



APPENDIX B

Health Risk Assessment

HEALTH RISK ASSESSMENT OF DIESEL EMISSIONS
FOR THE
LUCIA PARK PROJECT

625 N. Maryland Avenue and 620 N. Brand Boulevard
Glendale, California 91203

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INTRODUCTION

This health risk assessment (HRA) has been prepared for the Lucia Park Project (Project) to assess potential health risk impacts on future residents from exposure to diesel emissions generated by vehicles on State Route 134 (SR-134) freeway. The assessment and dispersion modeling methodologies used in the preparation of this report are provided in **Attachment 1: Methodology**. Based on the California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Perspective*, siting sensitive land uses such as residential uses close to freeways and high-traffic roads can increase the potential for adverse health effects. This report summarizes the protocol used to evaluate contaminant exposures and presents the results of the HRA.

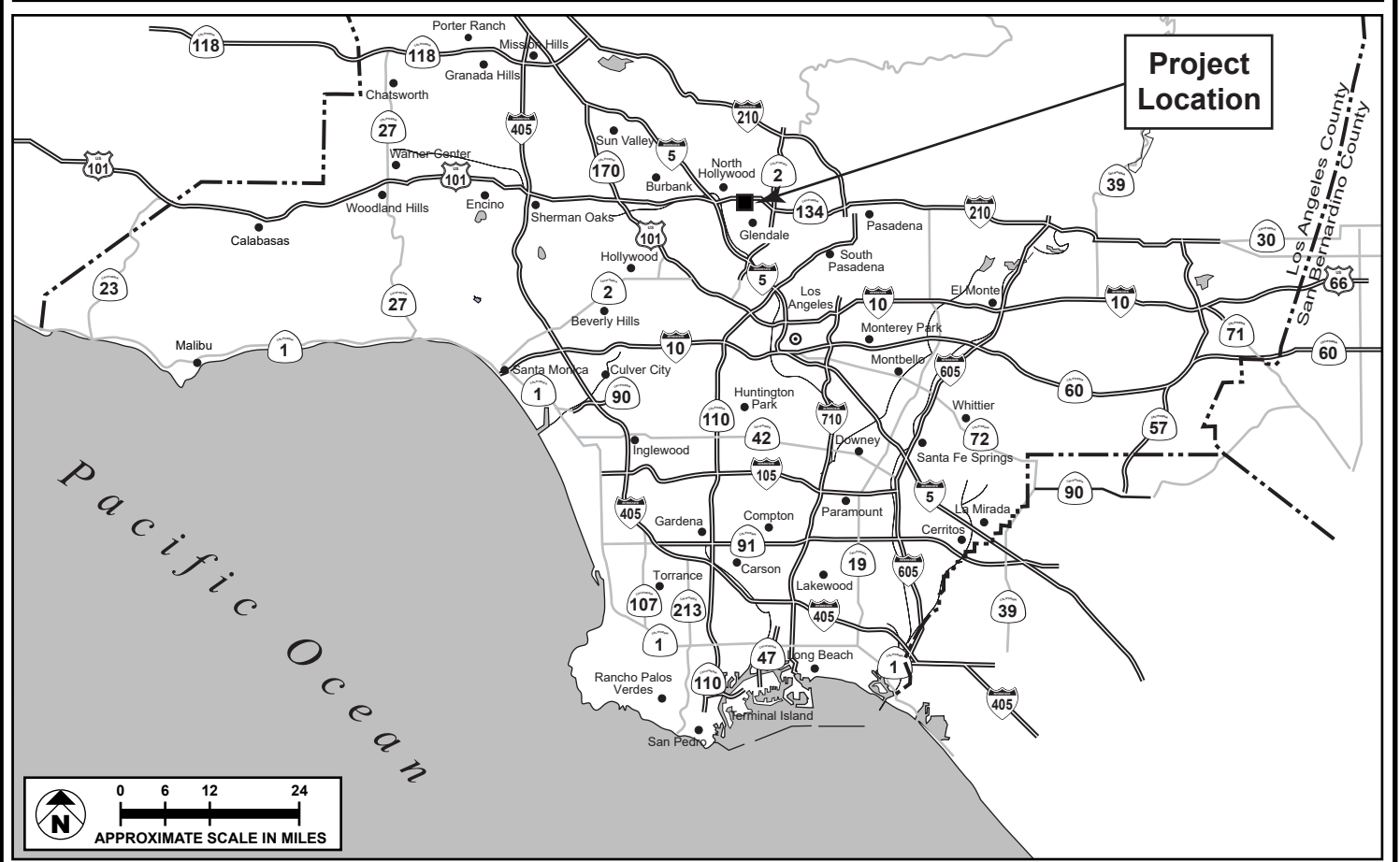
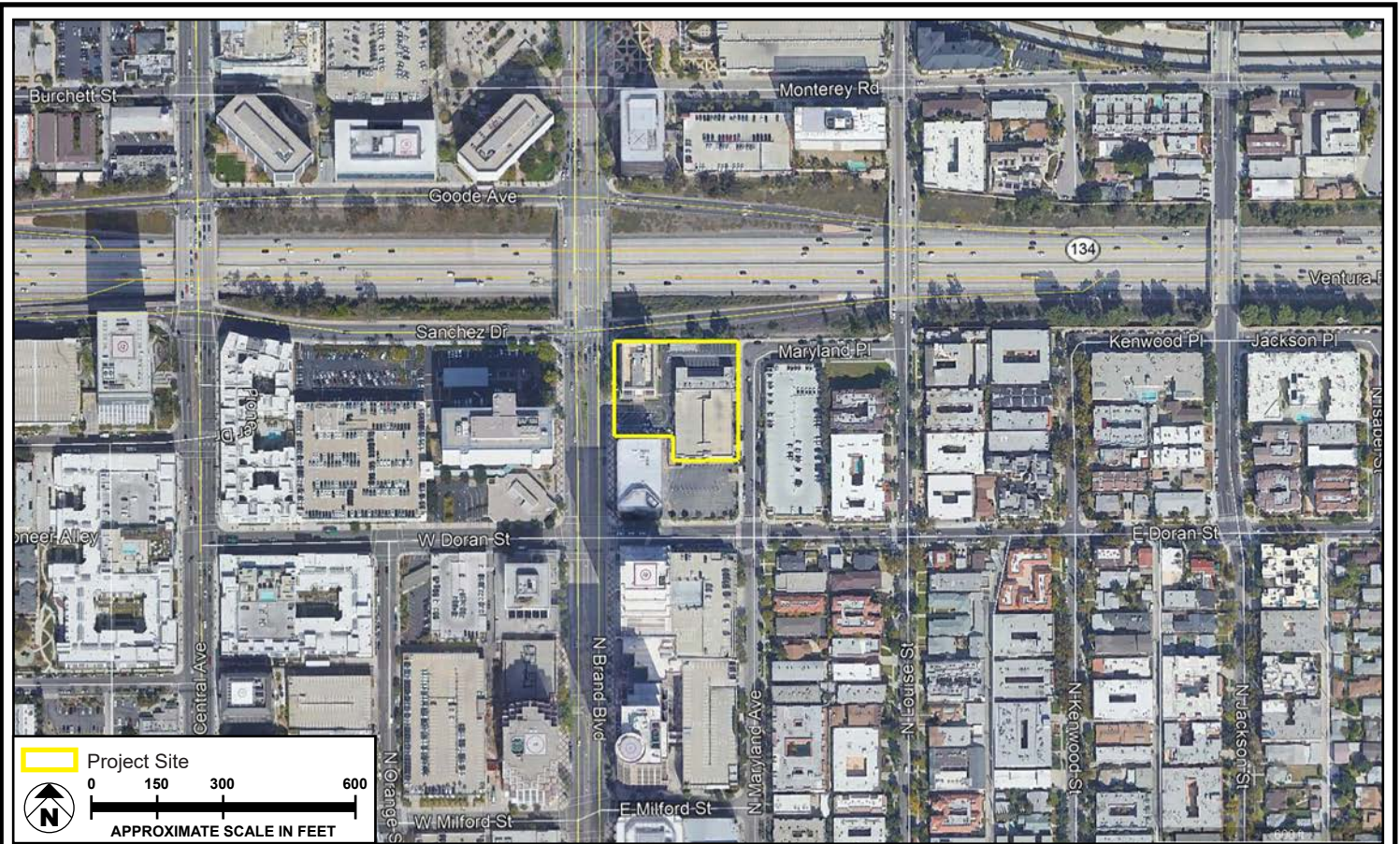
PROJECT DESCRIPTION AND LOCATION

The Project site is located directly south of State Route (SR-) 134 (Ventura) Freeway, east of Interstate (I-) 5 and west of SR-2 as shown in **Figure 1: Regional and Local Vicinity Map**. The Project site is located at 606 N. Maryland Avenue and 610 N. Brand Boulevard and bounded by the SR-134 Eastbound On-Ramp to the north, an existing commercial building, and an associated surface parking lot to the south, N. Brand Boulevard to the west, and N. Maryland Avenue to the east as shown in **Figure 2: Site Map, Existing Conditions**. The Project site includes two parcels, Assessor Parcel Numbers (APNs) 5643018032 and 5643018031.

The Project site is currently occupied by a two-story office building providing 5,297 square feet of floor area, an existing six-story commercial Chase Bank building providing approximately 45,125 square feet of office floor area, an associated parking structure, and surface parking lots. Cimmarusti Holdings is proposing to demolish the existing parking structure, two-story office building, and surface parking lots in order to construct a 24-story (265.5 feet) 294-unit apartment building containing 247 1-bedroom and 47 2-bedroom apartments. A parking garage containing 502 parking spaces, including 373 parking spaces for the proposed apartments and 129 replacement parking spaces for the existing office building is also proposed as part of the Project.

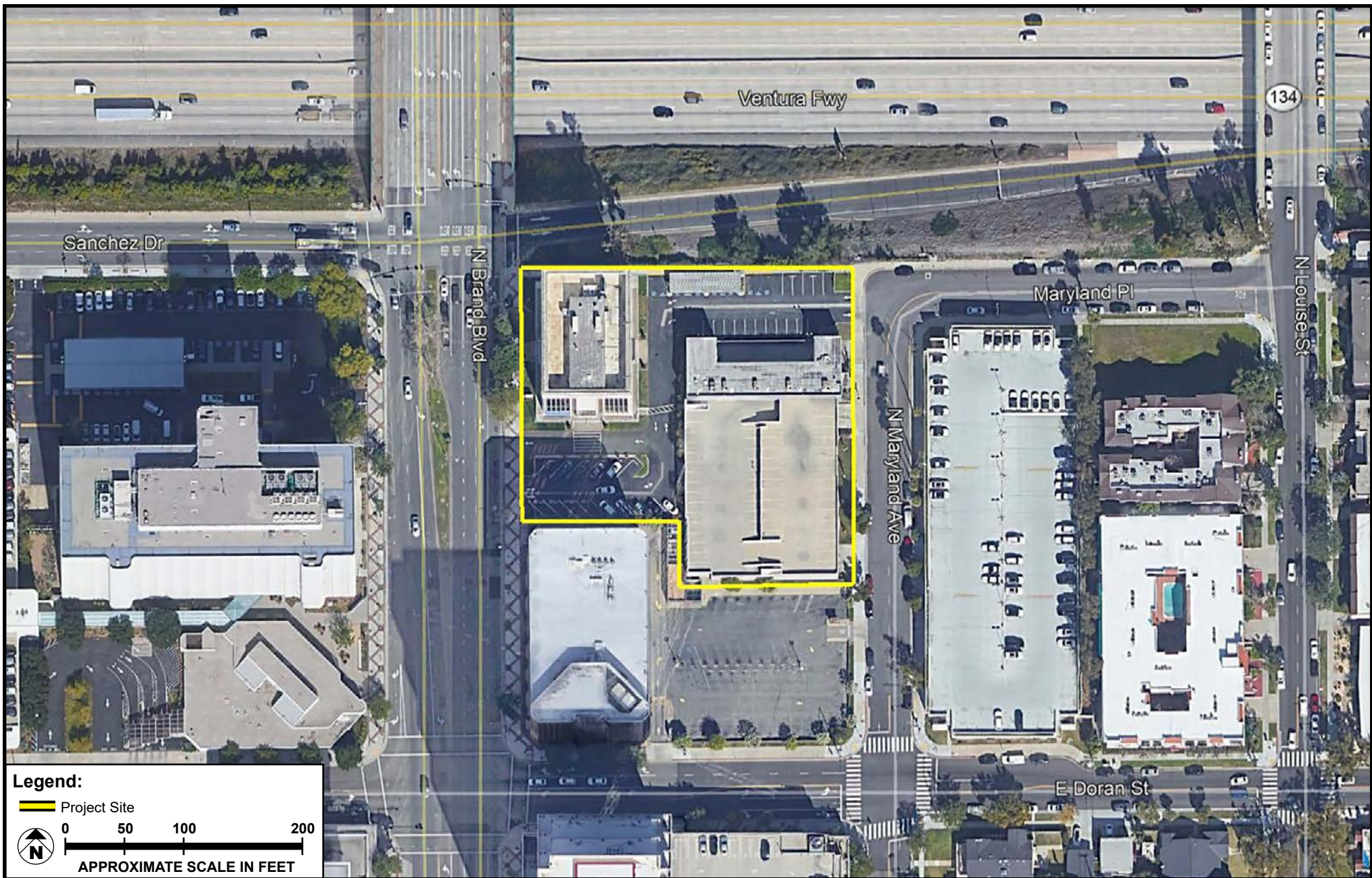
The Project would include landscaping on the first level, a number of community spaces throughout the building, including outdoor and private terraces and a pool on the fourth-floor and a dog park on the fifth floor. Terraces are also proposed on the sixth seventeenth, nineteenth, and twenty-first floors, including roof terraces on the twenty-third and twenty-fourth floors. The existing 6-story commercial Chase Bank building would remain on site. The Project when complete would include 129 replacement parking spaces for the existing commercial Chase Bank building in the 2 above ground levels of parking in addition to the 4-level subterranean parking garage containing 373 parking spaces for the proposed apartments. The total 502 automobile parking spaces and 115 bicycle parking spaces (96 long term and 19 short term) would be proposed.

The Project site is within the South Coast Air Basin (Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD) and includes the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the perimeter. The topography and climate of southern California combine to make the Basin an area of high air pollution potential. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, including toxic air contaminants (TACs). The general region lies in the semipermanent high- to light-average wind speeds. The usually mild climatological pattern is disrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutant in the marine layer from dispersing upward. Light winds during the summer further limit ventilation. Furthermore, sunlight triggers the photochemical reactions that produce ozone.



SOURCE: Google Earth - 2021; Meridian Consultants, LLC - 2021

FIGURE 1



SOURCE: Google Earth - 2021

FIGURE 2

HEALTH RISK ASSESSMENT

Introduction

The primary TAC of concern from diesel exhaust is diesel particulate matter (DPM). In 1998, CARB identified DPM from diesel-powered engines as a TAC based on its potential to result in an increased cancer risk, as well as other noncancer adverse health effects, due to prolonged exposure. Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation; coughs; headaches; light-headedness; and nausea. Long-term (chronic) effects include aggravation of existing respiratory and cardiovascular disease; alteration in the body's defense systems against foreign materials; damage to lung tissue and reduced lung function; carcinogenesis; premature birth rates; and premature death.

