

TOWN OF DANVILLE 2023-2031 HOUSING ELEMENT UPDATE AND RELATED GENERAL PLAN AMENDMENTS

AIR QUALITY & GREENHOUSE GAS ASSESSMENT

Danville, California

August 1, 2022

Prepared for:

Natalie Noyes, AICP
David J. Powers & Associates, Inc.
1736 Franklin Street, Suite 400
Oakland, CA 94612

Prepared by:

James A. Reyff
ILLINGWORTH & RODKIN, INC.
/// Acoustics • Air Quality ///

429 East Cotati Avenue
Cotati, CA 94931
(707) 794-0400

I&R Project: #21-145

Introduction

The purpose of this report is to address air quality, community health risk, and greenhouse gas (GHG) impacts associated with the Town of Danville 2023-2031 Housing Element Update. This update would allow for increased residential development, including new residences in areas currently zoned for non-residential development. Potential air quality and GHG impacts from the Housing Element Update would be associated with changes in land uses that result in changes in emissions and changes in exposure of sensitive receptors to air pollution. This report includes a summary of applicable air quality and GHG regulations and analyzes potential air quality impacts and GHG emissions associated with the proposed General Plan Update. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).¹

Project Description

The proposed project would update the Town's Housing Element to address the Regional Housing Needs Assessment (RHNA). For the upcoming planning period, the State has determined that the Bay Area must plan for an additional 441,176 new housing units. In response, the Bay Area Association of Government's (ABAG) released their Final RHNA allocation to all the cities and counties in the Bay Area, including the Town of Danville, for the 2023-2031 Housing Element planning period. The State Department of Housing and Community Development (HCD) requires local jurisdictions identify enough housing sites inventory to not only cover the RHNA, but also provide an additional buffer capacity above the RHNA. The buffer capacity is required to accommodate realistic production rates of affordable housing units; plus having the buffer can allow for instances when a smaller residential project may have to be considered for a given property. The recommendation from HCD is to adopt a housing site inventory with a buffer of 15 to 30 percent over the allocated RHNA.

The Town's RHNA allocation for the 2023-2031 planning period is 2,241 housing units with a 15-percent buffer of an additional 332 units. The Town prepared an inventory of land suitable for residential development, including vacant sites and sites having the potential for redevelopment. The Housing Element Update project is comprised of eight subareas of candidate housing sites for future housing development to meet the Town's 2023-2031 RHNA allocation and the required 15 percent buffer. Future housing development could occur on these candidate housing sites/parcels, if ultimately included within the Housing Element, as local conditions dictate with timing at the discretion of each individual property owner.

The candidate housing sites could yield up to 4,620 housing units. Recognizing that not all candidate housing sites will ultimately be included in the Housing Element Update, this assessment evaluates the air quality impacts for development of 2,577 housing units (RHNA allocation plus 15 percent).

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

Environmental Setting

The project is located in Contra Costa County, which is part of the San Francisco Bay Area Air Basin. The Air Basin includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County.

This Project is within the jurisdiction of the BAAQMD. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants, and the number of days during which the region exceeds air quality standards, have fallen dramatically. Exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Air pollutants are governed by multiple federal and state standards to regulate and mitigate health impacts. At the federal level, there are six criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been established: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), suspended particulate matter (PM: PM_{2.5} and PM₁₀), and sulfur dioxide (SO₂). California sets standards, similar to the NAAQS as California Ambient Air Quality Standards (CAAQS). Health effects of the primary criteria pollutants (i.e., the NAAQS) and their potential sources are described below and summarized in Table 1. Note that California includes pollutants or contaminants that are specific to certain industries and not associated with this project. These include hydrogen sulfide and vinyl chloride.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and oxides of nitrogen (NO_x). The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, shortness of breath, and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

Carbon monoxide is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. While CO transport is limited, it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO

reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal.

Nitrogen Dioxide

Nitrogen Dioxide is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Aside from its contribution to ozone formation, NO₂ also contribute to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO₂ may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO₂ decreases lung function and may reduce resistance to infection. On January 22, 2010, the U.S. Environmental Protection Agency (EPA) strengthened the health-based NAAQS for NO₂.

Sulfur Dioxide

Sulfur dioxide is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO₂ levels in the region. SO₂ irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are larger than 2.5 microns but smaller than 10 microns (PM₁₀). PM_{2.5} refers to fine suspended particulate matter with an aerodynamic diameter of 2.5 microns or less that is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM₁₀ and PM_{2.5}. These small particles can be directly emitted into the atmosphere as by-products of fuel combustion, through abrasion, such as tire or brake lining wear, or through fugitive dust (wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufactures.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The EPA banned the use of leaded gasoline in highway vehicles in December

1995. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Toxic Air Contaminants (TACs)

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the EPA and the California Air Resources Board (CARB). Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

High volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (distribution centers, truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high volume transit centers, or schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Table 1. Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO ₂)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O ₃)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood functions and nerve construction. • Behavioral and hearing problems in children.
Suspended Particulate Matter (PM _{2.5} and PM ₁₀)	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardiorespiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Sulfur Dioxide (SO ₂)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.
Toxic Air Contaminants	• Cars and trucks, especially diesels. • Industrial sources such as chrome platers. • Neighborhood businesses such as dry cleaners and service stations. • Building materials and product.	• Cancer. • Chronic eye, lung, or skin irritation. • Neurological and reproductive disorders.

Source: CARB, Common Air Pollutants, accessed May 16, 2022. Web:

<https://ww2.arb.ca.gov/resources/common-air-pollutants>

Local Climate and Air Quality

Air quality is a function of both local climate and local sources of air pollution. Air quality is the balance of the natural dispersal capacity of the atmosphere and emissions of air pollutants from human uses of the environment. Climate and topography are major influences on air quality.

Climate and Meteorology

During the summer, mostly clear skies result in warm daytime temperatures and cool nights in the Contra Costa County. Winter temperatures are mild, except for very cool but generally frost-less mornings. Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Rainfall amounts vary due to terrain but are around 30 inches in the lowlands. Wind patterns are influenced by local terrain, with a westerly to southwesterly breeze in response to the sea breeze infiltrating San Francisco Bay and gaps in the terrain typically developing during the daytime. Winds are usually stronger in the spring and summer. Southerly winds are experienced more often in late fall, winter, and early spring.

Air Pollution Potential

Ozone and fine particle pollution, or PM_{2.5}, are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and fine particle pollution in the winter or during episodes of wildfires in the Western United States. Central and eastern Contra Costa County is away from the cooler waters of the Pacific Ocean and San Francisco Bay that draw a mostly persistent onshore flow across the Bay Area. The East Bay Hills block or reduce the direct flow of marine air at times. During periods of high pressure in late spring, summer and early fall, a buildup of ozone can occur. During winter, wind flow can be reversed where stable, low-level flow from the Central Valley can advect into the area enhancing a buildup of particulate matter pollution.

Attainment Status Designations

The CARB is required to designate areas of the state as attainment, nonattainment, or unclassified for all state standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An “unclassified” designation signifies that data does not support either an attainment or nonattainment status. The California Clean Air Act (CCAA) divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

Table 2 shows the state and federal standards for criteria pollutants and provides a summary of the attainment status for the San Francisco Bay Area with respect to national and state ambient air quality standards.

Table 2. NAAQS, CAAQS, and San Francisco Bay Area Attainment Status

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Carbon Monoxide (CO)	8-Hour	9 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment
	1-Hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
Nitrogen Dioxide (NO ₂)	Annual Mean	0.030 ppm (57 mg/m ³)	Attainment	0.053 ppm (100 µg/m ³)	Attainment
	1-Hour	0.18 ppm (338 µg/m ³)	Attainment	0.100 ppm	Unclassified
Ozone (O ₃)	8-Hour	0.07 ppm (137 µg/m ³)	Nonattainment	0.070 ppm	Nonattainment
	1-Hour	0.09 ppm (180 µg/m ³)	Nonattainment	Not Applicable	Not Applicable
Suspended Particulate Matter (PM ₁₀)	Annual Mean	20 µg/m ³	Nonattainment	Not Applicable	Not Applicable
	24-Hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
Suspended Particulate Matter (PM _{2.5})	Annual Mean	12 µg/m ³	Nonattainment	12 µg/m ³	Attainment
	24-Hour	Not Applicable	Not Applicable	35 µg/m ³	Nonattainment
Sulfur Dioxide (SO ₂)	Annual Mean	Not Applicable	Not Applicable	80 µg/m ³ (0.03 ppm)	Attainment
	24-Hour	0.04 ppm (105 µg/m ³)	Attainment	365 µg/m ³ (0.14 ppm)	Attainment
	1-Hour	0.25 ppm (655 µg/m ³)	Attainment	0.075 ppm (196 µg/m ³)	Attainment

Lead (Pb) is not listed in the above table because it has been in attainment since the 1980s. ppm = parts per million, mg/m³ = milligrams per cubic meter, µg/m³ = micrograms per cubic meter

Source: Bay Area Air Quality Management District, 2017. *Air Quality Standards and Attainment Status*. January 5.

Existing Air Pollutant Levels

BAAQMD monitors air pollution at various sites within the Bay Area. The closest air monitoring station is in San Ramon, where O₃ and NO₂ are monitored. Another station in Concord monitors O₃, NO₂, PM₁₀, and PM_{2.5}. The data shows that during the past few years, the project area has exceeded the state and/or federal O₃ standards on 0 to 3 days annually.² PM₁₀, and PM_{2.5} ambient air quality standards have been exceeded up to 16 monitoring days, mainly due to wildfire smoke.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these

² BAAQMD. Bay Area Air Pollution Summary for years 2017, 2018 and 2019 (note the 2020 summary is not available). See <https://www.baaqmd.gov/about-air-quality/air-quality-summaries>, Accessed May 16, 2022.

sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children.

Regulatory Framework

Pursuant to the Federal Clean Air Act of 1970, the EPA established the NAAQS. The NAAQS were established for major pollutants, termed “criteria” pollutants. Criteria pollutants are defined as those pollutants for which the federal and state governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Both the EPA and the CARB have established ambient air quality standards for common pollutants: CO, O₃, NO₂, SO₂, Pb, and PM. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These standards are designed to protect the health and welfare of the public with a reasonable margin of safety. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each criteria pollutant.

Federal Air Quality Regulations

At the federal level, the EPA has been charged with implementing national air quality programs. EPA’s air quality mandates are drawn primarily from the FCAA, which was enacted in 1963. The FCAA was amended in 1970, 1977, and 1990.

The FCAA required EPA to establish primary and secondary NAAQS and required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). Federal standards include both primary and secondary standards. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.³ The Federal Clean Air Act Amendments of 1990 (FCAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformity with the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area which imposes additional control measures. Failure to submit an approvable SIP or to implement the Plan within the mandated timeframe may result in the application of sanctions on transportation funding and stationary air pollution sources in the air basin.

The 1970 FCAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The FCAA Amendments of 1990 changed deadlines for

³ See: U.S. Environmental Protection Agency, Web: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>, Accessed May 16, 2022.

attaining NAAQS as well as the remedial actions required of areas of the nation that exceed the standards. Under the FCAA, state and local agencies in areas that exceed the NAAQS are required to develop SIPs to show how they will achieve the NAAQS by specific dates. The FCAA requires that projects receiving federal funds demonstrate conformity to the approved SIP and local air quality attainment Plan for the region. Conformity with the SIP requirements would satisfy the FCAA requirements.

State Air Quality Regulations

The CARB is the agency responsible for the coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA, adopted in 1988. The CCAA requires that all air districts in the state achieve and maintain the CAAQS by the earliest practical date. The CCAA specifies that districts should focus on reducing the emissions from transportation and air-wide emission sources and provides districts with the authority to regulate indirect sources.

CARB is also responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts provide additional strategies for sources under their jurisdiction. CARB combines this data and submits the completed SIP to the EPA.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

California Clean Air Act

In 1988, the CCAA required that all air districts in the state endeavor to achieve and maintain CAAQS for CO, O₃, SO₂, and NO₂ by the earliest practical date. The CCAA provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the state standards for these pollutants are more stringent than the national standards.

California Air Resources Board Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a toxic air contaminant. CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.⁴ CARB subsequently developed an Air Quality and Land

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

Use Handbook⁵ (Handbook) in 2005 that is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. The 2005 CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for “sensitive” land uses, such as residences, 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 Handbook relative to the Plan Area include taking steps to consider or 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 300 feet of gasoline fueling stations (note that new fueling stations utilize enhanced vapor recovery systems that substantially reduce emissions).
- Within 300 feet of dry-cleaning operations (note that dry cleaning with TACs is being phased out and will be prohibited in 2023).

Truck and Bus Regulation

CARB is actively enforcing heavy-duty diesel vehicle regulations that require fleets to replace or retrofit heavy-duty diesel vehicles, with full implementation of the program scheduled for January 1, 2023. Compliance with the program is generally considered vehicles equipped with a 2010 or newer engine model year. As of January 1, 2020, the DMV cannot register any vehicle that does not meet the requirements of the Truck and Bus Regulation.

Other CARB diesel programs affecting heavy-duty diesel vehicles include:

- Idling limits of no more than 5 minutes with special exceptions.
- Emission Control Labels must be affixed to engines of all commercial heavy-duty diesel vehicles, and must be legible as proof the engine, at minimum, meets U.S. federal emissions standards for the engine model year.
- The Periodic Smoke Inspection Program requires owners of California-based fleets of two or more diesel vehicles to perform annual smoke opacity tests and to keep records for at least two years for each vehicle.
- The Heavy-Duty Vehicle Inspection Program uses random roadside inspections to verify that diesel engines do not smoke excessively and are tamper-free.

Off-Road Vehicle and Equipment Regulations

CARB has also adopted and implemented regulations to reduce DPM and nitrogen oxides (NOx) emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered

⁵ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_x exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent Federal off-road equipment engine emission limits for new vehicles, is expected to substantially reduce emissions of diesel particulate matter (DPM) and NO_x.

Fleet owners must report the vehicle and engine information for all vehicles within their fleets operating in California. Fleet owners must also report owner information. Fleet owners should report using DOORS, which is CARB's online reporting tool. CARB issues a unique Equipment Identification Number (EIN) that is assigned to each vehicle. The fleet owner must label their vehicles with the EIN.

Other CARB diesel programs affecting off-road vehicles and equipment include:

- Idling limits of no more than 5 minutes with special exceptions.
- Portable engines 50 hp or greater may require a permit or registration to legally operate. BAAQMD is responsible for taking enforcement action against individuals who own or operate portable equipment without a registration or permit.

Bay Area Air Quality Management District

The BAAQMD seeks to attain and maintain air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and education. The clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The BAAQMD also inspects stationary sources and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by law.

Clean Air Plan

The BAAQMD is responsible for developing a Clean Air Plan which guides the region's air quality planning efforts to attain the CAAQS. The BAAQMD's 2017 Clean Air Plan is the latest Clean Air Plan which contains district-wide control measures to reduce ozone precursor emissions (i.e., ROG and NO_x), particulate matter and greenhouse gas emissions. The Bay Area 2017 Clean Air Plan, which was adopted on April 19, 2017 by the BAAQMD's board of directors:

- Updates the Bay Area 2010 Clean Air Plan in accordance with the requirements of the California Clean Air Act to implement "all feasible measures" to reduce ozone;
- Provides a control strategy to reduce ozone, particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Reviews progress in improving air quality in recent years; and
- Continues and updates emission control measures.

