3.3 Air Quality

This chapter summarizes information on the air quality environment in the Planning Area and provides an evaluation of the air quality-related effects of the Proposed Project. The analysis considers existing and projected air quality along major roadways, in addition to other air pollutant sources in the Planning Area. Mitigation measures are recommended to ensure that emissions are reduced to the maximum extent feasible. This section focuses on criteria air pollutants and toxic air contaminants (TACs); greenhouse gases (GHGs) are evaluated in Chapter 3.6: Greenhouse Gas Emissions and Energy.

The City received no responses to the Notice of Preparation (NOP) and recirculated NOP regarding topics addressed in this section of the EIR.

Environmental Setting

PHYSICAL SETTING

Fairfield is located on a low-lying plain within the Coastal Range and is generally flat, with elevations between 13 to 49 feet above sea level throughout the central parts of the city. Elevations rise to the north near the Vaca Mountains and to the west approaching the hills near Vallejo and stay low to the south and east.

The City of Fairfield has a Mediterranean climate typical for the region with cool, wet winters and warm, dry summers. Temperatures range from an average monthly high of 86.2 degrees Fahrenheit (°F) in July to an average monthly low of 38.2°F in January. Annual precipitation in the area ranges from roughly 16 to 24 inches. Summer temperatures can include extreme high temperatures like the nearby Central Valley, but summer may also include periods when extreme heat in the Central Valley draws coastal fog through the Carquinez Strait, and the fog acts as a moderating influence that reduces air temperatures in Fairfield.

The topography, air mass paths, and seasonal air temperature gradients of the region create a distinct wind regime in this area with consistent winds from the west-southwest (WSW) that are particularly strong during spring and summer months (Western Regional, 2023). The average annual wind speed at the Fairfield-Travis Air Force Base weather station is 12.7 miles per hour (mph), one of the highest in the state. Monthly average wind speeds exceed 16 mph in the summer (June, July, and August) (Western Regional, 2021).

The City of Fairfield is located within the northeastern part of the San Francisco Bay Area Air Basin (SFBAAB). Air basins are geographic regions that experience similar air quality conditions due to their location, topographic setting, and climate conditions. SFBAAB is bordered by the Pacific Ocean to the west, and warmer valleys to the south and east. SFBAAB is a coastal plain with connecting broad valleys and low hills, and it includes all of Alameda, Contra Costa, Napa, Marin, and San Francisco counties, the southern portion of Sonoma County, and the southwestern portion of Solano County – which covers the City of Fairfield and surrounding agricultural land south of the City of Vacaville.

All urbanized areas of the SFBAAB are included in one of 11 climatological subregions. Fairfield falls into the Carquinez Strait Region which extends from Rodeo in the southwest and Vallejo in the northwest to Fairfield on the northeast and Brentwood on the southeast. Many industrial facilities with significant air pollutant emissions — e.g., chemical plants and refineries — are located within the Carquinez Strait Region. The pollution potential of this area is often moderated by high wind speeds. However, upsets at industrial facilities can lead to short-term pollution episodes, and emissions of unpleasant odors may occur at any time. Receptors downwind of these facilities could suffer more long-term exposure to air contaminants than individuals elsewhere. It is important that local governments and other Lead Agencies maintain buffers zones around sources of air pollution sufficient to avoid adverse health and nuisance impacts on nearby receptors. Areas of the subregion that are traversed by major roadways, e.g. Interstate 80, may also be subject to higher local concentrations of carbon monoxide and particulate matter, as well as certain toxic air contaminants such as benzene (BAAQMD, 2017).

CRITERIA AIR POLLUTANTS

The federal and state governments have established ambient air quality standards for six criteria pollutants. Ozone is considered a regional pollutant because its precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead are considered local pollutants that tend to accumulate in the air locally. Particulate matter (PM) is both a regional and local pollutant. The primary criteria pollutants generated by the Proposed Project are ozone precursors, including nitrogen oxides (NO_X) and reactive organic gases (ROGs), CO, and PM.[1]

All criteria pollutants can have human health effects at certain concentrations. The ambient air quality standards for these pollutants are set to protect public health and the environment with an adequate margin of safety (Clean Air Act [CAA] Section 109). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria

[1] As discussed above, there are also ambient air quality standards for SO_2, lead, sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particulates. However, these pollutants are typically associated with industrial sources, which are not included as part of the project. Accordingly, they are not evaluated further. Most emissions of NO_x are in the form of nitric oxide (NO). Conversion to NO_2 occurs in the atmosphere as pollutants disperse downwind. Accordingly, NO_2 is not considered a local pollutant of concern for the project and is not evaluated further. Source: Reşitoğlu, Ibrahim A. 2018. *NO_x Pollutants from Diesel Vehicles and Trends in Control Technologies.* Published November 5. DOI: 10.5772/intechopen.81112. Available: https://www.intechopen.com/books/diesel-and-gasoline-engines/no-sub-x-sub-pollutants-from-diesel-vehicles-and-trends-in-the-control-technologies. Accessed: July 1, 2021.

pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the primary criteria pollutants generated by the project are discussed below.

Ozone

Ozone (O_3, or "smog") is a photochemical oxidant that is formed when ROG and NO_X (both byproducts of the internal combustion engine) react with sunlight. ROG, more broadly referred to as volatile organic compounds (VOCs),[2] are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle use is the major source of hydrocarbons. Other sources of ROG are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. The two major forms of NO_X are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas that forms from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. In addition to serving as an integral participant in ozone formation, NO_X also directly acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Ozone poses a higher risk to those who already suffer from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoors. Exposure to ozone at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggravate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. EPA Ground, 2023). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion (ppb) of ozone and a 50 percent decrease in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 ppb (U.S. EPA Ozone, 2023).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. Ozone can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

[2] EPA formerly defined the regulated organic compounds in outdoor air as "Reactive Organic Gases" (ROGs), intended to specifically refer to reactive chemicals; however, EPA later revised this terminology to "Volatile Organic Compounds" (VOCs) to more broadly encompass organic (carbon) compounds that participate in atmospheric photochemical reactions (i.e., contribute to ozone) in both indoor and outdoor air.

Carbon Monoxide

Carbon monoxide is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. In the study area, high CO levels are of greatest concern during the winter, when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects of CO at or near existing background CO levels (CARB Carbon, 2023).

Particulate Matter

PM consists of finely divided solids or liquids, such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized: respirable coarse particles with an aerodynamic diameter of 10 micrometers or less (PM_{10}), and respirable fine particles with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading. PM is considered both a local and a regional pollutant.

Particulate pollution can be transported over long distances and may adversely affect humans, especially people who are naturally sensitive or susceptible to breathing problems. Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease. Other symptoms of exposure may include nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Depending on composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. EPA PM, 2023).

OTHER CRITERIA POLLUTANTS

The California Air Resources Board (CARB) has also established the California Ambient Air Quality Standards (CAAQS) for hydrogen sulfide (H_2S), sulfates, vinyl chloride, and visibility-reducing particles. These pollutants are not addressed by federal standards. Below is a summary of the pollutants and a description of their physical properties, health and other effects, sources, and the extent of the problems.

Hydrogen Sulfide

Hydrogen sulfide (H_2S) emissions often are associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. H_2S in the atmosphere will likely oxidize into SO_2, which can lead to acid rain. At low concentrations, H_2S may

cause irritation to the eyes, mucous membranes, and respiratory system, dizziness, and headaches. In high concentrations (800 parts per million can cause death), H_2S is extremely hazardous, especially in enclosed spaces. The Occupational Safety and Health Administration (OSHA) has the primary responsibility for regulating workplace exposure to H_2S.

Sulfates

Sulfates are another particulate product that results from the combustion of sulfur-containing fossil fuels; however, the majority of ambient sulfates is formed in the atmosphere. When SO_2 comes in contact with oxygen it precipitates out into sulfates. The health effects associated with SO_2 and sulfates more commonly known as sulfur oxides (SO_X) include respiratory illnesses, decreased pulmonary disease resistance, and aggravation of cardiovascular diseases. When acidic pollutants and particulates are also present, SO_2 tends to have an even more toxic effect. Increased PM derived from SO_2 emissions also contributes to impaired visibility. In addition to particulates, sulfur trioxide and sulfate ion are precursors to acid rain. SO_X and NO_X are the leading precursors to acid rain, which can lead to corrosion of human-made structures and cause acidification of water bodies.

Visibility-Reducing Particles

Visibility-reducing particles consist of PM generated from a variety of natural and manmade sources and vary greatly in shape, size, and chemical composition. Some haze-causing particles (e.g., windblown dust and soot) are directly emitted into the air, whereas others are formed in the air from the chemical transformation of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles), which are the major constituents of fine PM. These fine particles, caused largely by the combustion of fuel, can travel hundreds of miles and cause visibility impairment. California has been labeled unclassified for visibility—CARB has not established a method for measuring visibility with the precision and accuracy needed to designate areas attainment or nonattainment.

Vinyl Chloride

Vinyl chloride is a colorless, sweet-smelling gas at ambient temperature. Landfills, publicly owned treatment works, and polyvinyl chloride production are the major identified sources of vinyl chloride emissions in California. Polyvinyl chloride can be fabricated into several products, such as pipes, pipe fittings, and plastics. In humans, epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of liver angiosarcoma, a rare cancer, and have suggested a relationship between exposure and lung and brain cancers.

TOXIC AIR CONTAMINANTS

Although ambient air quality standards have been established for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, CARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. TACs are identified in the California Code of Regulations Title 17, Section 93000, and their toxicity

is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). The primary TACs of concern associated with the Proposed Plan are asbestos, benzene, diesel PM, inorganic lead, and perchloroethylene.

Asbestos

Asbestos is the name given to several naturally occurring fibrous silicate minerals, found in its natural state in rock or soil. Before the adverse health effects of asbestos were identified, asbestos was widely used as insulation and fireproofing in buildings because of its heat resistance and strong insulating properties, and it can still be found in some older buildings. The inhalation of asbestos fibers into the lungs can result in a variety of adverse health effects, including inflammation of the lungs, respiratory ailments (e.g., asbestosis, which is scarring of lung tissue that results in constricted breathing), and cancer (e.g., lung cancer and mesothelioma, which is cancer of the linings of the lungs and abdomen). The U.S. Consumer Product Safety Commission banned use of most asbestos-containing materials (ACMs) in 1977 due to their link to mesothelioma. As a result, present sources of ACMs are primarily buildings that were constructed prior to 1977.

Benzene

Benzene (C_6H_6) is a known carcinogen ubiquitously emitted by the marketing and burning of gasoline. Although benzene is treated as a substance without a carcinogenic threshold, health effects other than cancer are not expected to occur at usual ambient levels; however, in areas with elevated benzene levels, such as near gasoline dispensing facilities, the added lifetime cancer risk from ambient air benzene exposure ranges from 22 to 170 cases per million for every part per billion (CARB Report, 1984).

Diesel Particulate Matter

Diesel PM is a type of fine PM generated by diesel-fueled equipment and vehicles such as those used for freight and goods movement, construction, and industrial activities. Short-term exposure to diesel can cause acute irritation (e.g., eye, throat, and bronchial), neurophysiological symptoms (e.g., lightheadedness and nausea), and respiratory symptoms (e.g., cough and phlegm). The U.S. Environmental Protection Agency (EPA) has determined that diesel exhaust is "likely to be carcinogenic to humans by inhalation" (U.S. EPA Diesel, 2003).

Inorganic Lead

Although lead (Pb) is a naturally occurring mineral formed in the earth's crust, "inorganic lead" refers to substances that do not contain carbon but include metallic lead and is considered a potential human carcinogen. More than cancer, however, ambient air exposure to inorganic lead PM at levels below the CAAQS could lead to significant health concerns including neurodevelopmental effects in children and increases in blood pressure and related cardiovascular conditions in adults.

