
7. AIR QUALITY

This chapter of the EIR provides information on the existing air quality environment in the San Francisco Bay Area and the City of Burlingame, summarizes applicable air quality guidelines, standards, and regulations, and evaluates potential air quality impacts associated with the City's proposed 2040 General Plan. The chapter was prepared using methodologies and assumptions recommended in the latest of the Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines.¹ Information on existing air quality conditions, federal and state ambient air quality standards, and pollutants of concern was obtained from the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and BAAQMD. As described in this chapter, the implementation of the proposed Burlingame 2040 General Plan would not result in a significant CEQA air quality impact.

7.1 BACKGROUND INFORMATION AND ENVIRONMENTAL SETTING

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

7.1.1 Regulated Air Pollutants

The U.S. EPA has established National Ambient Air Quality Standards (NAAQS) for six common air pollutants: ozone (O₃), particulate matter (PM), which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM₁₀) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead. The U.S. EPA refers to these six common pollutants as "criteria" pollutants because the agency regulates the pollutants on the basis of human health and/or environmentally-based criteria.

CARB has established California Ambient Air Quality Standards (CAAQS) for the six common air pollutants regulated by the federal Clean Air Act (the CAAQS are more stringent than the NAAQS) plus the following additional air pollutants: hydrogen sulfide (H₂S), sulfates (SO_x), vinyl chloride, and visibility reducing particles.

Regulated air pollutants are described below:

- **Ground-level Ozone**, or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between oxides of nitrogen (NO_x) and volatile organic compounds (VOCs), also called Reactive Organic Gasses (ROG), in the presence of sunlight.² Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_x and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis.

¹ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. San Francisco, CA. June 2010, updated May 2017.

² United States Environmental Protection Agency (U.S. EPA). 2017. "Ozone Basics." U.S. EPA, Environmental Topics [Air], Ground Level Ozone, What is "good" versus "bad" ozone. April 5, 2017. Web. August 21, 2017. <<https://www.epa.gov/ozone-pollution/ozone-basics#what%20where%20how>>

- **ROG** is a CARB term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and includes several low-reactive organic compounds which have been exempted by the U.S. EPA.³
- **VOC** is a U.S. EPA term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. The term exempts organic compounds of carbon which have been determined to have negligible photochemical reactivity such as: methane, ethane, and methylene chloride.⁴
- **Particulate Matter (PM)**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles.⁵
 - PM₁₀, also known as inhalable coarse, respirable, or suspended PM₁₀, consists of particles less than or equal to 10 micrometers in diameter (approximately 1/7th the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease.⁶
 - PM_{2.5}, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately 1/30th the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects.⁷
- **Carbon Monoxide (CO)** is an odorless, colorless gas that is formed by the incomplete combustion of fuels. Motor vehicles are the single largest source of carbon monoxide in the Bay Area. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can aggravate cardiovascular disease and cause headaches, dizziness, unconsciousness, and even death.⁸
- **Nitrogen Dioxide (NO₂)** is a by-product of combustion. NO₂ is not directly emitted, but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO₂ are collectively referred to as NO_x and are major contributors to ozone formation.

³ California Air Resources Board (CARB). 2004. Definitions of VOC and ROG. Sacramento, CA. 2004. Available online at: <https://www.arb.ca.gov/ei/speciate/voc_rog_dfn_11_04.pdf>

⁴ Ibid.

⁵ United States Environmental Protection Agency (U.S. EPA) 2016. "Particulate Matter (PM) Basics." U.S. EPA, Environmental Topics [Air], Particulate Matter (PM), What is PM, and how does it get into the air? September 12, 2016. Web. August 21, 2017. <<https://www.epa.gov/pm-pollution/particulate-matter-pm-basics#PM>>

⁶ Ibid.

⁷ Ibid.

⁸ United States Environmental Protection Agency (U.S. EPA) 2016. "Carbon Monoxide (CO) Pollution in Outdoor Air." U.S. EPA, Environmental Topics [Air], Carbon Monoxide (CO), What is CO? September 12, 2016. Web. August 21, 2017. <<https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#What%20is%20CO>>

NO₂ also contributes to the formation of particulate matter. NO₂ can cause breathing difficulties at high concentrations.⁹

- **Hydrogen Sulfide (H₂S)** is a colorless gas with a strong “rotten egg” odor that can be smelled at very low concentrations. H₂S is also an irritant that can affect the eyes and lungs. H₂S is formed under anaerobic conditions and is a by-product of refining crude oil.
- **Sulfur Dioxide (SO₂)** is one of a group of highly reactive gases known as oxides of sulfur (SO_x). Fossil fuel combustion in power plants and industrial facilities are the largest emitters of SO₂. Short-term effects of SO₂ exposure can include adverse respiratory effects such as asthma symptoms. SO₂ and other SO_x can react to form PM.¹⁰
- **Sulfates (SO₄²⁻)** are the fully oxidized ionic form of sulfur. SO₄²⁻ are primarily produced from fuel combustion. Sulfur compounds in the fuel are oxidized to SO₂ during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Sulfate exposure can increase risks of respiratory disease.¹¹
- **Lead** is a metal found naturally in the environment as well as in manufactured products. Mobile sources used to be the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. EPA established national regulations to gradually reduce the lead content in gasoline, and in 1996, lead was banned from gasoline. As a result of these efforts, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically. Lead can adversely affect multiple organ systems of the body and people of every age group. Lead poisoning in young children can cause brain damage, behavioral problems, and liver or kidney damage. Lead poisoning to adults can cause reproductive problems, muscle and joint pain, nerve disorders and kidney disease.¹²
- **Vinyl Chloride**, or chloroethene, is a colorless gas with a mild, sweet odor that is used to make polyvinyl chloride products. Exposure to high levels of vinyl chloride may result in neurological effects and liver damage.
- **Visibility Reducing Particles** are PM that vary greatly in shape, size and chemical composition and which impact the environment by decreasing visibility. These particulates come from a variety of natural and manmade sources and can be made up of many different materials such as metals, soot, soil, dust and salt. The statewide standard for visibility reducing particle is to limit the effects on public welfare. Health

⁹ United States Environmental Protection Agency (U.S. EPA) 2016. "Basic Information About NO₂." U.S. EPA, Environmental Topics [Air], Nitrogen Dioxide (NO₂), What is NO₂, and how does it get into the air? September 8, 2016. Web. August 21, 2017. <<https://www.epa.gov/no2-pollution/basic-information-about-no2#What%20is%20NO2>>

¹⁰ United States Environmental Protection Agency (U.S. EPA) 2016. "Sulfur Dioxide Basics." U.S. EPA, Environmental Topics [Air], Sulfur Dioxide (SO₂), What is SO₂, and how does it get into the air? August 16, 2016. Web. August 21, 2017. <<https://www.epa.gov/so2-pollution/sulfur-dioxide-basics#what%20is%20so2>>

¹¹ California Air Resources Board (CARB). 2009. "History of Sulfates Air Quality Standard" California Ambient Air Quality Standards. CARB, Air Quality Standards and Area Designations, Review of Ambient Air Quality Standards, California Ambient Air Quality Standards. November 24, 2009. Web. August 21, 2017. <<http://www.arb.ca.gov/research/aaqs/caaqs/sulf-1/sulf-1.htm>>

¹² California Air Resources Board (CARB). 2016. "Lead and Health". California Ambient Air Quality Standards. CARB, Air Quality Standards and Area Designations, Review of Ambient Air Quality Standards, California Ambient Air Quality Standards. August 22, 2016. Web. August 21, 2017. <<http://www.arb.ca.gov/research/aaqs/caaqs/sulf-1/sulf-1.htm>>

effects are associated with PM10 and PM2.5, which are a component of visibility reducing particles.¹³

7.1.1.1 Toxic Air Contaminants

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as hazardous air pollutants (HAPs) or toxic air contaminants (TACs), respectively. These pollutants can cause severe health effects at very low concentrations, and many are suspected or confirmed carcinogens. The U.S. EPA has identified 187 HAPs, including such substances as benzene and formaldehyde; CARB also considers particulate emissions from diesel-fueled engines (DPM) and other substances to be TACs.^{14,15}

- **DPM** is the exhaust from diesel engines and is comprised of hundreds of different gaseous and particulate components, many of which are toxic. Many of the toxic compounds adhere to the particles, and because diesel particles are very small (less than 2.5 microns in diameter), they can penetrate deeply into the lungs. Mobile sources using diesel fuel, including trucks, buses, automobiles, trains, ships and farm equipment, are the largest source of DPM emissions in the Bay Area.

Common criteria air pollutants, such as ozone precursors, SO₂, and PM, are emitted by a large number of sources and have effects on a regional basis (i.e., throughout the SFBAAB); other pollutants, such as TACs, and fugitive dust, are generally not as prevalent and/or emitted by fewer and more specific sources. As such, these pollutants have much greater effects on local air quality conditions and local receptors.

7.1.2 San Francisco Bay Area Air Basin

The U.S. EPA and CARB are the federal and state agencies charged with maintaining air quality in the nation and state, respectively. The U.S. EPA delegates much of its authority over air quality to CARB. CARB has geographically divided the state into 15 air basins for the purposes of managing air quality on a regional basis. An air basin is a CARB-designated management unit with similar meteorological and geographic conditions. The City of Burlingame, in San Mateo County, is within the San Francisco Bay Area Air Basin (SFBAAB). The SFBAAB covers all of Alameda, Contra Costa, Marin, Napa, Santa Clara, San Mateo, and San Francisco counties, and portions of Solano and Sonoma counties.

