APPENDIX F

HEALTH RISK ASSESSMENT
NORTH SAN PEDRO APARTMENTS PROJECT

HEALTH RISK ASSESSMENT
NORTH SAN PEDRO APARTMENTS PROJECT

SAN JOSÉ, CA

LSA

October 2011

HEALTH RISK ASSESSMENT
NORTH SAN PEDRO HOUSING PROJECT

SAN JOSÉ, CA

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HEALTH RISK ASSESSMENT
NORTH SAN PEDRO APARTMENTS PROJECT

INTRODUCTION

LSA Associates, Inc. has completed a health risk assessment (HRA) for the proposed North San Pedro project development. The proposed project is the development of a six-story residential building, an on-grade parking garage, and give stories of residential use with 135 residential units within the project area evaluated in the Brandenburg EIR.[1] The 0.73-acre (31,685 square foot) project site is located at the southeast corner of Bassett and Terraine Streets in the City of San José (City) in Santa Clara County. The project site is located in Downtown San José and is bounded by the Union Pacific Railroad line to the north, a segment of Terraine Street to the east, Bassett Street to the south and State Route (SR) 87 to the west (See Figure 1).

This analysis considered the site-specific meteorological conditions and the proximity of the project site to the adjacent freeway and surface streets to determine the potential risk to future residents at the project site from emissions, including diesel particulate matter (DPM), generated from the adjacent freeway. Land uses in the vicinity of the project were also considered for potential sources of toxic emissions and four sources were found within the vicinity of the proposed project.

Results of the analysis conclude that the cancer risk associated with exposure of future residents on the project site to freeway emissions would not exceed the significance criterion for toxic air contaminants assuming outdoor exposure (a conservative assumption) as established by the Bay Area Air Quality Management District (BAAQMD).

The following discussion provides the technical background information used to determine the health risk to future residents of the project site.

BACKGROUND

California Air Resources Board (ARB) Handbook. The California Air Resources Board (ARB) has developed an Air Quality and Land Use Handbook[2] which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that are subject to the land use decision-making process. According to the ARB Handbook, recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The ARB Handbook recommends that planning agencies strongly

[1] LSA Associates, Inc., 2003. *Brandenburg Mixed Use Project/North San Pedro Housing Sites Final Environmental Impact Report.* August.

[2] California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective.* April.

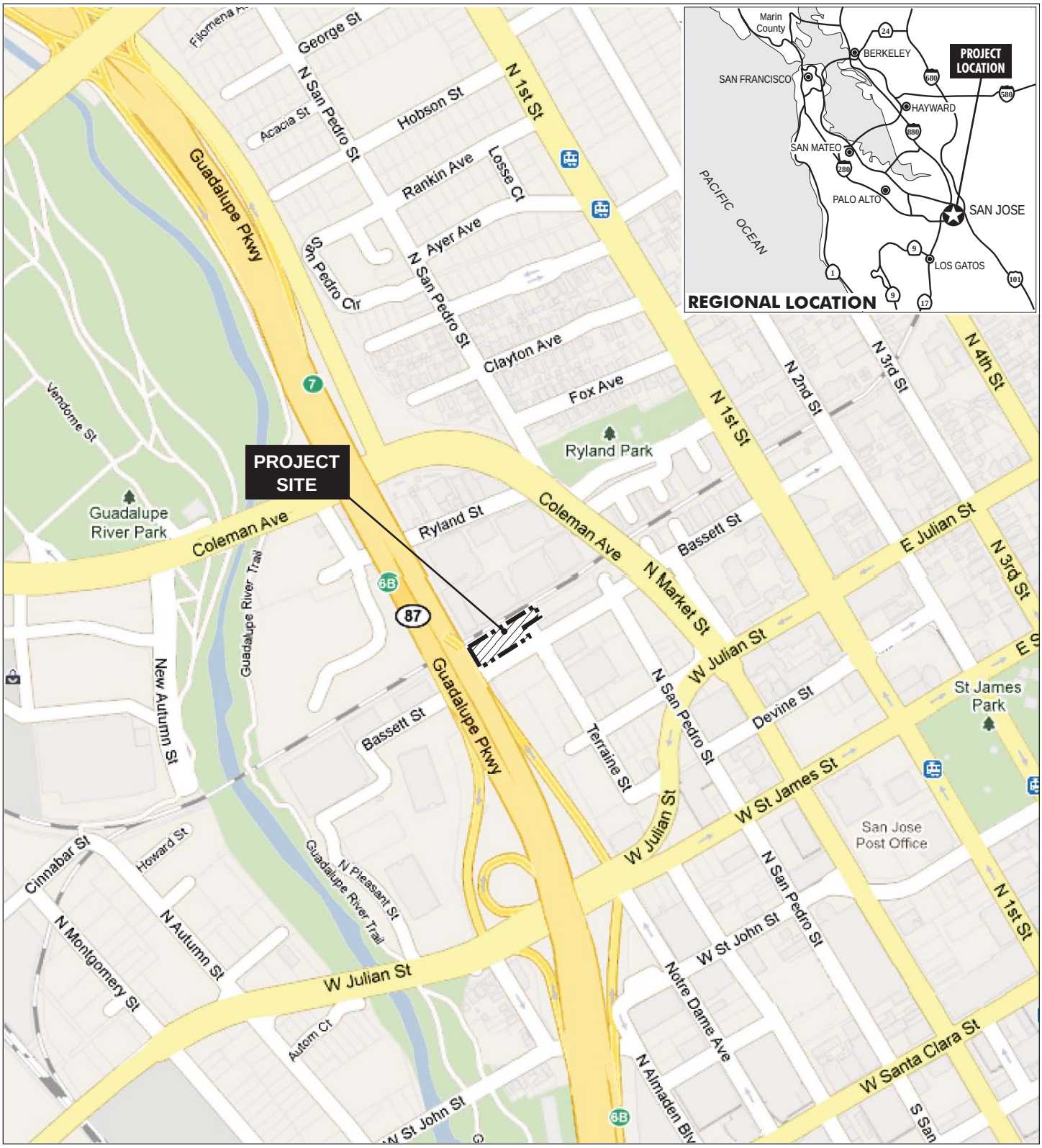

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FIGURE 1

N

0 300 600
FEET

Project Area

North San Pedro Apartments Project
Health Risk Assessment

Project Vicinity and Regional Location Map

SOURCE: GOOGLE MAPS; LSA ASSOCIATES, INC., 2011.

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consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools and playgrounds.

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

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 1,000 feet of a major service and maintenance rail yard.
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries.
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet).
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The ARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

The proposed project is located approximately 50 feet from SR 87. As indicated, the ARB recommends taking steps to avoid locating new housing within 500 feet of a freeway. The recommendations are generalized and do not consider site specific meteorology, freeway truck percentages or other factors that influence risk for a particular project site. The purpose of this analysis is to further examine the project site for actual health risk associated with the location of new housing on the project site.

General Health Risks of Toxics. Determining how hazardous a substance is depends on many factors, including the amount of the substance in the air, how it enters the body, how long the exposure lasts, and what organs in the body are affected. One major way hazardous substances might enter the body is through inhalation of either gases or particulates. Many gases and very small particles that penetrate deeply into the lungs are potentially harmful and can contribute to a variety of health problems. Exhaust from diesel engines is a major source of harmful airborne particles. The inhalation of diesel exhaust particulates is associated with both cancer and non-cancer health effects.

California's Office of Environmental Health Hazard Assessment (OEHHA) has determined that long-term exposure to diesel exhaust particulates poses the highest cancer risk of any toxic air contaminant (TAC) it has evaluated. Exposure to diesel exhaust can also have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

Fortunately, improvements to diesel fuel and diesel engines have already reduced emissions of some of the contaminants. When fully implemented these improvements have resulted in a 75 percent

reduction in particle emissions from diesel-powered trucks as compared to 2000 levels and will result in an 85 percent reduction by 2020.[3] Similarly, improvements have been made to significantly reduce TAC emissions from gasoline-powered vehicles. These improvements are anticipated to continue into the foreseeable future.

Analysis of Site-Specific Toxics. According to ARB,[4] when conducting an HRA, the surrogate for whole diesel exhaust is DPM, and it is used as the basis for the potential risk calculations. When conducting an HRA, the potential cancer risk from inhalation exposure to DPM will outweigh the potential noncancerous health impacts. Therefore, inhalation cancer risk is required for every HRA. When comparing whole diesel exhaust to speciated diesel exhaust (i.e., speciation means looking at the individual components of the exhaust, such as polynuclear aromatic hydrocarbons and metals), potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multipath-way cancer risk from the speciated components. For this reason, there are few situations where an analysis of multipathway risk is necessary.[5] The analysis herein assesses whole diesel exhaust emissions as DPM and gasoline exhaust.

Fine Particulate Matter. $PM_{2.5}$ is a complex mixture of substances that includes elements such as carbon and metals; compounds such as nitrates, organics, and sulfates; and complex mixtures such as diesel exhaust and wood smoke. $PM_{2.5}$ can be emitted directly and can also be formed in the atmosphere through reactions among different pollutants. Evidence suggests that $PM_{2.5}$ is by far the most harmful air pollutant in the San Francisco Bay Area Air Basin in terms of the impact on public health.[6] The effects of both long-term and short-term exposure to $PM_{2.5}$ include aggravated asthma, visits to the hospital for respiratory and cardiovascular symptoms. $PM_{2.5}$ is also a contributing factor in hart attacks and death.

BAAQMD Impacted Communities. The City of San José has been identified as an impacted community under the BAAQMD's Community Air Risk Evaluation (CARE) program which was initiated in 2004 to evaluate and reduce health risk associated with exposures to outdoor TACs in the Bay Area. The BAAQMD has developed an inventory of TAC emissions and compiled demographic and health indicator data. According to the findings of the CARE Program, diesel PM, mostly from on and off-road mobile sources, accounts for over 80 percent of the inhalation cancer risk from TACs in the Bay Area.

The City of San José is currently working with the BAAQMD on the development of a Community Risk Reduction Plan to address reducing exposures of residents to toxic air contaminants and $PM_{2.5}$ emissions from all sources.

Significance Criteria. The latest BAAQMD CEQA Guidelines include recommendations for the evaluation of local community risk and hazard impacts from projects for both new sources and new receptors.[7]

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[3] Cal EPAOEHHA and American Lung Association of California, 2002. *Health Effects of Diesel Exhaust*. April.

[4] Air Resources Board, 2005. http://www.arb.ca.gov/toxics/harp/docs/userguide/appendixK.pdf

[5] OEHHA, 2003. *Air Toxics Hot Spots Program Risk Assessment Guidelines, Appendix D, Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Vehicles, Section B.* August.

[6] BAAQMD, 2011. *Air Quality CEQA Guidelines.* May.

[7] Ibid.

The threshold of significance for local community risk and hazard impacts are identified below which applies to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and $PM_{2.5}$ because emissions of these pollutants can have significant health impacts at the local level. If emissions of TACs or $PM_{2.5}$ exceed any of the thresholds listed below, the proposed project would result in a significant impact.

- Non-compliance with a qualified Community Risk Reduction Plan;
- An excess cancer risk level of more than 10 in one million, or a non-cancer (i.e., chronic or acute) hazard index greater than 1.0 would be a significant cumulatively considerable contribution.
- An incremental increase of greater than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$ from a single source would be a significant cumulatively considerable contribution.

Cumulative Impacts

A project would have a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000 foot radius from the fence line of a source, or from the location of a receptor, plus the contribution from the project, exceeds the following:

- Non-compliance with a qualified Community Risk Reduction Plan; or
- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0; or
- 0.8 $\mu g/m^3$ annual average $PM_{2.5}$.

As noted above, the City of San José is currently drafting their Community Risk Reduction Plan, therefore, the criterion related to compliance with that Plan does not apply at this time.

HEALTH RISK ASSESSMENT

To estimate the potential cancer risk and hazard index associated with the proposed project from vehicle engine exhaust (including diesel) and stationary sources in the project vicinity, a dispersion model is used to translate an emission rate from a source location (i.e., SR 87, surface streets, and stationary sources) to a concentration at a receptor location of interest (i.e., the proposed project site). Dispersion modeling varies from the simpler, more conservative screening-level analysis to the more complex and refined detailed analysis. This assessment was conducted using the EPA's dispersion model ISCST3and ARB's health risk model, HARP. In addition to examining the risks from diesel exhaust particulate, this assessment also includes an analysis of the exhaust from gasoline-fueled vehicles. The model provides a detailed estimate of concentrations considering site and source geometry, source strength, distance to receptor, building wake effects on plume distribution, and site specific meteorological data.

Additional sources of toxic emissions located within 1,000 feet of the project site were surveyed using tools (keyhole markup language or KML files) developed by the BAAQMD. These tools are used in conjunction with mapping software to graphically identify stationary sources within 1,000 feet of the project site. Four sources were identified near the proposed project sites – Tuc's Autobody, Yes Welding, San José Fire Department, and an apartment complex.

Analysis Methodology. The health risk analysis follows the BAAQMD's Health Risk Screening Analysis,[8] California Air Pollution Control Officers Association[9] (CAPCOA), and California OEHHA[10] guidance for air modeling required in Health Risk Assessments (HRAs). The analysis identified permitted TAC sources within 1,000 feet of the boundaries of the project sites (see Table 1) using BAAQMD's Stationary Source Screening Analysis tool. Sources identified with a cancer risk greater than zero were reported and mapped. Emission calculation data for permitted sources is shown in Appendix D.

Table 1: Stationary Sources within 1,000 feet of the Project Site

Facility ID	Plant ID	Stationary Source	Location (UTMs)	Distance (feet)	Risk (in a Million)	$PM_{2.5}$ Conc. (ug/m^3)
771	17784	Tuc's Auto Body & Paint	597555.11 4133354.43	496	0.00	0.00
712	17788	City Heights At Pellier Park	597824.32 4133003.27	876	0.24	0.00
NA	NA	San Jose Fire Department	597864.87 4133012.80	972	0.33	0.00

Source: BAAQMD, 2011

The ISCST-3 program was used with a compatible meteorological file from the San José Airport for the Health Risk Assessment utilizing the following methodology:

- Detailed information on the existing stationary sources for emissions of $PM_{2.5}$ and TACs was identified by the BAAQMD for inclusion in the analysis.
- The location and nature of subject emission sources were documented, as well as detailed emissions calculations for all sources, including time-of-day emission profiles for non-constant sources (i.e., back-up generators).
- Utilizing OEHHA, BAAQMD, CAPCOA, and EPA guidance, estimates for point, volume and area sources were developed. Some sources were characterized as multiple sources. TACs analyzed include acetaldehyde, acrolein, benzene, 1, 3-butadiene, ethylbenzene, formaldehyde, hexane, methanol, methyl ethyl ketone, naphthalene, propylene, styrene, toluene, and xylenes.
- The ISCST3 air dispersion model used unit emissions for each source, allowing use of the HARP health risk assessment post-processor to automatically process air dispersion modeling results that were predicted using a unitized emission rate.
- Using the maximum concentrations obtained from the model, a health risk assessment for cancer risk, non-cancer risk (chronic and acute) and $PM_{2.5}$ concentrations utilizing age sensitivity factors, as appropriate, was prepared.