Although leaded automobile (on-road) fuel has been banned in the U.S. since 1995, major sources of outdoor inorganic lead emissions in California include stationary point and area source fuel

combustion, aircraft fuel combustion, industrial metal melting, autobody refinishing, cement manufacturing, and incineration. Inorganic lead emissions may deposit and accumulate in soil for many years, and lead-contaminated dust particles could become airborne by wind and agricultural activities.

Indoor concentrations of airborne lead are typically a result of outdoor air particle infiltration, but activities that disturb lead-based paint, such as remodeling or paint removal, can release large amounts of lead-bearing particles into the air. Lead has been banned for use in residential paint since 1978, but housing units built prior to this date are likely to contain lead-based paint. Additionally, lead-based paints are still allowed in industrial, military, and marine applications.

Perchloroethylene

Perchloroethylene (C_2Cl_4, also known as tetrachloroethylene, "perc," or PCE) is a nonflammable, colorless liquid used as a solvent for a wide variety of industrial and commercial activities including dry cleaning, degreasing, paints and coatings, adhesives, aerosols, printing inks, silicones, rug shampoos, and laboratory solvents. A large majority of perchloroethylene emissions result from dry cleaning and degreasing operations. It is a potential carcinogen that may also cause acute toxic health effects, including skin and eye irritation, burns, blistering, and elevated heart rate, as a result of prolonged exposure. Massive acute doses or chronic exposure can affect the central nervous system or liver. However, average ambient or indoor air exposures to perchloroethylene is not expected to have noncarcinogenic chronic health effects (CARB, 1991).

ODORS

The Bay Area Air Quality Management District's (BAAQMD) thresholds for odors are qualitative and based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall discharge from any source whatsoever quantities of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; endanger the comfort, repose, health, or safety of any such persons or the public; or cause, or have a natural tendency to cause, injury or damage to businesses or property. Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance. The BAAQMD has established odor screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants (BAAQMD, 2017).

EXISTING AIR QUALITY CONDITIONS

Ambient Criteria Pollutant Concentrations

A number of ambient air quality monitoring stations are located in SFBAAB to monitor progress toward air quality standards attainment of the National Ambient Air Quality Standards (NAAQS) and CAAQS. The NAAQS and CAAQS are discussed further under *Regulatory Setting*. While there

is a monitoring station in Fairfield, it only monitors ozone. As such, the nearest monitoring station for all criteria pollutants to the Planning Area is the Vallejo Station, located approximately 17 miles southwest of the Planning Area. **Table 3.3-1** summarizes data for criteria air pollutant levels from the Vallejo Station from 2020-2022. **Table 3.3-1** shows sampling at the monitoring station was in violation of federal and state ozone standards in 2020 and 2021, the federal and state PM_{10} standards in 2020, and the federal $PM_{2.5}$ standard in 2020. Federal and state standards for other pollutants were not exceeded. These existing ozone, $PM_{10,}$ and $PM_{2.5}$ violations of ambient air quality standards indicate that certain individuals exposed to this pollutant may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

Table 3.3-1: Ambient Air Quality Data at the Vallejo Monitoring Station (2020-2022)

Pollutant Standards	*2020*	*2021*	*2022*
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.096	0.099	0.066
Maximum 8-hour concentration (ppm)	0.077	0.072	0.058
Number of days standard exceeded[a]			
CAAQS 1-hour (> 0.09 ppm)	1	1	0
CAAQS 8-hour (> 0.070 ppm)	1	1	0
NAAQS 8-hour (> 0.070 ppm)	1	1	0
Carbon Monoxide (CO)			
Maximum 1-hour concentration (ppm)	2.5	1.8	1.8
Maximum 8-hour concentration (ppm)	1.7	2.0	11.5
Number of days standard exceeded[a]			
NAAQS 1-hour (≥ 35.0 ppm)	0	0	0
CAAQS 1-hour (≥ 20.0 ppm)	0	0	0
NAAQS 8-hour (≥ 9.0 ppm)	0	0	0
CAAQS 8-hour (≥ 9.0 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
State maximum 1-hour concentration (ppm)	0.048	0.040	0.044
State second-highest 1-hour concentration (ppm)	0.047	0.039	0.042
Annual average concentration (ppm)	0.007	*	0.006
Number of days standard exceeded[a]			
CAAQS 1-hour (0.180 ppm)	0	0	0
Particulate Matter (PM_{10})			
National[e] maximum 24-hour concentration ($\mu g/m^3$)	326.8	50.0	33.4
National[e] second-highest 24-hour concentration ($\mu g/m^3$)	170.7	47.2	30.4
State[f] maximum 24-hour concentration ($\mu g/m^3$)	319.2	49.6	35.4
State[f] second-highest 24-hour concentration ($\mu g/m^3$)	170.9	47.4	32.2
National annual average concentration ($\mu g/m^3$)	36.7	14.6	11.9

Table 3.3-1: Ambient Air Quality Data at the Vallejo Monitoring Station (2020-2022)

Pollutant Standards	*2020*	*2021*	*2022*
State annual average concentration (μg/m^3)	*	*	12.3
Measured number of days standard exceeded[a]			
NAAQS 24-hour (> 150 μg/m^3)	2	0	0
CAAQS 24-hour (> 50 μg/m^3)	6	0	0
Fine Particulate Matter ($PM_{2.5}$)			
National[e] maximum 24-hour concentration (μg/m^3)	152.7	32.0	31.0
National[e] second-highest 24-hour concentration (μg/m^3)	104.5	27.7	27.0
State[f] maximum 24-hour concentration (μg/m^3)	153.2	32.0	31.0
State[f] second-highest 24-hour concentration (μg/m^3)	104.9	27.7	28.2
National annual average concentration (μg/m^3)	12.0	8.3	7.7
State annual average concentration (μg/m^3)	12.1	8.8	8.2
Measured number of days standard exceeded[a]			
NAAQS 24-hour (> 35 μg/m^3)	12	0	0

Notes:

* = There was insufficient data to determine the value.

a. An exceedance is not necessarily related to a violation of the standard.

b. National statistics are based on standard conditions data. In addition, national statistics are based on samplers using federal reference or equivalent methods.

c. State statistics are based on approved local samplers and local conditions data.

d. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

e. National statistics are based on samplers using federal reference or equivalent methods.

f. State statistics are based on local approved samplers.

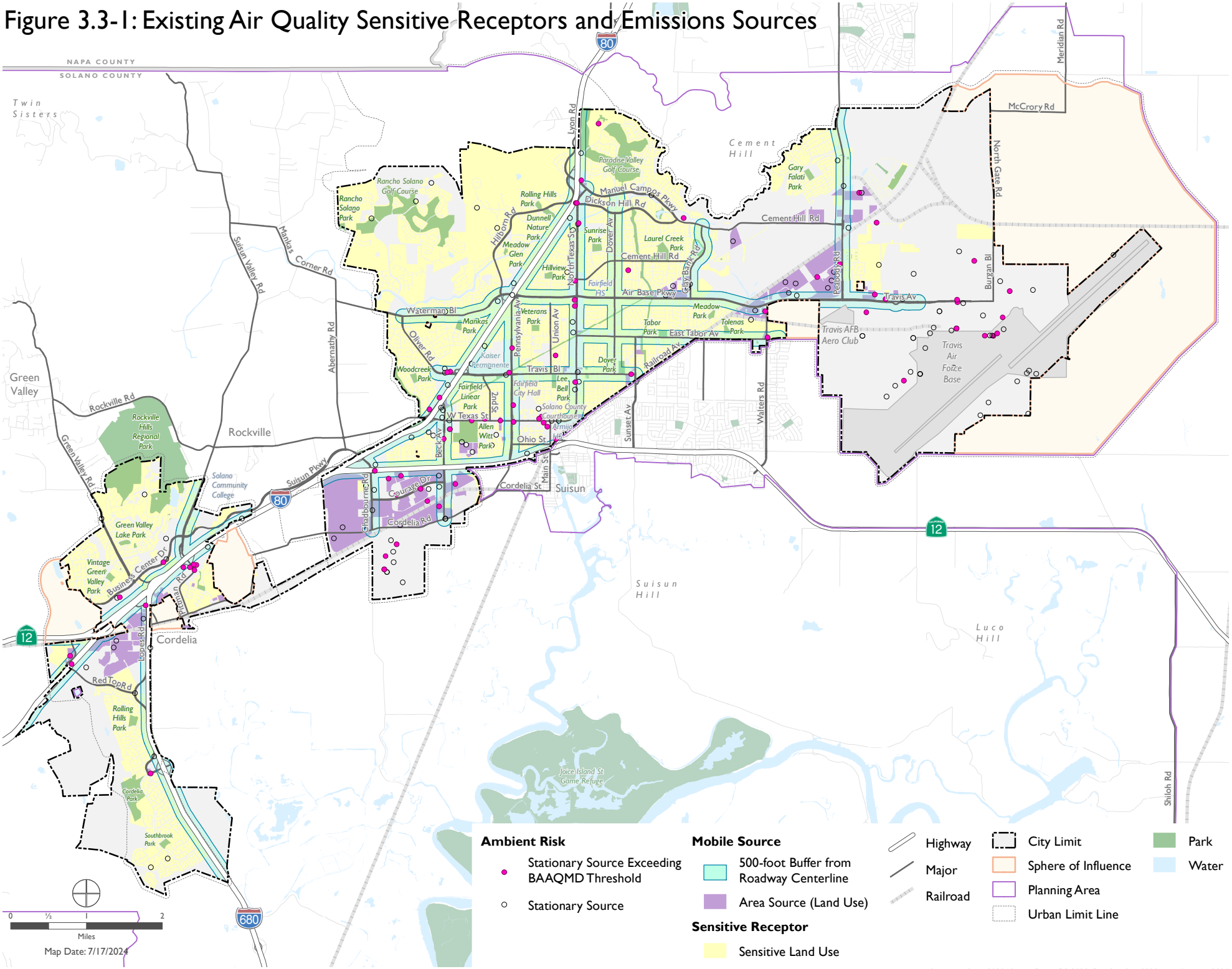
ppm = parts per million; NAAQS = National Ambient Air Quality Standards; CAAQS = California Ambient Air Quality Standards; μg/m^3 = micrograms per cubic meter, mg/m^3 = milligrams per cubic meter, – = no data available

Sources: California Air Resources Board, 2023. iADAM: Air Quality Data Statistics – Top 4 Summary (2019-2021), Solano County, Vallejo Monitoring Station. Available: https://www.arb.ca.gov/adam/topfour/topfour1.php. Accessed: May 10, 2024.; U.S. Environmental Protection Agency. 2021. Outdoor Air Quality Data. Monitor Values Reports (Carbon Monoxide, 2019-2021, Solano County, Vallejo Monitoring Station. Last updated September, 2022. Available: https://www.epa.gov/outdoor-air-quality-data/monitor-values-report. Accessed: May 10, 2024.

Existing TAC Sources and Health Risks

The BAAQMD maintains an inventory of health risks associated with all permitted stationary sources within the SFBAAB. The inventory was last updated in 2023 and is publicly available online. Appendix C provides a summary of the 257 stationary sources within the Planning Area. The stationary sources consist of gasoline dispensing facilities, food manufacturers, automotive services, waste management services, and several sources at TAFB. **Figure 3.3-1** shows the existing stationary emission sources within the Planning Area.