7.1.2.1 Topography and Meteorology

The topography and meteorology of the SFBAAB are characterized by the coast mountain ranges and the seasonal migration of the Pacific high-pressure cell. Regionally, basin airflow is affected by the coast mountain ranges, which create complex terrains consisting of higher elevations, valleys, and bays. The Golden Gate to the west and the Carquinez Strait to the east create gaps in the mountain ranges that allow air to flow into and out of the SFBAAB. In the

¹³ California Air Resources Board (CARB). 2016. "Visibility-Reducing Particles and Health". California Ambient Air Quality Standards. CARB, Air Quality Standards and Area Designations, Review of Ambient Air Quality Standards, California Ambient Air Quality Standards. October 11, 2016. Web. August 21, 2017. <https://www.arb.ca.gov/research/aaqs/common-pollutants/vrp/vrp.htm?_ga=2.230919519.1187858073.1510543750-1530985921.1461610856>

¹⁴ Since CARB's list of TACs references and includes U.S. EPA's list of HAPs, this EIR uses the term TAC when referring to HAPs and TACs.

¹⁵ California Air Resources Board (CARB). 2016. "Overview: Diesel Exhaust and Health." Health Effects of Diesel . CARB. April 12, 2016. Web. August 21, 2017. <<https://www.arb.ca.gov/research/diesel/diesel-health.htm>>
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summer, winds from the northwest are channeled through the Golden Gate and other narrow openings, resulting in localized areas of high wind speeds. Air flowing from the coast inland is called the sea breeze and begins developing in the late morning or early afternoon; air flowing from the inland regions back to the coast, or drainage, occurs at night.

Basin climate is also influenced by the Pacific high-pressure cell, a semi-permanent area of high pressure located over the Pacific Ocean. In the summer, the cell is centered over the northeastern Pacific Ocean, pushing storms to the north and resulting in generally stable conditions within the Bay Area. In the winter, the cell weakens and migrates south, bringing cooler temperatures and stormy conditions.

The SFBAAB is most susceptible to air pollution during the summer when cool marine air flowing through the Golden Gate can become trapped under a layer of warmer air (known as an inversion) and prevented from escaping the valleys and bays created by the Coast Ranges. Air pollution potential is highest along the southeastern portion of the peninsula because this area is most protected from the high winds and fog of the marine layer, the emission density is relatively high, and pollutant transport from upwind sites is possible. Wintertime inversions are weaker and more localized, and are the result of rapid heat radiation from the earth's surface.

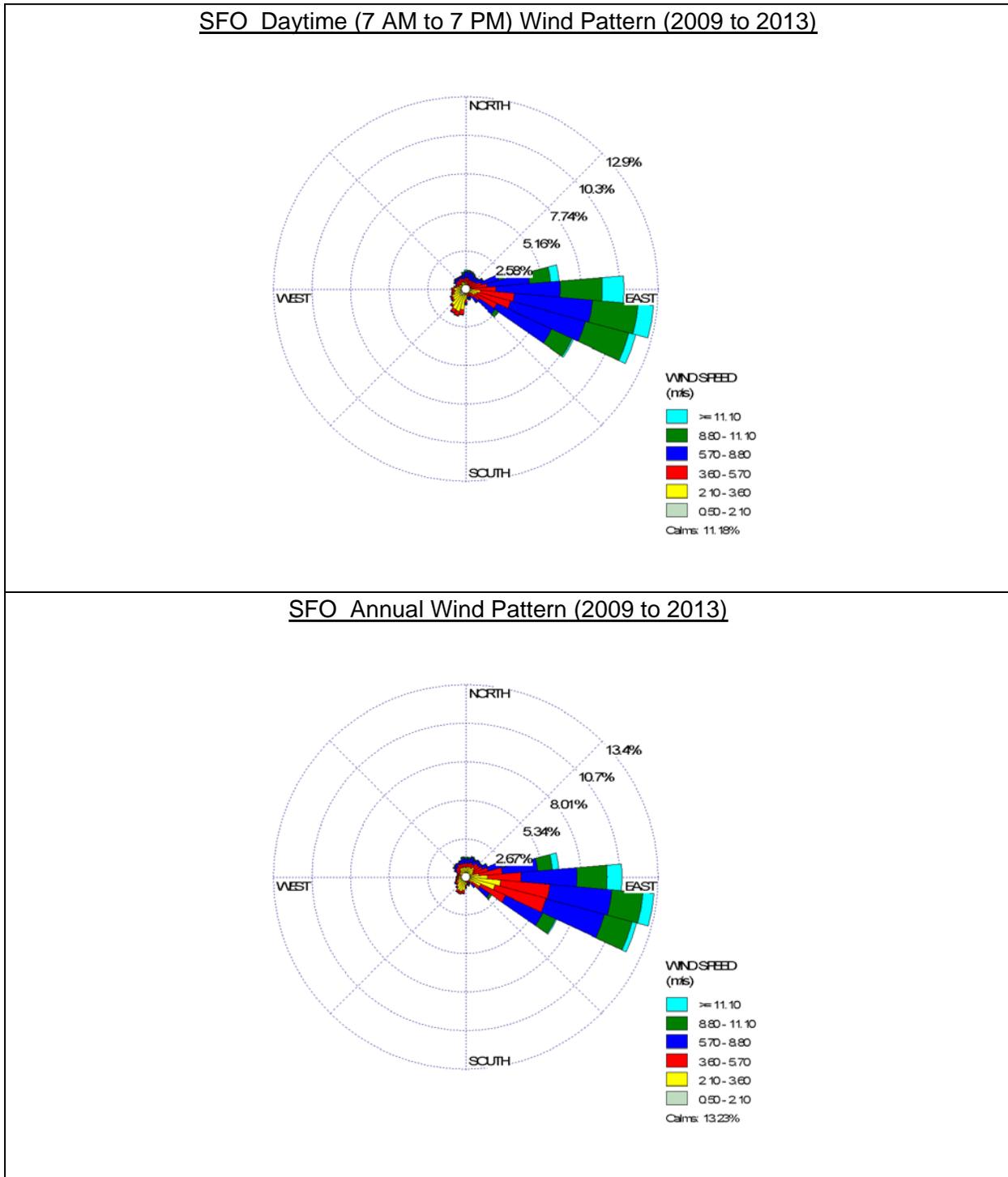
San Francisco International Airport Wind Conditions

In general, the prevailing wind at San Francisco International Airport, located less than a mile north of the city, blows from the northwest to the southeast and daytime wind speeds tend to be lower than nighttime. Figure 7-1 below presents monitored wind conditions at San Francisco International Airport for the 2009 to 2013 time period. The data clearly show a prevailing winds are from the west and northwest.

7.1.2.2 County and Regional Emission Levels

CARB's estimate of the amount of emissions generated within San Mateo County and the SFBAAB in 2012, the most recent year for which data is available, is summarized in Table 7-1.

Figure 7-1: SFO Airport, Prevailing Wind Conditions



Source: CARB¹⁶

Wind roses depicting prevailing daytime (7 AM to 7 PM on top) and annual (bottom) wind patterns at SFO Airport for the years 2009 to 2013. A wind speed of one meter per second (m/s) is approximately equal to 2.2 miles per hour (mph).

¹⁶ California Air Resources Board (CARB). 2015. "Meteorological Files." San Francisco Airport. CARB. Accessed November 30, 2017. <https://www.arb.ca.gov/toxics/harp/metfiles2.htm>
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Table 7-1: San Mateo County/SFBAAB Emissions Summary

Source	San Mateo County 2012 Pollutant Emissions (Tons Per Day)						
	ROG	NO _x	PM	PM ₁₀	PM _{2.5}	CO	SO _x
Stationary ^(A)	4.8	1.2	1.3	0.8	0.6	1.0	0.1
Area-wide ^(B)	6.8	1.7	8.8	4.7	1.4	4.5	0.0
Mobile ^(C)	13.1	36.0	2.0	2.0	1.4	93.1	2.4
Total ^(D)	24.6	38.9	12.1	7.5	3.3	98.7	2.6
Source	SFBAAB 2012 Pollutant Emissions (Tons Per Day)						
	ROG	NO _x	PM	PM ₁₀	PM _{2.5}	CO	SO _x
Stationary ^(A)	61.0	39.9	21.1	14.3	10.4	34.9	20.2
Area-wide ^(B)	69.2	15.2	56.5	56.5	18.5	69.2	0.5
Mobile ^(C)	112.7	235.8	16.8	16.4	10.5	865.4	3.6
Total ^(D)	242.9	290.8	142.5	87.2	37.4	696.5	24.3
Source	San Mateo County 2012 Pollutant Emissions (Tons Per Year) ^(E)						
	ROG	NO _x	PM	PM ₁₀	PM _{2.5}	CO	SO _x
Stationary ^(A)	1,741	434	464	285	201	376	47
Area-wide ^(B)	2,475	624	3,212	1,716	518	1,635	15
Mobile ^(C)	4,771	13,129	737	719	496	33,996	883
Total ^(D)	8,986	14,188	4,413	2,719	1,215	36,007	945
Source	SFBAAB 2012 Pollutant Emissions (Tons Per Year) ^(E)						
	ROG	NO _x	PM	PM ₁₀	PM _{2.5}	CO	SO _x
Stationary ^(A)	22,265	14,564	7,702	5,220	3,796	12,739	7,373
Area-wide ^(B)	25,258	5,548	20,623	20,623	6,753	25,258	183
Mobile ^(C)	41,136	86,067	6,132	5,986	3,833	31,5871	1,314
Total ^(D)	88,659	106,17	34,456	31,828	14,381	353,868	8,870

Source: CARB^{17,18}

- (A) Stationary sources include fuel combustion in stationary equipment or a specific type of facility such as printing and metals processing facilities.
- (B) Area-wide sources include solvent evaporation (e.g., consumer products, painting, and asphalt paving) and miscellaneous processes such as residential space heating, fugitive windblown dust, and cooking.
- (C) Mobile sources include automobiles, trucks, and other vehicles intended for “on-road” travel and other self-propelled machines such as construction equipment and all-terrain vehicles intended for “off-road” travel.
- (D) Totals may not equal due to rounding.
- (E) CARB emissions data is available in tons per day. Tons per year emission estimates are derived by multiplying tons per day data times 365 days per year.