For the purposes of this assessment, two receptor grids were established, one at 6 feet to represent adult breathing height and the other at 20 feet to represent the upper floors of the residences.

[8] BAAQMD, 2010. *Recommended Methods for Screening and Modeling Local Risks and Hazards.* May.

[9] California Air Pollution Control Officers Association, *2009. Health Risk Assessment for Development Projects.* July.

[10] Office of Environmental Health Hazards Assessment (OEHHA, 2003. *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* August.

Meteorological data representing the conditions for the project sites were obtained from the San José Airport meteorological reporting site.

The maximum incremental cancer risk from exposure to DPM was calculated following the guidelines established by OEHHA. Assuming that the emissions of PM_{10} exactly represent DPM, the equation used to determine exposure to DPM through inhalation is presented below:

Inhalation cancer risk = (Cair * DBR * A * EF * ED * $1x10^{-6}$) / AT * Inhalation Cancer Potency Factor, where:

C_{air}	=	Concentration of PM_{10} in air
DBR	=	Adult Daily breathing rate
A	=	Inhalation absorption factor
EF	=	Exposure frequency
ED	=	Exposure duration
AT	=	Averaging time period over which exposure is averaged in days (25,550 days for a 70-year cancer risk)
CRAF	=	Cancer Risk Adjustment Factor (an age sensitivity factor of 1.7 derived by the BAAQMD)

Source: OEHHA Guidelines, August 2003 and BAAQMD's Recommended Methods for Screening and Modeling Local Risks and Hazards, May 2010

Modeling results were used to determine the annual average concentration of DPM in the air. For residential risk, the BAAQMD-recommended 80th percentile breathing rate of 302L/kg-day, which was used in the equation and the exposure frequency, was assumed to be 350 days per year.[11] Exposure duration was assumed to be 70 years. The inhalation absorption factor was based on the conservative assumption that all pollution would be absorbed. To determine incremental cancer risk, the estimated dose through inhalation was multiplied by the OEHHA-established cancer potency slope factor for DPM, which is 1.1 $(mg/kg\text{-}day)^{-1}$. Results include the Cancer Risk Adjustment Factor (CRAF), which is an age-sensitive factor of 1.7 derived by the BAAQMD to account for the exposure of prenatal and very young children.

Non-cancer health risk is based on a hazard index for both acute (short-term) and chronic (long-term) exposures. The hazard index is established by the OEHHA and is the ratio of the predicted incremental exposure concentration from project emissions to the referenced exposure level (REL) that could cause adverse health effects. The REL is the inhalation exposure concentration at which no adverse health effects would be anticipated following exposure. The OEHHA has established a diesel exhaust chronic REL of 5.0 $\mu g/m^3$. This REL represents the level below which exposure to DPM would not result in adverse health effects.

The chronic risk level is calculated as follows:

Inhalation chronic risk = C_{air} / Inhalation Chronic REL

where: Inhalation Chronic REL = 5.0

[11] *Air Toxics NSR Program Health Risk Screening Analysis Guidelines*, BAAQMD, January 2010.

The hazard quotient for each of the non-carcinogenic substances from project emissions is then added to produce a Hazard Index. A Hazard Index of greater than 1 is considered significant. The REL is then compared to the annual average exposure of the MEI to determine the Hazard Index for that individual.

Annual average daily traffic (AADT) data obtained from California Environmental Health Tracking Program's (CEHTP) and Caltrans were used as an input to the model. According to CEHTP the total AADT along SR 87 is 85,000 (eastbound and westbound combined) with 3 percent truck traffic. Appendix A provides the AADT by vehicle category and fuel type. EMFAC2007 includes assumptions of technological and regulatory changes that will reduce emission rates over time. Emission factors were developed using methodology guidance from the BAAQMD starting with the year 2013 and going through 2040 (the highest year of EMFAC data). Data from 2040 was used to represent the years from 2040 to 2083 as part of the long-term 70-year evaluation period.

The data provided in Appendix A indicates the derivation of the emission rates by the total AADT and the average speed. The classification of the total AADT into 13 vehicle type categories and the corresponding total emissions for that volume of vehicles at the average speed are also shown in Appendix B. For the purpose of this assessment, it is assumed that the traffic volumes are constant throughout the year. Gasoline vehicle exhaust speciation data from the ARB were used to determine the emission rates of the TACs within the vehicle's reactive organic gas (ROG) emissions. The PM_{10} and ROG emission rates used in the analysis were determined based on the vehicle distribution by type according to the Caltrans traffic data for SR 87.[12] The gasoline exhaust speciation emission factors used in the analysis are shown in Appendix C. For purposes of this analysis, all vehicle exhaust was modeled as 11 volume sources located along SR 87.

Modeled receptors were placed in a general grid extending in all directions on the project site to characterize the risk level isopleths. Meteorological data to represent the conditions at the project site were obtained from the BAAQMD for the San José Airport. The meteorological data indicate a frequent presence of wind at the project site from the west, with speeds up to 20 miles per hour. Figure 2 shows a representation of the modeled domain and volume sources.

Appendix D includes the model input and output sheets including the model grid and isopleths results as well as portions of the ISCST3 output file showing all model inputs and important outputs. The HARP model output listing the modeled health risks for all receptors can also be found in Appendix D.

[12] Caltrans, 2011. *Annual Average Daily Truck Traffic on the California State Highway System.* http://traffic-counts.dot.ca.gov/2009all/docs/2009truckpublication.pdf. October.

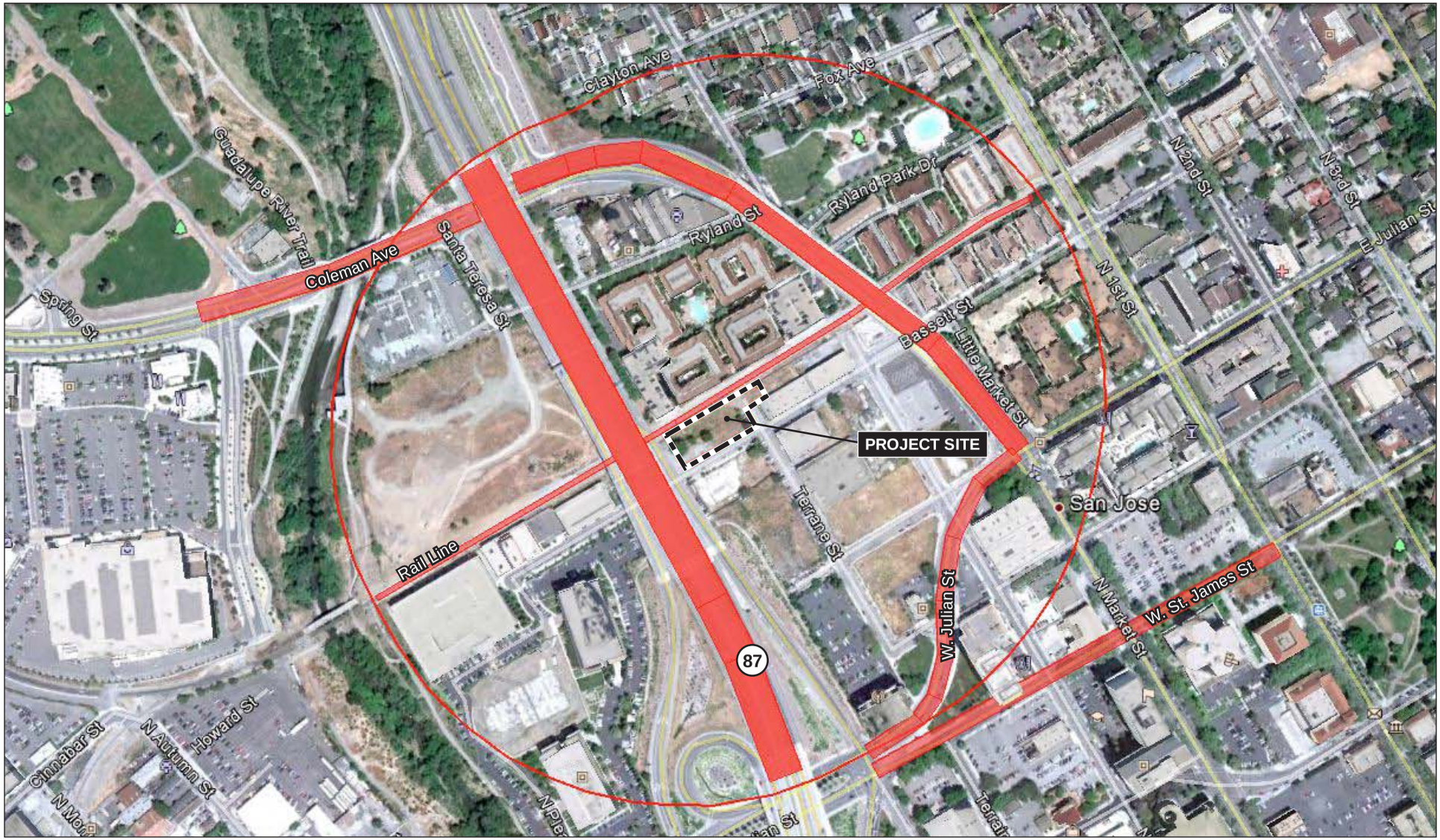

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FIGURE 2

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Modeled Sources

1000 Foot Radius Around Project Site

North San Pedro Apartments Project
Health Risk Assessment
Modeled Sources

SOURCE: LSA ASSOCIATES, INC., 2011.

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Analysis Results. Results of the model are shown in Tables 2 through 5. Results indicate that vehicle exhaust concentrations and emissions from stationary sources on the project site would be below significance thresholds established by the BAAQMD.

Table 2: Cancer Risk (in 1 million) by Source

Modeled ID	Source	BAAQMD Threshold	Cancer 6 Feet	Significant Impact	Cancer 20 Feet	Significant Impact
1	SR 87	10	7.83	No	9.35	No
2	Market Street	10	0.77	No	0.68	No
3	Rail Line	10	5.34	No	2.37	No
4	Colman Avenue	10	0.27	No	0.29	No
5	Julian Street	10	0.33	No	0.28	No
6	St. James Street	10	0.34	No	0.30	No
7	Tuc's Auto Body	10	0.00	No	0.00	No
8	City Heights	10	0.24	No	0.21	No
9	YES	10	0.00	No	0.00	No
10	San José Fire Dept.	10	0.33	No	0.28	No

Source: LSA Associates, Inc., October 2011.

Table 3: Chronic Hazard Index by Source

Modeled ID	Name	BAAQMD Threshold	Chronic 6 Feet	Significant Impact	Chronic 20 Feet	Significant Impact
1	SR 87	1	0.00	No	0.00	No
2	Market Street	1	0.00	No	0.00	No
3	Rail Line	1	0.00	No	0.00	No
4	Colman Avenue	1	0.00	No	0.00	No
5	Julian Street	1	0.00	No	0.00	No
6	St. James Street	1	0.00	No	0.00	No
7	Tuc's Auto Body	1	0.00	No	0.00	No
8	City Heights	1	0.01	No	0.01	No
9	YES	1	0.00	No	0.00	No
10	San José Fire Dept.	1	0.01	No	0.01	No

Source: LSA Associates, Inc., October 2011.

Table 4: Acute Hazard Index by Source

Modeled ID	Name	BAAQMD Threshold	Acute 6 Feet	Significant Impact	Acute 20 Feet	Significant Impact
1	SR 87	1	0.00	No	0.00	No
2	Market Street	1	0.00	No	0.00	No
3	Rail Line	1	0.00	No	0.00	No
4	Colman Avenue	1	0.00	No	0.00	No
5	Julian Street	1	0.00	No	0.00	No
6	St. James Street	1	0.00	No	0.00	No
7	Tuc's Auto Body	1	0.00	No	0.00	No
8	City Heights	1	0.01	No	0.01	No
9	YES	1	0.00	No	0.00	No
10	San José Fire Dept.	1	0.01	No	0.01	No

Source: LSA Associates, Inc., October 2011.

Table 5: Cumulative Health Risks from All Sources

Cumulative Risk Summary	Cancer		Acute		Chronic	
	6 Feet	20 Feet	6 Feet	20 Feet	6 Feet	20 Feet
Cumulative Impact (in a million)	15.45	13.75	0.01	0.01	0.02	0.01
BAAQMD Thresholds	100	100	10	10	10	10
Significant Impact	No	No	No	No	No	No

Source: LSA Associates, Inc., October 2011.

Carcinogenic and Chronic Impacts. The results for carcinogenic and chronic impacts are also shown in Table 1 and Table 2. Results of the analysis indicate that the cumulative MEI cancer risk associated with living at the proposed development would be 9.35 in 1 million from the largest source (SR 87), which would be less than the individual source threshold of 10 in 1 million. The maximum chronic Hazard Index would be 0.02, which is below the threshold of 1.0.

Acute Emission Impacts. The acute inhalation Hazard Index standard for non-carcinogenic contaminants is 1.0. As shown in Table 4, for future residents of the project site, the maximum acute Hazard Index would be 0.01, which is below the threshold of 1.0. Therefore, the potential for short-term acute exposure would be less than significant.

Results of the analysis are graphically shown on Figure 3 and Figure 4.

Cumulative Health Risks. The Cumulative cancer risk criterion is 100 in 1 million. Results of the assessment indicate the cumulative impact from alls sources would be a maximum of 15.45 in 1 million. Therefore the cumulative impact would be less than significant.

$PM_{2.5}$ Impacts. Table 6 shows that the peak annual concentration of $PM_{2.5}$ from the single largest source to future residents would be 0.23 µg/m^3. This is below the significance threshold of 0.30 µg/m^3. Cumulative $PM_{2.5}$ concentrations would be 0.26 µg/m^3, which would also be below the threshold criterion of 0.8 µg/m^3. Therefore, impacts from $PM_{2.5}$ concentrations to which future residents of the site would be exposed would be less than significant.