Figure 3.3-1: Existing Air Quality Sensitive Receptors and Emissions Sources



Source: BAAQMD, 2021; Solano County GIS, 2020; City of Fairfield, 2020; Dyett & Bhatia, 2024

The Travis Air Force Base (TAFB) and railroads are also sources of air pollution emissions in the Planning Area. TAFB has a land use plan that helps reduce exposure to emissions, as well as other programs in place to reduce the environmental impact of aviation activities (Travis, 2021). The goal of TAFB is to maintain 100 percent compliance with all applicable Federal, State, and local environmental requirements. The plan states that TAFB will promote environmental quality by integrating and maintaining an effective environmental management system; protecting human health and the environment; incorporating environmental commitments to applicable policies and programs; encouraging an environmental culture across all levels of management; enhancing relations with regulatory agencies; partnering with all stakeholders to promote resource conservation and achieving continual improvement to environmental performance. Union Pacific Railroad is also working with CARB to create a state implementation plan to introduce cleaner locomotives and Amtrak also has sustainability measures in place to reduce pollution and greenhouse gas emissions as that result from locomotive activity (CARB Rail, 2021; Amtrak, 2021).

Aside from stationary sources, emissions of TACs in and around the Planning Area are also generated from mobile sources. The BAAQMD considers roadways with greater than 10,000 average daily traffic (ADT) as "high volume roadways" and recommends they be included in the analysis of health risks (BAAQMD, 2012). The city is located at the crossroads of interstates 680 and 80 (I-680 and I-80) and Highway 12 (SR-12). Such freeways that pass through the Planning Area have ADT greater than 10,000 vehicles. In addition to freeways, the following roads in the Planning Area contain segments that experience ADT greater than 10,000 vehicles: Air Base Pkwy, Beck Ave, Business Center Dr, Cadenasso Dr, Chadbourne Rd, Clay Bank Rd, Dover Ave, East Tabor Ave, Gold Hill Rd, Green Valley Rd, Heath Dr, Hillborn Rd, Lopes Rd, Manuel Campos Pkwy, North Texas St, Oliver Rd, Peabody Rd, Pennsylvania Ave, Pittman Rd, Rancho Solano Pkwy, Red Top Rd, Suisun Valley Rd, Sunset Ave, Travis Blvd, Walters Rd, Waterman Blvd, and West Texas St (Fairfield, 2023).

Regional Attainment Status

Local monitoring data are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the ambient air quality standards. The four designations are defined below.

- Nonattainment—assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- Maintenance—assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- Attainment—assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- Unclassified—assigned to areas where data are insufficient to determine whether a pollutant is violating the standard in question.

Table 3.3-2 summarizes the attainment status for the SFBAAB.

Table 3.3-2: Federal and State Ambient Air Quality Attainment Status for the SFBAAB

Criteria Pollutant	State Designation	Federal Designation
Ozone (8-hour)	Nonattainment	Nonattainment
Ozone (1-hour)	Nonattainment	–
Carbon Monoxide (CO)	Attainment	Attainment
Particulate Matter (PM_{10})	Nonattainment	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	–
Lead	–	Attainment
Sulfates	Attainment	(No Federal Standard)
Hydrogen Sulfide	Unclassified	(No Federal Standard)
Visibility Reducing Particles	Unclassified	(No Federal Standard)

Notes:
– indicates no classification listed

Source: Bay Area Air Quality Management District. 2023. Air Quality Standards and Attainment Status. Available: https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status#twelve. Accessed: May 10, 2024.

LOCATIONS OF SENSITIVE RECEPTORS

Sensitive land uses are defined as locations where human populations, especially children, seniors, and sick persons are located and where there is reasonable expectation of continuous human exposure according to the averaging period for the air quality standards (i.e., 24-hour or 8-hour). Per the BAAQMD, typical sensitive land uses are residences, hospitals, and schools. Parks and playgrounds, where sensitive receptors (e.g., children and seniors) are present are considered sensitive land uses (BAAQMD, 2017).

The Planning Area encompasses 278 square miles and includes the incorporated City of Fairfield (approximately 41 square miles) and its Sphere of Influence (SOI) (approximately 11 square miles). The Planning Area contains public/institutional uses, agricultural lands, business and industrial uses, and single- and multi-family residential neighborhoods as shown in **Figure 2-4.** Sensitive receptors are currently located at the aforementioned land uses (e.g., residential, schools, parks, etc.) throughout the Planning Area. Existing sensitive land uses, including residential areas, are also identified in **Figure 3.3-1**.

REGULATORY SETTING

Air quality in the project area is regulated through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, planning, policymaking, education, and a variety of programs. The agencies responsible for improving the air quality within the air basin are discussed below.

FEDERAL REGULATIONS

Clean Air Act and National Ambient Air Quality Standards

The EPA is responsible for implementing national air quality programs, as governed by the federal Clean Air Act, which was first enacted in 1963 and most recently amended in 1990. The Clean Air Act establishes primary and secondary NAAQS for the six criteria air pollutants [ozone, CO, NO_2, SO_2, Particulate Matter (PM_{10} and $PM_{2.5}$), and lead] discussed in the Environmental Setting section; the NAAQS are shown in **Table 3.3-3**. The primary standards protect public health and the secondary standards protect public welfare. The Clean Air Act also requires each state to prepare a state implementation plan (SIP) for attaining and maintaining the NAAQS. States with nonattainment areas must revise their SIPs to incorporate additional control measures to reduce air pollution. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the Clean Air Act and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, EPA may prepare a federal implementation plan that imposes additional control measures. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Corporate Average Fuel Economy (CAFE) Standards

The National Highway Traffic Safety Administration (NHTSA) Corporate Average Fuel Economy (CAFE) standards require substantial improvements in fuel economy and reductions in emissions of criteria air pollutants and precursors, as well as greenhouse gases, from vehicles sold in the United States. The CAFE standards regulate how far vehicles must travel on a gallon of fuel, with standards for light-duty vehicles (passenger cars and light trucks) and separately for medium- and heavy-duty trucks and engines. The light-duty vehicle fuel economy standards are established for model years through 2026, and standards for model years 2027-2032 were proposed on July 28, 2023. Heavy-duty vehicle standards are established for model years through 2027, and proposed standards apply to model years 2030-2035 (with 2027 standards applying to interim model years). In accordance with the National Environmental Policy Act (NEPA), NHTSA released the Draft Environmental Impact Statement for public comment in September 2023. The final proposed was adopted on June 24, 2024, though would not go into effect until August 23, 2024. The proposal will require an industry fleet-wide average of approximately 58 miles per gallon for passenger cars and light trucks in model year 2032, by increasing fuel economy by two percent year-over-year for passenger cars, four percent year-over-year for light trucks, and 10 percent year-over-year for heavy-duty pickup trucks and vans. The proposal is intended to provide gas cost savings, conserve energy, and provide flexibility to industry using available fuel-saving technologies (NHTSA, 2023).

Table 3.3-3: National and California Ambient Air Quality Standards

Criteria Pollutant	*Average Time*	*California Standards*	*National Standards* [a]	
			Primary	*Secondary*
Ozone	1-hour	0.09 ppm	None [b]	None [b]
	8–hour	0.070 ppm	0.070 ppm	0.070 ppm
Particulate Matter (PM_{10})	24-hour	50 μg/m^3	150 μg/m^3	150 μg/m^3
	Annual mean	20 μg/m^3	None	None
Fine Particulate Matter ($PM_{2.5}$)	24-hour	None	35 μg/m^3	35 μg/m^3
	Annual mean	12 μg/m^3	12.0 μg/m^3	15 μg/m^3
Carbon Monoxide (CO)	8-hour	9.0 ppm	9 ppm	None
	1-hour	20 ppm	35 ppm	None
Nitrogen Dioxide (NO_2)	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1-hour	0.18 ppm	0.100 ppm	None
Sulfur Dioxide [c] (SO_2)	Annual mean	None	0.030 ppm	None
	24-hour	0.04 ppm	0.014 ppm	None
	3-hour	None	None	0.5 ppm
	1-hour	0.25 ppm	0.075 ppm	None
Lead	30-day Average	1.5 μg/m^3	None	None
	Calendar quarter	None	1.5 μg/m^3	1.5 μg/m^3
	3-month average	None	0.15 μg/m^3	0.15 μg/m^3
Sulfates	24-hour	25 μg/m^3	None	None
Visibility-reducing Particles	8-hour	–[d]	None	None
Hydrogen Sulfide (H_2S)	1-hour	0.03 ppm	None	None
Vinyl Chloride	24-hour	0.01 ppm	None	None

Notes:

a. National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

b. The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. The revoked standard is referenced because it was employed for such a long period and is a benchmark for SIPs.

c. The annual and 24-hour NAAQS for SO2 only apply for 1 year after designation of the new 1-hour standard to those areas that were previously in nonattainment for 24-hour and annual NAAQS.

d. CAAQS for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer—visibility of 10 miles or more due to particles when relative humidity is less than 70 percent.

CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards; ppm = parts per million; μg/m3 = micrograms per cubic meter

Source: California Air Resources Board, Ambient Air Quality Standards, 2016, https://ww2.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf.

Emission Standards for On-road Heavy-Duty Vehicles

In December 2000, EPA signed the Heavy-Duty Highway Program, which established a series of increasingly strict emission standards for new heavy-duty highway engines. In December 2022, EPA finalized the Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards, part of the Clean Trucks Plan (consistent with President Biden's Executive Order 140937) to further reduce air pollution from heavy-duty engines and vehicles by establishing new, more stringent emission standards that apply to a wider range of heavy-duty engine operating conditions and must be met for a longer period of when these engines operate on the road. The final rulemaking sets new numeric standards and changes key provisions of the existing heavy-duty emission control program to reduce emissions of NOx, PM, hydrocarbons, CO, and TACs from heavy-duty engines beginning no later than model year 2027. EPA estimates that the final rule will reduce NOx emissions from heavy-duty vehicles in 2040 by more than 40 percent and almost 50 percent by 2045, with corresponding decreases in ambient concentrations of pollutants such as ozone and PM2.5 (Control, 2023).

In addition, on March 20, 2024, the EPA announced Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles. This rule focuses on light- and medium-duty vehicles and addresses multi-pollutant emissions, including greenhouse gas emissions and emissions that form smog and soot, for model year 2027 and later commercial pickup trucks and vans. An additional rulemaking of the Clean Trucks Plan was announced on March 29, 2024, and focuses on greenhouse gas emissions for model year 2027 and later heavy-duty vehicles.

Emission Standards for Off-Road Diesel Engines

EPA has adopted multiple tiers of emission standards that regulate all new nonroad (off-road) diesel engines used in machines such as excavators and other construction equipment; farm tractors and other agricultural equipment; forklifts; airport ground service equipment; and generators, pumps, compressors, and other utility equipment. Tier 1 standards were phased in on newly manufactured equipment from model years 1996 through 2000, Tier 2 standards apply to model years 2001 through 2006, and Tier 3 standards apply to model years 2006 through 2008. Tier 4 standards, which integrate engine and fuel controls as a system to gain the greatest emission reductions and require manufacturers to produce engines with advanced emission-control technologies, were phased in from model years 2008 through 2015 and apply to all model years thereafter. To prevent damage to emission control devices by sulfur, EPA has also adopted requirements for in-use diesel fuel to decrease sulfur levels (Ultra Low Sulfur Diesel Fuel) by more than 99 percent, with a maximum sulfur concentration of 15 parts per million.

Hazardous Air Pollutants and Toxic Air Contaminants

TACs, federally referred to as hazardous air pollutants (HAPs), are a defined set of airborne pollutants that may pose a present or potential hazard to human health. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low

concentrations. A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage; or short-term acute affects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (**Table 3.3-4**). Cancer risk from TACs is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure. EPA and CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum available control technology or best available control technology for air toxics to limit emissions.