¹⁷ California Air Resources Board (CARB). 2013. Almanac Emission Projection Data (Published in 2013), 2012 Estimated Annual Average Emissions, San Mateo County. Sacramento, CA. 2013.

¹⁸ California Air Resources Board (CARB). 2013. Almanac Emission Projection Data (Published in 2013), 2012 Estimated Annual Average Emissions, San Francisco Bay Area Air Basin. Sacramento, CA. 2013.

7.1.2.3 Estimated City of Burlingame Emission Levels

The California Emissions Estimator Model (CalEEMod, Version 2016.3.2) was used to estimate existing (Year 2017) area, energy, and mobile sources of emissions. The existing type (e.g., residential, commercial, industrial, etc.) and amount (e.g., residential units, commercial building square footage, etc.) of different land uses in the City was entered into the model; in most cases, default assumptions for area (e.g., number of fireplaces), energy (e.g., electricity and gas consumption), and mobile sources were used to estimate emissions for City land uses. The only exception to this was the average trip distance assumed in the model, which was adjusted to reflect the vehicle miles travelled (VMT) estimates developed for the traffic impact analysis prepared for the General Plan (see Chapter 18).¹⁹ The resulting existing emissions estimates are presented in Table 7-2. Since the operational year was set to 2017, energy emissions are likely underestimated since some of the City’s existing building stock does not meet current energy efficiency standards

Table 7-2 City of Burlingame Existing (2017) Conditions Operational Emissions

Sources	Pollutant Emissions (Tons per Year)							
	ROG	NOx	CO	SO ₂	PM ₁₀		PM _{2.5}	
					Dust	Exhaust	Dust	Exhaust
Area	212.4	2.4	177.1	0.2	--	11.9	--	11.9
Energy	4.1	36.1	22.4	0.2	--	2.8	--	2.8
Mobile	76.8	210.2	745.1	1.7	142.0	2.6	38.2	2.7
Total ^(A)	292.3	248.7	944.6	2.1	142.0	17.2	38.2	17.1

Source: MIG 2018, see Appendix A

(A) Totals may not equal due to rounding.

Existing Sources of Toxic Air Contaminants

Common sources of TAC emissions in the SFBAAB include gasoline stations, dry cleaners, diesel-fueled generators and pumps, other stationary sources (e.g., refineries), and mobile sources such as cars and trucks travelling on roads and freeways, and construction equipment, ships, and trains.

CARB data collected pursuant to the AB 2588 Air Toxics “Hot Spots” Program (see Section 7.2.2.1) indicates there were 57 facilities (including gas stations, print shops, auto body shops, and dry cleaners) in the City subject to the requirements of AB 2588.²⁰ Most of these facilities are located in the industrial area of the City, away from sensitive residential receptor locations. Although emissions data is not available for all facilities, CARB’s AB 2588 database indicates most of these facilities (27) emit DPM (e.g., from a back-up generator), with other TAC emissions such as formaldehyde, benzene, and other gasoline hydrocarbons emitted from far fewer sources. The City’s waste water treatment plant is the largest source of TAC emissions for which AB 2588 information was available at the time this EIR was prepared.

¹⁹ As part of the traffic impact analysis prepared for the Burlingame 2040 General Plan, Hexagon Transportation Consultants provided estimates of existing (Year 2017) and buildout (Year 2040) VMT and intersection level of service for the City. This EIR’s air quality analysis relies on the total VMT estimate provided for the General Plan traffic impact analysis. As explained in more detail in Chapter 10, Greenhouses Gases and Energy, a different VMT data source was used in the preparation of the City’s evaluation of GHG emissions to provide consistency with GHG emissions inventory methodologies and regional data sources.

²⁰ California Air Resources Board (CARB). 2016. “Facility Search Engine 2016 Criteria and Toxic plus Risk Data, City of Burlingame. Sacramento, CA. 2016. <https://www.arb.ca.gov/app/emsinv/facinfo/facinfo.php>
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As noted, mobile sources such as cars, trucks, and trains can also emit TACs. U.S. 101 passes through the City's eastern side and has an ADT volume greater than 100,000 vehicles; similarly, I-280 runs adjacent to the City's western border and also has an ADT of approximately 100,000 vehicles. In addition, segments of Broadway (near U.S. 101), Murchison Drive (near El Camino), and Trousdale Drive (near El Camino) and all segments of California Drive, El Camino Real, and Skyline Boulevard have an ADT above 10,000 vehicles; however, there are no roadways within the City where ADT exceeds 50,000. Broadway (near U.S. 101), California Drive, and El Camino Real are the most heavily travelled roadways within the City, with ADT ranging from about 20,000 on California Drive to 30,000 on El Camino Real.

Although the City contains existing sources of TAC emissions, the BAAQMD has not identified the City as an impacted community under its Community Air Risk Evaluation (CARE) program.²¹ In addition, according to CalEnviroScreen 3.0, the City (census tracts 6081605100 and 6081605300), is in the 1 to 15th percentile based on the CalEnviroScreen indicators (e.g., exposure, environmental effects, population characteristics, socioeconomic factors), does not experience a high pollution burden, and is not considered a disadvantaged community pursuant to Senate Bill 535, which allocates funding from the state's Cap and Trade Program to disadvantaged communities.²²

Existing Sources of Odors

Existing sources of odors within the City include the City's Wastewater Treatment Plant, the Guittard Chocolate Company, and local industrial and commercial operations (e.g. gas stations, restaurants, etc.).

7.1.3 Air Quality Conditions and Attainment Status

The federal and state governments have established emissions standards and limits for air pollutants that may reasonably be anticipated to endanger public health or welfare. These standards typically take one of two forms: standards or requirements that are applicable to specific types of facilities or equipment (e.g., petroleum refining, metal smelting), or concentration-based standards that are applicable to overall ambient air quality. Air quality conditions are best described and understood in the context of these standards; areas that meet, or attain, concentration-based ambient air quality standards are considered to have levels of pollutants in the ambient air that, based on the latest scientific knowledge, do not endanger public health or welfare.

- **Attainment.** A region is "in attainment" if monitoring shows ambient concentrations of a specific pollutant are less than or equal to the NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQSD or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment. Federal and state laws require nonattainment areas to develop strategies, implementation plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.

²¹ Bay Area Air Quality Management District (BAAQMD). 2018. Community Air Risk Evaluation Impacted Areas Map. BAAQMD. January 25, 2018

²² California Office of Environmental Health Hazard Assessment (OEHHA). 2017. CalEnviroScreen 3.0. Sacramento, CA. January, 2017. <<https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>>

- **Unclassified.** An area is unclassified if the ambient air quality monitoring data are incomplete and do not support a designation of attainment or nonattainment.

Table 7-3 below lists the NAAQS and CAAQS and summarizes the SFBAAB attainment status.

Table 7-3: Ambient Air Quality Standards and SFBAAB Attainment Status

Pollutant	Averaging Time	CAAQS ^(A)		NAAQS ^(B)	
		Standard ^(C)	Attainment Status ^(D)	Standard ^(C)	Attainment Status ^(D)
Ozone	1-Hour	180 µg/m ³	N	--	--
	8-Hour	137 µg/m ³	N	137 µg/m ³	N
PM10	24-Hour	50 µg/m ³	N	150 µg/m ³	U
	Annual Average	20 µg/m ³	N	--	--
PM2.5	24-Hour	--	--	35 µg/m ³	N ^(E)
	Annual Average	12 µg/m ³	N	12 µg/m ³	U/A ^(F)
Carbon Monoxide	1-Hour	23,000 µg/m ³	A	40,000 µg/m ³	A
	8-Hour	10,000 µg/m ³	A	10,000 µg/m ³	A
Nitrogen Dioxide	1-Hour	339 µg/m ³	A	188 µg/m ³	U ^(G)
	Annual Average	57 µg/m ³	--	100 µg/m ³	A
Sulfur Dioxide	1-Hour	655 µg/m ³	A	196 µg/m ³	U ^(H)
	24-Hour	105 µg/m ³	A	--	--
Sulfates	24-Hour	25 µg/m ³	A	--	--
H ₂ S	1-Hour	42 µg/m ³	U	--	--
Vinyl Chloride	24-Hour	26 µg/m ³	--	--	--

Source: BAAQMD,²³ modified by MIG.

- (A) Table does not list CAAQS for lead and visibility reducing particles. California standards for ozone, carbon monoxide, sulfur dioxide (1 and 24-hour), nitrogen dioxide, suspended PM10 and PM2.5 are values that are not to be exceeded. The standards for sulfates, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded.
- (B) Standards shown are the primary NAAQS designed to protect public health.
- (C) All standards shown in terms of micrograms per cubic meter (µg/m³) for comparison purposes.
- (D) A= Attainment, N= Nonattainment, U=Unclassifiable.
- (E) On January 2013, the U.S. EPA issued a final rule to determine the Bay Area attains the 24-hour PM2.5 national standard. This EPA rule suspends key State Implementation Plan (SIP) requirements as long as monitoring data continue to show that the Bay Area attains the standard. Despite this EPA action, the Bay Area will continue to be designated as “non-attainment” for the national 24-hour PM2.5 standard until such time as the Air District submits a “redesignation request” and a “maintenance plan” to EPA, and EPA approves the proposed redesignation.
- (F) In December 2012, EPA strengthened the annual PM 2.5 NAAQS from 15.0 to 12.0 micrograms per cubic meter (ug/m3). In December 2014, EPA issued final area designation for the 2012 primary annual PM 2.5 NAAQS. Areas designated “unclassifiable/attainment” must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.
- (G) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100ppm (effective January 22, 2010). The US Environmental Protection Agency (EPA) expects to make a designation for the Bay Area by the end of 2017.
- (H) On June 2, 2010, the US EPA established a new 1-hour SO2 standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. The existing 0.030 ppm annual and 0.14 ppm 24-hour SO2 NAAQS however must continue to be used until one year following US EPA initial designations of the new 1-hour SO2 NAAQS. EPA expects to make this designation for the Bay Area by the end of 2017.