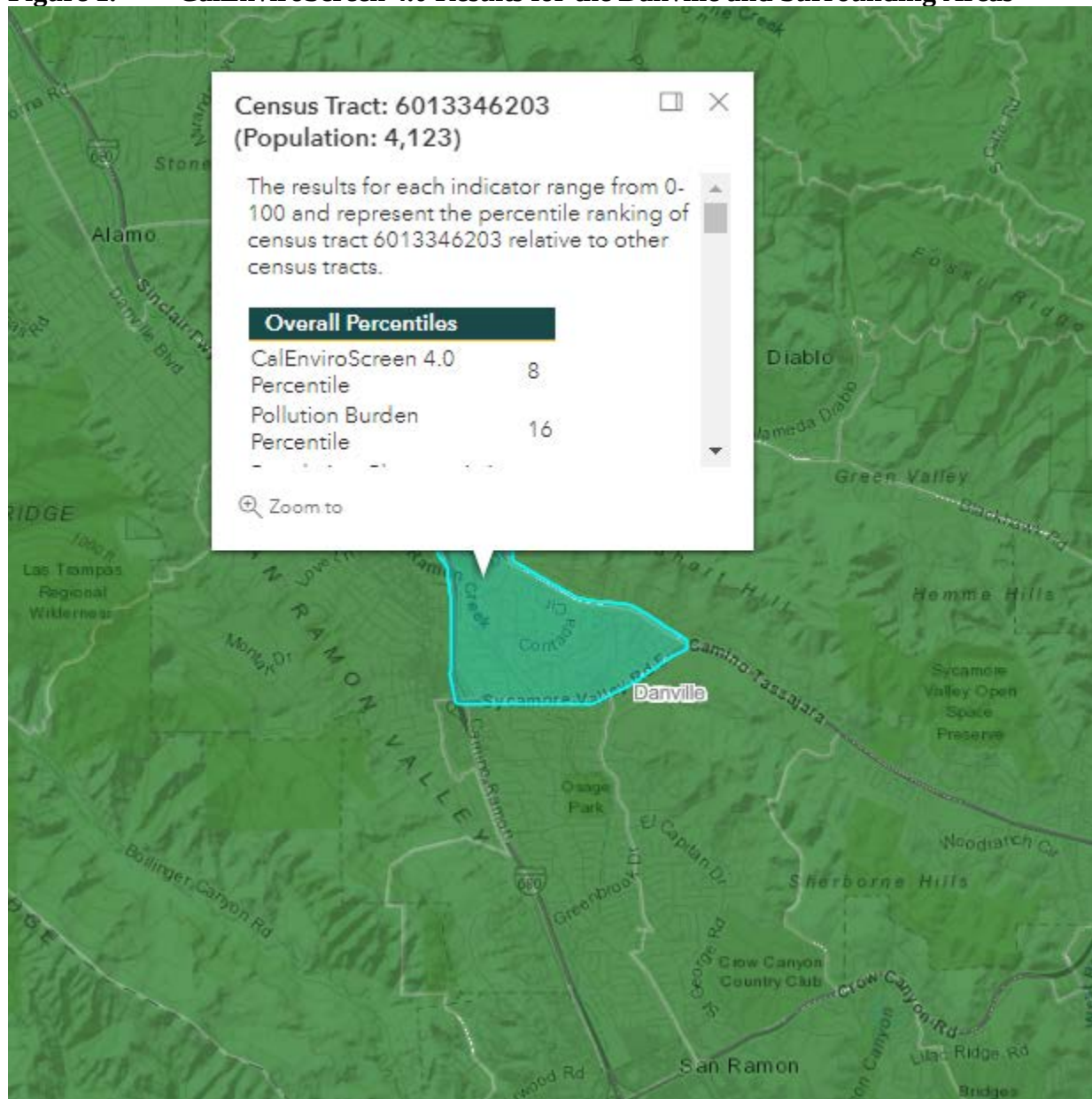
BAAQMD CARE Program

The Community Air Risk Evaluation (CARE) program was initiated in 2004 to evaluate and reduce health risks associated with exposures to outdoor TACs in the Bay Area.⁶ The program examines TAC emissions from point sources, area sources, and on-road and off-road mobile sources with an emphasis on diesel exhaust, which is a major contributor to airborne health risk in California. The CARE program is an on-going program that encourages community involvement and input. The technical analysis portion of the CARE program is being implemented in three phases that includes an assessment of the sources of TAC emissions, modeling and measurement programs to estimate concentrations of TAC, and an assessment of exposures and health risks. Throughout the program, information derived from the technical analyses will be used to focus emission reduction measures in areas with high TAC exposures and high density of sensitive populations. Risk reduction activities associated with the CARE program are focused on the most at-risk communities in the Bay Area. The BAAQMD has identified six communities as impacted: Concord, Richmond/San Pablo, Western Alameda County, San José, Redwood City/East Palo Alto, and Eastern San Francisco. Recently, BAAQMD identifies an *overburdened* community as an area located (i) within a census tract identified by the California Communities Environmental Health Screening Tool (CalEnviroScreen), Version 4.0,⁷ as having an overall CalEnviroScreen score at or above the 70th percentile, or (ii) within 1,000 feet of any such census tract. The entire town of Danville is not within an identified overburdened community area. According to CalEnviroScreen, the census tracts representative of the project Sub Areas and environs within 1,000 feet of the project have an overall score of 10 or less. (see Figure 1).

⁶ See BAAQMD: <https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program> , accessed 2/18/2021.

⁷ See California OEHHA: <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>, accessed May 16, 2022.

Figure 1. CalEnviroScreen 4.0 Results for the Danville and Surrounding Areas



Planning Healthy Places

BAAQMD developed a guidebook that provides air quality and public health information intended to assist local governments in addressing potential air quality issues related to exposure of sensitive receptors to exposure of emissions from local sources of air pollutants. The guidance provides tools and recommends best practices that can be implemented to reduce exposures. The information is provided as recommendations to develop policies and implementing measures in city or county General Plans, neighborhood or specific plans, land use development ordinances, or into projects.

BAAQMD California Environmental Quality Act Air Quality Guidelines

The BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines⁸ were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of their CEQA Guidelines. In May 2011, the updated BAAQMD CEQA Air Quality Guidelines were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts. A recent update to the Guidelines was published in May 2017.

The CEQA Guidelines define air pollution sources that would exist in Danville as highways, roadways with greater than 10,000 average daily trips, and stationary sources of air pollutants that are permitted by BAAQMD. Projects that have TAC emissions that could adversely affect sensitive receptors are recommended to prepare health risk assessments to quantify the potential and, if appropriate, identify mitigation measures to reduce impacts.

BAAQMD Rules and Regulations

Combustion equipment associated with the proposed project that includes new diesel engines to power generators and possibly cooling towers would establish new sources of particulate matter and gaseous emissions. Emissions would primarily result from the testing of the emergency backup generators and some minor emissions from cooling towers. Certain emission sources would be subject to BAAQMD Regulations and Rules. The District's rules and regulations that may apply to project operation include:

- Regulation 1 – General Provisions
 - Rule 1-30: Public Nuisance
- Regulation 2 – Permits
 - Rule 2-1: General Requirements
 - Rule 2-2: New Source Review
 - Rule 2-5: New Source Review of Toxic Air Contaminants
- Regulation 6 – Particulate Matter and Visible Emissions
 - Rule 6-2: Commercial Cooking Equipment
 - Rule 6-3: Wood-Burning Devices
 - Rule 6-7: Odorous Substances
- Regulation 9 – Inorganic Gaseous Pollutants
 - Rule 9-1: Sulfur Dioxide
 - Rule 9-7: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional, and Commercial Boilers, Steam Generators, And Process Heaters

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

Rule 9-8: Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines

Permits

Rule 2-1-301 requires that any person installing, modifying, or replacing any equipment, the use of which may reduce or control the emission of air contaminants, shall first obtain an Authority to Construct (ATC).

Rule 2-1-302 requires that written authorization from the BAAQMD in the form of a Permit to Operate (PTO) be secured before any such equipment is used or operated.

Rule 2-1 lists sources that are exempt from permitting. At the proposed facility, the diesel fuel storage tanks are expected to be exempt from permitting.

New Source Review

Rule 2-2, New Source Review (NSR), applies to all new and modified sources or facilities that are subject to the requirements of Rule 2-1-301. The purpose of the rule is to provide for review of such sources and to provide mechanisms by which no net increase in emissions will result.

Rule 2-2-301 requires that an applicant for an ATC or PTO apply Best Available Control Technology (BACT) to any new or modified source that results in an increase in emissions and has emissions of precursor organic compounds, non-precursor organic compounds, NO_x, SO₂, PM₁₀, or CO of 10.0 pounds or more per highest day. Based on the estimated emissions from the proposed project, BACT will be required for NO_x emissions from the diesel-fueled generator engines.

BACT for Diesel Generator Engines

Since the generators will be used exclusively for emergency use during involuntary loss of power, the BACT levels listed for IC compression engines in the BAAQMD BACT Guidelines would apply. These are provided for two separate size ranges of diesel engines:

I.C. Engine – Compression Ignition >50hp and <1,000hp: BAAQMD applies BACT 2 emission limits based on the ACTM for stationary emergency standby diesel engines larger than 50 brake-horsepower (BHP). NO_x emission factor limit is subject to the CARB ACTM that ranges from 3.0 to 3.5 grams per horsepower hour (g/hp-hr). The PM (PM₁₀ or PM_{2.5}) limit is 0.15 g/hp-hr per CARB's ACTM.

I.C. Engine – Compression Ignition <999hp: BAAQMD applies specific BACT emission limits for stationary emergency standby diesel engines equal or larger than 1,000 brake-horsepower (BHP). NO_x emission factor limit is 0.5 g/hp-hr. The PM (PM₁₀ or PM_{2.5}) limit is 0.02 g/hp-hr. POC (i.e., ROG) limits are 0.14 g/hp-hr.

Offsets

Rule 2-2-302 requires that offsets be provided for a new or modified source that emits more than 10 tons per year of NO_x or precursor organic compounds. It is not expected that emissions of any pollutant will exceed the offset thresholds. Thus, is not expected that offsets for the proposed project would be required.

Prohibitory Rules

Regulation 6 pertains to particulate matter and visible emissions. Although the engines will be fueled with diesel, they will be modern, low emission engines. Thus, the engines are expected to comply with Regulation 6.

Rule 6-3 applies to emissions from wood-burning devices. Effective November 1, 2016, no person or builder shall install a wood-burning device in a new building construction. Project plans do not depict fireplaces.

Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds when the District receives odor complaints. The regulation prohibits discharge of odorous substance that causes the ambient air at or beyond the property line to be odorous and to remain odorous after dilution with four parts of odor-free air and places limits on certain odorous compounds or family of compounds.

Rule 9-1 applies to sulfur dioxide. The engines will use ultra-low sulfur diesel fuel (less than 15 ppm sulfur) and will not be a significant source of sulfur dioxide emissions and are expected to comply with the requirements of Rule 9-1.

Rule 9-7 limits the emissions of NO_x CO from industrial, institutional and commercial boilers, steam generators and process heaters. This regulation typically applies to boilers with a heat rating of 2 million British Thermal Units (BTU) per hour

Rule 9-8 prescribes NO_x and CO emission limits for stationary internal combustion engines. Since the proposed engines will be used with emergency standby generators, Regulation 9-8-110 exempts the engines from the requirements of this Rule, except for the recordkeeping requirements (9-8-530) and limitations on hours of operation for reliability-related operation (maintenance and testing). The engines will not operate more than 50 hours per year, which will satisfy the requirements of 9-8-111.

Town of Danville

Danville 2030 General Plan

The Danville 2030 General Plan adopted concurrently with the Danville 2030 General Plan and an accompanying Environmental Impact Report (EIR), on March 19, 2013⁹. The goals, policies, and programs relevant to air quality are contained in the *Resource and Hazards* Chapter:

Goal 33: Reduce greenhouse gas (GHG) emissions in the Town of Danville in a manner that is consistent with state law and regional initiatives.

Policy 33.01: Make land use and transportation decisions which promote walking and bicycling and help to sustain public transportation.

Policy 33.02: Encourage reductions in the number of residents commuting in and out of Danville by car. This can be achieved in part by providing a better balance between jobs and housing, and providing housing which is responsive to the types of jobs that exist in Danville.

Policy 33.03: Support programs by local employers which encourage employees to carpool, use public transportation, telecommute, or pursue other alternatives to driving alone to work.

Policy 33.04: During the development review process, impose appropriate mitigation measures on new development to reduce greenhouse gas emissions.

Policy 33.05: Ensure compliance with state and federal standards for wood-burning fireplaces and stoves in new or remodeled homes. Consider incentives for homeowners to replace or retrofit existing fireplaces and stoves with low emission alternatives.

Policy 33.06: Encourage the use of cleaner burning fuels and low emission vehicles.

Policy 33.07: Work with the San Ramon Valley Unified School District to encourage carpooling, walking, and bicycling to schools.

Policy 33.08: Encourage the development of telecommunications infrastructure which facilitates telecommuting and home occupations.

Policy 33.09: Encourage local use of renewable energy sources, such as solar power.

Policy 33.10: Promote the use of low-emissions equipment and appliances.

Policy 33.11: Work with PG&E to publicize the benefits of residential energy efficiency and to maximize the use of their technical assistance and financial incentive programs.

⁹ Danville, Town of, 2012. *Danville 2030 General Plan*. See <https://www.danville.ca.gov/546/General-Plan> accessed March 14, 2022

Policy 33.12: Support public education on emissions reduction, alternative modes of transportation, and the steps that residents and businesses can take to promote sustainability

Policy 33.13: Periodically review the Town's progress toward meeting its greenhouse gas (GHG) reduction targets

Goal 34: Reduce local air pollution in an effort to limit health hazards, maintain a quality living environment, and achieve regional air quality improvements.

Policy 34.01: Support regional, state, and federal efforts to reduce air pollution

Policy 34.02: Consider air pollution impacts during the local development review process. Development should be located and regulated to minimize the emission of direct and indirect air contaminants.

Policy 34.03: Implement appropriate controls and "best practice" requirements on construction and grading activities to minimize airborne dust and other particulate matter.

Policy 34.04: Consistent with CEQA and the measures necessary to mitigate General Plan impacts, require site-specific air quality studies for future development under the Plan that includes sensitive receptors (such as schools, hospitals, daycare centers, or retirement homes) located within a designated buffer area along Interstate 680.

Policy 34.05: Ensure that future non-residential developments are evaluated through the CEQA process and/or the BAAQMD permit process to ensure that they do not result in a significant health risk.

Policy 34.06: Consistent with CEQA and the measures necessary to mitigate General Plan impacts, require indoor air filtration systems to reduce particulate concentrations to acceptable levels for projects where there would be a significant cancer risk exposure as defined by BAAQMD.

Policy 34.07: Require new restaurants located in mixed use developments, or adjacent to residential developments to install kitchen exhaust vents with filtration systems, reroute vents away from residential development, and/or to use other accepted methods of odor control, in accordance with local building and fire codes

Sustainability Action Plan

The Town's Sustainability Action Plan (SAP) encourages more environmentally sustainable practices in Danville, to help reach emission GHG reduction targets that were adopted through Assembly Bill 32 in 2006. Unless otherwise required by State law, compliance is intended to be achieved through a combination of voluntary measures, and public education and outreach. The SAP was prepared in 2011 and 2012 and adopted concurrently with the Danville 2030 General Plan and an accompanying Environmental Impact Report (EIR), on March 19, 2013. The SAP established a target of reducing GHG emissions by 15 percent between 2008 and 2020.

Impacts and Mitigation

Significance Criteria

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

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

BAAQMD provided revised CEQA Guidelines in May 2017. The thresholds identified in Table 3 and Table 4 represent the most recent guidance provided by BAAQMD. Though not necessarily a CEQA issue, the effect of existing TAC sources on future sensitive receptors (e.g., residences) is analyzed to comply with BAAQMD's Clean Air Plan key goal of reducing population TAC exposure and protecting public health in the Bay Area.

Table 3. BAAQMD Recommended Plan-Level Air Quality Significance Thresholds

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

Table 4. BAAQMD Recommended Project-Level Air Quality Significance Thresholds

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

Source: Bay Area Air Quality Management District, 2017

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

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

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

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

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

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

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

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

Consistency with Clean Air Plan Projections

The BAAQMD, with assistance from ABAG and MTC, has prepared and implemented the Clean Air Plan to meet the applicable laws, regulations, and programs. The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local

general plans. Land use planning affects vehicle travel, which in turn affects region-wide emissions of air pollutants and GHG.