Table 6: $PM_{2.5}$ Impact

Modeled ID	Name	lb/hr	lb/day	lb/year	Modeled Concentration (µg/m^3) – 6 feet	Modeled Concentration (µg/m^3) – 20 feet
1	SR 87	0.030	0.725	264.78	0.21	0.23
2	Market Street	0.008	0.183	66.73	0.01	0.01
3	Rail Line	0.004	0.086	31.22	0.02	0.01
4	Colman Avenue	0.003	0.081	29.74	0.00	0.00
5	Julian Street	0.003	0.077	28.05	0.00	0.00
6	St. James Street	0.005	0.113	41.24	0.00	0.00
7	Tuc's Auto Body	0.000	0.000	0.00	0.00	0.00
8	City Heights	0.001	0.022	8.00	0.00	0.00
9	Yes Welding	0.000	0.000	0.00	0.00	0.00
10	San José Fire Dept.	0.001	0.027	10.00	0.00	0.00
	Totals	**0.055**	**1.314**	**479.76**	**0.25**	**0.26**
				BAAQMD Cumulative Threshold	0.8	0.8
				Exceed? (yes/no)	No	No

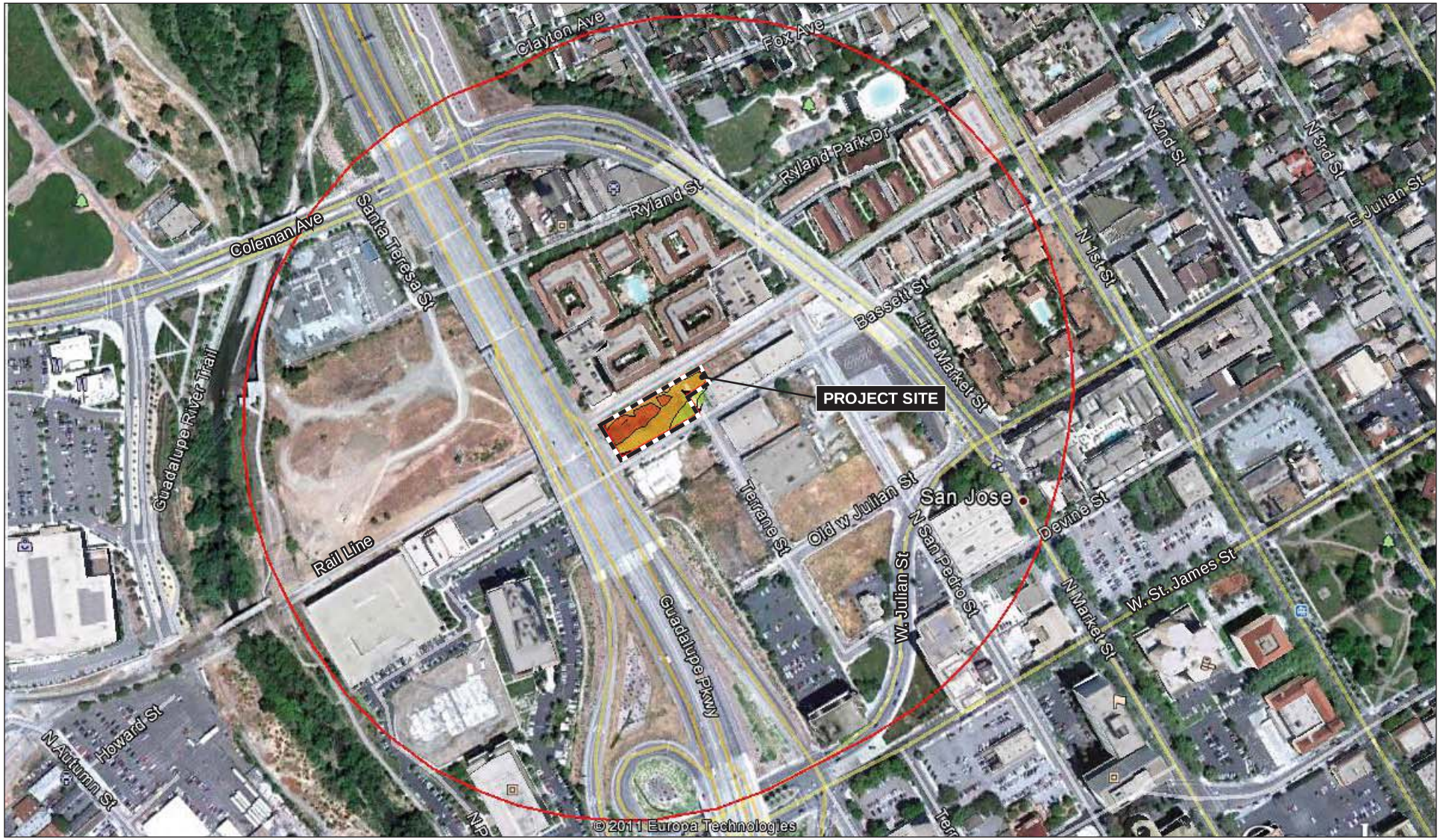

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FIGURE 3

Health Risk Values in 1 Million

	15.44
	14.03
	12.63
	11.22
	9.82

N

0 225 450
FEET

SOURCE: LSA ASSOCIATES, INC., 2011.

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North San Pedro Apartments Project
Health Risk Assessment
Cumulative Cancer Risk - Six (6) Foot Isopleths

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FIGURE 4

Health Risk Values in 1 Million

	13.74
	12.54
	11.34
	10.14
	8.94

N

0 225 450
FEET

SOURCE: LSA ASSOCIATES, INC., 2011.

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North San Pedro Apartments Project
Health Risk Assessment
Cumulative Cancer Risk - Twenty (20) Foot Isopleths

CONCLUSIONS

As shown in Table 2, a 70-year outdoor exposure of freeway emissions, including diesel particulate matter at the proposed residential units on the project site would result in a maximum exposure of future residents to a risk level that is below the BAAQMD's criterion of significance for cancer health effects (10 in 1 million). Key factors affecting HRA results include the site's distance from the roadway, truck traffic density and wind direction and speed. The project is located approximately 50 feet from SR 87; however, based on data collected by Caltrans, this section of SR 87 has only 3 percent truck traffic. The low percentage of truck traffic results in lower carcinogenic health risk. Wind dispersion also influenced the low risk levels on the project site. Frequent winds from the west in the vicinity of the project site prevent elevated concentrations of exhaust from accumulating for prolonged periods of time in the project area.

The HRA results estimate a risk that does not exceed the BAAQMD criterion for cancer or acute health risks and therefore, future residents of the project site would not be exposed to substantial pollutant concentrations that would cause harmful effects. Additionally, the project would not locate residents near known existing industrial sources of toxic air contaminants. Health risks associated with the location of new sensitive receptors on the project site would be less than significant.

APPENDIX A

Santa Clara County Average Data for Freeways

AADT and Emission Rates for Speeds Greater than 35 MPH

Vehicle Mile Traveled per Day by Vehicle Type

Fuel	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
Gas	14,217,468	1,506,063	4,792,438	192,189	16,961	3,265,549	41,180	20,422	1,987	44,258	8,625	1,663	151,932
DSL	46,487	2,066	2,100	104,191	34,346	4,021	6,754	29,505	4,679	295,282	591,039	15,122	0
Total	14,263,954	1,508,129	4,794,538	296,380	51,307	3,269,570	47,935	49,927	6,666	339,540	599,664	16,786	151,932
											Grand Total	25,396,328	

Percent By Vehicle Type

Fuel	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
Gas	99.67%	99.86%	99.96%	64.85%	33.06%	99.88%	85.91%	40.90%	29.81%	13.03%	1.44%	9.91%	100.00%
DSL	0.33%	0.14%	0.04%	35.15%	66.94%	0.12%	14.09%	59.10%	70.19%	86.97%	98.56%	90.09%	0.00%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Overall Percent by Vehicle Type

Fuel	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
Gas	55.98%	5.93%	18.87%	0.76%	0.07%	12.86%	0.16%	0.08%	0.01%	0.17%	0.03%	0.01%	0.60%
DSL	0.18%	0.01%	0.01%	0.41%	0.14%	0.02%	0.03%	0.12%	0.02%	1.16%	2.33%	0.06%	0.00%
Total	56.17%	5.94%	18.88%	1.17%	0.20%	12.87%	0.19%	0.20%	0.03%	1.34%	2.36%	0.07%	0.60%

ROG Emission Rate (g/mile) by Vehicle Type

Fuel	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
Gas	0.041	0.110	0.045	0.075	0.079	0.064	0.176	0.098	0.687	0.229	0.773	1.986	2.991
DSL	0.047	0.081	0.063	0.142	0.131	0.039	0.125	0.247	0.189	0.188	0.321	0.471	0.000

PM10 Emission Rate (g/mile) by Vehicle Type

Fuel	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
Gas	0.004	0.004	0.002	0.001	0.001	0.002	0.002	0.000	0.004	0.001	0.001	0.004	0.001
DSL	0.035	0.068	0.051	0.033	0.032	0.032	0.194	0.261	0.163	0.194	0.276	0.255	0.000

PM2.5 Emission Rate (g/mile) by Vehicle Type

Fuel	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
GAS	0.002	0.004	0.002	0.001	0.001	0.002	0.002	0.000	0.003	0.001	0.001	0.003	0.001
DSL	0.032	0.063	0.047	0.031	0.029	0.029	0.178	0.240	0.150	0.178	0.276	0.234	0.000

Santa Clara County Average Data for Surface Street

AADT and Emission Rates for Speeds Less Than or Equal to 35 MPH

Vehicle Mile Traveled per Day by Vehicle Type													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
Gas	9,855,237	1,043,970	3,322,012	792,254	69,916	2,263,607	25,686	12,738	5,073	27,606	5,001	3,924	105,316
DSL	32,224	1,432	1,456	235,410	77,603	2,787	3,743	14,582	11,944	163,629	279,176	35,670	0
Total	9,887,461	1,045,402	3,323,468	1,027,664	147,519	2,266,394	29,429	27,320	17,018	191,235	284,176	39,593	105,316
											Grand Total	18,391,994	

Percent By Vehicle Type													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
Gas	99.67%	99.86%	99.96%	77.09%	47.39%	99.88%	87.28%	46.63%	29.81%	14.44%	1.76%	9.91%	100.00%
DSL	0.33%	0.14%	0.04%	22.91%	52.61%	0.12%	12.72%	53.37%	70.19%	85.56%	98.24%	90.09%	0.00%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Overall Percent by Vehicle Type													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
Gas	53.58%	5.68%	18.06%	4.31%	0.38%	12.31%	0.14%	0.07%	0.03%	0.15%	0.03%	0.02%	0.57%
DSL	0.18%	0.01%	0.01%	1.28%	0.42%	0.02%	0.02%	0.08%	0.06%	0.89%	1.52%	0.19%	0.00%
Total	53.76%	5.68%	18.07%	5.59%	0.80%	12.32%	0.16%	0.15%	0.09%	1.04%	1.55%	0.22%	0.57%

ROG Emission Rate (g/mile) by Vehicle Type													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
Gas	0.112	0.296	0.131	0.336	0.350	0.197	0.800	0.452	3.032	1.049	3.509	8.787	3.191
DSL	0.110	0.131	0.336	0.350	3.191	0.800	0.452	3.032	1.049	3.509	8.787	0.000	0.197

PM10 Emission Rate (g/mile) by Vehicle Type													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
Gas	0.006	0.013	0.006	0.005	0.006	0.006	0.010	0.002	0.018	0.007	0.004	0.016	0.001
DSL	0.081	0.163	0.122	0.076	0.073	0.073	0.346	0.412	0.411	0.343	0.410	0.687	0.000

PM2.5 Emission Rate (g/mile) by Vehicle Type													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
GAS	0.005	0.012	0.005	0.005	0.005	0.006	0.009	0.002	0.015	0.006	0.004	0.014	0.001
DSL	0.075	0.150	0.112	0.070	0.067	0.067	0.319	0.379	0.378	0.316	0.410	0.632	0.000

APPENDIX B

Emission Data by Source

State Route 87 (AADT 85,000)

AADT by Vehicle Category													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
Gas	47,585	5,041	16,040	643	57	10,930	138	68	7	148	29	6	509
DSL	156	7	7	349	115	13	23	99	16	988	1,978	51	0
Totals	47,741	5,048	16,047	992	172	10,943	160	167	22	1,136	2,007	56	509

ROG Emissions (lbs/day) by Vehicles Category													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
Gas	1.50	0.43	0.56	0.04	0.00	0.55	0.02	0.01	0.00	0.03	0.02	0.01	1.19
DSL	0.01	0.00	0.00	0.04	0.01	0.00	0.00	0.02	0.00	0.15	0.50	0.02	0.00
Sum	1.51	0.43	0.56	0.08	0.02	0.55	0.02	0.02	0.01	0.17	0.51	0.03	1.19

PM10 Emissions (lbs/day) by Vehicles Category													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
Gas	0.16	0.02	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DSL	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.15	0.43	0.01	0.00
Sum	0.16	0.02	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.15	0.43	0.01	0.00

PM2.5 Emissions (lbs/day) by Vehicles Category													
Fuel	**LDA**	**LDT1**	**LDT2**	**LHD1**	**LHD2**	**MDV**	**MH**	**OBUS**	**SBUS**	**T6**	**T7**	**UBUS**	**MCY**
Gas	0.06	0.02	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DSL	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.14	0.43	0.01	0.00
Sum	0.07	0.02	0.02	0.01	0.00	0.02	0.00	0.02	0.00	0.14	0.43	0.01	0.00

APPENDIX C

ARB Speciation Profile 441 Gasoline - catalyst - stabilized exhaust - ARB summer 2003		
CAS#	**Chemical Name**	**Fraction**
50000	formaldehyde	0.0170
67561	methanol	0.0041
67641	acetone	0.0016
71432	benzene	0.0264
74828	methane	0.1872
74851	ethene	0.0650
75070	acetaldehyde	0.0024
78795	2-methyl-1,3-butadiene	0.0015
78933	methyl ethyl ketone	0.0002
91203	naphthalene	0.0005
95476	o-xylene	0.0127
95636	1,2,4-trimethylbenzene	0.0099
98828	(1-methylethyl)benzene	0.0001
100414	ethylbenzene	0.0107
100425	styrene	0.0013
106990	1,3-butadiene	0.0055
107028	acrolein	0.0014
108383	m-xylene	0.0364
108883	toluene	0.0588
110543	n-hexane	0.0158
110827	cyclohexane	0.0061
115071	propene	0.0313
123386	propionaldehyde	0.0004
123728	butyraldehyde	0.0002
540841	2,2,4-trimethylpentane	0.0172
1634044	methyl t-butyl ether	0.0194
4170303	crotonaldehyde	0.0003

