

***TULIP KIDS, Inc. LAWRENCE
STATION ROAD
PRESCHOOL CENTER
TAC ASSESSMENT***

Sunnyvale, California

March 10, 2016

Prepared for:

**Tulip Kids, Inc.
1159 Willow Ave
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Project: 16-020

INTRODUCTION

Tulip Kids, Inc. plans to open a Preschool Center serving children aged two to five years on the lower floor of an existing mixed-use building located at 1271 Lawrence Station Road in Sunnyvale, California. The Childcare Center would operate from 8:00 am to 6:00 pm with a capacity of 85 children and 11 teachers and supporting staff members. The existing outdoor area would be used for outdoor play for a period of about 30 minutes in the morning and 30 minutes in the afternoon with a maximum of about 43 children attending each outdoor session. This report is the assessment of potential community risk impacts resulting from the proposed childcare center. Project impacts related to increased community risk can occur either by introducing a new sensitive receptor, such as a childcare facility or residential use, in proximity to an existing source of toxic air contaminants (TACs). The BAAQMD recommends using a 1,000-foot screening radius around a project site for purposes of identifying community health risk from siting a new sensitive receptor or a new source of TACs.

Setting

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

Toxic Air Contaminants

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

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new

regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.¹ The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.²

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The children attending the preschool would be considered sensitive receptors.

Significance Thresholds

The Bay Area Air Quality Management District (BAAQMD) identified significance thresholds for exposure to TACs and PM_{2.5} as part of its May 2011 CEQA Air Quality Guidelines. The following are the significance criteria that are used to judge this project's impacts:

Single Source Impacts

If emissions of TACs or PM_{2.5} exceed any of the thresholds of significance listed below, the proposed project would result in a significant impact and mitigation would be required.

- An excess cancer risk level of more than 10.0 in 1 million, or a non-cancer (chronic or acute) hazard index greater than 1.0.
- An incremental increase of more than 0.3 micrograms per cubic meter (µg/m³) annual average PM_{2.5}.

Cumulative Source 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 of the fence line of a source or from the location of a receptor, plus the contribution from the project, exceeds the following thresholds:

¹ Available online: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>. Accessed: November 21, 2014.

² Bay Area Air Quality Management District. 2011. BAAQMD CEQA Air Quality Guidelines. May.

- 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.
- An incremental increase of more than $0.8 \mu\text{g}/\text{m}^3$ annual average $\text{PM}_{2.5}$.

BAAQMD's adoption of significance thresholds contained in the 2011 CEQA Air Quality Guidelines was called into question by an order issued March 5, 2012, in *California Building Industry Association (CBIA) v. BAAQMD* (Alameda Superior Court Case No. RGI0548693). The order requires BAAQMD to set aside its approval of the thresholds until it has conducted environmental review under CEQA. The ruling made in the case concerned the environmental impacts of adopting the thresholds and how the thresholds would indirectly affect land use development patterns. In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds. However, the California Supreme Court accepted a portion of CBIA's petition to review the appellate court's decision to uphold BAAQMD's adoption of the thresholds. The specific portion of the argument considered was whether CEQA requires consideration of the effects of the environment on a project (as contrasted to the effects of a proposed project on the environment). On December 17, 2015, the California Supreme Court ruled that CEQA generally does not require an analysis of the effects of existing environmental conditions (e.g., air quality) on a project unless the project would exacerbate those conditions somehow through its construction and/or operation. The City's General Plan, however, includes policies to improve air quality including Policy EM-11.3 which requires all new development to utilize site planning to protect citizens from unnecessary exposure to air pollutants. Therefore, the significance thresholds that address impacts to the project from the existing environment contained in the 2011 CEQA Air Quality Guidelines are applied to this project.

This analysis evaluated the overall community risk impacts to the preschool, based on the exposure that children may have while attending the school.