²³ Bay Area Air Quality Management District (BAAQMD). 2017. Air Quality Standards and Attainment Status. BAAQMD. January 5, 2017. Web. Accessed April 24, 2018. <<http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>>

7.1.3.1 Local Air Quality Conditions

Measurements of ambient air quality from the BAAQMD’s Redwood City monitoring station, located at 8987 Barron Avenue in Redwood City, are representative of the air quality in the Planning Area. Table 7-4 summarizes the pollutant concentrations of O₃ and PM_{2.5} measured from this station for the years 2015-2017. Data for PM₁₀ is not available for this monitoring station, so Table 7-4 summarizes the pollutant concentrations of PM₁₀ from the San Francisco monitoring station, located at 10 Arkansas Street in San Francisco.

Table 7-4: Local Air Quality Conditions (2015 – 2017)

Pollutant	2015	2016	2017
<i>Ozone</i>			
Maximum 1-hour Concentration (ppm)	0.086	0.075	0.115
Maximum 8-hour Concentration (ppm)	0.071	0.060	0.086
Number of days exceeding State 1-hr standard	0	0	2
Number of days exceeding State 8-hr standard	1	0	2
Number of days exceeding Federal 8-hr standard	1	0	2
<i>Carbon Monoxide</i>			
Maximum 1-hour Concentration (ppm)	3.4	2.2	2.8
Maximum 8-hour Concentration (ppm)	1.6	1.1	1.4
Number of days national/state standard exceeded	0	0	0
<i>Fine Particulate Matter (PM_{2.5})</i>			
Maximum Concentration (µg/m ³)	34.6	19.5	60.8
Number of days exceeding Federal 24-hr standard	0	0	6
<i>Respirable Particulate Matter (PM₁₀)^(A)</i>			
Maximum Concentration (µg/m ³) (California)	47.0	29.0	77
Number of days State 24-hr standard exceeded	0	0	2
Number of days Federal 24-hr standard exceeded	0	0	0

Source: BAAQMD²⁴

(A) Data for O₃, CO, PM_{2.5} were obtained at the Redwood City monitoring station and data for PM₁₀ was obtained at the San Francisco monitoring station.

7.1.4 Sensitive Air Quality Receptors

Some people are more affected by air pollution than others. The BAAQMD defines sensitive receptors as “facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly and people with illnesses.”²⁵ In general, children, senior citizens, and individuals with pre-existing health issues, such as asthmatics, are considered sensitive receptors. Both CARB and the BAAQMD consider schools, schoolyards, parks and playgrounds, daycare facilities, nursing homes, hospitals, and residential areas as sensitive air quality land uses and receptors.^{26,27}

²⁴ Bay Area Air Quality Management District (BAAQMD). 2017. Historical Air Monitoring Data. October, 2017. Web. April 2018. <<http://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data?DataViewFormat=yearly&DataView=tech&StartDate=1/1/2015&ParameterId=59>>

²⁵ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. San Francisco, CA. June 2010, updated May 2017.

²⁶ Ibid.

²⁷ California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Perspective. Sacramento, CA. April 2005.

In general, the sensitive air quality receptors within the City of Burlingame include, but are not limited to:

- Existing low-density, medium-density, high-density, and mixed-use residential receptors within the City,
- Existing schools and education or institutional facilities, including Mills Peninsula Health Center, and
- Existing parks.

7.2 REGULATORY SETTING

7.2.1 Federal and State Clean Air Act

The Federal Clean Air Act, as amended, provides the overarching basis for both federal and state air pollution prevention, control, and regulation. The Act establishes the U.S. EPA's responsibilities for protecting and improving the nation's air quality. The U.S. EPA oversees federal programs for setting air quality standards and designating attainment status, permitting new and modified stationary sources of pollutants, controlling emissions of hazardous air pollutants, and reducing emissions from motor vehicles and other mobile sources. In 1971, to achieve the purposes of Section 109 of the CAA, the EPA developed primary and secondary NAAQS. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and public welfare from air pollutants in the atmosphere.

The U.S. EPA requires each state prepare and submit a State Implementation Plan (SIP) that consists of background information, rules, technical documentation, and agreements that an individual state will use to attain compliance with the NAAQS within federally-imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable.

In addition to being subject to federal requirements, air quality in the state is also governed by more stringent regulations under the California Clean Air Act, which was enacted in 1988 to develop plans and strategies for attaining the California Ambient Air Quality Standards. CARB, which is part of the California Environmental Protection Agency (Cal-EPA), develops statewide air quality regulations, including industry-specific limits on criteria, toxic, and nuisance pollutants. The California Clean Air Act is more stringent than federal law in a number of ways, including revised standards for PM₁₀ and ozone and for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

In California, both the federal and state Clean Air acts are administered by CARB. It sets all air quality standards including emission standards for vehicles, fuels, and consumer goods as well as monitors air quality and sets control measures for toxic air contaminants. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional level.

7.2.2 State Regulations

7.2.2.1 Air Toxics "Hot Spots" Program

State requirements specifically address air toxics issues through Assembly Bill (AB) 1807 (known as the Tanner Bill) that established the state air toxics program and the Air Toxics Hot Spots Information and Assessment Act (AB 2588). The air quality regulations developed from

these bills have been modified recently to incorporate the federal regulations associated with the Federal Clean Air Act Amendments of 1990. The Air Toxics Hot Spots Information and Assessment Act (Hot Spots Act) was enacted in September 1987. Under this bill, stationary sources of emissions are required to report the types and quantities of certain substances that their facilities routinely release into the air.

7.2.2.2 Asbestos Airborne Toxic Control Measure

CARB's Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations (17 CCR §93105) into its own regulations.²⁸ Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations applies to any road construction and maintenance, or construction and grading operations on any property that is located in a geographic ultramafic rock unit or has NOA, serpentine rock, or ultramafic rock.

7.2.2.3 In-Use Off-Road Diesel Equipment Program

CARB's In-Use Off-Road Diesel Equipment regulation is intended to reduce emissions of NO_x and PM from off-road diesel vehicles, including construction equipment, operating within California. The regulation imposes limits on idling; requires reporting equipment and engine information and labeling all vehicles reported; restricts adding older vehicles to fleets; and requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing exhaust retrofits for PM. The requirements and compliance dates of the off-road regulation vary by fleet size, and large fleets (fleets with more than 5,000 horsepower) must meet average targets or comply with Best Available Control Technology requirements beginning in 2014. CARB has off-road anti-idling regulations affecting self-propelled diesel-fueled vehicles 25 horsepower and up. The off-road anti-idling regulations limit idling on applicable equipment to no more than five minutes, unless exempted due to safety, operation, or maintenance requirements.

7.2.2.4 On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) regulation (also known as the Truck and Bus Regulation) is intended to reduce emission of NO_x, PM, and other criteria pollutants generated from existing on-road diesel vehicles operating in California. The regulation applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned, and for privately and publicly owned school buses. Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Fleets complying with the heavier trucks and buses schedule must install the best available PM filter on 1996 model year and newer engines, and replace the vehicle 8 years later. Trucks with 1995 model year and older engines had to be replaced starting in 2015. Replacements with a 2010 model year or newer engine meet the final requirements, but owners can also replace the equipment with used trucks that have a future compliance date (as specified in regulation). By 2023, all trucks and buses must have at least 2010 model year engines with few exceptions.

²⁸ California Air Resources Board (CARB). 2011. Final Regulation Order Amendments to the Airborne Toxic Control Measure for Stationary Compression Ignition Engines. Effective May 19, 2011. Accessed September 25, 2017. <<https://www.arb.ca.gov/regact/2010/atcm2010/finalregorder.pdf>>
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7.2.2.5 CARB Stationary Diesel Engines – Emission Regulations

In 1998, CARB identified DPM as a TAC. To reduce public exposure to DPM, in 2000, the Board approved the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Risk Reduction Plan).²⁹ Integral to this plan is the implementation of control measures to reduce DPM such as the control measures for stationary diesel-fueled engines. As such, diesel generators must comply with regulations under CARB's amendments to *Airborne Toxic Control Measure for Stationary Compression Ignition Engines* and be permitted by BAAQMD.

7.2.2.6 CARB Air Quality and Land Use Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB's Air Quality and Land Use Handbook is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process.³⁰ The CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds. Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Plan Area include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day;
- Within 300 feet of gasoline fueling stations; or
- Within 300 feet of dry cleaning operations (dry cleaning with TACs is being phased out and will be prohibited in 2023). The SCAQMD (Regulation 14, Rule 21) has established emission controls for the use of perchloroethylene, the most common dry cleaning solvent.

7.2.3 Bay Area Air Quality Management District

The BAAQMD is the agency primarily responsible for maintaining air quality and regulating emissions of criteria and toxic air pollutants within the SFBAAB. The BAAQMD carries out this responsibility by preparing, adopting, and implementing plans, regulations, and rules that are designed to achieve attainment of state and national air quality standards.

7.2.3.1 Rules and Regulations

The BAAQMD currently has 13 regulations containing more than 100 rules that control and limit emissions from sources of pollutants. Table 7-5 below presents the major BAAQMD rules and regulation that may apply to future development projects in the City.

Table 7-5: Potentially Applicable BAAQMD Rules and Regulations

²⁹ California Air Resources Board (CARB). 2000. "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles." Stationary Source Division and Mobile Source Control Division. October 2000.