Toxic Emissions for Gasoline Powered Vehicle By Vehicle Category

State Route 87

Toxic Emissions From Gasoline Vehicles by Category (Lbs/Day)													
CAS#	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
50000	2.56E-02	7.37E-03	9.56E-03	6.37E-04	5.97E-05	9.30E-03	3.21E-04	8.87E-05	6.06E-05	4.49E-04	2.96E-04	1.47E-04	2.02E-02
67561	6.11E-03	1.76E-03	2.29E-03	1.52E-04	1.43E-05	2.22E-03	7.67E-05	2.12E-05	1.45E-05	1.07E-04	7.07E-05	3.50E-05	4.82E-03
67641	2.47E-03	7.11E-04	9.23E-04	6.14E-05	5.76E-06	8.97E-04	3.10E-05	8.56E-06	5.85E-06	4.33E-05	2.86E-05	1.41E-05	1.95E-03
71432	3.97E-02	1.14E-02	1.48E-02	9.88E-04	9.26E-05	1.44E-02	4.98E-04	1.38E-04	9.40E-05	6.97E-04	4.59E-04	2.27E-04	3.13E-02
74828	2.82E-01	8.12E-02	1.05E-01	7.01E-03	6.57E-04	1.02E-01	3.54E-03	9.77E-04	6.67E-04	4.95E-03	3.26E-03	1.62E-03	2.22E-01
74851	9.78E-02	2.82E-02	3.66E-02	2.43E-03	2.28E-04	3.56E-02	1.23E-03	3.39E-04	2.32E-04	1.72E-03	1.13E-03	5.61E-04	7.71E-02
75070	3.63E-03	1.05E-03	1.36E-03	9.03E-05	8.46E-06	1.32E-03	4.55E-05	1.26E-05	8.59E-06	6.37E-05	4.20E-05	2.08E-05	2.86E-03
78795	2.18E-03	6.29E-04	8.16E-04	5.43E-05	5.09E-06	7.93E-04	2.74E-05	7.57E-06	5.17E-06	3.83E-05	2.52E-05	1.25E-05	1.72E-03
78933	2.86E-04	8.24E-05	1.07E-04	7.12E-06	6.67E-07	1.04E-04	3.59E-06	9.92E-07	6.77E-07	5.02E-06	3.31E-06	1.64E-06	2.25E-04
91203	7.22E-04	2.08E-04	2.70E-04	1.80E-05	1.69E-06	2.63E-04	9.06E-06	2.51E-06	1.71E-06	1.27E-05	8.36E-06	4.14E-06	5.70E-04
95476	1.90E-02	5.49E-03	7.12E-03	4.74E-04	4.44E-05	6.92E-03	2.39E-04	6.60E-05	4.51E-05	3.34E-04	2.20E-04	1.09E-04	1.50E-02
95636	1.48E-02	4.27E-03	5.54E-03	3.69E-04	3.46E-05	5.39E-03	1.86E-04	5.14E-05	3.51E-05	2.60E-04	1.71E-04	8.50E-05	1.17E-02
98828	1.50E-04	4.34E-05	5.63E-05	3.75E-06	3.51E-07	5.47E-05	1.89E-06	5.22E-07	3.56E-07	2.64E-06	1.74E-06	8.63E-07	1.19E-04
100414	1.61E-02	4.65E-03	6.03E-03	4.02E-04	3.76E-05	5.87E-03	2.02E-04	5.60E-05	3.82E-05	2.83E-04	1.87E-04	9.25E-05	1.27E-02
100425	1.90E-03	5.47E-04	7.09E-04	4.72E-05	4.42E-06	6.89E-04	2.38E-05	6.58E-06	4.49E-06	3.33E-05	2.19E-05	1.09E-05	1.50E-03
106990	8.28E-03	2.39E-03	3.10E-03	2.06E-04	1.93E-05	3.01E-03	1.04E-04	2.87E-05	1.96E-05	1.45E-04	9.58E-05	4.75E-05	6.53E-03
107028	2.03E-03	5.86E-04	7.60E-04	5.06E-05	4.74E-06	7.39E-04	2.55E-05	7.05E-06	4.81E-06	3.57E-05	2.35E-05	1.16E-05	1.60E-03
108383	5.48E-02	1.58E-02	2.05E-02	1.36E-03	1.28E-04	1.99E-02	6.87E-04	1.90E-04	1.30E-04	9.62E-04	6.34E-04	3.14E-04	4.32E-02
108883	8.85E-02	2.55E-02	3.31E-02	2.20E-03	2.06E-04	3.22E-02	1.11E-03	3.07E-04	2.10E-04	1.55E-03	1.02E-03	5.07E-04	6.98E-02
110543	2.38E-02	6.87E-03	8.92E-03	5.93E-04	5.56E-05	8.67E-03	2.99E-04	8.27E-05	5.65E-05	4.19E-04	2.76E-04	1.37E-04	1.88E-02
110827	9.15E-03	2.64E-03	3.42E-03	2.28E-04	2.14E-05	3.33E-03	1.15E-04	3.17E-05	2.17E-05	1.61E-04	1.06E-04	5.25E-05	7.21E-03
115071	4.71E-02	1.36E-02	1.76E-02	1.17E-03	1.10E-04	1.71E-02	5.91E-04	1.63E-04	1.11E-04	8.27E-04	5.45E-04	2.70E-04	3.71E-02
123386	5.87E-04	1.69E-04	2.20E-04	1.46E-05	1.37E-06	2.13E-04	7.36E-06	2.04E-06	1.39E-06	1.03E-05	6.79E-06	3.36E-06	4.63E-04
123728	2.86E-04	8.24E-05	1.07E-04	7.12E-06	6.67E-07	1.04E-04	3.59E-06	9.92E-07	6.77E-07	5.02E-06	3.31E-06	1.64E-06	2.25E-04
540841	2.59E-02	7.46E-03	9.68E-03	6.44E-04	6.04E-05	9.41E-03	3.25E-04	8.97E-05	6.13E-05	4.54E-04	2.99E-04	1.48E-04	2.04E-02
1634044	2.92E-02	8.42E-03	1.09E-02	7.27E-04	6.82E-05	1.06E-02	3.67E-04	1.01E-04	6.92E-05	5.13E-04	3.38E-04	1.67E-04	2.30E-02
4170303	4.36E-04	1.26E-04	1.63E-04	1.09E-05	1.02E-06	1.59E-04	5.48E-06	1.51E-06	1.03E-06	7.66E-06	5.05E-06	2.50E-06	3.44E-04

Coleman / Market Street

Toxic Emissions From Gasoline Vehicles by Category (Lbs/Day)													
CAS#	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
50000	1.05E-02	2.95E-03	4.14E-03	2.53E-03	2.33E-04	4.25E-03	1.96E-04	5.48E-05	1.46E-04	2.76E-04	1.67E-04	3.28E-04	3.20E-03
67561	2.51E-03	7.04E-04	9.89E-04	6.05E-04	5.57E-05	1.01E-03	4.67E-05	1.31E-05	3.50E-05	6.58E-05	3.99E-05	7.84E-05	7.64E-04
67641	1.01E-03	2.84E-04	3.99E-04	2.44E-04	2.25E-05	4.10E-04	1.89E-05	5.29E-06	1.41E-05	2.66E-05	1.61E-05	3.17E-05	3.09E-04
71432	1.63E-02	4.57E-03	6.42E-03	3.93E-03	3.62E-04	6.59E-03	3.03E-04	8.51E-05	2.27E-04	4.27E-04	2.59E-04	5.09E-04	4.96E-03
74828	1.16E-01	3.25E-02	4.56E-02	2.79E-02	2.57E-03	4.68E-02	2.16E-03	6.04E-04	1.61E-03	3.04E-03	1.84E-03	3.62E-03	3.52E-02
74851	4.02E-02	1.13E-02	1.58E-02	9.68E-03	8.92E-04	1.62E-02	7.48E-04	2.10E-04	5.60E-04	1.05E-03	6.39E-04	1.26E-03	1.22E-02
75070	1.49E-03	4.18E-04	5.87E-04	3.59E-04	3.31E-05	6.02E-04	2.77E-05	7.78E-06	2.08E-05	3.91E-05	2.37E-05	4.65E-05	4.54E-04
78795	8.97E-04	2.51E-04	3.53E-04	2.16E-04	1.99E-05	3.62E-04	1.67E-05	4.68E-06	1.25E-05	2.35E-05	1.43E-05	2.80E-05	2.73E-04
78933	1.18E-04	3.29E-05	4.63E-05	2.83E-05	2.61E-06	4.75E-05	2.19E-06	6.13E-07	1.64E-06	3.08E-06	1.87E-06	3.67E-06	3.58E-05
91203	2.97E-04	8.32E-05	1.17E-04	7.15E-05	6.59E-06	1.20E-04	5.53E-06	1.55E-06	4.14E-06	7.78E-06	4.72E-06	9.27E-06	9.04E-05
95476	7.83E-03	2.19E-03	3.08E-03	1.88E-03	1.74E-04	3.16E-03	1.46E-04	4.08E-05	1.09E-04	2.05E-04	1.24E-04	2.44E-04	2.38E-03
95636	6.10E-03	1.71E-03	2.40E-03	1.47E-03	1.35E-04	2.46E-03	1.13E-04	3.18E-05	8.49E-05	1.60E-04	9.68E-05	1.90E-04	1.85E-03
98828	6.19E-05	1.73E-05	2.44E-05	1.49E-05	1.37E-06	2.50E-05	1.15E-06	3.23E-07	8.62E-07	1.62E-06	9.83E-07	1.93E-06	1.88E-05
100414	6.63E-03	1.86E-03	2.61E-03	1.60E-03	1.47E-04	2.68E-03	1.23E-04	3.46E-05	9.24E-05	1.74E-04	1.05E-04	2.07E-04	2.02E-03
100425	7.80E-04	2.18E-04	3.07E-04	1.88E-04	1.73E-05	3.15E-04	1.45E-05	4.07E-06	1.09E-05	2.04E-05	1.24E-05	2.43E-05	2.37E-04
106990	3.40E-03	9.54E-04	1.34E-03	8.19E-04	7.55E-05	1.37E-03	6.33E-05	1.77E-05	4.74E-05	8.92E-05	5.41E-05	1.06E-04	1.04E-03
107028	8.35E-04	2.34E-04	3.29E-04	2.01E-04	1.85E-05	3.37E-04	1.55E-05	4.36E-06	1.16E-05	2.19E-05	1.33E-05	2.61E-05	2.54E-04
108383	2.25E-02	6.31E-03	8.86E-03	5.42E-03	4.99E-04	9.10E-03	4.19E-04	1.17E-04	3.14E-04	5.90E-04	3.58E-04	7.03E-04	6.85E-03
108883	3.64E-02	1.02E-02	1.43E-02	8.76E-03	8.07E-04	1.47E-02	6.77E-04	1.90E-04	5.07E-04	9.54E-04	5.78E-04	1.14E-03	1.11E-02
110543	9.80E-03	2.75E-03	3.86E-03	2.36E-03	2.17E-04	3.96E-03	1.82E-04	5.11E-05	1.36E-04	2.57E-04	1.56E-04	3.06E-04	2.98E-03
110827	3.76E-03	1.05E-03	1.48E-03	9.06E-04	8.34E-05	1.52E-03	7.00E-05	1.96E-05	5.24E-05	9.86E-05	5.98E-05	1.17E-04	1.14E-03
115071	1.94E-02	5.42E-03	7.62E-03	4.66E-03	4.29E-04	7.82E-03	3.60E-04	1.01E-04	2.70E-04	5.07E-04	3.08E-04	6.04E-04	5.89E-03
123386	2.41E-04	6.76E-05	9.50E-05	5.81E-05	5.35E-06	9.75E-05	4.49E-06	1.26E-06	3.36E-06	6.32E-06	3.83E-06	7.53E-06	7.34E-05
123728	1.18E-04	3.29E-05	4.63E-05	2.83E-05	2.61E-06	4.75E-05	2.19E-06	6.13E-07	1.64E-06	3.08E-06	1.87E-06	3.67E-06	3.58E-05
540841	1.06E-02	2.98E-03	4.19E-03	2.56E-03	2.36E-04	4.30E-03	1.98E-04	5.55E-05	1.48E-04	2.79E-04	1.69E-04	3.32E-04	3.24E-03
1634044	1.20E-02	3.37E-03	4.73E-03	2.89E-03	2.66E-04	4.85E-03	2.23E-04	6.26E-05	1.67E-04	3.15E-04	1.91E-04	3.75E-04	3.65E-03
4170303	1.79E-04	5.03E-05	7.06E-05	4.32E-05	3.98E-06	7.25E-05	3.34E-06	9.36E-07	2.50E-06	4.70E-06	2.85E-06	5.60E-06	5.46E-05

