	3.30%	587	3.13E-05	14	6.17%	1096	5.85E-05	22	4.26%	758	4.04E-05
7	6.05%	1076	5.74E-05	15	5.10%	907	4.84E-05	23	2.58%	458	2.44E-05
8	4.43%	788	4.20E-05	16	3.87%	688	3.67E-05	24	0.84%	149	7.96E-06
Total										17,780	

2030 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SBLF

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.98%	707	3.77E-05	9	6.45%	1146	6.11E-05	17	5.61%	997	5.31E-05
2	2.63%	468	2.49E-05	10	7.45%	1325	7.07E-05	18	3.20%	569	3.03E-05
3	2.86%	508	2.71E-05	11	6.39%	1136	6.06E-05	19	2.19%	389	2.08E-05
4	3.25%	577	3.08E-05	12	7.01%	1246	6.64E-05	20	0.85%	151	8.03E-06
5	2.18%	388	2.07E-05	13	6.28%	1116	5.95E-05	21	3.09%	549	2.93E-05
6	3.30%	587	3.13E-05	14	6.17%	1096	5.85E-05	22	4.26%	758	4.04E-05
7	6.05%	1076	5.74E-05	15	5.10%	907	4.84E-05	23	2.58%	458	2.44E-05
8	4.43%	788	4.20E-05	16	3.87%	688	3.67E-05	24	0.84%	149	7.96E-06
Total										17,780	

Analysis Year = 2030

Vehicle Type	2030 Vehicles (veh/day)
Truck 1 (MDT)	533
Truck 2 (HDT)	711
Non-Truck	34,315
All	35,560

Increase From 2030 1.00

Vehicles/Direction 17,780

Avg Vehicles/Hour/Direct 741

Traffic Data Year = 2030

Project Traffic Report	AADT Total	Total Truck
Lafayette St	35,560	1,245

Percent of Total Vehicles 3.5%

Year = 2030

	% Per				% Per				% Per		
Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile
1	1.15%	204	4.25E-05	9	7.11%	1265	2.64E-04	17	7.39%	1314	2.74E-04
2	0.42%	75	1.56E-05	10	4.39%	780	1.63E-04	18	8.18%	1455	3.04E-04
3	0.40%	72	1.50E-05	11	4.66%	829	1.73E-04	19	5.70%	1013	2.11E-04
4	0.26%	46	9.53E-06	12	5.89%	1047	2.18E-04	20	4.28%	761	1.59E-04
5	0.49%	88	1.83E-05	13	6.15%	1094	2.28E-04	21	3.25%	578	1.21E-04
6	0.90%	160	3.35E-05	14	6.04%	1074	2.24E-04	22	3.30%	587	1.22E-04
7	3.79%	673	1.41E-04	15	7.01%	1247	2.60E-04	23	2.46%	438	9.13E-05
8	7.76%	1380	2.88E-04	16	7.14%	1270	2.65E-04	24	1.86%	332	6.92E-05
								Total		17,780	

Lafayette Street

Year = 2030

[illegible]

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	35			
All Vehicles TOG Emissions per Vehicle (g/VMT)	0.01428			
Diesel Vehicles TOG Emissions per Vehicle (g/VMT)	0.00058			
Gasoline Vehicles Emissions per Vehicle (g/VMT)	0.01370			

Emission Factors from EMFAC2021/CT-EMFAC2017

2030 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NBLF

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	204	4.87E-04	9	7.11%	1265	3.02E-03	17	7.39%	1314	3.14E-03
2	0.42%	75	1.78E-04	10	4.39%	780	1.86E-03	18	8.18%	1455	3.48E-03
3	0.40%	72	1.71E-04	11	4.66%	829	1.98E-03	19	5.70%	1013	2.42E-03
4	0.26%	46	1.09E-04	12	5.89%	1047	2.50E-03	20	4.28%	761	1.82E-03
5	0.49%	88	2.10E-04	13	6.15%	1094	2.61E-03	21	3.25%	578	1.38E-03
6	0.90%	160	3.83E-04	14	6.04%	1074	2.57E-03	22	3.30%	587	1.40E-03
7	3.79%	673	1.61E-03	15	7.01%	1247	2.98E-03	23	2.46%	438	1.05E-03
8	7.76%	1380	3.30E-03	16	7.14%	1270	3.03E-03	24	1.86%	332	7.92E-04
Total										17,780	

2030 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SBLF

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	204	4.87E-04	9	7.11%	1265	3.02E-03	17	7.39%	1314	3.14E-03
2	0.42%	75	1.78E-04	10	4.39%	780	1.86E-03	18	8.18%	1455	3.48E-03
3	0.40%	72	1.71E-04	11	4.66%	829	1.98E-03	19	5.70%	1013	2.42E-03
4	0.26%	46	1.09E-04	12	5.89%	1047	2.50E-03	20	4.28%	761	1.82E-03
5	0.49%	88	2.10E-04	13	6.15%	1094	2.61E-03	21	3.25%	578	1.38E-03
6	0.90%	160	3.83E-04	14	6.04%	1074	2.57E-03	22	3.30%	587	1.40E-03
7	3.79%	673	1.61E-03	15	7.01%	1247	2.98E-03	23	2.46%	438	1.05E-03
8	7.76%	1380	3.30E-03	16	7.14%	1270	3.03E-03	24	1.86%	332	7.92E-04
Total										17,780	

Lafayette Street

Year = 2030

[illegible]

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Emissions per Vehicle per Hour (g/hour)	0.99119			
Emissions per Vehicle per Mile (g/VMT)	0.02832			

Emission Factors from EMFAC2021/CT-EMFAC2017

2030 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NBLF

	% Per				% Per				% Per		
Hour	Hour	VPH	g/s	Hour	Hour	VPH	g/s	Hour	Hour	VPH	g/s
1	1.15%	204	1.01E-03	9	7.11%	1265	6.25E-03	17	7.39%	1314	6.49E-03
2	0.42%	75	3.68E-04	10	4.39%	780	3.85E-03	18	8.18%	1455	7.19E-03
3	0.40%	72	3.54E-04	11	4.66%	829	4.09E-03	19	5.70%	1013	5.00E-03
4	0.26%	46	2.26E-04	12	5.89%	1047	5.17E-03	20	4.28%	761	3.76E-03
5	0.49%	88	4.34E-04	13	6.15%	1094	5.40E-03	21	3.25%	578	2.86E-03
6	0.90%	160	7.93E-04	14	6.04%	1074	5.30E-03	22	3.30%	587	2.90E-03
7	3.79%	673	3.33E-03	15	7.01%	1247	6.16E-03	23	2.46%	438	2.16E-03
8	7.76%	1380	6.82E-03	16	7.14%	1270	6.27E-03	24	1.86%	332	1.64E-03
Total										17,780	

2030 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SBLF

[illegible]

Lafayette Street

Year = 2030

[illegible]

Speed Category	1	2	3	4
Travel Speed (mph)	35			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00203			
Brake Wear - Emissions per Vehicle (g/VMT)	0.00562			
Road Dust - Emissions per Vehicle (g/VMT)	0.01480			
Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.02245			

Emission Factors from EMFAC2021/CT-EMFAC2017

	% Per				% Per			% Per			
Hour	Hour	VPH	g/s	Hour	Hour	VPH	g/s	Hour	Hour	VPH	g/s
1	1.15%	204	7.98E-04	9	7.11%	1265	4.95E-03	17	7.39%	1314	5.15E-03
2	0.42%	75	2.92E-04	10	4.39%	780	3.05E-03	18	8.18%	1455	5.70E-03
3	0.40%	72	2.81E-04	11	4.66%	829	3.24E-03	19	5.70%	1013	3.97E-03
4	0.26%	46	1.79E-04	12	5.89%	1047	4.10E-03	20	4.28%	761	2.98E-03
5	0.49%	88	3.44E-04	13	6.15%	1094	4.28E-03	21	3.25%	578	2.26E-03
6	0.90%	160	6.28E-04	14	6.04%	1074	4.20E-03	22	3.30%	587	2.30E-03
7	3.79%	673	2.64E-03	15	7.01%	1247	4.88E-03	23	2.46%	438	1.71E-03
8	7.76%	1380	5.40E-03	16	7.14%	1270	4.97E-03	24	1.86%	332	1.30E-03
Total								17,780			

[illegible]

Lick Mill Boulevard

Tasman East Specific Plan, Santa Clara, CA - Roadway Modeling Emissions

Lick Mill Boulevard

DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions

Year = 2030

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_EBLM	Eastbound Lick Mill	E	2	311	0.19	13.3	43.7	3.4	30	12,253
DPM_WBLM	Westbound Lick Mill	W	2	311	0.19	13.3	43.7	3.4	30	12,253
										24,505

Emission Factors - DPM

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle (g/VMT)	0.00030			

Emission Factors from EMFAC2021/CT-EMFAC2017

2030 Hourly Traffic Volumes and DPM Emissions - DPM_EBLM

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.90%	477	7.69E-06	9	6.42%	786	1.27E-05	17	5.62%	688	1.11E-05
2	2.58%	316	5.09E-06	10	7.34%	899	1.45E-05	18	3.27%	400	6.45E-06
3	2.87%	351	5.65E-06	11	6.42%	786	1.27E-05	19	2.35%	288	4.64E-06
4	3.32%	407	6.56E-06	12	6.88%	843	1.36E-05	20	0.86%	105	1.70E-06
5	2.18%	267	4.30E-06	13	6.25%	765	1.23E-05	21	3.09%	379	6.11E-06
6	3.38%	414	6.67E-06	14	6.19%	758	1.22E-05	22	4.13%	506	8.14E-06
7	6.02%	737	1.19E-05	15	5.10%	625	1.01E-05	23	2.52%	309	4.98E-06
8	4.64%	569	9.16E-06	16	3.78%	463	7.46E-06	24	0.92%	112	1.81E-06
Total										12,253	

2030 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_WBLM

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.90%	477	7.69E-06	9	6.42%	786	1.27E-05	17	5.62%	688	1.11E-05
2	2.58%	316	5.09E-06	10	7.34%	899	1.45E-05	18	3.27%	400	6.45E-06
3	2.87%	351	5.65E-06	11	6.42%	786	1.27E-05	19	2.35%	288	4.64E-06
4	3.32%	407	6.56E-06	12	6.88%	843	1.36E-05	20	0.86%	105	1.70E-06
5	2.18%	267	4.30E-06	13	6.25%	765	1.23E-05	21	3.09%	379	6.11E-06
6	3.38%	414	6.67E-06	14	6.19%	758	1.22E-05	22	4.13%	506	8.14E-06
7	6.02%	737	1.19E-05	15	5.10%	625	1.01E-05	23	2.52%	309	4.98E-06
8	4.64%	569	9.16E-06	16	3.78%	463	7.46E-06	24	0.92%	112	1.81E-06
Total										12,253	

Analysis Year = 2030

Vehicle Type	2030 Vehicles (veh/day)
Truck 1 (MDT)	368
Truck 2 (HDT)	490
Non-Truck	23,647
All	24,505

Increase From 2030 1.00
Vehicles/Direction 12,253
Avg Vehicles/Hour/Direct 511

Traffic Data Year = 2030

Project Traffic Report	AADT Total	Total Truck
Lick Mill Blvd	24,505	858

Percent of Total Vehicles 3.5%

	% Per				% Per				% Per		
Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile	Hour	Hour	VPH	g/mile
1	1.15%	141	1.06E-05	9	7.11%	871	6.53E-05	17	7.39%	905	6.78E-05
2	0.42%	51	3.83E-06	10	4.39%	537	4.02E-05	18	8.18%	1002	7.50E-05
3	0.41%	50	3.73E-06	11	4.66%	572	4.28E-05	19	5.70%	698	5.23E-05
4	0.26%	32	2.40E-06	12	5.89%	721	5.40E-05	20	4.27%	524	3.92E-05
5	0.50%	61	4.59E-06	13	6.15%	754	5.65E-05	21	3.26%	399	2.99E-05
6	0.90%	111	8.29E-06	14	6.04%	740	5.54E-05	22	3.30%	404	3.03E-05
7	3.79%	464	3.48E-05	15	7.01%	859	6.44E-05	23	2.46%	302	2.26E-05
8	7.76%	951	7.13E-05	16	7.14%	875	6.55E-05	24	1.87%	229	1.71E-05
								Total	12,253		

[illegible]

Lick Mill Boulevard

Year = 2030

[illegible]

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	30			
Emissions per Vehicle per Hour (g/hour)	0.99119			
Emissions per Vehicle per Mile (g/VMT)	0.03304			

Emission Factors from EMFAC2021/CT-EMFAC2017

2030 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_EBLM

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	141	2.50E-04	9	7.11%	871	1.54E-03	17	7.39%	905	1.60E-03
2	0.42%	51	9.06E-05	10	4.39%	537	9.51E-04	18	8.18%	1002	1.77E-03
3	0.41%	50	8.81E-05	11	4.66%	572	1.01E-03	19	5.70%	698	1.24E-03
4	0.26%	32	5.67E-05	12	5.89%	721	1.28E-03	20	4.27%	524	9.27E-04
5	0.50%	61	1.08E-04	13	6.15%	754	1.33E-03	21	3.26%	399	7.07E-04
6	0.90%	111	1.96E-04	14	6.04%	740	1.31E-03	22	3.30%	404	7.15E-04
7	3.79%	464	8.22E-04	15	7.01%	859	1.52E-03	23	2.46%	302	5.34E-04
8	7.76%	951	1.68E-03	16	7.14%	875	1.55E-03	24	1.87%	229	4.05E-04
Total								12,253			

2030 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_WBLM

	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	141	2.50E-04	9	7.11%	871	1.54E-03	17	7.39%	905	1.60E-03
2	0.42%	51	9.06E-05	10	4.39%	537	9.51E-04	18	8.18%	1002	1.77E-03
3	0.41%	50	8.81E-05	11	4.66%	572	1.01E-03	19	5.70%	698	1.24E-03
4	0.26%	32	5.67E-05	12	5.89%	721	1.28E-03	20	4.27%	524	9.27E-04
5	0.50%	61	1.08E-04	13	6.15%	754	1.33E-03	21	3.26%	399	7.07E-04
6	0.90%	111	1.96E-04	14	6.04%	740	1.31E-03	22	3.30%	404	7.15E-04
7	3.79%	464	8.22E-04	15	7.01%	859	1.52E-03	23	2.46%	302	5.34E-04
8	7.76%	951	1.68E-03	16	7.14%	875	1.55E-03	24	1.87%	229	4.05E-04
Total										12,253	

[illegible]

Health Risk Calculations

Rail Line

Tasman East Specific Plan -Rail Line DPM & PM2.5 Concentrations
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site Maximum Residential Cancer Risk Receptor - 1.5 m receptor height

Receptor Information 2030 Emissions
Number of Receptors 1
Receptor Height = 1.5 meters
Receptor distances = receptor at residential cancer risk MEI location