TAC generators located with the Basin are associated with diesel-fueled vehicles producing DPM, as well as with specific types of facilities, such as dry cleaners, gas stations, distribution centers, and ports. The CARB has made specific recommendations with respect to siting new sensitive uses near existing TAC-emitting facilities. Among other specific recommendations, CARB suggests siting sensitive receptors (such as residences) no less than 500 feet from freeways or major roadways.

This HRA evaluates the potential for increased health risks to future residents of the proposed Project resulting from exposure to diesel exhaust emissions (a TAC) generated by vehicles on SR-134 Freeway. In the Project vicinity, five mixed-flow freeway lanes are generally provided in each direction on the SR-134 (Ventura) Freeway with auxiliary merge/weave lanes provided between some interchanges. The SR-134 freeway is situated at a lower elevation, approximately 25 feet below street level at the Project site. Eastbound and westbound ramps are provided at Central Avenue and Brand Boulevard on the SR-134 (Ventura) Freeway in the Project vicinity. The eastbound on-ramp from Brand Boulevard is situated at ground level and gradually lowers in elevation to 25 feet below street level as it merges on to the freeway.

In urban communities, vehicle emissions contribute significantly to localized concentrations of air contaminants. Typically, emissions generated from these sources are characterized by vehicle mix, the rate pollutants are generated during the course of travel and the number of vehicles traversing the roadway network. To account for the emission standards imposed on the California fleet, the ARB has developed the EMFAC2021 web database to identify pollutant emission rates for total organic gases (TOG), diesel particulates, particulates (PM10 and PM2.5), carbon monoxide (CO) and nitrogen oxide (NOx) compounds. To produce a representative vehicle fleet distribution, the assessment utilized ARB's Los Angeles County (South Coast) population estimates for the following buildout year of the Project. **Appendix A** presents the emission rate calculation worksheets for the freeway segments including on/off ramps considered in this assessment.

The California Department of Transportation (Caltrans) collects and maintains traffic volume counts for freeway on/off ramps and adjoining segments.¹ Average daily traffic along the segment of SR-134 between Brand Boulevard and Glendale Avenue is approximately 247,000 vehicles. Average daily traffic along the westbound off-ramp to Brand Boulevard is 17,851 vehicles. Average daily traffic along the eastbound on-ramp from Brand Boulevard is 18,051 vehicles. As diesel-powered trucks are the primary contributors of DPM on roadways and freeways, this HRA analysis evaluates the cancer risk and noncancer health effects of the future residents' increased exposure to DPM associated with vehicles traveling along SR-134 Freeway. Adverse health risks are discussed in terms of noncancer and cancer risks. Noncancer health risks can be measured quantitatively, with the risk designated as a hazard quotient (HQ). The HQ is the ratio of the calculated concentration to a threshold concentration that has been identified as having some level of adverse health effect.

Cancer risk has no set thresholds because carcinogens are considered to be non-threshold pollutants. This means that for any nonzero concentration of a carcinogen, there is an increased risk of developing cancer. Therefore, significance exposure to a carcinogen is evaluated based on the increase in risk. The increased risk is determined by multiplying a calculated dose with the cancer potency factor and then by 1 million to express risk in the common term of the risk per million people. An HRA evaluates the increased cancer risk from the continuous exposure to a pollutant over a lifetime.

Inhalable particulate matter equal to or less than 10 microns in diameter (PM₁₀) from diesel exhaust is used as a surrogate for evaluating the cancer and chronic noncancer (HQ) risk from DPM exposure. The health risks for the proposed Project are evaluated by first estimating the DPM emissions produced by diesel vehicles that are currently traveling on the segment of SR-134 that passes by the Project site. Dispersion modeling is then used to convert those emissions to ambient (existing background) concentrations. Finally, the ambient concentrations are used to determine whether the future residents of the proposed Project would be exposed to an increased potential for health risks from existing conditions at the Project site.

Criteria Pollutant Exposures

The State of California has promulgated strict ambient air quality standards for various pollutants. These standards were established to safeguard the public's health and welfare, with specific emphasis on protecting those individuals susceptible to respiratory distress, such as asthmatics, the young, the elderly, and those with existing conditions that may be affected by increased pollutant concentrations. However, recent research has shown that unhealthful respiratory responses occur with exposures to pollutants at levels that only marginally exceed clean air standards. **Table 1: California Ambient Air**

¹ Caltrans, *Traffic Census Program - District 7, 2019*, accessed August 2021, <https://dot.ca.gov/programs/traffic-operations/census>

Quality Standards presents the California Ambient Air Quality Standards (CAAQS) for the criteria pollutants considered in the analysis.

| TABLE 1 CALIFORNIA AMBIENT AIR QUALITY STANDARDS | | |
|---|--|---|
| Pollutant | Standard | Health Effects |
| Particulates (PM10) | >50 µg/m ³ (24 hour average) > 20 µg/m ³ (Annual) | <ol style="list-style-type: none"> 1. Excess deaths from short-term exposures and the exacerbation of symptoms in sensitive individuals with respiratory disease. 2. Excess seasonal declines in pulmonary function, especially in children. |
| Particulates (PM2.5) | > 12 µg/m ³ (Annual) | <ol style="list-style-type: none"> 1. Excess deaths and illness from long-term exposures and the exacerbation of symptoms in sensitive individuals with respiratory and cardio pulmonary disease. |
| Carbon Monoxide (CO) | > 9.0 ppm (8 hour average) > 20.0 ppm (1 hour average) | <ol style="list-style-type: none"> 1. Aggravation of angina pectoris and other aspects of coronary heart disease. 2. Decreased exercise tolerance in persons with peripheral vascular disease and lung disease. 3. Impairment of central nervous system functions. 4. Possible increased risk to fetuses. |
| Nitrogen Dioxide (NO2) | > 0.18 ppm (1 hour average) | <ol style="list-style-type: none"> 1. Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups. 2. Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structure changes |

Source: California Code of Regulations, Title 17, Section 70200.

Notes: ppm: parts per million; µg/m³: micrograms per cubic meter.

Pollutant emissions are considered to have a significant effect on the environment if they result in concentrations that create either a violation of an ambient air quality standard, contribute to an existing air quality violation or expose sensitive receptors to substantive pollutant concentrations. Should ambient air quality already exceed existing standards, the SCAQMD has established significance criteria for selected compounds to account for the continued degradation of local air quality. Background concentrations are based on the highest observed value for the most recent 3-year period. Annual exposures were not considered because event scenarios were based on single-day activities; it would be speculative to forecast concentration estimates without information and schedules to reflect reasonable assumptions associated with seasonal event activities.

Table 2: Air Quality Monitoring Summary shows the pollutant concentrations collected at the Los Angeles-North Main Street monitoring station for the last three years of available data between 2017 - 2019. It is important to note, these concentrations levels were taken prior to the COVID-19 pandemic, thus do not reflect the reduction of concentration levels due to reduce mobile activity caused by the pandemic. **Table 3: Air Quality Significance Thresholds** outlines the relevant significance thresholds considered to affect local air quality.

| TABLE 2 AIR QUALITY MONITORING SUMMARY | | | | |
|---|------|------|------|---------|
| Pollutant/Averaging Time | Year | | | Maximum |
| | 2017 | 2018 | 2019 | |
| Particulates (PM10) | | | | |
| 24-hour | 96 | 81 | 94 | 96 |
| # of days above 24-hour standard | 0 | 0 | 0 | 0 |
| Particulates (PM2.5) | | | | |
| 24-hour | 62 | 65 | 44 | 65 |
| # of days above 24-hour standard | 6 | 6 | 1 | 6 |
| Carbon monoxide (CO) | | | | |
| 1-hour | N/A | N/A | N/A | N/A |
| Nitrogen dioxide (NO2) | | | | |
| 1-hour | 81 | 70 | 70 | 81 |
| # of days above 24-hour standard | 0 | 0 | 0 | 0 |

Source: California Air Resources Board, US Environmental Protection Agency.

Note: PM10 and PM2.5 concentrations are expressed in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). All others are expressed in parts per billion (ppb).

| TABLE 3 AIR QUALITY SIGNIFICANCE THRESHOLDS | | |
|--|----------------|--|
| Pollutant | Averaging Time | Pollutant Concentration |
| Particulates (PM10) | 24 hours | 2.5 $\mu\text{g}/\text{m}^3$ (operation) |
| Particulates (PM2.5) | | |
| Particulates (PM10) | Annual | 1.0 $\mu\text{g}/\text{m}^3$ |
| Carbon monoxide (CO) | 1 hour | Area is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standards of 20 ppm (1-hour) and 9 ppm (8-hour). |
| | 8 hours | |
| Nitrogen dioxide (NO2) | 1 hour | Area is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standard of 0.18 ppm. |

Source: SCAQMD Air Quality Significance Thresholds, accessed August 2021, <https://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>.

Notes: ppm = parts per million; $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

Significance Criteria

Neither the State nor the SCAQMD has developed a quantitative threshold for the purposes of evaluating the health impacts on residential developments from exposure to TAC emissions associated with a nearby freeway or high-volume roadway. Currently, the SCAQMD has only developed significance thresholds that apply to single stationary and mobile sources of TAC emissions, such as projects involving truck stops or warehouses. However, in absence of a threshold specific to assessing health impacts from a freeway, the SCAQMD’s stationary source TAC thresholds of 10 in 1 million for cancer risk and 1 for hazard index would serve as the most appropriate thresholds for use in this HRA analysis.

Freeway Exposure Health Risks and Hazards

Table 4: Estimated Inhalation Cancer Risk and Chronic Hazards shows the estimated range of excess cancer risk and chronic hazard indices for future residents of the proposed Project. The building façades facing towards SR-134 freeway and the on-ramp from Brand Boulevard would be nearest to traffic volumes and would be exposed to higher amounts of DPM emissions than those located further away from the road; the cancer risk and chronic hazard indices for the on-site receptors would gradually decrease as their distance from the freeway increases across the Project site. As shown in **Table 4**, the maximally exposed individual receptor (MEIR) is represented by the proposed use located closest from the nearest travel lane.

As shown in **Table 4**, the maximum cancer risk at the Project site from DPM emissions generated by diesel-vehicle travel along SR-134 Freeway for residents and workers are 1.06 in one million and 7.55 in one hundred million, respectively. The cancer risk for residents at the site would not exceed SCAQMD’s suggested significance criteria of 10 per one million. Additionally, the maximum noncancer hazard indices for the Project’s residents and workers are 0.01 for the MEIR receptors, below the significance criterion of 1.

| TABLE 4 ESTIMATED INHALATION CANCER RISK AND CHRONIC HAZARDS | | |
|---|-------------|--------------------------------|
| Receptor | Cancer Risk | Chronic Noncancer Hazard Index |
| Resident MEIR | 1.06E-06 | 0.01 |
| Worker MEIR | 7.55E-08 | 0.01 |

Note: See Appendix B for calculations.

RECOMMENDATIONS

As stated previously, with respect to cancer risk, any nonzero concentration of a carcinogen represents an increased risk of developing cancer. It is important to note, the proposed features of the building include internal (no window units) filtration and climate control systems. In the event exterior cooling systems are utilized, in order to minimize adverse health effects associated with exposure of future

Project sensitive receptors to DPM concentrations from the freeway and major roadway, it is recommended that the Project incorporate the following design features to reduce potential cancer risk:

- Locate outdoor areas, such as balconies and courtyards, as far from the freeway and roadway segment as possible;
- Plant vegetation between residential receptors and the freeway;
- Install, operate, and maintain an HVAC system that uses high-efficiency filters of Minimum Efficiency Reporting Value (MERV) 14 or higher for the residential units (suggested use of MERV 16);
- Locate the air intakes for the uses as far from the freeway as possible; and
- Provide a disclosure letter to all new residents that discusses the potential risk from living within close proximity of the freeway and roadway segment, and points out that opening windows reduces the effectiveness of implemented reduction measures and increases individuals' exposure and hence risk.

High-efficiency (MERV 14-16 or higher) pleated particle filters for uses located near busy roadways would generally be considered the most effective approach to filtration because these filters can remove the very small particles emitted by motor vehicles without emitting ozone, formaldehyde, or other harmful byproducts. Such high-efficiency filtration can reduce indoor PM_{2.5} and ultrafine particle levels by up to 90 percent (MERV 16) relative to incoming outdoor levels when doors and windows are kept mostly closed. However, only those particles in the airstream passing through the filter are removed. Consequently, because most occupants of the proposed Project are anticipated to open their windows or doors at least part of the day, any pollutant reduction attained through the use of high-efficiency filters would be compromised based on the amount of time doors and windows are left open. **Table 5: Reduced Estimated Inhalation Cancer Risk** identifies the reduction in risk associated with incorporation of MERV 14 through MERV 16 filters when windows are closed 25 percent, 50 percent, 75 percent, and 100 percent of the time. As shown in **Table 5**, the implementation of these measures with the windows open or closed will further reduce risk exposure at the MEIR and would not exceed the SCAQMD's suggested significance criteria of 10 per one million.

Limiting particulate infiltration will be accomplished by installing and maintain air filtration systems with efficiencies of MERV 14 or better as defined by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers Standard 52.2. These filters are rated to remove a portion of the ultrafine and submicron particles, such as diesel particulate matter emitted from mobile sources. MERV 14 or better air filtration systems are capable of removing 75 percent or more of particles between 0.3 and 1.0 microns, and 90 percent or more of particles between 1.0 and 10.0 microns.

With installation of MERV 14 air filtration systems, PM₁₀ concentrations for the maximum exposed residential units would be 0.003 µg/m³ and 0.001 µg/m³ for the 24-hour and annual averaging times,

respectively. These values would not exceed the 24-hour and annual significance thresholds of 2.5 µg/m³ and 1.0 µg/m³, respectively.

| TABLE 5 REDUCED ESTIMATED INHALATION CANCER RISK | | | |
|---|----------|----------|----------|
| Receptor | MERV 14 | MERV 15 | MERV 16 |
| Windows closed 25 percent of the time | | | |
| Resident MEIR | 8.96E-07 | 8.85E-07 | 8.75E-07 |
| Windows closed 50 percent of the time | | | |
| Resident MEIR | 7.31E-07 | 7.11E-07 | 6.90E-07 |
| Windows closed 75 percent of the time | | | |
| Resident MEIR | 5.67E-07 | 5.36E-07 | 5.05E-07 |
| Windows closed 100 percent of the time | | | |
| Resident MEIR | 4.03E-07 | 3.62E-07 | 3.21E-07 |

Note: See Appendix B for calculations.

CONCLUSION

The estimated maximum cancer risk at the Project site from DPM emissions generated by diesel-vehicle travel along the SR-134 freeway, the on-ramp from Brand Boulevard and off-ramp to Brand Boulevard for residents and workers are 1.06 in one million and 7.55 in one hundred million, respectively. The cancer risk for residents at the site would not exceed the SCAQMD's suggested significance criteria of 10 per one million. The maximum noncancer hazard indices for the Project's MEIR would be 0.01, which is also below the significance criterion of 1.

