

# ***TAYLOR STREET EIH/SOS ON-SITE HEALTH RISK ASSESSMENT***

***San José, California***

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**I&R Project#: 24-130**

## **Introduction**

The purpose of this report is to provide the results of a toxic air contaminant (TAC) health risk analysis (HRA) for temporary residential occupation at 1157 East Taylor Street located in San José, California.

## **Project Description**

The City of San Jose's Emergency Interim Housing Supportive Outdoor Sleeping (EIH/SOS) project at the Taylor Street site would accommodate approximately 192 sleeping units in the form of tents. This site is located adjacent to East Taylor Street and the southbound side of U.S. Highway 101. Watson Park borders the project site to the southeast with residences to the west and north and the freeway to the east. Specifically, the project would accommodate approximately 192 sleeping units housed in tents. The site will be enclosed with fencing and include communal facilities such as portable restrooms, wash stations, mobile showers, and laundry services. The project will also feature office space, case management services, and 24-hour security. All structures will be temporary, with an anticipated operation period of up to five years, depending on need. Residents at the site are expected to live there for up to one year. After operations cease, all temporary structures will be removed, and efforts will be made to restore the site to its pre-project condition.

The potential project health risks and the impacts of existing toxic air contaminant (TAC) sources and air pollution affecting sensitive receptors using the Project were evaluated. This area includes sources of TACs and fine particulate matter (PM<sub>2.5</sub>) emitted from nearby facilities and roadways. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).<sup>1</sup> Information regarding stationary sources in the area was obtained from BAAQMD.

The Project would not be a source of TAC emissions since it would require minimal construction activity and not generate any substantial sources of TACs, including traffic, while operating. Therefore, only TAC exposure to occupants of the site was assessed in this report.

## **Setting**

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

### Air Pollutants of Concern

High ozone concentrations in the air basin are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>). These precursor pollutants react under certain meteorological conditions to form ozone concentrations. Controlling the emissions of these

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<sup>1</sup> Bay Area Air Quality Management District, 2022 *CEQA Guidelines*, April 2023

precursor pollutants is the focus of the Bay Area's attempts to reduce ambient ozone concentrations. The highest ozone concentrations in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone concentrations aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

### Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure of TACs can result in adverse health effects, they are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects from diesel exhaust exposure a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015 and incorporated into BAAQMD's current CEQA guidance<sup>2</sup>.

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

### 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, 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

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<sup>2</sup> 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.

they are more susceptible to cancer causing TACs. This project would introduce new sensitive receptors (i.e., residents) to the area. However, there would be no infants or children at the site. This site would only house adults and seniors. The site would operate 24 hours per day, 7 days per week with residents staying a maximum of 30 days. Therefore, occupants were assumed to be exposed to nearby TAC and PM<sub>2.5</sub> sources continuously while using the Project. The cancer risk computations are conservative and assume a one-year exposure period even though residents may leave the site within 90 days.

### Bay Area Air Quality Management District (BAAQMD)

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

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

BAAQMD's Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.<sup>3</sup> 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 has been 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 has been used to develop emission reduction activities 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. Seven areas have been identified by BAAQMD as impacted communities. They include Eastern San Francisco, Richmond/San Pablo, Western Alameda, San José, Vallejo, Concord, and Pittsburgh/Antioch. The project site is within a BAAQMD CARE area.

Overburdened communities are areas located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0 implemented by OEHHA, as having an overall score at or above the 70th percentile, or (ii) within 1,000 feet of

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<sup>3</sup> See BAAQMD: <https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program>.

any such census tract.<sup>4</sup> The BAAQMD has identified several overburdened areas within the air district's boundaries. The project site is within an overburdened area as identified by BAAQMD as the Project site is scored at the 71<sup>st</sup> percentile on CalEnviroScreen.<sup>5</sup>

### San José Envision 2040 General Plan

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

#### *Applicable Goals – Toxic Air Contaminants*

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

#### *Applicable Policies – Toxic Air Contaminants*

MS-11.1 Require completion of air quality modeling for sensitive land uses such as new residential developments that are located near sources of pollution such as freeways and industrial uses. Require new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs or be located an adequate distance from sources of toxic air contaminants (TACs) to avoid significant risks to health and safety.

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

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

#### *Actions – Toxic Air Contaminants*

MS-11.6 Develop and adopt a comprehensive Community Risk Reduction Plan that includes: baseline inventory of TACs and PM<sub>2.5</sub>, emissions from all sources, emissions reduction targets, and enforceable emission reduction strategies and performance measures. The Community Risk Reduction Plan will include enforcement and monitoring tools to ensure regular review of progress toward the emission reduction targets, progress reporting to the public and responsible agencies, and periodic updates of the plan, as appropriate.

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<sup>4</sup> See BAAQMD: [https://www.baaqmd.gov/~/\\_media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722\\_01\\_appendixd\\_mapsofverburdenedcommunities-pdf.pdf?la=en](https://www.baaqmd.gov/~/_media/dotgov/files/rules/reg-2-permits/2021-amendments/documents/20210722_01_appendixd_mapsofverburdenedcommunities-pdf.pdf?la=en).

<sup>5</sup> OEHAA, CalEnviroScreen 4.0 Maps [https://experience.arcgis.com/experience/11d2f52282a54ccebca7428e6184203/page/CalEnviroScreen-4\\_0/](https://experience.arcgis.com/experience/11d2f52282a54ccebca7428e6184203/page/CalEnviroScreen-4_0/)

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

BAAQMD CEQA Air Quality Guidelines

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 and in 2022 to include the latest significance thresholds, which were used in this analysis and are summarized in Table 1.<sup>6</sup> Impacts above these thresholds are considered potentially significant. The City of San José uses the BAAQMD CEQA Air Quality Guidelines to consider exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or health hazard. Policy MS-11.1 implements these thresholds for new sensitive land uses, such as the proposed project.

**Table 1. BAAQMD CEQA Significance Thresholds**

| Health Risks and Hazards   | Single Sources/<br>Individual Project <sup>1</sup> |   | Combined Sources (Cumulative<br>from all sources within 1000-foot<br>zone of influence) |   |
|--|--|---|---|---|
| Excess Cancer Risk   | >10 in a million                                   | OR<br>Compliance with<br>Qualified<br>Community<br>Risk Reduction<br>Plan | >100 in a million   | OR<br>Compliance with<br>Qualified<br>Community<br>Risk Reduction<br>Plan |
| Hazard Index   | >1.0   |   | >10.0   |   |
| Incremental annual PM <sub>2.5</sub>   | >0.3 µg/m <sup>3</sup>                             |   | >0.8 µg/m <sup>3</sup>  |   |
| <sup>1</sup> Within 1,000-foot Zone of Influence<br>Note: PM <sub>2.5</sub> = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. |  |   |   |   |

Source: Bay Area Air Quality Management District, 2022

**On-site Health Risk Assessment for TAC Sources - New Project Sensitive Residences**

The City’s General Plan Policy MS-11.1 requires new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project designs to avoid significant risks to health and safety required when new sensitive uses such as residences (permanent or temporary) are proposed near existing sources of TACs. BAAQMD’s recommended thresholds for health risks and hazards are used to evaluate on-site exposure.