Meteorological Conditions
BAAQMD - San Jose Airport Hourly 2013-2017
Land Use Classification urban
Wind speed = variable
Wind direction = variable

Construction MEI Maximum Concentrations

Meteorological Data Years	Average DPM Concentration ($\mu\text{g}/\text{m}^3$)
	2030
	0.01218
Meteorological Data Years	Average PM2.5 Concentration ($\mu\text{g}/\text{m}^3$)
	2030
	0.01121

**Tasman East Specific Plan - Rail Line Maximum Impact Receptor
On-Site Maximum Residential Cancer Risk Receptor - 1.5 m receptor height
Diesel-Powered Passenger and Freight Trains**

Cancer Risk Calculation Method

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

Where: CPF = Cancer potency factor (mg/kg-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 (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Cancer Potency Factors (mg/kg-day)⁻¹

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
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

Rail Locomotive Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	DPM Annual Conc (ug/m3)	DPM Cancer Risk (per million)
0	2030	0.25	-0.25 - 0*	10	0.0122	0.166
1	2030	1	1	10	0.0122	2.001
2	2031	1	2	10	0.0122	2.001
3	2032	1	3	3	0.0122	0.315
4	2033	1	4	3	0.0122	0.315
5	2034	1	5	3	0.0122	0.315
6	2035	1	6	3	0.0122	0.315
7	2036	1	7	3	0.0122	0.315
8	2037	1	8	3	0.0122	0.315
9	2038	1	9	3	0.0122	0.315
10	2039	1	10	3	0.0122	0.315
11	2040	1	11	3	0.0122	0.315
12	2041	1	12	3	0.0122	0.315
13	2042	1	13	3	0.0122	0.315
14	2043	1	14	3	0.0122	0.315
15	2044	1	15	3	0.0122	0.315
16	2045	1	16	3	0.0122	0.315
17	2046	1	17	1	0.0122	0.035
18	2047	1	18	1	0.0122	0.035
19	2048	1	19	1	0.0122	0.035
20	2049	1	20	1	0.0122	0.035
21	2050	1	21	1	0.0122	0.035
22	2051	1	22	1	0.0122	0.035
23	2052	1	23	1	0.0122	0.035
24	2053	1	24	1	0.0122	0.035
25	2054	1	25	1	0.0122	0.035
26	2055	1	26	1	0.0122	0.035
27	2056	1	27	1	0.0122	0.035
28	2057	1	28	1	0.0122	0.035
29	2058	1	29	1	0.0122	0.035
30	2059	1	30	1	0.0122	0.035
Total Increased Cancer Risk						9.07

* Third trimester of pregnancy

Local Roads

Tasman East Specific Plan - E Tasman Drive Traffic - TACs & PM2.5 AERMOD Risk Modeling Parameters and Maximum Concentrations On-Site Maximum Residential Cancer Risk Receptor - 1.5 m receptor height

Emissions Year 2030
Receptor Information
Number of Receptors 1
Receptor Height = 1.5 meters above ground level
Receptor distances = receptor at residential cancer risk MEI location

Meteorological Conditions
BAAQMDSan Jose Airport Met Data 2013-2017
Land Use Classification urban
Wind speed = variable
Wind direction = variable

MEI Maximum Concentrations

Emission Years	Concentration ($\mu\text{g}/\text{m}^3$)		
	DPM	Exhaust TOG	Evaporative TOG
2030	0.00416	0.2498	0.4997

Emission Years	PM2.5 Concentrations ($\mu\text{g}/\text{m}^3$)
	Total PM2.5
2030	0.3607

Tasman East Specific Plan - Lafayette Street Traffic - TACs & PM2.5 AERMOD Risk Modeling Parameters and Maximum Concentrations On-Site Maximum Residential Cancer Risk Receptor - 1.5 m receptor height

Emissions Year 2030
Receptor Information
Number of Receptors 1
Receptor Height = 1.5 meters above ground level
Receptor distances = receptor at residential cancer risk MEI location

Meteorological Conditions
BAAQMDSan Jose Airport Met Data 2013-2017
Land Use Classification urban
Wind speed = variable
Wind direction = variable

MEI Maximum Concentrations

Emission Years	Concentration ($\mu\text{g}/\text{m}^3$)		
	DPM	Exhaust TOG	Evaporative TOG
2030	0.00533	0.30762	0.6361

Emission Years	PM2.5 Concentrations ($\mu\text{g}/\text{m}^3$)
	Total PM2.5
2030	0.53095

Tasman East Specific Plan - Lick Mill Blvd Traffic - TACs & PM2.5 AERMOD Risk Modeling Parameters and Maximum Concentrations On-Site Maximum Residential Cancer Risk Receptor - 1.5 m receptor height

Emissions Year 2030
Receptor Information
Number of Receptors 1
Receptor Height = 1.5 meters above ground level
Receptor distances = receptor at residential cancer risk MEI location

Meteorological Conditions
BAAQMDSan Jose Airport Met Data 2013-2017
Land Use Classification urban
Wind speed = variable
Wind direction = variable

MEI Maximum Concentrations

Emission Years	Concentration ($\mu\text{g}/\text{m}^3$)		
	DPM	Exhaust TOG	Evaporative TOG
2030	0.00146	0.0685	0.1371

Emission Years	PM2.5 Concentrations ($\mu\text{g}/\text{m}^3$)
	Total PM2.5
2030	0.0989

Health Impacts at Individual Source MEI Receptor

Road	Cancer Risk (per million)	PM2.5 Conc (µg/m³)	HI
E. Tasman Drive	4.28	0.361	< 0.01
Lick Mill Boulevard	1.41	0.099	< 0.01
Lafayette Street	5.43	0.531	< 0.01

Tasman East Specific Plan - E Tasman Drive Traffic Maximum Cancer Risks
On-Site Maximum Residential Cancer Risk Receptor - 1.5 m receptor height
30-Year Residential Exposure

Cancer Risk Calculation Method

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

Where: CPF = Cancer potency factor (mg/kg-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 (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Cancer Potency Factors (mg/kg-day)⁻¹

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

Age --> Parameter	Infant/Child			Adult
	3rd Trimester	0 - <2	2 - <16	16 - 30
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Project MEI Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Maximum - Exposure Information				Cancer Risk (per million)			
				Age Sensitivity	Annual TAC Conc (ug/m3)			DPM	Exhaust	Evaporative	Total
				Factor	DPM	TOG	TOG				
0	2030	0.25	-0.25 - 0*	10	0.0042	0.2498	0.4997	0.057	0.019	0.002	0.08
1	2030	1	1	10	0.0042	0.2498	0.4997	0.68	0.234	0.028	0.95
2	2031	1	2	10	0.0042	0.2498	0.4997	0.68	0.234	0.028	0.95
3	2032	1	3	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
4	2033	1	4	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
5	2034	1	5	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
6	2035	1	6	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
7	2036	1	7	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
8	2037	1	8	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
9	2038	1	9	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
10	2039	1	10	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
11	2040	1	11	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
12	2041	1	12	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
13	2042	1	13	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
14	2043	1	14	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
15	2044	1	15	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
16	2045	1	16	3	0.0042	0.2498	0.4997	0.11	0.037	0.004	0.15
17	2046	1	17	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
18	2047	1	18	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
19	2048	1	19	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
20	2049	1	20	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
21	2050	1	21	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
22	2051	1	22	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
23	2052	1	23	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
24	2053	1	24	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
25	2054	1	25	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
26	2055	1	26	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
27	2056	1	27	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
28	2057	1	28	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
29	2058	1	29	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
30	2059	1	30	1	0.0042	0.2498	0.4997	0.01	0.004	0.000	0.017
Total Increased Cancer Risk			Total					3.10	1.062	0.125	4.28

* Third trimester of pregnancy

Tasman East Specific Plan - Lafayette Street Traffic Maximum Cancer Risks
On-Site Maximum Residential Cancer Risk Receptor - 1.5 m receptor height
30-Year Residential Exposure

Cancer Risk Calculation Method

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

Where: CPF = Cancer potency factor (mg/kg-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 (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Cancer Potency Factors (mg/kg-day)⁻¹

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

Age --> Parameter	Infant/Child			Adult
	3rd Trimester	0 - <2	2 - <16	16 - 30
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Project MEI Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Maximum - Exposure Information				Cancer Risk (per million)			
				Age Sensitivity	Annual TAC Conc (ug/m3)			DPM	Exhaust TOG	Evaporative TOG	Total
				Factor	DPM	TOG	TOG				
0	2030	0.25	-0.25 - 0*	10	0.0053	0.3076	0.6361	0.072	0.024	0.003	0.10
1	2030	1	1	10	0.0053	0.3076	0.6361	0.88	0.289	0.035	1.20
2	2031	1	2	10	0.0053	0.3076	0.6361	0.88	0.289	0.035	1.20
3	2032	1	3	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
4	2033	1	4	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
5	2034	1	5	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
6	2035	1	6	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
7	2036	1	7	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
8	2037	1	8	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
9	2038	1	9	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
10	2039	1	10	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
11	2040	1	11	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
12	2041	1	12	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
13	2042	1	13	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
14	2043	1	14	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
15	2044	1	15	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
16	2045	1	16	3	0.0053	0.3076	0.6361	0.14	0.045	0.006	0.19
17	2046	1	17	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
18	2047	1	18	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
19	2048	1	19	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
20	2049	1	20	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
21	2050	1	21	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
22	2051	1	22	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
23	2052	1	23	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
24	2053	1	24	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
25	2054	1	25	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
26	2055	1	26	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
27	2056	1	27	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
28	2057	1	28	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
29	2058	1	29	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
30	2059	1	30	1	0.0053	0.3076	0.6361	0.02	0.005	0.001	0.021
Total Increased Cancer Risk			Total					3.97	1.307	0.159	5.43

* Third trimester of pregnancy

Tasman East Specific Plan - Lick Mill Blvd Traffic Maximum Cancer Risks
On-Site Maximum Residential Cancer Risk Receptor - 1.5 m receptor height
30-Year Residential Exposure

Cancer Risk Calculation Method

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

Where: CPF = Cancer potency factor (mg/kg-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 (µg/m³)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

10⁻⁶ = Conversion factor

Values

Cancer Potency Factors (mg/kg-day)⁻¹

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

Age --> Parameter	Infant/Child			Adult
	3rd Trimester	0 - <2	2 - <16	16 - 30
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Year	Exposure Duration (years)	Age	Maximum - Exposure Information				Cancer Risk (per million)			
				Age Sensitivity	Annual TAC Conc (ug/m3)			DPM	Exhaust TOG	Evaporative TOG	Total
				Factor	DPM	TOG	TOG				
0	2030	0.25	-0.25 - 0*	10	0.0015	0.0685	0.1371	0.020	0.005	0.001	0.03
1	2030	1	1	10	0.0015	0.0685	0.1371	0.24	0.064	0.008	0.31
2	2031	1	2	10	0.0015	0.0685	0.1371	0.24	0.064	0.008	0.31
3	2032	1	3	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
4	2033	1	4	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
5	2034	1	5	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
6	2035	1	6	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
7	2036	1	7	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
8	2037	1	8	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
9	2038	1	9	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
10	2039	1	10	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
11	2040	1	11	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
12	2041	1	12	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
13	2042	1	13	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
14	2043	1	14	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
15	2044	1	15	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
16	2045	1	16	3	0.0015	0.0685	0.1371	0.04	0.010	0.001	0.05
17	2046	1	17	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
18	2047	1	18	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
19	2048	1	19	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
20	2049	1	20	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
21	2050	1	21	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
22	2051	1	22	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
23	2052	1	23	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
24	2053	1	24	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
25	2054	1	25	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
26	2055	1	26	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
27	2056	1	27	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
28	2057	1	28	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
29	2058	1	29	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
30	2059	1	30	1	0.0015	0.0685	0.1371	0.00	0.001	0.000	0.005
Total Increased Cancer Risk			Total					1.09	0.291	0.034	1.41

* Third trimester of pregnancy

Tasman East Specific Plan, Santa Clara, CA - Project Impacts
 Total PM2.5 Concentrations From Construction and Local Roads & Rail Line Operation
 On-Site Residential Receptors - 1.5 meter receptor height