Community Risk Impacts

The community risk thresholds primarily address chronic or long term exposures that include lifetime cancer risk and annual concentrations of $\text{PM}_{2.5}$. A review of the area indicates that there are no sources that pose potentially significant acute exposures to TACs. BAAQMD screening tools that predict increased lifetime cancer risk, annual $\text{PM}_{2.5}$ concentrations and non-cancer Hazard Index were used for this analysis. This analysis evaluated the overall community risk impacts to the project, based on the exposure that children age 2 to 5 years may have while attending the preschool. Typically, cancer risk and annual $\text{PM}_{2.5}$ assessments assume almost continuous exposure to TAC sources. However, a preschool is different in that the sensitive receptors, preschool children, do not reside at the project site. The predicted cancer risk and annual $\text{PM}_{2.5}$ concentrations accounted for the exposure duration that uses of a preschool/daycare facility would experience. Children attending the project are assumed to be exposed for 10 hours per day, 5 days per week, 250 days per year and 4 years during a lifetime³. Since children are only present at the preschool for a relatively short portion of their life lifetime, annual exposures have to be adjusted.

³ Cancer risk computations take into account these exposure parameters, along with a higher breathing rate for children (based on weight) and an age sensitivity factor (ASF) based on 4 years at an ASF of 3, rather than a lifetime average that is 1.7. ASF accounts for the greater sensitivity of infants and children to cancer causing TACs.

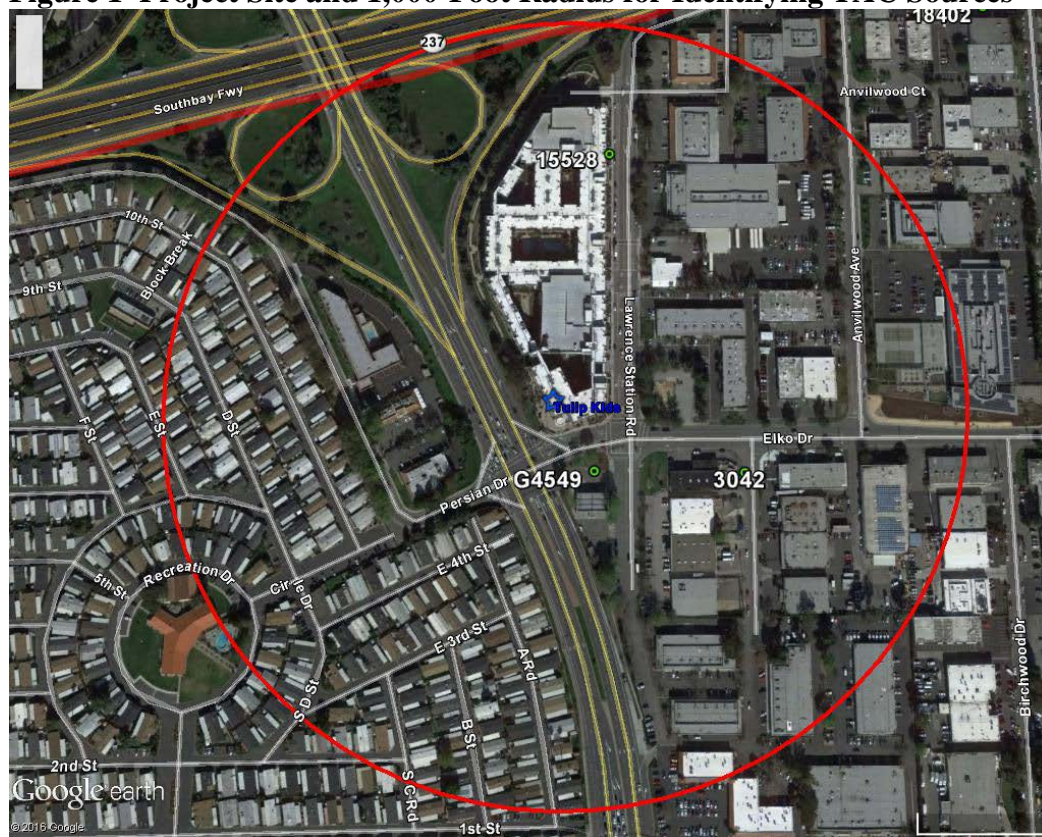
The screening level lifetime cancer risk and annual PM_{2.5} concentration were adjusted, based on the following assumptions:

1. Age sensitivity applied to cancer risk calculations. BAAQMD screening data uses a factor of 1.7 for lifetime exposure. This was adjusted to a factor of 3 for children age 2 to 5 years.
2. Daily exposure applied to cancer risk and annual PM_{2.5} calculations. Health risk assessments assume 24-hour per day exposure. Children would only be present for 10 hours per day.
3. Annual exposure applied to cancer risk and annual PM_{2.5} calculations. Health risk assessments assume 350 days of exposure per year and students would attend the school 250 days per year.
4. Lifetime exposure applied to cancer risk calculations. Health risk assessments assume a 70-year exposure. Students would attend the school for a maximum of 4 years.
5. Breathing rate applied to cancer risk calculations. The screening guidance was based on an overall breathing rate of 302 liters per kilogram body weight per day and new exposure parameters issued by the California Office of Environmental Health Hazards Assessment (OEHHA) suggest a rate of 572 liters per kilogram body weight per day.

TAC Sources Considered

A review of the project area (i.e., within 1,000 feet of the site) indicates that traffic on Lawrence Expressway, State Route 237 and Lawrence Station Road are the primary sources affecting the project. There are two stationary sources, permitted by BAAQMD, that also affect the project. Figure 1 shows the project site and the sources of TACs near the site. Results of this assessment are shown in Table 1. The method to determine community risks from each source is described below. Note that no single source would pose a significant cancer risk, annual PM_{2.5} concentration or non-cancer Hazard Index that exceeds the thresholds listed in Table 1. The combination of all TAC sources also would not exceed the significance thresholds. This would be a *less-than-significant* impact.

Figure 1 Project Site and 1,000-Foot Radius for Identifying TAC Sources



Highways

BAAQMD provides a Google Earth *Highway Screening Analysis Tool* that can be used to identify screening level impacts from State highways. The portion of the State Highway 237 closest to the project was selected (i.e., Link 340, 6ft elevation). The lifetime cancer risk, annual PM_{2.5} exposure and non-cancer hazard index corresponding to the distance between the project and the site was used. The data were interpolated since the site is 950 feet from the highway and the tool provides levels at 750 and 1,000 feet south. Cancer risk levels were adjusted for exposure duration, age, and new exposure guidance provided by OEHHA, as described above.

Local Roadways

BAAQMD provides *Roadway Screening Analysis Calculator* that is used to assess potential excess cancer risk and annual PM_{2.5} concentrations from surface streets for each Bay Area county. The calculator requires the entries of: (1) County, (2) roadway orientation (north-south or east-west), (3) side of the roadway receptors is located, (4) distance between receptor and nearest through travel lane, and (5) average daily traffic (ADT) volume.

Lawrence Expressway is shown by the County of Santa Clara Official County Road Book 2015 to have an annual ADT of 53,230 vehicles. The edge of this north-south roadway is approximately 75 feet west of the interior portions project site and 50 feet from the exterior play area. The excess cancer risk and annual PM_{2.5} concentration was computed based on 1 hour of

outside area and 9 hours of inside area exposure. As shown in Table 2, the cancer risk and annual PM_{2.5} concentration associated with the roadway is below the significance threshold. Note that BAAQMD has found that non-cancer hazards from all local roadways would be well below the BAAQMD thresholds. Cancer risk levels were adjusted for exposure duration, age, and new exposure guidance provided by OEHHA, as described above.

Lawrence Station Road, also a north-south roadway, is about 150 feet east of the project. The volume is unknown, but suspected to be less than 10,000 ADT per day. A volume of 10,000 ADT was used with the *Roadway Screening Analysis Calculator* and predicted levels were well below the significance thresholds.

Stationary Sources

There are two operational stationary sources of TACs that were identified within 1,000 feet of the project site using the BAAQMD *Stationary Source Screening Analysis Tool*.⁴ This tool provides screening levels of cancer risk, PM_{2.5}, and non-cancer risk for the identified sources. Plant 15528 at 1282 Lawrence Station Road is an emergency back-up diesel generator. This source is permitted to operate by the BAAQMD. Screening-level cancer risks, identified using the tool, were adjusted for the approximate 350-foot distance using BAAQMD's *Diesel BUG Distance Multiplier*. Plant G4549 is a gas station at the corner of Elko Drive and Lawrence Expressway that is 200 feet south of the project. Screening-level cancer risks, identified using the tool, were adjusted for the approximate 350-foot distance using BAAQMD's *Gas Station Distance Multiplier*. Cancer risk levels were adjusted for exposure duration, age, and new exposure guidance provided by OEHHA, as described above.