However, any nonzero concentration of a carcinogen represents an increased risk of developing cancer. As such, to further reduce the exposure of the Project's on-site residents to DPM emissions, it is recommended that high-efficiency filters (MERV 14 or higher) be installed; communal outdoor areas and air intakes be located as far as from the freeway as possible; and a letter identifying the increased risk from DPM exposure be provided to all future residents. As shown in Table 5, the implementation of these measures will further reduce risk exposure at the MEIR and would not exceed the SCAQMD's suggested significance criteria of 10 per one million.

HRA METHODOLOGY

The methodologies and assumptions used in this health risk assessment (HRA) are consistent with the guidance recommended by the SCAQMD's *Supplemental Guidelines for Preparing Risk Assessments for Air Toxics "Hot Spots" Information and Assessment Act (ARB2588)*² and the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) Air Toxic Hot Spots Program Risk Assessment Guidelines.³ The methodology used in this assessment uses a dose-response assessment to characterize risk from cancer due to inhaled toxic air contaminants (TACs) and the assessment of acute and chronic noncancer from diesel particulate matter (DPM). Based on the OEHHA guidance, the evaluation of potential health risks uses the following standard four-step risk assessment process: (1) Hazard Identification; (2) Exposure Assessment; (3) Dose-Response Assessment; and (4) Risk Characterization.

Hazard Identification

The hazard identification process is undertaken to determine what TACs are potentially present in the assessment areas, and if so, identified what the pollutants of concern are along with their potential adverse health effects. In this HRA, the primary hazard is DPM emissions from vehicular sources (specifically diesel-powered trucks) along SR-134 freeway corridor, which includes the on-ramp from Brand Boulevard to eastbound SR-134 and the off-ramp to Brand Boulevard from westbound SR-134. The California Air Resources Board (CARB) identified DPM as a TAC with a potential cancer and chronic noncancer effects.

DPM historically has been used a surrogate measure of exposure for whole diesel exhaust emissions. Diesel exhaust is a complex mixture of thousands of gases and fine particles (commonly known as soot). Diesel exhaust particles and gases are suspended in the air due to thermal buoyancy and the small size of the particles. The composition of diesel exhaust varies depending on engine type, operating conditions, fuel composition, lubricating oil, presence of an emission control system. One of the main characteristics of diesel exhaust is the release of particles at a relative rate approximately 20 times greater than from gasoline-fueled vehicles, on an equivalent fuel basis. Diesel particulates are mainly aggregates of spherical carbon particles coated with inorganic and organic substances. The inorganic fraction primarily consists of small carbon (elemental carbon) particles ranging from 0.01 to 0.08 micron in diameter. The organic fraction consists of soluble organic compounds.

Exposure Assessment

The degree of the Project's exposure to DPM from existing vehicle traffic on SR-134 freeway, on-ramp from Brand Boulevard and the off-ramp to Brand Boulevard was evaluated under the exposure assessment

2 SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act*, July 2018.

3 OEHHA, *Air Toxic Hot Spots Program Risk Assessment Guidelines*, February 2015.

portion of the HRA. This assessment starts with the quantification of DPM emissions, followed by dispersion modeling and an estimation of long-term exposure levels. The amount of DPM emissions generated by vehicle traffic on SR-134, on-ramp from Brand Boulevard and off-ramp to Brand Boulevard was determined using PM10 from diesel exhaust as a surrogate.

Detailed Modeling

Air dispersion modeling was conducted using the American Meteorological Society/Environmental Protection Agency Regulator Model (AERMOD v. 10.0.1). This model is a steady-state, multiple-source, Gaussian dispersion model designed for use with emission sources situated in terrain where ground elevations can exceed the release heights of the emission sources (i.e., complex terrain). AERMOD is the U.S. EPA's regulatory dispersion model specified in the Guideline for Air Quality Methods.⁴ AERMOD is recommended for use by the South Coast Air Quality Management District (SCAQMD), which has established its own modeling guidance for the model.⁵

Emission Sources

Within AERMOD, diesel vehicle traffic was modeled as a line source comprised of separate volume sources along the stretch of SR-134. Diesel exhaust emissions were modeled using a release height of 7.41 feet (2.26 meters), which is the weighted average height of an exhaust stack above ground level for the combined diesel car and truck traffic along this stretch of freeway. The plume height and width used for each volume sources along the SR-134 was 14.83 feet and 88.58 feet (4.52 and 27 meters), respectively. The plume height and width used for each volume sources along the on-ramp from Brand Boulevard was 14.83 feet and 39.37 feet (4.52 and 12.0 meters), respectively. The plume height and width used for each volume sources along off-ramp to Brand Boulevard was 14.83 feet and 45.93 feet (4.52 and 14.00 meters), respectively. Based on guidance, the plume height was determined by multiplying the average stack height by a factor of 2, while the plume width was determined by adding 19.69 feet (6 meters) to the freeway width.

Emission Rates

The quantification of diesel exhaust emissions requires a diesel exhaust emission rate (in grams per second) from trucks. To estimate this emission rate, emission factors (in grams per mile) for the various vehicle classes of diesel-powered trucks and cars were first obtained from the EMFAC2021 web database.⁶ Pollutant emission rates were identified for total organic gases (TOG), diesel particulates, particulates (PM10 and PM2.5), carbon monoxide (CO) and nitrogen oxide (NOx) compounds. Using these emission factors and the available average daily vehicle traffic counts published by the California Department of

4 U.S. EPA Code of Federal Regulations, Title 40, Part 51, Appendix W

5 SCAQMD Modeling Guidance for AERMOD, <http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/modeling-guidance>.

6 EMFAC 2021 is the California Air Resources Boards' tool for estimating emissions from on-road vehicles. The 2021 version was released January of 2021.

Transportation (Caltrans) along with the distance of the SR-134 corridor to be modeled, the total grams of diesel exhaust emissions that would be generated along the segment to be modeled were obtained. In turn, the total emissions amount was then converted into an exhaust emission rate in grams per second.

A conservative route speed of 65 miles per hour (mph) was assumed for the freeway corridor. For congested or minimum speed conditions, 10 and 5 miles per hour were identified and used for the north and southbound routes, respectively. Ramp volumes were assumed to have a uniform distribution and were averaged to produce an hourly traffic profile.

For particulates (PM₁₀ and PM_{2.5}), emissions were quantified through the reentrainment of paved roadway dust. The predictive emission equation developed by the U.S. Environmental Protection Agency (EPA) (AP-42, Section 13.2.1) was used to generate particulate source strength. To account for the mass rate emissions entrained from the roadway surface, the contribution from exhaust, break and tire wear were added to the AP-42 emission factor equation.

Within AERMOD, the emission rate used for dispersion modeling assumed a rate of 1.0 gram per second for the entire line source. The use of a unitary emission rate (1.0 gram per second) allows for the AERMOD results to be factored based on actual emission rates that are calculated and outlined in the aforementioned steps. For example, assume that an emission rate of 1 gram per second results in a dispersion modeling concentration of 0.5 µg/m³. Using these results, an actual emission rate of 5 grams per second would result in a concentration of 2.5 µg/m³ (5 grams per second/gram per second x 0.5 µg/m³ equals 2.5 µg/m³). This approach is useful as any future changes that are necessary in the calculation of emission rates would not require the re-running of AERMOD in order to obtain the actual TAC concentration.

Meteorological Data

In order to run AERMOD, the following hourly surface meteorological data are required: wind speed, wind direction, ambient temperature, and opaque cloud cover. These meteorological variables are used to estimate air dispersion of pollutants in the atmosphere. Wind speed determines how rapidly pollutants are diluted and influences the rise of the emission plume in the air, thus affecting downwind pollutant concentrations. Wind direction determines where pollutants will be transported. The opaque cloud cover and upper air surrounding data are used in calculations to determine other important dispersion parameters. These include atmospheric stability (a measure of turbulence and the rate at which pollutants disperse laterally and vertically) and mixing height (the vertical depth of the atmosphere within which dispersion occurs). The greater the mixing height is, the larger the volume of atmosphere is available to dilute the pollutant concentration.

The dispersion modeling for the Project utilized preprocessed meteorological data from the Burbank Airport Meteorological Station, which is the station nearest to the Project site obtained from SCAQMD.⁷ The meteorological data was collected for the years between January 2012 and December 2016.

Sensitive Receptors

In order to determine the DPM concentrations at the Project site, discrete receptors were placed inside the boundary of the Project site at areas where future residences would be located. Based on SCAQMD's AERMOD modeling guidance, all receptors should be set to a height of 0 feet (0 meters), so that ground-level concentrations are analyzed. In order to fulfill SCAQMD's requirements and accurately characterize the risk throughout the Project site, a 32.81 foot by 32.81 foot (10 meter by 10 meter) receptor grid was placed over the Project site (including site boundaries). The receptor grid was then converted to discrete receptors to maintain spacing and provide for ease in determining the maximum exposed individual (MEI).

Terrain Data

The modeling analysis also included terrain data to accurately assess impacts in three dimensions. The terrain data used for the analysis was from the digital elevation model data for the Pasadena and Mount Wilson 7.5-minute quadrangles obtained through the AERMOD program.

Urban/Rural

The AERMOD model requires that the user specify whether a site should be modeled as either urban or rural. The urban option allows the user to incorporate the effects of increased surface heating from an urban area on pollutant dispersion under stable atmospheric conditions. This surface heating typically causes better dispersion, which results in lower pollutant concentrations.

Based on SCAQMD's AERMOD modeling guidance, all air quality impact analyses in the South Coast Air Basin should be executed using the urban modeling option. In addition, all sources should be modeled with urban effects using the population of the County where the Project is located. As SCAQMD provides the various County populations within AQMD jurisdiction, the population of 200,232 for Glendale was used in the AERMOD run.

Dose-Response Assessment

The dose-response assessment in the process of characterizing the relationship between exposure to diesel exhaust and the incidence of an adverse health effect in the exposed populations.

The estimation of potential inhalation cancer risk posed by exposure to DPM requires a cancer potency factor. Cancer potency factors are expressed as the upper bound probability of developing cancer

7 SCAQMD Meteorological Data for AERMOD, www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/data-for-aermod

assuming continuous lifetime exposure to diesel exhaust at a dose of one milligram per kilogram of body weight, and are expressed in units of inverse dose as a potency slope (i.e., [mg/kg/day]⁻¹). A cancer potency factor when multiplied by the dose of a carcinogen gives the associated lifetime cancer risk. The cancer potency factor for DPM is 1.1 (mg/kg/day)⁻¹.⁸ The estimation of potential inhalation chronic noncancer effects posed by exposure to DPM requires a chronic reference exposure level (REL). A chronic REL is a concentration level (that is expressed in units of micrograms per cubic meter [µg/m³] for inhalation exposures), at or below which no adverse health effects are anticipated following long-term exposure. The chronic REL for DPM is 5 µg/m³.⁹ The chronic hazard index target organ for DPM is the respiratory system.

Risk Characterization

Risk characterization combines the maximum annual average ground-level DPM concentration from the exposure assessment, cancer potency factor, and chronic REL from the dose-response analysis to estimate the potential inhalation cancer risk and chronic hazard index (HI) from the exposure to DPM emissions.

For the Project's health risk evaluation, the maximum exposed individual (MEI) was assumed to reside at the same receptor location for 70 years. This is a conservative assumption because, typically speaking, people no longer spend their entire life in one location.

The equation used to calculate the potential excess lifetime cancer risk for the residential inhalation pathway is as follows:

$$Dose = (C_{air} \times DBR \times A \times EF \times ED \times CF) / AT$$

Where:

Dose = Dose through inhalation (milligrams per kilogram-day [mg/kg/day])

C_{air} = Concentration of DPM in air (micrograms per cubic meter [µg/m³] - from AERMOD)

DBR = Daily breathing rate, or the average amount of air inhaled daily (liters per kilograms body weight-day [L/kg body weight-day]) = 302 L/kg

A = Inhalation absorption factor (unitless), the potential for absorption into the body through the lungs = 1.

EF = Exposure frequency (days per year [days/yr]) = 350 days/year.

ED = Exposure duration (years[yr]) = 30 years

8 California Environmental Protection Agency Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015.

9 California Environmental Protection Agency Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, February 2015.

CF = Composite conversion factor (micrograms per cubic meters - milligram per 1,000 liter [$\text{mg}/\mu\text{g} \times \text{m}^3/\text{L}$]) = 1×10^{-6}

AT = Averaging time period over which exposure is averaged (number of days over the total exposure period. For lifetime cancer risk, the averaging time is 70 regardless of the exposure duration.) = 25,550 days

The following equation was used to estimate the excess cancer risk for a resident at the Project based upon the calculated dosage:

$$\text{Cancer Risk} = \text{Dose} \times \text{CPF}$$

Where:

Cancer Risk = Risk (potential chances per million)

Dose = Dose from inhalation (mg/kg-day)

CPF = Chemical or compound cancer potency factor = $(1 \text{ mg}/\text{kg}\text{-day}^{-1})$

Finally, the potential noncancer health risk for chronic exposure to DPM was evaluated by calculating the Hazard Quotient (HQ) using the following equation:

$$\text{HQ} = C_{\text{airi}} / \text{REL}$$

Where:

HQ = Hazard quotient for DPM (unitless)

C_{airi} = Increase in average annual PM10 concentration ($\mu\text{g}/\text{m}^3$) from air dispersion model at the MEI

REL = Reference exposure level for DPM ($5 \mu\text{g}/\text{m}^3$)



Appendix A

EMFAC Worksheets

Emission Factor Rate Adjustment

CO Emissions

Acceleration/On-Ramp (15 - 45 mph)

$Emfac (gr/mi) = (emfac \text{ at average link speed } \times 16/60) \times (0.027) \times (exp (.098 \times \text{acceleration speed product})) \times (60 \text{ min/hr}) / (\text{average link speed})$

Emfac at link speed 0.259 FROM EMFAC SHEET: Value at 45 mph
Speed (mph) 45
acceleration time (sec) 18
acceleration rate (mph/sec) 2.5

Emfac (gr/mi) 0.616

Deceleration/Off-Ramp

$Emfac (gr/mi) = (emfac \text{ at idle speed } \times 1.5)$

Emfac Idle speed (gr/mi) 8.57E-02 FROM EMFAC SHEET: Value at 5 mph

Emfac Deceleration (gr/mi) 0.129

NOX Emissions

Acceleration/On-Ramp (15 - 45 mph)

$Emfac (gr/mi) = (emfac \text{ at average link speed } \times 16/60) \times (0.027) \times (exp (.098 \times \text{acceleration speed product})) \times (60 \text{ min/hr}) / (\text{average link speed})$

Emfac at link speed 1.17E-01
Speed (mph) 45
acceleration time (sec) 18
acceleration rate (mph/sec) 2.5

Emfac (gr/mi) 0.278

Deceleration/Off-Ramp

$Emfac (gr/mi) = (emfac \text{ at idle speed } \times 1.5)$

Emfac Idle speed (gr/mi) 6.16E-02

Emfac Deceleration (gr/mi) 0.092

PM10 Emissions

Acceleration/On-Ramp (15 - 45 mph)

$Emfac (gr/mi) = (emfac \text{ at average link speed } \times 16/60) \times (0.027) \times (exp (.098 \times \text{acceleration speed product})) \times (60 \text{ min/hr}) / (\text{average link speed})$

Emfac at link speed 1.77E-01
Speed (mph) 45
acceleration time (sec) 18
acceleration rate (mph/sec) 2.5