This health risk assessment was conducted to assess the impact that the existing TAC sources would have on the new proposed sensitive receptors that the project would introduce.<sup>7</sup> Figure 1

<sup>6</sup> Note that new air quality CEQA Guidelines were posted on BAAQMD’s website in April 2023.

<sup>7</sup> We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201

shows the on-site sensitive receptors in relation to the nearby TAC sources. All on-site health risk results are listed in Table 1. *Attachment 1* includes the dispersion modeling and risk calculations for TAC source impacts upon the proposed on-site sensitive receptors.

Roadways sources, i.e., U.S. Highway 101, were modeled using available traffic data. Based on information provided by BAAQMD, no stationary sources were identified within 1,000 feet of the site.

### Highways – U.S. 101

A refined analysis of the impacts of TACs and PM<sub>2.5</sub> to the project site was conducted to evaluate potential cancer risks and PM<sub>2.5</sub> concentrations from U.S. 101. A review of the traffic information reported by Caltrans indicates that U.S. 101 traffic includes 164,000 vehicles per day (based on an annual average)<sup>8</sup> that are about 5.43 percent trucks, of which 2.9 percent are considered diesel heavy duty trucks and 2.5 percent are medium duty trucks.<sup>9</sup>

#### *Emission Rates*

This analysis involved the development of DPM, organic TACs, and PM<sub>2.5</sub> emissions for traffic on the U.S. 101 using the Caltrans version of the EMFAC2021 emissions model, known as CT-EMFAC2021. CT-EMFAC2021 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, PM<sub>2.5</sub> and total organic compounds (e.g., TOG), running evaporative losses for TOG, tire and brake wear, and fugitive road dust for PM<sub>2.5</sub>. All PM<sub>2.5</sub> emissions from all vehicles were used, rather than just the PM<sub>2.5</sub> fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce PM<sub>2.5</sub>. Additionally, PM<sub>2.5</sub> emissions from vehicle tire and brake wear and from re-entrained roadway dust were included. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2021 emissions data. Inputs to the model include region (i.e., Santa Clara County), type of road (i.e., freeway), Caltrans estimated local truck mix on U.S. 101 (as described above), traffic mix assigned by CT-EMFAC2021 for the county, year of analysis (2025), and season (annual).

In order to estimate TAC and PM<sub>2.5</sub> emissions over the one year exposure period used for calculating the increased cancer risks at the project site, the CT-EMFAC2021 model was used to develop vehicle emission factors for the year 2025. Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CT-EMFAC2021. Year 2025 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated.

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Cal.App.4th 455, 473, which confirm that the impacts of the environment on a project are excluded from CEQA unless the project itself “exacerbates” such impacts.

<sup>8</sup> Caltrans. 2022 *Traffic Volumes California State Highways*.

<sup>9</sup> Caltrans. 2022 *Annual Average Daily Truck Traffic on the California State Highway System*.

The year 2023 traffic information reported by Caltrans for U.S. 101 was increased 1 percent per year to 168,920 vehicles per day (based on an annual average for 2025) that includes about 5.4 percent trucks, of which 2.9 percent are considered diesel heavy duty trucks and 2.5 percent are medium duty trucks.<sup>10</sup> Hourly traffic distributions specific to these segments of U.S. 101 were obtained from Caltrans Performance Measurement System (PeMS). PeMS data is collected in real-time from nearly 40,000 individual detectors spanning the freeway system across all major metropolitan areas of California.<sup>11</sup> The fraction of traffic volume each hour was calculated and applied to the 2025 average daily traffic volumes calculation to estimate hourly traffic emission rates for U.S. 101.

Based on traffic data from the Caltrans PeMS, traffic speeds during the daytime and nighttime periods were identified. For northbound traffic on U.S. 101, the following was assumed for all vehicles:

- 65 mph – From 12:00 a.m. until 6:00 a.m. and 2:00 p.m. until 12:00 a.m.
- 60 mph – From 11:00 a.m. until 2:00 p.m.
- 55 mph – From 10:00 a.m. until 11:00 a.m.
- 45 mph – From 6:00 a.m. until 10:00 a.m.

For southbound traffic on U.S. 101, the following was assumed for all vehicles:

- 65 mph – From 12:00 a.m. until 9:00 a.m. and 8:00 p.m. until 12:00 a.m.
- 60 mph – From 9:00 a.m. until 5:00 p.m., and 7:00 p.m. until 8:00 p.m.
- 55 mph – From 5:00 p.m. until 7:00 p.m.

### *Dispersion Modeling*

Dispersion modeling of TAC and PM<sub>2.5</sub> emissions was conducted using the EPA AERMOD air quality dispersion model, which is recommended by the BAAQMD for this type of analysis.<sup>12</sup> TAC and PM<sub>2.5</sub> emissions from traffic on U.S. 101 within 1,000 feet of the project site were evaluated. Vehicle traffic on the roadways was modeled using a series of area sources along a line (line area sources); with line segments used for opposing travel directions on the highway. Other inputs to the model included road geometry, hourly traffic emissions, and receptor locations and heights.

The modeling used a five-year data set (2013 - 2017) of hourly meteorological data from the San José Airport prepared for use with the AERMOD model by BAAQMD. The model inputs for sources and receptors assumed a flat area, where changes to terrain were insignificant. Annual DPM and PM<sub>2.5</sub> concentrations from traffic using year 2025 emission rates were input to the model. DPM and PM<sub>2.5</sub> concentrations were calculated at a 7-meter grid of receptors that represent the

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<sup>10</sup> Caltrans. 2024. *2021 Annual Average Daily Truck Traffic on the California State Highway System*. Web: <https://dot.ca.gov/programs/traffic-operations/census>.

<sup>11</sup> <https://dot.ca.gov/programs/traffic-operations/mpr/pems-source>

<sup>12</sup> BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012

range of on-site exposures at the expected locations of tents/pods. Receptor heights of 5 feet (1.5 meters) were used to represent the breathing height for residents at the project site.<sup>13</sup>

### *Computed Cancer and Non-Cancer Health Impacts*

Maximum increased cancer risks and annual PM<sub>2.5</sub> concentrations for the receptors were computed using modeled TAC and PM<sub>2.5</sub> concentrations and BAAQMD methods and exposure parameters. The cancer risk exposure parameters were adjusted for the project's one-year exposure period to adults only. The traffic-related cancer risk, PM<sub>2.5</sub> concentration, and HI impacts across the site are shown in Table 2. Figure 1 shows the roadway links used for the modeling and receptor locations where concentrations were calculated. Details of the emission calculations, dispersion modeling, and cancer risk calculations for the receptors with the maximum cancer risk from U.S. 101 traffic are provided in *Attachment 1*.

### BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2022* GIS website,<sup>14</sup> which identifies the location of nearby stationary sources and their estimated risk and hazard impacts, including emissions and adjustments to account for OEHHA guidance. One source was identified using this tool, a generic source. The BAAQMD GIS website provided screening risks and hazards for the generic source. However, after searching for the source at the address provided by BAAQMD, the source is located well outside of the 1,000-foot influence area of the project. As a result, it is not included in this cumulative analysis of the project site.

### Summary of Health Risks at the Project Site

Maximum health risk impacts from the existing TAC sources upon the project site are reported in Table 2. The risks from the singular TAC sources are compared against the BAAQMD single-source threshold. There are no other substantial sources of TACs near the site other than U.S. 101. Therefore, cumulative sources within 1,000 feet only include emissions from U.S. 101 traffic. As shown in Table 2, none of the risk values exceed the BAAQMD single-source or cumulative-source thresholds.

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<sup>13</sup> Bay Area Air Quality Management District, 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0. May. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en>

<sup>14</sup> BAAQMD, <https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=845658c19eae4594b9f4b805fb9d89a3>

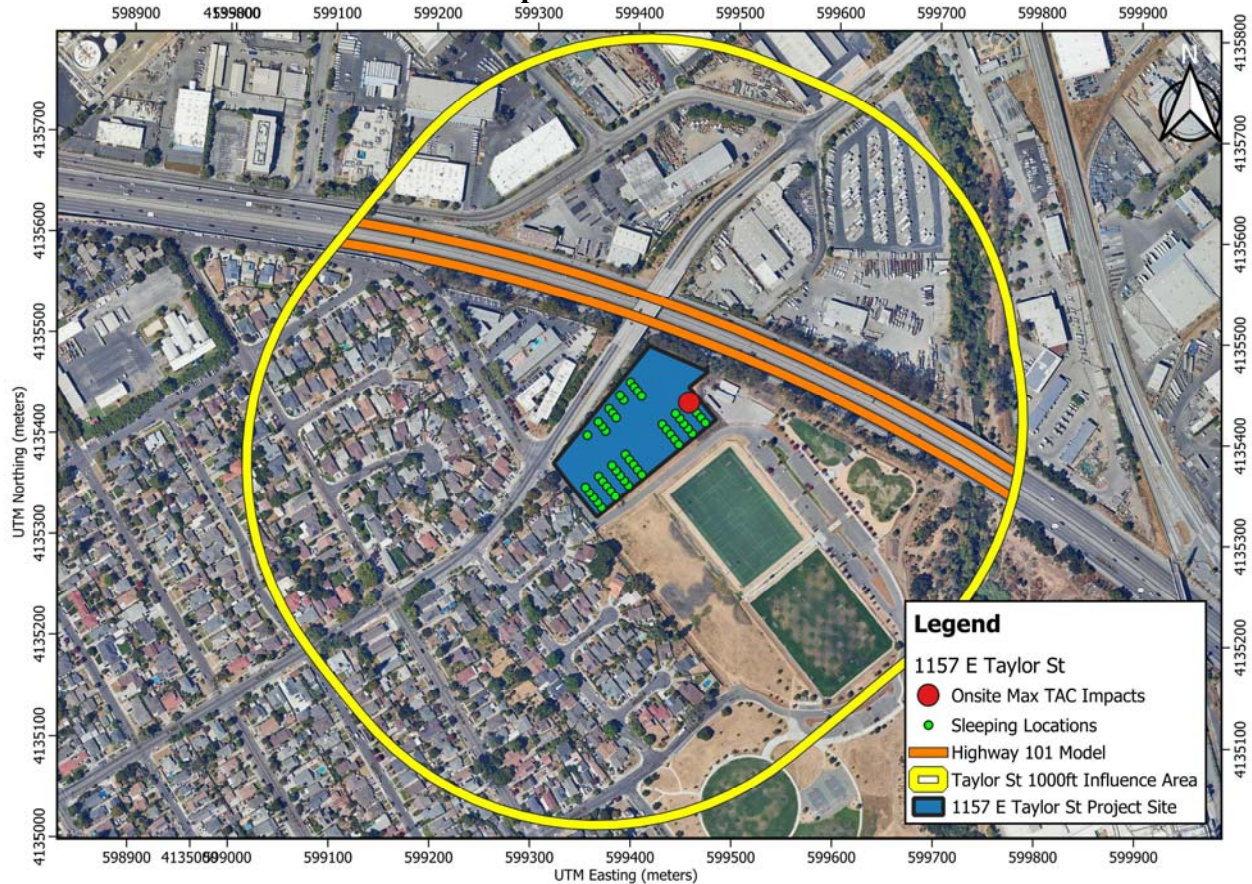
**Table 2. Maximum Impacts from Cumulative Sources to Project Site Receptors**

| Source                                    | Cancer Risk (per million) | Annual PM <sub>2.5</sub> (µg/m <sup>3</sup> ) | Hazard Index |
|---|---------------------------|---|--------------|
| U.S. 101, ADT 168,920                     | 0.04                      | 0.31  | <0.01        |
| <b>BAAQMD Single-Source Threshold</b>     | <b>10</b>                 | <b>0.3</b>                                    | <b>1.0</b>   |
| <i>Exceed Threshold?</i>                  | <i>No</i>                 | <i>Yes<sup>1</sup></i>                        | <i>No</i>    |
| <b>BAAQMD Cumulative Source Threshold</b> | <b>100</b>                | <b>0.8</b>                                    | <b>10.0</b>  |
| <i>Exceed Threshold?</i>                  | <i>No</i>                 | <i>No</i>                                     | <i>No</i>    |

<sup>1</sup>Exceeds threshold on an annual basis. Occupants in areas that exceed the annual PM<sub>2.5</sub> threshold are not expected to remain on-site for a whole year.

The threshold for annual PM<sub>2.5</sub> concentrations recommended by BAAQMD is 0.3 µg/m<sup>3</sup>. Concentrations at the tent locations closest to U.S. 101 traffic were modeled to be 0.31 µg/m<sup>3</sup>. However, occupants are not anticipated to be present at the site for a full year. So, exposure, on an annual basis, would be less than 0.3 µg/m<sup>3</sup>.

**Figure 1. Locations of Project Site, On-Site Residential Receptors, Roadway Models, and Maximum TAC Impacts**



**Figure 2. Annual PM<sub>2.5</sub> Concentration Contour Map**



Note: Cancer risk contours not shown since significant cancer risk exposures are not expected to occur at the site for short-term and/or adult exposures.