Receptor No.	UTM-X	UTM-Y	Description	Total PM2.5 Concentrations				Total Roads & Rail
				Tasman Drive 2030	Lafayette Street 2030	Lick Mill Blvd 2030	Rail Line 2030	
1	591473.63	4140506.23	On-Site 1.5m	0.29121	0.52978	0.00142	0.01218	0.8346
2	591486.76	4140513.47	On-Site 1.5m	0.28975	0.34614	0.00149	0.01001	0.6474
3	591499.90	4140520.72	On-Site 1.5m	0.28770	0.25691	0.00158	0.00843	0.5546
4	591516.28	4140527.24	On-Site 1.5m	0.30208	0.19696	0.00168	0.00706	0.5078
5	591527.83	4140534.78	On-Site 1.5m	0.29014	0.16600	0.00177	0.00623	0.4641
6	591541.20	4140541.57	On-Site 1.5m	0.29048	0.14128	0.00188	0.0055	0.4391
7	591554.58	4140548.36	On-Site 1.5m	0.29073	0.12254	0.00201	0.00491	0.4202
8	591567.96	4140555.15	On-Site 1.5m	0.29083	0.10782	0.00214	0.00441	0.4052
9	591581.33	4140561.94	On-Site 1.5m	0.29088	0.09593	0.00229	0.00399	0.3931
10	591594.71	4140568.72	On-Site 1.5m	0.29096	0.08612	0.00246	0.00364	0.3832
11	591608.08	4140575.51	On-Site 1.5m	0.29090	0.07786	0.00265	0.00333	0.3747
12	591621.46	4140582.3	On-Site 1.5m	0.29089	0.07082	0.00286	0.00306	0.3676
13	591634.83	4140589.09	On-Site 1.5m	0.29084	0.06473	0.00311	0.00283	0.3615
14	591648.21	4140595.88	On-Site 1.5m	0.29089	0.05941	0.00339	0.00262	0.3563
15	591661.59	4140602.67	On-Site 1.5m	0.29090	0.05472	0.00371	0.00243	0.3518
16	591674.96	4140609.46	On-Site 1.5m	0.28994	0.05056	0.00409	0.00226	0.3469
17	591466.38	4140519.36	On-Site 1.5m	0.20632	0.53020	0.00143	0.01217	0.7501
18	591479.52	4140526.61	On-Site 1.5m	0.20566	0.34635	0.00150	0.00999	0.5635
19	591492.65	4140533.85	On-Site 1.5m	0.20469	0.25717	0.00159	0.00841	0.4719
20	591508.96	4140540.33	On-Site 1.5m	0.21193	0.19738	0.00169	0.00705	0.4181
21	591522.06	4140547.65	On-Site 1.5m	0.20986	0.16394	0.00179	0.00615	0.3817
22	591535.15	4140554.96	On-Site 1.5m	0.20774	0.13974	0.00191	0.00544	0.3548
23	591548.25	4140562.28	On-Site 1.5m	0.20557	0.12132	0.00203	0.00485	0.3338
24	591562.00	4140569.92	On-Site 1.5m	0.20340	0.10619	0.00218	0.00434	0.3161
25	591575.37	4140576.71	On-Site 1.5m	0.20343	0.09456	0.00233	0.00393	0.3043
26	591588.75	4140583.5	On-Site 1.5m	0.20343	0.08493	0.00250	0.00358	0.2944
27	591602.13	4140590.29	On-Site 1.5m	0.20340	0.07681	0.00270	0.00328	0.2862
28	591615.50	4140597.08	On-Site 1.5m	0.20333	0.06987	0.00292	0.00302	0.2791
29	591628.88	4140603.87	On-Site 1.5m	0.20329	0.06386	0.00317	0.00279	0.2731
30	591642.25	4140610.66	On-Site 1.5m	0.20324	0.05861	0.00346	0.00258	0.2679
31	591655.63	4140617.44	On-Site 1.5m	0.20307	0.05397	0.00380	0.0024	0.2632
32	591669.00	4140624.23	On-Site 1.5m	0.20249	0.04984	0.00419	0.00223	0.2588
33	591459.14	4140532.5	On-Site 1.5m	0.16021	0.53034	0.00143	0.01215	0.7041
34	591472.27	4140539.74	On-Site 1.5m	0.15990	0.34662	0.00151	0.00997	0.5180
35	591485.41	4140546.99	On-Site 1.5m	0.15938	0.25731	0.00160	0.00838	0.4267
36	591501.65	4140553.43	On-Site 1.5m	0.16381	0.19772	0.00170	0.00703	0.3703
37	591514.74	4140560.74	On-Site 1.5m	0.16272	0.16421	0.00180	0.00614	0.3349
38	591527.84	4140568.06	On-Site 1.5m	0.16155	0.13991	0.00192	0.00542	0.3088
39	591540.93	4140575.37	On-Site 1.5m	0.16033	0.12145	0.00204	0.00484	0.2887
40	591554.03	4140582.69	On-Site 1.5m	0.15908	0.10687	0.00218	0.00435	0.2725
41	591567.12	4140590	On-Site 1.5m	0.15781	0.09508	0.00234	0.00394	0.2592
42	591580.22	4140597.32	On-Site 1.5m	0.15651	0.08531	0.00251	0.00359	0.2479
43	591592.42	4140605.44	On-Site 1.5m	0.15283	0.07727	0.00271	0.00329	0.2361
44	591605.87	4140612.08	On-Site 1.5m	0.15319	0.07021	0.00293	0.00303	0.2294
45	591619.32	4140618.72	On-Site 1.5m	0.15354	0.06411	0.00318	0.00279	0.2236
46	591632.77	4140625.35	On-Site 1.5m	0.15387	0.05878	0.00347	0.00259	0.2187
47	591646.23	4140631.99	On-Site 1.5m	0.15409	0.05407	0.00381	0.0024	0.2144
48	591659.68	4140638.63	On-Site 1.5m	0.15416	0.04989	0.00421	0.00223	0.2105
49	591451.90	4140545.63	On-Site 1.5m	0.13127	0.53057	0.00144	0.01211	0.6754
50	591465.03	4140552.88	On-Site 1.5m	0.13112	0.34672	0.00152	0.00993	0.4893
51	591478.16	4140560.12	On-Site 1.5m	0.13085	0.25747	0.00160	0.00834	0.3983
52	591494.33	4140566.52	On-Site 1.5m	0.13389	0.19805	0.00171	0.00701	0.3407
53	591507.42	4140573.84	On-Site 1.5m	0.13324	0.16442	0.00181	0.00611	0.3056
54	591520.52	4140581.15	On-Site 1.5m	0.13255	0.14006	0.00193	0.0054	0.2799
55	591533.62	4140588.47	On-Site 1.5m	0.13180	0.12151	0.00205	0.00482	0.2602
56	591546.71	4140595.78	On-Site 1.5m	0.13102	0.10690	0.00220	0.00434	0.2445
57	591559.81	4140603.1	On-Site 1.5m	0.13021	0.09505	0.00235	0.00393	0.2315
58	591572.90	4140610.42	On-Site 1.5m	0.12938	0.08524	0.00253	0.00358	0.2207
59	591586.00	4140617.73	On-Site 1.5m	0.12857	0.07697	0.00273	0.00328	0.2116
60	591599.09	4140625.05	On-Site 1.5m	0.12773	0.06990	0.00296	0.00301	0.2036
61	591612.19	4140632.36	On-Site 1.5m	0.12691	0.06377	0.00322	0.00278	0.1967
62	591625.28	4140639.68	On-Site 1.5m	0.12605	0.05841	0.00352	0.00257	0.1906
63	591638.38	4140646.99	On-Site 1.5m	0.12514	0.05368	0.00387	0.00238	0.1851
64	591651.47	4140654.31	On-Site 1.5m	0.12416	0.04947	0.00428	0.00221	0.1801
65	591444.65	4140558.77	On-Site 1.5m	0.11135	0.53076	0.00145	0.01206	0.6556
66	591457.79	4140566.01	On-Site 1.5m	0.11131	0.34683	0.00153	0.00988	0.4696
67	591470.92	4140573.26	On-Site 1.5m	0.11118	0.25752	0.00161	0.0083	0.3786
68	591487.01	4140579.62	On-Site 1.5m	0.11341	0.19832	0.00172	0.00697	0.3204
69	591500.11	4140586.93	On-Site 1.5m	0.11303	0.16459	0.00182	0.00609	0.2855
70	591513.20	4140594.25	On-Site 1.5m	0.11258	0.14016	0.00194	0.00538	0.2601
71	591526.30	4140601.56	On-Site 1.5m	0.11211	0.12156	0.00207	0.0048	0.2405
72	591539.39	4140608.88	On-Site 1.5m	0.11159	0.10688	0.00221	0.00432	0.2250
73	591552.49	4140616.19	On-Site 1.5m	0.11106	0.09499	0.00237	0.00392	0.2123
74	591565.58	4140623.51	On-Site 1.5m	0.11051	0.08513	0.00255	0.00357	0.2018
75	591578.68	4140630.83	On-Site 1.5m	0.10995	0.07682	0.00275	0.00326	0.1928
76	591591.77	4140638.14	On-Site 1.5m	0.10938	0.06972	0.00298	0.003	0.1851
77	591604.87	4140645.46	On-Site 1.5m	0.10880	0.06356	0.00325	0.00276	0.1784
78	591617.97	4140652.77	On-Site 1.5m	0.10820	0.05818	0.00356	0.00256	0.1725
79	591631.06	4140660.09	On-Site 1.5m	0.10754	0.05342	0.00392	0.00237	0.1673
80	591644.16	4140667.4	On-Site 1.5m	0.10686	0.04918	0.00435	0.0022	0.1626
81	591437.41	4140571.9	On-Site 1.5m	0.09678	0.53085	0.00146	0.01198	0.6411
82	591450.54	4140579.15	On-Site 1.5m	0.09679	0.34692	0.00153	0.00981	0.4551
83	591463.68	4140586.39	On-Site 1.5m	0.09675	0.25756	0.00162	0.00824	0.3642
84	591479.70	4140592.71	On-Site 1.5m	0.09850	0.19854	0.00173	0.00694	0.3057
85	591492.79	4140600.03	On-Site 1.5m	0.09825	0.16472	0.00183	0.00606	0.2709
86	591505.89	4140607.34	On-Site 1.5m	0.09797	0.14021	0.00195	0.00536	0.2455
87	591518.98	4140614.66	On-Site 1.5m	0.09765	0.12155	0.00208	0.00479	0.2261
88	591532.08	4140621.97	On-Site 1.5m	0.09731	0.10683	0.00223	0.00431	0.2107
89	591545.17	4140629.29	On-Site 1.5m	0.09694	0.09489	0.00239	0.0039	0.1981
90	591558.27	4140636.61	On-Site 1.5m	0.09656	0.08499	0.00257	0.00356	0.1877
91	591571.36	4140643.92	On-Site 1.5m	0.09617	0.07665	0.00278	0.00325	0.1789
92	591584.46	4140651.24	On-Site 1.5m	0.09576	0.06950	0.00301	0.00299	0.1713
93	591597.55	4140658.55	On-Site 1.5m	0.09534	0.06332	0.00328	0.00275	0.1647
94	591610.65	4140665.87	On-Site 1.5m	0.09489	0.05791	0.00360	0.00254	0.1589
95	591623.74	4140673.18	On-Site 1.5m	0.09441	0.05313	0.00397	0.00236	0.1539
96	591636.84	4140680.5	On-Site 1.5m	0.09390	0.04886	0.00443	0.00219	0.1494
97	591430.16	4140585.04	On-Site 1.5m	0.08562	0.53088	0.00146	0.01188	0.6298
98	591443.30	4140592.28	On-Site 1.5m	0.08569	0.34693	0.00154	0.00972	0.4439
99	591456.43	4140599.52	On-Site 1.5m	0.08570	0.25759	0.00163	0.00818	0.3531
100	591472.38	4140605.81	On-Site 1.5m	0.08710	0.19873	0.00174	0.0069	0.2945
101	591485.48	4140613.12	On-Site 1.5m	0.08696	0.16481	0.00185	0.00603	0.2597
102	591498.57	4140620.44	On-Site 1.5m	0.08677	0.14023	0.00196	0.00534	0.2343
103	591511.67	4140627.75	On-Site 1.5m	0.08657	0.12151	0.00210	0.00477	0.2150
104	591524.76	4140635.07	On-Site 1.5m	0.08633	0.10673	0.00224	0.00429	0.1996
105	591537.86	4140642.39	On-Site 1.5m	0.08607	0.09474	0.00241	0.00389	0.1871
106	591550.95	4140649.7	On-Site 1.5m	0.08581	0.08481	0.00259	0.00354	0.1768
107	591564.05	4140657.02	On-Site 1.5m	0.08552	0.07			