Emfac (gr/mi) 0.4210

Deceleration/Off-Ramp

$Emfac (gr/mi) = (emfac \text{ at idle speed } \times 1.5)$

Emfac Idle speed (gr/mi) 1.66E-01

Emfac Deceleration (gr/mi) 0.249

PM2.5 Emissions

Acceleration/On-Ramp (15 - 45 mph)

$Emfac (gr/mi) = (emfac \text{ at average link speed } \times 16/60) \times (0.027) \times (exp (.098 \times \text{acceleration speed product})) \times (60 \text{ min/hr}) / (\text{average link speed})$

Emfac at link speed 1.74E-01
Speed (mph) 45
acceleration time (sec) 18
acceleration rate (mph/sec) 2.5

Emfac (gr/mi) 0.4139

Deceleration/Off-Ramp

$Emfac (gr/mi) = (emfac \text{ at idle speed } \times 1.5)$

Emfac Idle speed (gr/mi) 1.65E-01

Emfac Deceleration (gr/mi) 0.248

TOG GAS Emissions

Acceleration/On-Ramp (15 - 45 mph)

$Emfac (gr/mi) = (emfac \text{ at average link speed } \times 16/60) \times (0.027) \times (exp (.098 \times \text{acceleration speed product})) \times (60 \text{ min/hr}) / (\text{average link speed})$

Emfac at link speed 1.48E-01
Speed (mph) 45
acceleration time (sec) 18
acceleration rate (mph/sec) 2.5

Emfac (gr/mi) 0.352

Deceleration/Off-Ramp

$Emfac (gr/mi) = (emfac \text{ at idle speed } \times 1.5)$

Emfac Idle speed (gr/mi) 5.50E-02

Emfac Deceleration (gr/mi) 0.083

TOG DSL Emissions

Acceleration/On-Ramp (15 - 45 mph)

$Emfac (gr/mi) = (emfac \text{ at average link speed } \times 16/60) \times (0.027) \times (exp (.098 \times \text{acceleration speed product})) \times (60 \text{ min/hr}) / (\text{average link speed})$

Emfac at link speed 4.47E-04
Speed (mph) 45
acceleration time (sec) 18
acceleration rate (mph/sec) 2.5

Emfac (gr/mi) 0.001

Deceleration/Off-Ramp

$Emfac (gr/mi) = (emfac \text{ at idle speed } \times 1.5)$

Emfac Idle speed (gr/mi) 1.43E-05

Emfac Deceleration (gr/mi) 0.00002

DSL Particulate Emissions

Acceleration/On-Ramp (15 - 45 mph)

$Emfac (gr/mi) = (emfac \text{ at average link speed } \times 16/60) \times (0.027) \times (exp (.098 \times \text{acceleration speed product})) \times (60 \text{ min/hr}) / (\text{average link speed})$

Emfac at link speed 1.65E-03
Speed (mph) 45
acceleration time (sec) 18
acceleration rate (mph/sec) 2.5

Emfac (gr/mi) 0.004

Deceleration/Off-Ramp

$Emfac (gr/mi) = (emfac \text{ at idle speed } \times 1.5)$

Emfac Idle speed (gr/mi) 7.05E-05

Emfac Deceleration (gr/mi) 0.0001

Emission Factor Profile Worksheet
Chronic Exposure

TOG - Toxic Emissions

Gasoline/Toxic Fractions/Hot Stabilized Exhaust

| Year | Benzene | Formaldehyde | 1,3-Butadiene | Acetaldehyde | Acrolein |
|------|----------|--------------|---------------|--------------|----------|
| 2004 | 0.028414 | 0.021422 | 0.006603 | 0.005511 | 0.001533 |
| 2005 | 0.028205 | 0.021200 | 0.006551 | 0.005450 | 0.001520 |
| 2006 | 0.027938 | 0.021000 | 0.006483 | 0.005350 | 0.001510 |
| 2007 | 0.027660 | 0.020700 | 0.006410 | 0.005250 | 0.001490 |
| 2008 | 0.027338 | 0.020300 | 0.006326 | 0.005120 | 0.001470 |
| 2009 | 0.026849 | 0.019800 | 0.006190 | 0.004870 | 0.001450 |
| 2010 | 0.026521 | 0.019400 | 0.006105 | 0.004750 | 0.001430 |
| 2011 | 0.026521 | 0.019400 | 0.006105 | 0.004750 | 0.001430 |
| 2012 | 0.025656 | 0.018500 | 0.005873 | 0.004370 | 0.001380 |
| 2013 | 0.025656 | 0.018500 | 0.005873 | 0.004370 | 0.001380 |
| 2014 | 0.025656 | 0.018500 | 0.005873 | 0.004370 | 0.001380 |
| 2015 | 0.024349 | 0.017100 | 0.005530 | 0.003850 | 0.001310 |
| 2016 | 0.024349 | 0.017100 | 0.005530 | 0.003850 | 0.001310 |
| 2017 | 0.024349 | 0.017100 | 0.005530 | 0.003850 | 0.001310 |
| 2018 | 0.022182 | 0.014700 | 0.004944 | 0.002860 | 0.001190 |
| 2019 | 0.022182 | 0.014700 | 0.004944 | 0.002860 | 0.001190 |
| 2020 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2021 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2022 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2023 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2024 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2025 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2026 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2027 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2028 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2029 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2030 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |

Analysis Year

| | | | | | |
|------|----------|----------|----------|----------|----------|
| 2025 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
|------|----------|----------|----------|----------|----------|

TOG Emission Rate - gr/mi

| | | | | |
|-------------|--------------|-----------|--|----------------------------------|
| Speed (MPH) | Acceleration | 0.3520313 | | |
| | Deceleration | 0.0825 | | |
| | 65 | 1.43E-01 | | FROM EMFAC SHEET (TOG_GAS_RUNEX) |

Toxic Emission Rate - gr/mi

| | Acceleration | Deceleration | 65 |
|---------------|--------------|--------------|-------------|
| Benzene | 0.007420468 | 0.001739018 | 0.003014297 |
| Formaldehyde | 0.004787626 | 0.0011122 | 0.0019448 |
| 1,3-Butadiene | 0.001640114 | 0.000384368 | 0.000666237 |
| Acetaldehyde | 0.000862477 | 0.000202125 | 0.00035035 |
| Acrolein | 0.000397795 | 0.000093225 | 0.00016159 |

Toxic Emission Rate - gr/mi

| | | | |
|-------------|--------------|-------------|--|
| Speed (MPH) | Acceleration | 0.015108479 | |
| | Deceleration | 0.003540735 | |
| | 65 | 0.006137274 | |

Weight Fraction/Speciation

| | |
|---------------|-------|
| Benzene | 0.491 |
| Formaldehyde | 0.317 |
| 1,3-Butadiene | 0.463 |
| Acetaldehyde | 0.057 |
| Acrolein | 0.026 |

Diesel Particulate Emissions - PM10

| | | | | |
|----------------------------|--------------|-------------|--|-----------------------------------|
| PM10 Emission Rate - gr/mi | Acceleration | 0.003924673 | | |
| | Deceleration | 0.00010575 | | |
| Speed (MPH) | 15 | 1.22E-04 | | FROM EMFAC SHEET (PM10_DSL_RUNEX) |
| | 45 | 1.65E-03 | | FROM EMFAC SHEET (PM10_DSL_RUNEX) |
| | 65 | 4.37E-03 | | FROM EMFAC SHEET (PM10_DSL_RUNEX) |

| | Acceleration | Deceleration | 45 | 65 |
|---------------|--------------|--------------|-------------|----------|
| Benzene | 8.27282E-05 | 2.2291E-06 | 3.47804E-05 | 9.21E-05 |
| Formaldehyde | 5.33756E-05 | 1.4382E-06 | 0.00002244 | 5.94E-05 |
| 1,3-Butadiene | 1.82851E-05 | 4.92689E-07 | 7.68735E-06 | 2.04E-05 |
| Acetaldehyde | 9.61545E-06 | 2.59088E-07 | 4.0425E-06 | 1.07E-05 |
| Acrolein | 4.43488E-06 | 1.19498E-07 | 1.8645E-06 | 4.94E-06 |

Toxic Emission Rate - gr/mi

| | | | |
|-------------|--------------|-------------|--|
| Speed (MPH) | Acceleration | 0.000168439 | |
| | Deceleration | 4.53858E-06 | |
| | 45 | 7.08147E-05 | |
| | 65 | 0.000187552 | |

Emission Factor Profile Worksheet
Acute/8-hour Exposure

TOG - Toxic Emissions

Gasoline/Toxic Fractions/Hot Stabilized Exhaust

| Year | Benzene | Formaldehyde | 1,3-Butadiene | Acetaldehyde | Acrolein |
|------|----------|--------------|---------------|--------------|----------|
| 2004 | 0.028414 | 0.021422 | 0.006603 | 0.005511 | 0.001533 |
| 2005 | 0.028205 | 0.021200 | 0.006551 | 0.005450 | 0.001520 |
| 2006 | 0.027938 | 0.021000 | 0.006483 | 0.005350 | 0.001510 |
| 2007 | 0.027660 | 0.020700 | 0.006410 | 0.005250 | 0.001490 |
| 2008 | 0.027338 | 0.020300 | 0.006326 | 0.005120 | 0.001470 |
| 2009 | 0.026849 | 0.019800 | 0.006190 | 0.004870 | 0.001450 |
| 2010 | 0.026521 | 0.019400 | 0.006105 | 0.004750 | 0.001430 |
| 2011 | 0.026521 | 0.019400 | 0.006105 | 0.004750 | 0.001430 |
| 2012 | 0.025656 | 0.018500 | 0.005873 | 0.004370 | 0.001380 |
| 2013 | 0.025656 | 0.018500 | 0.005873 | 0.004370 | 0.001380 |
| 2014 | 0.025656 | 0.018500 | 0.005873 | 0.004370 | 0.001380 |
| 2015 | 0.024349 | 0.017100 | 0.005530 | 0.003850 | 0.001310 |
| 2016 | 0.024349 | 0.017100 | 0.005530 | 0.003850 | 0.001310 |
| 2017 | 0.024349 | 0.017100 | 0.005530 | 0.003850 | 0.001310 |
| 2018 | 0.022182 | 0.014700 | 0.004944 | 0.002860 | 0.001190 |
| 2019 | 0.022182 | 0.014700 | 0.004944 | 0.002860 | 0.001130 |
| 2020 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2021 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2022 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2023 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2024 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2025 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2026 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2027 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2028 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2029 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
| 2030 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |

Analysis Year

| | | | | | |
|------|----------|----------|----------|----------|----------|
| 2025 | 0.021079 | 0.013600 | 0.004659 | 0.002450 | 0.001130 |
|------|----------|----------|----------|----------|----------|

TOG Emission Rate - gr/mi

| | | | | |
|-------------|--------------|-----------|----------------------------------|--|
| Speed (MPH) | Acceleration | 0.3520313 | | |
| | Deceleration | 0.0825 | | |
| | 15 | 1.15E-01 | FROM EMFAC SHEET (TOG_GAS_RUNEX) | |
| | 65 | 1.43E-01 | FROM EMFAC SHEET (TOG_GAS_RUNEX) | |

Toxic Emission Rate - gr/mi

| | Acceleration | Deceleration | 15 | 65 |
|---------------|--------------|--------------|----------|----------|
| Benzene | 0.007420468 | 0.001739018 | 0.002424 | 0.003014 |
| Formaldehyde | 0.004787626 | 0.001122 | 0.001564 | 0.001945 |
| 1,3-Butadiene | 0.001640114 | 0.000384368 | 0.000536 | 0.000666 |
| Acetaldehyde | 0.000862477 | 0.000202125 | 0.000282 | 0.00035 |
| Acrolein | 0.000397795 | 0.000093225 | 0.00013 | 0.000162 |

Toxic Emission Rate - gr/mi

| | | |
|-------------|--------------|-------------|
| Speed (MPH) | Acceleration | 0.015108479 |
| | Deceleration | 0.003540735 |
| | 15 | 0.00493557 |
| | 65 | 0.006137274 |

Weight Fraction/Speciation

| | |
|---------------|-------|
| Benzene | 0.491 |
| Formaldehyde | 0.317 |
| 1,3-Butadiene | 0.463 |
| Acetaldehyde | 0.057 |
| Acrolein | 0.026 |

Source: TOG/toxic fraction from UC Davis-Caltrans Air Quality Project, *Estimating Mobile Source Air Toxic Emissions: A Step-by-Step Project Analysis Methodology*. Task Order No. 61

Emission Factor Profile Worksheet
Acute/8-hour Exposure

TOG - Toxic Emissions

Diesel/Toxic Fractions/Hot Stabilized Exhaust

| Year | Benzene | Formaldehyde | 1,3-Butadiene | Acetaldehyde | Acrolein |
|------|----------|--------------|---------------|--------------|----------|
| 2004 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2005 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2006 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2007 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2008 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2009 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2010 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2011 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2012 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2013 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2014 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2015 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2016 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2017 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2018 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2019 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2020 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2021 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2022 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2023 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2024 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2025 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2026 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2027 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2028 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2029 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |
| 2030 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0 |

Analysis Year

| | | | | | |
|------|----------|----------|----------|----------|-----|
| 2025 | 0.020009 | 0.147133 | 0.001900 | 0.073526 | 0.0 |
|------|----------|----------|----------|----------|-----|

TOG Emission Rate - gr/mi

| | | | | |
|-------------|--------------|------------|----------------------------------|--|
| Speed (MPH) | Acceleration | 0.00106323 | | |
| | Deceleration | 0.00002145 | | |
| | 15 | 4.00E-05 | FROM EMFAC SHEET (TOG_DSL_RUNEX) | |
| | 65 | 7.03E-04 | FROM EMFAC SHEET (TOG_DSL_RUNEX) | |

Toxic Emission Rate - gr/mi

| | Acceleration | Deceleration | 15 | 65 |
|---------------|--------------|--------------|----------|-------------|
| Benzene | 2.12742E-05 | 4.29193E-07 | 8E-07 | 1.40663E-05 |
| Formaldehyde | 0.000156436 | 3.156E-06 | 5.89E-06 | 0.000103434 |
| 1,3-Butadiene | 2.02014E-06 | 4.0755E-08 | 7.6E-08 | 1.3357E-06 |
| Acetaldehyde | 7.8175E-05 | 1.57713E-06 | 2.94E-06 | 5.16888E-05 |
| Acrolein | 0 | 0 | 0 | 0 |

Toxic Emission Rate - gr/mi

| | | |
|-------------|--------------|-------------|
| Speed (MPH) | Acceleration | 0.000257905 |
| | Deceleration | 5.20308E-06 |
| | 15 | 9.70272E-06 |
| | 65 | 0.000170525 |

Weight Fraction/Speciation

| | |
|---------------|-------|
| Benzene | 0.082 |
| Formaldehyde | 0.607 |
| 1,3-Butadiene | 0.008 |
| Acetaldehyde | 0.303 |
| Acrolein | 0 |

MEIR Health Risk Calculations (9-year)