The Toxic Substances Control Act of 1976 ("TSCA," 15 USC §2601 et seq.) provides EPA with the authority to require reporting, record-keeping and testing requirements, and restrictions addressing production, importation, use, and disposal of specific chemicals including PCBs, asbestos, radon, and lead-based paint. The TSCA was updated by the Frank R. Lautenberg Chemical Safety Act of the 21st Century in 2016, requiring additional enforcement measures, risk-based chemical assessments, increased public transparency, and more consistent funding. Demolition and/or renovation activities are subject to the National Emission Standards for Hazardous Air Pollutants ("NESHAP," 40 CFR Part 63), as required by the federal Clean Air Act Amendments. For example, demolition of existing facilities that contain asbestos would be subject to the asbestos NESHAP regulations to protect the public by minimizing the release of asbestos fibers during activities involving the processing, handling, and disposal of ACM.

EPA also addresses certain HAPs and common sources through specific regulations, such as the Residential Lead-Based Paint Hazard Reduction Act of 1992, which built on the 1971 prohibition of lead-based paint in federally funded, built, or rehabilitated residential structures and cooking, drinking, or eating utensils (42 USC Ch. 63, §4831). Under these laws, homes and child-occupied facilities such as day care centers and kindergartens built prior to 1978 are subject to additional requirements to prevent lead-based poisoning. Lead is also regulated by the TSCA and NESHAPs for primary and secondary lead smelting as well as other NESHAPs that control lead that is emitted along with other HAPs.

STATE REGULATIONS

California Clean Air Act and California Ambient Air Quality Standards

In 1988, the state legislature adopted the California Clean Air Act, which established a statewide air pollution control program. Under this act, all air districts in the state are required to meet the CAAQS by the earliest practical date, with increasingly stringent requirements for areas that require more time to achieve the standards (rather than by precise attainment deadlines). The CAAQS are

generally more stringent than the NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. The CAAQS and NAAQS are listed together in **Table 3.3-4**. CARB and regional air districts bear responsibility for achieving California's air quality standards. The standards are to be achieved through district-level air quality management plans, which are incorporated into the SIP. In California, EPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts, such as BAAQMD. CARB has traditionally established state air quality standards, maintained oversight authority for air quality planning, developed programs for reducing emissions from motor vehicles, developed air emissions inventories, collected air quality and meteorological data, and approved SIPs.

The California Clean Air Act substantially increases the authority and responsibilities of air districts by designating air districts as lead air quality planning agencies, requiring air districts to prepare air quality plans, and granting air districts the authority to implement transportation control measures. The act also emphasizes control over "indirect and area-wide sources" of air pollutant emissions, giving local air pollution control districts explicit authority to regulate indirect sources and establish air toxic control measures.

Airborne Toxic Control Measures

CARB has developed multiple airborne toxic control measures (ATCMs), which are codified in the California Code of Regulations, to reduce air emissions from TAC emissions sources that adversely affect public health. The ATCMs focus on reducing emissions from on- and off-road mobile sources—such as school buses, solid waste collection vehicles, diesel-powered portable engines, transport refrigeration units, port and intermodal rail yard equipment, and ocean-going vessels—as well as stationary sources – such as gas stations, dry cleaners, medical waste incinerators, construction and grading operations, metal melting, and chrome plating shops, automobile service shops, and others.

Low-Emission Vehicle Program

CARB adopted the first Low-Emission Vehicle (LEV) regulations in 1990 (now referred to as the LEV I regulations), requiring manufacturers to introduce progressively cleaner light- and medium-duty vehicles for model years 1994 through 2003. LEV I included tiers of increasingly more stringent exhaust emissions standards for low-emission vehicles, a mechanism for requiring manufacturers to phase in a progressively cleaner mix of vehicles year-over-year, and a requirement that a specific percentage of passenger cars and light-duty trucks be zero-emission vehicles with no exhaust or evaporative emissions. In 2012, CARB adopted the LEV III regulations as part of the Advanced Clean Cars rulemaking package, which also includes the state's zero-emission vehicle regulation, to establish increasingly stringent emission standards for criteria pollutants and greenhouse gases for new passenger vehicles through the 2025 model year (CARB Low-Emission, 2023).

Toxic Air Contaminant Regulation

The California Health and Safety Code defines TACs as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness or that may pose a present or potential hazard to human health. CARB has formally identified over 200 substances and groups of substances as TACs (CARB TAC, 2023). Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to the brain and nervous system, and respiratory disorders. California regulates TACs primarily through AB 1807 (the Toxic Air Contaminant Identification and Control Act, otherwise known as the "Tanner Act") and AB 2588 (the Air Toxics Hot Spots Information and Assessment Act of 1987, or "Hot Spots Act"). AB 1807 created California's program to reduce exposure to air toxics, whereby the California OEHHA is required to develop guidelines that provide the scientific basis for the values used to assess the health risks of emissions exposure from facilities and new sources (Office, 2015). AB 2588 supplements this program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks.

Off-Road Diesel Vehicle Regulation

On November 17, 2022, CARB approved amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation) (initially adopted in 2007) to further reduce emissions from all diesel-fueled equipment or alternative-fuel diesel equipment with a compression-ignition engine greater than 25 horsepower (e.g., tractors, bulldozers, backhoes) as well as dual-fuel equipment. The amendments, which will phase in starting in 2024 through 2036, will require fleets to phase out use of the oldest and highest polluting off-road diesel vehicles in California, prohibit the addition of high-emitting vehicles to a fleet, and require use of R99 or R100 renewable diesel in off-road diesel vehicles used in construction, mining, industrial operations, and other industries. CARB expect that the amendments will generate additional reductions in over 31,000 tons of NOx and more than 2,700 tons of $PM_{2.5}$ from 2024 through 2038 – half of which are expected within the first five years of implementation (by 2029).

CARB Air Quality and Land Use Guidance

In 2005, CARB published the Air Quality and Land Use Handbook, which is intended to encourage local land use agencies to consider health risks from air pollution before approving new sensitive receptor sites (such as homes or day care centers). Adverse air quality impacts may be overlooked when siting new sensitive receptors because such projects do not need air quality permits as industrial or stationary sources of air pollution are required to obtain. CARB makes "advisory" siting recommendations (i.e., buffer distances) for new sensitive land uses near freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing stations, as excerpted below:

- **Freeways and High-Traffic Roads.** Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.

- **Dry Cleaners using Perchloroethylene.** Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district.
- **Gasoline Dispensing Facilities.** Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities (CARB, 2005).

These recommendations were established based on data showing that localized air pollution exposures can be reduced by as much as 80 percent with the recommended separation; however, local agencies should consider conducting site-specific studies about potential health risks and balancing land use decisions to meet housing and climate objectives, among other goals, as appropriate.

Regional Air Quality Standards

Bay Area Air Quality Management District (BAAQMD)

At the local level, responsibilities of air quality districts include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality–related sections of environmental documents required by the California Environmental Quality Act (CEQA). The air quality districts are also responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and state air quality laws and for ensuring that NAAQS and CAAQS are met.

The project falls under the jurisdiction of the BAAQMD. The BAAQMD has local air quality jurisdiction over projects in the SFBAAB including the Proposed Project's Planning Area of Fairfield and Solano County. The BAAQMD developed advisory emission thresholds to assist CEQA lead agencies in determining the level of significance of a project's emissions, which are outlined in its *California Environmental Quality Act, Air Quality Guidelines* (CEQA Guidelines) (BAAQMD, 2022). The BAAQMD has also adopted air quality plans to improve air quality, protect public health, and protect the climate, including the 2017 Clean Air Plan: Spare the Air, Cool the Climate (2017 Clean Air Plan) (BAAQMD Clean Air, 2017).

The 2017 Clean Air Plan was adopted by the BAAQMD on April 19, 2017. The 2017 Clean Air Plan updates the prior 2010 Bay Area ozone plan and outlines feasible measures to reduce ozone; provides a control strategy to reduce particulate matter, air toxics, and greenhouse gases (GHGs) in a single, integrated plan; and establishes emission control measures to be adopted or implemented. The 2017 Clean Air Plan contains the following primary goals; consistency with these goals is evaluated in this section.

- **Protect Air Quality and Health at the Regional and Local Scale:** Attain all state and national air quality standards, and eliminate disparities among Bay Area communities in cancer health risk from TACs.

- **Protect the Climate:** Reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050; the 2017 Clean Air Plan is the most current applicable air quality plan for the air basin and consistency with this plan is the basis for determining whether the project would conflict with or obstruct implementation of an air quality plan.

In addition to air quality plans, the BAAQMD also adopts rules and regulations to improve existing and future air quality. The Proposed Project, or subsequent implementing actions, may be subject to the following district rules.

- **Regulation 2, Rule 2 (New Source Review)**—This regulation contains requirements for Best Available Control Technology and emission offsets.
- **Regulation 2, Rule 5 (New Source Review of Toxic Air Contaminants)**—This regulation outlines guidance for evaluating TAC emissions and their potential health risks.
- **Regulation 6, Rule 1 (Particulate Matter)**—This regulation restricts emissions of particulate matter (PM) darker than No. 1 on the Ringlemann Chart to less than 3 minutes in any 1 hour.
- **Regulation 7 (Odorous Substances)**—This regulation establishes general odor limitations on odorous substances and specific emission limitations on certain odorous compounds.
- **Regulation 8, Rule 3 (Architectural Coatings)**—This regulation limits the quantity of reactive organic gases (ROG) in architectural coatings.
- **Regulation 9, Rule 6 (Nitrogen Oxides Emission from Natural Gas–Fired Boilers and Water Heaters)**—This regulation limits emissions of nitrogen oxides (NO_X) generated by natural gas–fired boilers.
- **Regulation 9, Rule 8 (Stationary Internal Combustion Engines)—**This regulation limits emissions of NO_X and carbon monoxide (CO) from stationary internal combustion engines of more than 50 horsepower.

Impact Analysis

SIGNIFICANCE CRITERIA

For the purposes of this EIR, a significant impact would occur if the Proposed Project would:

Criterion 1: **Conflict with or obstruct implementation of the applicable air quality plan.**

Criterion 2: **Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is classified as a nonattainment area under an applicable federal or state ambient air quality standard.**

Criterion 3: **Expose sensitive receptors to substantial pollutant concentrations.**

Criterion 4: **Result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people.**

As discussed above, all pollutants that would be generated by the Proposed Project are associated with some form of health risk (e.g., asthma, lower respiratory problems). Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. As discussed above, the primary pollutants of concern generated by the Proposed Project are ozone precursors (ROG and NO_X), CO, PM, and TAC (including DPM and asbestos). Emission thresholds that can be used to evaluate the significance level of regional and localized pollutants are discussed in the following subsections. Thresholds and guidance for evaluating potential odors associated with the Proposed Project are also presented.

Regional Emissions

This analysis evaluates the impacts of regional emissions generated by the Proposed Project using a two-tiered approach that considers plan-level guidance recommended by the BAAQMD in its CEQA Guidelines (BAAQMD, 2022). The BAAQMD's project-level thresholds were developed to analyze emissions generated by a single project, and thus, do not lend well to an evaluation of emissions from a land use plan being evaluated at a programmatic level.

First, this analysis considers whether the Project would conflict with the most recent air quality plan (2017 Clean Air Plan), consistent with the BAAQMD guidance for plan-level programmatic analyses (BAAQMD, Chapter 7, 2017; BAAQMD Clean Air, 2017). The impact analysis evaluates whether the Project supports the primary goals of the 2017 Clean Air Plan, including applicable control measures from the 2017 Clean Air Plan, and whether it would disrupt or hinder implementation of any 2017 Clean Air Plan control measure.

Second, this analysis considers whether the Proposed Project's projected growth rate of vehicle activity in VMT or vehicle trips is less than or equal to the projected population growth rate. A proposed long-range plan must demonstrate that the projected growth rate of vehicle activity in VMT or vehicle trips under the plan would be less than or equal to the projected population growth rate to have a less-than-significant impact on criteria air pollutants. The vehicle activity and population growth rates are to be measured in terms of percent growth from baseline year levels.