Table 5 provides population and traffic conditions for existing and future build out conditions with the Housing Element Update developed. Land use and zoning changes to accommodate the Town's 2023-2031 RHNA allocation of 2,241 housing units and the required 15 percent buffer (336 housing units) could result in a maximum build out of 2,577 housing units. This could increase population by 7,215 people or 16 percent over existing conditions. Daily vehicle miles traveled (VMT) for this build out in housing were provided by the project traffic consultant. Using "Existing" as a baseline condition (estimated at 2,489,533 miles), VMT attributable to the Project is anticipated to increase 9.5 percent at build-out with the Housing Element Update (2,725,372 miles). The VMT per population is anticipated to decrease from 56.16 miles to 52.87 miles with the Project, since there would be more housing. Note that the Project would increase the number of trips by 16 percent over existing conditions, but those trips would have shorter lengths. In summary, the Project increases population and traffic. The rate of increase in traffic, measured as the rate of trips or VMT, would be less than increase in population.

Table 5. Danville Traffic and Population Projections

Scenario	Population	Daily Trips	Daily VMT	VMT per Service Population	VMT per Population
Existing Conditions (2020)	44,330	246,026	2,489,533	39.1	56.16
Year 2031 Existing + Housing Element Update – 2,577 units	51,545	270,281	2,725,372	--	52.87
<i>Change 2031 Project - Exist</i>	+7,215 +16.3%	+24,255 +9.9%	+235,839 +9.5%	--	-5.9%
2031 Cumulative No Project	46,750	254,706	2,617,581	39.6	55.99
Year 2031 Cumulative with Housing Element Update – all Sub Areas Built Out	57,266	285,843	2,862,703	37.4	49.99
<i>Change Cumulative 2031 Project - Exist</i>	+12,936 +29.2%	+39,817 +16.2%	+373,170 +15.0%	-4.5%	-12.3%

Source: Hexagon Transportation Consultants, *Danville Housing Element Update Transportation Study*, June 29, 2022.

Consistency with Clean Air Plan Control Measures

The BAAQMD CEQA Air Quality Guidelines set forth criteria for determining consistency with the Clean Air Plan control measures. In general, a plan is considered consistent if a) the plan supports the primary goals of the Clean Air Plan; b) includes control measures; and c) does not interfere with implementation of the Clean Air Plan measures. Growth under the Project is a considered a sustainable development since it is an infill development that would be transit-oriented and located near a mix of uses that include employment and services. As a result, these types of communities reduce the rate of per capita VMT, as reflected in the projections presented

in Table 5. Danville relies on measures in the adopted Climate Action Plan (CAP) to guide new development to meet GHG reduction goals. These goals are also in line with Clean Air Plan control measures. As sustainable housing development occurs in Danville under the Project and the General Plan would generally be consistent with Clean Air Plan measures intended to reduce automobile and energy use, which are discussed below. Table 6 lists those Clean Air Plan policies relevant to the Project and indicates consistency with the policies.

Table 6. BAAQMD Control Strategy Measures from the Clean Air Plan

Applicable BAAQMD Control Strategy Measures	Consistency
Transportation Control Measures	
TR1: Clean Air Teleworking Initiative	Consistent Supported by General Plan Resource and Hazards policies 33.03, 33.04, 33.08, and 33.12
TR2: Trip Reduction Programs	Consistent Supported by General Plan Resource and Hazards policies 33.01, 33.02, 33.03, 33.04, and 33.12 along with Mobility policies 13.04, 13.07, 13.08
TR 5: Transit Efficiency and Use	Consistent While this is mostly a regionally implemented control measure, General Plan Resource and Hazards policies 33.01 and 33.03 encourage use of public transit along with Mobility policies 13.01, 13.02, 13.03, 13.09
TR7: Safe Routes to Schools and Safe Routes to Transit	Consistent General Plan Resource and Hazards policy 33.07 encourages carpooling, walking, and bicycling to schools along with Mobility policies 11.06, 11.11, 12.01, 12.05, 12.07, 12.10.
TR8: Ridesharing, Last-Mile Connection	Consistent While this measure mostly applies to non-residential uses it is supported by General Plan Resource and Hazards policies 33.01, 33.02, and 33.03 along with Mobility policies 13.05, 13.06, and 13.08.
TR9: Bicycle and Pedestrian Access and Facilities	Consistent Supported by General Plan Resource and Hazards policies 33.01, 33.02, and 33.03 along with Mobility policies 11.03, 11.06, 12.01, 12.04, 12.07, 12.08, 12.11, 12.12, and 13.05.
TR10: Land Use Strategies	Consistent Supported by General Plan Resource and Hazards policies 33.01 and 33.02, Planning and Development policies 4.01, 4.05, and Mobility policies 14.01 and 14.04.
TR13: Parking Policies	Consistent Supported by General Plan Planning and Development policy 3.07 and Mobility policy 14.07.
Building Control Measures	

Applicable BAAQMD Control Strategy Measures	Consistency
BL1: Green Buildings	Consistent New construction allowed under the Project would meet the latest CalGreen Title 24 standards as well as Town requirements. Supported by Sustainability goals 32.01, 32.02, 32.04, 32.05, and 32.06.
BL2: Decarbonize Buildings	Consistent New construction allowed under the Project would meet the latest CalGreen Title 24 standards as well as Town requirements. Supported by Sustainability goals 32.05, 33.05, and 33.10.
BL4: Urban Heat Island Mitigation	Consistent Supported by General Plan Sustainability policy 32.04 and 32.07.
Natural and Working Lands Control Measures	
NW2: Urban Tree Planting	Consistent Supported by General Plan Sustainability policy 32.04 and 32.07.
Waste Management Control Measures	
WA4: Recycling and Waste Reduction	Consistent Supported by General Plan Sustainability policy 31.03, 31.04, 31.05, 31.06, and 32.03.
Water Control Measures	
WR2: Support Water Conservation	Consistent Supported by General Plan Sustainability policy 31.01 and 31.02.

As indicated in Table 6, the Town's General Plan includes implementing policies and measures that are generally consistent with the applicable Clean Air Plan control measures. As a result, this impact is less-than-significant.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The Bay Area is considered a non-attainment area for ground-level ozone and PM_{2.5} under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM₁₀ under the California Clean Air Act, but not the federal act. The area has attained both State and federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for ozone and particulate matter (i.e., PM_{2.5} and PM₁₀), the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NO_x), PM₁₀, and PM_{2.5} and apply to both construction period and operational period impacts for projects. They do not apply to plans, such as the Danville 2030 General Plan.

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

As previously described, the *Resource and Hazards* Chapter of the Danville 2030 General Plan includes the following goal and policies related to Air Quality that would serve to minimize impacts:

Policy 33.01: Make land use and transportation decisions which promote walking and bicycling and help to sustain public transportation.

Policy 33.04: During the development review process, impose appropriate mitigation measures on new development to reduce greenhouse gas emissions.

Policy 34.01: Support regional, state, and federal efforts to reduce air pollution

Policy 34.02: Consider air pollution impacts during the local development review process. Development should be located and regulated to minimize the emission of direct and indirect air contaminants.

Policy 34.03: Implement appropriate controls and "best practice" requirements on construction and grading activities to minimize airborne dust and other particulate matter.

General Plan Policies 34.02 and 34.03 would require applicants of Project's to analyze construction air quality impacts and implement appropriate controls and "best practices" requirements to minimize construction emissions at the time of future development.

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

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

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

As previously described, the *Resource and Hazards* Chapter of the Danville 2030 General Plan includes the following policies related to Air Quality that would serve to minimize health risk impacts:

Policy 34.04: Consistent with CEQA and the measures necessary to mitigate General Plan impacts, require site-specific air quality studies for future development under the Plan that includes sensitive receptors (such as schools, hospitals, daycare centers, or retirement homes) located within a designated buffer area along Interstate 680.

Policy 34.05: Ensure that future non-residential developments are evaluated through the CEQA process and/or the BAAQMD permit process to ensure that they do not result in a significant health risk.

Policy 34.06: Consistent with CEQA and the measures necessary to mitigate General Plan impacts, require indoor air filtration systems to reduce particulate concentrations to acceptable levels for projects where there would be a significant cancer risk exposure as defined by BAAQMD.

The proposed Housing Element Update would not result in a direct increase in pollutants or TACs due to redevelopment within the subarea locations planned for housing. Multi-family residential uses are not stationary sources of TACs, and do not involve the continued use of diesel-powered trucks that generate mobile TAC emissions. Implementation of the Project is not expected to introduce any new substantial sources of TACs with the potential to impact sensitive receptors and, therefore, this impact would be less than significant.

TAC Effects on Housing Element Sensitive Receptors

The Housing Element Update may lead to the introduction of new sensitive receptors, in the form of residents, that may be exposed to substantial levels of air pollutants or TACs. Substantial sources of air pollution can adversely affect sensitive receptors proposed as part of new projects. 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. Nearby stationary sources of TACs (e.g., emergency back-up generators and gas stations) and traffic on local roadways could affect the proposed residences. Busy nearby roadways with average daily traffic (ADT) of over 10,000 vehicles include Interstate 680, Danville Blvd., El Cerro Rd., Diablo Rd., Sycamore Valley Rd., Blackhawk Rd., Camino Tassajara Rd., and Crow Canyon Rd. There are some stationary sources identified within the 1,000-foot influence area using the BAAQMD's stationary source stationary source website map and GIS map tool.¹¹ Emissions from most of these sources do not cause substantial risk beyond their facility boundaries. Figure 3 shows the General Plan area, the 1,000-foot influence area, significance areas from roadways, and the nearby stationary sources. Screening risk levels are shown in Table 7 for sources that present potential health risk issues. Details of the screening and community risk calculations are included in *Attachment 2*. New sensitive receptors developed near any of the sources identified in Table 7 may require implementation of indoor air filtration systems consistent with *Policy 34.06*.

¹¹ BAAQMD, Website:

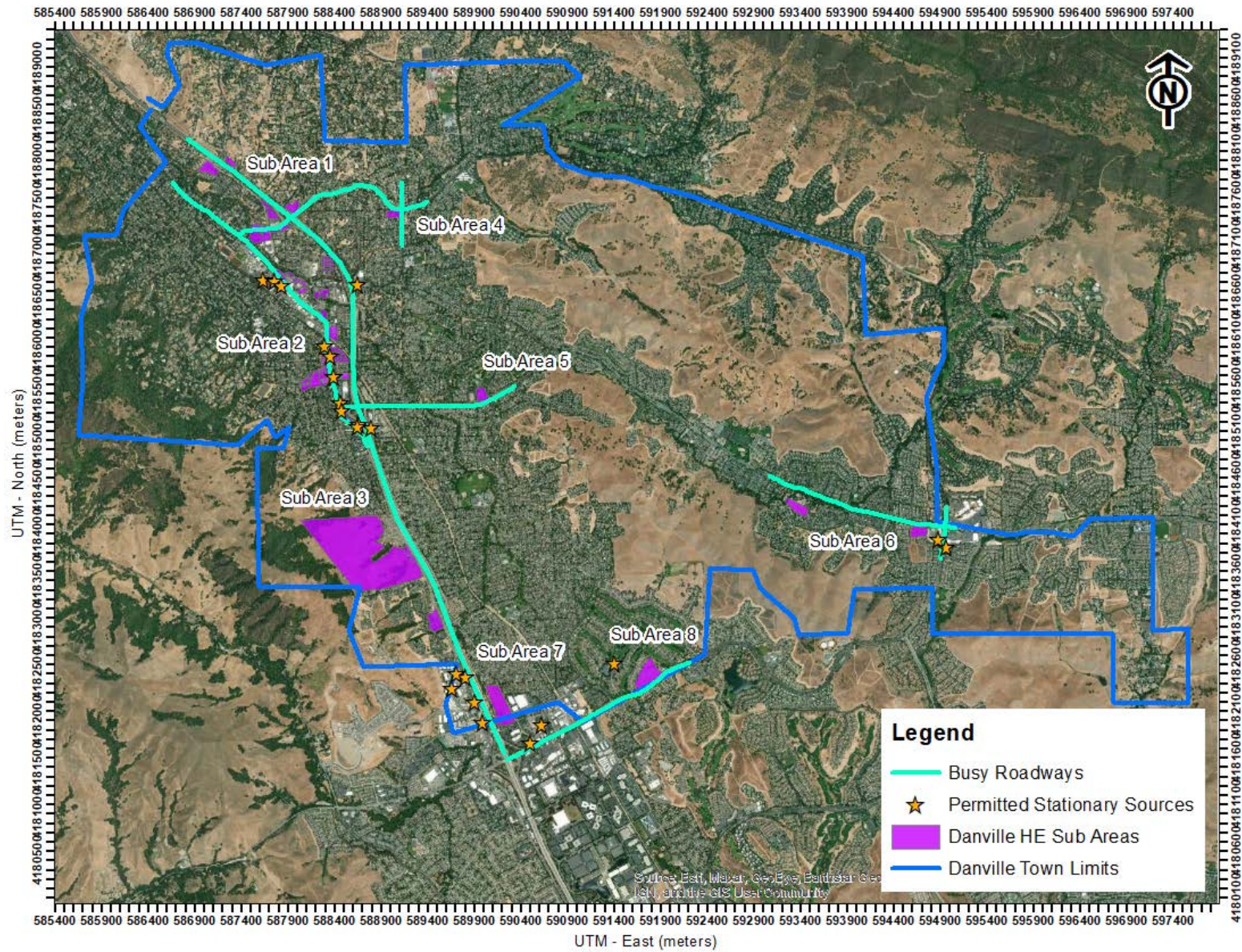
<https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65>

Table 7. Screening Distances from Existing Air Pollutant and TAC Sources

Source Description	Distance to Screening Threshold ¹			Source of Reference Level	Affected Sub Areas
	Cancer Risk	Hazard Index	Annual PM _{2.5}		
Roadway: Interstate 680	3,000 ft west 2,100 ft east	-- ² -- ²	1,700 ft west 1,300 ft east	BAAQMD Raster Database	1, 2, 3, 7
Roadway: El Cerro Rd.	200 ft	-- ²	200 ft	Estimate based on 10,000–20,000 ADT	1, 4
Roadway: Danville Blvd..	200 ft	-- ²	200 ft	Estimate based on 15,000-35,000 ADT	1, 3
Roadway: Diablo Rd.	100 ft	-- ²	100 ft	Estimate based on 15,000 ADT	4
Roadway: Sycamore Valley Rd.	200 ft	-- ²	200 ft	Estimate based on 20,000 ADT	5
Roadway: Blackhawk Rd.	200 ft	-- ²	100 ft	Estimate based on 20,000-30,000 ADT	6
Roadway: Camino Tassajara	300 ft	-- ²	300 ft	40,000 ADT	6
Roadway: Crow Canyon Rd.	300 ft	-- ²	300 ft	40,000 ADT	6, 8
Stationary: #7047 Symmons Body & Fender Inc – Auto Body	0	0	0	BAAQMD Generic Distance Multiplier Tool (e.g., Auto Body Facilities)	2
Stationary: #20333 Danville Sq Shopping Cntr/Risk-Based Decisions In - Auto Body	-- ²	0	0		1, 2
Stationary: #20594 B & S Hacienda Auto Body – Auto Body	0	0	0		7
Stationary: #24393 Caliber Collision Center - Auto Body	-- ²	0	-- ²		7
Stationary: #13463 Pacific Bell – Generators	115 ft	-- ²	-- ²	BAAQMD IC Engine Distance Multiplier Tool (e.g., Diesel Generators)	2
Stationary: #14023 San Ramon Valley Fire District - Station #31 - Generators	0	0	0		2
Stationary: #19115 Verizon Wireless (Danville) - Generators	-- ²	0	0		7
Stationary: #20785 New Cingular Wireless PCS LLC dba AT&T Mobility - Generators	-- ²	0	0		7
Stationary: #21081 Crow Canyon Medical Center - Generators	-- ²	0	0		7

Stationary: #100379 San Ramon Valley U S D – GDF	-- ²	-- ²	0	BAAQMD Gas Dispensing Facility (GDF) Distance Multiplier Tool	7
Stationary: #100503 Crow Canyon C C – GDF	-- ²	0	0		8
Stationary: #101306 Danville Olde Towne Arco – GDF	200 ft	-- ²	0		2
Stationary: #107274 Chevron #97578 – GDF	180 ft	-- ²	0		1, 2
Stationary: #107291 San Ramon Gas Food & Liquor – GDF	100 ft	-- ²	0		7
Stationary: #108318 Chevron SS# 9-2075 – GDF	250 ft	-- ²	0		6
Stationary: #109250 San Ramon Shell – GDF	165 ft	-- ²	0		7
Stationary: #109301 Danville 76 – GDF	100 ft	-- ²	0		2
Stationary: #109681 San Ramon Valley FPD Station #31 – GDF	-- ²	0	0		2
Stationary: #110607 Danville Valero Service Center – GDF	100 ft	-- ²	0		2
Stationary: #111929 Danville Food & Fuel – GDF	-- ²	-- ²	0		1, 2
Stationary: #111953 Danville Shell – GDF	130 ft	-- ²	0		8
Stationary: #112410 Camino Ramon Shell – GDF	130 ft	-- ²	0		2
Stationary: #112429 M D Roesbery Inc. – GDF	180 ft	-- ²	0		1, 2
Stationary: #112555 Convenience Retailers LLC – GDF	150 ft	-- ²	0		7
Stationary: #112603 Chevron Service Station – GDF	-- ²	-- ²	0	7	
¹ Using BAAQMD Screening tools and BAAQMD Permitted Facilities 2018 database.					
² Extent of risk within facility boundaries.					