Cancer Risk Computation

Cancer Risk 1.06E-06 TRUE
1.00E-05

Reduced Risk

Risk Reduction - Cancer risk * reduction potential

| Filtration | %windows closed | | | | | | | |
|------------|-----------------|----------|----------|----------|------|------|------|------|
| | 100% | 75% | 50% | 25% | | | | |
| MERV 16 | 3.21E-07 | 5.05E-07 | 6.90E-07 | 8.75E-07 | TRUE | TRUE | TRUE | TRUE |
| MERV 15 | 3.62E-07 | 5.36E-07 | 7.11E-07 | 8.85E-07 | TRUE | TRUE | TRUE | TRUE |
| MERV 14 | 4.03E-07 | 5.67E-07 | 7.31E-07 | 8.96E-07 | TRUE | TRUE | TRUE | TRUE |

Reduction Assumptions:

- Assumes 77% of day is spent indoors
- Sealed HVAC system with MERV 16 or higher rated filters (90% reduction on particulates less than 0.3 microns or larger), effectiveness.
- Sealed HVAC system with MERV 15 or higher rated filters (85% reduction on particulates less than 0.3 microns or larger), effectiveness.
- Sealed HVAC system with MERV 14 or higher rated filters (80% reduction on particulates less than 0.3 microns or larger), effectiveness.
- Institute tiered vegetation along the perimeter of the Project area.

| Reduction | Time Windows Closed | | | |
|-----------|---------------------|--------|---------|-----|
| | 100% | 75% | 50% | 25% |
| 0.775 | 0.58125 | 0.3875 | 0.19375 | |
| 0.9 | 0.9 | 0.9 | 0.9 | |
| 0.85 | 0.85 | 0.85 | 0.85 | |
| 0.8 | 0.8 | 0.8 | 0.8 | |
| N/A | N/A | N/A | NA | |

| | | | | |
|-----------------------------------|---------|----------|----------|-----------|
| Total Percent Reduction 2a (1*2a) | 0.6975 | 0.523125 | 0.34875 | 0.174375 |
| Total Percent Reduction 2b (1*2b) | 0.65875 | 0.494063 | 0.329375 | 0.1646875 |
| Total Percent Reduction 2c (1*2c) | 0.62 | 0.465 | 0.31 | 0.155 |

Hazard Index Computation

Resident Adult

Chronic hazard index

Inhalation chronic risk = Cair/Inhalation Chronic REL

| | |
|------|-------------|
| Cair | 0.003 µg/m3 |
| REL | 5 µg/m3 |

Increase in average annual DPM from air dispersion model at the MEI
Reference exposure level for DPM

HQ 0.0006

Hazard Quotient for DPM

Source

- U.S. Department of Labor, Bureau of Labor Statistics. American Time Use Survey - 2012 Results, USLD-13-1178. Released June 20, 2013
- National Air Filtration Association. User Guide for ANSI/ASHRAE Standard 52.2 - 1999 Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size. Retrieved from http://www.filtera-b2b.com/businessfilters/PDFfiles/NAFA_Filter_Guide.pdf
- CARB, 2012. Status of Research on Potential Mitigation Concepts to Reduce Exposure to Nearby Traffic Pollution. August 23

Dispersion Model Input Summary Table

| ID | X | Y | CO (1-hour) | CO (8-hour) | NOx (1-hour) | PM10 (24-hour Annual) | PM 2.5 (24-hour) | TOG Gas (1-hour) | TOG Gas (8-hour) | TOG Diesel (1-hour) | TOG Diesel (8-hour) | DPM |
|---|----------|---------|-------------|-------------|--------------|-----------------------|------------------|------------------|------------------|---------------------|---------------------|----------|
| EB SR-134 | | | | | | | | | | | | |
| L0000782 | 384059.9 | 3780196 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| L0000783 | 384109 | 3780196 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| L0000784 | 384158.2 | 3780196 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| L0000785 | 384207.3 | 3780195 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| L0000786 | 384256.5 | 3780195 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| L0000787 | 384305.6 | 3780195 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| L0000788 | 384354.7 | 3780194 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| L0000789 | 384403.9 | 3780194 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| L0000790 | 384453 | 3780194 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| L0000791 | 384502.2 | 3780193 | 1.82E-02 | 2.02E-02 | 9.67E-03 | 1.88E-02 | 1.62E-02 | 4.11E-04 | 5.12E-04 | 8.09E-07 | 1.42E-05 | 1.56E-05 |
| WB SR-134 | | | | | | | | | | | | |
| L0000772 | 384499.7 | 3780214 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| L0000773 | 384451.1 | 3780214 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| L0000774 | 384402.4 | 3780214 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| L0000775 | 384353.8 | 3780215 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| L0000776 | 384305.1 | 3780215 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| L0000777 | 384256.5 | 3780215 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| L0000778 | 384207.9 | 3780216 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| L0000779 | 384159.2 | 3780216 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| L0000780 | 384110.6 | 3780217 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| L0000781 | 384061.9 | 3780217 | 1.80E-02 | 2.00E-02 | 9.58E-03 | 1.86E-02 | 1.61E-02 | 4.08E-04 | 5.07E-04 | 8.01E-07 | 1.41E-05 | 1.55E-05 |
| Off-Ramp to Brand from WB SR-134 | | | | | | | | | | | | |
| L0001114 | 384506.2 | 3780233 | 4.00E-04 | 4.00E-04 | 2.88E-04 | 1.14E-03 | 1.05E-03 | 1.10E-05 | 1.10E-05 | 1.62E-08 | 1.62E-08 | 1.41E-08 |
| L0001115 | 384480.7 | 3780235 | 4.00E-04 | 4.00E-04 | 2.88E-04 | 1.14E-03 | 1.05E-03 | 1.10E-05 | 1.10E-05 | 1.62E-08 | 1.62E-08 | 1.41E-08 |
| L0001116 | 384455.1 | 3780238 | 4.00E-04 | 4.00E-04 | 2.88E-04 | 1.14E-03 | 1.05E-03 | 1.10E-05 | 1.10E-05 | 1.62E-08 | 1.62E-08 | 1.41E-08 |
| L0001117 | 384429.5 | 3780240 | 4.00E-04 | 4.00E-04 | 2.88E-04 | 1.14E-03 | 1.05E-03 | 1.10E-05 | 1.10E-05 | 1.62E-08 | 1.62E-08 | 1.41E-08 |
| L0001118 | 384403.9 | 3780243 | 4.00E-04 | 4.00E-04 | 2.88E-04 | 1.14E-03 | 1.05E-03 | 1.10E-05 | 1.10E-05 | 1.62E-08 | 1.62E-08 | 1.41E-08 |
| L0001119 | 384378.3 | 3780245 | 4.00E-04 | 4.00E-04 | 2.88E-04 | 1.14E-03 | 1.05E-03 | 1.10E-05 | 1.10E-05 | 1.62E-08 | 1.62E-08 | 1.41E-08 |
| L0001120 | 384352.7 | 3780247 | 4.00E-04 | 4.00E-04 | 2.88E-04 | 1.14E-03 | 1.05E-03 | 1.10E-05 | 1.10E-05 | 1.62E-08 | 1.62E-08 | 1.41E-08 |
| L0001121 | 384327.1 | 3780250 | 4.00E-04 | 4.00E-04 | 2.88E-04 | 1.14E-03 | 1.05E-03 | 1.10E-05 | 1.10E-05 | 1.62E-08 | 1.62E-08 | 1.41E-08 |
| On-Ramp to EB SR-134 from Brand | | | | | | | | | | | | |
| L0001105 | 384326.9 | 3780162 | 1.72E-03 | 1.72E-03 | 7.77E-04 | 1.50E-03 | 1.40E-03 | 4.22E-05 | 4.22E-05 | 7.20E-07 | 7.20E-07 | 4.70E-07 |
| L0001106 | 384349.5 | 3780164 | 1.72E-03 | 1.72E-03 | 7.77E-04 | 1.50E-03 | 1.40E-03 | 4.22E-05 | 4.22E-05 | 7.20E-07 | 7.20E-07 | 4.70E-07 |
| L0001107 | 384372.1 | 3780166 | 1.72E-03 | 1.72E-03 | 7.77E-04 | 1.50E-03 | 1.40E-03 | 4.22E-05 | 4.22E-05 | 7.20E-07 | 7.20E-07 | 4.70E-07 |
| L0001108 | 384394.7 | 3780168 | 1.72E-03 | 1.72E-03 | 7.77E-04 | 1.50E-03 | 1.40E-03 | 4.22E-05 | 4.22E-05 | 7.20E-07 | 7.20E-07 | 4.70E-07 |
| L0001109 | 384417.3 | 3780170 | 1.72E-03 | 1.72E-03 | 7.77E-04 | 1.50E-03 | 1.40E-03 | 4.22E-05 | 4.22E-05 | 7.20E-07 | 7.20E-07 | 4.70E-07 |
| L0001110 | 384439.9 | 3780172 | 1.72E-03 | 1.72E-03 | 7.77E-04 | 1.50E-03 | 1.40E-03 | 4.22E-05 | 4.22E-05 | 7.20E-07 | 7.20E-07 | 4.70E-07 |
| L0001111 | 384462.5 | 3780175 | 1.72E-03 | 1.72E-03 | 7.77E-04 | 1.50E-03 | 1.40E-03 | 4.22E-05 | 4.22E-05 | 7.20E-07 | 7.20E-07 | 4.70E-07 |
| L0001112 | 384485.1 | 3780177 | 1.72E-03 | 1.72E-03 | 7.77E-04 | 1.50E-03 | 1.40E-03 | 4.22E-05 | 4.22E-05 | 7.20E-07 | 7.20E-07 | 4.70E-07 |
| L0001113 | 384507.7 | 3780179 | 1.72E-03 | 1.72E-03 | 7.77E-04 | 1.50E-03 | 1.40E-03 | 4.22E-05 | 4.22E-05 | 7.20E-07 | 7.20E-07 | 4.70E-07 |