Local Community Risks and Hazards

For a long-range plan to have a less-than-significant impact related to local risks and hazards, BAAQMD CEQA Guidelines state that special overlay zones should be established around existing and proposed land uses that emit toxic air contaminants (TACs) or fine particulate matter (PM2.5), and at least a 500-foot overlay zone should be established on each side of all freeways, high-volume roadways, railyards, Ports, rail lines using diesel locomotives. The plan should specify goals, policies, and objectives to minimize the potential impacts of TACs and PM2.5 sources, such as freeways and high-traffic roads, commercial distribution centers, railyards, ports, refineries, chrome platers, gasoline stations, and other industrial facilities on sensitive receptors in the special overlay zones. Lead agencies can refer to the Air District's Planning Healthy Places and the California Air Resources Board's Air Quality and Land Use Handbook for recommended planning goals, policies, and objectives to avoid or reduce impacts on sensitive receptors.

Odors

The BAAQMD and CARB have identified several types of land uses as being commonly associated with odors, such as landfills, wastewater treatment facilities, and animal processing centers (BAAQMD, 2017; CARB, 2005). The BAAQMD's CEQA Guidelines recommend that for a long-range plan to have a less-than-significant impact related to odors, the locations of existing and planned odor sources should be identified for the plan area. In addition, the plan should ensure that any new receptors are not sited near an odor source.

METHODOLOGY AND ASSUMPTIONS

Air quality impacts associated with construction and operation of the Proposed Project were assessed and quantified (where applicable) using standard and accepted software tools, methodologies, and emission factors. A summary of the methodology is provided below.

Construction

As discussed in Chapter 2, Project Description, of this draft EIR, the Proposed Project would facilitate development of residential, office, and industrial uses detailed in **Table 2-2**.[3] The residential land uses that could be developed under the Proposed Project would generate construction-related emissions from mobile and stationary construction equipment exhaust, employee and haul truck vehicle exhaust and fugitive dust, fugitive dust from land clearing and material movement, and off-gassing emissions from paving and application of architectural coatings. The specific size, location, construction techniques and scheduling that would be utilized for each future individual development project occurring within the Planning Area from implementation of the Proposed Project is not currently known. With an anticipated buildout year of 2050, development associated with the Proposed Project would occur over an extended period of time and would depend on factors such as local economic conditions, market demand, and other financing considerations. As such, without specific project-level details it is not possible to develop a refined construction inventory.[4] Consequently, the determination of construction air quality impacts for each individual development project, or a combination of these projects, would require the City to speculate regarding such potential future project-level environmental impacts. Thus, in the absence of the necessary construction information required to provide an informative and meaningful analysis, the evaluation of potential construction-related impacts resulting from implementation of the Proposed Project is conducted qualitatively in this EIR.

[3] The air quality modeling analysis was conducted based on the development anticipated at that time. Although the net amount of development has since changed, the air quality analysis represented in this section is conservative, because it assumes a greater amount of net development than may actually occur.

[4] Project-level information includes details such as the size and scale of the project to be constructed, construction schedule, equipment fleet, construction worker crew estimates, and demolition, and grading quantities.

Operations

Long-term (i.e., operational) regional emissions of criteria air pollutants and precursors, including mobile-, energy-, and area-source emissions, were quantified for the Proposed Project. As stated in Chapter 2, *Project Description*, buildout of the 2050 planning horizon of the Proposed Project includes existing development, pipeline development, and new development. The land uses categorized as "existing development" would remain unchanged through 2050, land uses categorized as "pipeline development" included projects that are being reviewed or have been approved by the City, but not yet constructed, and "new development" includes the future development within the Planning Area. Since existing development would remain unchanged, the air quality analysis focuses on the net change in development which would include the land uses associated with the pipeline and new development categories.

Stationary and Mobile Source Emissions

Stationary sources such as emergency generators and boilers that would be developed for each individual development project, or a combination of these projects, would be subject to the permitting requirements by the BAAQMD. Stationary sources are discussed qualitatively, because details of future projects and their stationary sources are currently unknown.

To estimate total project generated VMT per service population, subconsultant Fehr & Peers used the latest version of the Fairfield Model refined to reflect a Year 2020 base year, prior to the COVID-19 pandemic which substantially affected transportation conditions. Data from MTC Travel Model One is used to set the threshold as Travel Model One provides a more complete understanding of total weekday home-based residential VMT per resident, and home-based work VMT per worker for the entire nine-county Bay Area. The Fairfield Model is used to evaluate the project's effect on VMT as the model provides additional land use and roadway network detail in the City of Fairfield (far beyond that available in the MTC model). See Chapter 3.15: Transportation and Appendix H for more information regarding VMT calculations.

RELEVANT PROPOSED GOALS AND POLICIES

The Proposed Project contains the following goals and policies relevant to air quality.

Climate Action Plan

See the Climate Action Plan for more detailed actions that implement the following measures:

TR-1: Deploy sufficient, reliable zero-emission refueling infrastructure
TRA-1A: Charger Installation
TR-1B: Shared Chargers Requirement
TR-1C: Charger at Public Lots and Facilities
TR-1D: EV Charging Database and Wayfinding
TR-1E: Public Private Partnerships

TR-2: Reduce VMT per capita by at least 3 percent from 2020 levels by 2030 and 8 percent by 2050.
TR-2A: Sustainable Land Use and Transportation Policies
TR-2B: Transportation Demand Management Ordinance
TR-2C: Transportation Demand Management Program
TR-2D: School Transportation, Carpool, and Safe Routes to Schools
TR-2E: Reduced Parking Requirements
TR-2F: Bike Share and E-Bike Program

TR-3: Create supportive policies and programs that facilitate ZEV uptake.
TR-3A: ZE Zoning Code Updates
TR-3B: Preferential Policies for EVs and ZEVs
TR-3C: Zero-Emissions Ride-Hailing
TR-3D: ZEV Car Share
TR-3E: Bay Area Electric Vehicle Coordinating Council
TR-3F: ZEV Outreach and Education
TR-3G: ZEV Incentives
TR-3H: ZEV Workforce Development
TR-3I: Statewide Electrification of Off-Road Equipment

BE-1: Encourage electrification in new buildings, decarbonize existing buildings, and enhance communitywide electric readiness.
BE-1A: Carbon Neutral New Construction
BE-1B: Energy Benchmarking
BE-1C: Building Performance Standards
BE-1D: Building Decarbonization Strategy
BE-1E: Information and Programs on Carbon Neutrality

BE-2: Support the City of Fairfield's transition to renewable energy.
BE-2A: Participation in Marin Clean Energy
BE-2B: Electrical Grid Infrastructure
Be-2C: Battery Storage
BE-2D: Solar Infrastructure

BE-3: Reduce energy demand and consumption through energy efficiency and conservation.
BE-3A: Energy Upgrade Assistance
BE-3B: Energy-Compliant Technologies
BE-3C: Energy Efficiency Loans

BE-4: Lead by Example.

BE-4A: Develop Lead by Example Plan
BE-4B: Electrify the City Vehicle Fleet
BE-4C: Carbon Neutrality in City Buildings and Facilities
BE-4D: Transition City Accounts to MCE Deep Green
BE-4E: City Facilities Water Efficiency Plan
BE-4F: Solar and Battery Power at City Facilities

SW-1: Reduce the amount of solid waste that is generated and sent to landfills, especially organic waste.
SW-1A: Solid Waste Disposal Rate
SW-1B: Organic Waste Diversion and Edible Food Recovery
SW-1C: Compost Per Capita
SW-1D: Single Use Plastic and Container Ban
SW-1E: Construction and Demolition Waste
SW-1F: Solid Waste Education and Assistance
SW-1G: Outreach and Enforcement
SW-1H: Expand Waste-to-Energy System

WW-1: Work with the Fairfield-Suisun Sewer District to reduce emissions from wastewater treatment.
WW-1A: Reduce Use of Fossil Fuels
WW-1B: Capacity of Waste-to-Energy

PW-1: Reduce water utility emissions by 60% below 2020 levels by 2030 and 100% by 2050.
PW-1A: Landscape Efficiency
PW-1B: Water Conservation Ordinance
PW-1C: Recycled Water Program
PW-1D: Education and Incentives

CS-1: Increase carbon sequestration by expanding the tree canopy by 10% by 2050.
CS-1A: Urban Forest Master Plan
CS-1B: Urban Tree Trust

Land Use and Urban Design Element

LU-1.1 **Orderly Growth.** Promote and prioritize orderly development and growth of Fairfield through the following:

- Support a cohesive overall development pattern by promoting higher densities near downtown, along specific corridors, and near transit, and lower densities near hillsides and where

appropriate for resource conservation and supporting TAFB operations.

- Promote infill development that makes efficient use of limited land supply, while ensuring compatibility and integration with adjacent uses.
- Maintain separation of urban and rural uses, including through maintaining strong urban growth boundaries. Any urban development requiring basic municipal services shall occur only within the urban boundaries established by the General Plan, except for support of mutually beneficial agritourism opportunities outside the urban boundaries as designated by adopted Solano County plans, and for supporting Travis Air Force Base operations.
- Support the Middle Green Valley Specific Plan in unincorporated Solano County to augment permanent agricultural preservation.
- Ensure that new development mitigates and provides for its fair share of impacts to the environment, public facilities, services, and infrastructure.

LU-1.6 **Mixed Use Activity Centers.** Transform key infill locations into a network of mixed-use activity centers throughout the city, including the Cordelia-Suisun Gateway, Transportation Center, Solano Town Center, and North Texas Street, to complement larger scale change envisioned within the specific plans and create more complete communities. To facilitate transformation, do the following:

- Regularly coordinate with property owners of these major focus areas as development plans progress, ensuring alignment with city goals and community needs,
- Develop area plans or specific plans for these larger areas. As part of area study, evaluate competitive cost comparisons of commercial or employment-related uses and fiscal impacts to inform development in a way that maximizes benefits for the City.
- Require development to be within the overall designated density range for the mixed-use area, while encouraging a variety of housing types.

LU-2.3 **Higher Density Nodes.** Locate high-density residential or mixed-use development in areas near downtown, regional access routes, transit stations, employment centers, shopping areas, and public services. These include:

- The Cordelia-Suisun Valley Gateway;
- The Heart of Fairfield specific plan area, including the area nearest to the Suisun-Fairfield Train Station and the Transportation Center;

- Nodes along North Texas Street;
- As part of Solano Town Center redevelopment; and
- The area in the Train Station Specific Plan nearest to the Fairfield-Vacaville Hannigan Train Station.

For new mixed-use areas, establish flexible parking requirements, setbacks, and other development standards in the Zoning Ordinance.

LU-2.4 **Special Housing Needs**. Distribute special residential land uses, such as senior housing, throughout the city to assure their accessibility to activity centers and shopping areas and to provide the option of continuing to reside in neighborhoods of mixed economic, ethnic, and age groups. For projects located on the periphery of the city that house seniors or the mobility-impaired, special transportation, such as vans, shall be required to be provided by the project.

LU-5.1 **Agricultural Land Preservation.** Work collaboratively with Solano County, property owners, and others in preserving agricultural and open space lands surrounding the city. Support strategic expansion of Fairfield's urban boundary for manufacturing and food-processing uses in the Hale Ranch area. Do not support expansion of residential or employment uses associated with low job densities (such as warehousing and distribution) into agricultural areas.

LU-5.2 **Right-to-Farm**. Preserve agricultural enterprises by supporting right-to-farm policies, and separating and buffering agricultural lands from new development areas.

LU-6.1 **Land Use Compatibility**. Require industrial and commercial development to minimize noise, heat, glare, dust, and odor impacts on adjacent uses.