Figure 3. Danville Housing Element with Identified Sub Areas, Busy Roadways, and Stationary Sources



Construction TAC Exposure

Subsequent land use activities associated with implementation of the Project could include short-term construction sources of TACs. There are sensitive receptors throughout Danville and there will be future residents in the Danville development areas that could potentially be exposed to construction TACs during construction activity.

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. The construction exhaust emissions may pose community risks for sensitive receptors such as nearby residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to PM_{2.5}. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A community risk assessment of the project construction activities would have to be conducted at a project level to address these impacts. Since specific construction plans and schedules for construction are not known, it is not possible to quantify the impacts and determine the significance. There are various measures that can be incorporated into construction plans that could minimize these potential impacts. Health risks to nearby off-site and future on-site sensitive receptors associated with temporary construction near Housing Element Update sites is considered *potentially significant*. Danville 2030 General Plan Policy 34.04 and 34.05 requires the City to use the BAAQMD CEQA Guidelines to evaluate and mitigate potential health risk impacts.

Project Operation TAC Exposure

The BAAQMD CEQA Guidelines recommend that General Plans identify overlay zones around existing and planned sources of TACs (including adopted Risk Reduction Plan areas) and develop risk reduction measures to avoid exposures. Development under the Project would be residential that is not considered a source of TACs or PM_{2.5} emissions.

Traffic would be generated by new housing. Diesel powered vehicles are the primary concern with local traffic-generated TAC impacts. Per BAAQMD recommended risks and methodology, a single road with less than 10,000 total vehicle per day is considered a low-impact source of TACs.¹² The addition of the new housing under the HEU would add about 24,255 new daily trips dispersed on the Town's roadway system with a majority of the trips being from light-duty vehicles (i.e., passenger automobiles). No single roadway is likely to experience an increase in traffic that approaches the 10,000-daily vehicles guidance. The types of projects with the potential to cause or contribute to increased cancer risk from traffic include those that have attract high numbers of diesel-powered on road trucks or use off-road diesel equipment on site, such as a warehouse distribution center, a quarry, or a manufacturing facility, may potentially expose existing or future planned receptors to substantial cancer risk levels and/or health hazards. This is not a project of concern for non-BAAQMD permitted mobile sources. Therefore, emissions from project traffic are considered negligible and not included within this analysis.

Some stationary sources could be installed as part of these projects that may include diesel generator or natural gas-fueled boilers that would require permitting by BAAQMD. These types

¹² BAAQMD, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0*. May. Web: <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en>

of sources of air pollution that operate within accordance of BAAQMD rules and regulations would not cause significant exposure for on- or off-site sensitive receptors.

To protect new sensitive receptors from exposure to existing or new TAC sources, Danville 2030 General Plan *Policy 34.06* requires indoor air filtration systems to reduce particulate concentrations to acceptable levels for projects where there would be a significant cancer risk exposure as defined by BAAQMD.

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

Residential development is not a typical source of odors that could lead to objectionable odors that generate frequent odor complaints. Odor impacts could occur if residents associated with the Project experienced objectionable odors and made complaints. Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative methodologies to determine the presence of a significant odor impact. The significance of odor impacts is based on the potential to cause odor complaints.

BAAQMD publishes screening buffer distances for odor sources and sensitive receptors in their CEQA Air Quality Guidelines. There are no identified major sources of odors in Danville that are near the Sub Areas identified for housing. Uses in the plan area may include restaurants or auto repair shops that could have localized odors but are not likely to result in frequent odor complaints.

Greenhouse Gas Regulatory Framework

This section summarizes key federal, State, and City statutes, regulations, and policies that would apply to the General Plan. Global climate change resulting from GHG emissions is an emerging environmental concern being raised and discussed at the international, national, statewide, and local levels. At each level, agencies are considering strategies to control emissions of gases that contribute to global climate change.

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by humankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Gases that trap heat in the atmosphere are called greenhouse gases. Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect.

The greenhouse effect helps maintain a habitable climate. Emissions of GHGs from human activities, such as electricity production, motor vehicle use, and agriculture, are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or global climate change. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred because it implies that there are other consequences to the global climate in addition to rising temperatures. Other than water vapor, the primary GHGs contributing to global climate change include the following gases:

- Carbon dioxide (CO₂), primarily a byproduct of fuel combustion;
- Nitrous oxide (N₂O), a byproduct of fuel combustion; also associated with agricultural operations such as the fertilization of crops;
- Methane (CH₄), commonly created by off-gassing from agricultural practices (e.g., livestock), wastewater treatment and landfill operations;
- Chlorofluorocarbons (CFCs) were used as refrigerants, propellants, and cleaning solvents, but their production has been mostly prohibited by international treaty;
- Hydrofluorocarbons (HFCs) are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆) emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

These gases vary considerably in terms of Global Warming Potential (GWP), a term developed to compare the propensity of each GHG to trap heat in the atmosphere relative to another GHG. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time of gas remains in the atmosphere. The GWP of each GHG is measured relative to CO₂. Accordingly, GHG emissions are typically measured and reported in terms of equivalent CO₂ (CO₂e). For instance, SF₆ is 22,800 times more intense in terms of global climate change contribution than CO₂.

An expanding body of scientific research supports the theory that global warming is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California could be adversely affected by the global warming trend. Increased precipitation and sea level rise could increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes, and drought; and increased levels of air pollution.

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2018, total gross nationwide GHG emissions were 6,676.6 million metric tons (MMT) carbon dioxide equivalent (CO₂e).¹³ These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions.¹⁴ In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was computed for the year 2011.¹⁵ The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011.

Federal Regulations

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. Currently, there are no federal regulations or policies pertaining to GHG emissions from proposed projects or plans.

State Regulations

The State of California is concerned about GHG emissions and their effect on global climate change. The State recognizes that “there appears to be a close relationship between the concentration of GHGs in the atmosphere and global temperatures” and that “the evidence for

¹³ United States Environmental Protection Agency, 2020. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018*. April. Web: <https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf>

¹⁴ CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

¹⁵ BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Web: http://www.baaqmd.gov/~media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf accessed Nov. 26, 2019.

climate change is overwhelming.” The effects of climate change on California, in terms of how it would affect the ecosystem and economy, remain uncertain. The State has many areas of concern regarding climate change with respect to global warming. According to the 2006 Climate Action Team Report, the following climate change effects and conditions can be expected in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, effecting the state’s water supply;
- Increasing temperatures from 8 to 10.4 degrees Fahrenheit (°F) under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution standards are exceeded in most urban areas;
- Coastal erosion along the length of California and seawater intrusion into the Sacramento River Delta from a 4- to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions;
- Increased vulnerability of forests due to pest infestation and increased temperatures;
- Increased challenges for the state’s important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta; and
- Increased electricity demand, particularly in the hot summer months.

Executive Order S-3-05 – California GHG Reduction Targets

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California’s GHG emissions to 2000 levels by 2010, (2) reduce California’s GHG emissions to 1990 levels by 2020, and (3) reduce California’s GHG emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32 – California Global Warming Solutions Act (2006)

Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006, codified the State’s GHG emissions target by directing CARB to reduce the State’s global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05, which has a target of reducing GHG emissions 80 percent below 1990 levels.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State’s main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO₂e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, considering the economic downturn, to 545 MMT of CO₂e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO₂e. Thus, an estimated reduction of 80 MMT of CO₂e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed Senate Bill (SB) 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*.¹⁶ While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB is currently working on a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The proposed Scoping Plan Update was published on January 20, 2017 as directed by SB 32 companion legislation AB 197. The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings;
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit-oriented housing;
- Develop walkable and bikeable communities;
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;

¹⁶ California Air Resource Board, 2017. *California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Targets*. November. Web: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf

- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce “super pollutants” by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO₂e per capita (statewide) by 2030 and no more than 2 metric tons CO₂e per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal.

Senate Bill 375 – California’s Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB’s ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g., Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region’s ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

Senate Bill 350 - Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California’s RPS program goals, furthering California’s focus on using renewable energy and carbon-free power sources for

its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retail sales would need to be from renewable energy sources, by December 31, 2026 the target would be 40 percent, by December 31, 2017 the target would be 52 percent, and by December 31, 2030 the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resource to all California end-use customers.

California Building Standards Code – Title 24 Part 11 & Part 6

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.¹⁷ The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1, 2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lighting upgrades.¹⁸

Climate Change Scoping Plan

The initial Scoping Plan to reduce statewide GHG emissions was developed in 2008 and, per AB 32, must be updated at least once every five years. The 2013 First Update to the Climate Change Scoping Plan (2013 Update) defined CARB's climate change priorities for the subsequent five years and laid the groundwork to start the transition to the post-2020 goals set forth in Executive Orders S-3-05 and B-16-2012. The 2017 Scoping Plan Update (2017 Update) described the path to achieving the 2030 GHG emissions target codified under SB 32, which is 40 percent below 1990 levels. CARB is now in the process of updating the Scoping Plan to meet the 2022 statutory deadline. The Proposed 2022 Scoping Plan Update assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045. The Proposed 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic,

¹⁷ See: <https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.>

¹⁸ See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

environmental, energy security, environmental justice, and public health priorities. A draft of this scoping plan was released on May 10, 2022.

Bay Area Air Quality Management District

BAAQMD is the regional government agency that regulates sources of air pollution within the nine San Francisco Bay Area counties. The BAAQMD regulates GHG emissions through the following plans, programs, and guidelines.

Regional Clean Air Plans

BAAQMD and other air districts prepare clean air plans in accordance with the State and Federal Clean Air Acts. The Bay Area 2017 Clean Air Plan (CAP) is a comprehensive plan to improve Bay Area air quality and protect public health through implementation of a control strategy designed to reduce emissions and ambient concentrations of harmful pollutants. The most recent CAP also includes measures designed to reduce GHG emissions.

BAAQMD Climate Protection Program

The BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

BAAQMD CEQA Air Quality Guidelines

The BAAQMD adopted revised CEQA Air Quality Guidelines on June 2, 2010, and then adopted a modified version of the Guidelines in May 2011. The BAAQMD CEQA Air Quality Guidelines include thresholds of significance for greenhouse gas emissions. Under the latest CEQA Air Quality Guidelines, a local government may prepare a qualified greenhouse gas Reduction Strategy that is consistent with AB 32 goals. If a project is consistent with an adopted qualified greenhouse gas Reduction Strategy, it can be presumed that the project will not have significant GHG emissions under CEQA.¹⁹ Alternatively, BAAQMD recommends a GHG threshold of 4.6 metric tons per capita for projects and 6.6 metric tons per capita for plans that consider all land uses (both ones that will be unchanged and new or modified land uses). These numeric thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of new housing under the Housing Element update would occur beyond 2020, so a threshold that addresses a future target is appropriate. The basis of the BAAQMD thresholds were used to develop plan level thresholds for 2040. Although BAAQMD has not yet published a

¹⁹ Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May. See https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

quantified threshold for 2030 or 2040, this assessment uses a “Substantial Progress” efficiency metric of 4.0 MT CO₂e/year/service population (S.P.) in 2030. This is calculated for 2030 based on the GHG reduction goals of EO B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels. An efficiency metric of 2.7 MT CO₂e/year/S.P. was also calculated using the same method but extending the horizon year to 2031 that is consistent with the Housing Element update year. Unfortunately, the tools used to compute GHG emission are constrained to those emissions rates that are occurring or regulated to occur in the future. The currently available models do not reflect the latest scoping plan strategies. For land use projects, these strategies include a phase out of combustion on-road vehicles, increased use of renewable fuels and electricity, and reduced demand for energy from fossil fuels.

BAAQMD CEQA Thresholds

On April 20, 2022, BAAQMD adopted new thresholds for assessing the impacts that projects and plans would have on climate change. BAAQMD provided a justification report that described these new qualitative thresholds that are recommended for lead agencies to consider when approving projects or plans through the CEQA process.²⁰ These thresholds are meant to apply to projects that begin the CEQA review process after adoption of the thresholds.

For land use projects, BAAQMD developed thresholds that evaluate a project based on its effect on the State’s efforts to meet the identified long-term climate goals.

Table 8 reports the threshold for plan-level analyses based on estimated GHG emissions, as well as per capita metrics, developed by BAAQMD.

²⁰ Bay Area Air Quality Management District, 2022. *CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*. April. See <https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en>

Table 8. BAAQMD Recommended Plan-Level Air Quality Significance Thresholds

Pollutant/Contaminant	Construction	Operational
GHGs contained in 2017 CEQA Air Quality Guidelines	None	A. Compliance with Qualified GHG Reduction Strategy OR 6.6 MT CO₂e/SP/year (residents + employees) for Plans and 4.6 MT CO₂e/SP/year for Projects B. For this analysis, a threshold is applied: <i>2.7 metric tons per capita in 2031 that reflects a reduction of 40% below 1990 levels by 2030 and with the same rate of reduction applied to 2031.</i>
GHGs adopted April 2022	None	A. Meet the State's goals to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045 OR B. Be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b). C. For Projects: 1. Buildings a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development). b. The project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines. 2. Transportation a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts. b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

Town of Danville's Climate Action Plan

The Town's Climate Action Plan was adopted in 2009. The plan was intended as best practices and to provide a combination of actions the Town would take with respect to its own operations, some regulatory actions, and cooperative efforts within the community to provide residents and business owners ways to reduce greenhouse emissions.

Town of Danville Sustainability Action Plan

The Sustainability Action Plan (SAP) was prepared in 2011 and 2012 through a public process including four study sessions with the Danville Town Council and Planning Commission and was adopted concurrently with the Danville 2030 General Plan and an accompanying EIR in 2013. This SAP is one of the key implementation measures for the Danville 2030 General Plan. It is a detailed, long-range strategy to GHG emissions and achieve greater sustainability in transportation and land use, energy, water, solid waste, and other areas. This SAP addresses the major sources of GHG emissions in Danville and the strategies that the Town and community can encourage to attain and exceed the State GHG emissions reduction target identified at the time in AB 32 and Executive Order S-3-06 (2006). The goals identified were reducing emissions to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. As discussed above, the State's current goals are to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045.

The SAP identified 2008 existing emissions of 351,590 metric tons of carbon dioxide equivalent (MTCO_{2e}). Transportation made up 45 percent of emissions followed by residential emissions from natural gas use and electricity that made up 34 percent of the emissions. The other roughly 20 percent emissions were from commercial and industrial uses and water/wastewater treatment. A GHG emissions forecast was developed for 2020 based on State and federal GHG regulations and programs that were in place in 2012 when the modeling was conducted. Adjusted emissions reflect reductions from measures identified in the SAP. Emissions were forecast to fall by over 63,000 metric tons to 288,330 MTCO_{2e}.