Cumulative Sources

The combination of all sources affecting the site was considered. The cumulative cancer risk and annual PM_{2.5} concentrations was computed in Table 1 by summing up the contribution from each source. These levels would be below significance threshold for cumulative community risk impacts

4 See <http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools>, accessed November 13, 2015.

Table 1. Community Risk Impacts from Single and Cumulative Sources**Tulip Kids Inc. Sunnyvale, CA**

Screening Community Risk Assessment - Preschool Exposures

Source	Duration (hours)	BAAQMD Screening Tools		Adjusted for Exposure*	
		Screening Risk (per million)	Screening PM2.5 (µg/m³)	Risk (per million)	PM2.5 (µg/m³)
Lawrence Expressway					
Roadway Screening Calculator 75 feet East	9	23.38	0.55		
Roadway Screening Calculator 50 feet East	1	33.95	0.80		
Daily Average	10	24.44	0.57	1.48	0.17
Lawrence Station Road					
Roadway Screening Calculator 150 feet West	10	2.36	0.05	0.14	0.01
State Route 237					
Highway Screening Tool 950 feet South	10	9.06	0.08	0.55	0.02
Plant G4549					
Chevron #0562, Gas Station, 200 feet North	10	6.88	0.00	0.42	0.00
Plant 15528					
City of Sunnyvale Station 6, Generator, 350 feet South	10	6.01	0.00	0.36	0.00
Cumulative Levels				2.96	0.21

*** Adjustments**

Breathing rate adjustment (CR)	1.89	, where old lifetime risk = 302, new OEHHA = 572 L/kg-day
Age sensitivity factor (CR)	1.77	, lifetime risk = 1.7 and child = 3
Exposure duration (hrs/day) (CR & PM2.5)	0.42	, lifetime = 24 hours and daycare = 10 hours (i.e., 8:30am-6:30pm)
Exposure duration (days/year) (CR & PM2.5)	0.72	, where lifetime risk = 350 days, daycare = 250 days open
Exposure duration (years) (CR only)	0.06	, where lifetime risk = 70 years, daycare = 4 years max.

Attachment

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

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

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

Notes and References listed below the Search Boxes

Search Parameters

County	<input type="text" value="Santa Clara"/>
Roadway Direction	<input type="text" value="North-South"/>
Side of the Roadway	<input type="text" value="East"/>
Distance from Roadway	<input type="text" value="75"/> feet
Annual Average Daily Traffic (ADT)	<input type="text" value="53,200"/>

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

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

Cancer Risk

23.38 (per million)

Lawrence Expwy

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

Adjusted for EMFAC2014 for 2018

11.69

(per million)

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

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 Cal3qhc air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

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

INSTRUCTIONS:

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

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

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

Notes and References listed below the Search Boxes

Search Parameters

County	<input type="text" value="Santa Clara"/>
Roadway Direction	<input type="text" value="North-South"/>
Side of the Roadway	<input type="text" value="West"/>
Distance from Roadway	<input type="text" value="150"/> feet
Annual Average Daily Traffic (ADT)	<input type="text" value="10,000"/>

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

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

Cancer Risk

2.36 (per million)

Lawrence Station Road

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

Adjusted for EMFAC2014 for 2018

1.18

(per million)

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

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using CALINE4 Cal3qhc air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHA toxicity values adopted in 2013.

July 22, 2015

ROAD BOOK IN ALPHA SEQUENCE Jr.