Appendix B

AERMOD Output Sheets

| Region | Calendar Year | Vehicle Category | Model Year | Speed | Fuel | Total VMT | CVMT | EVMT | Nox_RUNEX | PM2.5_RUNEX | PM10_RUNEX | CO2_RUNEX | CH4_RUNEX | N2O_RUNEX | ROG_RUNEX | TOG_RUNEX | CO_RUNEX | SOx_RUNEX | NH3_RUNEX | PM10_PMBW | PM2.5_PMBW | Fuel Consumption | Energy Consumption | | |
|------------------|---------------|-----------------------------|------------|-------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|------------------|--------------------|-------------|---|
| Los Angeles (SC) | 2025 | T6 CAIRP Class 6 | Aggregate | 60 | Diesel | 252672.7183 | 252672.7183 | 0 | 0.071616663 | 0.001715607 | 0.001793179 | 291.1615795 | 8.29E-05 | 0.045872625 | 0.001785446 | 0.002032595 | 0.007808565 | 0.002757126 | 0.061057175 | 0.011582504 | 0.004053876 | 26.0094856 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 6 | Aggregate | 60 | Electricity | 5115.666246 | 0 | 5115.666246 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000117251 | 4.10E-05 | 0 | 5449.468889 | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 6 | Aggregate | 65 | Diesel | 162232.4369 | 162232.4369 | 0 | 0.058532913 | 0.001341002 | 0.001401636 | 200.230789 | 6.26E-05 | 0.031546442 | 0.001348585 | 0.001535261 | 0.005230886 | 0.001896066 | 0.039202706 | 0.007436726 | 0.002602854 | 17.88653707 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 6 | Aggregate | 65 | Electricity | 3284.59284 | 3284.59284 | 3284.59284 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7.53E-05 | 2.63E-05 | 3688.816461 | 0 |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 5 | Diesel | 4204.208736 | 4204.208736 | 0 | 0.010432363 | 1.90E-05 | 1.99E-05 | 10.13432841 | 1.39E-05 | 0.001596668 | 0.000298917 | 0.000340294 | 0.001363531 | 9.60E-05 | 0.001919556 | 0.000328993 | 9.97E-05 | 0.905295542 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 5 | Electricity | 40.71925841 | 0 | 40.71925841 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.38E-06 | 4.83E-07 | 0 | 143.140899 | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 5 | Natural Gas | 3.502019294 | 3.502019294 | 0 | 3.62E-06 | 1.16E-08 | 1.26E-08 | 0.009978994 | 1.50E-05 | 1.98E-06 | 2.14E-07 | 1.53E-05 | 2.79E-05 | 0 | 4.09E-06 | 2.37E-07 | 8.31E-08 | 0.001119992 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 10 | Diesel | 31983.0346 | 31983.0346 | 0 | 0.057986058 | 0.000113101 | 0.000118215 | 63.63736342 | 5.39E-05 | 0.010026093 | 0.001161433 | 0.000312204 | 0.006743709 | 0.000602608 | 0.000756155 | 0.0002168053 | 0.000758818 | 5.684700465 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 10 | Electricity | 309.7670768 | 309.7670768 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.05E-05 | 3.67E-06 | 0 | 515.8009191 | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 10 | Natural Gas | 26.64120914 | 26.64120914 | 0 | 1.80E-05 | 7.99E-08 | 8.69E-08 | 0.058944434 | 7.52E-05 | 1.20E-05 | 1.07E-06 | 7.67E-05 | 0.000196928 | 0 | 3.11E-05 | 1.81E-06 | 6.32E-07 | 0.006813078 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 15 | Diesel | 90957.17473 | 90957.17473 | 0 | 0.1114424239 | 0.000233812 | 0.000244383 | 142.1174108 | 6.67E-05 | 0.022390656 | 0.001435882 | 0.001634642 | 0.011164981 | 0.001345767 | 0.022057881 | 0.006165767 | 0.002158018 | 12.69529201 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 15 | Electricity | 880.9526201 | 880.9526201 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.98E-05 | 1.05E-05 | 0 | 1222.77205 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 15 | Natural Gas | 75.76545332 | 75.76545332 | 0 | 3.01E-05 | 1.85E-07 | 2.01E-07 | 0.12648145 | 0.000126669 | 2.58E-05 | 1.81E-06 | 0.000129275 | 0.000479175 | 0 | 8.85E-05 | 5.14E-06 | 1.80E-06 | 0.014619327 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 45 | Diesel | 837942.3651 | 837942.3651 | 0 | 0.212654628 | 0.002490963 | 0.002603593 | 827.0828194 | 0.000149688 | 0.130307235 | 0.003276621 | 0.003673263 | 0.029492002 | 0 | 0.00783198 | 0.203280878 | 0.038411232 | 0.013443991 | 73.88289062 | 0 | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 45 | Electricity | 8115.770133 | 8115.770133 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8414.901386 | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 45 | Natural Gas | 697.988733 | 697.988733 | 0 | 8.02E-05 | 4.21E-07 | 4.58E-07 | 0.59342651 | 0.000336472 | 0.000120973 | 4.81E-06 | 0.000343994 | 0.00154045 | 0 | 0.000815565 | 3.20E-05 | 1.12E-05 | 0.006859039 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 60 | Diesel | 1600148.153 | 1600148.153 | 0 | 0.510330294 | 0.010541476 | 0.011018115 | 1722.834543 | 0.000430599 | 0.271433284 | 0.009270669 | 0.010553951 | 0.047496578 | 0.016314213 | 0.388049399 | 0.073507004 | 0.025672747 | 153.9001273 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 60 | Electricity | 15498.00455 | 15498.00455 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000355214 | 0.000124325 | 0 | 16509.26577 | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 60 | Natural Gas | 1332.890457 | 1332.890457 | 0 | 0.00124515 | 7.63E-07 | 8.30E-07 | 0.00896512 | 0.000519178 | 0.000250609 | 7.42E-06 | 0.000529859 | 0.00227358 | 0 | 0.001557415 | 6.11E-05 | 2.14E-05 | 0.15678374 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 65 | Diesel | 1027399.935 | 1027399.935 | 0 | 0.433409124 | 0.008536818 | 0.008922815 | 1186.210928 | 0.000345808 | 0.186888015 | 0.007445157 | 0.008475745 | 0.032600581 | 0.011232708 | 0.249153134 | 0.047095957 | 0.016483585 | 105.9637523 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 65 | Electricity | 9950.734146 | 9950.734146 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000228071 | 7.98E-05 | 0 | 11175.337 | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 65 | Natural Gas | 855.8029867 | 855.8029867 | 0 | 7.98E-05 | 4.90E-07 | 5.33E-07 | 0.64785031 | 0.000333446 | 0.000132014 | 4.76E-06 | 0.000340204 | 0.001459787 | 0 | 0.000999963 | 3.92E-05 | 1.37E-05 | 0.074850953 | 0 | | |
| Los Angeles (SC) | 2025 | T6 CAIRP Class 7 | Aggregate | 65 | Diesel | 26991.31335 | 26991.31335 | 0 | 0.133655016 | 0.003423419 | 0.00357821 | 17.12632517 | 0.000718169 | 0.015461981 | 0.017602288 | 0.024637082 | 0.000673524 | 0.006192162 | 0.01829676 | 0.000640387 | 0.00650623 | 0 | 353664562 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 5 | Electricity | 275.7961852 | 275.7961852 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9.35E-06 | 3.27E-06 | 0 | 969.509648 | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 5 | Natural Gas | 116.4660224 | 116.4660224 | 0 | 9.12E-05 | 4.50E-07 | 4.89E-07 | 0.327586324 | 0.000490894 | 6.68E-05 | 7.01E-06 | 0.000500994 | 0.000988418 | 0 | 0.000136085 | 7.89E-06 | 2.76E-06 | 0.037863983 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 10 | Diesel | 205401.443 | 205401.443 | 0 | 0.794790403 | 0.021375519 | 0.022342025 | 456.8284812 | 0.000468427 | 0.019736513 | 0.008759111 | 0.009716954 | 0.013446997 | 0.004325893 | 0.04103887 | 0.01451484 | 0.0094952649 | 40.80827252 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 10 | Electricity | 2133.123868 | 2133.123868 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7.23E-05 | 2.53E-05 | 0 | 3551.917189 | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 10 | Natural Gas | 900.7972752 | 900.7972752 | 0 | 0.000466871 | 3.16E-06 | 3.43E-06 | 0.2028185363 | 0.002532936 | 0.000413459 | 3.62E-05 | 0.000258047 | 0.007081821 | 0 | 0.000105236 | 6.11E-05 | 2.14E-05 | 0.234427294 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 15 | Diesel | 582280.0213 | 582280.0213 | 0 | 1.499584666 | 0.037227906 | 0.03891186 | 1003.62507 | 0.00573155 | 0.158121538 | 0.123398689 | 0.140480014 | 0.283630616 | 0.009503729 | 0.133582692 | 0.039471355 | 0.013814974 | 89.65342992 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 15 | Electricity | 5949.714508 | 5949.714508 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000201658 | 7.06E-05 | 0 | 8258.270014 | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 15 | Natural Gas | 2512.506047 | 2512.506047 | 0 | 0.000779859 | 7.16E-06 | 7.78E-06 | 4.27400758 | 0.000425397 | 0.000871284 | 6.08E-05 | 0.004339883 | 0.016825484 | 0 | 0.002935737 | 0.000170317 | 5.96E-05 | 0.494010089 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 45 | Diesel | 3911379.049 | 3911379.049 | 0 | 4.415561534 | 0.063328384 | 0.066919183 | 4182.986635 | 0.00530879 | 0.114296798 | 0.011025958 | 0.015986959 | 0.039610382 | 0.089732178 | 0.179297403 | 0.062754091 | 0.63645391 | 0 | 41439.39784 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 45 | Electricity | 39966.31831 | 39966.31831 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000916027 | 0.000320609 | 0 | 41439.39784 | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 45 | Natural Gas | 16877.384 | 16877.384 | 0 | 0.001613803 | 1.19E-05 | 1.29E-05 | 14.66848754 | 0.008551117 | 0.029990267 | 0.000122179 | 0.008727042 | 0.035225543 | 0 | 0.019720374 | 0.000773658 | 0.000270778 | 1.695453436 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 60 | Diesel | 429674.504 | 429674.504 | 0 | 0.541895927 | 0.01472064 | 0.019455642 | 4980.316337 | 0.00732405 | 0.784650867 | 0.157684875 | 0.179512124 | 0.471096195 | 0.047166018 | 0.985730597 | 0.196962718 | 0.068993951 | 48.89486855 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 60 | Electricity | 43904.00834 | 43904.00834 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.001062679 | 0.003352198 | 0 | 46768.7914 | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 60 | Natural Gas | 18540.23185 | 18540.23185 | 0 | 0.001457445 | 1.24E-05 | 1.35E-05 | 14.34964386 | 0.007638097 | 0.000295269 | 0.000109133 | 0.007795239 | 0.027023105 | 0 | 0.012166328 | 0.00049883 | 0.000297459 | 1.658599997 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 65 | Diesel | 3339695.522 | 3339695.522 | 0 | 4.654171319 | 0.087168294 | 0.091109657 | 4144.31206 | 0.005907641 | 0.652938076 | 0.127188886 | 0.144796003 | 0.376196118 | 0.039244158 | 0.76617006 | 0.153091461 | 0.053582011 | 370.2097677 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 65 | Electricity | 34124.87836 | 34124.87836 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000782141 | 0.000273749 | 0 | 38324.51057 | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 65 | Natural Gas | 14410.60123 | 14410.60123 | 0 | 0.001133116 | 9.63E-06 | 1.05E-05 | 11.15342015 | 0.005936796 | 0.002273698 | 8.48E-05 | 0.000658996 | 0.021004008 | 0 | 0.016838062 | 0.000660581 | 0.000231203 | 1.289156252 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 4 | Aggregate | 5 | Diesel | 28063.09585 | 28063.09585 | 0 | 0.090518552 | 0.001046168 | 0.001093471 | 74.16958046 | 0.00025869 | 0.011685448 | 0.005659517 | 0.006340711 | 0.013901808 | 0.000702342 | 0.006714461 | 0.001902329 | 0.000665815 | 6.625352948 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 5 | Aggregate | 5 | Electricity | 244.2882322 | 244.2882322 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8.28E-06 | 2.90E-06 | 0 | 858.7493299 | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 5 | Aggregate | 5 | Natural Gas | 95.09920244 | 95.09920244 | 0 | 7.44E-05 | 3.67E-07 | 4.00E-07 | 0.265326174 | 0.000400823 | 5.41E-05 | 5.73E-06 | 0.000409069 | 0.000807172 | 0 | 0.000111119 | 6.45E-06 | 2.26E-06 | 0.030667659 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 5 | Aggregate | 10 | Diesel | 217051.8041 | 217051.8041 | 0 | 0.526153027 | 0.006536888 | 0.006832458 | 474.3277286 | 0.001348834 | 0.074730527 | 0.029040032 | 0.033059865 | 0.076021678 | 0.0044916 | 0.051932471 | 0.014713417 | 0.005149696 | 42.3715081 | 0 | | |
| Los Angeles (SC) | 2025 | T6 Instate Delivery Class 5 | Aggregate | 10</ | | | | | | | | | | | | | | | | | | | | | |

| Region | Calendar Year | Vehicle Category | Model Year | Speed | Fuel | Total VMT | CVMT | EVMT | NOX_RUNEX | PM2.5_RUNEX | PM10_RUNEX | CO2_RUNEX | CH4_RUNEX | N2O_RUNEX | ROG_RUNEX | TG_RUNEX | CO_RUNEX | SOx_RUNEX | NH3_RUNEX | PM10_PMBW | PM2.5_PMBW | Fuel Consumption | Energy Consumption | |
|------------------|---------------|-------------------|--------------|-------|-------------|-------------|-------------|-------------|--------------|-------------|--------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|-------------|-------------|------------------|--------------------|-------------|
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 15 | 15 | Diesel | 50292.92002 | 50292.92002 | 0 | 0.27671368 | 0.001375675 | 0.001437877 | 90.39681404 | 0.000301032 | 0.014242055 | 0.006481141 | 0.007378286 | 0.015302947 | 0.000856004 | 0.008389419 | 0.003409235 | 0.002119323 | 8.07511599 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 15 | 15 | Electricity | 560.6882054 | 0 | 560.6882054 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 778.2414749 | |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 15 | 15 | Natural Gas | 8186.261103 | 8186.261103 | 0 | 0.002565206 | 2.29E-05 | 2.49E-05 | 13.92289131 | 0.01384789 | 0.002838272 | 0.000197859 | 0.014132788 | 0.054334489 | 0 | 0.009565234 | 0.000554927 | 0.000194224 | 1.609273884 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 45 | 45 | Diesel | 408652.9458 | 408652.9458 | 0 | 1.285793313 | 0.0056508 | 0.005906304 | 458.2127731 | 0.000431033 | 0.072191609 | 0.00028002 | 0.010564596 | 0.035861022 | 0.004339001 | 0.008152849 | 0.018728503 | 0.000554976 | 0.000159651 | 0 | 4722.726961 |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 45 | 45 | Electricity | 4554.844396 | 0 | 4554.844396 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.65E-05 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 45 | 45 | Natural Gas | 66502.46099 | 66502.46099 | 0 | 0.006940455 | 4.60E-05 | 5.00E-05 | 57.76884173 | 0.034049951 | 0.001776556 | 0.000477291 | 0.0117473893 | 0.000106664 | 0.000106664 | 0.000106664 | 0.000106664 | 0.000106664 | 0.000106664 | 6.671797014 | 0 |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 60 | 60 | Diesel | 651006.1695 | 651006.1695 | 0 | 2.059364998 | 0.012624838 | 0.0113195677 | 757.3666178 | 0.000635467 | 0.119323419 | 0.013681437 | 0.01555274 | 0.05002466 | 0.007171809 | 0.108595078 | 0.029842087 | 0.01044731 | 67.6525996 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 60 | 60 | Electricity | 7257.711041 | 0 | 7257.711041 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000166347 | 5.82E-05 | 0 |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 60 | 60 | Natural Gas | 105965.3423 | 105965.3423 | 0 | 0.009240524 | 6.95E-05 | 7.55E-05 | 81.9674531 | 0.03222499 | 0.016790602 | 0.000617564 | 0.04411173 | 0.163988441 | 0 | 0.123815168 | 0.004857446 | 0.001700106 | 9.474187424 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 65 | 65 | Diesel | 455979.3075 | 455979.3075 | 0 | 1.466742249 | 0.009297815 | 0.009718221 | 555.2447291 | 0.000465046 | 0.087479033 | 0.010012318 | 0.011398262 | 0.035631593 | 0.005257836 | 0.070662426 | 0.020902067 | 0.007315723 | 49.5997717 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 65 | 65 | Electricity | 5083.463429 | 0 | 5083.463429 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000116513 | 4.08E-05 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 5 | Aggregate 65 | 65 | Natural Gas | 74220.49998 | 74220.49998 | 0 | 0.00646948 | 4.87E-05 | 5.29E-05 | 57.41184078 | 0.030274006 | 0.011073379 | 0.000432556 | 0.030896844 | 0.114861179 | 0 | 0.086722918 | 0.003402264 | 0.001190792 | 6.635933149 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 5 | 5 | Diesel | 2899.79144 | 2899.79144 | 0 | 0.039308945 | 0.000315716 | 0.000329992 | 7.573646892 | 6.70E-05 | 0.001193231 | 0.001442788 | 0.001642505 | 0.002032332 | 7.17E-05 | 0.000422018 | 0.00019657 | 6.88E-05 | 0.676550877 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 5 | 5 | Electricity | 38.80980552 | 0 | 38.80980552 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4.60E-07 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 5 | 5 | Natural Gas | 383.355201 | 383.355201 | 0 | 0.000221968 | 1.64E-06 | 1.78E-06 | 1.073272205 | 0.001596759 | 0.000218794 | 2.28E-05 | 0.001612961 | 0.003402604 | 0 | 0.00047931 | 2.60E-05 | 0.00162063 | 1.42053897 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 10 | 10 | Diesel | 21274.13611 | 21274.13611 | 0 | 0.239174699 | 0.001952365 | 0.002040642 | 47.97592243 | 0.000375668 | 0.007558626 | 0.008088035 | 0.009207612 | 0.012336752 | 0.000454303 | 0.003096109 | 0.01442122 | 0.000504743 | 4.285670146 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 10 | 10 | Electricity | 284.7256784 | 0 | 284.7256784 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9.65E-06 | 3.88E-06 | 0 |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 10 | 10 | Natural Gas | 2812.461135 | 2812.461135 | 0 | 0.00110352 | 1.09E-05 | 1.19E-05 | 6.308143195 | 0.007890452 | 0.001289596 | 0.000112739 | 0.008052785 | 0.023100115 | 0 | 0.003286219 | 0.00019065 | 6.67E-05 | 0.729125142 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 15 | 15 | Diesel | 61201.14167 | 61201.14167 | 0 | 0.490937186 | 0.003934171 | 0.004112057 | 111.1076709 | 0.000607134 | 0.011505049 | 0.010488027 | 0.0259798 | 0.001052123 | 0.008096683 | 0.004148677 | 0.001452037 | 0.019518602 | 0 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 15 | 15 | Electricity | 819.0949092 | 0 | 819.0949092 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.78E-05 | 9.72E-06 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 15 | 15 | Natural Gas | 8090.849447 | 8090.849447 | 0 | 0.001966728 | 2.56E-05 | 2.78E-05 | 13.72459815 | 0.01382383 | 0.002797849 | 0.000197515 | 0.014108232 | 0.056444549 | 0 | 0.00945375 | 0.000548459 | 0.000191961 | 1.586354218 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 45 | 45 | Diesel | 497177.7085 | 497177.7085 | 0 | 2.518956672 | 0.012815393 | 0.013394848 | 563.1583503 | 0.00091012 | 0.088725827 | 0.019594634 | 0.022306999 | 0.065289489 | 0.005332773 | 0.072356225 | 0.022790599 | 0.00797671 | 50.30671234 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 45 | 45 | Electricity | 6654.054465 | 0 | 6654.054465 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000152511 | 5.34E-05 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 45 | 45 | Natural Gas | 65727.36844 | 65727.36844 | 0 | 0.005464344 | 5.14E-05 | 5.59E-05 | 57.10311865 | 0.034950958 | 0.011640844 | 0.000493073 | 0.035219536 | 0.131840607 | 0 | 0.076799121 | 0.003012939 | 0.000105429 | 6.60024958 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 60 | 60 | Diesel | 79205.36 | 79205.36 | 0 | 0.4070764932 | 0.0229882 | 0.024027624 | 519.3530613 | 0.001394177 | 0.144844254 | 0.030016246 | 0.034171211 | 0.082451762 | 0.008705724 | 0.115292759 | 0.036314651 | 0.012710128 | 82.12544478 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 60 | 60 | Electricity | 1062.6025 | 0 | 1062.6025 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.001240111 | 1.94E-05 | 0 |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 60 | 60 | Natural Gas | 104730.3061 | 104730.3061 | 0 | 0.007266569 | 7.76E-05 | 8.44E-05 | 81.0612562 | 0.044008259 | 0.000641544 | 0.000342592 | 0.013499328 | 0 | 0 | 0 | 0.12237209 | 0.004800832 | 0.001680291 | 9.369440674 | 0 |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 65 | 65 | Diesel | 554878.3842 | 554878.3842 | 0 | 2.868300784 | 0.016504054 | 0.017250294 | 668.5007383 | 0.00992866 | 0.105322587 | 0.021376126 | 0.024335259 | 0.058121708 | 0.006330302 | 0.080753631 | 0.025435595 | 0.008902458 | 59.7169014 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 65 | 65 | Electricity | 7426.300349 | 0 | 7426.300349 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000170211 | 5.96E-05 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 6 | Aggregate 65 | 65 | Natural Gas | 73355.45294 | 73355.45294 | 0 | 0.005087474 | 5.43E-05 | 5.91E-05 | 56.77712009 | 0.031449547 | 0.011574584 | 0.000494932 | 0.020965609 | 0.094136301 | 0 | 0.085712154 | 0.00336261 | 0.001176913 | 6.562569119 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 5 | 5 | Diesel | 16114.96305 | 16114.96305 | 0 | 0.184123195 | 0.001399519 | 0.001462799 | 41.9459014 | 0.000360529 | 0.006608608 | 0.006599488 | 0.007513015 | 0.009885323 | 0.000397203 | 0.002585875 | 0.001092394 | 0.000382338 | 3.747018683 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 5 | 5 | Electricity | 237.2703363 | 0 | 237.2703363 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.84E-06 | 2.81E-06 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 5 | 5 | Natural Gas | 2155.361334 | 2155.361334 | 0 | 0.001031626 | 9.66E-06 | 1.05E-05 | 5.98486888 | 0.008926848 | 0.001220055 | 0.000127547 | 0.009112603 | 0.019534407 | 0 | 0.002518431 | 0.000146107 | 5.11E-05 | 0.691759561 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 10 | 10 | Diesel | 118226.405 | 118226.405 | 0 | 1.118364115 | 0.008649911 | 0.009041201 | 263.9763727 | 0.001695742 | 0.014589884 | 0.036508864 | 0.041587053 | 0.0586347 | 0.002496968 | 0.0018971108 | 0.008014282 | 0.025809499 | 23.58094899 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 10 | 10 | Electricity | 1740.718784 | 0 | 1740.718784 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.90E-05 | 2.06E-05 | 0 |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 10 | 10 | Natural Gas | 15812.67182 | 15812.67182 | 0 | 0.005281815 | 6.43E-05 | 6.99E-05 | 35.19139162 | 0.044317945 | 0.007179995 | 0.000633216 | 0.045229714 | 0.132555801 | 0 | 0.018476311 | 0.000171903 | 0.000375166 | 4.067588133 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 15 | 15 | Diesel | 34012.0932 | 34012.0932 | 0 | 2.293919325 | 0.017436797 | 0.018225212 | 608.956909 | 0.002691737 | 0.095941217 | 0.007536361 | 0.065973812 | 0.113596008 | 0.005766446 | 0.054575823 | 0.023053376 | 0.000809382 | 54.39770664 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 15 | 15 | Electricity | 5007.675816 | 0 | 5007.675816 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000169729 | 5.94E-05 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 15 | 15 | Natural Gas | 45489.67644 | 45489.67644 | 0 | 0.009566962 | 0.000150469 | 0.000163649 | 76.60782894 | 0.078078662 | 0.015617007 | 0.00111559 | 0.079685002 | 0.323483447 | 0 | 0.053152397 | 0.003083635 | 0.001079272 | 8.854696604 | 0 | |
| Los Angeles (SC) | 2025 | T6 Public Class 7 | Aggregate 45 | 45 | Diesel | 2762957.463 | 2762957.463 | 0 | 11.36729681 | 0.059612914 | 0.0623308345 | 3095.711457 | 0.004060674 | 0.487730601 | 0.087425199 | 0.099526934 | 0.308162802 | 0.029314536 | 0.443355821 | 0.12665382 | 0.044328837 | 276.5386782 | 0 | |