The Town of Danville General Plan 2030 EIR identified the SAP as a qualified GHG emissions reduction strategy, per BAAQMD CEQA guidelines, as it met the required characteristics and demonstrated that the SAP would meet BAAQMD's baseline reduction goal of 15 percent by 2020. As a result, the SAP aligned the Town's GHG reduction goals with the GHG target outlined in CARB's 2008 Scoping Plan that met the AB 32 requirements. Without new future GHG reduction measures, emissions were predicted to increase to 309,290 MTCO_{2e}. As was proposed, the General Plan and SAP alone were not expected to meet future GHG reduction goals consistent with Executive Order S-03-05's goal to reduce GHG emissions by 80 percent below 1990 levels by 2050. This would include current goals to reduce 2030 emissions to 40 percent below 1990 levels. Projected 2030/35 emissions under the General Plan and SAP were 290,970 MTCO_{2e}. The EIR identified the GHG impact as significant and unavoidable.

Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050. In 2015, Governor Brown signed EO B-30-15, which extended the goals of AB 32, setting a GHG emissions target at 40 percent of 1990 levels by 2030, which is in line with obtaining the 80-percent reduction by 2050.

GHG Emissions Associated with the Housing Element Update

The California Emissions Estimator Model (CalEEMod version 2020.4.0) was used to compute annual GHG emissions for build out of 2,577 new housing units, consistent with RHNA requirements. The model used for this analysis reflects emissions associated with the new planned housing units and population and is computed differently than the inventory used for the SAP. The annual GHG emissions for 2031 from build-out of the Sub Areas were divided by the reported increase in population to compute per service population emissions.

Modeling inputs specific to the HEU included:

Land Use

A total of 2,577 new housing units, entered as “Apartments Mid Rise” using model default building size.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The operational year was assumed 2031.

Traffic Inputs

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the average daily trip generation rate and travel distances developed from data reported by Hexagon Transportation Consultants. Trip generation was calculated by dividing the total daily trips by the number of dwelling units. The trip distances were computed by dividing the total VMT by the total daily number of trips predicted. These are assumed to reflect weekday conditions and adjustments were made for Saturday and Sunday based on CalEEMod default rates.

Energy

Default energy usage assumptions included in CalEEMod were applied to this modeling.

Electricity Generation

Electricity in Danville is provided by Pacific Gas & Electric and Marin Clean Energy (MCE). Emissions rates associated with electricity consumption were applied to the project, using default usage rates assumed in CalEEMod for Pacific Gas & Electric. The CalEEMod default rate reflects conditions in 2018 and does not have adjustments reflecting PG&E or MCE’s energy portfolio that will decrease sources of electricity associated with carbon emissions. In 2018, PG&E had a CO₂ intensity rate of 203.98 pounds per megawatt of electricity delivered (lbs/MWhr). MCE’s portfolio was made up of 60 percent renewable sources. MCE intends to be 95 percent GHG emissions free

by 2023.²¹ Currently, MCE delivers electricity with a CO₂ intensity rate of 190 lbs/MWhr. Some customers already may enroll in some of MCE's or PG&E's cleaner energy plans. The CalEEMod modeling reflected the existing PG&E carbon intensity rate for 2031 conditions. However, this rate will decrease in the future.

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. No woodburning emissions from hearths was assumed for new housing constructed as wood fireplaces are prohibited in the Bay Area.²²

GHG Operational Emissions

As shown in Table 9, the 2031 full build-out operation of the Sub Areas that accommodates the future growth in housing would have unmitigated annual per capita emissions of 3.56 MT/year/person. The variation in emissions is based on trip generation rates and the rate of VMT. The rate of trip generation and VMT would vary by Sub Area, as some are further away from transportation and transit facilities, which results in higher rates of GHG emissions. The unmitigated per capita emissions would exceed the adjusted per capita thresholds of 2.7 MT/year/person at all Sub Areas.

The emissions reported in Table 9 reflect unmitigated and mitigated conditions. There are programs currently in place that would reduce emissions over time. For example, California is moving toward electricity generation with lower carbon intensity such that most electricity produced by 2045 would have no GHG emissions. Including solar power generating systems in new housing and selection of zero carbon emissions electricity through electrical utility providers could result in a net zero increase in electricity related GHG emissions. The current modeling assumes emissions rates representative of 2020 conditions. Many Bay Area communities are adopting enhanced building codes that eliminate new natural gas infrastructure in new residences and commercial buildings. Natural gas appliances are replaced with electric powered ones and no new wood or gas fireplaces are constructed. Waste management companies are increasingly diverting waste from landfills, including increased collection of compost materials that began in 2022.

Reductions in VMT were identified for each Sub Area. The VMT mitigation strategies outlined by CCTA's Growth Management Program could achieve a VMT reduction of between 4.7 and 5.2 percent.

Table 9 reports reduced emissions assuming applications of measures described above. Full build-out operation of the Sub Areas that accommodates the future growth in housing under mitigated conditions would have average annual per capita emissions of 3.31 MT/year/person..

Table 9. GHG Emissions for HEU

Source Category	Unmitigated	Mitigated
Area	136	32
Energy Consumption	2,090	1,497
Mobile ¹	22,653	21,588
Solid Waste Generation	596	596
Water Usage	223	178
Total (MT of CO ₂ e)	25,697	23,891
Added Population	7,215	
Service Population Efficiency Metric (MT CO₂e/year/SP)	3.56	3.31

Consistency with GHG Reduction Strategies

As previously described, the General Plan 2030 EIR identified a significant and unavoidable impact due to GHG emission not meeting future target in 2030/35 and beyond. No new CAPs or GHG emission reduction strategies have been adopted on the local level; although, there are measures at the State and federal level that will further reduce GHG emissions. In addition, the Town uses measures contained in the SAP to further reduce GHG emissions.

To address current and future State efforts to reduce GHG emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045, BAAQMD adopted new thresholds that pertain to GHG emissions and Climate Change. For plans, the BAAQMD guidance recommends that consistency with GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b) should be demonstrated. However, the Town's current General Plan policies do not meet current State goals. To address these current goals, BAAQMD's recommended thresholds for projects are addressed.

1. Buildings

The Town's SAP has several Energy and Green Building measures applicable to the HEU that are intended to reduce GHG emissions associated with the HEU. This includes the following measures that are directly applicable to new housing in the Town:

Measure EG-1 encourages residential projects to participate in the CEC's New Solar Homes Partnership (and successor programs, as applicable). Measure EG-1a Provide technical assistance in conjunction with the plan review process, and continue to disseminate available information regarding green building, energy-efficient practices, and available rebates. Measure EG-1b facilitates the development and installation of alternative energy facilities. Measure EG-1c maintains low permitting fees for energy efficiency improvements and alternative energy system installation.

Measure EG-2 requires the Town to update to the State Building Code which increases energy efficiency requirements, amend the Danville Building Code to align with the new requirements and use available means to announce and summarize the changes to the public. Measure EG-2a provides incentives to green building projects.

Measure EG-3 addresses outdoor lighting efficiency.

Measure EG-5 encourages new construction to adopt GreenPoint Rated Building Guidelines and use the GreenPoint “checklist” when undertaking new residential construction.

Measure EG-6 incentivizes solar water heating in new residences.

Measure EG-7 makes permitting of renewable energy easier for new construction. The measure takes advantage of available rebate programs and promote these programs to new residential projects and encourages new projects to exceed Title 20 and 24 energy efficiency requirements.

Natural Gas. The Town currently does not have building code requirements that prohibit new natural gas appliances or natural gas plumbing in residential developments. Therefore, without a condition of approval or mitigation measures, the Housing Element Update would be inconsistent with this measure.

Energy. The project would construct new multi-family residences to meet the RHNA needs in accordance with the latest Title 24 building code standards that address energy efficiency. Therefore, the project will not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.

2. Transportation

The Town’s SAP has several Land Use and Transportation measures intended to reduce GHG emissions. Many measures target commercial-generated trips but there are measures that affect residential development.

Measure LT-2 encourages employer trip reduction in Danville such as ride-share programs, provision of end-of-trip bicycle facilities (e.g., showers, lockers, etc.), guaranteed ride home programs, promotion of telecommuting, and preferential parking permit programs.

Measure LT-3 expands the TRAFFIX program to reduce traffic associated with schools. This would be coupled with Measure LT-4 that implements pedestrian and bicycle safety improvements, access-ways, and connections to make it safer and easier to walk or bike to school.

Measure LT-5 seeks to create local shuttle programs with LT-6 improving and expanding transit service and Measure LT-8 would seek to offer Car-Sharing service in Danville.

Other measures, such as LT-9 that expands and improves the Town’s bicycle network and LT-6 that improves the downtown streetscape would help reduce residential-generated traffic.

VTM Reduction. The transportation study evaluated VMT associated with build out of all Sub Areas that would have a build out capacity of 4,620 dwelling units in accordance with CEQA requirements under SB 743. The Town of Danville has not formally adopted a VMT policy, therefore, guidance from the Contra Costa Transportation Authority (CCTA)’s Growth Management Program Implementation Guide for residential developments was used. For residential developments, the VMT threshold is 15% below the existing town-wide residential home-based VMT per capita average. VMT per capita for the Housing Element update is shown in Table 10 and compared against the appropriate threshold.

Table 10. VMT by Sub Area

Table 10: VMT by Sub Area

VMT per Resident	Residential VMT Analysis							
	SubArea 1	SubArea 2	SubArea 3	SubArea 4	SubArea 5	SubArea 6	SubArea 7	SubArea 8
Unmitigated	19.8	18.8	16.7	21.8	22.3	23.2	16.7	18.6
Mitigated ¹	18.8	17.8	15.9	20.7	21.2	22.0	15.9	17.7
Overall VMT	Unmitigated = 19.1 mi/capita Mitigated = 18.2 mi./capita							
VMT Threshold	Town Baseline Average daily VMT per Capita = 22.3 mi, 15% below existing = 19.0 mi							
Bold indicates level above threshold								
¹ Assumes 5.0% (4.7 to 5.2%) reduction in VMT								

EV Charging. To achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2, development of projects under the Housing Element Update would have to include electric vehicle charging infrastructure.

3 Solid Waste

The Town’s SAP includes recycling and solid waste measures applicable to the HEU that are intended to reduce GHG emissions. This includes the following measures that are directly applicable to new housing in the Town:

Measure RW-1 requires waste management plans for construction projects to reach the 75-percent diversion of construction waste, consistent with the 2020 goals of AB 341.

Measure RW-2 requires new constructed multi-family housing projects to include recycling areas for residents that meet Town and Central Contra Costa Solid Waste Authority design standards.

Measure RW-4 supports new State laws that require food scrap and green waste diversion

4 Water and Wastewater

Measures to reduce water consumption and wastewater generation are included in the Town’s SAP:

Under Measure WW-1, the Town reviews all development projects to ensure consistency with the latest efficiency measures identified as mandatory in the California Green Building Standards Code with local agencies such as East Bay Municipal Utility District (EBMUD) to develop other programs and policies to reduce outdoor potable water use.

Measure WW-2 requires the use of native plants or other drought-tolerant plantings in new developments.

Measure WW-3 would require dual piping for recycled water use in new multi-family projects that may eventually be used to supply recycled water use for non-potable water use. The Town and EBMUD promotes the use of recycled water under Measure WW-5.

The Town provides information for water conservation under Measure WW-7 and provides free water audits in collaboration with EBMUD.

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed Housing Element Update would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan. The project would comply with requirements of the Green Building Code. For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures and water-efficient irrigation systems. Measures contained in the Town's SAP would apply to development under the Housing Element Update.

Mitigation Measure

In addition to implementing Town requirements, the following measures should be implemented to reduce GHG impacts:

1. Trip and VMT Reduction. VMT Mitigation measures consisting of project-scale and community-wide strategies to reduce vehicle trips and trip distances. These are described in the Transportation Study. Overall, VMT for the HEU would be reduced below the threshold of 15 percent below existing baseline (see Table 10).
2. Require electric vehicle chargers. At a minimum, new housing developments shall comply with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2 requirements.
3. Natural Gas. New residential buildings shall not include infrastructure to provide natural gas.

Supporting Documentation

Attachment 1 includes the CalEEMod output for project construction and operational criteria air pollutant. Also included are the EMFAC2021 emissions modeling.

Attachment 2 includes the sources of TACs and screening community risk calculations.

Attachment 1: CalEEMod Input Assumptions and Outputs

Town-Wide							VMT per Service Population	VMT per Population
Scenario	Population	Jobs	Service Population	Daily Trips	Total VMT	Trip length		
Year 2020	44,330	19,399	63,729	246,026	2,489,533	10.12	39.1	56.15910219
Year 2031 Ex + HEU	51,545			270,281	2,725,372	10.08		52.87360367
<i>Change</i>	7,215			24,255	235,839			-3
<i>% Change</i>	16.3%			9.9%	9.5%			-5.9%
Cumulative Year 2031	46,750	19,319	66,069	254,706	2,617,581	10.28	39.6	55.99103743
Cumulative Year 2031 + HEU	57,266	19,319	76,585	285,843	2,862,703	10.01	37.4	49.98957497
<i>Change</i>	12,936			39,817	373,170			
<i>2031 Project - Exist</i>	29.2%			16.2%	15.0%		-4.5%	-12.3%

Danville Housing Element Update

Sub Area	Added Daily Trips	Daily Trip Rate	Avg. Trip Length	Added Total VMT	Added Households	Added Population	AM Peak Hour	PM Peak Hour
1	10662	9.4	10.3	109706	1137	3182	869	916
2	14474	9.5	9.9	143938	1523	4264	1180	1243
3	5147	8.9	8.4	43005	575	1611	419	442
4	963	8.9	10.0	9669	108	302	78	83
5	1318	8.7	10.2	13439	151	422	107	113
6	4481	10.9	10.1	45129	412	1154	365	385
7	4726	9.2	8.8	41755	514	1440	385	406
8	1713	8.6	9.4	16167	200	560	140	147
Total	43484	9.4	9.7	422808	4620	12935	3543	3735
Average		9.41	9.72					
2,577 Housing Units:		24,255 trips				7,215 people		

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Danville Housing Element - Sub Area 1
Contra Costa County, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	2,577.00	Dwelling Unit	67.82	2,577,000.00	7370

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2031
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Note MCE rate for 2019 is 190 lbs/MWh

Land Use - From Trip/VMT table

Construction Phase - Operation only

Off-road Equipment - Operation only

Grading -

Vehicle Trips - Trip and VMT rate 9.41/8.49/7.07

Woodstoves - Potential 825 gas

Energy Use - No natural gas

Water And Wastewater - All WTP

Area Mitigation - no hearth

Energy Mitigation - 50% on-site electrical generation

Water Mitigation - Water efficient

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	40.00	0.00

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFireplaces	FireplaceWoodMass	228.80	825.00
tblFireplaces	NumberGas	386.55	825.00
tblFireplaces	NumberWood	438.09	0.00
tblFleetMix	HHD	7.0400e-003	8.6877e-003
tblFleetMix	LDA	0.58	0.51
tblFleetMix	LDT1	0.06	0.04
tblFleetMix	LDT2	0.17	0.23
tblFleetMix	LHD1	0.02	0.03
tblFleetMix	LHD2	5.5840e-003	6.8220e-003
tblFleetMix	MCY	0.02	0.02
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MH	2.8060e-003	2.7735e-003
tblFleetMix	MHD	7.4160e-003	9.4268e-003
tblFleetMix	OBUS	5.3600e-004	5.0113e-004
tblFleetMix	SBUS	1.8790e-003	7.7059e-004
tblFleetMix	UBUS	3.0000e-004	4.7248e-004
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblVehicleEF	HHD	0.02	0.19
tblVehicleEF	HHD	0.04	0.08
tblVehicleEF	HHD	0.00	3.3668e-008
tblVehicleEF	HHD	6.20	4.95
tblVehicleEF	HHD	0.39	0.60
tblVehicleEF	HHD	5.7830e-003	7.6856e-004
tblVehicleEF	HHD	900.79	703.43
tblVehicleEF	HHD	1,198.99	1,356.51
tblVehicleEF	HHD	0.04	6.3753e-003
tblVehicleEF	HHD	0.14	0.11
tblVehicleEF	HHD	0.19	0.22
tblVehicleEF	HHD	3.0000e-006	1.9480e-008
tblVehicleEF	HHD	5.11	3.77
tblVehicleEF	HHD	2.49	1.41