Coleman Street

Toxic Emissions From Gasoline Vehicles by Category (Lbs/Day)													
CAS#	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
50000	4.69E-03	1.31E-03	1.84E-03	1.13E-03	1.04E-04	1.89E-03	8.72E-05	2.44E-05	6.52E-05	1.23E-04	7.44E-05	1.46E-04	1.43E-03
67561	1.12E-03	3.14E-04	4.41E-04	2.70E-04	2.48E-05	4.52E-04	2.08E-05	5.84E-06	1.56E-05	2.93E-05	1.78E-05	3.49E-05	3.41E-04
67641	4.52E-04	1.27E-04	1.78E-04	1.09E-04	1.00E-05	1.83E-04	8.41E-06	2.36E-06	6.30E-06	1.19E-05	7.19E-06	1.41E-05	1.38E-04
71432	7.27E-03	2.04E-03	2.86E-03	1.75E-03	1.61E-04	2.94E-03	1.35E-04	3.79E-05	1.01E-04	1.90E-04	1.15E-04	2.27E-04	2.21E-03
74828	5.16E-02	1.45E-02	2.03E-02	1.24E-02	1.14E-03	2.09E-02	9.60E-04	2.69E-04	7.19E-04	1.35E-03	8.20E-04	1.61E-03	1.57E-02
74851	1.79E-02	5.02E-03	7.05E-03	4.31E-03	3.97E-04	7.24E-03	3.33E-04	9.34E-05	2.50E-04	4.70E-04	2.85E-04	5.59E-04	5.45E-03
75070	6.65E-04	1.86E-04	2.62E-04	1.60E-04	1.47E-05	2.68E-04	1.24E-05	3.47E-06	9.25E-06	1.74E-05	1.06E-05	2.07E-05	2.02E-04
78795	4.00E-04	1.12E-04	1.57E-04	9.63E-05	8.87E-06	1.62E-04	7.44E-06	2.09E-06	5.57E-06	1.05E-05	6.35E-06	1.25E-05	1.22E-04
78933	5.24E-05	1.47E-05	2.06E-05	1.26E-05	1.16E-06	2.12E-05	9.75E-07	2.73E-07	7.30E-07	1.37E-06	8.32E-07	1.64E-06	1.59E-05
91203	1.32E-04	3.71E-05	5.21E-05	3.19E-05	2.94E-06	5.35E-05	2.46E-06	6.90E-07	1.84E-06	3.47E-06	2.10E-06	4.13E-06	4.03E-05
95476	3.49E-03	9.77E-04	1.37E-03	8.40E-04	7.74E-05	1.41E-03	6.49E-05	1.82E-05	4.86E-05	9.14E-05	5.54E-05	1.09E-04	1.06E-03
95636	2.72E-03	7.61E-04	1.07E-03	6.54E-04	6.02E-05	1.10E-03	5.05E-05	1.42E-05	3.78E-05	7.12E-05	4.32E-05	8.48E-05	8.26E-04
98828	2.76E-05	7.73E-06	1.09E-05	6.64E-06	6.11E-07	1.11E-05	5.13E-07	1.44E-07	3.84E-07	7.23E-07	4.38E-07	8.61E-07	8.39E-06
100414	2.96E-03	8.28E-04	1.16E-03	7.12E-04	6.56E-05	1.19E-03	5.50E-05	1.54E-05	4.12E-05	7.75E-05	4.70E-05	9.23E-05	8.99E-04
100425	3.47E-04	9.73E-05	1.37E-04	8.37E-05	7.70E-06	1.40E-04	6.46E-06	1.81E-06	4.84E-06	9.11E-06	5.52E-06	1.08E-05	1.06E-04
106990	1.52E-03	4.25E-04	5.97E-04	3.65E-04	3.36E-05	6.13E-04	2.82E-05	7.91E-06	2.11E-05	3.97E-05	2.41E-05	4.73E-05	4.61E-04
107028	3.72E-04	1.04E-04	1.47E-04	8.96E-05	8.26E-06	1.50E-04	6.93E-06	1.94E-06	5.18E-06	9.76E-06	5.91E-06	1.16E-05	1.13E-04
108383	1.00E-02	2.81E-03	3.95E-03	2.42E-03	2.23E-04	4.05E-03	1.87E-04	5.23E-05	1.40E-04	2.63E-04	1.59E-04	3.13E-04	3.05E-03
108883	1.62E-02	4.54E-03	6.38E-03	3.90E-03	3.60E-04	6.55E-03	3.02E-04	8.46E-05	2.26E-04	4.25E-04	2.58E-04	5.06E-04	4.93E-03
110543	4.37E-03	1.22E-03	1.72E-03	1.05E-03	9.69E-05	1.76E-03	8.13E-05	2.28E-05	6.08E-05	1.14E-04	6.94E-05	1.36E-04	1.33E-03
110827	1.68E-03	4.70E-04	6.60E-04	4.04E-04	3.72E-05	6.77E-04	3.12E-05	8.74E-06	2.33E-05	4.39E-05	2.66E-05	5.23E-05	5.10E-04
115071	8.63E-03	2.42E-03	3.39E-03	2.08E-03	1.91E-04	3.48E-03	1.60E-04	4.50E-05	1.20E-04	2.26E-04	1.37E-04	2.69E-04	2.62E-03
123386	1.08E-04	3.01E-05	4.23E-05	2.59E-05	2.38E-06	4.34E-05	2.00E-06	5.61E-07	1.50E-06	2.82E-06	1.71E-06	3.36E-06	3.27E-05
123728	5.24E-05	1.47E-05	2.06E-05	1.26E-05	1.16E-06	2.12E-05	9.75E-07	2.73E-07	7.30E-07	1.37E-06	8.32E-07	1.64E-06	1.59E-05
540841	4.74E-03	1.33E-03	1.87E-03	1.14E-03	1.05E-04	1.91E-03	8.82E-05	2.47E-05	6.60E-05	1.24E-04	7.53E-05	1.48E-04	1.44E-03
1634044	5.35E-03	1.50E-03	2.11E-03	1.29E-03	1.19E-04	2.16E-03	9.96E-05	2.79E-05	7.45E-05	1.40E-04	8.50E-05	1.67E-04	1.63E-03
4170303	8.00E-05	2.24E-05	3.15E-05	1.93E-05	1.77E-06	3.23E-05	1.49E-06	4.17E-07	1.11E-06	2.10E-06	1.27E-06	2.50E-06	2.43E-05

Julian Street

Toxic Emissions From Gasoline Vehicles by Category (Lbs/Day)													
CAS#	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
50000	4.42E-03	1.24E-03	1.74E-03	1.06E-03	9.80E-05	1.79E-03	8.22E-05	2.30E-05	6.15E-05	1.16E-04	7.02E-05	1.38E-04	1.34E-03
67561	1.06E-03	2.96E-04	4.16E-04	2.54E-04	2.34E-05	4.27E-04	1.96E-05	5.51E-06	1.47E-05	2.77E-05	1.68E-05	3.30E-05	3.21E-04
67641	4.27E-04	1.20E-04	1.68E-04	1.03E-04	9.46E-06	1.72E-04	7.94E-06	2.22E-06	5.94E-06	1.12E-05	6.78E-06	1.33E-05	1.30E-04
71432	6.86E-03	1.92E-03	2.70E-03	1.65E-03	1.52E-04	2.77E-03	1.28E-04	3.58E-05	9.55E-05	1.80E-04	1.09E-04	2.14E-04	2.09E-03
74828	4.87E-02	1.36E-02	1.92E-02	1.17E-02	1.08E-03	1.97E-02	9.06E-04	2.54E-04	6.78E-04	1.28E-03	7.74E-04	1.52E-03	1.48E-02
74851	1.69E-02	4.74E-03	6.65E-03	4.07E-03	3.75E-04	6.83E-03	3.14E-04	8.82E-05	2.35E-04	4.43E-04	2.69E-04	5.28E-04	5.14E-03
75070	6.27E-04	1.76E-04	2.47E-04	1.51E-04	1.39E-05	2.53E-04	1.17E-05	3.27E-06	8.73E-06	1.64E-05	9.96E-06	1.96E-05	1.91E-04
78795	3.77E-04	1.06E-04	1.48E-04	9.08E-05	8.36E-06	1.52E-04	7.02E-06	1.97E-06	5.25E-06	9.88E-06	5.99E-06	1.18E-05	1.15E-04
78933	4.94E-05	1.38E-05	1.95E-05	1.19E-05	1.10E-06	2.00E-05	9.20E-07	2.58E-07	6.88E-07	1.30E-06	7.85E-07	1.54E-06	1.50E-05
91203	1.25E-04	3.50E-05	4.91E-05	3.01E-05	2.77E-06	5.04E-05	2.32E-06	6.51E-07	1.74E-06	3.27E-06	1.98E-06	3.90E-06	3.80E-05
95476	3.29E-03	9.22E-04	1.30E-03	7.92E-04	7.30E-05	1.33E-03	6.12E-05	1.72E-05	4.58E-05	8.62E-05	5.23E-05	1.03E-04	1.00E-03
95636	2.56E-03	7.18E-04	1.01E-03	6.17E-04	5.68E-05	1.04E-03	4.77E-05	1.34E-05	3.57E-05	6.71E-05	4.07E-05	8.00E-05	7.80E-04
98828	2.60E-05	7.29E-06	1.02E-05	6.26E-06	5.77E-07	1.05E-05	4.84E-07	1.36E-07	3.62E-07	6.82E-07	4.13E-07	8.12E-07	7.91E-06
100414	2.79E-03	7.81E-04	1.10E-03	6.71E-04	6.18E-05	1.13E-03	5.19E-05	1.45E-05	3.88E-05	7.31E-05	4.43E-05	8.70E-05	8.48E-04
100425	3.28E-04	9.18E-05	1.29E-04	7.89E-05	7.27E-06	1.32E-04	6.10E-06	1.71E-06	4.56E-06	8.59E-06	5.21E-06	1.02E-05	9.97E-05
106990	1.43E-03	4.01E-04	5.63E-04	3.44E-04	3.17E-05	5.78E-04	2.66E-05	7.46E-06	1.99E-05	3.75E-05	2.27E-05	4.47E-05	4.35E-04
107028	3.51E-04	9.84E-05	1.38E-04	8.45E-05	7.79E-06	1.42E-04	6.53E-06	1.83E-06	4.89E-06	9.20E-06	5.58E-06	1.10E-05	1.07E-04
108383	9.47E-03	2.65E-03	3.73E-03	2.28E-03	2.10E-04	3.82E-03	1.76E-04	4.94E-05	1.32E-04	2.48E-04	1.50E-04	2.96E-04	2.88E-03
108883	1.53E-02	4.29E-03	6.02E-03	3.68E-03	3.39E-04	6.18E-03	2.85E-04	7.98E-05	2.13E-04	4.01E-04	2.43E-04	4.77E-04	4.65E-03
110543	4.12E-03	1.15E-03	1.62E-03	9.92E-04	9.14E-05	1.66E-03	7.67E-05	2.15E-05	5.74E-05	1.08E-04	6.55E-05	1.29E-04	1.25E-03
110827	1.58E-03	4.43E-04	6.22E-04	3.81E-04	3.51E-05	6.39E-04	2.94E-05	8.25E-06	2.20E-05	4.14E-05	2.51E-05	4.94E-05	4.81E-04
115071	8.14E-03	2.28E-03	3.20E-03	1.96E-03	1.80E-04	3.29E-03	1.51E-04	4.24E-05	1.13E-04	2.13E-04	1.29E-04	2.54E-04	2.48E-03
123386	1.01E-04	2.84E-05	3.99E-05	2.44E-05	2.25E-06	4.10E-05	1.89E-06	5.29E-07	1.41E-06	2.66E-06	1.61E-06	3.17E-06	3.09E-05
123728	4.94E-05	1.38E-05	1.95E-05	1.19E-05	1.10E-06	2.00E-05	9.20E-07	2.58E-07	6.88E-07	1.30E-06	7.85E-07	1.54E-06	1.50E-05
540841	4.47E-03	1.25E-03	1.76E-03	1.08E-03	9.92E-05	1.81E-03	8.32E-05	2.33E-05	6.23E-05	1.17E-04	7.10E-05	1.40E-04	1.36E-03
1634044	5.05E-03	1.41E-03	1.99E-03	1.22E-03	1.12E-04	2.04E-03	9.39E-05	2.63E-05	7.03E-05	1.32E-04	8.02E-05	1.58E-04	1.54E-03
4170303	7.54E-05	2.11E-05	2.97E-05	1.82E-05	1.67E-06	3.05E-05	1.40E-06	3.93E-07	1.05E-06	1.98E-06	1.20E-06	2.35E-06	2.30E-05

St. James Street

Toxic Emissions From Gasoline Vehicles by Category (Lbs/Day)													
CAS#	LDA	LDT1	LDT2	LHD1	LHD2	MDV	MH	OBUS	SBUS	T6	T7	UBUS	MCY
50000	6.50E-03	1.82E-03	2.56E-03	1.56E-03	1.44E-04	2.62E-03	1.21E-04	3.39E-05	9.05E-05	1.70E-04	1.03E-04	2.03E-04	1.98E-03
67561	1.55E-03	4.35E-04	6.11E-04	3.74E-04	3.44E-05	6.27E-04	2.89E-05	8.10E-06	2.16E-05	4.07E-05	2.47E-05	4.85E-05	4.72E-04
67641	6.27E-04	1.76E-04	2.47E-04	1.51E-04	1.39E-05	2.53E-04	1.17E-05	3.27E-06	8.73E-06	1.64E-05	9.97E-06	1.96E-05	1.91E-04
71432	1.01E-02	2.82E-03	3.97E-03	2.43E-03	2.24E-04	4.07E-03	1.88E-04	5.26E-05	1.40E-04	2.64E-04	1.60E-04	3.15E-04	3.07E-03
74828	7.16E-02	2.01E-02	2.82E-02	1.72E-02	1.59E-03	2.89E-02	1.33E-03	3.73E-04	9.97E-04	1.88E-03	1.14E-03	2.23E-03	2.18E-02
74851	2.49E-02	6.96E-03	9.78E-03	5.98E-03	5.51E-04	1.00E-02	4.62E-04	1.30E-04	3.46E-04	6.51E-04	3.95E-04	7.76E-04	7.56E-03
75070	9.22E-04	2.58E-04	3.63E-04	2.22E-04	2.04E-05	3.72E-04	1.71E-05	4.81E-06	1.28E-05	2.42E-05	1.46E-05	2.88E-05	2.80E-04
78795	5.55E-04	1.55E-04	2.18E-04	1.34E-04	1.23E-05	2.24E-04	1.03E-05	2.89E-06	7.72E-06	1.45E-05	8.81E-06	1.73E-05	1.69E-04
78933	7.27E-05	2.04E-05	2.86E-05	1.75E-05	1.61E-06	2.94E-05	1.35E-06	3.79E-07	1.01E-06	1.90E-06	1.15E-06	2.27E-06	2.21E-05
91203	1.84E-04	5.14E-05	7.23E-05	4.42E-05	4.07E-06	7.42E-05	3.42E-06	9.57E-07	2.56E-06	4.81E-06	2.92E-06	5.73E-06	5.58E-05
95476	4.84E-03	1.36E-03	1.90E-03	1.16E-03	1.07E-04	1.95E-03	9.00E-05	2.52E-05	6.74E-05	1.27E-04	7.69E-05	1.51E-04	1.47E-03
95636	3.77E-03	1.06E-03	1.48E-03	9.07E-04	8.35E-05	1.52E-03	7.01E-05	1.96E-05	5.25E-05	9.87E-05	5.99E-05	1.18E-04	1.15E-03
98828	3.82E-05	1.07E-05	1.51E-05	9.21E-06	8.48E-07	1.54E-05	7.12E-07	1.99E-07	5.33E-07	1.00E-06	6.08E-07	1.19E-06	1.16E-05
100414	4.10E-03	1.15E-03	1.61E-03	9.87E-04	9.09E-05	1.66E-03	7.63E-05	2.14E-05	5.71E-05	1.07E-04	6.51E-05	1.28E-04	1.25E-03
100425	4.82E-04	1.35E-04	1.90E-04	1.16E-04	1.07E-05	1.95E-04	8.97E-06	2.51E-06	6.71E-06	1.26E-05	7.66E-06	1.50E-05	1.47E-04
106990	2.10E-03	5.89E-04	8.28E-04	5.06E-04	4.66E-05	8.50E-04	3.91E-05	1.10E-05	2.93E-05	5.51E-05	3.34E-05	6.57E-05	6.40E-04
107028	5.16E-04	1.45E-04	2.03E-04	1.24E-04	1.14E-05	2.09E-04	9.61E-06	2.69E-06	7.19E-06	1.35E-05	8.20E-06	1.61E-05	1.57E-04
108383	1.39E-02	3.90E-03	5.48E-03	3.35E-03	3.09E-04	5.62E-03	2.59E-04	7.26E-05	1.94E-04	3.65E-04	2.21E-04	4.35E-04	4.24E-03
108883	2.25E-02	6.30E-03	8.85E-03	5.41E-03	4.99E-04	9.08E-03	4.18E-04	1.17E-04	3.13E-04	5.89E-04	3.57E-04	7.02E-04	6.84E-03
110543	6.06E-03	1.70E-03	2.38E-03	1.46E-03	1.34E-04	2.45E-03	1.13E-04	3.16E-05	8.44E-05	1.59E-04	9.63E-05	1.89E-04	1.84E-03
110827	2.33E-03	6.52E-04	9.15E-04	5.60E-04	5.16E-05	9.39E-04	4.33E-05	1.21E-05	3.24E-05	6.09E-05	3.69E-05	7.26E-05	7.07E-04
115071	1.20E-02	3.35E-03	4.71E-03	2.88E-03	2.65E-04	4.83E-03	2.23E-04	6.24E-05	1.67E-04	3.14E-04	1.90E-04	3.73E-04	3.64E-03
123386	1.49E-04	4.18E-05	5.87E-05	3.59E-05	3.31E-06	6.02E-05	2.78E-06	7.78E-07	2.08E-06	3.91E-06	2.37E-06	4.66E-06	4.54E-05
123728	7.27E-05	2.04E-05	2.86E-05	1.75E-05	1.61E-06	2.94E-05	1.35E-06	3.79E-07	1.01E-06	1.90E-06	1.15E-06	2.27E-06	2.21E-05
540841	6.58E-03	1.84E-03	2.59E-03	1.58E-03	1.46E-04	2.66E-03	1.22E-04	3.43E-05	9.15E-05	1.72E-04	1.04E-04	2.05E-04	2.00E-03
1634044	7.42E-03	2.08E-03	2.92E-03	1.79E-03	1.65E-04	3.00E-03	1.38E-04	3.87E-05	1.03E-04	1.95E-04	1.18E-04	2.32E-04	2.26E-03
4170303	1.11E-04	3.11E-05	4.37E-05	2.67E-05	2.46E-06	4.48E-05	2.06E-06	5.78E-07	1.54E-06	2.91E-06	1.76E-06	3.46E-06	3.37E-05