Circulation Element

CIR-3: Manage the City's transportation system to minimize congestion, improve the flow of traffic, improve air quality, and reduce vehicle miles traveled.

CIR-4: Reduce reliance on single-occupant vehicles and increase share of trips made by alternate modes.

CIR-4.1 **Transportation Demand Management (TDM) Plans.** Update the City's Ordinance, Article XIV, to require that all large public and private employers with over 50 employees develop t TDM plans to encourage their employees to use some form of collective transportation to commute to

and from work. This includes shared rides, car or vanpools, FAST microtransit, bicycle parking and facilities, teleworking, and other options. These plans should include not only information regarding rideshare lists and available transit, but also provision of transit passes, preferential parking, and other incentives to participating employees.

CIR-7.14 **Complete Streets Considerations.** Incorporate appropriate traffic calming and Complete Streets considerations during design of City capital and maintenance projects, per City specifications, and ensure improvements do not negatively affect emergency vehicle response times. Traffic calming and Complete Streets programs should tie funding and prioritization of projects back to projects identified in the City's safety plans.

Sustainability Element

SUS-6.2 **Minimizing Dependence on Natural Gas.** Subject to further financial evaluation and community feedback, establish minimum sustainable energy requirements for municipal and private development that may result in transition to electric building systems and appliances in both new constructions and existing structures currently reliant on natural gas, to the extent permissible by law.

Environmental Justice and Public Health Element

EJPH-1.1 **Sensitive Receptors.** Protect sensitive receptors such as schools, childcare centers, senior living facilities, and residences from the impacts of stationary and non-stationary sources of pollution by ensuring adequate buffers or mitigation measures. Establish vegetative barriers or green wall barriers in between industrial land and sensitive land uses, and along heavy-duty truck/goods movement corridors and freeways protect sensitive land uses from pollution impacts.

EJPH-1.2 **Impact Assessment and Mitigation.** Continue to use the Bay Area Air Quality and Monitoring District modeling tools and guidance documents as appropriate to identify and mitigate air quality impacts from proposed development projects, including for projects within 500 feet of a major freeway.

EJPH-1.3 **Community Air Monitoring.** In partnership with community organizations and the Bay Area Air Quality and Monitoring District, explore and identify city-owned locations, such as parks, community facilities, libraries, police or fire stations, and other facilities that could potentially be used as locations for air quality monitoring.

EJPH-1.4 **Air Filters.** Work with the Bay Area Air Quality and Monitoring District and other partners in the region to explore the creation of a grant program for installation and maintenance of air filtration devices/systems in existing buildings.

EJPH-1.5 **Reduced Exposure to Air Pollution for Project Occupants.** Incorporate measures to improve indoor air quality (including minimum efficiency reporting value (MERV) requirements) and reduce exposure to air pollution in new development projects.

EJPH-1.6 **Water Quality Hazard Prevention.** Remediate and clean-up sites with known or potential contamination, as mapped in **Figure 9-3** or identified on GeoTracker, that impact or potentially impact water quality. Continue to support the San Francisco Regional Water Quality Control Board and California Department of Toxic Sub-stances Control to assess cleanup sites, leaking underground storage tanks, and gasoline stations in Environmental Justice Communities with high water contamination threat.

EJPH-1.7 **Siting Facilities to Avoid Overconcentration.** Avoid new toxin sources by stringently evaluating the siting of facilities that might significantly increase pollution, especially near already disproportionately impacted communities, as shown in **Figure 9-2**.

EJPH-1.8 **Pesticide Control.** Work with Solano County agricultural producers in Fairfield's vicinity to protect sensitive populations from pesticide drift by restricting use of pesticides in certain areas/encouraging alternative, nontoxic pest control techniques.

EJPH-2.1 **Healthy Housing Improvements.** Work with the Fairfield Housing Authority to identify funding sources or incentives to rehabilitate or upgrade housing occupied by low-income renters and homeowners to incorporate sustainable and green building practices that support a healthier living environment such as the highest energy efficiency standards and air filtration and ventilation systems.

IMPACTS

Impact 3.3-1 Development under the Proposed Project would not conflict with or obstruct the implementation of the applicable air quality plan. (*Less than Significant)*

The CAA requires that a SIP or an air quality control plan be prepared for areas with air quality violating the NAAQS. The SIP sets forth the strategies and pollution control measures that states will use to attain the NAAQS. The CAA requires attainment plans to demonstrate a five percent per year reduction in nonattainment air pollutants or their precursors, averaged every consecutive 3-year period, unless an approved alternative measure of progress is developed. Air quality attainment plans (AQAP) outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date. The current AQAP for the SFBAAB is the 2017 Clean Air Plan.[5]

Consistency with the 2017 Clean Air Plan

The primary goals of the 2017 Clean Air Plan (CAP) are to (1) reduce emissions and decrease concentrations of harmful pollutants, (2) safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, and (3) reduce GHG emissions and protect the climate. The Proposed Project includes policies and programs that will support regional attainment of the CAAQS and NAAQS. For example, the Proposed Project encourages higher-density and infill developments where appropriate, connectivity between neighborhoods, and walkable design that compliments the existing natural and built environment to reduce VMT. The Proposed Project further provides the policy framework to guide future development toward land use patterns that support walking, and biking (Guiding Policies CIR-3 and CIR-7 and Implementing Policies LU-1.6, LU-2.3, LU-2.4, and CIR-7.14). These policies would support alternative modes of travel within the Planning Area, which could help reduce per service population VMT and GHG emissions from passenger vehicles.

Other fundamental components of the Proposed Project also support the goals of the CAP. The preservation of agricultural and open space lands (Policy LU-5.1) helps to reduce emissions by preserving existing green space throughout the city that can sequester carbon. The Proposed Project's criteria for selecting higher density nodes includes adequate pedestrian, neighborhood service, and neighborhood facility access which support multimodal mobility that could result in less energy consumption and fewer vehicle trips compared to the current more auto-oriented development pattern.

Further, the Fairfield Climate Action Plan includes local GHG reduction strategies and actions that align with the goals of the CAP. The strategies are sector-specific and prioritize actions that support

[5] Bay Area Air Quality Management District. 2017. *Final 2017 Clean Air Plan.* Adopted April 19. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed: July 1, 2021.

the State's efforts to electrify the transportation sector, reduce VMT, and decarbonize buildings, with a focus on those that have the greatest effect on reducing GHG emissions and are within the City's authoritative control. Such policies would increase carbon sequestration by expanding the tree canopy through the development of an Urban Forest Master Plan and an Urban Tree Trust. Policies from the Proposed Project would thus further support energy conservation and efficiency.

The 2017 CAP also contains 85 control strategies designed to reduce ozone precursors, protect public health, and serve as a regional climate protection strategy. The BAAQMD's implementation of the control strategies employs a wide range of tools and resources, and many of the control strategies are not intended or designed to be achieved by local government. **Table 3.3-4** identifies the 2017 CAP control measures that are relevant to the Proposed Project and summarizes how the Project would be either consistent or inconsistent with these measures.

Table 3.3-4: BAAQMD 2017 Clean Air Plan Control Measure Consistency

Applicable 2017 Clean Air Plan Control Measures	*Proposed Project Consistency*
Transportation Control Measures	
TR1: Clean Air Teleworking Initiative	Consistent. Circulation Element Policy CIR-4.1 updates the City's Ordinance, Article XIV, to require that all large public and private employers with over 50 employees develop Transit Demand Management (TDM) plans to encourage their employees to use some form of collective transportation to commute to and from work. This includes shared rides, car or vanpools, FAST microtransit, bicycle parking and facilities, teleworking, and other options. CAP Actions TR-2B and TR-2C also implement this measure.
TR2: Trip Reduction Programs	Consistent. Implementing Policy 4.1 of the Circulation Element aims to update the City's current ordinance on employer based trip reduction programs to reduce traffic congestion in the City of Fairfield to reflect application of TDM plans to public and private companies with 50 or more or more employees. CAP Actions TR-2B and TR-2C also implement this measure.
TR3: Local and Regional Bus Service	Consistent. Circulation Element policies CIR-6.3 requires the evaluation of the potential for express transit service or microtransit options between the western, central, and eastern areas of the city. Policy CIR-6.4 integrates regional transit with local transit to make the entire system more seamless and user-friendly. It requires the City to coordinate the integration of local and regional transit with STA and other Solano County cities' transit agencies.
TR4: Local and Regional Rail Service	Consistent. Circulation Element Policy CIR-6.5 requires the City to coordinate with regional transit planners to

	determine feasibility of developing fixed guideway systems for interregional passenger traffic, making use of existing rail lines whenever possible. Policy CIR-6.4 integrates regional transit with local transit to make the entire system more seamless and user-friendly. It requires the City to coordinate the integration of local and regional transit with STA and other Solano County cities' transit agencies.
TR5: Transit Efficiency and Use	Consistent. Circulation Element Policy CIR-6.1 would design transit stops, microtransit venues, and well-defined transit corridors that provide connected access to major public facilities, employment centers, new and existing neighborhoods, and major points of interest. Policy CIR-6.4 integrates regional transit with local transit to make the entire system more seamless and user-friendly. It requires the City to coordinate the integration of local and regional transit with STA and other Solano County cities' transit agencies.
TR10: Land Use Strategies	Consistent. Land Use Element Policy LU-1.1 promotes infill development that makes efficient use of limited land supply, while ensuring compatibility and integration with adjacent uses. The Element also transforms key infill locations into a network of mixed-use activity centers throughout the city (Policy LU-1.6) which incorporates land use changes that serve to reduce VMT. CAP Action TR-2A also supports implementation of land use, circulation, and sustainability policies that support land use efficiency and decreased single vehicle occupancy trips.
TR13: Parking Policies	Consistent. Circulation Element Policy CIR-5.1 explores opportunities to reduce parking requirements while Policy CIR-5.2 revises city parking requirement standards based on actual demand. CAP Action TR-2E also addresses parking reductions and multifamily parking unbundling.
Building Control Measures	
BL1: Green Buildings	Consistent. New development facilitated by the Proposed Project would be subject to the City's Green Building Requirements (Municipal Code Chapter 5), which are current versions of the model 2022 CALGreen and Energy Codes. CAP Action TR-1B supports electric vehicle charging installation, and actions under BE-3 seek to reduce energy demand and consumption through energy efficiency and conservation.
BL2: Decarbonize Buildings	Consistent. Policy SUS-6.2 works to establish minimum sustainable energy requirements for municipal and private development that may result in transition to electric building systems and appliances in both new constructions

	and existing structures currently reliant on natural gas, to the extent permissible by law. Policies under CAP BE-1 seek to encourage electrification in new buildings, decarbonize existing buildings, and enhance communitywide electric readiness.
Waste Management Control Measures	
WA4: Recycling and Waste Reduction	Consistent. Construction and demolition activities are also regulated under CALGreen, which requires all permitted residential and non-residential construction, demolition, and additions/alterations projects to recycle or salvage a minimum 65 percent of nonhazardous construction materials from the project, as supported Chapter 9 of the Fairfield Municipal Code. Policies under CAP SW-1 seek to reduce the amount of waste that is generated and sent to landfills.
Water Control Measures	
WR2: Support Water Conservation	Consistent. New development facilitated by the Proposed Project would be required to comply with the requirements of the CalGreen Code, which sets forth maximum flow rates for water fixtures, including showerheads, bathroom and kitchen faucets, and toilets. The Fairfield CAP's policies PW-1 seek to reduce water utility emissions.
Super-GHG Control Measures	
SL1: Short-Lived Climate Pollutants	Consistent. Fairfield Climate Action Plan Policy SW-1 would reduce the amount of solid waste that is generated and sent to landfills, especially organic waste. California's Short-Lived Climate Pollutant Strategy (SB 1383) focuses on reducing this source of GHGs by diverting 75 percent of organic waste sent to landfills by 2025. The City aims to match statewide goals through CAP Action SW-1A.