## **Supporting Documentation**

*Attachment 1* includes the CalEEMod output for project construction emissions. Also included are any modeling assumptions.

*Attachment 2* is the construction health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

*Attachment 3* includes the cumulative health screening results from sources affecting the construction MEI and project site receptors.

**Attachment 1: Cumulative Screening Information and Health Risk Calculations**

File Name: Highway 101 2025.EF  
 CT-EMFAC2021 Version: 1.0.2.0  
 Run Date: 9/5/2024 3:21:25 PM  
 Area: Santa Clara (SF)  
 Analysis Year: 2025  
 Season: Annual

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| Vehicle Category | VMT Fraction    | Diesel VMT Fraction | Gas VMT |
|------------------|-----------------|---------------------|---------|
| Fraction         | Across Category | Within Category     | Within  |
| Category         |                 |                     |         |
| Truck 1          | 0.016           | 0.416               | 0.572   |
| Truck 2          | 0.019           | 0.909               | 0.045   |
| Non-Truck        | 0.965           | 0.007               | 0.917   |

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|                           |         |             |              |
|---------------------------|---------|-------------|--------------|
| Road Type:                | Freeway |             |              |
| Silt Loading Factor:      | CARB    | 0.015 g/m2  |              |
| Precipitation Correction: | CARB    | P = 63 days | N = 365 days |

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

| Pollutant Name | 45 mph   | 55 mph   | 60 mph   | 65 mph   |
|----------------|----------|----------|----------|----------|
| PM2.5          | 0.001219 | 0.001317 | 0.001466 | 0.001688 |
| TOG            | 0.016963 | 0.016401 | 0.017402 | 0.019365 |
| Diesel PM      | 0.000391 | 0.000508 | 0.000596 | 0.000695 |

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

| Pollutant Name | Emission Factor |
|----------------|-----------------|
| TOG            | 0.998556        |

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

| Pollutant Name | Emission Factor |
|----------------|-----------------|
| PM2.5          | 0.002107        |

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

| Pollutant Name | 45 mph   | 55 mph   | 60 mph   | 65 mph   |
|----------------|----------|----------|----------|----------|
| PM2.5          | 0.003960 | 0.002292 | 0.001989 | 0.001686 |

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

| Pollutant Name | Emission Factor |
|----------------|-----------------|
| PM2.5          | 0.007683        |

=====END=====

**Taylor Street SOS, San Jose, CA - Highway 101 Traffic - TACs & PM2.5  
 AERMOD Risk Modeling Parameters and Maximum Concentrations  
 at Onsite MEI Receptor (1.5 meter receptor height)**

**Emission Year** 2025  
**Receptor Information** Onsite MEI receptor  
 Number of Receptors 48  
 Receptor Height 1.5 meters  
 Receptor Distances At Onsite MEI location

**Meteorological Conditions**  
 BAAQMD San Jose International Airport Me 2013 - 2017  
 Land Use Classification Urban  
 Wind Speed Variable  
 Wind Direction Variable

**Construction MEI Cancer Risk Maximum Concentrations**

| Meteorological<br>Data Years | Concentration (µg/m3) |             |                 |
|------------------------------|-----------------------|-------------|-----------------|
|                              | DPM                   | Exhaust TOG | Evaporative TOG |
| 2013 - 2017                  | 0.0129                | 0.4309      | 0.3873          |

**Construction MEI PM2.5 Maximum Concentrations**

| Meteorological<br>Data Years | PM2.5 Concentration (µg/m3) |                |               |
|------------------------------|-----------------------------|----------------|---------------|
|                              | Total PM2.5                 | Fugitive PM2.5 | Vehicle PM2.5 |
| 2013 - 2017                  | 0.3137                      | 0.2772         | 0.0366        |

**Taylor St SOS, San Jose, CA - Highway 101 Traffic Cancer Risk**  
**Impacts at Onsite MEI - 1.5 meter receptor height**  
**1 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)<sup>-1</sup>  
 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<sub>air</sub> x DBR x A x (EF/365) x 10<sup>-6</sup>

Where: C<sub>air</sub> = concentration in air (µg/m<sup>3</sup>)  
 DBR = daily breathing rate (L/kg body weight-day)  
 A = Inhalation absorption factor  
 EF = Exposure frequency (days/year)  
 10<sup>-6</sup> = Conversion factor

**Cancer Potency Factors (mg/kg-day)<sup>-1</sup>**

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

Values

| Age --><br>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     |
| AT =                 | 70            | 70    | 70     | 70      |
| FAH =                | 1.00          | 1.00  | 1.00   | 0.73    |

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

**Construction Cancer Risk by Year - Maximum Impact Receptor Location**

| Exposure Year                      | Maximum - Exposure Information |     |      |                        | Concentration (ug/m3) |             |                 | Cancer Risk (per million) |             |                 | TOTAL       |   |
|------------------------------------|--------------------------------|-----|------|------------------------|-----------------------|-------------|-----------------|---------------------------|-------------|-----------------|-------------|---|
|                                    | Exposure Duration (years)      | Age | Year | Age Sensitivity Factor | DPM                   | Exhaust TOG | Evaporative TOG | DPM                       | Exhaust TOG | Evaporative TOG |             |   |
|                                    |                                |     |      |                        |                       |             |                 |                           |             |                 |             | 1 |
| <b>Total Increased Cancer Risk</b> |                                |     |      |                        |                       |             |                 |                           |             |                 |             |   |
|                                    |                                |     |      |                        |                       |             |                 | 0.04                      | 0.007       | 0.000           | <b>0.04</b> |   |

| Maximum      |                |             |
|--------------|----------------|-------------|
| Hazard Index | Fugitive PM2.5 | Total PM2.5 |
| 0.00257      | 0.28           | 0.31        |

\* Third trimester of pregnancy

1157 E Taylor St, San Jose, CA - On-Site Residential  
 Cumulative Operation - Highway 101  
 DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions  
 Year = 2025

| 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 | Line Area   |              |                   |                      | Initial Vertical height (m) | (Sigma z) Initial Vertical Dimension |
|------------|------------------------|-----------|-----------|-----------------|------------------|----------------|-----------------|--------------------|---------------------|--------------------------|-------------|--------------|-------------------|----------------------|-----------------------------|--------------------------------------|
|            |                        |           |           |                 |                  |                |                 |                    |                     |                          | Area (sq m) | Area (sq ft) | Emission (g/s/m2) | Emission (lb/hr/ft2) |                             |                                      |
| DPM_NB_101 | Highway 101 Northbound | NB        | 4         | 279.6           | 0.17             | 20.6           | 67.7            | 3.4                | 61                  | 84,460                   | 5,768       | 62,089       | 2.046E-08         | 1.509E-08            | 6.8                         | 3.16                                 |
| DPM_SB_101 | Highway 101 Southbound | SB        | 4         | 319.2           | 0.20             | 20.6           | 67.7            | 3.4                | 62                  | 84,460                   | 6,585       | 70,883       | 2.046E-08         | 1.509E-08            | 6.8                         | 3.16                                 |
| Total      |                        |           |           |                 |                  |                |                 |                    |                     | 168,920                  |             |              |                   |                      |                             |                                      |