APPENDIX D

Caltrans Deacription:	**SAN JOSE, JULIAN ST**				
Peak Hourly:	**7600**		% Trucks	**2.39**	
Distance Modeled	**613**	meters =	1868	Feet	

Area	Base Year	Hour	VMT/1000 /Hr	Diurnal Factor	Hourly VMT'
Santa Clara County	2013	0	509	0.141	1074
Santa Clara County	2013	1	186	0.052	392
Santa Clara County	2013	2	183	0.051	386
Santa Clara County	2013	3	120	0.033	253
Santa Clara County	2013	4	221	0.061	466
Santa Clara County	2013	5	401	0.111	846
Santa Clara County	2013	6	1672	0.464	3528
Santa Clara County	2013	7	3422	0.950	7220
Santa Clara County	2013	8	3136	0.871	6617
Santa Clara County	2013	9	1936	0.537	4085
Santa Clara County	2013	10	2057	0.571	4340
Santa Clara County	2013	11	2597	0.721	5480
Santa Clara County	2013	12	2712	0.753	5722
Santa Clara County	2013	13	2661	0.739	5615
Santa Clara County	2013	14	3090	0.858	6520
Santa Clara County	2013	15	3145	0.873	6636
Santa Clara County	2013	16	3255	0.904	6868
Santa Clara County	2013	17	3602	1.000	7600
Santa Clara County	2013	18	2511	0.697	5298
Santa Clara County	2013	19	1883	0.523	3973
Santa Clara County	2013	20	1436	0.399	3030
Santa Clara County	2013	21	1454	0.404	3068
Santa Clara County	2013	22	1084	0.301	2287
Santa Clara County	2013	23	823	0.228	1736
		Max	3602		

PM2.5					Total Exhaust & Evaporative Losses				
Tons/hr	g/hr	g/VMT	g/sec	Model Scalar	Tons/hr	g/hr	g/VMT	g/sec	Model Scalar
0.02	18144	0.04	0.00	0.22	0.2	181440	0.36	0.04	0.14
0.01	9072	0.05	0.00	0.11	0.08	72576	0.39	0.02	0.06
0.01	9072	0.05	0.00	0.11	0.09	81648	0.45	0.02	0.06
0.02	18144	0.15	0.00	0.22	0.07	63504	0.53	0.01	0.05
0.01	9072	0.04	0.00	0.11	0.09	81648	0.37	0.02	0.06
0.02	18144	0.05	0.00	0.22	0.18	163296	0.41	0.03	0.13
0.06	54432	0.03	0.01	0.67	0.63	571536	0.34	0.12	0.44
0.09	81648	0.02	0.02	1.00	1.42	1288224	0.38	0.27	0.99
0.09	81648	0.03	0.02	1.00	1.37	1242864	0.40	0.26	0.95
0.07	63504	0.03	0.01	0.78	0.97	879984	0.45	0.18	0.67
0.06	54432	0.03	0.01	0.67	0.96	870912	0.42	0.18	0.67
0.08	72576	0.03	0.02	0.89	1.19	1079568	0.42	0.22	0.83
0.07	63504	0.02	0.01	0.78	1.21	1097712	0.40	0.23	0.84
0.07	63504	0.02	0.01	0.78	1.1	997920	0.38	0.21	0.76
0.08	72576	0.02	0.02	0.89	1.24	1124928	0.36	0.23	0.86
0.08	72576	0.02	0.02	0.89	1.29	1170288	0.37	0.24	0.90
0.09	81648	0.03	0.02	1.00	1.34	1215648	0.37	0.25	0.93
0.08	72576	0.02	0.02	0.89	1.44	1306368	0.36	0.27	1.00
0.05	45360	0.02	0.01	0.56	1.01	916272	0.36	0.19	0.70
0.04	36288	0.02	0.01	0.44	0.79	716688	0.38	0.15	0.55
0.04	36288	0.03	0.01	0.44	0.59	535248	0.37	0.11	0.41
0.04	36288	0.02	0.01	0.44	0.53	480816	0.33	0.10	0.37
0.03	27216	0.03	0.01	0.33	0.4	362880	0.33	0.08	0.28
0.02	18144	0.02	0.00	0.22	0.33	299376	0.36	0.06	0.23
	Sum	0.81	0.01693	Max		Sum	0.53	0.27	Max
		lb/yr	1177						

Diesel							
VMT/1000 /Hr	Diurnal Factor	Hourly VMT'	TOG Tons/hr	TOG g/hr	TOG g/VMT	g/sec	Model Scalar
61	0.526	96	0.01	9072	0.15	0.00	0.33
41	0.353	64	0	0	0.00	0.00	0.00
45	0.388	70	0.01	9072	0.20	0.00	0.33
54	0.466	85	0.02	18144	0.34	0.00	0.67
33	0.284	52	0.01	9072	0.27	0.00	0.33
53	0.457	83	0.01	9072	0.17	0.00	0.33
97	0.836	152	0.03	27216	0.28	0.00	1.00
78	0.672	122	0.02	18144	0.23	0.00	0.67
104	0.897	163	0.03	27216	0.26	0.00	1.00
116	1.000	182	0.03	27216	0.23	0.00	1.00
102	0.879	160	0.03	27216	0.27	0.00	1.00
110	0.948	172	0.03	27216	0.25	0.00	1.00
101	0.871	158	0.02	18144	0.18	0.00	0.67
99	0.853	155	0.03	27216	0.27	0.00	1.00
85	0.733	133	0.02	18144	0.21	0.00	0.67
63	0.543	99	0.01	9072	0.14	0.00	0.33
90	0.776	141	0.02	18144	0.20	0.00	0.67
56	0.483	88	0	0	0.00	0.00	0.00
40	0.345	63	0.01	9072	0.23	0.00	0.33
17	0.147	27	0	0	0.00	0.00	0.00
48	0.414	75	0.01	9072	0.19	0.00	0.33
64	0.552	100	0.01	9072	0.14	0.00	0.33
40	0.345	63	0	0	0.00	0.00	0.00
17	0.147	27	0	0	0.00	0.00	0.00
116				Sum	4.23	0.00419	Max

ARB Overestimation Adjustment

33% 0.0028067

CAS #	Toxic Compounds	BAAQMD Gasoline TOG Speciation Fractions	Lb/Hr	Lb/Yr
Tailpipe Emissions				
75070	Acetaldehyde	2.80E-05	1.67E-08	1.47E-04
107028	Acrolein	1.30E-05	7.77E-09	6.80E-05
71432	Benzene	2.47E-04	1.48E-07	1.29E-03
106990	1,3-Butadiene	5.50E-05	3.29E-08	2.88E-04
100414	Ethylbenzene	1.05E-04	6.27E-08	5.49E-04
50000	Formaldehyde	1.58E-04	9.44E-08	8.27E-04
110543	Hexane	1.60E-04	9.56E-08	8.37E-04
67561	Methanol	1.20E-05	7.17E-09	6.28E-05
78933	Methyl Ethyl Ketone	2.00E-06	1.19E-09	1.05E-05
91203	Naphthalene	5.00E-06	2.99E-09	2.62E-05
115071	Propylene	3.06E-04	1.83E-07	1.60E-03
100425	Styrene	1.20E-05	7.17E-09	6.28E-05
108883	Toluene	5.76E-04	3.44E-07	3.01E-03
1330207	Xylenes	4.80E-04	2.87E-07	2.51E-03
Evaporative Losses				
71432	Benzene	3.600E-05	2.15E-08	1.88E-04
100414	Ethylbenzene	1.200E-05	7.17E-09	6.28E-05
110543	Hexane	1.540E-04	9.20E-08	8.06E-04
108883	Toluene	1.700E-04	1.02E-07	8.90E-04
1330207	Xylenes	5.800E-05	3.46E-08	3.03E-04

CEHTP Deacription:	Coleman - Market St				
AADT:	**14,500**		% Trucks	**3.7**	
Distance Modeled	**558.35**	meters =	1702	Feet	

Area	Base Year	Hour	VMT/1000 /Hr	Diurnal Factor	Hourly VMT'
Santa Clara County	2013	0	509	0.012	167
Santa Clara County	2013	1	186	0.004	61
Santa Clara County	2013	2	183	0.004	60
Santa Clara County	2013	3	120	0.003	39
Santa Clara County	2013	4	221	0.005	73
Santa Clara County	2013	5	401	0.009	132
Santa Clara County	2013	6	1672	0.038	550
Santa Clara County	2013	7	3422	0.078	1125
Santa Clara County	2013	8	3136	0.071	1031
Santa Clara County	2013	9	1936	0.044	637
Santa Clara County	2013	10	2057	0.047	676
Santa Clara County	2013	11	2597	0.059	854
Santa Clara County	2013	12	2712	0.062	892
Santa Clara County	2013	13	2661	0.060	875
Santa Clara County	2013	14	3090	0.070	1016
Santa Clara County	2013	15	3145	0.071	1034
Santa Clara County	2013	16	3255	0.074	1070
Santa Clara County	2013	17	3602	0.082	1184
Santa Clara County	2013	18	2511	0.057	826
Santa Clara County	2013	19	1883	0.043	619
Santa Clara County	2013	20	1436	0.033	472
Santa Clara County	2013	21	1454	0.033	478
Santa Clara County	2013	22	1084	0.025	356
Santa Clara County	2013	23	823	0.019	271
		Total VMT	44096		

PM2.5					Total Exhaust & Evaporative Losses				
Tons/hr	g/hr	g/VMT	g/sec	Model Scalar	Tons/hr	g/hr	g/VMT	g/sec	Model Scalar
0.02	18144	0.04	0.00	0.22	0.2	181440	0.36	0.01	0.14
0.01	9072	0.05	0.00	0.11	0.08	72576	0.39	0.00	0.06
0.01	9072	0.05	0.00	0.11	0.09	81648	0.45	0.00	0.06
0.02	18144	0.15	0.00	0.22	0.07	63504	0.53	0.00	0.05
0.01	9072	0.04	0.00	0.11	0.09	81648	0.37	0.00	0.06
0.02	18144	0.05	0.00	0.22	0.18	163296	0.41	0.00	0.13
0.06	54432	0.03	0.00	0.67	0.63	571536	0.34	0.02	0.44
0.09	81648	0.02	0.00	1.00	1.42	1288224	0.38	0.04	0.99
0.09	81648	0.03	0.00	1.00	1.37	1242864	0.40	0.04	0.95
0.07	63504	0.03	0.00	0.78	0.97	879984	0.45	0.03	0.67
0.06	54432	0.03	0.00	0.67	0.96	870912	0.42	0.03	0.67
0.08	72576	0.03	0.00	0.89	1.19	1079568	0.42	0.03	0.83
0.07	63504	0.02	0.00	0.78	1.21	1097712	0.40	0.03	0.84
0.07	63504	0.02	0.00	0.78	1.1	997920	0.38	0.03	0.76
0.08	72576	0.02	0.00	0.89	1.24	1124928	0.36	0.03	0.86
0.08	72576	0.02	0.00	0.89	1.29	1170288	0.37	0.03	0.90
0.09	81648	0.03	0.00	1.00	1.34	1215648	0.37	0.04	0.93
0.08	72576	0.02	0.00	0.89	1.44	1306368	0.36	0.04	1.00
0.05	45360	0.02	0.00	0.56	1.01	916272	0.36	0.03	0.70
0.04	36288	0.02	0.00	0.44	0.79	716688	0.38	0.02	0.55
0.04	36288	0.03	0.00	0.44	0.59	535248	0.37	0.02	0.41
0.04	36288	0.02	0.00	0.44	0.53	480816	0.33	0.01	0.37
0.03	27216	0.03	0.00	0.33	0.4	362880	0.33	0.01	0.28
0.02	18144	0.02	0.00	0.22	0.33	299376	0.36	0.01	0.23
	Sum	0.81	0.0024	Max		Sum	9.31	0.04	Max
		lb/yr	167						