As shown in **Table 3.3-4** and the analysis above, the Proposed Project would support the primary goals of the CAP and would be consistent with applicable control measures contained in the CAP. Therefore, the Proposed Project would have a less than significant impact with respect to conflicts with the 2017 Clean Air Plan.

Mitigation Measures

None required.

Impact 3.3-2 Implementation of the Proposed Project would not result in a cumulatively considerable net increase of criteria pollutants for which the Project region is nonattainment under an

applicable federal or State ambient air quality standard. (*Less than Significant with Mitigation Incorporated*)

Construction

Construction associated with new land use developments under the Proposed Project would result in the temporary generation of ozone precursors (ROG, NO_X), CO, and particulate matter emissions that could result in short-term impacts on ambient air quality within the Planning Area. Emissions would originate from mobile and stationary construction equipment exhaust, employee and haul truck vehicle exhaust, fugitive dust emissions from land clearing, soil movement, and demolition, and off-gassing emissions from architectural coatings and asphalt paving. Construction-related emissions would vary substantially depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content.

By its nature as a general plan, the Proposed Project does not propose any specific development. Construction of land use developments allowable under the Proposed Project would occur intermittently within the Planning Area throughout the course of its 2050 buildout period. As the timing and intensity of future development projects is not known at this time, the precise effects of construction activities associated with buildout of the Proposed Project cannot be accurately quantified at this time. Project-specific details of future development within the Planning Area are currently unknown, development would be driven by market conditions, site constraints, land availability, and property owner interest. It is assumed that implementation of the Proposed Project ultimately could result in the development of up to 13,500 housing units as well as additional retail, office, and industrial uses. As such, it is anticipated that in any given year, multiple land use development projects would be constructed within the Planning Area.

As noted previously, the BAAQMD's project-level thresholds were developed to analyze emissions generated by a single project. Although the construction emission impacts associated with each new individual development would be short-term in nature and limited to the period of time when construction activity is taking place for that particular development, the concurrent construction of a multitude of individual development projects that could occur at any one time in the Planning Area under the Proposed Project would generate combined criteria pollutant emissions on a daily basis that would exceed the BAAQMD's project-level thresholds. In addition, depending on the size and scale of an individual development project, along with its construction schedule and other parameters, there may also be instances where the daily construction emissions generated by a single development project within the Planning Area could also exceed the BAAQMD's criteria pollutant thresholds. These emissions could contribute to ozone formation and other air pollution in the SFBAAB, which at certain concentrations, can contribute to short- and long-term human health effects.

To reduce construction-related emissions of future development projects within the Planning Area, future development would be required to comply with the City's Environmental Justice and Public Health Element Policy EJPH-1.1 which requires the protection of sensitive receptors from the impacts of stationary and non-stationary sources of pollution by ensuring adequate buffers or

mitigation measures. Policy EJPH-1.2 requires the continued use of modeling tools to identify and mitigate air quality impacts from proposed development projects, including for pro-jects within 500 feet of a major freeway. Further, Policy EJPH-1.5 incorporates measures to improve indoor air quality (including minimum efficiency reporting value (MERV) requirements) and reduce exposure to air pollution in new development projects. The extent to which these measures would reduce emissions is unknown. As such, construction emissions generated in the Planning Area by implementation of the Proposed Project would result in a potentially significant impact on air quality and mitigation would be required.

Due to uncertainty related to where development activities would occur within the Planning Area, it is not possible at this time to identify project-specific impacts that could occur under implementation of the Proposed Project; however, it is anticipated some of, if not all, development projects over the buildout period would require the utilization of project-specific mitigation measures. To ensure projects achieve consistency with the BAAQMD's construction screening criteria or, if consistency with the construction screening criteria cannot be demonstrated, the City is incorporating **Mitigation Measure AQ-1 and AQ-2** into future project development projects. MM AQ-1 requires future project development projects to implement the BAAQMD's Basic Construction Measures to control fugitive dust emissions generated during construction activities. MM AQ-2 requires future projects that cannot meet construction screening criteria to prepare a detailed construction air quality impact assessment to: 1) estimate potential project construction emissions; 2) compare potential project construction emissions against BAAQMD project-level construction thresholds of significance; and 3) incorporate measures to reduce construction emission impacts to levels below the BAAQMD's construction thresholds of significance for criteria air pollutants and TACs. As such, this impact would be less than significant with mitigation.

Operations

According to the BAAQMD's CEQA Guidelines, to meet the Threshold of Significance for operational-related criteria air pollutant and precursor impacts for plans (other than regional plans), a proposed plan must satisfy the following criteria (BAAQMD, 2022).

- Consistency with current air quality plan (AQP) control measures (this requirement applies to project-level as well as plan-level analyses).
- A proposed plan's projected VMT or vehicle trips (VT) (either measure may be used) increase is less than or equal to its projected population increase.

The first criteria is discussed under Impact 3.3-1, while the second criteria is discussed below for the Proposed Project.

Projected VMT and Population Increase

In Section 3.15, *Transportation,* **Table 3.15-2** provides a summary of the VMT forecasts for baseline 2020 conditions and for future Planning Area VMT, accounting for buildout of the Proposed Project. The VMT forecasts indicate that, at buildout, the Proposed Project would result in a VMT per capita that is 2.78 percent above the baseline 2020 city VMT per capita, which is less than the

projected population increase of 27.71 percent[6]. As such, operational impacts from implementation of the Proposed Project would be less than significant.

Based on the above analysis, the Proposed Project would support implementation of the 2017 Clean Air Plan. Accordingly, the Proposed Project would have a less-than-significant operational air quality impact.

Mitigation Measures

MM-AQ-1: **Implement BAAQMD Basic Construction Mitigation Measures.** The City shall require new project development projects to implement the BAAQMD's Basic Control Mitigation Measures to address fugitive dust emissions that would occur during earthmoving activities associated with project construction. These measures include:

a) All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

b) All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

c) All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

d) All vehicle speeds on unpaved roads shall be limited to 15 mph.

e) All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

f) Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

g) All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

h) Post a publicly visible sign with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

MM-AQ-2: **Prepare Project-level Construction Emissions Assessment.** The City shall require new development projects to submit a quantitative project-level

[6] Percent increase of the projected population was calculated from the buildout numbers presented in Chapter 2: Project Description for 120,340 as the existing population and 153,690 as the projected population under the Proposed Project.

construction criteria air pollutant and toxic air contaminant emissions analysis prior to the start of construction activities that shows project construction activities would not exceed BAAQMD project-level thresholds of significance. The analysis may rely on BAAQMD construction screening criteria to demonstrate that a detailed assessment of criteria air pollutant and toxic air contaminant construction emissions is not required for the project. If the project does not satisfy all BAAQMD construction screening criteria, the analysis shall estimate and compare construction criteria air pollutant and toxic air contaminant emissions against the project-level thresholds of significance maintained by BAAQMD and, if emissions are shown to be above BAAQMD thresholds, then the project must implement measures to reduce emissions below BAAQMD thresholds. Mitigation measures to reduce emissions could include, but are not limited to:

a) Watering exposed surfaces at a frequency adequate to maintain a minimum soil moisture content of 12 percent, as verified by moisture probe or lab sampling;

b) Suspending excavation, grading, and/or demolition activities when average wind speeds exceed 20 miles per hour;

c) Selection of specific construction equipment (e.g., specialized pieces of equipment with smaller engines or equipment that will be more efficient and reduce engine runtime);

d) Installing wind breaks that have a maximum 50 percent air porosity;

e) Restoring disturbed areas with vegetative ground cover as soon as possible;

f) Limiting simultaneous ground-disturbing activities in the same area at any one time (e.g., excavation and grading);

g) Scheduling/phasing activities to reduce the amount of disturbed surface area at any one time;

h) Installing wheel washers to wash truck and equipment tires prior to leaving the site;

i) Minimizing idling time of diesel-powered construction equipment to no more than two minutes or the shortest time interval permitted by manufacturer's specifications and specific working conditions;

j) Requiring equipment to use alternative fuel sources (e.g., electric-powered and liquefied or compressed natural gas), meet cleaner emission standards (e.g., U.S. EPA Tier IV Final emissions standards for equipment greater than 50-horsepower), and/or utilizing added exhaust devices (e.g., Level 3 Diesel Particular Filter);

k) Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM;

l) Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy-duty diesel engines; and

m) Applying coatings with a volatile organic compound (VOC) that exceeds the current regulatory requirements set forth in BAAQMD regulation 8, Rule 3 (Architectural Coatings).

Significance after mitigation: Less than significant

Impact 3.3-3 Implementation of the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations. (*Less than Significant with Mitigation Incorporated*)

Sensitive land uses are generally considered to include those uses where an exposure to pollutants could result in health-related risks for individuals. Per the BAAQMD, typical sensitive receptors are residences, hospitals, and schools. Parks and playgrounds where sensitive receptors (e.g., children and seniors) are present would also be considered sensitive receptors.[7] Sensitive receptors are located throughout the Planning Area at residences, schools, and parks (see **Figure 3.3-1**). Development of the Proposed Project has the potential to expose sensitive receptors to health effects from regional criteria pollutants, localized concentrations of CO, airborne dust containing asbestos, DPM, and $PM_{2.5}$. These pollutant emissions via Proposed Project construction and operations are discussed below.

Construction TAC Emissions

Future development pursuant to the Project would result in short-term construction-related emissions. Some of these construction emissions would be TACs, which could have an adverse effect on receptors who are exposed to them. Specifically, heavy-duty off-road construction equipment, as well as haul trucks for any soil import / export, would generate exhaust PM2.5, with a portion of the exhaust PM2.5 consisting of DPM, which is a TAC.

Although site-specific details of future projects in the Planning Area are not known at this time, it is reasonable to assume that construction TAC emissions associated with one or more projects developed under implementation of the Proposed Project could have the potential to expose sensitive receptors to substantial TAC concentrations. For example, several sites proposed for development would be located in proximity of existing residential receptors, and exposing these existing sensitive receptors to DPM emissions could have the potential to exceed the BAAQMD's cancer and non-cancer thresholds of significance.

Based on the preceding discussion and analysis, implementation of the Proposed Project could have a potentially significant impact with regard to construction TAC emissions that would be generated during construction, which requires mitigation. Accordingly, the City would implement **Mitigation Measure AQ-1 and AQ-2** into future project development projects. MM AQ-1 requires future project development projects to implement the BAAQMD's Basic Construction Measures to

[7] Bay Area Air Quality Management District. 2017. *California Environmental Quality Act, Air Quality Guidelines.* May. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en. Accessed: July 1, 2021.

control fugitive dust emissions generated during construction activities. MM AQ-2 requires future projects that cannot meet construction screening criteria to prepare a detailed construction air quality impact assessment to: 1) estimate potential project construction emissions; 2) compare potential project construction emissions against BAAQMD project-level construction thresholds of significance; and 3) incorporate measures to reduce construction emission impacts to levels below the BAAQMD's construction thresholds of significance for criteria air pollutants and TACs.

In addition, **Mitigation Measure AQ-3** would require individual developments to review and identify permitted stationary sources within 1,000 feet of the project that may result in risks and hazards to new receptors. If screening-level information indicates potential stationary source risks and hazards would exceed the BAAQMD's thresholds, the project applicant shall: 1) incorporate site and building design measures into the project that reduce exposure to pollutants; or 2) conduct refined, site-specific modeling, using the latest information and guidance from the BAAQMD, demonstrating sources risks and hazards would not exceed BAAQMD thresholds for new receptors. Therefore, with the implementation of Mitigation Measures AQ-1 through AQ-3, TAC construction emissions associated with the Proposed Project would not result in significant adverse health risks at receptor locations. This impact would be less than significant with mitigation.