Emission Factors

| Speed Category                | 1       | 2        | 3        | 4        |
|-------------------------------|---------|----------|----------|----------|
| Travel Speed (mph)            | 65      | 60       | 55       | 45       |
| Emissions per Vehicle (g/VMT) | 0.00070 | 0.000596 | 0.000508 | 0.000391 |

Emission Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and DPM Emissions - DPM\_NB\_101

| Hour  | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH    | g/s      |
|-------|------------|------|----------|------|------------|------|----------|------|------------|--------|----------|
| 1     | 0.93%      | 787  | 2.64E-05 | 9    | 6.19%      | 5230 | 9.87E-05 | 17   | 5.03%      | 4245   | 1.42E-04 |
| 2     | 0.69%      | 581  | 1.95E-05 | 10   | 6.22%      | 5256 | 9.92E-05 | 18   | 5.07%      | 4281   | 1.44E-04 |
| 3     | 0.79%      | 668  | 2.24E-05 | 11   | 6.03%      | 5093 | 1.25E-04 | 19   | 4.41%      | 3722   | 1.25E-04 |
| 4     | 1.36%      | 1152 | 3.87E-05 | 12   | 5.70%      | 4814 | 1.38E-04 | 20   | 3.94%      | 3328   | 1.12E-04 |
| 5     | 3.23%      | 2729 | 9.15E-05 | 13   | 5.63%      | 4751 | 1.37E-04 | 21   | 3.48%      | 2938   | 9.85E-05 |
| 6     | 5.81%      | 4910 | 1.65E-04 | 14   | 5.70%      | 4816 | 1.39E-04 | 22   | 3.11%      | 2623   | 8.80E-05 |
| 7     | 5.97%      | 5039 | 9.51E-05 | 15   | 5.50%      | 4644 | 1.56E-04 | 23   | 2.32%      | 1961   | 6.58E-05 |
| 8     | 6.28%      | 5302 | 1.00E-04 | 16   | 5.10%      | 4304 | 1.44E-04 | 24   | 1.52%      | 1284   | 4.31E-05 |
| Total |            |      |          |      |            |      |          |      |            | 84,460 |          |

2025 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM\_SB\_101

| Hour  | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH    | g/mile   |
|-------|------------|------|----------|------|------------|------|----------|------|------------|--------|----------|
| 1     | 1.65%      | 1396 | 5.35E-05 | 9    | 3.72%      | 3139 | 1.20E-04 | 17   | 7.07%      | 5974   | 1.96E-04 |
| 2     | 1.04%      | 882  | 3.38E-05 | 10   | 4.03%      | 3403 | 1.12E-04 | 18   | 6.92%      | 5843   | 1.64E-04 |
| 3     | 0.96%      | 809  | 3.10E-05 | 11   | 4.76%      | 4019 | 1.32E-04 | 19   | 6.63%      | 5599   | 1.57E-04 |
| 4     | 0.65%      | 550  | 2.11E-05 | 12   | 5.43%      | 4586 | 1.51E-04 | 20   | 5.90%      | 4984   | 1.64E-04 |
| 5     | 0.78%      | 655  | 2.51E-05 | 13   | 6.09%      | 5144 | 1.69E-04 | 21   | 4.90%      | 4137   | 1.58E-04 |
| 6     | 1.46%      | 1234 | 4.72E-05 | 14   | 6.76%      | 5706 | 1.87E-04 | 22   | 4.25%      | 3590   | 1.37E-04 |
| 7     | 2.50%      | 2110 | 8.08E-05 | 15   | 7.47%      | 6308 | 2.07E-04 | 23   | 3.68%      | 3109   | 1.19E-04 |
| 8     | 3.43%      | 2898 | 1.11E-04 | 16   | 7.24%      | 6115 | 2.01E-04 | 24   | 2.69%      | 2270   | 8.69E-05 |
| Total |            |      |          |      |            |      |          |      |            | 84,460 |          |

1157 E Taylor St, San Jose, CA - On-Site Residential  
 Cumulative Operation - Highway 101  
 PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions  
 Year = 2025

| 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 | Area (sq m) | Area (sq ft) | Emission (g/s/m2) | Emission (lb/hr/ft2) | Initial Vertical height (m) | (Sigma z) Initial Vertical Dimension |
|--------------|------------------------|-----------|-----------|-----------------|------------------|----------------|-----------------|--------------------|---------------------|--------------------------|-------------|--------------|-------------------|----------------------|-----------------------------|--------------------------------------|
| PM2.5_NB_101 | Highway 101 Northbound | NB        | 4         | 279.6           | 0.17             | 20.6           | 68              | 1.3                | 60.625              | 84,460                   | 5,768       | 62,089       | 4.97E-08          | 3.66E-08             | 2.6                         | 1.21                                 |
| PM2.5_SB_101 | Highway 101 Southbound | SB        | 4         | 319.2           | 0.20             | 20.6           | 68              | 1.3                | 62.291667           | 84,460                   | 6,585       | 70,883       | 4.97E-08          | 3.66E-08             | 2.6                         | 1.21                                 |
| Total        |                        |           |           |                 |                  |                |                 |                    |                     | 168,920                  |             |              |                   |                      |                             |                                      |

Emission Factors - PM2.5

| Speed Category                | 1        | 2       | 3        | 4        |
|-------------------------------|----------|---------|----------|----------|
| Travel Speed (mph)            | 65       | 60      | 55       | 45       |
| Emissions per Vehicle (g/VMT) | 0.001688 | 0.00147 | 0.001317 | 0.001219 |

Emission Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5\_NB\_101

| Hour  | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH  | g/s      |  |
|-------|------------|------|----------|------|------------|------|----------|------|------------|------|----------|--|
| 1     | 0.93%      | 787  | 6.41E-05 | 9    | 6.19%      | 5230 | 3.08E-04 | 17   | 5.03%      | 4245 | 3.46E-04 |  |
| 2     | 0.69%      | 581  | 4.73E-05 | 10   | 6.22%      | 5256 | 3.09E-04 | 18   | 5.07%      | 4281 | 3.49E-04 |  |
| 3     | 0.79%      | 668  | 5.44E-05 | 11   | 6.03%      | 5093 | 3.24E-04 | 19   | 4.41%      | 3722 | 3.03E-04 |  |
| 4     | 1.36%      | 1152 | 9.39E-05 | 12   | 5.70%      | 4814 | 3.41E-04 | 20   | 3.94%      | 3328 | 2.71E-04 |  |
| 5     | 3.23%      | 2729 | 2.22E-04 | 13   | 5.63%      | 4751 | 3.36E-04 | 21   | 3.48%      | 2938 | 2.39E-04 |  |
| 6     | 5.81%      | 4910 | 4.00E-04 | 14   | 5.70%      | 4816 | 3.41E-04 | 22   | 3.11%      | 2623 | 2.14E-04 |  |
| 7     | 5.97%      | 5039 | 2.96E-04 | 15   | 5.50%      | 4644 | 3.78E-04 | 23   | 2.32%      | 1961 | 1.60E-04 |  |
| 8     | 6.28%      | 5302 | 3.12E-04 | 16   | 5.10%      | 4304 | 3.51E-04 | 24   | 1.52%      | 1284 | 1.05E-04 |  |
| Total |            |      |          |      |            |      |          |      |            |      | 84,460   |  |