Diesel							
VMT/1000 /Hr	Diurnal Factor	Hourly VMT'	TOG Tons/hr	TOG g/hr	TOG g/VMT	g/sec	Model Scalar
61	0.038	20	0.01	9072	0.15	0.00	0.33
41	0.025	14	0	0	0.00	0.00	0.00
45	0.028	15	0.01	9072	0.20	0.00	0.33
54	0.033	18	0.02	18144	0.34	0.00	0.67
33	0.020	11	0.01	9072	0.27	0.00	0.33
53	0.033	18	0.01	9072	0.17	0.00	0.33
97	0.060	32	0.03	27216	0.28	0.00	1.00
78	0.048	26	0.02	18144	0.23	0.00	0.67
104	0.064	35	0.03	27216	0.26	0.00	1.00
116	0.072	39	0.03	27216	0.23	0.00	1.00
102	0.063	34	0.03	27216	0.27	0.00	1.00
110	0.068	37	0.03	27216	0.25	0.00	1.00
101	0.063	34	0.02	18144	0.18	0.00	0.67
99	0.061	33	0.03	27216	0.27	0.00	1.00
85	0.053	28	0.02	18144	0.21	0.00	0.67
63	0.039	21	0.01	9072	0.14	0.00	0.33
90	0.056	30	0.02	18144	0.20	0.00	0.67
56	0.035	19	0	0	0.00	0.00	0.00
40	0.025	13	0.01	9072	0.23	0.00	0.33
17	0.011	6	0	0	0.00	0.00	0.00
48	0.030	16	0.01	9072	0.19	0.00	0.33
64	0.040	21	0.01	9072	0.14	0.00	0.33
40	0.025	13	0	0	0.00	0.00	0.00
17	0.011	6	0	0	0.00	0.00	0.00
1614	Total			Sum	4.23	0.0008	Max

CAS #	Toxic Compounds	BAAQMD Gasoline TOG Speciation Fractions	Lb/Hr	Lb/Yr
Tailpipe Emissions				
75070	Acetaldehyde	2.80E-05	2.37E-09	2.08E-05
107028	Acrolein	1.30E-05	1.10E-09	9.66E-06
71432	Benzene	2.47E-04	2.09E-08	1.83E-04
106990	1,3-Butadiene	5.50E-05	4.66E-09	4.09E-05
100414	Ethylbenzene	1.05E-04	8.90E-09	7.80E-05
50000	Formaldehyde	1.58E-04	1.34E-08	1.17E-04
110543	Hexane	1.60E-04	1.36E-08	1.19E-04
67561	Methanol	1.20E-05	1.02E-09	8.91E-06
78933	Methyl Ethyl Ketone	2.00E-06	1.70E-10	1.49E-06
91203	Naphthalene	5.00E-06	4.24E-10	3.71E-06
115071	Propylene	3.06E-04	2.59E-08	2.27E-04
100425	Styrene	1.20E-05	1.02E-09	8.91E-06
108883	Toluene	5.76E-04	4.88E-08	4.28E-04
1330207	Xylenes	4.80E-04	4.07E-08	3.57E-04
Evaporative Losses				
71432	Benzene	3.600E-05	3.05E-09	2.67E-05
100414	Ethylbenzene	1.200E-05	1.02E-09	8.91E-06
110543	Hexane	1.540E-04	1.31E-08	1.14E-04
108883	Toluene	1.700E-04	1.44E-08	1.26E-04
1330207	Xylenes	5.800E-05	4.92E-09	4.31E-05

CEHTP Deacription:	Coleman				
AADT:	**13,300**		% Trucks	**3.7**	
Distance Modeled	**271.27**	meters =	827	Feet	

Area	Base Year	Hour	VMT/1000 /Hr	Diurnal Factor	Hourly VMT'
Santa Clara County	2013	0	509	0.012	154
Santa Clara County	2013	1	186	0.004	56
Santa Clara County	2013	2	183	0.004	55
Santa Clara County	2013	3	120	0.003	36
Santa Clara County	2013	4	221	0.005	67
Santa Clara County	2013	5	401	0.009	121
Santa Clara County	2013	6	1672	0.038	504
Santa Clara County	2013	7	3422	0.078	1032
Santa Clara County	2013	8	3136	0.071	946
Santa Clara County	2013	9	1936	0.044	584
Santa Clara County	2013	10	2057	0.047	620
Santa Clara County	2013	11	2597	0.059	783
Santa Clara County	2013	12	2712	0.062	818
Santa Clara County	2013	13	2661	0.060	803
Santa Clara County	2013	14	3090	0.070	932
Santa Clara County	2013	15	3145	0.071	949
Santa Clara County	2013	16	3255	0.074	982
Santa Clara County	2013	17	3602	0.082	1086
Santa Clara County	2013	18	2511	0.057	757
Santa Clara County	2013	19	1883	0.043	568
Santa Clara County	2013	20	1436	0.033	433
Santa Clara County	2013	21	1454	0.033	439
Santa Clara County	2013	22	1084	0.025	327
Santa Clara County	2013	23	823	0.019	248
		Total VMT	44096		

PM2.5					Total Exhaust & Evaporative Losses				
Tons/hr	g/hr	g/VMT	g/sec	Model Scalar	Tons/hr	g/hr	g/VMT	g/sec	Model Scalar
0.02	18144	0.04	0.00	0.22	0.2	181440	0.36	0.00	0.14
0.01	9072	0.05	0.00	0.11	0.08	72576	0.39	0.00	0.06
0.01	9072	0.05	0.00	0.11	0.09	81648	0.45	0.00	0.06
0.02	18144	0.15	0.00	0.22	0.07	63504	0.53	0.00	0.05
0.01	9072	0.04	0.00	0.11	0.09	81648	0.37	0.00	0.06
0.02	18144	0.05	0.00	0.22	0.18	163296	0.41	0.00	0.13
0.06	54432	0.03	0.00	0.67	0.63	571536	0.34	0.01	0.44
0.09	81648	0.02	0.00	1.00	1.42	1288224	0.38	0.02	0.99
0.09	81648	0.03	0.00	1.00	1.37	1242864	0.40	0.02	0.95
0.07	63504	0.03	0.00	0.78	0.97	879984	0.45	0.01	0.67
0.06	54432	0.03	0.00	0.67	0.96	870912	0.42	0.01	0.67
0.08	72576	0.03	0.00	0.89	1.19	1079568	0.42	0.01	0.83
0.07	63504	0.02	0.00	0.78	1.21	1097712	0.40	0.01	0.84
0.07	63504	0.02	0.00	0.78	1.1	997920	0.38	0.01	0.76
0.08	72576	0.02	0.00	0.89	1.24	1124928	0.36	0.01	0.86
0.08	72576	0.02	0.00	0.89	1.29	1170288	0.37	0.02	0.90
0.09	81648	0.03	0.00	1.00	1.34	1215648	0.37	0.02	0.93
0.08	72576	0.02	0.00	0.89	1.44	1306368	0.36	0.02	1.00
0.05	45360	0.02	0.00	0.56	1.01	916272	0.36	0.01	0.70
0.04	36288	0.02	0.00	0.44	0.79	716688	0.38	0.01	0.55
0.04	36288	0.03	0.00	0.44	0.59	535248	0.37	0.01	0.41
0.04	36288	0.02	0.00	0.44	0.53	480816	0.33	0.01	0.37
0.03	27216	0.03	0.00	0.33	0.4	362880	0.33	0.00	0.28
0.02	18144	0.02	0.00	0.22	0.33	299376	0.36	0.00	0.23
	Sum	0.81	0.0011	Max		Sum	9.31	0.02	Max
		lb/yr	74						

Diesel							
VMT/1000 /Hr	Diurnal Factor	Hourly VMT'	TOG Tons/hr	TOG g/hr	TOG g/VMT	g/sec	Model Scalar
61	0.038	19	0.01	9072	0.15	0.00	0.33
41	0.025	13	0	0	0.00	0.00	0.00
45	0.028	14	0.01	9072	0.20	0.00	0.33
54	0.033	16	0.02	18144	0.34	0.00	0.67
33	0.020	10	0.01	9072	0.27	0.00	0.33
53	0.033	16	0.01	9072	0.17	0.00	0.33
97	0.060	30	0.03	27216	0.28	0.00	1.00
78	0.048	24	0.02	18144	0.23	0.00	0.67
104	0.064	32	0.03	27216	0.26	0.00	1.00
116	0.072	35	0.03	27216	0.23	0.00	1.00
102	0.063	31	0.03	27216	0.27	0.00	1.00
110	0.068	34	0.03	27216	0.25	0.00	1.00
101	0.063	31	0.02	18144	0.18	0.00	0.67
99	0.061	30	0.03	27216	0.27	0.00	1.00
85	0.053	26	0.02	18144	0.21	0.00	0.67
63	0.039	19	0.01	9072	0.14	0.00	0.33
90	0.056	27	0.02	18144	0.20	0.00	0.67
56	0.035	17	0	0	0.00	0.00	0.00
40	0.025	12	0.01	9072	0.23	0.00	0.33
17	0.011	5	0	0	0.00	0.00	0.00
48	0.030	15	0.01	9072	0.19	0.00	0.33
64	0.040	20	0.01	9072	0.14	0.00	0.33
40	0.025	12	0	0	0.00	0.00	0.00
17	0.011	5	0	0	0.00	0.00	0.00
1614	Total			Sum	4.23	0.0004	Max

CAS #	Toxic Compounds	BAAQMD Gasoline TOG Speciation Fractions	Lb/Hr	Lb/Yr
Tailpipe Emissions				
75070	Acetaldehyde	2.80E-05	1.06E-09	9.27E-06
107028	Acrolein	1.30E-05	4.91E-10	4.30E-06
71432	Benzene	2.47E-04	9.33E-09	8.18E-05
106990	1,3-Butadiene	5.50E-05	2.08E-09	1.82E-05
100414	Ethylbenzene	1.05E-04	3.97E-09	3.48E-05
50000	Formaldehyde	1.58E-04	5.97E-09	5.23E-05
110543	Hexane	1.60E-04	6.05E-09	5.30E-05
67561	Methanol	1.20E-05	4.53E-10	3.97E-06
78933	Methyl Ethyl Ketone	2.00E-06	7.56E-11	6.62E-07
91203	Naphthalene	5.00E-06	1.89E-10	1.66E-06
115071	Propylene	3.06E-04	1.16E-08	1.01E-04
100425	Styrene	1.20E-05	4.53E-10	3.97E-06
108883	Toluene	5.76E-04	2.18E-08	1.91E-04
1330207	Xylenes	4.80E-04	1.81E-08	1.59E-04
Evaporative Losses				
71432	Benzene	3.600E-05	1.36E-09	1.19E-05
100414	Ethylbenzene	1.200E-05	4.53E-10	3.97E-06
110543	Hexane	1.540E-04	5.82E-09	5.10E-05
108883	Toluene	1.700E-04	6.42E-09	5.63E-05
1330207	Xylenes	5.800E-05	2.19E-09	1.92E-05

CEHTP Deacription:	Julian				
AADT:	**10,500**		% Trucks	**3.7**	
Distance Modeled	**324.15**	meters =	988	Feet	
Area	Base Year	Hour	VMT/1000 /Hr	Diurnal Factor	Hourly VMT'
Santa Clara County	2013	0	509	0.012	121
Santa Clara County	2013	1	186	0.004	44
Santa Clara County	2013	2	183	0.004	44
Santa Clara County	2013	3	120	0.003	29
Santa Clara County	2013	4	221	0.005	53
Santa Clara County	2013	5	401	0.009	95
Santa Clara County	2013	6	1672	0.038	398
Santa Clara County	2013	7	3422	0.078	815
Santa Clara County	2013	8	3136	0.071	747
Santa Clara County	2013	9	1936	0.044	461
Santa Clara County	2013	10	2057	0.047	490
Santa Clara County	2013	11	2597	0.059	618
Santa Clara County	2013	12	2712	0.062	646
Santa Clara County	2013	13	2661	0.060	634
Santa Clara County	2013	14	3090	0.070	736
Santa Clara County	2013	15	3145	0.071	749
Santa Clara County	2013	16	3255	0.074	775
Santa Clara County	2013	17	3602	0.082	858
Santa Clara County	2013	18	2511	0.057	598
Santa Clara County	2013	19	1883	0.043	448
Santa Clara County	2013	20	1436	0.033	342
Santa Clara County	2013	21	1454	0.033	346
Santa Clara County	2013	22	1084	0.025	258
Santa Clara County	2013	23	823	0.019	196
		Total VMT	44096		

PM2.5					Total Exhaust & Evaporative Losses				
Tons/hr	g/hr	g/VMT	g/sec	Model Scalar	Tons/hr	g/hr	g/VMT	g/sec	Model Scalar
0.02	18144	0.04	0.00	0.22	0.2	181440	0.36	0.00	0.14
0.01	9072	0.05	0.00	0.11	0.08	72576	0.39	0.00	0.06
0.01	9072	0.05	0.00	0.11	0.09	81648	0.45	0.00	0.06
0.02	18144	0.15	0.00	0.22	0.07	63504	0.53	0.00	0.05
0.01	9072	0.04	0.00	0.11	0.09	81648	0.37	0.00	0.06
0.02	18144	0.05	0.00	0.22	0.18	163296	0.41	0.00	0.13
0.06	54432	0.03	0.00	0.67	0.63	571536	0.34	0.01	0.44
0.09	81648	0.02	0.00	1.00	1.42	1288224	0.38	0.02	0.99
0.09	81648	0.03	0.00	1.00	1.37	1242864	0.40	0.02	0.95
0.07	63504	0.03	0.00	0.78	0.97	879984	0.45	0.01	0.67
0.06	54432	0.03	0.00	0.67	0.96	870912	0.42	0.01	0.67
0.08	72576	0.03	0.00	0.89	1.19	1079568	0.42	0.01	0.83
0.07	63504	0.02	0.00	0.78	1.21	1097712	0.40	0.01	0.84
0.07	63504	0.02	0.00	0.78	1.1	997920	0.38	0.01	0.76
0.08	72576	0.02	0.00	0.89	1.24	1124928	0.36	0.01	0.86
0.08	72576	0.02	0.00	0.89	1.29	1170288	0.37	0.01	0.90
0.09	81648	0.03	0.00	1.00	1.34	1215648	0.37	0.02	0.93
0.08	72576	0.02	0.00	0.89	1.44	1306368	0.36	0.02	1.00
0.05	45360	0.02	0.00	0.56	1.01	916272	0.36	0.01	0.70
0.04	36288	0.02	0.00	0.44	0.79	716688	0.38	0.01	0.55
0.04	36288	0.03	0.00	0.44	0.59	535248	0.37	0.01	0.41
0.04	36288	0.02	0.00	0.44	0.53	480816	0.33	0.01	0.37
0.03	27216	0.03	0.00	0.33	0.4	362880	0.33	0.00	0.28
0.02	18144	0.02	0.00	0.22	0.33	299376	0.36	0.00	0.23
	Sum	0.81	0.0010	Max		Sum	9.31	0.02	Max
		lb/yr	70						