Operational TAC Emissions

Some industrial land uses have the potential to generate substantial toxic air contaminant (TAC) concentrations that could adversely affect sensitive receptors. The Proposed Project's vision for development of the Hale Ranch Study Area aims to incorporate high-value employment uses while respecting the area's agricultural and agritourism activities. Specific industries, such as those supporting agriculture, agritourism, food science, manufacturing, and winemaking, are prioritized for development. Warehousing and distribution as primary uses are prohibited, although they may be allowed as ancillary or supportive activities. Given that industrial uses could be developed under the Proposed Project, their operational TAC emissions could adversely affect sensitive receptors and the impact is potentially significant.

CARB applies an overlay zone of a 1,000-foot radius surrounding any industrial facility that emits TACs as a screening criterion for when project proposals with sensitive receptors should be technically evaluated before any approval is granted. Based on this overlay, land designated for residential development (and other sensitive land uses) within 1,000 feet downwind of a designated industrial land use concentration is considered to be a potentially significant pollutant exposure area. The Proposed Project does not include siting of any uses in this manner. The industrial growth area is contiguous to the existing industrial uses, with excellent access to transportation and utilities, and separated from residential uses. Therefore, sensitive land uses would not be affected by any potentially substantial industrial-source emissions that may be developed in the future.

Further, Proposed Project Policy EJPH-1.1 protects sensitive receptors such as schools, childcare centers, senior living facilities, and residences from the impacts of stationary and non-stationary sources of pollution by ensuring adequate buffers or mitigation measures. It would establish vegetative barriers or green wall barriers in between industrial land and sensitive land uses, and

along heavy-duty truck/goods movement corridors and freeways protect sensitive land uses from pollution impacts. Therefore, with compliance of the CARB overlay zone, proposed policies, and Mitigation Measure AQ-3, the Proposed Project's operational TAC emissions would be less than significant.

Freeways and High-Volume Roadways.

These are roadways, such as freeways or other major roadways, with traffic volumes at 10,000 vehicles per day or more. Primary pollutants of concern include diesel particulate matter, benzene, and 1,3-butadiene. Continuous engine exhaust may also elevate localized CO concentrations, resulting in hot spots. CARB, in its Air Quality and Land Use Handbook, recommends that sensitive land uses not be located within 500 feet of highways or major arterials having average annual daily traffic (AADT) exceeding 100,000 vehicles. Fairfield is located at the crossroads of interstates 680 and 80 (I-680 and I-80) and Highway 12 (SR-12). Such freeways that pass through the Planning Area have ADT greater than 100,000 vehicles.

Further, BAAQMD recommends that at least a 500-foot overlay zone should be established on each side of all freeways, high-volume roadways, railyards, Ports, rail lines using diesel locomotives. BAAQMD considers roadways with greater than 10,000 average daily traffic (ADT) as "high volume roadways". In addition to freeways, the following roads in the Planning Area contain segments that experience ADT greater than 10,000 vehicles: Air Base Pkwy, Beck Ave, Business Center Dr, Cadenasso Dr, Chadbourne Rd, Clay Bank Rd, Dover Ave, East Tabor Ave, Gold Hill Rd, Green Valley Rd, Heath Dr, Hillborn Rd, Lopes Rd, Manuel Campos Pkwy, North Texas St, Oliver Rd, Peabody Rd, Pennsylvania Ave, Pittman Rd, Rancho Solano Pkwy, Red Top Rd, Suisun Valley Rd, Sunset Ave, Travis Blvd, Walters Rd, Waterman Blvd, and West Texas St.

Proposed Policy EJPH-1.2 would continue to use the BAAQMD modeling tools and guidance documents as appropriate to identify and mitigate air quality impacts from proposed development projects, including for projects within 500 feet of a major freeway. In addition, Mitigation Measure AQ-4 would require projects to implement health reduction measures in order to mitigate any potential air quality impacts on sensitive receptors within 500 feet of a freeway, major roadway, or rail line. With Policy EJPH-1.2 and Mitigation Measure AQ-4, recommended CARB and BAAQMD overlay zones along freeways and high-volume roadways would be adhered to and the impact would be less than significant.

Mitigation Measures

MM-AQ-1: Implement BAAQMD Basic Construction Mitigation Measures.

MM-AQ-2: Prepare Project-level Construction Emissions Assessment.

MM-AQ-3: Review Air Quality Risks to New Housing Sites. The City shall require new project residential development projects to review and identify, using the BAAQMD's publicly available Stationary Source Screening Map or another standard methodology (e.g., BAAQMD public records request), permitted stationary sources within 1,000 feet of the project that may result in risks and hazards to new receptors. If screening-level information indicates potential

stationary source risks and hazards would exceed the BAAQMD's thresholds, the project applicant shall: 1) incorporate site and building design measures into the project that reduce exposure to pollutants; or 2) conduct refined, site-specific modeling, using the latest information and guidance from the BAAQMD, demonstrating sources risks and hazards would not exceed BAAQMD thresholds for new receptors. Site and building design measures that may reduce potential exposure to pollutants would include, but are not limited to, buffering/increasing the distance between sources and receptors, designing the site to limit exposure to the highest pollutant concentrations, and incorporating enhanced filter systems into heating, ventilation, and air conditioning equipment.

MM-AQ-4: Exposure to Air Pollution (Toxic Air Contaminants).

Mitigation Measure AQ-4 would apply if the project involves any of the following sensitive land uses:

- Residential uses (new dwelling units, excluding secondary units); or
- New or expanded schools, daycare centers, parks, nursing homes, or medical facilities; and

The project is located within 500 feet (or other distance as specified below) or one or more of the following sources of air pollution:

- Freeway;
- Roadway with significant traffic (at least 10,000 vehicles per day);
- Railyards or rail lines using diesel locomotives; and

The project exceeds the health risk screening criteria after a screening analysis is conducted in accordance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines. If so, the following reduction measures are required.

a) Health Risk Reduction Measures

Requirement: The Project applicant shall incorporate appropriate measures into the project design in order to reduce the potential health risk due to exposure of toxic air contaminants. The project applicant shall choose one of the following methods:

i. The project applicant shall retain a qualified air quality consultant to prepare a Health Risk Assessment (HRA) in accordance with California Air Resources Board (CARB) and Office of Environmental Health and Hazard Assessment requirements to determine the health risk of exposure of project residents/occupants/users to air pollutants. The HRA shall be submitted to the City for review and approval. If the HRA concludes that the health risk is at or below acceptable levels, then health risk reduction measures are not required. If the HRA concludes that the health risk exceeds acceptable levels, health risk reduction measures shall be identified to reduce the health risk to acceptable levels. Identified risk reduction measures shall be submitted to the City for review and approval and be included on the project drawings

submitted for the construction-related permit or on other documentation submitted to the City. The approved risk reduction measures shall be implemented during construction and/or operations as applicable.

-OR-

ii. The project applicant shall incorporate the following health risk reduction measures into the project. These features shall be submitted to the City for review and approval and be included on the project drawings submitted for the construction-related permit or on other documentation submitted to the City:

a. Installation of air filtration to reduce cancer risks and Particulate Matter (PM) exposure for residents and other sensitive populations in the project that are in close proximity to sources of air pollution. Air filter devices shall be rated MERV-13 or higher. As part of implementing this measure, an ongoing maintenance plan for the building's HVAC air filtration system shall be required.
b. Where appropriate, install passive electrostatic filtering systems, especially those with low air velocities (i.e., 1 mph).
c. Phasing of residential developments when proposed within 500 feet of freeways such that homes nearest the freeway are built last, if feasible.
d. The project shall be designed to locate sensitive receptors as far away as feasible from the source(s) of air pollution. Operable windows, balconies, and building air intakes shall be located as far away from these sources as feasible.
e. Sensitive receptors shall be located on the upper-floors of buildings, if feasible.
f. Planting trees and/or vegetation between sensitive receptors and pollution source, if feasible. Trees that are best suited to trapping PM shall be planted, including one or more of the following: Pine (Pinus nigra var. maritima), Cypress (X Cupressocyparis leylandii), Hybrid poplar (Populus deltoids X trichocarpa), and Redwood (Sequoia sempervirens).
g. Sensitive receptors shall be located as far away from truck activity areas, such as loading docks and delivery areas, as feasible.
h. Existing and new diesel generators shall meet CARB's Tier 4 emission standards, if feasible.
i. Emissions from diesel trucks shall be reduced through implementing the following measures, if feasible:
    i. Installing electrical hook-ups for diesel trucks at loading docks.
    ii. Requiring trucks to use Transportation Refrigeration Units (TRUs) that meet Tier 4 emission standards.

iii. Requiring truck-intensive projects to use advanced exhaust technology (e.g., hybrid) or alternative fuels.
iv. Prohibiting trucks from idling for more than two minutes.
v. Establishing truck routes to avoid sensitive receptors in the project. A truck route program, along with truck calming, parking, and delivery restrictions, shall be implemented.

b) Maintenance of Health Risk Reduction Measures

Requirement: The project applicant shall maintain, repair, and/or replace installed health risk reduction measures, including but not limited to the HVAC system (if applicable), on an ongoing and as-needed basis. Prior to occupancy, the project applicant shall prepare and then distribute to the building manager/operator an operation and maintenance manual for the HVAC system and filter including the maintenance and replacement schedule for the filter.

Significance after mitigation: Less than significant

Impact 3.3-4 Development under the Proposed Project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. (*Less than Significant*)

Potential impacts could occur if new sources of objectionable odors are placed near sensitive receptors. Objectionable odors can be generated from certain types of commercial and/or industrial land uses. In general, residential land uses are not associated with odor generation, but they do serve as sensitive receptors. Common sources of odors within Fairfield come from industrial food production, agricultural operations, manufacturing operations, restaurants, auto body shops, and wastewater treatment facilities. Although offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and BAAQMD. A significant impact would occur if development under the Proposed Project introduced new sources of odor that would be offensive to a substantial portion of the population within the Planning Area.

According to the California Health and Safety Code (H&SC §41700), development under the Proposed Project may reasonably be expected to have a significant adverse odor impact where it "generates odorous emissions in such quantities as to cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property."

Buildout permitted under the Proposed Project could include new sources of odors, such as composting; food processing; manufacturing operations; and painting/coating operations, because these are permitted uses in the commercial and/or industrial areas in the Planning Area. Future

environmental review could be required for industrial projects to ensure that sensitive land uses are not exposed to objectionable odors. Additionally, odor impacts from project-level construction and operational emissions would be limited given compliance with VOC content limits for architectural coatings established by the California Green Building Code, adopted by the Fairfield Municipal Code.

California Health and Safety Code Section 41700 states that "no person can discharge air contaminants that cause injury, nuisance or annoyance to any considerable number of persons or the public, or discharge air contaminants that endanger the comfort, health or safety of such persons." This is supported by BAAQMD Regulation 7 (Odorous Substances). If District rules are violated by a person or business, BAAQMD may pursue enforcement action to eliminate the nuisance and protect air quality. Additionally, the Proposed Project includes policies to discourage the placement of residential uses and sensitive receptors in close proximity to sources of odors, and vice versa. Policy LU-6.1 requires industrial and commercial development to minimize odor impacts on adjacent uses. Further, Policy LU-5.1 does not support expansion of residential or low-intensity employment uses into agricultural areas. LU-5.2 also supports right-to-farm policies and separating and buffering agricultural lands from new development areas.

Compliance with BAAQMD Regulation 7, California Green Building Code, and Proposed Project policies would discourage siting sensitive receptors in proximity to odor sources and maintain performance standards for new industrial development, thus ensuring that odor impacts are minimized and are less than significant.

Mitigation Measures

None required.