2025 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5\_SB\_101

| Hour  | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH  | g/mile   |  |
|-------|------------|------|----------|------|------------|------|----------|------|------------|------|----------|--|
| 1     | 1.65%      | 1396 | 1.30E-04 | 9    | 3.72%      | 3139 | 2.92E-04 | 17   | 7.07%      | 5974 | 4.83E-04 |  |
| 2     | 1.04%      | 882  | 8.20E-05 | 10   | 4.03%      | 3403 | 2.75E-04 | 18   | 6.92%      | 5843 | 4.24E-04 |  |
| 3     | 0.96%      | 809  | 7.53E-05 | 11   | 4.76%      | 4019 | 3.25E-04 | 19   | 6.63%      | 5599 | 4.06E-04 |  |
| 4     | 0.65%      | 550  | 5.12E-05 | 12   | 5.43%      | 4586 | 3.70E-04 | 20   | 5.90%      | 4984 | 4.03E-04 |  |
| 5     | 0.78%      | 655  | 6.09E-05 | 13   | 6.09%      | 5144 | 4.16E-04 | 21   | 4.90%      | 4137 | 3.85E-04 |  |
| 6     | 1.46%      | 1234 | 1.15E-04 | 14   | 6.76%      | 5706 | 4.61E-04 | 22   | 4.25%      | 3590 | 3.34E-04 |  |
| 7     | 2.50%      | 2110 | 1.96E-04 | 15   | 7.47%      | 6308 | 5.09E-04 | 23   | 3.68%      | 3109 | 2.89E-04 |  |
| 8     | 3.43%      | 2898 | 2.69E-04 | 16   | 7.24%      | 6115 | 4.94E-04 | 24   | 2.69%      | 2270 | 2.11E-04 |  |
| Total |            |      |          |      |            |      |          |      |            |      | 84,460   |  |

1157 E Taylor St, San Jose, CA - On-Site Residential  
 Cumulative Operation - Highway 101  
 TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions  
 Year = 2025

| 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 | Area (sq m) | Area (sq ft) | Emission (g/s/m2) | Emission (lb/hr/ft2) | Initial Vertical height | (Sigma z) Initial Vertical Dimension |
|-------------|------------------------|-----------|-----------|-----------------|------------------|----------------|-----------------|--------------------|---------------------|--------------------------|-------------|--------------|-------------------|----------------------|-------------------------|--------------------------------------|
| TEXH_NB_101 | Highway 101 Northbound | NB        | 4         | 279.6           | 0.17             | 20.6           | 68              | 1.3                | 60.625              | 84,460                   | 5,768       | 62,089       | 5.70E-07          | 4.20E-07             | 2.6                     | 1.21                                 |
| TEXH_SB_101 | Highway 101 Southbound | SB        | 4         | 319.2           | 0.20             | 20.6           | 68              | 1.3                | 62.291667           | 84,460                   | 6,585       | 70,883       | 5.70E-07          | 4.20E-07             | 2.6                     | 1.21                                 |
| Total       |                        |           |           |                 |                  |                |                 |                    |                     | 168,920                  |             |              |                   |                      |                         |                                      |

Emission Factors - TOG Exhaust

| Speed Category<br>Travel Speed (mph) | 1       | 2       | 3       | 4       |
|--------------------------------------|---------|---------|---------|---------|
| Emissions per Vehicle (g/VMT)        | 0.01937 | 0.01740 | 0.01640 | 0.01696 |

Emission Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH\_NB\_101

| Hour  | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH    | g/s      |
|-------|------------|------|----------|------|------------|------|----------|------|------------|--------|----------|
| 1     | 0.93%      | 787  | 7.36E-04 | 9    | 6.19%      | 5230 | 4.28E-03 | 17   | 5.03%      | 4245   | 3.97E-03 |
| 2     | 0.69%      | 581  | 5.43E-04 | 10   | 6.22%      | 5256 | 4.30E-03 | 18   | 5.07%      | 4281   | 4.00E-03 |
| 3     | 0.79%      | 668  | 6.24E-04 | 11   | 6.03%      | 5093 | 4.03E-03 | 19   | 4.41%      | 3722   | 3.48E-03 |
| 4     | 1.36%      | 1152 | 1.08E-03 | 12   | 5.70%      | 4814 | 4.04E-03 | 20   | 3.94%      | 3328   | 3.11E-03 |
| 5     | 3.23%      | 2729 | 2.55E-03 | 13   | 5.63%      | 4751 | 3.99E-03 | 21   | 3.48%      | 2938   | 2.75E-03 |
| 6     | 5.81%      | 4910 | 4.59E-03 | 14   | 5.70%      | 4816 | 4.04E-03 | 22   | 3.11%      | 2623   | 2.45E-03 |
| 7     | 5.97%      | 5039 | 4.13E-03 | 15   | 5.50%      | 4644 | 4.34E-03 | 23   | 2.32%      | 1961   | 1.83E-03 |
| 8     | 6.28%      | 5302 | 4.34E-03 | 16   | 5.10%      | 4304 | 4.02E-03 | 24   | 1.52%      | 1284   | 1.20E-03 |
| Total |            |      |          |      |            |      |          |      |            | 84,460 |          |