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Class	ADT (x10)	ADT Year	B Of S District	Road Number	Road Section	Road Name	Road Limits (miles)	Length (miles)	Dir	Side	R/W (ft)	Pvmt Width	PCI	Lanes/ Miles	Yard	Zone	
1	111	2005	2	LU 64092	A	LAUMER AVE	ALUM ROCK/0026S	0.26	SE	A	050	32	72	2 /	0.52	E	2
1	113	2000	2	LU 64092	B	LAUMER AVE	0026S ALUM ROCK/EAST HILLS	0.19	SE	A	060	38	83	2 /	0.38	E	2
3	12	2011	1	LU 83217	A	LAUREL DR	OAK DR/DAVES	0.25	SE	A	040	18	79	2 /	0.50	W	2
1	35	1999	1	LR 96016	A	LAUREL RD	HALF/0023SE	0.23	SE	A	040	24	66	2 /	0.46	S	2
1	12	1999	1	LR 96016	B	LAUREL RD	0026SE HALF/0009SE	0.09	SE	E	020	12	42	2 /	0.18	S	2
1	9	1999	1	LU 83245	A	LAVENDER LN	GARDENIA/ORANGE BLOSSOM	0.17	NE	A	060	38	39	2 /	0.34	W	2
1	5,320	2014	3	AEP6324	A	LAWRENCE EXPWY	0006N MTV-ALV/LAKEWOOD	1.22	N	A	VAR	90	58	8 /	9.76	W	2
1	6,854	2014	3	AEP6324	B	LAWRENCE EXPWY	LAKEWOOD/DUANE	0.49	N	A	VAR	90	60	8 /	3.92	W	2
1	7,952	2014	3	AEP6324	C	LAWRENCE EXPWY	DUANE/ARQUES	0.45	N	A	VAR	90	59	8 /	3.60	W	2
1	6,960	2014	3	AEP6324	C1	LAWRENCE EXPWY	ARQUES/REED	0.95	N	A	VAR	90	55	8 /	7.60	W	2
1	6,723	2014	4	AEP6324	D	LAWRENCE EXPWY	REED/HOMESTEAD	2.01	N	A	VAR	90	59	8 /	16.08	W	2
1	7,477	2014	4	AEP6324	E	LAWRENCE EXPWY	HOMESTEAD/STEVENS CR BLVD	1.02	N	A	VAR	90	52	8 /	8.16	W	2
1	4,927	2014	4	AEP6324	F	LAWRENCE EXPWY	STEVENS CR/DOYLE	1.21	N	A	VAR	90	64	6 /	7.26	W	2
1	3,582	2014	4	AEP6324	G	LAWRENCE EXPWY	DOYLE/SARATOGA	1.21	N	A	VAR	90	68	6 /	7.26	W	2
1	2,035	2014	4	AEP6324	H	LAWRENCE EXPWY	SARATOGA/0002S C.L.ELMWOOD	0.14	N	A	VAR	50	61	5 /	0.70	W	2
1	397	2011	4	LU 62229	A	LAWSON LANE	CENTRAL EXPWY/SAN TOMAS EX	0.21	NW	A	060	32	63	2 /	0.42	W	1
1	5	1992	1	LU 96045	A	LEANN COURT	MAPLE/0019NW	0.19	NW	A	040	21	34	2 /	0.38	S	2
1	780	2013	1	APR0701	A	LEAVESLEY RD	FERGUSON/0010W MARCELLA	1.56	SW	A	060	30	89	2 /	3.12	S	2
1	506	2001	1	LR 07018	A	LEAVESLEY RD	FERGUSON/DRYDEN	1.08	NE	A	060	20	76	2 /	2.16	S	2
3	16	2011	1	LR 07018	B	LEAVESLEY RD	DRYDEN/0053E	0.53	NE	A	060	20	87	2 /	1.06	S	2
3	16	2000	1	LR 07018	C	LEAVESLEY RD	0053E DRYDEN/GIL HT SP RD	1.32	NE	A	060	20	77	2 /	2.64	S	2
1	941	2011	4	AUM7325	H	LEIGH AVE	BRANHAM/0024N	0.24	N	A	086	38	80	2 /	0.48	W	2
1	105	2011	4	AUM7325	K	LEIGH AVE	0012S CAMDEN/CAMDEN	0.12	N	W	043	20	90	4 /	0.48	W	2
1	587	2011	4	AUM7325	M	LEIGH AVE	0006N SCOTT/0013N	0.13	N	A	045	30	70	2 /	0.26	W	2
1	6	1984	4	LU 83182	A	LEIGH CT	LEIGH AVE/END	0.04	E	A	060	38	62	2 /	0.08	W	2
1	160	1995	4	LU 73043	A	LELAND AVE	W SAN CARLOS/0002S	0.02	S	W	025	14	61	2 /	0.04	W	2
1	196	2001	4	LU 73043	B	LELAND AVE	0002S SAN CARLOS/SCOTT	0.21	S	A	050	28	76	2 /	0.42	W	2
1	305	2004	4	LU 73043	C	LELAND AVE	SCOTT/MOORPARK	0.23	S	A	060	50	69	2 /	0.46	W	2