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	HHD	2.37	2.55
tblVehicleEF	HHD	2.0580e-003	1.7153e-003
tblVehicleEF	HHD	0.06	0.08
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	0.00	8.1535e-008
tblVehicleEF	HHD	1.9690e-003	1.6344e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8820e-003	8.8021e-003
tblVehicleEF	HHD	0.02	0.02
tblVehicleEF	HHD	0.00	7.4968e-008
tblVehicleEF	HHD	1.0000e-006	1.2435e-005
tblVehicleEF	HHD	4.5000e-005	3.8815e-006
tblVehicleEF	HHD	0.42	0.31
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.02	0.01
tblVehicleEF	HHD	1.9000e-005	3.4548e-005
tblVehicleEF	HHD	2.0000e-006	1.8243e-007
tblVehicleEF	HHD	8.3890e-003	6.0802e-003
tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	0.00	6.3026e-008
tblVehicleEF	HHD	1.0000e-006	1.2435e-005
tblVehicleEF	HHD	4.5000e-005	3.8815e-006
tblVehicleEF	HHD	0.48	0.53
tblVehicleEF	HHD	1.0000e-006	0.00
tblVehicleEF	HHD	0.07	0.09
tblVehicleEF	HHD	1.9000e-005	3.4548e-005
tblVehicleEF	HHD	2.0000e-006	1.9974e-007
tblVehicleEF	LDA	9.0800e-004	1.2057e-003
tblVehicleEF	LDA	0.03	0.05
tblVehicleEF	LDA	0.40	0.47
tblVehicleEF	LDA	1.71	2.15

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LDA	213.71	220.20
tblVehicleEF	LDA	45.04	56.73
tblVehicleEF	LDA	3.1940e-003	3.1911e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.13	0.18
tblVehicleEF	LDA	0.04	6.9982e-003
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	8.8200e-004	7.9936e-004
tblVehicleEF	LDA	1.2430e-003	1.4536e-003
tblVehicleEF	LDA	0.02	2.4494e-003
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	8.1200e-004	7.3527e-004
tblVehicleEF	LDA	1.1430e-003	1.3365e-003
tblVehicleEF	LDA	0.03	0.25
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	3.0120e-003	4.0979e-003
tblVehicleEF	LDA	0.02	0.19
tblVehicleEF	LDA	0.12	0.20
tblVehicleEF	LDA	1.9640e-003	2.1768e-003
tblVehicleEF	LDA	4.1400e-004	5.6083e-004
tblVehicleEF	LDA	0.03	0.25
tblVehicleEF	LDA	0.06	0.07
tblVehicleEF	LDA	0.03	0.00
tblVehicleEF	LDA	4.3740e-003	5.9746e-003
tblVehicleEF	LDA	0.02	0.19
tblVehicleEF	LDA	0.13	0.22
tblVehicleEF	LDT1	1.5360e-003	2.9120e-003
tblVehicleEF	LDT1	0.04	0.07
tblVehicleEF	LDT1	0.51	0.82
tblVehicleEF	LDT1	1.85	3.52

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LDT1	259.46	295.22
tblVehicleEF	LDT1	55.22	76.50
tblVehicleEF	LDT1	3.7030e-003	5.5315e-003
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.03	0.06
tblVehicleEF	LDT1	0.15	0.28
tblVehicleEF	LDT1	0.04	8.9184e-003
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	1.0130e-003	1.1915e-003
tblVehicleEF	LDT1	1.4340e-003	2.0819e-003
tblVehicleEF	LDT1	0.02	3.1214e-003
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	9.3200e-004	1.0956e-003
tblVehicleEF	LDT1	1.3190e-003	1.9142e-003
tblVehicleEF	LDT1	0.05	0.51
tblVehicleEF	LDT1	0.10	0.13
tblVehicleEF	LDT1	0.05	0.00
tblVehicleEF	LDT1	5.8210e-003	0.01
tblVehicleEF	LDT1	0.05	0.39
tblVehicleEF	LDT1	0.16	0.35
tblVehicleEF	LDT1	2.3840e-003	2.9185e-003
tblVehicleEF	LDT1	5.0700e-004	7.5624e-004
tblVehicleEF	LDT1	0.05	0.51
tblVehicleEF	LDT1	0.10	0.13
tblVehicleEF	LDT1	0.05	0.00
tblVehicleEF	LDT1	8.4930e-003	0.02
tblVehicleEF	LDT1	0.05	0.39
tblVehicleEF	LDT1	0.17	0.38
tblVehicleEF	LDT2	1.5430e-003	1.7513e-003
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.52	0.60
tblVehicleEF	LDT2	2.27	2.71

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LDT2	265.49	302.75
tblVehicleEF	LDT2	56.96	76.48
tblVehicleEF	LDT2	3.8860e-003	4.3560e-003
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.03	0.04
tblVehicleEF	LDT2	0.16	0.25
tblVehicleEF	LDT2	0.04	8.6028e-003
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	9.7800e-004	9.4387e-004
tblVehicleEF	LDT2	1.2980e-003	1.5945e-003
tblVehicleEF	LDT2	0.02	3.0110e-003
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	9.0100e-004	8.6847e-004
tblVehicleEF	LDT2	1.1940e-003	1.4661e-003
tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.09	0.06
tblVehicleEF	LDT2	0.05	0.00
tblVehicleEF	LDT2	5.6200e-003	6.1575e-003
tblVehicleEF	LDT2	0.04	0.20
tblVehicleEF	LDT2	0.18	0.26
tblVehicleEF	LDT2	2.4400e-003	2.9925e-003
tblVehicleEF	LDT2	5.2300e-004	7.5605e-004
tblVehicleEF	LDT2	0.05	0.26
tblVehicleEF	LDT2	0.09	0.06
tblVehicleEF	LDT2	0.05	0.00
tblVehicleEF	LDT2	8.1610e-003	8.9705e-003
tblVehicleEF	LDT2	0.04	0.20
tblVehicleEF	LDT2	0.19	0.29
tblVehicleEF	LHD1	4.0200e-003	4.1759e-003
tblVehicleEF	LHD1	5.3870e-003	4.3233e-003
tblVehicleEF	LHD1	8.8810e-003	0.02
tblVehicleEF	LHD1	0.17	0.17

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LHD1	0.49	0.54
tblVehicleEF	LHD1	0.86	1.91
tblVehicleEF	LHD1	8.38	7.94
tblVehicleEF	LHD1	693.77	658.64
tblVehicleEF	LHD1	9.67	14.99
tblVehicleEF	LHD1	7.7400e-004	6.4839e-004
tblVehicleEF	LHD1	0.04	0.04
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	0.05	0.05
tblVehicleEF	LHD1	0.41	0.41
tblVehicleEF	LHD1	0.22	0.32
tblVehicleEF	LHD1	9.6200e-004	7.3598e-004
tblVehicleEF	LHD1	0.08	0.07
tblVehicleEF	LHD1	9.9650e-003	9.4340e-003
tblVehicleEF	LHD1	8.3430e-003	0.01
tblVehicleEF	LHD1	2.0200e-004	1.2600e-004
tblVehicleEF	LHD1	9.2100e-004	7.0414e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.4910e-003	2.3585e-003
tblVehicleEF	LHD1	7.9390e-003	0.01
tblVehicleEF	LHD1	1.8600e-004	1.1585e-004
tblVehicleEF	LHD1	1.3700e-003	0.09
tblVehicleEF	LHD1	0.06	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	8.3500e-004	0.00
tblVehicleEF	LHD1	0.08	0.06
tblVehicleEF	LHD1	0.18	0.13
tblVehicleEF	LHD1	0.04	0.08
tblVehicleEF	LHD1	8.1000e-005	7.7115e-005
tblVehicleEF	LHD1	6.7600e-003	6.4195e-003
tblVehicleEF	LHD1	9.6000e-005	1.4819e-004
tblVehicleEF	LHD1	1.3700e-003	0.09

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LHD1	0.06	0.02
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	8.3500e-004	0.00
tblVehicleEF	LHD1	0.09	0.07
tblVehicleEF	LHD1	0.18	0.13
tblVehicleEF	LHD1	0.05	0.08
tblVehicleEF	LHD2	2.4200e-003	2.3482e-003
tblVehicleEF	LHD2	5.3970e-003	4.6856e-003
tblVehicleEF	LHD2	4.5150e-003	8.0678e-003
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.51	0.39
tblVehicleEF	LHD2	0.46	1.00
tblVehicleEF	LHD2	13.17	13.73
tblVehicleEF	LHD2	675.30	704.97
tblVehicleEF	LHD2	6.12	7.77
tblVehicleEF	LHD2	1.7120e-003	1.7777e-003
tblVehicleEF	LHD2	0.06	0.08
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.08	0.09
tblVehicleEF	LHD2	0.45	0.55
tblVehicleEF	LHD2	0.12	0.17
tblVehicleEF	LHD2	1.5170e-003	1.5090e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	9.8000e-005	4.8908e-005
tblVehicleEF	LHD2	1.4520e-003	1.4437e-003
tblVehicleEF	LHD2	0.04	0.03
tblVehicleEF	LHD2	2.7200e-003	2.6459e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	9.0000e-005	4.4970e-005
tblVehicleEF	LHD2	5.5500e-004	0.05

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.6800e-004	0.00
tblVehicleEF	LHD2	0.10	0.09
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	1.2600e-004	1.3128e-004
tblVehicleEF	LHD2	6.5100e-003	6.7742e-003
tblVehicleEF	LHD2	6.1000e-005	7.6832e-005
tblVehicleEF	LHD2	5.5500e-004	0.05
tblVehicleEF	LHD2	0.02	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.6800e-004	0.00
tblVehicleEF	LHD2	0.12	0.10
tblVehicleEF	LHD2	0.05	0.06
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	MCY	0.33	0.15
tblVehicleEF	MCY	0.25	0.17
tblVehicleEF	MCY	18.47	11.66
tblVehicleEF	MCY	9.25	8.08
tblVehicleEF	MCY	212.72	187.17
tblVehicleEF	MCY	59.78	45.23
tblVehicleEF	MCY	0.07	0.04
tblVehicleEF	MCY	0.02	6.9321e-003
tblVehicleEF	MCY	1.15	0.53
tblVehicleEF	MCY	0.27	0.12
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.1800e-003	1.9931e-003
tblVehicleEF	MCY	2.8060e-003	3.3142e-003
tblVehicleEF	MCY	5.0400e-003	4.2000e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	MCY	2.0330e-003	1.8607e-003
tblVehicleEF	MCY	2.6250e-003	3.1027e-003
tblVehicleEF	MCY	0.87	4.12
tblVehicleEF	MCY	0.67	3.59
tblVehicleEF	MCY	0.53	0.00
tblVehicleEF	MCY	2.19	0.96
tblVehicleEF	MCY	0.43	3.86
tblVehicleEF	MCY	1.90	1.23
tblVehicleEF	MCY	2.1050e-003	1.8504e-003
tblVehicleEF	MCY	5.9200e-004	4.4714e-004
tblVehicleEF	MCY	0.87	0.10
tblVehicleEF	MCY	0.67	3.59
tblVehicleEF	MCY	0.53	0.00
tblVehicleEF	MCY	2.74	1.17
tblVehicleEF	MCY	0.43	3.86
tblVehicleEF	MCY	2.07	1.33
tblVehicleEF	MDV	1.8810e-003	2.2414e-003
tblVehicleEF	MDV	0.05	0.07
tblVehicleEF	MDV	0.55	0.67
tblVehicleEF	MDV	2.37	2.89
tblVehicleEF	MDV	326.61	366.40
tblVehicleEF	MDV	68.93	92.12
tblVehicleEF	MDV	5.5040e-003	5.7593e-003
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.04	0.05
tblVehicleEF	MDV	0.19	0.29
tblVehicleEF	MDV	0.04	8.7316e-003
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.0060e-003	9.7384e-004
tblVehicleEF	MDV	1.3230e-003	1.6157e-003
tblVehicleEF	MDV	0.02	3.0561e-003
tblVehicleEF	MDV	2.0000e-003	2.0000e-003

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	MDV	9.2700e-004	8.9710e-004
tblVehicleEF	MDV	1.2170e-003	1.4856e-003
tblVehicleEF	MDV	0.06	0.33
tblVehicleEF	MDV	0.11	0.08
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	7.2800e-003	8.6308e-003
tblVehicleEF	MDV	0.05	0.25
tblVehicleEF	MDV	0.21	0.32
tblVehicleEF	MDV	3.0040e-003	3.6201e-003
tblVehicleEF	MDV	6.3300e-004	9.1074e-004
tblVehicleEF	MDV	0.06	0.33
tblVehicleEF	MDV	0.11	0.08
tblVehicleEF	MDV	0.07	0.00
tblVehicleEF	MDV	0.01	0.01
tblVehicleEF	MDV	0.05	0.25
tblVehicleEF	MDV	0.23	0.35
tblVehicleEF	MH	5.1520e-003	5.9951e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.33	0.37
tblVehicleEF	MH	1.57	1.81
tblVehicleEF	MH	1,347.98	1,641.45
tblVehicleEF	MH	15.07	19.36
tblVehicleEF	MH	0.06	0.07
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	1.21	1.42
tblVehicleEF	MH	0.24	0.31
tblVehicleEF	MH	0.13	0.04
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	1.9400e-004	2.1141e-004
tblVehicleEF	MH	0.06	0.02
tblVehicleEF	MH	3.3130e-003	3.3523e-003

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	1.7800e-004	1.9438e-004
tblVehicleEF	MH	0.34	20.97
tblVehicleEF	MH	0.03	4.88
tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.04	0.05
tblVehicleEF	MH	5.3050e-003	0.12
tblVehicleEF	MH	0.07	0.09
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	1.4900e-004	1.9135e-004
tblVehicleEF	MH	0.34	20.97
tblVehicleEF	MH	0.03	4.88
tblVehicleEF	MH	0.15	0.00
tblVehicleEF	MH	0.05	0.07
tblVehicleEF	MH	5.3050e-003	0.12
tblVehicleEF	MH	0.08	0.09
tblVehicleEF	MHD	4.3240e-003	0.02
tblVehicleEF	MHD	1.1700e-003	9.7300e-003
tblVehicleEF	MHD	9.4200e-003	6.3479e-003
tblVehicleEF	MHD	0.46	0.63
tblVehicleEF	MHD	0.16	0.15
tblVehicleEF	MHD	0.96	0.69
tblVehicleEF	MHD	76.35	146.20
tblVehicleEF	MHD	1,017.24	1,028.63
tblVehicleEF	MHD	9.38	6.39
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.12	0.13
tblVehicleEF	MHD	8.8520e-003	4.5945e-003
tblVehicleEF	MHD	0.41	0.75
tblVehicleEF	MHD	1.42	0.55
tblVehicleEF	MHD	1.65	1.19
tblVehicleEF	MHD	1.8400e-004	6.1594e-004