2025 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH\_SB\_101

| Hour  | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH    | g/mile   |
|-------|------------|------|----------|------|------------|------|----------|------|------------|--------|----------|
| 1     | 1.65%      | 1396 | 1.49E-03 | 9    | 3.72%      | 3139 | 3.35E-03 | 17   | 7.07%      | 5974   | 5.73E-03 |
| 2     | 1.04%      | 882  | 9.41E-04 | 10   | 4.03%      | 3403 | 3.26E-03 | 18   | 6.92%      | 5843   | 5.28E-03 |
| 3     | 0.96%      | 809  | 8.64E-04 | 11   | 4.76%      | 4019 | 3.85E-03 | 19   | 6.63%      | 5599   | 5.06E-03 |
| 4     | 0.65%      | 550  | 5.87E-04 | 12   | 5.43%      | 4586 | 4.40E-03 | 20   | 5.90%      | 4984   | 4.78E-03 |
| 5     | 0.78%      | 655  | 6.99E-04 | 13   | 6.09%      | 5144 | 4.93E-03 | 21   | 4.90%      | 4137   | 4.41E-03 |
| 6     | 1.46%      | 1234 | 1.32E-03 | 14   | 6.76%      | 5706 | 5.47E-03 | 22   | 4.25%      | 3590   | 3.83E-03 |
| 7     | 2.50%      | 2110 | 2.25E-03 | 15   | 7.47%      | 6308 | 6.05E-03 | 23   | 3.68%      | 3109   | 3.32E-03 |
| 8     | 3.43%      | 2898 | 3.09E-03 | 16   | 7.24%      | 6115 | 5.86E-03 | 24   | 2.69%      | 2270   | 2.42E-03 |
| Total |            |      |          |      |            |      |          |      |            | 84,460 |          |

1157 E Taylor St, San Jose, CA - On-Site Residential  
 Cumulative Operation - Highway 101  
 TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions  
 Year = 2025

| 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 | Area (sq m) | Area (sq ft) | Emission (g/s/m <sup>2</sup> ) | Emission (lb/hr/ft <sup>2</sup> ) | Initial Vertical height | (Sigma z) Initial Vertical Dimension |
|--------------|------------------------|-----------|-----------|-----------------|------------------|----------------|-----------------|--------------------|---------------------|--------------------------|-------------|--------------|--------------------------------|-----------------------------------|-------------------------|--------------------------------------|
| TEVAP_NB_101 | Highway 101 Northbound | NB        | 4         | 279.6           | 0.17             | 20.6           | 68              | 1.3                | 60.625              | 84,460                   | 5,768       | 62,089       | 4.52E-07                       | 3.34E-07                          | 2.6                     | 1.21                                 |
| TEVAP_SB_101 | Highway 101 Southbound | SB        | 4         | 319.2           | 0.20             | 20.6           | 68              | 1.3                | 62.291667           | 84,460                   | 6,585       | 70,883       | 4.52E-07                       | 3.34E-07                          | 2.6                     | 1.21                                 |
| Total        |                        |           |           |                 |                  |                |                 |                    |                     | 168,920                  |             |              |                                |                                   |                         |                                      |

Emission Factors - PM2.5 - Evaporative TOG

| Speed Category                          | 1       | 2       | 3       | 4       |
|---|---------|---------|---------|---------|
| Travel Speed (mph)                      | 65      | 60      | 55      | 45      |
| Emissions per Vehicle per Hour (g/hour) | 0.99856 | 0.99856 | 0.99856 | 0.99856 |
| Emissions per Vehicle per Mile (g/VMT)  | 0.01536 | 0.01664 | 0.01816 | 0.02219 |

Emission Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP\_NB\_101

| Hour  | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH  | g/s      |  |
|-------|------------|------|----------|------|------------|------|----------|------|------------|------|----------|--|
| 1     | 0.93%      | 787  | 5.84E-04 | 9    | 6.19%      | 5230 | 5.60E-03 | 17   | 5.03%      | 4245 | 3.15E-03 |  |
| 2     | 0.69%      | 581  | 4.31E-04 | 10   | 6.22%      | 5256 | 5.63E-03 | 18   | 5.07%      | 4281 | 3.17E-03 |  |
| 3     | 0.79%      | 668  | 4.95E-04 | 11   | 6.03%      | 5093 | 4.46E-03 | 19   | 4.41%      | 3722 | 2.76E-03 |  |
| 4     | 1.36%      | 1152 | 8.54E-04 | 12   | 5.70%      | 4814 | 3.87E-03 | 20   | 3.94%      | 3328 | 2.47E-03 |  |
| 5     | 3.23%      | 2729 | 2.02E-03 | 13   | 5.63%      | 4751 | 3.82E-03 | 21   | 3.48%      | 2938 | 2.18E-03 |  |
| 6     | 5.81%      | 4910 | 3.64E-03 | 14   | 5.70%      | 4816 | 3.87E-03 | 22   | 3.11%      | 2623 | 1.94E-03 |  |
| 7     | 5.97%      | 5039 | 5.40E-03 | 15   | 5.50%      | 4644 | 3.44E-03 | 23   | 2.32%      | 1961 | 1.45E-03 |  |
| 8     | 6.28%      | 5302 | 5.68E-03 | 16   | 5.10%      | 4304 | 3.19E-03 | 24   | 1.52%      | 1284 | 9.52E-04 |  |
| Total |            |      |          |      |            |      |          |      |            |      | 84,460   |  |

2025 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP\_SB\_101

| Hour  | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH  | g/mile   |  |
|-------|------------|------|----------|------|------------|------|----------|------|------------|------|----------|--|
| 1     | 1.65%      | 1396 | 1.18E-03 | 9    | 3.72%      | 3139 | 2.66E-03 | 17   | 7.07%      | 5974 | 5.48E-03 |  |
| 2     | 1.04%      | 882  | 7.47E-04 | 10   | 4.03%      | 3403 | 3.12E-03 | 18   | 6.92%      | 5843 | 5.84E-03 |  |
| 3     | 0.96%      | 809  | 6.85E-04 | 11   | 4.76%      | 4019 | 3.68E-03 | 19   | 6.63%      | 5599 | 5.60E-03 |  |
| 4     | 0.65%      | 550  | 4.66E-04 | 12   | 5.43%      | 4586 | 4.21E-03 | 20   | 5.90%      | 4984 | 4.57E-03 |  |
| 5     | 0.78%      | 655  | 5.55E-04 | 13   | 6.09%      | 5144 | 4.72E-03 | 21   | 4.90%      | 4137 | 3.50E-03 |  |
| 6     | 1.46%      | 1234 | 1.04E-03 | 14   | 6.76%      | 5706 | 5.23E-03 | 22   | 4.25%      | 3590 | 3.04E-03 |  |
| 7     | 2.50%      | 2110 | 1.79E-03 | 15   | 7.47%      | 6308 | 5.78E-03 | 23   | 3.68%      | 3109 | 2.63E-03 |  |
| 8     | 3.43%      | 2898 | 2.45E-03 | 16   | 7.24%      | 6115 | 5.61E-03 | 24   | 2.69%      | 2270 | 1.92E-03 |  |
| Total |            |      |          |      |            |      |          |      |            |      | 84,460   |  |