| Region | Calendar Year | Vehicle Category | Model Year | Speed | Fuel | Total VMT | CVMT | EVMT | NOX_RUNEX | PM2.5_RUNEX | PM10_RUNEX | CO2_RUNEX | CH4_RUNEX | N2O_RUNEX | ROG_RUNEX | TOG_RUNEX | CO_RUNEX | SOx_RUNEX | NH3_RUNEX | PM10_PMBW | PM2.5_PMBW | Fuel Consumption | Energy Consumption |
|------------------|---------------|------------------|------------|-------|-------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------------|--------------------|
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 15 | Natural Gas | 6355.900411 | 6355.900411 | 0 | 0.00589109 | 4.16E-05 | 4.53E-05 | 16.2495552 | 0.02288452 | 0.003312578 | 0.000326975 | 0.02335531 | 0.12909686 | 0 | 0.00742655 | 0.000949727 | 0.000332404 | 1.878200743 | 0 |
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 45 | Diesel | 27610388.24 | 27610388.24 | 0 | 27.64473063 | 0.391639105 | 0.409347287 | 42381.88092 | 0.01806096 | 6.677282598 | 0.254182 | 0.289366858 | 2.031206808 | 0.401331068 | 6.695751598 | 2.427191359 | 0.849516976 | 3785.956634 | 0 |
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 45 | Electricity | 331672.3725 | 0 | 331672.3725 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.014832369 | 0.005191329 | 0 | 578054.237 |
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 45 | Natural Gas | 112239.7352 | 112383.7362 | 0 | 0.003188028 | 0.000621334 | 0.000198088 | 147.1777752 | 0.123101521 | 0.030015121 | 0.001759682 | 0.125691569 | 0.7003992 | 0 | 0.131337378 | 0.009877068 | 0.000566974 | 17.01150696 | 0 |
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 60 | Diesel | 53162342.36 | 53162342.36 | 0 | 63.36310056 | 1.666940959 | 1.73212632 | 85104.9526 | 0.028701493 | 1.740831994 | 0.61793227 | 0.70327275 | 2.0609998 | 0.805893009 | 12.89229134 | 4.07267574 | 1.425416561 | 7602.391703 | 0 |
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 60 | Electricity | 638616.4111 | 0 | 638616.4111 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.024890327 | 0.00711614 | 0 | 114389.15 |
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 60 | Natural Gas | 216388.5336 | 216388.5336 | 0 | 0.05382662 | 0.00033253 | 0.000361656 | 252.4711576 | 0.193337062 | 0.05146789 | 0.002762405 | 0.197314652 | 0.926925674 | 0 | 0.252839107 | 0.01657288 | 0.005800508 | 29.18181513 | 0 |
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 65 | Diesel | 34595226.1 | 34595226.1 | 0 | 55.61617862 | 1.418323569 | 1.581905645 | 0.022435936 | 0.176793789 | 0.483039546 | 0.029490374 | 1.409447003 | 0.551029299 | 0.839633583 | 2.650254495 | 0.927580793 | 5198.13489 | 0 | 15198.3489 |
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 65 | Electricity | 415578.3909 | 0 | 415578.3909 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.016197332 | 0.005669066 | 0 | 784509.9585 |
| Los Angeles (SC) | 2025 | T7 CAIRP Class 8 | Aggregate | 65 | Natural Gas | 1408814.4185 | 1408814.4185 | 0 | 0.035002286 | 0.000216393 | 0.000235347 | 164.2951161 | 0.125813718 | 0.034926234 | 0.00179763 | 0.128402127 | 0.603195084 | 0 | 0.164534559 | 0.01078477 | 0.003774669 | 18.9000959 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 5 | Diesel | 33884.91539 | 33884.91539 | 0 | 0.407919406 | 0.000400235 | 0.000418332 | 106.4686403 | 0.002001006 | 0.016741718 | 0.004327604 | 0.004926647 | 0.038617575 | 0.001008194 | 0.008217377 | 0.00513176 | 0.001796116 | 9.518014661 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 10 | Diesel | 612800.6689 | 612800.6689 | 0 | 5.231923994 | 0.005981043 | 0.006251488 | 1653.277631 | 0.002003279 | 0.206474564 | 0.043130055 | 0.049102685 | 0.431249394 | 0.015655551 | 0.148609321 | 0.09286055 | 0.032482329 | 147.6863659 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 15 | Diesel | 1875151.571 | 1875151.571 | 0 | 10.36543481 | 0.014359339 | 0.015008604 | 4175.492996 | 0.020095573 | 0.657805622 | 0.062556184 | 0.071215454 | 0.718898985 | 0.039539422 | 0.454740043 | 0.28021461 | 0.098075113 | 372.9951353 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 45 | Diesel | 33156048.07 | 33156048.07 | 0 | 32.61488054 | 0.439075084 | 0.458892811 | 49659.47396 | 0.131308457 | 7.823870346 | 0.28652744 | 0.32618968 | 2.253792595 | 0.470245523 | 8.040620795 | 2.914208458 | 1.01997296 | 4436.061137 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 60 | Diesel | 63840096.98 | 63840096.98 | 0 | 74.4774436 | 1.914019237 | 2.00562694 | 99996.6384 | 0.033518473 | 15.75451086 | 0.721643539 | 0.821526236 | 2.221205869 | 0.946906354 | 15.48176998 | 4.889796723 | 1.71428863 | 8931.659957 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 60 | Electricity | 638616.4111 | 0 | 638616.4111 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.024890327 | 0.00711614 | 0 | 114389.15 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 5 | Diesel | 12303.64759 | 12303.64759 | 0 | 0.152194066 | 0.000152645 | 0.000159547 | 39.63831107 | 0.74E-05 | 0.006244323 | 0.001873416 | 0.015204465 | 0.000375308 | 0.002383738 | 0.00186395 | 0.540472643 | 0.00052383 | 3.540472643 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 10 | Diesel | 222508.5525 | 222508.5525 | 0 | 1.956100755 | 0.002306313 | 0.002410595 | 614.9821813 | 0.000768321 | 0.096890693 | 0.016541744 | 0.018831517 | 0.169957452 | 0.00823514 | 0.053960197 | 0.03709101 | 0.011798186 | 54.9611464 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 15 | Diesel | 680869.462 | 680869.462 | 0 | 3.886932325 | 0.005613958 | 0.005867796 | 1551.735456 | 0.001127222 | 0.244476783 | 0.027628162 | 0.28367092 | 0.014694007 | 0.165116577 | 0.101779151 | 0.036227003 | 138.6159136 | 0 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 45 | Diesel | 12038995.12 | 12038995.12 | 0 | 12.38164449 | 0.17444045 | 0.182645195 | 18279.023 | 0.00522961 | 2.89786718 | 0.112592068 | 0.128177498 | 0.895465952 | 1.73091417 | 2.91955672 | 1.058500506 | 0.370475177 | 1632.857844 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 60 | Diesel | 23180404.81 | 23180404.81 | 0 | 28.40342208 | 0.745422654 | 0.779127359 | 36723.77694 | 0.012766054 | 0.778546012 | 0.274850123 | 0.312895943 | 0.91031371 | 0.347752207 | 5.621443319 | 1.776078718 | 0.620152006 | 5200.520866 | 0 |
| Los Angeles (SC) | 2025 | T7 NNOOS Class 8 | Aggregate | 65 | Diesel | 15084603.47 | 15084603.47 | 0 | 24.92288915 | 0.607096886 | 0.634547113 | 25112.36102 | 0.009929256 | 3.956462705 | 0.21513054 | 0.244909744 | 0.623675938 | 0.237799042 | 3.658143337 | 1.555779871 | 0.404522923 | 2243.277362 | 0 |
| Los Angeles (SC) | 2025 | T7 POAK Class 8 | Aggregate | 5 | Diesel | 2.85E-08 | 0 | 0 | 3.29E-05 | 3.04E-08 | 0.010269544 | 1.51E-08 | 3.17E-07 | 3.70E-07 | 3.70E-07 | 2.67E-06 | 9.72E-08 | 6.91E-07 | 4.31E-07 | 1.51E-07 | 0.000917374 | 0 | 0 |
| Los Angeles (SC) | 2025 | T7 POAK Class 8 | Aggregate | 10 | Diesel | 51.01171016 | 51.01171016 | 0 | 0.000143352 | 4.40E-07 | 4.60E-07 | 0.158134819 | 1.45E-07 | 2.49E-05 | 3.13E-06 | 3.56E-06 | 2.94E-05 | 1.50E-06 | 1.24E-05 | 7.71E-06 | 2.70E-06 | 0.014216211 | 0 |
| Los Angeles (SC) | 2025 | T7 POAK Class 8 | Aggregate | 15 | Diesel | 162.8394708 | 162.8394708 | 0 | 0.000848485 | 1.07E-06 | 1.12E-06 | 0.417832704 | 2.12E-07 | 6.58E-05 | 5.13E-06 | 5.20E-06 | 3.96E-06 | 3.95E-05 | 2.43E-05 | 5.43E-06 | 8.50E-06 | 0.03732483 | 0 |
| Los Angeles (SC) | 2025 | T7 POAK Class 8 | Aggregate | 45 | Diesel | 24206.97345 | 24206.97345 | 0 | 0.002273908 | 2.88E-05 | 3.01E-05 | 4.60312576 | 8.56E-07 | 0.000738229 | 1.84E-05 | 2.10E-05 | 0.000433758 | 4.36E-05 | 0.000632217 | 0.000218962 | 0.00022862 | 0.411194223 | 0 |
| Los Angeles (SC) | 2025 | T7 POAK Class 8 | Aggregate | 60 | Diesel | 4332.986018 | 4332.986018 | 0 | 0.004394236 | 0.000113223 | 0.000118342 | 8.024754422 | 1.98E-06 | 0.00126403 | 4.25E-05 | 4.84E-05 | 0.000107283 | 7.60E-05 | 0.001050786 | 0.000331217 | 0.000115894 | 0.17688413 | 0 |
| Los Angeles (SC) | 2025 | T7 POAK Class 8 | Aggregate | 65 | Diesel | 3313.365915 | 3313.365915 | 0 | 0.004587191 | 0.00010977 | 0.000114733 | 6.440158137 | 1.86E-06 | 0.00101465 | 4.00E-05 | 4.55E-05 | 8.08E-05 | 6.10E-05 | 0.000803519 | 0.000253207 | 0.000526775 | 0.575296775 | 0 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 5 | Diesel | 29589.14586 | 29589.14586 | 0 | 0.346964548 | 0.000314327 | 0.00032854 | 110.8163514 | 0.000168163 | 0.017459161 | 0.003620498 | 0.004112661 | 0.042785027 | 0.001049365 | 0.007175617 | 0.00447249 | 0.001565371 | 9.89180771 | 0 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 5 | Electricity | 64.97583876 | 0 | 64.97583876 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00747606 | 0 | 383.9332925 | 0 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 5 | Natural Gas | 341.1949551 | 341.1949551 | 0 | 0.001129335 | 2.71E-06 | 2.95E-06 | 1.53948623 | 0.003266979 | 0.000331806 | 4.67E-05 | 0.003334192 | 0.008925719 | 0.000398669 | 5.16E-05 | 1.81E-05 | 0.177925244 | 0 | 0 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 10 | Diesel | 529403.7538 | 529403.7538 | 0 | 4.47172715 | 0.004903659 | 0.00512538 | 1691.100625 | 0.0017152 | 0.266433592 | 0.036927782 | 0.042039469 | 0.473570468 | 0.008200998 | 0.028007349 | 0.115955389 | 0.028007349 | 15.0755248 | 0 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 10 | Electricity | 1162.536192 | 0 | 1162.536192 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8.90E-05 | 0.12E-05 | 0 | 3253.812903 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 10 | Natural Gas | 6104.59967 | 6104.59967 | 0 | 0.01328824 | 4.40E-05 | 4.78E-05 | 22.03060055 | 0.038540235 | 0.004491082 | 0.000550664 | 0.039331317 | 0.148253268 | 0 | 0.007132917 | 0.0009234 | 0.00032319 | 2.546401413 | 0 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 15 | Diesel | 1689961.517 | 1689961.517 | 0 | 9.459614293 | 0.013062888 | 0.013653334 | 4419.192796 | 0.002708443 | 0.696254625 | 0.058312042 | 0.066388321 | 0.825531498 | 0.041847113 | 0.409289896 | 0.252050923 | 0.088217823 | 7394.7647419 | 0 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 15 | Electricity | 3711.045516 | 0 | 3711.045516 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000280334 | 9.81E-05 | 0 | 8658.232245 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 15 | Natural Gas | 19487.08986 | 19487.08986 | 0 | 0.025130513 | 0.000114169 | 0.00012417 | 53.08376844 | 0.072973147 | 0.010821473 | 0.001042642 | 0.074474448 | 0.405452997 | 0 | 0.022769683 | 0.002908335 | 0.001017987 | 6.13657499 | 0 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 45 | Diesel | 27055569.54 | 27055569.54 | 0 | 29.07707019 | 0.392211267 | 0.40994532 | 45160.25531 | 0.012057437 | 7.115016616 | 0.259593306 | 0.295527218 | 2.404831361 | 0.427640612 | 6.561203393 | 2.37324786 | 8.83063675 | 4034.147718 | 0 |
| Los Angeles (SC) | 2025 | T7 POLA Class 8 | Aggregate | 45 | | | | | | | | | | | | | | | | | | | |