Receptor No.	UTM-X	UTM-Y	Description	Total PM2.5 Concentrations				Total Roads & Rail 2030
				Tasman Drive 2030	Lafayette Street 2030	Lick Mill Blvd 2030	Rail Line 2030	
111	591616.43	4140686.28	On-Site 1.5m	0.08420	0.05279	0.00405	0.00234	0.1434
112	591629.52	4140693.59	On-Site 1.5m	0.08382	0.04851	0.00453	0.00217	0.1390
113	591422.92	4140598.17	On-Site 1.5m	0.07681	0.53086	0.00147	0.01176	0.6209
114	591436.05	4140605.41	On-Site 1.5m	0.07689	0.34698	0.00155	0.00964	0.4351
115	591449.19	4140612.66	On-Site 1.5m	0.07694	0.25752	0.00164	0.00812	0.3442
116	591465.07	4140618.9	On-Site 1.5m	0.07811	0.19887	0.00175	0.00687	0.2856
117	591478.16	4140626.22	On-Site 1.5m	0.07803	0.16486	0.00186	0.00601	0.2508
118	591491.26	4140633.53	On-Site 1.5m	0.07792	0.14020	0.00198	0.00532	0.2254
119	591504.35	4140640.85	On-Site 1.5m	0.07778	0.12143	0.00211	0.00475	0.2061
120	591517.45	4140648.16	On-Site 1.5m	0.07762	0.10660	0.00226	0.00428	0.1908
121	591530.54	4140655.48	On-Site 1.5m	0.07744	0.09457	0.00243	0.00387	0.1783
122	591543.64	4140662.8	On-Site 1.5m	0.07725	0.08459	0.00262	0.00353	0.1680
123	591556.73	4140670.11	On-Site 1.5m	0.07704	0.07617	0.00283	0.00322	0.1593
124	591569.83	4140677.43	On-Site 1.5m	0.07681	0.06897	0.00308	0.00296	0.1518
125	591582.92	4140684.74	On-Site 1.5m	0.07657	0.06273	0.00337	0.00272	0.1454
126	591596.02	4140692.06	On-Site 1.5m	0.07631	0.05726	0.00372	0.00251	0.1398
127	591609.11	4140699.37	On-Site 1.5m	0.07602	0.05243	0.00414	0.00232	0.1349
128	591622.21	4140706.69	On-Site 1.5m	0.07572	0.04812	0.00465	0.00215	0.1306
129	591415.67	4140611.3	On-Site 1.5m	0.06965	0.53095	0.00148	0.01163	0.6137
130	591428.81	4140618.55	On-Site 1.5m	0.06975	0.34688	0.00156	0.00955	0.4277
131	591441.94	4140625.79	On-Site 1.5m	0.06982	0.25747	0.00165	0.00807	0.3370
132	591457.75	4140632	On-Site 1.5m	0.07082	0.19898	0.00176	0.00683	0.2784
133	591470.85	4140639.31	On-Site 1.5m	0.07078	0.16486	0.00187	0.00598	0.2435
134	591483.94	4140646.63	On-Site 1.5m	0.07071	0.14014	0.00199	0.0053	0.2181
135	591497.04	4140653.94	On-Site 1.5m	0.07063	0.12130	0.00213	0.00473	0.1988
136	591510.13	4140661.26	On-Site 1.5m	0.07052	0.10642	0.00228	0.00426	0.1835
137	591523.23	4140668.58	On-Site 1.5m	0.07040	0.09434	0.00245	0.00386	0.1711
138	591536.32	4140675.89	On-Site 1.5m	0.07026	0.08433	0.00264	0.00351	0.1607
139	591549.42	4140683.21	On-Site 1.5m	0.07010	0.07588	0.00287	0.00321	0.1521
140	591562.51	4140690.52	On-Site 1.5m	0.06993	0.06864	0.00313	0.00294	0.1446
141	591575.61	4140697.84	On-Site 1.5m	0.06974	0.06237	0.00343	0.0027	0.1382
142	591588.70	4140705.15	On-Site 1.5m	0.06954	0.05687	0.00380	0.00249	0.1327
143	591601.80	4140712.47	On-Site 1.5m	0.06931	0.05202	0.00425	0.00231	0.1279
144	591614.89	4140719.78	On-Site 1.5m	0.06907	0.04769	0.00480	0.00214	0.1237
145	591408.43	4140624.44	On-Site 1.5m	0.06372	0.53078	0.00149	0.01151	0.6075
146	591421.56	4140631.68	On-Site 1.5m	0.06383	0.34685	0.00157	0.00948	0.4217
147	591434.70	4140638.93	On-Site 1.5m	0.06392	0.25731	0.00166	0.00802	0.3309
148	591450.44	4140645.09	On-Site 1.5m	0.06478	0.19904	0.00177	0.0068	0.2724
149	591463.53	4140652.41	On-Site 1.5m	0.06477	0.16483	0.00188	0.00596	0.2374
150	591476.63	4140659.72	On-Site 1.5m	0.06475	0.14002	0.00201	0.00528	0.2121
151	591489.72	4140667.04	On-Site 1.5m	0.06470	0.12113	0.00215	0.00471	0.1927
152	591502.82	4140674.35	On-Site 1.5m	0.06463	0.10621	0.00230	0.00424	0.1774
153	591515.91	4140681.67	On-Site 1.5m	0.06454	0.09409	0.00248	0.00384	0.1650
154	591529.01	4140688.99	On-Site 1.5m	0.06444	0.08403	0.00268	0.00349	0.1546
155	591542.10	4140696.3	On-Site 1.5m	0.06433	0.07554	0.00291	0.00319	0.1460
156	591555.20	4140703.62	On-Site 1.5m	0.06419	0.06827	0.00318	0.00292	0.1386
157	591568.29	4140710.93	On-Site 1.5m	0.06404	0.06197	0.00351	0.00268	0.1322
158	591581.39	4140718.25	On-Site 1.5m	0.06388	0.05645	0.00390	0.00247	0.1267
159	591594.48	4140725.56	On-Site 1.5m	0.06369	0.05157	0.00438	0.00229	0.1219
160	591607.58	4140732.88	On-Site 1.5m	0.06349	0.04722	0.00497	0.00212	0.1178
161	591401.18	4140637.57	On-Site 1.5m	0.05872	0.53085	0.00150	0.01141	0.6025
162	591414.32	4140644.82	On-Site 1.5m	0.05884	0.34667	0.00158	0.00942	0.4165
163	591427.45	4140652.06	On-Site 1.5m	0.05894	0.25718	0.00167	0.00797	0.3258
164	591443.12	4140658.19	On-Site 1.5m	0.05970	0.19907	0.00179	0.00677	0.2673
165	591456.22	4140665.5	On-Site 1.5m	0.05971	0.16474	0.00190	0.00593	0.2323
166	591469.31	4140672.82	On-Site 1.5m	0.05971	0.13987	0.00202	0.00525	0.2069
167	591482.41	4140680.13	On-Site 1.5m	0.05969	0.12092	0.00217	0.00469	0.1875
168	591495.50	4140687.45	On-Site 1.5m	0.05965	0.10594	0.00232	0.00422	0.1721
169	591508.60	4140694.77	On-Site 1.5m	0.05959	0.09377	0.00251	0.00382	0.1597
170	591521.69	4140702.08	On-Site 1.5m	0.05952	0.08368	0.00271	0.00347	0.1494
171	591534.79	4140709.4	On-Site 1.5m	0.05943	0.07516	0.00296	0.00317	0.1407
172	591547.88	4140716.71	On-Site 1.5m	0.05933	0.06786	0.00325	0.0029	0.1333
173	591560.98	4140724.03	On-Site 1.5m	0.05921	0.06152	0.00359	0.00266	0.1270
174	591574.07	4140731.34	On-Site 1.5m	0.05907	0.05598	0.00402	0.00245	0.1215
175	591587.17	4140738.66	On-Site 1.5m	0.05892	0.05107	0.00453	0.00226	0.1168
176	591600.26	4140745.97	On-Site 1.5m	0.05875	0.04670	0.00515	0.0021	0.1127
177	591393.94	4140650.71	On-Site 1.5m	0.05445	0.53064	0.00151	0.01133	0.5979
178	591407.07	4140657.95	On-Site 1.5m	0.05458	0.34656	0.00159	0.00936	0.4121
179	591420.21	4140665.2	On-Site 1.5m	0.05468	0.25694	0.00169	0.00792	0.3212
180	591435.80	4140671.28	On-Site 1.5m	0.05535	0.19906	0.00180	0.00674	0.2630
181	591448.90	4140678.6	On-Site 1.5m	0.05539	0.16462	0.00192	0.0059	0.2278
182	591462.00	4140685.91	On-Site 1.5m	0.05540	0.13967	0.00204	0.00523	0.2023
183	591475.09	4140693.23	On-Site 1.5m	0.05540	0.12066	0.00219	0.00467	0.1829
184	591488.19	4140700.55	On-Site 1.5m	0.05538	0.10563	0.00235	0.00419	0.1676
185	591501.28	4140707.86	On-Site 1.5m	0.05534	0.09343	0.00254	0.00379	0.1551
186	591514.38	4140715.18	On-Site 1.5m	0.05529	0.08329	0.00276	0.00344	0.1448
187	591527.47	4140722.49	On-Site 1.5m	0.05522	0.07473	0.00302	0.00314	0.1361
188	591540.57	4140729.81	On-Site 1.5m	0.05514	0.06739	0.00333	0.00288	0.1287
189	591553.66	4140737.12	On-Site 1.5m	0.05504	0.06103	0.00370	0.00264	0.1224
190	591566.76	4140744.44	On-Site 1.5m	0.05493	0.05546	0.00415	0.00243	0.1170
191	591579.85	4140751.75	On-Site 1.5m	0.05480	0.05053	0.00468	0.00224	0.1123
192	591592.95	4140759.07	On-Site 1.5m	0.05466	0.04614	0.00532	0.00207	0.1082
193	591386.69	4140663.84	On-Site 1.5m	0.05076	0.53061	0.00152	0.01125	0.5941
194	591399.83	4140671.09	On-Site 1.5m	0.05089	0.34630	0.00161	0.0093	0.4081
195	591412.96	4140678.33	On-Site 1.5m	0.05099	0.25673	0.00170	0.00788	0.3173
196	591428.49	4140684.38	On-Site 1.5m	0.05160	0.19898	0.00181	0.00671	0.2591
197	591441.58	4140691.69	On-Site 1.5m	0.05164	0.16447	0.00193	0.00587	0.2239
198	591454.68	4140699.01	On-Site 1.5m	0.05167	0.13943	0.00206	0.0052	0.1984
199	591467.77	4140706.32	On-Site 1.5m	0.05168	0.12036	0.00221	0.00464	0.1789
200	591480.87	4140713.64	On-Site 1.5m	0.05167	0.10528	0.00239	0.00417	0.1635
201	591493.96	4140720.96	On-Site 1.5m	0.05165	0.09302	0.00258	0.00377	0.1510
202	591507.06	4140728.27	On-Site 1.5m	0.05162	0.08285	0.00282	0.00342	0.1407
203	591520.15	4140735.59	On-Site 1.5m	0.05157	0.07425	0.00309	0.00312	0.1320
204	591533.25	4140742.9	On-Site 1.5m	0.05150	0.06688	0.00342	0.00285	0.1247
205	591546.35	4140750.22	On-Site 1.5m	0.05142	0.06049	0.00381	0.00262	0.1183
206	591559.44	4140757.53	On-Site 1.5m	0.05133	0.05489	0.00428	0.00241	0.1129
207	591572.54	4140764.85	On-Site 1.5m	0.05122	0.04994	0.00484	0.00222	0.1082
208	591585.63	4140772.17	On-Site 1.5m	0.05109	0.04553	0.00549	0.00205	0.1042
209	591379.45	4140676.98	On-Site 1.5m	0.04753	0.53028	0.00153	0.01118	0.5905
210	591392.58	4140684.22	On-Site 1.5m	0.04766	0.34610	0.00162	0.00925	0.4046
211	591405.72	4140691.47	On-Site 1.5m	0.04777	0.25640	0.00172	0.00784	0.3137
212	591421.17	4140697.47	On-Site 1.5m	0.04831	0.19888	0.00183	0.00668	0.2557
213	591434.27	4140704.79	On-Site 1.5m	0.04837	0.16423	0.00195	0.00584	0.2204
214	591447.36	4140712.1	On-Site 1.5m	0.04840	0.13914	0.00209	0.00517	0.1948
215	591460.46	4140719.42	On-Site 1.5m	0.04842	0.11999	0.00224	0.00461	0.1753
216	591473.55	4140726.74	On-Site 1.5m	0.04843	0.10487	0.00242	0.00414	0.1599
217	591486.65	4140734.05	On-Site 1.					

Receptor No.	UTM-X	UTM-Y	Description	Total PM2.5 Concentrations				Total Roads & Rail 2030
				Tasman Drive 2030	Lafayette Street 2030	Lick Mill Blvd 2030	Rail Line 2030	
226	591385.34	4140697.36	On-Site 1.5m	0.04482	0.34575	0.00163	0.0092	0.4014
227	591398.47	4140704.6	On-Site 1.5m	0.04493	0.25609	0.00173	0.00779	0.3105
228	591413.86	4140710.57	On-Site 1.5m	0.04542	0.19870	0.00185	0.00664	0.2526
229	591426.95	4140717.88	On-Site 1.5m	0.04548	0.16397	0.00197	0.00581	0.2172
230	591440.05	4140725.2	On-Site 1.5m	0.04552	0.13878	0.00212	0.00514	0.1916
231	591453.14	4140732.51	On-Site 1.5m	0.04555	0.11959	0.00228	0.00458	0.1720
232	591466.24	4140739.83	On-Site 1.5m	0.04556	0.10439	0.00247	0.00411	0.1565
233	591479.33	4140747.15	On-Site 1.5m	0.04556	0.09205	0.00269	0.00371	0.1440
234	591492.43	4140754.46	On-Site 1.5m	0.04555	0.08179	0.00296	0.00336	0.1337
235	591505.52	4140761.78	On-Site 1.5m	0.04552	0.07312	0.00327	0.00306	0.1250
236	591518.62	4140769.09	On-Site 1.5m	0.04547	0.06569	0.00363	0.0028	0.1176
237	591531.71	4140776.41	On-Site 1.5m	0.04541	0.05923	0.00406	0.00256	0.1113
238	591544.81	4140783.72	On-Site 1.5m	0.04535	0.05358	0.00455	0.00235	0.1058
239	591557.90	4140791.04	On-Site 1.5m	0.04526	0.04859	0.00511	0.00216	0.1011
240	591571.00	4140798.36	On-Site 1.5m	0.04517	0.04414	0.00573	0.00199	0.0970
241	591364.96	4140703.25	On-Site 1.5m	0.04216	0.52966	0.00156	0.01106	0.5844
242	591378.09	4140710.49	On-Site 1.5m	0.04229	0.34547	0.00165	0.00915	0.3986
243	591391.23	4140717.74	On-Site 1.5m	0.04240	0.25567	0.00175	0.00775	0.3076
244	591406.54	4140723.66	On-Site 1.5m	0.04285	0.19851	0.00187	0.00661	0.2498
245	591419.64	4140730.98	On-Site 1.5m	0.04291	0.16363	0.00200	0.00578	0.2143
246	591432.73	4140738.29	On-Site 1.5m	0.04296	0.13838	0.00215	0.00511	0.1886
247	591445.83	4140745.61	On-Site 1.5m	0.04299	0.11910	0.00232	0.00455	0.1690
248	591458.92	4140752.93	On-Site 1.5m	0.04301	0.10387	0.00253	0.00408	0.1535
249	591472.02	4140760.24	On-Site 1.5m	0.04301	0.09147	0.00276	0.00368	0.1409
250	591485.11	4140767.56	On-Site 1.5m	0.04300	0.08117	0.00304	0.00333	0.1305
251	591498.21	4140774.87	On-Site 1.5m	0.04298	0.07246	0.00336	0.00303	0.1218
252	591511.30	4140782.19	On-Site 1.5m	0.04294	0.06499	0.00374	0.00276	0.1144
253	591524.40	4140789.5	On-Site 1.5m	0.04290	0.05851	0.00418	0.00253	0.1081
254	591537.49	4140796.82	On-Site 1.5m	0.04283	0.05284	0.00467	0.00232	0.1027
255	591550.59	4140804.13	On-Site 1.5m	0.04277	0.04782	0.00521	0.00213	0.0979
256	591563.68	4140811.45	On-Site 1.5m	0.04269	0.04337	0.00580	0.00196	0.0938
257	591357.72	4140716.38	On-Site 1.5m	0.03990	0.52925	0.00157	0.011	0.5817
258	591370.85	4140723.63	On-Site 1.5m	0.04003	0.34502	0.00166	0.0091	0.3958
259	591383.98	4140730.87	On-Site 1.5m	0.04013	0.25525	0.00177	0.00771	0.3049
260	591399.23	4140736.76	On-Site 1.5m	0.04055	0.19822	0.00190	0.00658	0.2473
261	591412.32	4140744.07	On-Site 1.5m	0.04061	0.16326	0.00203	0.00575	0.2117
262	591425.42	4140751.39	On-Site 1.5m	0.04066	0.13790	0.00219	0.00508	0.1858
263	591438.51	4140758.71	On-Site 1.5m	0.04070	0.11856	0.00237	0.00452	0.1662
264	591451.61	4140766.02	On-Site 1.5m	0.04072	0.10327	0.00259	0.00405	0.1506
265	591464.70	4140773.34	On-Site 1.5m	0.04073	0.09083	0.00284	0.00365	0.1381
266	591477.80	4140780.65	On-Site 1.5m	0.04072	0.08048	0.00313	0.0033	0.1276
267	591490.89	4140787.97	On-Site 1.5m	0.04070	0.07174	0.00346	0.003	0.1189
268	591503.99	4140795.28	On-Site 1.5m	0.04067	0.06423	0.00385	0.00273	0.1115
269	591517.08	4140802.6	On-Site 1.5m	0.04063	0.05772	0.00428	0.0025	0.1051
270	591530.18	4140809.91	On-Site 1.5m	0.04058	0.05202	0.00476	0.00229	0.0997
271	591543.27	4140817.23	On-Site 1.5m	0.04052	0.04699	0.00529	0.0021	0.0949
272	591556.37	4140824.55	On-Site 1.5m	0.04045	0.04253	0.00584	0.00193	0.0908
273	591350.47	4140729.52	On-Site 1.5m	0.03786	0.52892	0.00159	0.01095	0.5793
274	591363.61	4140736.76	On-Site 1.5m	0.03799	0.34456	0.00168	0.00906	0.3933
275	591376.74	4140744	On-Site 1.5m	0.03809	0.25474	0.00179	0.00767	0.3023
276	591391.91	4140749.85	On-Site 1.5m	0.03848	0.19791	0.00193	0.00654	0.2449
277	591405.01	4140757.17	On-Site 1.5m	0.03854	0.16280	0.00207	0.00571	0.2091
278	591418.10	4140764.48	On-Site 1.5m	0.03859	0.13737	0.00224	0.00504	0.1832
279	591431.20	4140771.8	On-Site 1.5m	0.03863	0.11795	0.00243	0.00448	0.1635
280	591444.29	4140779.12	On-Site 1.5m	0.03865	0.10260	0.00266	0.00401	0.1479
281	591457.39	4140786.43	On-Site 1.5m	0.03866	0.09010	0.00292	0.00361	0.1353
282	591470.48	4140793.75	On-Site 1.5m	0.03866	0.07972	0.00322	0.00326	0.1249
283	591483.58	4140801.06	On-Site 1.5m	0.03865	0.07093	0.00356	0.00296	0.1161
284	591496.67	4140808.38	On-Site 1.5m	0.03862	0.06340	0.00394	0.0027	0.1087
285	591509.77	4140815.69	On-Site 1.5m	0.03858	0.05686	0.00437	0.00246	0.1023
286	591522.86	4140823.01	On-Site 1.5m	0.03854	0.05114	0.00484	0.00225	0.0968
287	591535.96	4140830.33	On-Site 1.5m	0.03849	0.04609	0.00533	0.00207	0.0920
288	591549.05	4140837.64	On-Site 1.5m	0.03844	0.04163	0.00584	0.0019	0.0878
289	591343.23	4140742.65	On-Site 1.5m	0.03602	0.52847	0.00160	0.0109	0.5770
290	591356.36	4140749.89	On-Site 1.5m	0.03614	0.34411	0.00171	0.00901	0.3910
291	591369.49	4140757.14	On-Site 1.5m	0.03625	0.25418	0.00182	0.00762	0.2999
292	591384.60	4140762.95	On-Site 1.5m	0.03660	0.19749	0.00196	0.0065	0.2426
293	591397.69	4140770.26	On-Site 1.5m	0.03667	0.16229	0.00211	0.00568	0.2068
294	591410.79	4140777.58	On-Site 1.5m	0.03672	0.13674	0.00229	0.005	0.1808
295	591423.88	4140784.9	On-Site 1.5m	0.03675	0.11726	0.00249	0.00445	0.1610
296	591436.98	4140792.21	On-Site 1.5m	0.03678	0.10185	0.00273	0.00397	0.1453
297	591450.07	4140799.53	On-Site 1.5m	0.03679	0.08930	0.00300	0.00357	0.1327
298	591463.17	4140806.84	On-Site 1.5m	0.03679	0.07887	0.00330	0.00323	0.1222
299	591476.26	4140814.16	On-Site 1.5m	0.03678	0.07005	0.00365	0.00292	0.1134
300	591489.36	4140821.47	On-Site 1.5m	0.03676	0.06248	0.00403	0.00266	0.1059
301	591502.45	4140828.79	On-Site 1.5m	0.03672	0.05591	0.00444	0.00242	0.0995
302	591515.55	4140836.1	On-Site 1.5m	0.03669	0.05018	0.00488	0.00222	0.0940
303	591528.64	4140843.42	On-Site 1.5m	0.03665	0.04513	0.00534	0.00203	0.0892
304	591541.74	4140850.74	On-Site 1.5m	0.03660	0.04067	0.00581	0.00187	0.0850
305	591335.98	4140755.78	On-Site 1.5m	0.03434	0.52816	0.00163	0.01085	0.5750
306	591349.12	4140763.03	On-Site 1.5m	0.03446	0.34349	0.00173	0.00896	0.3886
307	591362.25	4140770.27	On-Site 1.5m	0.03456	0.25353	0.00186	0.00758	0.2975
308	591377.28	4140776.04	On-Site 1.5m	0.03489	0.19704	0.00200	0.00646	0.2404
309	591390.38	4140783.36	On-Site 1.5m	0.03496	0.16167	0.00216	0.00564	0.2044
310	591403.47	4140790.67	On-Site 1.5m	0.03501	0.13605	0.00235	0.00496	0.1784
311	591416.57	4140797.99	On-Site 1.5m	0.03504	0.11649	0.00256	0.0044	0.1585
312	591429.66	4140805.31	On-Site 1.5m	0.03507	0.10101	0.00280	0.00393	0.1428
313	591442.76	4140812.62	On-Site 1.5m	0.03508	0.08841	0.00308	0.00353	0.1301
314	591455.85	4140819.94	On-Site 1.5m	0.03508	0.07793	0.00339	0.00318	0.1196
315	591468.95	4140827.25	On-Site 1.5m	0.03507	0.06907	0.00373	0.00288	0.1108
316	591482.04	4140834.57	On-Site 1.5m	0.03506	0.06147	0.00410	0.00262	0.1033
317	591495.14	4140841.88	On-Site 1.5m	0.03503	0.05488	0.00449	0.00238	0.0968
318	591508.23	4140849.2	On-Site 1.5m	0.03500	0.04914	0.00491	0.00218	0.0912
319	591521.33	4140856.52	On-Site 1.5m	0.03497	0.04409	0.00533	0.00199	0.0864
320	591534.42	4140863.83	On-Site 1.5m	0.03493	0.03965	0.00576	0.00183	0.0822
321	591328.74	4140768.92	On-Site 1.5m	0.03281	0.52747	0.00165	0.0108	0.5727
322	591341.87	4140776.16	On-Site 1.5m	0.03292	0.34291	0.00176	0.00891	0.3865
323	591355.01	4140783.41	On-Site 1.5m	0.03302	0.25279	0.00189	0.00753	0.2952
324	591369.96	4140789.14	On-Site 1.5m	0.03333	0.19649	0.00204	0.00642	0.2383
325	591383.06	4140796.45	On-Site 1.5m	0.03340	0.16100	0.00221	0.00559	0.2022
326	591396.15	4140803.77	On-Site 1.5m	0.03344	0.13527	0.00241	0.00492	0.1760
327	591409.25	4140811.09	On-Site 1.5m	0.03348	0.11562	0.00263	0.00436	0.1561
328	591422.34	4140818.4	On-Site 1.5m	0.03351	0.10008	0.00288	0.00389	0.1404
329	591435.44	4140825.72	On-Site 1.5m	0.03352	0.08742	0.00315	0.00349	0.1276
330	591448.53	4140833.03	On-Site 1.5m	0.03352	0.07690	0.00346	0.00314	0.1170
331	591461.63	4140840.35	On-Site 1.5m	0.03351	0.06799	0.00379	0.00284	0.1081
332	591474.73	4140847.66	On-Site 1.5m	0.				