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	MHD	0.13	0.04
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.0320e-003	5.0464e-003
tblVehicleEF	MHD	1.2300e-004	7.7311e-005
tblVehicleEF	MHD	1.7600e-004	5.8856e-004
tblVehicleEF	MHD	0.06	0.01
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	6.7180e-003	4.8204e-003
tblVehicleEF	MHD	1.1300e-004	7.1084e-005
tblVehicleEF	MHD	2.9600e-004	0.02
tblVehicleEF	MHD	0.02	3.4078e-003
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	1.9400e-004	0.00
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.05	0.03
tblVehicleEF	MHD	7.2400e-004	1.3413e-003
tblVehicleEF	MHD	9.7290e-003	9.7293e-003
tblVehicleEF	MHD	9.3000e-005	6.3173e-005
tblVehicleEF	MHD	2.9600e-004	0.02
tblVehicleEF	MHD	0.02	3.4078e-003
tblVehicleEF	MHD	0.03	0.04
tblVehicleEF	MHD	1.9400e-004	0.00
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.02	0.03
tblVehicleEF	MHD	0.05	0.04
tblVehicleEF	OBUS	8.6410e-003	8.3597e-003
tblVehicleEF	OBUS	3.9550e-003	9.2536e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.55	0.53
tblVehicleEF	OBUS	0.41	0.55
tblVehicleEF	OBUS	2.33	2.51

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	OBUS	71.12	73.23
tblVehicleEF	OBUS	1,293.83	1,367.90
tblVehicleEF	OBUS	18.48	19.74
tblVehicleEF	OBUS	9.3230e-003	9.8328e-003
tblVehicleEF	OBUS	0.09	0.11
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.29	0.25
tblVehicleEF	OBUS	1.05	0.98
tblVehicleEF	OBUS	0.77	0.67
tblVehicleEF	OBUS	9.8000e-005	2.7494e-004
tblVehicleEF	OBUS	0.13	0.05
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.3800e-003	0.02
tblVehicleEF	OBUS	2.1600e-004	1.8966e-004
tblVehicleEF	OBUS	9.4000e-005	2.6299e-004
tblVehicleEF	OBUS	0.06	0.02
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	6.0790e-003	0.02
tblVehicleEF	OBUS	1.9800e-004	1.7438e-004
tblVehicleEF	OBUS	1.5410e-003	0.12
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.05	0.05
tblVehicleEF	OBUS	7.7000e-004	0.00
tblVehicleEF	OBUS	0.02	0.06
tblVehicleEF	OBUS	0.08	0.14
tblVehicleEF	OBUS	0.11	0.12
tblVehicleEF	OBUS	6.7800e-004	6.9519e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	1.8300e-004	1.9516e-004
tblVehicleEF	OBUS	1.5410e-003	0.12
tblVehicleEF	OBUS	0.03	0.02
tblVehicleEF	OBUS	0.07	0.06

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	OBUS	7.7000e-004	0.00
tblVehicleEF	OBUS	0.03	0.08
tblVehicleEF	OBUS	0.08	0.14
tblVehicleEF	OBUS	0.12	0.13
tblVehicleEF	SBUS	0.02	0.08
tblVehicleEF	SBUS	1.6030e-003	0.11
tblVehicleEF	SBUS	1.4330e-003	3.3557e-003
tblVehicleEF	SBUS	1.43	1.44
tblVehicleEF	SBUS	0.16	0.56
tblVehicleEF	SBUS	0.20	0.43
tblVehicleEF	SBUS	270.24	172.07
tblVehicleEF	SBUS	885.76	932.73
tblVehicleEF	SBUS	1.14	2.68
tblVehicleEF	SBUS	0.04	0.02
tblVehicleEF	SBUS	0.13	0.11
tblVehicleEF	SBUS	1.2920e-003	3.4701e-003
tblVehicleEF	SBUS	1.68	0.95
tblVehicleEF	SBUS	1.72	1.33
tblVehicleEF	SBUS	1.86	0.55
tblVehicleEF	SBUS	7.2300e-004	5.5869e-004
tblVehicleEF	SBUS	0.74	0.04
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	7.8535e-003
tblVehicleEF	SBUS	1.9000e-005	3.8376e-005
tblVehicleEF	SBUS	6.9200e-004	5.3306e-004
tblVehicleEF	SBUS	0.32	0.02
tblVehicleEF	SBUS	2.8940e-003	2.6517e-003
tblVehicleEF	SBUS	0.01	7.4961e-003
tblVehicleEF	SBUS	1.8000e-005	3.5286e-005
tblVehicleEF	SBUS	1.3500e-004	0.02
tblVehicleEF	SBUS	1.2730e-003	4.8828e-003
tblVehicleEF	SBUS	0.10	0.15

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	SBUS	6.7000e-005	0.00
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	2.8340e-003	0.01
tblVehicleEF	SBUS	7.9520e-003	0.02
tblVehicleEF	SBUS	2.5600e-003	1.5231e-003
tblVehicleEF	SBUS	8.4040e-003	8.5651e-003
tblVehicleEF	SBUS	1.1000e-005	2.6463e-005
tblVehicleEF	SBUS	1.3500e-004	0.02
tblVehicleEF	SBUS	1.2730e-003	4.8828e-003
tblVehicleEF	SBUS	0.13	0.26
tblVehicleEF	SBUS	6.7000e-005	0.00
tblVehicleEF	SBUS	0.03	0.14
tblVehicleEF	SBUS	2.8340e-003	0.01
tblVehicleEF	SBUS	8.7070e-003	0.02
tblVehicleEF	UBUS	1.60	0.53
tblVehicleEF	UBUS	1.4940e-003	0.02
tblVehicleEF	UBUS	12.04	6.09
tblVehicleEF	UBUS	0.22	2.03
tblVehicleEF	UBUS	1,536.46	845.09
tblVehicleEF	UBUS	2.68	17.05
tblVehicleEF	UBUS	0.25	0.11
tblVehicleEF	UBUS	3.6000e-003	0.02
tblVehicleEF	UBUS	0.61	0.16
tblVehicleEF	UBUS	0.02	0.13
tblVehicleEF	UBUS	0.08	0.20
tblVehicleEF	UBUS	0.03	0.09
tblVehicleEF	UBUS	4.6730e-003	2.8476e-003
tblVehicleEF	UBUS	4.6000e-005	1.2656e-004
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	7.1530e-003	0.02
tblVehicleEF	UBUS	4.4630e-003	2.7164e-003
tblVehicleEF	UBUS	4.3000e-005	1.1637e-004

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleEF	UBUS	3.7700e-004	0.02
tblVehicleEF	UBUS	4.3850e-003	6.2587e-003
tblVehicleEF	UBUS	2.5700e-004	0.00
tblVehicleEF	UBUS	0.02	0.03
tblVehicleEF	UBUS	7.3100e-004	0.02
tblVehicleEF	UBUS	5.0450e-003	0.07
tblVehicleEF	UBUS	9.8380e-003	6.5624e-003
tblVehicleEF	UBUS	2.6000e-005	1.6853e-004
tblVehicleEF	UBUS	3.7700e-004	0.02
tblVehicleEF	UBUS	4.3850e-003	6.2587e-003
tblVehicleEF	UBUS	2.5700e-004	0.00
tblVehicleEF	UBUS	1.63	0.57
tblVehicleEF	UBUS	7.3100e-004	0.02
tblVehicleEF	UBUS	5.5240e-003	0.07
tblVehicleTrips	HO_TL	5.70	9.72
tblVehicleTrips	HS_TL	4.80	9.72
tblVehicleTrips	HW_TL	10.80	9.72
tblVehicleTrips	ST_TR	4.91	8.49
tblVehicleTrips	SU_TR	4.09	7.07
tblVehicleTrips	WD_TR	5.44	9.41
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	51.54	0.00
tblWoodstoves	NumberNoncatalytic	51.54	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary**2.1 Overall Construction****Unmitigated Construction**

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category tons/yr											MT/yr					
Area	12.4598	0.3089	19.1218	1.5800e-003		0.1133	0.1133		0.1133	0.1133	0.0000	134.2483	134.2483	0.0318	1.8900e-003	135.6048
Energy	0.1165	0.9953	0.4235	6.3500e-003		0.0805	0.0805		0.0805	0.0805	0.0000	2,074.5238	2,074.5238	0.1712	0.0392	2,090.4892
Mobile	12.7806	9.0986	88.4159	0.2418	24.5557	0.1461	24.7017	6.1258	0.1367	6.2625	0.0000	22,348.2462	22,348.2462	0.9320	0.9428	22,652.4878
Waste						0.0000	0.0000		0.0000	0.0000	240.6296	0.0000	240.6296	14.2208	0.0000	596.1495
Water						0.0000	0.0000		0.0000	0.0000	59.4040	118.3376	177.7416	0.2236	0.1315	222.5202
Total	25.3568	10.4028	107.9612	0.2497	24.5557	0.3398	24.8955	6.1258	0.3305	6.4563	300.0335	24,675.3559	24,975.3894	15.5794	1.1154	25,697.2515

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category tons/yr											MT/yr					
Area	12.4493	0.2200	19.0840	1.0100e-003		0.1061	0.1061		0.1061	0.1061	0.0000	31.2559	31.2559	0.0298	0.0000	32.0004
Energy	0.1165	0.9953	0.4235	6.3500e-003		0.0805	0.0805		0.0805	0.0805	0.0000	2,049.2121	2,049.2121	0.1671	0.0387	2,064.9272
Mobile	12.7806	9.0986	88.4159	0.2418	24.5557	0.1461	24.7017	6.1258	0.1367	6.2625	0.0000	22,348.2462	22,348.2462	0.9320	0.9428	22,652.4878
Waste						0.0000	0.0000		0.0000	0.0000	240.6296	0.0000	240.6296	14.2208	0.0000	596.1495
Water						0.0000	0.0000		0.0000	0.0000	47.5232	94.6701	142.1932	0.1789	0.1052	178.0161
Total	25.3464	10.3139	107.9234	0.2492	24.5557	0.3326	24.8883	6.1258	0.3233	6.4491	288.1527	24,523.3843	24,811.5370	15.5286	1.0867	25,523.5811

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

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Percent Reduction	0.04	0.85	0.04	0.23	0.00	2.12	0.03	0.00	2.18	0.11	3.96	0.62	0.66	0.33	2.57	0.68
-------------------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/11/2022	3/10/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

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

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

[illegible]

Unmitigated Construction Off-Site

[illegible]

Mitigated Construction On-Site

[illegible]

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------	--------

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	12.7806	9.0986	88.4159	0.2418	24.5557	0.1461	24.7017	6.1258	0.1367	6.2625	0.0000	22,348.2462	22,348.2462	0.9320	0.9428	22,652.4878

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Unmitigated	12.7806	9.0986	88.4159	0.2418	24.5557	0.1461	24.7017	6.1258	0.1367	6.2625	0.0000	22,348.2462	22,348.2462	0.9320	0.9428	22,652.4878
-------------	---------	--------	---------	--------	---------	--------	---------	--------	--------	--------	--------	-------------	-------------	--------	--------	-------------

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	24,249.57	21,878.73	18219.39	72,401,423	72,401,423
Total	24,249.57	21,878.73	18,219.39	72,401,423	72,401,423

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	9.72	9.72	9.72	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.506826	0.036270	0.232457	0.143520	0.027827	0.006822	0.009427	0.008688	0.000501	0.000472	0.023645	0.000771	0.002774

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	896.5758	896.5758	0.1451	0.0176	905.4413

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	921.8874	921.8874	0.1491	0.0181	931.0033
NaturalGas Mitigated	0.1165	0.9953	0.4235	6.3500e-003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.6363	1,152.6363	0.0221	0.0211	1,159.4859
NaturalGas Unmitigated	0.1165	0.9953	0.4235	6.3500e-003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.6363	1,152.6363	0.0221	0.0211	1,159.4859

5.2 Energy by Land Use - NaturalGas**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.15996e+ 007	0.1165	0.9953	0.4235	6.3500e- 003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.6363	1,152.6363	0.0221	0.0211	1,159.4859
Total		0.1165	0.9953	0.4235	6.3500e- 003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.6363	1,152.6363	0.0221	0.0211	1,159.4859

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	2.15996e+ 007	0.1165	0.9953	0.4235	6.3500e- 003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.6363	1,152.6363	0.0221	0.0211	1,159.4859
Total		0.1165	0.9953	0.4235	6.3500e- 003		0.0805	0.0805		0.0805	0.0805	0.0000	1,152.6363	1,152.6363	0.0221	0.0211	1,159.4859

5.3 Energy by Land Use - Electricity

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	9.96379e+006	921.8874	0.1491	0.0181	931.0033
Total		921.8874	0.1491	0.0181	931.0033

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	9.69022e+006	896.5758	0.1451	0.0176	905.4413
Total		896.5758	0.1451	0.0176	905.4413

6.0 Area Detail**6.1 Mitigation Measures Area**

No Hearths Installed

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category tons/yr											MT/yr					
Mitigated	12.4493	0.2200	19.0840	1.0100e-003		0.1061	0.1061		0.1061	0.1061	0.0000	31.2559	31.2559	0.0298	0.0000	32.0004
Unmitigated	12.4598	0.3089	19.1218	1.5800e-003		0.1133	0.1133		0.1133	0.1133	0.0000	134.2483	134.2483	0.0318	1.8900e-003	135.6048

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory tons/yr											MT/yr					
Architectural Coating	1.8141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	10.0645					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0104	0.0889	0.0378	5.7000e-004		7.1900e-003	7.1900e-003		7.1900e-003	7.1900e-003	0.0000	102.9924	102.9924	1.9700e-003	1.8900e-003	103.6045
Landscaping	0.5708	0.2200	19.0840	1.0100e-003		0.1061	0.1061		0.1061	0.1061	0.0000	31.2559	31.2559	0.0298	0.0000	32.0004
Total	12.4598	0.3089	19.1218	1.5800e-003		0.1133	0.1133		0.1133	0.1133	0.0000	134.2483	134.2483	0.0318	1.8900e-003	135.6048

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory tons/yr											MT/yr					

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Architectural Coating	1.8141					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	10.0645					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5708	0.2200	19.0840	1.0100e-003		0.1061	0.1061		0.1061	0.1061	0.0000	31.2559	31.2559	0.0298	0.0000	32.0004
Total	12.4493	0.2200	19.0840	1.0100e-003		0.1061	0.1061		0.1061	0.1061	0.0000	31.2559	31.2559	0.0298	0.0000	32.0004

7.0 Water Detail**7.1 Mitigation Measures Water**

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	142.1932	0.1789	0.1052	178.0161
Unmitigated	177.7416	0.2236	0.1315	222.5202

7.2 Water by Land Use**Unmitigated**

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	167.902 / 105.851	177.7416	0.2236	0.1315	222.5202
Total		177.7416	0.2236	0.1315	222.5202

Mitigated

Indoor/Outdoor Use		Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	134.322 / 84.681	142.1932	0.1789	0.1052	178.0161
Total		142.1932	0.1789	0.1052	178.0161

8.0 Waste Detail

8.1 Mitigation Measures Waste**Category/Year**

	Total CO2	CH4	N2O	CO2e
--	-----------	-----	-----	------

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	MT/yr			
Mitigated	240.6296	14.2208	0.0000	596.1495
Unmitigated	240.6296	14.2208	0.0000	596.1495

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	1185.42	240.6296	14.2208	0.0000	596.1495
Total		240.6296	14.2208	0.0000	596.1495

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	1185.42	240.6296	14.2208	0.0000	596.1495
Total		240.6296	14.2208	0.0000	596.1495

9.0 Operational Offroad

Danville Housing Element - Sub Area 1 - Contra Costa County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Emfac2021 Emission Rates