| Region | Calendar Year | Vehicle Category | Model Year | Speed | Fuel | Total VMT | CVMT | EVMT | NOx_RUNEX | PM2.5_RUNEX | PM10_RUNEX | CO2_RUNEX | CH4_RUNEX | N2O_RUNEX | ROG_RUNEX | TOG_RUNEX | CO_RUNEX | SOx_RUNEX | NH3_RUNEX | PM10_PMBW | PM2.5_PMBW | Fuel Consumption | Energy Consumption | |
|------------------|---------------|--------------------|------------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|--------------|------------------|--------------------|-------------|
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 10 | Electricity | 1065.696804 | 0 | 1065.696804 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000123347 | 4.32E-05 | 2982.769943 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 10 | Natural Gas | 146311.8654 | 146311.8654 | 0 | 0.706963185 | 0.000752717 | 0.000818648 | 631.3992059 | 1.378007683 | 0.128714859 | 0.058755289 | 1.450867107 | 9.172156114 | 0 | 0 | 0.093543083 | 0.033869057 | 0.01185417 | 72.9801811 | 0 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 15 | Diesel | 126228.1178 | 126228.1178 | 0 | 3.184967781 | 0.003202221 | 0.003470347 | 864.2457309 | 4.28E-05 | 0.136162267 | 0.000921024 | 0.001048515 | 0.005443701 | 0.00818389 | 0.004483486 | 0.029219963 | 0.010226987 | 0.01185417 | 77.20272879 | 0 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 15 | Electricity | 2949.268155 | 0 | 2949.268155 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000341356 | 1.00E-05 | 6880.931135 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 15 | Natural Gas | 404011.5321 | 404911.5321 | 0 | 1.251163446 | 0.001698775 | 0.001847573 | 1220.404461 | 2.259205365 | 0.248787433 | 0.087191712 | 2.368253768 | 14.73416537 | 0 | 0 | 0.258876292 | 0.093731098 | 0.033805884 | 141.0601421 | 0 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 45 | Diesel | 1969953.677 | 1969953.677 | 0 | 30.72796802 | 0.025962617 | 0.027136531 | 8116.387134 | 0.000139026 | 1.278740098 | 0.002993188 | 0.003407517 | 0.022668603 | 0.076857333 | 0.069970621 | 0.456015466 | 0.159605413 | 0.015866475 | 725.0336475 | 0 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 45 | Electricity | 46027.15897 | 0 | 46027.15897 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.005327307 | 0.001864557 | 80218.30115 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 45 | Natural Gas | 6319170.207 | 6319170.207 | 0 | 7.417958705 | 0.01465243 | 0.015935855 | 8084.190092 | 10.37905208 | 1.648015035 | 0.324148655 | 10.79293708 | 65.5513922 | 0 | 0 | 0.404100663 | 1.462795487 | 0.51197842 | 934.4090747 | 0 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 60 | Diesel | 2965616.483 | 2965616.483 | 0 | 46.64264978 | 0.047373865 | 0.049515901 | 11818.28737 | 0.000193825 | 1.861975987 | 0.004173005 | 0.004750649 | 0.028084337 | 0.111912114 | 0.105335486 | 0.686496845 | 0.240273896 | 1055.722929 | 0 | |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 60 | Electricity | 69290.41171 | 0 | 69290.41171 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.008019588 | 0.00280695 | 0.000000000 | 124069.5237 | 0 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 60 | Natural Gas | 9513033.503 | 9513033.503 | 0 | 9.946303066 | 0.028385534 | 0.030871858 | 10539.80012 | 12.82362059 | 2.148607202 | 0.406997505 | 13.34239591 | 75.28098449 | 0 | 0 | 6.082066427 | 2.202128131 | 0.770744846 | 1218.24014 | 0 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 65 | Diesel | 2306612.793 | 2306612.793 | 0 | 36.27932155 | 0.03734873 | 0.039037474 | 9203.881502 | 0.000171606 | 1.450075279 | 0.003694631 | 0.004206056 | 0.02231387 | 0.087155254 | 0.081928388 | 0.533947128 | 0.186881495 | 822.1790886 | 0 | |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 65 | Electricity | 53893.06102 | 0 | 53893.06102 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.006237728 | 0.002183205 | 0.000000000 | 101736.866 | 0 |
| Los Angeles (SC) | 2025 | T7 SWCV Class 8 | Aggregate | 65 | Natural Gas | 7399097.254 | 7399097.254 | 0 | 7.735030601 | 0.02207785 | 0.024011676 | 8197.101193 | 9.974023098 | 1.671155015 | 0.316556661 | 10.37751889 | 58.55244023 | 0 | 0 | 4.730541628 | 1.712782805 | 0.599473982 | 947.5292266 | 0 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 5 | Diesel | 21839.26749 | 21839.26749 | 0 | 0.239397432 | 0.000226494 | 0.000236735 | 75.57583018 | 0.000140795 | 0.011907003 | 0.003031269 | 0.003450869 | 0.028527954 | 0.000715658 | 0.005295754 | 0.003302764 | 0.001155967 | 0.000000000 | 6.751158972 | 0 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 5 | Electricity | 135.9129005 | 0 | 135.9129005 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.04E-05 | 3.64E-06 | 803.0906317 | 0 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 5 | Natural Gas | 730.1985105 | 730.1985105 | 0 | 0.001554318 | 6.43E-06 | 6.99E-06 | 3.186843263 | 0.006497915 | 0.000649659 | 9.28E-05 | 0.006631599 | 0.018843237 | 0 | 0 | 0.0008532 | 0.00011041 | 3.86E-05 | 0.368350475 | 0 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 10 | Diesel | 410733.108 | 410733.108 | 0 | 3.252564897 | 0.003615878 | 0.003779372 | 1213.83912 | 0.001534906 | 0.191240848 | 0.033046098 | 0.037620468 | 0.332540829 | 0.011494331 | 0.099597737 | 0.062115379 | 0.021740383 | 108.4317678 | 0 | |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 10 | Electricity | 2556.126393 | 0 | 2556.126393 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000195513 | 6.84E-05 | 0.000000000 | 7154.320957 | 0 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 10 | Natural Gas | 13732.9104 | 13732.9104 | 0 | 0.019893801 | 0.000109671 | 0.000119277 | 48.0123294 | 0.081915391 | 0.009787627 | 0.001170409 | 0.083600665 | 0.32826306 | 0 | 0 | 0.016046214 | 0.002076484 | 0.00072669 | 5.549492995 | 0 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 15 | Diesel | 1326462.38 | 1326462.38 | 0 | 6.986202412 | 0.009357132 | 0.009780222 | 3213.751279 | 0.002504211 | 5.066327823 | 0.053914967 | 0.061378086 | 0.587787659 | 0.030432303 | 0.321650845 | 0.197937869 | 0.069278254 | 287.0831287 | 0 | |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 15 | Electricity | 8255.008994 | 0 | 8255.008994 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.000623026 | 0.000218059 | 0.000000000 | 19259.74358 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 15 | Natural Gas | 44350.42772 | 44350.42772 | 0 | 0.039995687 | 0.000288049 | 0.00031328 | 117.2555002 | 0.160162304 | 0.023903301 | 0.002288403 | 0.163457379 | 0.90284825 | 0 | 0 | 0.051821242 | 0.00616957 | 0.002315935 | 13.52594744 | 0 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 45 | Diesel | 22547296.76 | 22547296.76 | 0 | 23.57379264 | 0.277463651 | 0.290009326 | 35016.29598 | 0.011244309 | 5.516831692 | 0.242086893 | 0.275597499 | 1.777076734 | 0.331583384 | 5.467442701 | 1.978886871 | 0.692610405 | 3127.991849 | 0 | |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 45 | Electricity | 140319.1981 | 0 | 140319.1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.006229935 | 0.002180477 | 0.000000000 | 244554.9093 | |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 45 | Natural Gas | 753871.5533 | 753871.5533 | 0 | 0.234820906 | 0.001211311 | 0.001317411 | 1020.547049 | 0.825764111 | 0.208045192 | 0.01179854 | 0.842752843 | 4.757731514 | 0 | 0 | 0.880806956 | 0.066152984 | 0.022135344 | 117.9596735 | 0 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 60 | Diesel | 37168432.16 | 37168432.16 | 0 | 47.74889509 | 0.983184157 | 1.027639382 | 60180.96364 | 0.022784231 | 9.481535329 | 0.490538237 | 0.558440442 | 1.77615355 | 0.569877738 | 9.012888567 | 2.847371413 | 0.994959594 | 5375.941642 | 0 | |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 60 | Electricity | 231311.3031 | 0 | 231311.3031 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.008950185 | 0.003132565 | 0.000000000 | 414179.7185 | |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 60 | Natural Gas | 1242730.957 | 1242730.957 | 0 | 0.325737576 | 0.001893407 | 0.002059252 | 1498.72396 | 1.109217585 | 0.305524684 | 0.015848531 | 1.130307904 | 5.447923441 | 0 | 0 | 1.452068558 | 0.095030698 | 0.033260744 | 173.2296313 | 0 |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 65 | Diesel | 26786294.34 | 26786294.34 | 0 | 45.69307339 | 0.881256932 | 0.91210346 | 45752.45377 | 0.019643772 | 0.208137924 | 0.422925019 | 0.481467904 | 4.423922968 | 0.433248378 | 6.495347583 | 2.048680451 | 0.177038158 | 4087.408572 | 0 | |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 65 | Electricity | 166699.8657 | 0 | 166699.8657 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.006450159 | 0.002257556 | 0.000000000 | 314688.414 | |
| Los Angeles (SC) | 2025 | T7 Tractor Class 8 | Aggregate | 65 | Natural Gas | 895602.9425 | 895602.9425 | 0 | 0.234409542 | 0.001364527 | 0.001484048 | 1080.090249 | 0.799383428 | 0.220183463 | 0.011421612 | 0.815829421 | 3.926172624 | 0 | 0 | 1.046466949 | 0.068486081 | 0.023970128 | 124.8419592 | 0 |
| Los Angeles (SC) | 2025 | T7 Utility Class 8 | Aggregate | 5 | Diesel | 497.4131434 | 497.4131434 | 0 | 0.003318382 | 2.79E-06 | 2.92E-06 | 1.870161371 | 2.23E-06 | 0.000294645 | 4.81E-05 | 5.47E-05 | 0.0000545721 | 1.77E-05 | 0.000120627 | 7.52E-05 | 2.63E-05 | 0.167060774 | 0 | |
| Los Angeles (SC) | 2025 | T7 Utility Class 8 | Aggregate | 5 | Electricity | 3.847144318 | 0 | 3.847144318 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.92E-07 | 1.02E-07 | 22.73224652 | |
| Los Angeles (SC) | 2025 | T7 Utility Class 8 | Aggregate | 10 | Diesel | 9720.272805 | 9720.272805 | 0 | 0.047718879 | 4.65E-05 | 4.86E-05 | 31.0231865 | 2.52E-05 | 0.004887713 | 0.000542359 | 0.000617435 | 0.006584902 | 0.000293771 | 0.002357248 | 0.001469146 | 0.000514201 | 2.771287353 | 0 | |
| Los Angeles (SC) | 2025 | T7 Utility Class 8 | Aggregate | 10 | Electricity | 75.17954197 | 0 | 75.17954197 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.70E-06 | 2.10E-06 | 210.4193963 | |
| Los Angeles (SC) | 2025 | T7 Utility Class 8 | Aggregate | 15 | Diesel | 28531.22681 | 28531.22681 | 0 | 0.095422636 | 0.000109601 | 0.000114557 | 74.10804355 | 3.73E-05 | 0.011675752 | 0.000802367 | 0.000911344 | 0.010529317 | 0.000701759 | 0.006919063 | 0.004255019 | 0.0014892557 | 6.620044763 | 0 | |
| Los Angeles (SC) | 2025 | T7 Utility Class 8 | Aggregate | 15 | Electricity | 220.6691732 | 0 | 220.6691732 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1.65E-05 | 5.78E-06 | 0.000000000 | 514.8427694 | |
| Los Angeles (SC) | 2025 | T7 Utility Class 8 | Aggregate | 45 | Diesel | 476741.6827 | 476741.6827 | 0 | 4.736032707 | 0.003271283 | 0.003419196 | 772.3461214 | 0.000168337 | 0.121683446 | 0.003624239 | 0.004123942 | 0.031031784 | 0.007313656 | 0.115613872 | 0.041816986 | 0.014635945 | 68.9937307 | 0 | |
| Los Angeles (SC) | 2025 | T7 Utility Class 8 | Aggregate | 45 | Electricity | 3687.26496 | | | | | | | | | | | | | | | | | | |