Receptor No.	UTM-X	UTM-Y	Description	Total PM2.5 Concentrations				Total Roads & Rail 2030
				Tasman Drive 2030	Lafayette Street 2030	Lick Mill Blvd 2030	Rail Line 2030	
341	591375.74	4140809.55	On-Site 1.5m	0.03196	0.16022	0.00227	0.00555	0.2000
342	591388.84	4140816.86	On-Site 1.5m	0.03201	0.13438	0.00247	0.00487	0.1737
343	591401.93	4140824.18	On-Site 1.5m	0.03204	0.11466	0.00269	0.00431	0.1537
344	591415.03	4140831.5	On-Site 1.5m	0.03207	0.09903	0.00294	0.00384	0.1379
345	591428.12	4140838.81	On-Site 1.5m	0.03208	0.08632	0.00322	0.00344	0.1251
346	591441.22	4140846.13	On-Site 1.5m	0.03209	0.07574	0.00352	0.00309	0.1144
347	591454.31	4140853.44	On-Site 1.5m	0.03208	0.06681	0.00384	0.00279	0.1055
348	591467.41	4140860.76	On-Site 1.5m	0.03207	0.05915	0.00418	0.00253	0.0979
349	591480.50	4140868.07	On-Site 1.5m	0.03206	0.05255	0.00453	0.0023	0.0914
350	591493.60	4140875.39	On-Site 1.5m	0.03204	0.04680	0.00488	0.00209	0.0858
351	591506.69	4140882.71	On-Site 1.5m	0.03202	0.04180	0.00524	0.00191	0.0810
352	591519.79	4140890.02	On-Site 1.5m	0.03200	0.03743	0.00558	0.00175	0.0768
353	591314.25	4140795.19	On-Site 1.5m	0.03010	0.52606	0.00171	0.0107	0.5686
354	591327.38	4140802.43	On-Site 1.5m	0.03021	0.34140	0.00184	0.00881	0.3823
355	591340.52	4140809.68	On-Site 1.5m	0.03030	0.25110	0.00198	0.00742	0.2908
356	591355.33	4140815.33	On-Site 1.5m	0.03057	0.19511	0.00214	0.00633	0.2342
357	591368.43	4140822.64	On-Site 1.5m	0.03064	0.15933	0.00232	0.00549	0.1978
358	591381.52	4140829.96	On-Site 1.5m	0.03068	0.13338	0.00253	0.00482	0.1714
359	591394.62	4140837.28	On-Site 1.5m	0.03072	0.11355	0.00276	0.00426	0.1513
360	591407.71	4140844.59	On-Site 1.5m	0.03074	0.09787	0.00301	0.00379	0.1354
361	591418.30	4140855.09	On-Site 1.5m	0.03042	0.08524	0.00328	0.00339	0.1223
362	591431.94	4140861.35	On-Site 1.5m	0.03053	0.07466	0.00357	0.00305	0.1118
363	591445.57	4140867.6	On-Site 1.5m	0.03063	0.06576	0.00387	0.00275	0.1030
364	591459.20	4140873.85	On-Site 1.5m	0.03072	0.05817	0.00418	0.00249	0.0956
365	591472.84	4140880.11	On-Site 1.5m	0.03081	0.05163	0.00450	0.00226	0.0892
366	591486.47	4140886.36	On-Site 1.5m	0.03090	0.04599	0.00483	0.00207	0.0838
367	591500.11	4140892.61	On-Site 1.5m	0.03098	0.04110	0.00516	0.00189	0.0791
368	591403.06	4140855.97	On-Site 1.5m	0.02974	0.09543	0.00308	0.0037	0.1320
369	591307.00	4140808.32	On-Site 1.5m	0.02889	0.52539	0.00175	0.01064	0.5667
370	591320.14	4140815.57	On-Site 1.5m	0.02900	0.34045	0.00188	0.00875	0.3801
371	591333.27	4140822.81	On-Site 1.5m	0.02910	0.25013	0.00203	0.00736	0.2886
372	591348.02	4140828.42	On-Site 1.5m	0.02935	0.19424	0.00219	0.00627	0.2321
373	591361.11	4140835.74	On-Site 1.5m	0.02941	0.15832	0.00238	0.00544	0.1956
374	591374.21	4140843.06	On-Site 1.5m	0.02946	0.13223	0.00259	0.00476	0.1690
375	591387.30	4140850.37	On-Site 1.5m	0.02949	0.11234	0.00282	0.0042	0.1489
376	591689.08	4140616.94	On-Site 1.5m	0.28570	0.04660	0.00457	0.0021	0.3390
377	591702.45	4140623.72	On-Site 1.5m	0.28363	0.04327	0.00510	0.00196	0.3340
378	591715.83	4140630.51	On-Site 1.5m	0.28149	0.04026	0.00576	0.00184	0.3294
379	591729.21	4140637.3	On-Site 1.5m	0.27937	0.03751	0.00656	0.00172	0.3252
380	591742.58	4140644.09	On-Site 1.5m	0.27722	0.03500	0.00757	0.00162	0.3214
381	591755.96	4140650.88	On-Site 1.5m	0.27512	0.03269	0.00889	0.00152	0.3182
382	591769.33	4140657.67	On-Site 1.5m	0.27297	0.03056	0.01067	0.00144	0.3156
383	591683.12	4140631.71	On-Site 1.5m	0.20057	0.04591	0.00469	0.00207	0.2532
384	591696.50	4140638.5	On-Site 1.5m	0.19966	0.04260	0.00525	0.00194	0.2495
385	591709.87	4140645.29	On-Site 1.5m	0.19870	0.03961	0.00594	0.00181	0.2461
386	591723.25	4140652.08	On-Site 1.5m	0.19773	0.03687	0.00681	0.0017	0.2431
387	591736.62	4140658.87	On-Site 1.5m	0.19673	0.03438	0.00791	0.0016	0.2406
388	591750.00	4140665.65	On-Site 1.5m	0.19576	0.03208	0.00938	0.0015	0.2387
389	591763.38	4140672.44	On-Site 1.5m	0.19473	0.02996	0.01140	0.00141	0.2375
390	591674.59	4140645.53	On-Site 1.5m	0.15499	0.04582	0.00473	0.00207	0.2076
391	591686.79	4140653.65	On-Site 1.5m	0.15095	0.04252	0.00530	0.00193	0.2007
392	591700.24	4140660.29	On-Site 1.5m	0.15082	0.03949	0.00601	0.00181	0.1981
393	591713.69	4140666.93	On-Site 1.5m	0.15065	0.03672	0.00691	0.00169	0.1960
394	591727.15	4140673.56	On-Site 1.5m	0.15049	0.03419	0.00808	0.00159	0.1944
395	591740.60	4140680.2	On-Site 1.5m	0.15027	0.03187	0.00965	0.00149	0.1933
396	591754.05	4140686.84	On-Site 1.5m	0.15002	0.02973	0.01182	0.0014	0.1930
397	591667.27	4140658.63	On-Site 1.5m	0.12854	0.04555	0.00479	0.00206	0.1809
398	591680.37	4140665.94	On-Site 1.5m	0.12741	0.04217	0.00540	0.00192	0.1769
399	591693.46	4140673.26	On-Site 1.5m	0.12626	0.03910	0.00617	0.00179	0.1733
400	591706.56	4140680.57	On-Site 1.5m	0.12513	0.03631	0.00715	0.00168	0.1703
401	591719.65	4140687.89	On-Site 1.5m	0.12398	0.03375	0.00845	0.00157	0.1678
402	591732.75	4140695.2	On-Site 1.5m	0.12284	0.03140	0.01021	0.00148	0.1659
403	591745.84	4140702.52	On-Site 1.5m	0.12169	0.02924	0.01261	0.00139	0.1649
404	591659.96	4140671.72	On-Site 1.5m	0.11007	0.04525	0.00488	0.00204	0.1622
405	591673.05	4140679.04	On-Site 1.5m	0.10927	0.04185	0.00552	0.00191	0.1586
406	591686.15	4140686.35	On-Site 1.5m	0.10847	0.03877	0.00634	0.00178	0.1554
407	591699.24	4140693.67	On-Site 1.5m	0.10764	0.03595	0.00741	0.00166	0.1527
408	591712.34	4140700.98	On-Site 1.5m	0.10682	0.03338	0.00882	0.00156	0.1506
409	591725.43	4140708.3	On-Site 1.5m	0.10598	0.03102	0.01069	0.00146	0.1492
410	591738.53	4140715.62	On-Site 1.5m	0.10517	0.02885	0.01316	0.00137	0.1486
411	591652.64	4140684.82	On-Site 1.5m	0.09637	0.04492	0.00499	0.00203	0.1483
412	591665.74	4140692.13	On-Site 1.5m	0.09579	0.04150	0.00568	0.00189	0.1449
413	591678.83	4140699.45	On-Site 1.5m	0.09518	0.03840	0.00657	0.00177	0.1419
414	591691.93	4140706.76	On-Site 1.5m	0.09457	0.03557	0.00772	0.00165	0.1395
415	591705.02	4140714.08	On-Site 1.5m	0.09394	0.03298	0.00922	0.00154	0.1377
416	591718.12	4140721.39	On-Site 1.5m	0.09332	0.03061	0.01115	0.00145	0.1365
417	591731.21	4140728.71	On-Site 1.5m	0.09272	0.02843	0.01356	0.00136	0.1361
418	591645.33	4140697.91	On-Site 1.5m	0.08579	0.04455	0.00512	0.00201	0.1375
419	591658.42	4140705.23	On-Site 1.5m	0.08533	0.04111	0.00587	0.00188	0.1342
420	591671.52	4140712.54	On-Site 1.5m	0.08487	0.03799	0.00683	0.00175	0.1314
421	591684.61	4140719.86	On-Site 1.5m	0.08438	0.03515	0.00805	0.00163	0.1292
422	591697.71	4140727.17	On-Site 1.5m	0.08390	0.03255	0.00959	0.00153	0.1276
423	591710.80	4140734.49	On-Site 1.5m	0.08342	0.03017	0.01151	0.00143	0.1265
424	591723.90	4140741.81	On-Site 1.5m	0.08299	0.02799	0.01377	0.00134	0.1261
425	591638.01	4140711.01	On-Site 1.5m	0.07733	0.04415	0.00529	0.002	0.1288
426	591651.10	4140718.32	On-Site 1.5m	0.07697	0.04069	0.00609	0.00186	0.1256
427	591664.20	4140725.64	On-Site 1.5m	0.07659	0.03756	0.00710	0.00173	0.1230
428	591677.30	4140732.95	On-Site 1.5m	0.07622	0.03470	0.00837	0.00162	0.1209
429	591690.39	4140740.27	On-Site 1.5m	0.07583	0.03209	0.00991	0.00151	0.1193
430	591703.49	4140747.58	On-Site 1.5m	0.07547	0.02971	0.01173	0.00142	0.1183
431	591716.58	4140754.9	On-Site 1.5m	0.07515	0.02752	0.01376	0.00133	0.1178
432	591630.69	4140724.1	On-Site 1.5m	0.07041	0.04371	0.00548	0.00198	0.1216
433	591643.79	4140731.42	On-Site 1.5m	0.07011	0.04024	0.00633	0.00184	0.1185
434	591656.88	4140738.73	On-Site 1.5m	0.06981	0.03709	0.00738	0.00171	0.1160
435	591669.98	4140746.05	On-Site 1.5m	0.06950	0.03422	0.00864	0.0016	0.1140
436	591683.07	4140753.36	On-Site 1.5m	0.06920	0.03160	0.01013	0.00149	0.1124
437	591696.17	4140760.68	On-Site 1.5m	0.06892	0.02921	0.01180	0.0014	0.1113
438	591709.26	4140769	On-Site 1.5m	0.06870	0.02703	0.01357	0.00131	0.1106
439	591623.38	4140737.2	On-Site 1.5m	0.06463	0.04323	0.00568	0.00196	0.1155
440	591636.47	4140744.51	On-Site 1.5m	0.06439	0.03974	0.00657	0.00182	0.1125
441	591649.57	4140751.83	On-Site 1.5m	0.06414	0.03658	0.00762	0.0017	0.1100
442	591662.66	4140759.14	On-Site 1.5m	0.06389	0.03370	0.00885	0.00158	0.1080
443	591675.76	4140766.46	On-Site 1.5m	0.06365	0.03108	0.01023	0.00148	0.1064
444	591688.85	4140773.77	On-Site 1.5m	0.06344	0.02869	0.01171	0.00138	0.1052
445	591701.95	4140781.09	On-Site 1.5m	0.06329	0.02651	0.01322	0.00129	0.1043
446	591616.06	4140750.29	On-Site 1.5m	0.05972	0.04271	0.00589	0.00194	0.1103
447	591629.16	4140757.61	On-Site 1.5m					