CalEEMod EMFAC2021 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004176	0.002348	0.016804	0.191120631	0.00836	0	0	0.078783	0
A	CH4_RUNEX	0.001206	0.002912	0.001751	0.002241	0.004323	0.004686	0.00973	0.079389901	0.009254	0.527090682	0.151014	0.106537	0.005995
A	CH4_STREX	0.046574	0.073405	0.060288	0.069124	0.015852	0.008068	0.006348	3.36683E-08	0.022655	0.016212113	0.167853	0.003356	0.022138
A	CO_IDLEX	0	0	0	0	0.17452	0.129801	0.634319	4.945359936	0.532201	0	0	1.440807	0
A	CO_RUNEX	0.470192	0.820369	0.603025	0.674344	0.540613	0.38877	0.15018	0.595727	0.547621	6.090756822	11.65795	0.56088	0.36843
A	CO_STREX	2.151485	3.524038	2.712816	2.894862	1.909452	0.999802	0.686305	0.000768556	2.508717	2.027758761	8.077663	0.427723	1.810798
A	CO2_NBIO_IDLEX	0	0	0	0	7.941621	13.73284	146.1975	703.428393	73.23078	0	0	172.067	0
A	CO2_NBIO_RUNEX	220.2042	295.2162	302.749	366.3975	658.6433	704.97	1028.633	1356.513722	1367.898	845.0901639	187.1715	932.727	1641.447
A	CO2_NBIO_STREX	56.72912	76.49597	76.47715	92.12439	14.99032	7.771782	6.390163	0.006375317	19.74095	17.04768955	45.22914	2.67685	19.35612
A	NOX_IDLEX	0	0	0	0	0.04527	0.085801	0.752712	3.771394837	0.249768	0	0	0.948422	0
A	NOX_RUNEX	0.022636	0.05799	0.036476	0.052025	0.406378	0.553488	0.547499	1.413068267	0.976248	0.158520177	0.534456	1.326203	1.42025
A	NOX_STREX	0.184981	0.28201	0.246034	0.288134	0.318369	0.167409	1.185331	2.552834272	0.674802	0.133045516	0.115249	0.548499	0.306471
A	PM10_IDLEX	0	0	0	0	0.000736	0.001509	0.000616	0.001715318	0.000275	0	0	0.000559	0
A	PM10_PMBW	0.006998	0.008918	0.008603	0.008732	0.073983	0.086339	0.042398	0.08224294	0.049842	0.20166782	0.012	0.043422	0.044936
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009434	0.010583	0.012	0.035208483	0.012	0.091175209	0.004	0.010607	0.013409
A	PM10_RUNEX	0.000799	0.001192	0.000944	0.000974	0.011513	0.019159	0.005046	0.023335583	0.018061	0.002847648	0.001993	0.007853	0.028874
A	PM10_STREX	0.001454	0.002082	0.001594	0.001616	0.000126	4.89E-05	7.73E-05	8.1535E-08	0.00019	0.000126563	0.003314	3.84E-05	0.000211
A	PM25_IDLEX	0	0	0	0	0.000704	0.001444	0.000589	0.001634427	0.000263	0	0	0.000533	0
A	PM25_PMBW	0.002449	0.003121	0.003011	0.003056	0.025894	0.030219	0.014839	0.028785029	0.017445	0.070583737	0.0042	0.015198	0.015727
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002358	0.002646	0.003	0.008802121	0.003	0.022793802	0.001	0.002652	0.003352
A	PM25_RUNEX	0.000735	0.001096	0.000868	0.000897	0.010986	0.018318	0.00482	0.022323181	0.017261	0.002716359	0.001861	0.007496	0.027591
A	PM25_STREX	0.001337	0.001914	0.001466	0.001486	0.000116	4.5E-05	7.11E-05	7.49685E-08	0.000174	0.00011637	0.003103	3.53E-05	0.000194
A	ROG_DIURN	0.250094	0.512365	0.259474	0.327095	0.089373	0.046523	0.015222	1.24353E-05	0.123702	0.021070125	4.120184	0.021094	20.96924
A	ROG_HTSK	0.065029	0.129924	0.064998	0.07895	0.021212	0.010452	0.003408	3.88152E-06	0.024277	0.006258741	3.59106	0.004883	4.884362
A	ROG_IDLEX	0	0	0	0	0.017255	0.013273	0.020566	0.308450787	0.04591	0	0	0.145547	0
A	ROG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	ROG_RUNEX	0.004098	0.011902	0.006158	0.008631	0.058552	0.089649	0.014063	0.013832449	0.059824	0.034256845	0.956483	0.030956	0.054223
A	ROG_RUNLS	0.189427	0.387373	0.195452	0.2468	0.126542	0.062305	0.029829	3.45478E-05	0.138227	0.024046022	3.860819	0.014482	0.119889
A	ROG_STREX	0.202229	0.351296	0.261001	0.319091	0.075046	0.0378	0.032695	1.82432E-07	0.121451	0.065024643	1.227342	0.018272	0.085564
A	SO2_IDLEX	0	0	0	0	7.71E-05	0.000131	0.001341	0.006080247	0.000695	0	0	0.001523	0
A	SO2_RUNEX	0.002177	0.002919	0.002993	0.00362	0.006419	0.006774	0.009729	0.012234824	0.013212	0.006562404	0.00185	0.008565	0.016071
A	SO2_STREX	0.000561	0.000756	0.000756	0.000911	0.000148	7.68E-05	6.32E-05	6.30265E-08	0.000195	0.000168534	0.000447	2.65E-05	0.000191
A	TOG_DIURN	0.250094	0.512365	0.259474	0.327095	0.089373	0.046523	0.015222	1.24353E-05	0.123702	0.021070125	0.097422	0.021094	20.96924
A	TOG_HTSK	0.065029	0.129924	0.064998	0.07895	0.021212	0.010452	0.003408	3.88152E-06	0.024277	0.006258741	3.59106	0.004883	4.884362
A	TOG_IDLEX	0	0	0	0	0.024228	0.017457	0.040122	0.528823484	0.061108	0	0	0.255375	0
A	TOG_RESTL	0	0	0	0	0	0	0	0	0	0	0	0	0
A	TOG_RUNEX	0.005975	0.017367	0.00897	0.012559	0.069524	0.102896	0.025639	0.094907449	0.077623	0.567164776	1.165831	0.141663	0.066342
A	TOG_RUNLS	0.189427	0.387373	0.195452	0.2468	0.126542	0.062305	0.029829	3.45478E-05	0.138227	0.024046022	3.860819	0.014482	0.119889
A	TOG_STREX	0.221415	0.384625	0.285764	0.349365	0.082166	0.041386	0.035797	1.9974E-07	0.132974	0.071193799	1.334905	0.020005	0.093682
A	N2O_IDLEX	0	0	0	0	0.000648	0.001778	0.022698	0.113665583	0.009833	0	0	0.023788	0
A	N2O_RUNEX	0.003191	0.005531	0.004356	0.005759	0.038056	0.076191	0.130377	0.216678227	0.111074	0.109476149	0.038077	0.114886	0.070943
A	N2O_STREX	0.026148	0.033663	0.032401	0.033879	0.027615	0.014254	0.004594	1.94798E-08	0.018724	0.015042809	0.006932	0.00347	0.034112

CalEEMod EMFAC2021 Fleet Mix I

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD
	0.506826	0.03627	0.232457	0.14352	0.027827	0.006822	0.009427

nput

HHD	OBUS	UBUS	MCY	SBUS	MH
0.008688	0.000501	0.000472	0.023645	0.000771	0.002774

Region Type: County
Region: Contra Costa

Season: Annual

Units: miles/day for

Contra Cos	2031	HHDT	Aggregate
------------	------	------	-----------

Contra Cos	2031	HHD	Aggregate	Aggregate	Diesel	5576.11	612180	612180	0	82111	1.55037	61.1359	2.86168	0.02497	0.02426	0	0.00881	0.028
Contra Cos	2031	HHD	Aggregate	Aggregate	Electricity	405.463	41000.5	41000.5	0	41000.5	20.8886	0	0	0	0	0	0.00881	0.011

[illegible]

Attachment 2: TAC Sources and Screening Levels

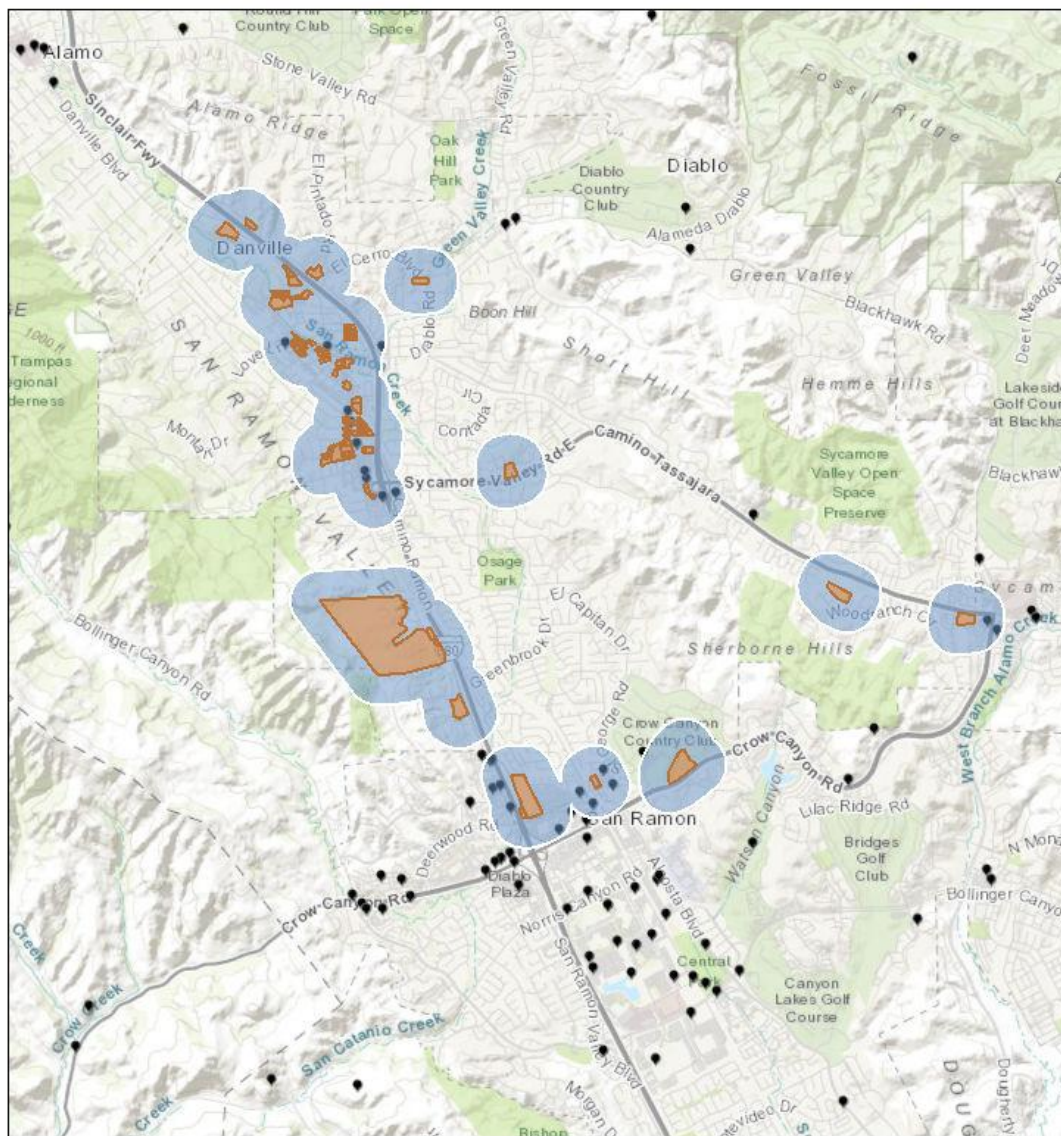


Stationary Source Risk & Hazards Screening Report

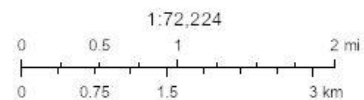
Area of Interest (AOI) Information

Area : 104,787,346.87 ft²

Jul 7 2022 11:00:07 Pacific Daylight Time



• Permitted Facilities 2018



Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc.,
USGS, METI/NASA, NGA, EPA, USDA

Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	25	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	7047	Symmons Body & Fender Inc	509 San Ramon Valley Blvd	Danville	CA
2	13463	Pacific Bell	590 San Ramon Valley Blvd	Danville	CA
3	14023	San Ramon Valley Fire District - Station #31	800 San Ramon Valley Blvd	Danville	CA
4	19115	Verizon Wireless (Danville)	3470 Fostoria Way	Danville	CA
5	20333	Danville Sq Shopping Cntr/Risk-Based Decisions In	1 Railroad Avenue	Danville	CA
6	20594	B & S Hacienda Auto Body	2250 SAN RAMON VALLEY BLVD	SAN RAMON	CA
7	20785	New Cingular Wireless PCS LLC dba AT&T Mobility	3160 Crow Canyon Road	San Ramon	CA
8	21081	Crow Canyon Medical Center	1320 El Capitan Dr	Danville	CA
9	24393	Caliber Collision Center	2700 Hooper	San Ramon	CA
10	100379	San Ramon Valley U S D	3280 Crow Canyon Rd	San Ramon	CA
11	100503	Crow Canyon C C	711 Silver Lake Dr	Danville	CA
12	101306	Danville Olde Towne Arco	1 Boone Ct	Danville	CA
13	107274	Chevron #97578	145 Hartz Ave	Danville	CA
14	107291	San Ramon Gas Food & Liquor	2108 San Ramon Valley Blvd	San Ramon	CA
15	108318	Chevron SS# 9-2075	8000 Crow Canyon Rd	Danville	CA
16	109250	San Ramon Shell	3048 Crow Canyon Rd	San Ramon	CA
17	109301	Danville 76	744 San Ramon Valley Blvd	Danville	CA
18	109681	San Ramon Valley FPD Station #31	800 San Ramon Valley Blvd	Danville	CA
19	110607	Danville Valero Service Center	736 San Ramon Valley Blvd	Danville	CA
20	111929	Danville Food & Fuel	198 Diablo Rd	Danville	CA
21	111953	Danville Shell	7777 Crow Canyon Rd	Danville	CA
22	112410	Camino Ramon Shell	811 Camino Ramon	Danville	CA
23	112429	M D Roesbery Inc.	400 Diablo Rd	Danville	CA
24	112555	Convenience Retailers LLC	1990 San Ramon Valley Blvd	San Ramon	CA
25	112603	Chevron Service Station	2061 Camino Ramon	San Ramon	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	94526	Contra Costa	0.000	0.000	0.000	Contact BAAQMD	1
2	94526	Contra Costa	14.610	0.020	0.020	Generators	1
3	94526	Contra Costa	0.000	0.000	0.000	Generators	1
4	94526	Contra Costa	1.040	0.000	0.000	Generators	1
5	94526	Contra Costa	0.970	0.000	0.000	Contact BAAQMD	1
6	94583	Contra Costa	0.000	0.000	0.000	Contact BAAQMD	1
7	94583	Contra Costa	1.680	0.000	0.000	Generators	1
8	94526	Contra Costa	1.860	0.000	0.000	Generators	1
9	94583	Contra Costa	0.010	0.000	0.020	Contact BAAQMD	1
10	94583	Contra Costa	1.520	0.010	0.000	Gas Dispensing Facility	1
11	94526	Contra Costa	0.130	0.000	0.000	Gas Dispensing Facility	1
12	94526	Contra Costa	47.250	0.210	0.000	Gas Dispensing Facility	1
13	94526	Contra Costa	38.560	0.170	0.000	Gas Dispensing Facility	1
14	94583	Contra Costa	15.220	0.070	0.000	Gas Dispensing Facility	1
15	94506	Contra Costa	71.820	0.320	0.000	Gas Dispensing Facility	1
16	94583	Contra Costa	37.800	0.170	0.000	Gas Dispensing Facility	1
17	94526	Contra Costa	17.010	0.070	0.000	Gas Dispensing Facility	1
18	94526	Contra Costa	0.050	0.000	0.000	Gas Dispensing Facility	1
19	94526	Contra Costa	15.120	0.070	0.000	Gas Dispensing Facility	1
20	94526	Contra Costa	8.610	0.040	0.000	Gas Dispensing Facility	1
21	94506	Contra Costa	25.520	0.110	0.000	Gas Dispensing Facility	1
22	94526	Contra Costa	24.570	0.110	0.000	Gas Dispensing Facility	1
23	94526	Contra Costa	38.560	0.170	0.000	Gas Dispensing Facility	1
24	94583	Contra Costa	27.610	0.120	0.000	Gas Dispensing Facility	1
25	94583	Contra Costa	8.790	0.040	0.000	Gas Dispensing Facility	1

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.