1157 E Taylor St, San Jose, CA - On-Site Residential  
 Cumulative Operation - Highway 101  
 Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions  
 Year = 2025

| 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 | Area (sq m) | Area (sq ft) | Emission (g/s/m2) | Emission (lb/hr/ft2) | Initial Vertical height | (Sigma z) Initial Vertical Dimension |
|------------|------------------------|-----------|-----------|-----------------|------------------|----------------|-----------------|--------------------|---------------------|--------------------------|-------------|--------------|-------------------|----------------------|-------------------------|--------------------------------------|
| FUG_NB_101 | Highway 101 Northbound | NB        | 4         | 279.6           | 0.17             | 20.6           | 68              | 1.3                | 60.625              | 84,460                   | 5,768       | 62,089       | 3.38E-07          | 2.49E-07             | 2.6                     | 1.21                                 |
| FUG_SB_101 | Highway 101 Southbound | SB        | 4         | 319.2           | 0.20             | 20.6           | 68              | 1.3                | 62.291667           | 84,460                   | 6,585       | 70,883       | 3.38E-07          | 2.49E-07             | 2.6                     | 1.21                                 |
| Total      |                        |           |           |                 |                  |                |                 |                    |                     | 168,920                  |             |              |                   |                      |                         |                                      |

Emission Factors - Fugitive PM2.5

| Speed Category                                       | 1       | 2       | 3        | 4       |
|--|---------|---------|----------|---------|
| Travel Speed (mph)                                   | 65      | 60      | 55       | 45      |
| Tire Wear - Emissions per Vehicle (g/VMT)            | 0.00211 | 0.00211 | 0.00211  | 0.00211 |
| Brake Wear - Emissions per Vehicle (g/VMT)           | 0.00169 | 0.00199 | 0.002292 | 0.00396 |
| Road Dust - Emissions per Vehicle (g/VMT)            | 0.00768 | 0.00768 | 0.00768  | 0.00768 |
| Total Fugitive PM2.5 - Emissions per Vehicle (g/VMT) | 0.01148 | 0.01178 | 0.01208  | 0.01375 |

Emission Factors from CT-EMFAC2021

2025 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG\_NB\_101

| Hour  | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH  | g/s      | Hour | % Per Hour | VPH    | g/s      |
|-------|------------|------|----------|------|------------|------|----------|------|------------|--------|----------|
| 1     | 0.93%      | 787  | 4.36E-04 | 9    | 6.19%      | 5230 | 3.47E-03 | 17   | 5.03%      | 4245   | 2.35E-03 |
| 2     | 0.69%      | 581  | 3.22E-04 | 10   | 6.22%      | 5256 | 3.49E-03 | 18   | 5.07%      | 4281   | 2.37E-03 |
| 3     | 0.79%      | 668  | 3.70E-04 | 11   | 6.03%      | 5093 | 2.97E-03 | 19   | 4.41%      | 3722   | 2.06E-03 |
| 4     | 1.36%      | 1152 | 6.38E-04 | 12   | 5.70%      | 4814 | 2.74E-03 | 20   | 3.94%      | 3328   | 1.84E-03 |
| 5     | 3.23%      | 2729 | 1.51E-03 | 13   | 5.63%      | 4751 | 2.70E-03 | 21   | 3.48%      | 2938   | 1.63E-03 |
| 6     | 5.81%      | 4910 | 2.72E-03 | 14   | 5.70%      | 4816 | 2.74E-03 | 22   | 3.11%      | 2623   | 1.45E-03 |
| 7     | 5.97%      | 5039 | 3.34E-03 | 15   | 5.50%      | 4644 | 2.57E-03 | 23   | 2.32%      | 1961   | 1.09E-03 |
| 8     | 6.28%      | 5302 | 3.52E-03 | 16   | 5.10%      | 4304 | 2.38E-03 | 24   | 1.52%      | 1284   | 7.11E-04 |
| Total |            |      |          |      |            |      |          |      |            | 84,460 |          |

2025 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG\_SB\_101

| Hour  | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH  | g/mile   | Hour | % Per Hour | VPH    | g/mile   |
|-------|------------|------|----------|------|------------|------|----------|------|------------|--------|----------|
| 1     | 1.65%      | 1396 | 8.83E-04 | 9    | 3.72%      | 3139 | 1.98E-03 | 17   | 7.07%      | 5974   | 3.88E-03 |
| 2     | 1.04%      | 882  | 5.58E-04 | 10   | 4.03%      | 3403 | 2.21E-03 | 18   | 6.92%      | 5843   | 3.89E-03 |
| 3     | 0.96%      | 809  | 5.12E-04 | 11   | 4.76%      | 4019 | 2.61E-03 | 19   | 6.63%      | 5599   | 3.73E-03 |
| 4     | 0.65%      | 550  | 3.48E-04 | 12   | 5.43%      | 4586 | 2.98E-03 | 20   | 5.90%      | 4984   | 3.23E-03 |
| 5     | 0.78%      | 655  | 4.14E-04 | 13   | 6.09%      | 5144 | 3.34E-03 | 21   | 4.90%      | 4137   | 2.62E-03 |
| 6     | 1.46%      | 1234 | 7.80E-04 | 14   | 6.76%      | 5706 | 3.70E-03 | 22   | 4.25%      | 3590   | 2.27E-03 |
| 7     | 2.50%      | 2110 | 1.33E-03 | 15   | 7.47%      | 6308 | 4.09E-03 | 23   | 3.68%      | 3109   | 1.97E-03 |
| 8     | 3.43%      | 2898 | 1.83E-03 | 16   | 7.24%      | 6115 | 3.97E-03 | 24   | 2.69%      | 2270   | 1.44E-03 |
| Total |            |      |          |      |            |      |          |      |            | 84,460 |          |



# 1157 E. Taylor St. Screening Report

## Area of Interest (AOI) Information

Area : 4,997,569.11 ft<sup>2</sup>

Sep 10 2024 11:08:16 Eastern Daylight Time



- Permitted Stationary Sources

Map data © OpenStreetMap contributors, CC-BY-SA

## Summary

| Name                         | Count | Area(ft <sup>2</sup> ) | Length(ft) |
|------------------------------|-------|------------------------|------------|
| Permitted Stationary Sources | 1     | N/A                    | N/A        |

## Permitted Stationary Sources

| # | Address            | Cancer_Ris | Chronic_Ha | City     | County      |
|---|--------------------|------------|------------|----------|-------------|
| 1 | 1009 Timothy Drive | 0.00       | 0.00       | San Jose | Santa Clara |

| # | Details        | Facility_I | Facility_N          | Latitude | Longitude |
|---|----------------|------------|---------------------|----------|-----------|
| 1 | <i>No Data</i> | 2197       | Elcon Precision LLC | 37.36    | -121.88   |

| # | NAICS  | NAICS_Indu                                     | NAICS_Sect    | NAICS_Subs                                    | PM25 |
|---|--------|--|---------------|---|------|
| 1 | 334413 | Semiconductor and Related Device Manufacturing | Manufacturing | Computer and Electronic Product Manufacturing | 0.00 |

| # | State | Zip   | Count |
|---|-------|-------|-------|
| 1 | CA    | 95133 | 1     |

NOTE: A larger buffer than 1,000 may be warranted depending on proximity to significant sources.