Receptor No.	UTM-X	UTM-Y	Description	Total PM2.5 Concentrations				Total Roads & Rail 2030
				Tasman Drive 2030	Lafayette Street 2030	Lick Mill Blvd 2030	Rail Line 2030	
456	591648.03	4140785.33	On-Site 1.5m	0.05501	0.03256	0.00900	0.00154	0.0981
457	591661.13	4140792.65	On-Site 1.5m	0.05486	0.02994	0.01011	0.00143	0.0963
458	591674.22	4140799.97	On-Site 1.5m	0.05475	0.02756	0.01121	0.00134	0.0949
459	591687.32	4140807.28	On-Site 1.5m	0.05470	0.02541	0.01224	0.00125	0.0936
460	591601.43	4140776.48	On-Site 1.5m	0.05184	0.04153	0.00624	0.00189	0.1015
461	591614.53	4140783.8	On-Site 1.5m	0.05170	0.03800	0.00708	0.00175	0.0985
462	591627.62	4140791.11	On-Site 1.5m	0.05156	0.03481	0.00799	0.00163	0.0960
463	591640.72	4140798.43	On-Site 1.5m	0.05143	0.03193	0.00896	0.00152	0.0938
464	591653.81	4140805.74	On-Site 1.5m	0.05133	0.02932	0.00992	0.00141	0.0920
465	591666.91	4140813.06	On-Site 1.5m	0.05126	0.02696	0.01085	0.00132	0.0904
466	591680.00	4140820.38	On-Site 1.5m	0.05124	0.02483	0.01169	0.00123	0.0890
467	591594.12	4140789.58	On-Site 1.5m	0.04862	0.04086	0.00636	0.00187	0.0977
468	591607.21	4140796.89	On-Site 1.5m	0.04850	0.03733	0.00715	0.00173	0.0947
469	591620.31	4140804.21	On-Site 1.5m	0.04839	0.03414	0.00799	0.00161	0.0921
470	591633.40	4140811.52	On-Site 1.5m	0.04829	0.03127	0.00884	0.00149	0.0899
471	591646.50	4140818.84	On-Site 1.5m	0.04822	0.02867	0.00967	0.00139	0.0880
472	591659.59	4140826.16	On-Site 1.5m	0.04818	0.02633	0.01044	0.0013	0.0863
473	591672.69	4140833.47	On-Site 1.5m	0.04819	0.02422	0.01112	0.00121	0.0847
474	591586.80	4140802.67	On-Site 1.5m	0.04577	0.04015	0.00644	0.00184	0.0942
475	591599.90	4140809.99	On-Site 1.5m	0.04567	0.03661	0.00717	0.0017	0.0912
476	591612.99	4140817.3	On-Site 1.5m	0.04558	0.03343	0.00792	0.00158	0.0885
477	591626.09	4140824.62	On-Site 1.5m	0.04551	0.03057	0.00866	0.00147	0.0862
478	591639.18	4140831.93	On-Site 1.5m	0.04546	0.02800	0.00937	0.00137	0.0842
479	591652.28	4140839.25	On-Site 1.5m	0.04545	0.02568	0.01001	0.00127	0.0824
480	591665.37	4140846.57	On-Site 1.5m	0.04548	0.02361	0.01056	0.00119	0.0808
481	591579.48	4140815.77	On-Site 1.5m	0.04323	0.03938	0.00647	0.00181	0.0909
482	591592.58	4140823.08	On-Site 1.5m	0.04315	0.03585	0.00713	0.00168	0.0878
483	591605.68	4140830.4	On-Site 1.5m	0.04308	0.03268	0.00780	0.00155	0.0851
484	591618.77	4140837.71	On-Site 1.5m	0.04303	0.02984	0.00844	0.00144	0.0828
485	591631.87	4140845.03	On-Site 1.5m	0.04300	0.02730	0.00904	0.00134	0.0807
486	591644.96	4140852.35	On-Site 1.5m	0.04301	0.02502	0.00957	0.00125	0.0789
487	591658.06	4140859.66	On-Site 1.5m	0.04306	0.02298	0.01002	0.00117	0.0772
488	591572.17	4140828.86	On-Site 1.5m	0.04095	0.03856	0.00646	0.00178	0.0878
489	591585.26	4140836.18	On-Site 1.5m	0.04089	0.03504	0.00706	0.00165	0.0846
490	591598.36	4140843.49	On-Site 1.5m	0.04083	0.03189	0.00764	0.00153	0.0819
491	591611.45	4140850.81	On-Site 1.5m	0.04080	0.02908	0.00819	0.00142	0.0795
492	591624.55	4140858.13	On-Site 1.5m	0.04079	0.02657	0.00870	0.00132	0.0774
493	591637.64	4140865.44	On-Site 1.5m	0.04082	0.02433	0.00913	0.00123	0.0755
494	591650.74	4140872.76	On-Site 1.5m	0.04088	0.02234	0.00949	0.00115	0.0739
495	591564.85	4140841.96	On-Site 1.5m	0.03889	0.03769	0.00641	0.00175	0.0847
496	591577.95	4140849.27	On-Site 1.5m	0.03884	0.03418	0.00694	0.00162	0.0816
497	591591.04	4140856.59	On-Site 1.5m	0.03881	0.03107	0.00745	0.0015	0.0788
498	591604.14	4140863.9	On-Site 1.5m	0.03879	0.02829	0.00792	0.00139	0.0764
499	591617.23	4140871.22	On-Site 1.5m	0.03880	0.02583	0.00835	0.00129	0.0743
500	591630.33	4140878.54	On-Site 1.5m	0.03884	0.02364	0.00870	0.0012	0.0724
501	591643.42	4140885.85	On-Site 1.5m	0.03892	0.02170	0.00899	0.00112	0.0707
502	591557.54	4140855.05	On-Site 1.5m	0.03702	0.03676	0.00634	0.00172	0.0818
503	591570.63	4140862.37	On-Site 1.5m	0.03699	0.03329	0.00680	0.00159	0.0787
504	591583.73	4140869.68	On-Site 1.5m	0.03697	0.03021	0.00724	0.00147	0.0759
505	591596.82	4140877	On-Site 1.5m	0.03697	0.02748	0.00764	0.00136	0.0735
506	591609.92	4140884.32	On-Site 1.5m	0.03699	0.02507	0.00800	0.00127	0.0713
507	591623.01	4140891.63	On-Site 1.5m	0.03704	0.02294	0.00829	0.00118	0.0695
508	591636.11	4140898.95	On-Site 1.5m	0.03713	0.02105	0.00852	0.0011	0.0678
509	591550.22	4140868.15	On-Site 1.5m	0.03533	0.03579	0.00623	0.00169	0.0790
510	591563.32	4140875.46	On-Site 1.5m	0.03530	0.03235	0.00664	0.00155	0.0758
511	591576.41	4140882.78	On-Site 1.5m	0.03530	0.02932	0.00702	0.00144	0.0731
512	591589.51	4140890.09	On-Site 1.5m	0.03531	0.02665	0.00736	0.00133	0.0707
513	591602.60	4140897.41	On-Site 1.5m	0.03534	0.02430	0.00765	0.00124	0.0685
514	591615.70	4140904.73	On-Site 1.5m	0.03540	0.02223	0.00789	0.00116	0.0667
515	591628.79	4140912.04	On-Site 1.5m	0.03549	0.02041	0.00807	0.00108	0.0651
516	591542.91	4140881.24	On-Site 1.5m	0.03377	0.03476	0.00610	0.00165	0.0763
517	591556.00	4140888.56	On-Site 1.5m	0.03376	0.03138	0.00646	0.00152	0.0731
518	591569.10	4140895.87	On-Site 1.5m	0.03377	0.02841	0.00679	0.00141	0.0704
519	591582.19	4140903.19	On-Site 1.5m	0.03379	0.02581	0.00708	0.00131	0.0680
520	591595.29	4140910.51	On-Site 1.5m	0.03383	0.02353	0.00732	0.00121	0.0659
521	591608.38	4140917.82	On-Site 1.5m	0.03390	0.02154	0.00751	0.00113	0.0641
522	591621.48	4140925.14	On-Site 1.5m	0.03399	0.01978	0.00765	0.00106	0.0625
523	591535.59	4140894.34	On-Site 1.5m	0.03235	0.03370	0.00596	0.00161	0.0736
524	591548.69	4140901.65	On-Site 1.5m	0.03235	0.03038	0.00627	0.00149	0.0705
525	591561.78	4140908.97	On-Site 1.5m	0.03236	0.02749	0.00655	0.00138	0.0678
526	591574.88	4140916.29	On-Site 1.5m	0.03239	0.02497	0.00679	0.00128	0.0654
527	591587.97	4140923.6	On-Site 1.5m	0.03244	0.02277	0.00700	0.00119	0.0634
528	591601.07	4140930.92	On-Site 1.5m	0.03251	0.02084	0.00715	0.00111	0.0616
529	591614.16	4140938.23	On-Site 1.5m	0.03261	0.01916	0.00726	0.00104	0.0601
530	591516.72	4140900.84	On-Site 1.5m	0.03105	0.03588	0.00555	0.0017	0.0742
531	591534.71	4140908.84	On-Site 1.5m	0.03120	0.03132	0.00595	0.00153	0.0700
532	591547.48	4140915.96	On-Site 1.5m	0.03121	0.02833	0.00620	0.00141	0.0672
533	591563.72	4140923.96	On-Site 1.5m	0.03132	0.02522	0.00649	0.00129	0.0643
534	591782.24	4140665.69	On-Site 1.5m	0.26206	0.02855	0.01326	0.00135	0.3052
535	591795.62	4140672.48	On-Site 1.5m	0.26004	0.02673	0.01703	0.00127	0.3051
536	591808.99	4140679.27	On-Site 1.5m	0.25813	0.02504	0.02288	0.0012	0.3073
537	591822.37	4140686.06	On-Site 1.5m	0.25738	0.02347	0.03223	0.00114	0.3142
538	591835.74	4140692.85	On-Site 1.5m	0.26062	0.02201	0.04712	0.00108	0.3308
539	591849.12	4140699.64	On-Site 1.5m	0.26817	0.02065	0.06871	0.00102	0.3586
540	591776.28	4140680.47	On-Site 1.5m	0.18925	0.02796	0.01440	0.00133	0.2329
541	591789.66	4140687.26	On-Site 1.5m	0.18827	0.02615	0.01872	0.00125	0.2344
542	591803.04	4140694.05	On-Site 1.5m	0.18764	0.02447	0.02515	0.00118	0.2384
543	591816.41	4140700.83	On-Site 1.5m	0.18816	0.02291	0.03444	0.00112	0.2466
544	591829.79	4140707.62	On-Site 1.5m	0.19049	0.02147	0.04672	0.00106	0.2597
545	591843.16	4140714.41	On-Site 1.5m	0.19455	0.02013	0.05931	0.001	0.2750
546	591766.58	4140695.62	On-Site 1.5m	0.14528	0.02768	0.01505	0.00132	0.1893
547	591780.03	4140702.26	On-Site 1.5m	0.14513	0.02586	0.01939	0.00124	0.1916
548	591793.48	4140708.9	On-Site 1.5m	0.14534	0.02417	0.02530	0.00117	0.1960
549	591806.93	4140715.53	On-Site 1.5m	0.14625	0.02261	0.03276	0.00111	0.2027
550	591820.39	4140722.17	On-Site 1.5m	0.14806	0.02117	0.04089	0.00105	0.2112
551	591833.84	4140728.81	On-Site 1.5m	0.15096	0.01983	0.04745	0.00099	0.2192
552	591760.15	4140707.91	On-Site 1.5m	0.12353	0.02729	0.01578	0.00131	0.1679
553	591773.25	4140715.23	On-Site 1.5m	0.12255	0.02544	0.02004	0.00123	0.1693
554	591786.34	4140722.54	On-Site 1.5m	0.12191	0.02374	0.02525	0.00116	0.1721
555	591799.44	4140729.86	On-Site 1.5m	0.12177	0.02217	0.03088	0.00109	0.1759
556	591812.53	4140737.17	On-Site 1.5m	0.12225	0.02071	0.03582	0.00103	0.1798
557	591825.63	4140744.49	On-Site 1.5m	0.12357	0.01937	0.03877	0.00098	0.1827
558	591752.84	4140721.01	On-Site 1.5m	0.10658	0.02689	0.01627	0.00129	0.1510
559	591765.93	4140728.32	On-Site 1.5m	0.10596	0.02505	0.02011	0.00122	0.1523
560	591779.03	4140735.64	On-Site 1.5m	0.10562	0.02335	0.02436	0.00115	0.1545
561	591792.12	4140742.95	On-Site 1.5m	0.10567	0.02178	0.02843	0.00108	0.1570
562	591805.22	4140750.27	On-Site					