Diesel BUG Distance Multiplier

Distance meters	Distance feet	Distance adjustment multiplier	Enter Risk or Hazard	Adjusted Risk or Hazard	Enter PM2.5 Concentration	Adjusted PM2.5 Concentration
25	82	0.85		0		0
30	98	0.73		0		0
35	115	0.64		0		0
40	131	0.58		0		0
50	164	0.5		0		0
60	197	0.41		0		0
70	230	0.31		0		0
80	262	0.28		0		0
90	295	0.25		0		0
100	328	0.22	6.01	1.3222		0
110	361	0.18		0		0
120	394	0.16		0		0
130	426	0.15		0		0
140	459	0.14		0		0
150	492	0.12		0		0
160	525	0.1		0		0
180	590	0.09		0		0
200	656	0.08		0		0
220	722	0.07		0		0
240	787	0.06		0		0
260	853	0.05		0		0
280	918	0.04		0		0

Santa_Clara_May_2012_schema:FID	312
Santa_Clara_May_2012_schema:PlantNo	15528
Santa_Clara_May_2012_schema:Name	City of Sunnyvale - Station 6
Santa_Clara_May_2012_schema:Address	1282 N LAWRENCE STATION ST
Santa_Clara_May_2012_schema:City	Sunnyvale
Santa_Clara_May_2012_schema:UTM_East	588852.1614
Santa_Clara_May_2012_schema:UTM_North	4140659.787
Santa_Clara_May_2012_schema:Cancer	6.01
Santa_Clara_May_2012_schema:Hazard	0.002
Santa_Clara_May_2012_schema:PM25	0.001
Santa_Clara_May_2012_schema:Type	Generator

Gas Station Distance Multiplier

Distance meters	Distance feet	Distance adjustment multiplier	Enter Risk or Hazard	Adjusted Risk or Hazard
20	66	1.000		0
25	82	0.728		0
30	98	0.559		0
35	115	0.445		0
40	131	0.365		0
45	148	0.305		0
50	164	0.260		0
55	180	0.225		0
60	197	0.197	35	6.878772954
65	213	0.174		0
70	230	0.155		0
75	246	0.139		0
80	262	0.126		0
85	279	0.114		0
90	295	0.104		0
95	312	0.096		0
100	328	0.088		0
105	344	0.082		0
110	361	0.076		0
115	377	0.071		0
120	394	0.066		0
125	410	0.062		0
130	426	0.058		0
135	443	0.055		0
140	459	0.052		0
145	476	0.049		0
150	492	0.046		0
155	508	0.044		0
160	525	0.042		0
165	541	0.040		0
170	558	0.038		0
175	574	0.036		0
180	590	0.034		0
185	607	0.033		0
190	623	0.031		0
195	640	0.030		0
200	656	0.029		0
205	672	0.028		0
210	689	0.027		0
215	705	0.026		0
220	722	0.025		0
225	738	0.024		0
230	754	0.023		0
235	771	0.022		0
240	787	0.022		0
245	804	0.021		0
250	820	0.020		0
255	836	0.020		0
260	853	0.019		0
265	869	0.018		0
270	886	0.018		0
275	902	0.017		0
280	918	0.017		0
285	935	0.016		0
290	951	0.016		0
295	968	0.015		0
300	984	0.015		0

G4549

Santa_Clara_May_2012_schema:FID
 Santa_Clara_May_2012_schema:PlantNo
 Santa_Clara_May_2012_schema:Name
 Santa_Clara_May_2012_schema:Address
 Santa_Clara_May_2012_schema:City
 Santa_Clara_May_2012_schema:UTM_East
 Santa_Clara_May_2012_schema:UTM_North
 Santa_Clara_May_2012_schema:Cancer
 Santa_Clara_May_2012_schema:Hazard
 Santa_Clara_May_2012_schema:PM25

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 Chevron #0562
 1265 Lawrence Station Rd
 Sunnyvale
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