³⁰ California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Perspective. Sacramento, CA. April 2005.

Regulation	Rule	Description
1- General Provisions and Definitions	1- General Provisions and Definitions	301 – Public Nuisance: Establishes that no person shall discharge quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number or person or the public; or which endangers the comfort, repose, health or safety of any such person or the public.
2- Permits	2- New Source Review	Provides for the review of new and modified sources of pollutants; requires use of Best Available Control Technology and emissions offsets to achieve no net increase in nonattainment pollutants; implements Prevention of Significant Deterioration review for attainment pollutants.
2 – Permits	5 – New Source Review of Toxic Air Contaminants	Provides for the review of new and modified sources of toxic air contaminants; requires use of Best Available Control Technology for sources that have a risk above certain thresholds and limits total project risks to 10.0 in a million cancer risk, 1.0 chronic hazard index, and 1.0 acute hazard index.
2 – Permits	6 – Major Facility Review	Provides for the review and issuance of operating permits for facilities that have the potential to emit 100 tons per year or more of any regulated air pollutant, 10 tons per year of a single hazardous air pollutant, and 25 tons per year or more of combined hazardous air pollutants.
6 – Particulate Matter	1 – General Requirements	Limits visible particulate matter emissions.
7- Odorous substances	Odorous Substances	Establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds, such as ammonia.
9 – Inorganic Gaseous Pollutants	8 – NOx and CO from Stationary Internal Combustion Engines	Limits emissions of NOx and CO from stationary internal gas combustion engines more than 50 brake horsepower.
11 – Hazardous Pollutants	2 – Asbestos Demolition, Renovation, and Manufacturing	Controls emissions of asbestos to the atmosphere during demolition.

Source: BAAQMD³¹

7.2.3.1 2017 Clean Air Plan

On April 29, 2017, the BAAQMD adopted its Spare the Air-Cool the Climate 2017 Clean Air Plan (Clean Air Plan). The 2017 Clean Air Plan updates the most recent Bay Area ozone plan, the 2010 Clean Air Plan, in fulfillment of state ozone planning requirements. Over the next 35 years, the Plan will focus on the three following goals:

- Attain all state and national quality standards;

³¹ Bay Area Air Quality Management District (BAAQMD). 2017. Current Rules. BAAQMD. Accessed December 12, 2017. <<http://www.baaqmd.gov/rules-and-compliance/current-rules>>
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- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and
- Reduce Bay Area GHG Emissions to 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

The Plan includes 85 distinct control measures to help the region reduce air pollutants and has a long-term strategic vision which forecasts what a clean air Bay Area will look like in the year 2050. The control measures aggressively target the largest source of GHG, ozone pollutants, and particulate matter emissions – transportation. The 2017 Plan includes more incentives for electric vehicle infrastructure, off-road electrification projects such as Caltrain and shore power at ports, and reducing emissions from trucks, school buses, marine vessels, locomotives and off-road equipment.³²

7.2.4 Local Regulations

The City of Burlingame’s existing General Plan establishes standards related to air quality; however, future development within the City during the next approximately 20 years would be subject to the policies contained in the proposed 2040 General Plan Update should the City approve the 2040 General Plan. Therefore, since existing General Plan policies and standards would cease to apply if the 2040 General Plan is adopted, they are not presented below. The 2040 General Plan policies pertaining to air quality are presented and analyzed in the impacts section of this chapter (see Section 7.3).

7.3 ENVIRONMENTAL EFFECTS

The BAAQMD’s CEQA Air Quality Guidelines contains guidance on assessing and mitigating both project- and plan-level air quality impacts. The BAAQMD’s guidelines state:³³

“The term general and area plan refers broadly to discretionary planning activities which may include, but are not limited to the following: general plans, redevelopment plans, specific plans, area plans, community plans, congestion management plans, and annexations of lands and service areas. General and area plans are often subject to program-level analysis under CEQA, as opposed to project-level analysis. As a general principle, the guidance offered within this chapter should be applied to discretionary, program-level planning activities; whereas the project-level guidance offered in other chapters should be applied to individual project-specific approvals, such as a proposed development project. Air quality impacts from future development pursuant to general or area plans can be divided into construction-related impacts and operational-related impacts. Construction-related impacts are associated with construction activities likely to occur in conjunction with future development allocated by the plan. Operational-related impacts are associated with continued and future operation of developed land uses, including increased vehicle trips and energy use.”

The proposed Burlingame 2040 General Plan provides the blueprint and basis for future land use decisions in the City. As such, it is a planning-level document that does not authorize or approve any specific project. Accordingly, this EIR evaluates the proposed Burlingame 2040 General Plan update using the plan-level guidance contained in the Chapter 9 of the BAAQMD’s

³² Bay Area Air Quality Management District (BAAQMD). 2017. 2017 Clean Air Plan: Spare the Air, Cool the Climate. BAAQMD, Planning, Rules, and Research Division. April 19, 2017.

³³ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. San Francisco, CA. June 2010, updated May 2017.

CEQA Air Quality Guidelines.³⁴ Where possible, potential future construction and operational emissions levels have been provided for information purposes only.

7.3.1 Significance Criteria

Based on Appendix G of the CEQA Guidelines, the implementation of the Burlingame 2040 General Plan would have a significant air quality impact if it would:

- a) Conflict with or obstruct implementation of the applicable air quality plan;
- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- c) Result in a cumulatively considerable net increase of any criteria air pollutant for which the region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- d) Expose sensitive receptors to substantial pollutant concentrations; or
- e) Create objectionable odors affecting a substantial number of people.

The BAAQMD CEQA Air Quality Guidelines contain the BAAQMD’s recommendations to Lead Agencies for evaluating and assessing the significance of a plan’s potential air quality impacts.³⁵ The BAAQMD’s plan-level thresholds of significance are summarized in Table 7-6 below.

Table 7-6: BAAQMD Thresholds of Significance for Plans

Pollutant	Threshold of Significance
Criteria Air Pollutants and Precursor Emissions	Construction: None
	Operational: Consistency with Current AQP and projected VMT or vehicle trip increase is less than or equal to projected population increase.
Local Community Risks and Hazards	Land use diagram identifies special overlay zones around existing and planned sources of TACs and PM2.5, including special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways, and plan identifies goals, policies, and objectives to minimize potentially adverse impacts.
Odors	Identify locations of odor sources in plan; identify goals, policies, and objectives to minimize potentially adverse impacts.

³⁴ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines. San Francisco, CA. June 2010, updated May 2017.

³⁵ Ibid.

7.3.2 Environmental Impacts

Impact 7-1: Increases in Criteria Air Pollutants and Precursor Emissions. *The Burlingame 2040 General Plan includes policies that would be consistent with the 2017 Clean Air Plan and would not result in an increase in VMT that exceeds the projected increase in population. This would be a **less than significant impact** (see criteria [a], [b] and [c] in subsection 7.3.1, "Significance Criteria," above).*

Consistent with BAAQMD's CEQA Air Quality Guidelines, the proposed Burlingame 2040 General Plan would result in a significant impact if it would be inconsistent with the 2017 Clean Air Plan or result in a projected increase in vehicle trips or VMT that exceeds a projected population increase.

Consistency with 2017 Clean Air Plan

In regards to consistency with the 2017 Clean Air Plan, the BAAQMD CEQA Guidelines recommend a lead agency analyze consistency using the following three questions:

- 1) Does the project support the primary goals of the Air Quality Plan?
- 2) Does the project include applicable control measures from the Air Quality Plan?
- 3) Does the project disrupt or hinder implementation of any Air Quality Plan control measures?

Support for the Primary Goals of the 2017 Clean Air Plan

The BAAQMD's 2017 Clean Air Plan is a multi-pollutant plan focused on protecting public health and the climate. Specifically, the primary air quality-related goals of the 2017 Clean Air Plan are to:

- Attain all state and national quality standards;
- Eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants; and

The Burlingame 2040 General Plan sets forth the City's vision for the types of development that would occur over the next approximately 20 years. The General Plan's proposed land use designations permit slightly higher development intensity within the City boundaries than compared to the existing General Plan. Criteria air pollutant and other emissions would result from construction activities, and from the operation of residences, businesses, and other land uses within the City. These emissions could interfere with the SFBAAB's attainment of state and national air quality standards.

In addition to the two goals above, the 2017 Clean Air Plan includes a third primary goal related to Bay Area greenhouse gas (GHG) emissions. For the purposes of this EIR, consistency with the 2017 Clean Air Plan's goal related to GHG emissions is considered and evaluated in detail in Chapter 10, Greenhouse Gases, Impacts 10-1 and 10-2.

Attainment of Air Quality Standards - Construction Emissions

The proposed General Plan would not directly result in construction of any development or infrastructure; however, future development supported by the General Plan would result in short-term construction-related criteria pollutant emissions that have the potential to have an adverse effect on air quality. Short-term criteria pollutant emissions would occur during demolition, site preparation, grading, building construction, paving, and architectural coating activities associated with specific new development projects. Emissions would occur from use of equipment, worker, vendor and hauling trips, and disturbance of onsite soils (fugitive dust). ROG and NO_x emissions are primarily associated with gas and diesel equipment exhaust and the application of architectural coatings. Fugitive dust emissions (PM₁₀ and PM_{2.5}) are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on- and off-site. Typical construction equipment associated with development and redevelopment projects includes dozers, graders, excavators, loaders, and trucks.

Although it is not possible to know the exact type, number, location, or duration of future construction projects, future development activities would generally entail demolition, site preparation, grading, building construction, paving, and painting. Since Burlingame is generally a built-out city, many new projects in the City will likely require the demolition of existing structures to make room for newer ones. Fugitive dust (PM₁₀) emissions would typically be greatest during building demolition, site preparation, and grading due to the disturbance of soils and transport of material. NO_x emissions would also result from the combustion of diesel fuels used to power off-road heavy-duty pieces of equipment (e.g., backhoes, bulldozers, excavators, etc.). The types and quantity of equipment, as well as duration of construction activities, would be dependent on project specific conditions. Larger projects would require more equipment over a longer timeframe than that required for redevelopment of a single, residential home or small residential or mixed use project.