Receptor No.	UTM-X	UTM-Y	Description	Total PM2.5 Concentrations				Total Roads & Rail 2030
				Tasman Drive 2030	Lafayette Street 2030	Lick Mill Blvd 2030	Rail Line 2030	
571	591751.30	4140754.51	On-Site 1.5m	0.08373	0.02420	0.01904	0.00119	0.1282
572	591764.40	4140761.83	On-Site 1.5m	0.08371	0.02250	0.02153	0.00112	0.1289
573	591777.49	4140769.14	On-Site 1.5m	0.08396	0.02095	0.02353	0.00105	0.1295
574	591790.59	4140776.46	On-Site 1.5m	0.08455	0.01953	0.02477	0.00099	0.1298
575	591803.68	4140783.77	On-Site 1.5m	0.08557	0.01822	0.02515	0.00094	0.1299
576	591730.89	4140760.29	On-Site 1.5m	0.07599	0.02558	0.01599	0.00125	0.1188
577	591743.99	4140767.61	On-Site 1.5m	0.07588	0.02374	0.01812	0.00117	0.1189
578	591757.08	4140774.92	On-Site 1.5m	0.07595	0.02206	0.01998	0.0011	0.1191
579	591770.18	4140782.24	On-Site 1.5m	0.07625	0.02052	0.02136	0.00104	0.1192
580	591783.27	4140789.55	On-Site 1.5m	0.07684	0.01911	0.02213	0.00098	0.1191
581	591796.37	4140796.87	On-Site 1.5m	0.07777	0.01782	0.02226	0.00092	0.1188
582	591723.58	4140773.39	On-Site 1.5m	0.06945	0.02509	0.01543	0.00123	0.1112
583	591736.67	4140780.7	On-Site 1.5m	0.06942	0.02327	0.01710	0.00115	0.1109
584	591749.77	4140788.02	On-Site 1.5m	0.06955	0.02160	0.01847	0.00109	0.1107
585	591762.86	4140795.33	On-Site 1.5m	0.06988	0.02008	0.01943	0.00102	0.1104
586	591775.96	4140802.65	On-Site 1.5m	0.07045	0.01869	0.01989	0.00096	0.1100
587	591789.05	4140809.96	On-Site 1.5m	0.07131	0.01742	0.01987	0.00091	0.1095
588	591716.26	4140786.48	On-Site 1.5m	0.06397	0.02459	0.01476	0.00121	0.1045
589	591729.36	4140793.8	On-Site 1.5m	0.06399	0.02278	0.01605	0.00114	0.1040
590	591742.45	4140801.11	On-Site 1.5m	0.06417	0.02113	0.01706	0.00107	0.1034
591	591755.55	4140808.43	On-Site 1.5m	0.06452	0.01962	0.01771	0.00101	0.1029
592	591768.64	4140815.74	On-Site 1.5m	0.06507	0.01826	0.01797	0.00095	0.1023
593	591781.74	4140823.06	On-Site 1.5m	0.06586	0.01702	0.01786	0.0009	0.1016
594	591708.95	4140799.58	On-Site 1.5m	0.05930	0.02406	0.01403	0.00119	0.0986
595	591722.04	4140806.89	On-Site 1.5m	0.05938	0.02227	0.01501	0.00112	0.0978
596	591735.14	4140814.21	On-Site 1.5m	0.05958	0.02064	0.01575	0.00105	0.0970
597	591748.23	4140821.52	On-Site 1.5m	0.05994	0.01916	0.01619	0.00099	0.0963
598	591761.33	4140828.84	On-Site 1.5m	0.06047	0.01782	0.01632	0.00093	0.0955
599	591774.42	4140836.15	On-Site 1.5m	0.06120	0.01661	0.01615	0.00088	0.0948
600	591701.63	4140812.67	On-Site 1.5m	0.05528	0.02352	0.01327	0.00118	0.0933
601	591714.72	4140819.99	On-Site 1.5m	0.05539	0.02175	0.01403	0.0011	0.0923
602	591727.82	4140827.3	On-Site 1.5m	0.05561	0.02015	0.01456	0.00104	0.0914
603	591740.91	4140834.62	On-Site 1.5m	0.05597	0.01870	0.01485	0.00098	0.0905
604	591754.01	4140841.93	On-Site 1.5m	0.05647	0.01739	0.01488	0.00092	0.0897
605	591767.11	4140849.25	On-Site 1.5m	0.05715	0.01620	0.01468	0.00087	0.0889
606	591694.31	4140825.77	On-Site 1.5m	0.05178	0.02297	0.01252	0.00116	0.0884
607	591707.41	4140833.08	On-Site 1.5m	0.05191	0.02122	0.01310	0.00109	0.0873
608	591720.50	4140840.4	On-Site 1.5m	0.05214	0.01965	0.01348	0.00102	0.0863
609	591733.60	4140847.71	On-Site 1.5m	0.05249	0.01823	0.01366	0.00096	0.0853
610	591746.69	4140855.03	On-Site 1.5m	0.05297	0.01695	0.01363	0.0009	0.0845
611	591759.79	4140862.34	On-Site 1.5m	0.05360	0.01580	0.01341	0.00085	0.0837
612	591687.00	4140838.86	On-Site 1.5m	0.04870	0.02240	0.01180	0.00114	0.0840
613	591700.09	4140846.18	On-Site 1.5m	0.04884	0.02069	0.01224	0.00107	0.0828
614	591713.19	4140853.49	On-Site 1.5m	0.04908	0.01915	0.01251	0.001	0.0817
615	591726.28	4140860.81	On-Site 1.5m	0.04942	0.01776	0.01260	0.00094	0.0807
616	591739.38	4140868.12	On-Site 1.5m	0.04988	0.01652	0.01253	0.00089	0.0798
617	591752.47	4140875.44	On-Site 1.5m	0.05045	0.01540	0.01230	0.00084	0.0790
618	591679.68	4140851.96	On-Site 1.5m	0.04596	0.02182	0.01111	0.00112	0.0800
619	591692.78	4140859.27	On-Site 1.5m	0.04612	0.02014	0.01144	0.00105	0.0788
620	591705.87	4140866.59	On-Site 1.5m	0.04636	0.01864	0.01162	0.00098	0.0776
621	591718.97	4140873.9	On-Site 1.5m	0.04669	0.01730	0.01166	0.00093	0.0766
622	591732.06	4140881.22	On-Site 1.5m	0.04712	0.01609	0.01156	0.00087	0.0756
623	591745.16	4140888.53	On-Site 1.5m	0.04765	0.01501	0.01133	0.00083	0.0748
624	591672.37	4140865.05	On-Site 1.5m	0.04352	0.02123	0.01046	0.0011	0.0763
625	591685.46	4140872.37	On-Site 1.5m	0.04368	0.01960	0.01070	0.00103	0.0750
626	591698.56	4140879.68	On-Site 1.5m	0.04392	0.01814	0.01082	0.00097	0.0739
627	591711.65	4140887	On-Site 1.5m	0.04424	0.01684	0.01082	0.00091	0.0728
628	591724.75	4140894.31	On-Site 1.5m	0.04464	0.01567	0.01069	0.00086	0.0719
629	591737.84	4140901.63	On-Site 1.5m	0.04513	0.01463	0.01047	0.00081	0.0710
630	591665.05	4140878.15	On-Site 1.5m	0.04131	0.02064	0.00985	0.00108	0.0729
631	591678.15	4140885.46	On-Site 1.5m	0.04149	0.01905	0.01003	0.00101	0.0716
632	591691.24	4140892.78	On-Site 1.5m	0.04172	0.01764	0.01010	0.00095	0.0704
633	591704.34	4140900.09	On-Site 1.5m	0.04203	0.01638	0.01006	0.00089	0.0694
634	591717.43	4140907.41	On-Site 1.5m	0.04240	0.01526	0.00992	0.00084	0.0684
635	591730.53	4140914.72	On-Site 1.5m	0.04285	0.01425	0.00971	0.0008	0.0676
636	591657.74	4140891.24	On-Site 1.5m	0.03933	0.02005	0.00928	0.00106	0.0697
637	591670.83	4140898.56	On-Site 1.5m	0.03950	0.01851	0.00940	0.00099	0.0684
638	591683.93	4140905.87	On-Site 1.5m	0.03973	0.01715	0.00944	0.00093	0.0673
639	591697.02	4140913.19	On-Site 1.5m	0.04002	0.01594	0.00938	0.00088	0.0662
640	591710.12	4140920.5	On-Site 1.5m	0.04037	0.01486	0.00924	0.00083	0.0653
641	591723.21	4140927.82	On-Site 1.5m	0.04079	0.01389	0.00903	0.00078	0.0645
642	591650.42	4140904.34	On-Site 1.5m	0.03751	0.01946	0.00875	0.00103	0.0668
643	591663.52	4140911.65	On-Site 1.5m	0.03769	0.01798	0.00883	0.00097	0.0655
644	591676.61	4140918.97	On-Site 1.5m	0.03791	0.01667	0.00884	0.00091	0.0643
645	591689.71	4140926.28	On-Site 1.5m	0.03819	0.01550	0.00876	0.00086	0.0633
646	591702.80	4140933.6	On-Site 1.5m	0.03851	0.01446	0.00862	0.00081	0.0624
647	591715.90	4140940.91	On-Site 1.5m	0.03890	0.01354	0.00842	0.00077	0.0616
648	591643.10	4140917.43	On-Site 1.5m	0.03586	0.01888	0.00826	0.00101	0.0640
649	591656.20	4140924.75	On-Site 1.5m	0.03603	0.01746	0.00831	0.00095	0.0628
650	591669.29	4140932.06	On-Site 1.5m	0.03625	0.01620	0.00829	0.0009	0.0616
651	591682.39	4140939.38	On-Site 1.5m	0.03651	0.01508	0.00821	0.00084	0.0606
652	591695.49	4140946.69	On-Site 1.5m	0.03682	0.01409	0.00806	0.0008	0.0598
653	591708.58	4140954.01	On-Site 1.5m	0.03717	0.01320	0.00787	0.00076	0.0590
654	591635.79	4140930.53	On-Site 1.5m	0.03434	0.01831	0.00780	0.00099	0.0614
655	591648.88	4140937.84	On-Site 1.5m	0.03451	0.01695	0.00783	0.00093	0.0602
656	591661.98	4140945.16	On-Site 1.5m	0.03472	0.01574	0.00779	0.00088	0.0591
657	591675.07	4140952.47	On-Site 1.5m	0.03496	0.01468	0.00770	0.00083	0.0582
658	591688.17	4140959.79	On-Site 1.5m	0.03525	0.01372	0.00756	0.00078	0.0573
659	591701.26	4140967.1	On-Site 1.5m	0.03558	0.01288	0.00737	0.00074	0.0566
660	591628.47	4140943.62	On-Site 1.5m	0.03295	0.01776	0.00738	0.00097	0.0591
661	591641.57	4140950.94	On-Site 1.5m	0.03311	0.01646	0.00738	0.00091	0.0579
662	591654.66	4140958.25	On-Site 1.5m	0.03331	0.01531	0.00734	0.00086	0.0568
663	591667.76	4140965.57	On-Site 1.5m	0.03354	0.01428	0.00724	0.00081	0.0559
664	591680.85	4140972.88	On-Site 1.5m	0.03381	0.01338	0.00710	0.00077	0.0551
665	591693.95	4140980.2	On-Site 1.5m	0.03411	0.01256	0.00692	0.00073	0.0543
666	591863.30	4140704.04	On-Site 1.5m	0.29732	0.01948	0.09387	0.00097	0.4116
667	591876.68	4140710.83	On-Site 1.5m	0.31646	0.01830	0.09890	0.00092	0.4346
668	591890.05	4140717.62	On-Site 1.5m	0.35779	0.01721	0.08455	0.00087	0.4604
669	591857.34	4140718.82	On-Site 1.5m	0.20981	0.01898	0.06904	0.00095	0.2988
670	591870.72	4140725.61	On-Site 1.5m	0.22167	0.01782	0.06719	0.0009	0.3076
671	591884.10	4140732.4	On-Site 1.5m	0.24159	0.01674	0.06032	0.00086	0.3195
672	591897.47	4140739.18	On-Site 1.5m	0.27078	0.01575	0.05317	0.00082	0.3405
673	591910.85	4140745.97	On-Site 1.5m	0.31245	0.01483	0.04673	0.00078	0.3748
674	591924.22	4140752.76	On-Site 1.5m	0.28626	0.01398	0.04122	0.00074	0.3422
675	591847.64	4140733.97	On-Site 1.5m	0.15845	0.01866	0.05112	0.00094	0.2292
676	591861.09	4140740.61	On-Site 1.5m	0.16584	0.01751	0.04971	0.00089	0.2340
677	591874.54	4140747.25	On-Site 1.5m</					