Diesel							
VMT/1000 /Hr	Diurnal Factor	Hourly VMT'	TOG Tons/hr	TOG g/hr	TOG g/VMT	g/sec	Model Scalar
61	0.038	15	0.01	9072	0.15	0.00	0.33
41	0.025	10	0	0	0.00	0.00	0.00
45	0.028	11	0.01	9072	0.20	0.00	0.33
54	0.033	13	0.02	18144	0.34	0.00	0.67
33	0.020	8	0.01	9072	0.27	0.00	0.33
53	0.033	13	0.01	9072	0.17	0.00	0.33
97	0.060	23	0.03	27216	0.28	0.00	1.00
78	0.048	19	0.02	18144	0.23	0.00	0.67
104	0.064	25	0.03	27216	0.26	0.00	1.00
116	0.072	28	0.03	27216	0.23	0.00	1.00
102	0.063	25	0.03	27216	0.27	0.00	1.00
110	0.068	26	0.03	27216	0.25	0.00	1.00
101	0.063	24	0.02	18144	0.18	0.00	0.67
99	0.061	24	0.03	27216	0.27	0.00	1.00
85	0.053	20	0.02	18144	0.21	0.00	0.67
63	0.039	15	0.01	9072	0.14	0.00	0.33
90	0.056	22	0.02	18144	0.20	0.00	0.67
56	0.035	13	0	0	0.00	0.00	0.00
40	0.025	10	0.01	9072	0.23	0.00	0.33
17	0.011	4	0	0	0.00	0.00	0.00
48	0.030	12	0.01	9072	0.19	0.00	0.33
64	0.040	15	0.01	9072	0.14	0.00	0.33
40	0.025	10	0	0	0.00	0.00	0.00
17	0.011	4	0	0	0.00	0.00	0.00
1614	Total			Sum	4.23	0.0003	Max

CAS #	Toxic Compounds	BAAQMD Gasoline TOG Speciation Fractions	Lb/Hr	Lb/Yr
Tailpipe Emissions				
75070	Acetaldehyde	2.80E-05	9.98E-10	8.74E-06
107028	Acrolein	1.30E-05	4.63E-10	4.06E-06
71432	Benzene	2.47E-04	8.80E-09	7.71E-05
106990	1,3-Butadiene	5.50E-05	1.96E-09	1.72E-05
100414	Ethylbenzene	1.05E-04	3.74E-09	3.28E-05
50000	Formaldehyde	1.58E-04	5.63E-09	4.93E-05
110543	Hexane	1.60E-04	5.70E-09	5.00E-05
67561	Methanol	1.20E-05	4.28E-10	3.75E-06
78933	Methyl Ethyl Ketone	2.00E-06	7.13E-11	6.25E-07
91203	Naphthalene	5.00E-06	1.78E-10	1.56E-06
115071	Propylene	3.06E-04	1.09E-08	9.56E-05
100425	Styrene	1.20E-05	4.28E-10	3.75E-06
108883	Toluene	5.76E-04	2.05E-08	1.80E-04
1330207	Xylenes	4.80E-04	1.71E-08	1.50E-04
Evaporative Losses				
71432	Benzene	3.600E-05	1.28E-09	1.12E-05
100414	Ethylbenzene	1.200E-05	4.28E-10	3.75E-06
110543	Hexane	1.540E-04	5.49E-09	4.81E-05
108883	Toluene	1.700E-04	6.06E-09	5.31E-05
1330207	Xylenes	5.800E-05	2.07E-09	1.81E-05

CEHTP Deacription:	**St. James**				
AADT:	**12,000**		% Trucks	**3.7**	
Distance Modeled	**417**	meters =	1271	Feet	

Area	Base Year	Hour	VMT/1000 /Hr	Diurnal Factor	Hourly VMT'
Santa Clara County	2013	0	509	0.012	139
Santa Clara County	2013	1	186	0.004	51
Santa Clara County	2013	2	183	0.004	50
Santa Clara County	2013	3	120	0.003	33
Santa Clara County	2013	4	221	0.005	60
Santa Clara County	2013	5	401	0.009	109
Santa Clara County	2013	6	1672	0.038	455
Santa Clara County	2013	7	3422	0.078	931
Santa Clara County	2013	8	3136	0.071	853
Santa Clara County	2013	9	1936	0.044	527
Santa Clara County	2013	10	2057	0.047	560
Santa Clara County	2013	11	2597	0.059	707
Santa Clara County	2013	12	2712	0.062	738
Santa Clara County	2013	13	2661	0.060	724
Santa Clara County	2013	14	3090	0.070	841
Santa Clara County	2013	15	3145	0.071	856
Santa Clara County	2013	16	3255	0.074	886
Santa Clara County	2013	17	3602	0.082	980
Santa Clara County	2013	18	2511	0.057	683
Santa Clara County	2013	19	1883	0.043	512
Santa Clara County	2013	20	1436	0.033	391
Santa Clara County	2013	21	1454	0.033	396
Santa Clara County	2013	22	1084	0.025	295
Santa Clara County	2013	23	823	0.019	224
		Total VMT	44096		

PM2.5					Toal Exhaust				
Tons/hr	g/hr	g/VMT	g/sec	Model Scalar	Tons/hr	g/hr	g/VMT	g/sec	Model Scalar
0.02	18144	0.04	0.00	0.22	0.2	181440	0.36	0.00	0.14
0.01	9072	0.05	0.00	0.11	0.08	72576	0.39	0.00	0.06
0.01	9072	0.05	0.00	0.11	0.09	81648	0.45	0.00	0.06
0.02	18144	0.15	0.00	0.22	0.07	63504	0.53	0.00	0.05
0.01	9072	0.04	0.00	0.11	0.09	81648	0.37	0.00	0.06
0.02	18144	0.05	0.00	0.22	0.18	163296	0.41	0.00	0.13
0.06	54432	0.03	0.00	0.67	0.63	571536	0.34	0.01	0.44
0.09	81648	0.02	0.00	1.00	1.42	1288224	0.38	0.02	0.99
0.09	81648	0.03	0.00	1.00	1.37	1242864	0.40	0.02	0.95
0.07	63504	0.03	0.00	0.78	0.97	879984	0.45	0.02	0.67
0.06	54432	0.03	0.00	0.67	0.96	870912	0.42	0.02	0.67
0.08	72576	0.03	0.00	0.89	1.19	1079568	0.42	0.02	0.83
0.07	63504	0.02	0.00	0.78	1.21	1097712	0.40	0.02	0.84
0.07	63504	0.02	0.00	0.78	1.1	997920	0.38	0.02	0.76
0.08	72576	0.02	0.00	0.89	1.24	1124928	0.36	0.02	0.86
0.08	72576	0.02	0.00	0.89	1.29	1170288	0.37	0.02	0.90
0.09	81648	0.03	0.00	1.00	1.34	1215648	0.37	0.02	0.93
0.08	72576	0.02	0.00	0.89	1.44	1306368	0.36	0.02	1.00
0.05	45360	0.02	0.00	0.56	1.01	916272	0.36	0.02	0.70
0.04	36288	0.02	0.00	0.44	0.79	716688	0.38	0.01	0.55
0.04	36288	0.03	0.00	0.44	0.59	535248	0.37	0.01	0.41
0.04	36288	0.02	0.00	0.44	0.53	480816	0.33	0.01	0.37
0.03	27216	0.03	0.00	0.33	0.4	362880	0.33	0.01	0.28
0.02	18144	0.02	0.00	0.22	0.33	299376	0.36	0.01	0.23
	Sum	0.81	0.0015	Max		Sum	9.31	0.02	Max
		lb/yr	103						

Diesel							
VMT/1000 /Hr	Diurnal Factor	Hourly VMT'	TOG Tons/hr	TOG g/hr	TOG g/VMT	g/sec	Model Scalar
61	0.038	17	0.01	9072	0.15	0.00	0.33
41	0.025	11	0	0	0.00	0.00	0.00
45	0.028	12	0.01	9072	0.20	0.00	0.33
54	0.033	15	0.02	18144	0.34	0.00	0.67
33	0.020	9	0.01	9072	0.27	0.00	0.33
53	0.033	15	0.01	9072	0.17	0.00	0.33
97	0.060	27	0.03	27216	0.28	0.00	1.00
78	0.048	21	0.02	18144	0.23	0.00	0.67
104	0.064	29	0.03	27216	0.26	0.00	1.00
116	0.072	32	0.03	27216	0.23	0.00	1.00
102	0.063	28	0.03	27216	0.27	0.00	1.00
110	0.068	30	0.03	27216	0.25	0.00	1.00
101	0.063	28	0.02	18144	0.18	0.00	0.67
99	0.061	27	0.03	27216	0.27	0.00	1.00
85	0.053	23	0.02	18144	0.21	0.00	0.67
63	0.039	17	0.01	9072	0.14	0.00	0.33
90	0.056	25	0.02	18144	0.20	0.00	0.67
56	0.035	15	0	0	0.00	0.00	0.00
40	0.025	11	0.01	9072	0.23	0.00	0.33
17	0.011	5	0	0	0.00	0.00	0.00
48	0.030	13	0.01	9072	0.19	0.00	0.33
64	0.040	18	0.01	9072	0.14	0.00	0.33
40	0.025	11	0	0	0.00	0.00	0.00
17	0.011	5	0	0	0.00	0.00	0.00
1614	Total			Sum	4.23	0.0005	Max

CAS #	Toxic Compounds	BAAQMD Gasoline TOG Speciation Fractions	Lb/Hr	Lb/Yr
Tailpipe Emissions				
75070	Acetaldehyde	2.80E-05	1.47E-09	1.29E-05
107028	Acrolein	1.30E-05	6.81E-10	5.97E-06
71432	Benzene	2.47E-04	1.29E-08	1.13E-04
106990	1,3-Butadiene	5.50E-05	2.88E-09	2.52E-05
100414	Ethylbenzene	1.05E-04	5.50E-09	4.82E-05
50000	Formaldehyde	1.58E-04	8.28E-09	7.25E-05
110543	Hexane	1.60E-04	8.39E-09	7.35E-05
67561	Methanol	1.20E-05	6.29E-10	5.51E-06
78933	Methyl Ethyl Ketone	2.00E-06	1.05E-10	9.18E-07
91203	Naphthalene	5.00E-06	2.62E-10	2.30E-06
115071	Propylene	3.06E-04	1.60E-08	1.40E-04
100425	Styrene	1.20E-05	6.29E-10	5.51E-06
108883	Toluene	5.76E-04	3.02E-08	2.64E-04
1330207	Xylenes	4.80E-04	2.52E-08	2.20E-04
Evaporative Losses				
71432	Benzene	3.600E-05	1.89E-09	1.65E-05
100414	Ethylbenzene	1.200E-05	6.29E-10	5.51E-06
110543	Hexane	1.540E-04	8.07E-09	7.07E-05
108883	Toluene	1.700E-04	8.91E-09	7.80E-05
1330207	Xylenes	5.800E-05	3.04E-09	2.66E-05

Sensitivity Weighted Factor (SWF)

		Gasoline						
Risk Year	EMFAC Year	VMT /1000	Tons /day	Emission Rate (g/vehicle-mile)	Period (years)	Age Sensitivity Factor	Sensitivity Weighting Factor	Sensitivity Weighted Emission Rate (g/vehicle-mile)
1	2013	44096	18.52	0.381	1	10	0.143	0.054
2	2014	44888	17.36	0.351	1	10	0.143	0.050
3*	2015	45699	16.26	0.323	1	4.75	0.068	0.022
4	2016	46311	15.36	0.301	1	3	0.043	0.013
5	2017	46953	14.49	0.280	1	3	0.043	0.012
6	2018	47606	13.65	0.260	1	3	0.043	0.011
7	2019	48261	13.02	0.245	1	3	0.043	0.010
8	2020	48918	12.45	0.231	1	3	0.043	0.010
9	2021	49576	11.94	0.218	1	3	0.043	0.009
10	2022	50254	11.5	0.208	1	3	0.043	0.009
11	2023	50934	11.07	0.197	1	3	0.043	0.008
12	2024	51635	10.67	0.187	1	3	0.043	0.008
13	2025	52337	10.37	0.180	1	3	0.043	0.008
14	2026	52952	10.15	0.174	1	3	0.043	0.007
15	2027	53597	9.85	0.167	1	3	0.043	0.007
16	2028	54269	9.65	0.161	1	3	0.043	0.007
17**	2029	54974	9.43	0.156	1	1.5	0.021	0.003
18	2030	55706	9.21	0.150	1	1	0.014	0.002
19	2031	56376	9.03	0.145	1	1	0.014	0.002
20	2032	57072	8.81	0.140	1	1	0.014	0.002
21	2033	57792	8.67	0.136	1	1	0.014	0.002
22	2034	58534	8.53	0.132	1	1	0.014	0.002
23	2035	59282	8.42	0.129	1	1	0.014	0.002
24	2036	60034	8.32	0.126	1	1	0.014	0.002
25	2037	60786	8.21	0.123	1	1	0.014	0.002
26	2038	61552	8.15	0.120	1	1	0.014	0.002
27	2039	62318	8.13	0.118	1	1	0.014	0.002
28	2040	63096	8.1	0.116	44.25	1	0.632	0.074
								0.343

		Diesel			
Risk Year	EMFAC Year	VMT /1000	Tons /day	Emission Rate (g/vehicle-mile)	Sensitivity Weighted Emission Rate (g/vehiclemile)
1	2013	1665	0.36	0.196	0.028
2	2014	1692	0.34	0.182	0.026
3*	2015	1714	0.3	0.159	0.011
4	2016	1726	0.28	0.147	0.006
5	2017	1723	0.26	0.137	0.006
6	2018	1729	0.24	0.126	0.005
7	2019	1732	0.23	0.120	0.005
8	2020	1731	0.2	0.105	0.004
9	2021	1730	0.19	0.100	0.004
10	2022	1739	0.18	0.094	0.004
11	2023	1739	0.18	0.094	0.004
12	2024	1745	0.18	0.094	0.004
13	2025	1749	0.17	0.088	0.004
14	2026	1756	0.15	0.077	0.003
15	2027	1766	0.14	0.072	0.003
16	2028	1765	0.11	0.057	0.002
17**	2029	1773	0.1	0.051	0.001
18	2030	1784	0.1	0.051	0.001
19	2031	1793	0.1	0.051	0.001
20	2032	1807	0.1	0.050	0.001
21	2033	1817	0.1	0.050	0.001
22	2034	1832	0.1	0.050	0.001
23	2035	1844	0.09	0.044	0.001
24	2036	1856	0.09	0.044	0.001
25	2037	1863	0.09	0.044	0.001
26	2038	1878	0.08	0.039	0.001
27	2039	1884	0.08	0.039	0.001
28	2040	1895	0.08	0.038	0.024
					0.153