As shown in Section 7.3.1, the BAAQMD does not maintain recommended plan-level thresholds of significance for construction emissions; however, the BAAQMD does maintain and recommend project-level thresholds that potential future development projects would be subject to. In addition, the BAAQMD's *CEQA Guidelines* identify and recommend a series of "Basic" measures to control and reduction construction-related emissions. For all projects, the BAAQMD recommends implementation of eight Basic Construction Measures³⁶ to reduce construction fugitive dust emissions levels; these basic measures are also used to meet the BAAQMD's best management practices (BMPs) threshold of significance for construction fugitive dust emissions (i.e., the implementation of all basic construction measures renders fugitive dust impacts a less than significant impact). The City's proposed General Plan Update focuses on protecting Burlingame residents and employees from exposure to harmful air pollutants. Table 7-7 summarizes the proposed Burlingame 2040 General Plan goals and policies that address potential construction emissions within the City.

³⁶ Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines; page 8-4. San Francisco, CA. June 2010, updated May 2017.

Table 7-7: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Construction Emissions

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Existing Regulations			
BAAQMD Regulation 11, Hazardous Pollutants, Rule 2, Asbestos Demolition, Renovation, and Manufacturing	Controls emissions of asbestos to the atmosphere during demolition.		(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
CARB's <i>Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations</i> (17 CCR §93105)	Applies to any road construction and maintenance, or construction and grading operations on any property that is located in a geographic ultramafic rock unit or has NOA, serpentine rock, or ultramafic rock.		(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Healthy People, Healthy Places Element			
Goal HP-3	Minimize exposure of residents and employees of local businesses to harmful air pollutants.	States the overall goal of the City to protect residents and employees from harmful air pollutants.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants

Table 7-7: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Construction Emissions

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Policy HP-3.1: Regional Air Quality Standards	Support regional policies and efforts to improve air quality, and participate in regional planning efforts with the Bay Area Air Quality Management District to meet or exceed air quality standards	Establishes the City's commitment to work with agencies with regulatory authority over air quality at the regional level.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-3.10: Truck Routes	Ensure projects that generate truck traffic and existing truck routes avoid sensitive land uses such as schools, daycares, senior facilities, and residences.	Reduces potential sensitive receptor exposure to dust and exhaust emissions from truck travel.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-3.11: Dust Abatement	Require dust abatement actions for all new construction and redevelopment projects.	Reduces fugitive dust and PM10 emissions from temporary construction activities.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-3.12: Construction Best Practices	Require construction projects to implement the Bay Area Air Quality Management District's Best Practices for Construction to reduce pollution from dust and exhaust as feasible.	Requires implementation of BAAQMD-recommended construction emission measures as necessary and feasible.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants

As shown in Table 7-7, proposed General Plan Goal HP-3 and Policies HP-3.1 and HP-3.10 to HP-3.12 to 4.6 establish the overall goal and intent of the City to protect residents and employees from localized construction emissions, including dust and exhaust pollution. The implementation of these policies would render potential construction emissions impacts from future development projects consistent with 2017 Clean Air Plan’s goal to attain air quality standards.

Attainment of Air Quality Standards - Operational Emissions

The proposed Burlingame 2040 General Plan would accommodate new residential, commercial, and other land uses that will operate through the General Plan horizon year of 2040. Long-term criteria pollutant emissions would result from the operation of potential residential, retail, light industrial, commercial, and institutional uses supported by the proposed General Plan. Operational air quality emissions are evaluated in terms of area source emissions, energy demand emissions, and mobile emissions. Area source emissions are the combination of many small emission sources that include use of outdoor landscape maintenance equipment, use of consumer products such as cleaning products, and periodic repainting of a project. Energy demand emissions result from use of electricity and natural gas. Mobile emissions result from automobile and other vehicle sources associated with daily trips to and from the project vicinity.

The Burlingame 2040 General Plan would provide development capacity for up to an additional 2,952 dwelling units and up to 6,769 new residents. Buildout of the proposed General Plan will also include approximately 1,634,211 of additional square feet of non-residential floor area within the City. Development of future projects within the planning area would be subject to the City’s standard CEQA review process and would be required to assess project-specific emissions in relation to the BAAQMD significance thresholds. Although specific, project-level emission estimates for potential future development projects are not available at this time, CalEEMod can be used to provide an estimate of the potential area, energy, and mobile source emissions resulting from the increase in development permitted by the 2040 General Plan for information purposes only (i.e., not for the purpose of determining significance of potential air quality impacts). The total net increase in the type (e.g., residential, commercial, industrial, etc.) and amount (e.g., residential units, commercial building square footage, etc.) of land uses envisioned by the 2040 General Plan was entered into the model. The resulting emissions estimates associated with this net change in land uses are presented in Table 7-8. CalEEMod output files are included as Appendix A of this report.

Table 7-8: Potential General Plan Build-Out (Year 2040) Operational Emissions

Emissions Sources	Pollutant Emissions (Tons per Year) ^(A)							
	ROG	NOx	CO	SO ₂	PM ₁₀		PM _{2.5}	
					Dust	Exhaust	Dust	Exhaust
Area	25.0	0.4	22.3	<0.0	--	0.1	--	0.1
Energy	1.0	8.9	6.4	0.1	--	0.7	--	0.7
Mobile	18.1	45.6	151.9	0.4	31.4	0.4	8.4	0.4
2040 Build-Out Total	44.1	54.8	180.5	0.4	31.4	1.3	8.4	1.2

Source: MIG, 2018 (see Appendix A).

(A) Emissions estimated using CalEEMod, V 2016.3.2.

(B) Existing Emissions levels were estimated using an operational year of 2040 to most accurately obtain the net emissions as a result of the General Plan buildout.

As shown in Table 7-8, the implementation of the Burlingame 2040 General Plan is likely to lead to increases in emissions in the SFBAAB, an area of non-attainment for state and federal ozone, PM₁₀, and PM_{2.5} air quality standards. The City's proposed General Plan Update focuses on protecting Burlingame residents and employees from exposure to harmful air pollutants. Table 7-9 summarizes the proposed Burlingame 2040 General Plan goals and policies that address potential operational emissions within the City.

Table 7-9: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Operational Emissions

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Existing Regulations			
The Federal Clean Air Act.	The CAA required the EPA to establish NAAQS. EPA has established primary and secondary NAAQS for several different pollutants, expressed in maximum allowable concentrations generally defined in units of parts per million (ppm) or in micrograms per cubic meter (µg/m ³). The primary standards protect the public health and the secondary standards protect public welfare.	Establishes standards and guidelines on air pollutants for state agencies to follow to protect public health and welfare.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
California Clean Air Act.	CARB is responsible for preparing and enforcing the Federally-required SIP to achieve and maintain NAAQS, as well as the CAAQS, which were developed as part of the California Clean Air Act (1988). CAAQS for criteria pollutants equal or surpass NAAQS, and include other pollutants for which there are no NAAQS. CARB is also responsible for assigning air basin attainment and nonattainment designations in California.	Establishes standards and guidelines on air pollutants for local agencies to follow to protect public health and welfare.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Healthy People, Healthy Places Element			
Policy HP-2.6: Renewable Energy	Pursue the goal of using 100% renewable energy for the City's municipal accounts. Encourage residents and businesses to opt up to 100% renewable purchase for additional community-wide greenhouse gas reductions. Encourage and support opportunities for developing local solar power projects.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants

Table 7-9: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Operational Emissions

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Policy HP-2.7: Residential Solar Power	Encourage homeowners to install solar power systems. Provide information to homeowners on the benefits of solar power and funding opportunities. Promote Property Assessed Clean Energy (PACE) programs that finance renewable energy systems. Offer incentives for home solar power systems.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-2.8: Energy Efficiency	Support energy efficiency improvements in the aging building stock citywide. Encourage energy efficiency audits and upgrades at the time of sale for existing homes and buildings. Host energy efficiency workshops, and distribute information to property owners, tenants, and residences. Publicize available programs such as PACE financing and San Mateo Energy Watch programs. Incentivize low-cost retrofits to residents and businesses.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-2.9: Municipal Energy Efficiency	Continue to enhance energy efficiency in City facilities. Conduct periodic energy audits to assess energy efficiency progress and needed improvements.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants

Table 7-9: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Operational Emissions

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Policy HP-2.10: Municipal Green Building	Aim for new construction and major renovations of City facilities to be zero net energy.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-2.11: Innovative Technologies	Encourage the advancement of emerging technologies and innovations around energy, waste, water, and transportation Support local green technology businesses. Explore demonstration project opportunities.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-2.12: Green Businesses	Attract green technology businesses to Burlingame. Focus outreach on established and new green technology businesses along Rollins Road. Encourage existing businesses to integrate green practices by offering an annual green business award, workshops, and informational materials.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-2.13: Composting	Encourage the South Bayside Waste Management Authority (SBWMA) to explore and consider rate plans that support zero waste goals. Identify opportunities to support and implement zero waste goals and strategies for the City and community.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants

Table 7-9: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Operational Emissions

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Policy HP- 2.14: Zero Waste	Purchase electric or hybrid models of lawn and garden and construction equipment for City maintenance operations, as feasible.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP- 2.15: Alternative Fuel	Purchase electric or hybrid models of lawn and garden and construction equipment for City maintenance operations, as feasible.	Ensures consistency with control measures from the 2017 Clean Air Plan.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Goal HP-3	Minimize exposure of residents and employees of local businesses to harmful air pollutants.	States the overall goal of the City to protect residents and employees from harmful air pollutants.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-3.1 Regional Air Quality Standards	Support regional policies and efforts to improve air quality, and participate in regional planning efforts with the Bay Area Air Quality Management District to meet or exceed air quality standards.	Establishes the City's commitment to work with agencies with regulatory authority over air quality at the regional level.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants

Table 7-9: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Operational Emissions

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Policy HP-3.2 Local Air Quality Standards	Work with local businesses, industries, and developers to reduce the impact of stationary and mobile sources of pollution. Ensure that new development does not create cumulative net increases in air pollution, and require Transportation Demand Management Techniques (TDM) when air quality impacts are unavoidable.	Establishes the City's commitment to work with agencies with regulatory authority over air quality at the local level.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-3.3 Indoor Air Quality Standards	Require that developers mitigate impacts on indoor air quality for new residential and commercial developments, particularly along higher-density corridors, near industrial uses, along the freeway and rail line, such as in North Burlingame, along Rollins Road, and in Downtown. Potential mitigation strategies include installing air filters (MERV 13 or higher), building sound walls, and planting vegetation and trees as pollution buffers.	Establishes the City's commitment to reduce health risk exposure associated with TACs and PM _{2.5} through a plan-based community risk reduction strategy, which includes source reduction measures to reduce operational TAC and PM _{2.5} emissions.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-3.4 Air Pollution Reduction	Support regional efforts to improve air quality, reduce auto use, expand infrastructure for alternative transportation, and reduce traffic congestion. Focus efforts to reduce truck idling to two minutes or fewer in industrial and warehouse districts along Rollins Road and the Inner Bayshore.	Establishes the City's commitment to work with agencies with regulatory authority over air quality at the Federal, State, and regional levels.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants
Policy HP-3.5: Woodstove and Fireplace Replacement	Encourage residents to replace wood-burning fireplaces and stoves with cleaner electric heat pumps, natural gas, or propane stoves. Educate the public about financial assistance options through the Bay Area Air Quality Management District's fireplace and wood stove replacement incentive program	Establishes the City's commitment to reduce emissions from existing sources in operation in the City.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants

Table 7-9: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Operational Emissions

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Policy HP-3.6: Caltrain Electrification	Encourage the electrification of Caltrain to eliminate emissions from the rail line.	Establishes the City's commitment to reduce emissions from existing sources in operation in the City.	(a) Consistency with the applicable air quality plan (b) Cause or contribute to a violation of air quality standards (c) Result in a cumulatively considerable increase in non-attainment pollutants

As shown in Table 7-9, the Burlingame 2040 General Plan Healthy People and Healthy Places Element contains a number of policies intended to reduce emissions. In addition to these air quality-related policies, the General Plan's Community Character, Mobility, and Infrastructure Elements contain land use, transportation, and infrastructure policies would provide air quality benefits from sustainable land use planning and design consideration, complete streets and other mobility considerations that would reduce vehicle trips, and infrastructure planning to support alternative means of transportation. The combined effect of these policies was estimated to provide a potential, approximately 16% reduction in NOX emissions (see Appendix A) from the emissions level shown in Table 7-8, although reductions would depend on the precise mix of future development within the City.

The BAAQMD does not maintain plan-level operational thresholds of significance for use by a lead agency; however, as described further below, the implementation of the General Plan would not result in projected increase in VMT that exceeds the projected in population associated with General Plan growth. The implementation of the proposed Burlingame 2040 General Plan policies would render potential operational emissions impacts from future development projects consistent with 2017 Clean Air Plan's goal to attain air quality standards.

Eliminate Disparities in Health Risks

The City of Burlingame is not an impacted community identified under the BAAQMD's CARE Program and is not considered a disadvantaged pursuant to SB 535. As explained in more detail under Impact 7-2, the Burlingame 2040 General Plan includes policies that would render potential health risks to sensitive receptors from existing and new sources of TACs consistent with the 2017 Clean Air Plan's goal to eliminate disparities in health risks.

Inclusion/Consistency with Clean Air Plan Control Measures

The 2017 Clean Air Plan contains 85 control strategies designed to reduce ozone precursors, protect public health, and serve as a regional climate protection strategy. The control strategies are based on nine economic sectors, consistent with CARB's Scoping Plan. The 85 control strategies identified in the 2017 Clean Air plan are grouped by nine economic-based "sectors" as shown in Table 7-10.³⁷

³⁷ The BAAQMD 2017 Clean Air Plan use the same economic sectors contained in CARB's 2017 Scoping Plan.
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Table 7-10 BAAQMD 2017 Clean Air Plan Control Measure Sectors

Sector	No. of Measures	General Description of Sector Applicability
Agriculture (AG)	4	Applies to sources of air pollution from agricultural operations include on and off-road trucks and farming equipment, aircraft for crop spraying, animal waste, pesticide and fertilizer use, crop residue burning, travel on unpaved roads, and soil tillage.
Buildings (BL)	4	Applies to residential, commercial, governmental and institutional buildings, which generate emissions through energy use for heating, cooling, and operating the building, and from the materials used in building construction and maintenance
Energy (EN)	2	Applies to emissions of criteria pollutants, TACs, and GHGs from electricity generated and used within the Bay area, as well as GHG emissions from electricity generated outside the Bay area that is imported and used within the region
Natural and Working Lands (NW)	3	Applies to emissions from natural and working lands, including forests, woodlands, shrub lands, grasslands, rangelands, and wetlands.
Stationary Sources (SS)	40	Applies to stationary sources generally used in commercial and industrial facilities. Such sources are typically regulated through BAAQMD rulemaking, permitting, and enforcement programs
Super GHGs (SL)	3	Applies to emissions of methane, black carbon, and fluorinated gases
Transportation (TR)	23	Applies to on-road motor vehicles such as light-duty automobiles or heavy-duty trucks , as well as off-road vehicles, including airplanes, locomotives, ships and boats, and off-road equipment such as airport ground-support equipment, construction equipment and farm equipment.
Waste (WA)	4	Applies to emissions from landfills and composting activities.
Water (WR)	2	Applies to direct emissions from the treatment of water and wastewater at publicly owned treatment works and indirect emissions associated with the energy used to pump, convey, recycle, and treat water and wastewater throughout the Bay

The BAAQMD's implementation of the control strategies employ a wide range of tools and resources, many of the control strategies are not intended or designed to be achieved by local government. Table 7-11 identified applicable control measures that rely, or partially rely, on local government implementation and correlates the measures to specific goals and policies in the proposed Burlingame 2040 General Plan; Table 7-9 also lists additional policies that are consistent with the 2017 Clean Air Plan but which are primarily implemented by the BAAQMD.

Table 7-11: Clean Air Plan Control Measures Included in 2040 General Plan

2017 Clean Air Plan Control Measure	Relevant Burlingame 2040 General Plan Goal and/or Policy
Transportation (TR) Control Measures	
TR2 Trip Reduction Programs	The General Plan would promote compatible, transit-oriented land uses which would reduce vehicle trips and encourage the use of transportation modes that reduce VMT and GHG emissions. Part of the vision for the General Plan is to provide a safe and convenient mobility for all users and modes of transportation. Relevant goals and policies include: Goal M-1; Policy: M-1.1, M-1.2, M-1.4 Goal M-4; Policy: M-4.1, M-4.4, M-4.5 Goal M-5; Policy: M-5.1, Goal M-6; Policy: M-6.2 Goal M-8; Policy: M-8.2
TR7 Safe Routes to Schools and Safe Routes to Transit	The General Plan aims to ensure that neighborhood streets are safe and provide efficient vehicular access to residential neighborhoods and schools. Relevant goals and policies include: Goal M-17; Policy M-17.1
TR9 Bicycle and Pedestrian Access and Facilities	Policies in the 2040 General Plan support a network development of high-quality, safe, convenient bicycle and pedestrian facilities to encourage fewer vehicle trips and reduce GHG emissions. Relevant goals and policies include: Goal M-1; Policy: M-1.1, M-1.2, M-1.4 Goal M-2; Policy: M-2.1, M-2.2; M-2.3; M-2.4, M-2.5 Goal M-3; Policy: M-3.1; M-3.2; M-3.3; M-3.4; M-3.5, M-3.6, M-3.7, M-3.8, M-3.9
TR13 Parking Policies	The General Plan support parking management strategies that address issues associated with parking, including congestion and air quality degradation. Relevant goals and policies include: Goal M-7; Policy: M-7.1, M-7.3, M-7.5, M-7.6
Energy (EN) Control Measures	
EN2 Decrease Electricity Demand	Implementation of the General Plan would aid in achieving GHG emission reductions through increased use of renewable energy, increased energy efficiency and investing in innovative technology. Relevant goals and policies include: Goal HP-2; Policy: HP-2.6, HP-2.8, HP-2.9, HP-2.11
<i>Natural and Working Lands (NW) Control Measures</i>	
NW-2 Urban Tree Planting	The General Plan aims to protect, expand and manage urban tree resources within the City. Relevant goals and policies include: Goal HP-5; Policy: HP-5.5, HP-5.6, HP-5.7

Table 7-11: Clean Air Plan Control Measures Included in 2040 General Plan

2017 Clean Air Plan Control Measure	Relevant Burlingame 2040 General Plan Goal and/or Policy
NW-3 Carbon Sequestration in Wetlands	The General Plan supports the goal of protection and restoration of wetlands in the San Francisco Bay. Relevant goals and policies include: Goal HP-5; Policy: HP-5.12
Building (BL) Control Measures	
BL1 Green Buildings	Implementation of policies in the General Plan would require municipal buildings to continue increasing energy efficiency. Relevant goals and policies include: Goal HP-2; Policy: HP-2.9, HP-2.10
Waste Management (WA) Control Measures	
WA4 Recycling and Waste Reduction	A goal in the General Plan is to expand composting and recycling services to residential and commercial buildings, and to support zero waste goals for the City. Relevant goals and policies include: Goal HP-2; Policy: HP-2.13, HP- 2.14
Water (WR) Control Measures	
WR2 Support Water Conservation	General Plan policies would protect local and regional water resources through conservation, recycling and, sustainable management practices. Relevant goals and policies include: Goal HP-6; Policy: HP-6.2, HP-6.4, HP-6.8

As shown in Table 7-11, the proposed Burlingame 2040 General Plan would include policies that are consistent with and similar to applicable 2017 Clean Air Plan control measures.