Receptor No.	UTM-X	UTM-Y	Description	Total PM2.5 Concentrations				Total Roads & Rail 2030
				Tasman Drive 2030	Lafayette Street 2030	Lick Mill Blvd 2030	Rail Line 2030	
686	591906.69	4140782.84	On-Site 1.5m	0.17986	0.01338	0.02913	0.00072	0.2231
687	591833.90	4140759.36	On-Site 1.5m	0.11548	0.01795	0.03528	0.00092	0.1696
688	591846.99	4140766.67	On-Site 1.5m	0.11877	0.01682	0.03393	0.00087	0.1704
689	591860.09	4140773.99	On-Site 1.5m	0.12328	0.01577	0.03200	0.00083	0.1719
690	591873.18	4140781.3	On-Site 1.5m	0.12931	0.01480	0.02993	0.00078	0.1748
691	591886.28	4140788.62	On-Site 1.5m	0.13734	0.01392	0.02772	0.00075	0.1797
692	591899.37	4140795.93	On-Site 1.5m	0.14797	0.01311	0.02542	0.00071	0.1872
693	591826.58	4140772.45	On-Site 1.5m	0.10154	0.01759	0.03013	0.00091	0.1502
694	591839.68	4140779.77	On-Site 1.5m	0.10417	0.01647	0.02900	0.00086	0.1505
695	591852.77	4140787.08	On-Site 1.5m	0.10770	0.01544	0.02751	0.00081	0.1515
696	591865.87	4140794.4	On-Site 1.5m	0.11235	0.01449	0.02590	0.00077	0.1535
697	591878.96	4140801.71	On-Site 1.5m	0.11838	0.01363	0.02418	0.00073	0.1569
698	591892.06	4140809.03	On-Site 1.5m	0.12606	0.01283	0.02236	0.0007	0.1620
699	591819.27	4140785.55	On-Site 1.5m	0.09072	0.01722	0.02613	0.00089	0.1350
700	591832.36	4140792.86	On-Site 1.5m	0.09290	0.01612	0.02518	0.00085	0.1351
701	591845.46	4140800.18	On-Site 1.5m	0.09578	0.01510	0.02397	0.0008	0.1357
702	591858.55	4140807.49	On-Site 1.5m	0.09950	0.01418	0.02268	0.00076	0.1371
703	591871.65	4140814.81	On-Site 1.5m	0.10419	0.01333	0.02129	0.00072	0.1395
704	591884.74	4140822.12	On-Site 1.5m	0.10998	0.01256	0.01982	0.00069	0.1431
705	591811.95	4140798.64	On-Site 1.5m	0.08207	0.01684	0.02296	0.00088	0.1228
706	591825.05	4140805.96	On-Site 1.5m	0.08392	0.01576	0.02213	0.00083	0.1226
707	591838.14	4140813.27	On-Site 1.5m	0.08633	0.01477	0.02112	0.00079	0.1230
708	591851.24	4140820.59	On-Site 1.5m	0.08937	0.01387	0.02005	0.00075	0.1240
709	591864.33	4140827.9	On-Site 1.5m	0.09311	0.01304	0.01890	0.00071	0.1258
710	591877.43	4140835.22	On-Site 1.5m	0.09764	0.01229	0.01768	0.00068	0.1283
711	591804.64	4140811.74	On-Site 1.5m	0.07496	0.01646	0.02037	0.00087	0.1127
712	591817.73	4140819.05	On-Site 1.5m	0.07657	0.01540	0.01964	0.00082	0.1124
713	591830.83	4140826.37	On-Site 1.5m	0.07861	0.01444	0.01878	0.00078	0.1126
714	591843.92	4140833.68	On-Site 1.5m	0.08114	0.01356	0.01787	0.00074	0.1133
715	591857.02	4140841	On-Site 1.5m	0.08420	0.01276	0.01690	0.0007	0.1146
716	591870.11	4140848.31	On-Site 1.5m	0.08782	0.01203	0.01588	0.00067	0.1164
717	591797.32	4140824.83	On-Site 1.5m	0.06902	0.01608	0.01822	0.00086	0.1042
718	591810.42	4140832.15	On-Site 1.5m	0.07042	0.01505	0.01757	0.00081	0.1039
719	591823.51	4140839.46	On-Site 1.5m	0.07218	0.01411	0.01683	0.00077	0.1039
720	591836.61	4140846.78	On-Site 1.5m	0.07431	0.01325	0.01604	0.00073	0.1043
721	591849.70	4140854.09	On-Site 1.5m	0.07684	0.01247	0.01521	0.00069	0.1052
722	591862.80	4140861.41	On-Site 1.5m	0.07980	0.01176	0.01435	0.00066	0.1066
723	591790.00	4140837.93	On-Site 1.5m	0.06395	0.01570	0.01641	0.00084	0.0969
724	591803.10	4140845.24	On-Site 1.5m	0.06519	0.01469	0.01583	0.0008	0.0965
725	591816.20	4140852.56	On-Site 1.5m	0.06671	0.01378	0.01517	0.00076	0.0964
726	591829.29	4140859.87	On-Site 1.5m	0.06852	0.01295	0.01448	0.00072	0.0967
727	591842.39	4140867.19	On-Site 1.5m	0.07065	0.01219	0.01377	0.00068	0.0973
728	591855.48	4140874.5	On-Site 1.5m	0.07311	0.01151	0.01302	0.00065	0.0983
729	591782.69	4140851.02	On-Site 1.5m	0.05958	0.01532	0.01487	0.00083	0.0906
730	591795.78	4140858.34	On-Site 1.5m	0.06067	0.01434	0.01435	0.00078	0.0901
731	591808.88	4140865.65	On-Site 1.5m	0.06200	0.01346	0.01377	0.00074	0.0900
732	591821.97	4140872.97	On-Site 1.5m	0.06356	0.01265	0.01315	0.00071	0.0901
733	591835.07	4140880.28	On-Site 1.5m	0.06537	0.01192	0.01253	0.00067	0.0905
734	591848.16	4140887.6	On-Site 1.5m	0.06743	0.01126	0.01188	0.00064	0.0912
735	591775.37	4140864.12	On-Site 1.5m	0.05575	0.01495	0.01354	0.00081	0.0851
736	591788.47	4140871.43	On-Site 1.5m	0.05673	0.01400	0.01307	0.00077	0.0846
737	591801.56	4140878.75	On-Site 1.5m	0.05789	0.01314	0.01255	0.00073	0.0843
738	591814.66	4140886.06	On-Site 1.5m	0.05924	0.01236	0.01201	0.0007	0.0843
739	591827.75	4140893.38	On-Site 1.5m	0.06079	0.01166	0.01145	0.00066	0.0846
740	591840.85	4140900.69	On-Site 1.5m	0.06254	0.01102	0.01089	0.00063	0.0851
741	591768.06	4140877.21	On-Site 1.5m	0.05238	0.01458	0.01240	0.0008	0.0802
742	591781.15	4140884.53	On-Site 1.5m	0.05325	0.01366	0.01197	0.00076	0.0796
743	591794.25	4140891.84	On-Site 1.5m	0.05428	0.01283	0.01150	0.00072	0.0793
744	591807.34	4140899.16	On-Site 1.5m	0.05546	0.01208	0.01101	0.00068	0.0792
745	591820.44	4140906.47	On-Site 1.5m	0.05679	0.01140	0.01052	0.00065	0.0794
746	591833.53	4140913.79	On-Site 1.5m	0.05829	0.01078	0.01001	0.00062	0.0797
747	591760.74	4140890.31	On-Site 1.5m	0.04938	0.01422	0.01139	0.00079	0.0758
748	591773.84	4140897.62	On-Site 1.5m	0.05017	0.01333	0.01100	0.00075	0.0753
749	591786.93	4140904.94	On-Site 1.5m	0.05107	0.01253	0.01057	0.00071	0.0749
750	591800.03	4140912.25	On-Site 1.5m	0.05210	0.01180	0.01013	0.00067	0.0747
751	591813.12	4140919.57	On-Site 1.5m	0.05326	0.01115	0.00969	0.00064	0.0747
752	591826.22	4140926.89	On-Site 1.5m	0.05456	0.01055	0.00924	0.00061	0.0750
753	591753.43	4140903.4	On-Site 1.5m	0.04670	0.01386	0.01051	0.00077	0.0718
754	591766.52	4140910.72	On-Site 1.5m	0.04740	0.01301	0.01015	0.00073	0.0713
755	591779.62	4140918.03	On-Site 1.5m	0.04821	0.01223	0.00976	0.0007	0.0709
756	591792.71	4140925.35	On-Site 1.5m	0.04911	0.01154	0.00936	0.00066	0.0707
757	591805.81	4140932.66	On-Site 1.5m	0.05013	0.01090	0.00896	0.00063	0.0706
758	591818.90	4140939.98	On-Site 1.5m	0.05125	0.01033	0.00856	0.0006	0.0707
759	591746.11	4140916.5	On-Site 1.5m	0.04428	0.01352	0.00973	0.00076	0.0683
760	591759.21	4140923.81	On-Site 1.5m	0.04491	0.01269	0.00940	0.00072	0.0677
761	591772.30	4140931.13	On-Site 1.5m	0.04563	0.01195	0.00904	0.00069	0.0673
762	591785.40	4140938.44	On-Site 1.5m	0.04643	0.01128	0.00868	0.00065	0.0670
763	591798.49	4140945.76	On-Site 1.5m	0.04733	0.01067	0.00832	0.00062	0.0669
764	591811.59	4140953.08	On-Site 1.5m	0.04831	0.01012	0.00795	0.00059	0.0670
765	591738.80	4140929.59	On-Site 1.5m	0.04208	0.01319	0.00903	0.00075	0.0651
766	591751.89	4140936.91	On-Site 1.5m	0.04265	0.01239	0.00873	0.00071	0.0645
767	591764.99	4140944.22	On-Site 1.5m	0.04330	0.01168	0.00840	0.00068	0.0641
768	591778.08	4140951.54	On-Site 1.5m	0.04401	0.01103	0.00807	0.00064	0.0638
769	591791.18	4140958.85	On-Site 1.5m	0.04480	0.01045	0.00774	0.00061	0.0636
770	591804.27	4140966.17	On-Site 1.5m	0.04566	0.00992	0.00741	0.00059	0.0636
771	591731.48	4140942.69	On-Site 1.5m	0.04008	0.01286	0.00841	0.00074	0.0621
772	591744.58	4140950	On-Site 1.5m	0.04060	0.01210	0.00813	0.0007	0.0615
773	591757.67	4140957.32	On-Site 1.5m	0.04118	0.01142	0.00783	0.00066	0.0611
774	591770.77	4140964.63	On-Site 1.5m	0.04182	0.01080	0.00753	0.00063	0.0608
775	591783.86	4140971.95	On-Site 1.5m	0.04252	0.01023	0.00722	0.0006	0.0606
776	591796.96	4140979.27	On-Site 1.5m	0.04327	0.00972	0.00693	0.00058	0.0605
777	591724.16	4140955.78	On-Site 1.5m	0.03826	0.01255	0.00785	0.00072	0.0594
778	591737.26	4140963.1	On-Site 1.5m	0.03873	0.01182	0.00759	0.00069	0.0588
779	591750.35	4140970.41	On-Site 1.5m	0.03925	0.01117	0.00732	0.00065	0.0584
780	591763.45	4140977.73	On-Site 1.5m	0.03982	0.01057	0.00704	0.00062	0.0581
781	591776.54	4140985.04	On-Site 1.5m	0.04044	0.01003	0.00676	0.0006	0.0578
782	591789.64	4140992.36	On-Site 1.5m	0.04110	0.00954	0.00649	0.00057	0.0577
783	591716.85	4140968.88	On-Site 1.5m	0.03658	0.01226	0.00735	0.00071	0.0569
784	591729.94	4140976.19	On-Site 1.5m	0.03700	0.01156	0.00711	0.00068	0.0564
785	591743.04	4140983.51	On-Site 1.5m	0.03747	0.01093	0.00686	0.00064	0.0559
786	591756.13	4140990.82	On-Site 1.5m	0.03798	0.01035	0.00660	0.00061	0.0555
787	591769.23	4140998.14	On-Site 1.5m	0.03853	0.00983	0.00634	0.00059	0.0553
788	591709.53	4140981.97	On-Site 1.5m	0.03503	0.01197	0.00690	0.0007	0.0546
789	591722.63	4140989.29	On-Site 1.5m	0.03542	0.01130	0.00667	0.00067	0.0541
790	591735.72	4140996.6	On-Site 1.5m	0.03584	0.01070	0.00644	0.00063	0.0536
791	591931.97	4140766.67	On-Site 1.5m	0.36069	0.01312	0.03375	0.0007	0.4083
792	591922.57	4140781.22	On-Site 1.5m					

Receptor No.	UTM-X	UTM-Y	Description	Total PM2.5 Concentrations				Total Roads & Rail 2030
				Tasman Drive 2030	Lafayette Street 2030	Lick Mill Blvd 2030	Rail Line 2030	
801	591905.87	4140842.82	On-Site 1.5m	0.11586	0.01115	0.01604	0.00063	0.1437
802	591885.46	4140848.6	On-Site 1.5m	0.09655	0.01154	0.01567	0.00065	0.1244
803	591898.55	4140855.92	On-Site 1.5m	0.10204	0.01092	0.01451	0.00062	0.1281
804	591878.14	4140861.7	On-Site 1.5m	0.08687	0.01130	0.01417	0.00064	0.1130
805	591891.24	4140869.01	On-Site 1.5m	0.09120	0.01069	0.01319	0.00061	0.1157
806	591870.83	4140874.79	On-Site 1.5m	0.07896	0.01106	0.01288	0.00063	0.1035
807	591883.92	4140882.11	On-Site 1.5m	0.08244	0.01047	0.01204	0.0006	0.1056
808	591863.51	4140887.89	On-Site 1.5m	0.07234	0.01082	0.01176	0.00062	0.0955
809	591876.61	4140895.2	On-Site 1.5m	0.07519	0.01026	0.01103	0.00059	0.0971
810	591856.19	4140900.98	On-Site 1.5m	0.06672	0.01059	0.01079	0.00061	0.0887
811	591848.88	4140914.08	On-Site 1.5m	0.06189	0.01037	0.00993	0.0006	0.0828
812	591841.56	4140927.17	On-Site 1.5m	0.05768	0.01016	0.00917	0.00059	0.0776
813	591834.25	4140940.27	On-Site 1.5m	0.05399	0.00995	0.00849	0.00058	0.0730
814	591949.32	4140793.31	On-Site 1.5m	0.27917	0.01156	0.02365	0.00063	0.3150
815	591826.93	4140953.36	On-Site 1.5m	0.05071	0.00976	0.00789	0.00058	0.0689
816	591942.01	4140806.41	On-Site 1.5m	0.24572	0.01133	0.02099	0.00063	0.2787
817	591819.62	4140966.46	On-Site 1.5m	0.04780	0.00957	0.00736	0.00057	0.0653
818	591934.69	4140819.5	On-Site 1.5m	0.18807	0.01111	0.01876	0.00062	0.2186
819	591812.30	4140979.55	On-Site 1.5m	0.04518	0.00938	0.00688	0.00056	0.0620
820	591927.37	4140832.6	On-Site 1.5m	0.15297	0.01089	0.01687	0.00061	0.1813
821	591920.06	4140845.69	On-Site 1.5m	0.12930	0.01067	0.01525	0.0006	0.1558
		Max		0.3607	0.53095	0.09890	0.01218	0.83459