Disrupt or Hinder Implementation of Clean Air Plan Control Measures

As shown in Table 7-11, the proposed Burlingame 2040 General Plan would include policies that are consistent with and similar to applicable 2017 Clean Air Plan control measures. The Burlingame 2040 General Plan would also provide air quality benefits from sustainable land use planning and design consideration, complete streets and other mobility considerations that would reduce vehicle trips, and infrastructure planning to support alternative means of transportation. Thus, the proposed General Plan would not disrupt or hinder implementation of any 2017 Clean Air Plan control measures.

Increases in VMT and Population under the Burlingame 2040 General Plan

The proposed Burlingame 2040 General Plan's potential increases in VMT and population under build-out conditions is summarized in Table 7-12.

Table 7-12: 2040 General Plan VMT and Population Increases

Year	Annual VMT ^(A)	Population ^(B)
Existing 2017	510,078,010	29,725
Build-Out 2040	608,306,445	36,600
Percent Increase	19.3%	23.1%

Sources: City of Burlingame³⁸ and Hexagon³⁹.

- (A) VMT estimates are based on the total VMT estimate provided for the General Plan traffic impact analysis. As explained in more detail in Chapter 10, Greenhouses Gases and Energy, a different VMT data source was used in the preparation of the City's evaluation of GHG emissions to provide consistency with GHG emissions inventory methodologies and regional data sources. The increase in VMT between 2015 and 2040 associated with the GHG chapter data source is 20.6%. Thus, population growth would continue to be higher than the growth in VMT for both VMT data sources.
- (B) Existing population is based on 2016 population data from the California Department of Finance and is considered representative, or a slight underestimate of the City's 2017 population.

As shown in Table 7-12, the projected increase in VMT under the proposed Burlingame 2040 General Plan would not exceed the projected population increase that would occur under the General Plan. Thus, the Burlingame 2040 General Plan would not result in a significant increase in emissions of criteria air pollutants or precursor pollutants.

Significance Conclusion

The implementation of the proposed Burlingame 2040 General Plan would be consistent with the 2017 Clean Air Plan and would not result in an increase in VMT that is more than the projected increase in population. Thus, the proposed General Plan would not result in significant increases in criteria air pollutant or precursor pollutant emissions. The implementation of General Plan policies would render potential emissions impacts from build-out of the General Plan a **less than significant impact**.

Impact 7-2: Community Risks and Hazards. *Implementation of the Burlingame 2040 General Plan would result in new sensitive receptors that could be exposed to localized concentrations of toxic air contaminants or PM_{2.5}. In addition, the General Plan could result in new sources of toxic air contaminants that could impact existing sensitive receptors. The Burlingame 2040 General Plan contains policies to ensure potentially adverse community risks and hazards are adequately evaluated and addressed. Therefore, this impact is considered to be **less than significant** (see criteria [d] in subsection 7.3.1, "Significance Criteria," above)*

Within the SFBAAB, localized risks are primarily associated with exposure to TACs and PM_{2.5} emissions. As discussed in Section 7.1.1, TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health, and PM_{2.5} is a type of particle pollution that pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects. Common sources of TACs and PM_{2.5} emissions are stationary sources (e.g., diesel backup generators, gasoline stations, and dry cleaners), which are subject to BAAQMD permit requirements. Another common and often more significant source type is on-road motor vehicles on high-volume roads, such as U.S. 101 and I-280, and

³⁸ City of Burlingame, 2017. Public Draft Burlingame 2040 General Plan. Burlingame, CA. August 2017

³⁹ Hexagon Transportation Consultants, Inc. (Hexagon). 2018. Burlingame 2040 General Plan 2015 and 2040 ADT Plots. April 2018.

off-road sources such as construction equipment and diesel-powered trains travelling on the Caltrain corridor. Although the proposed General Plan does not include plans for any new, large stationary sources of emissions, it could result in new sensitive receptors (primarily residential receptors) near existing sources of emissions.

Consistent with BAAQMD's CEQA Air Quality Guidelines, the proposed Burlingame 2040 General Plan would not result in a significant community risk and hazard impact if the land use diagram identifies special overlay zones around existing and planned sources of TACs and PM_{2.5}, including special overlay zones of at least 500 feet on each side of all freeways and high-volume roadways, and the plan identifies goals, policies, and objectives to minimize potentially adverse impacts. For example, the CARB *Air Quality and Land Use Handbook* recommends avoiding the siting of new sensitive land uses (e.g., residences, schools, etc.) within:

- Within 300 feet of large gasoline fueling stations (with a throughput of more than 3.6 million gallons of gasoline per year);
- Within 300 feet of dry cleaning operations;
- Within 500 feet of freeways, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day; and
- Within 1,000 feet of a major rail service or maintenance yard.

Although the Burlingame 2040 General Plan Land Use Diagram (see Chapter 2, Project Description) does not graphically depict overlay zones around specific, existing sources of TACs such as the Wastewater Treatment Plant or U.S. 101, the policies contained within the General Plan do identify specific and general areas of concern where potential adverse impacts are of concern. Table 7-13 summarizes the proposed Burlingame 2040 General Plan goals and policies that address potential TAC emissions and associated adverse health risk impacts within the City.

Table 7-13: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Community Risk and Hazard Impacts

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Existing Regulations			
Tanner Act Toxics Act (AB 1807, Chapter 1047, Statutes of 1983)	Toxic Air Contaminants (TACs) in California are regulated primarily through the AB 1807 sets forth a formal procedure for ARB to designate substances as TACs.	Ensures that TACs are considered when siting sensitive land uses.	(d) Expose sensitive receptors to substantial pollutant concentrations

Table 7-13: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Community Risk and Hazard Impacts

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
BAAQMD Regulation 2, Rule 5 ("New Source Review of Toxic Air Contaminant")	This regulation applies preconstruction permit review to new and modified sources of toxic air contaminants and contains project health risk limits and requirements for Toxics Best Available Control Technology. BAAQMD Regulation 11 ("Hazardous Pollutants") sets emission and/or performance standards for hazardous pollutants.	Ensures that TACs are considered when siting sensitive land uses.	(d) Expose sensitive receptors to substantial pollutant concentrations
Healthy People and Healthy Places Element			
Goal HP-3	Minimize exposure of residents and employees of local businesses to harmful air pollutants.	Establishes the City's commitment to work with agencies with regulatory authority over air quality at the regional level.	(d) Expose sensitive receptors to substantial pollutant concentrations
HP-3.2 Local Air Quality Standards	Work with local businesses, industries, and developers to reduce the impact of stationary and mobile sources of pollution. Ensure that new development does not create cumulative net increases in air pollution and require Transportation Demand Management Techniques (TDM) when air quality impacts are unavoidable.	Establishes the City's commitment to work with agencies with regulatory authority over air quality at the local level.	(d) Expose sensitive receptors to substantial pollutant concentrations
HP-3.3 Indoor Air Quality Standards	Require that developers mitigate impacts on indoor air quality for new residential and commercial developments, particularly along higher density corridors, near industrial uses, along the freeway and rail line, such as in North Burlingame, along Rollins Road, and in Downtown. Potential mitigation strategies include installing air filters (MERV 13 or higher), building sound walls, and planting vegetation and trees as pollution buffers.	Establishes the City's commitment to reduce health risk exposure associated with TACs and PM _{2.5} through a plan-based community risk reduction strategy, which includes source reduction measures to reduce operational TAC and PM _{2.5} emissions.	(d) Expose sensitive receptors to substantial pollutant concentrations

Table 7-13: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Community Risk and Hazard Impacts

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
HP-3.4 Air Pollution Reduction	Support regional efforts to improve air quality, reduce auto use, expand infrastructure for alternative transportation, and reduce traffic congestion. Focus efforts to reduce truck idling to two minutes or fewer in industrial and warehouse districts along Rollins Road and the Inner Bayshore.	Establishes the City's commitment to work with agencies with regulatory authority over air quality at the Federal, State, and regional levels.	(d) Expose sensitive receptors to substantial pollutant concentrations
HP-3.7 Proximity to Sensitive Locations	Avoid locating stationary and mobile sources of air pollution near sensitive uses such as residences, schools, childcare facilities, healthcare facilities, and senior living facilities. Where adjacencies exist, include site planning and building features that minimize potential conflicts and impacts.	Establishes the City's commitment to avoid locating sources of hazardous pollutants near sensitive receptor locations.	(d) Expose sensitive receptors to substantial pollutant concentrations
HP-3.8: Proximity to Emission Sources	Avoid locating residential developments and other sensitive uses near significant pollution sources such as freeways and large stationary source emitters. Require Bay Area Air Quality Management District recommended procedures for air modeling and health risk assessment for new sensitive land uses located near sources of toxic air contaminants.	Establishes the City's commitment to avoid locating sensitive receptors near freeways and large stationary sources and to implement appropriate risk assessment procedures when necessary.	(d) Expose sensitive receptors to substantial pollutant concentrations
HP-3.9: Building Site Design and Operations	Place sensitive uses within development projects (e.g. residences, daycares, medical clinics) as far away from emission sources (including loading docks, busy roads, stationary sources) as possible. Design open space, commercial buildings, or parking garages between sensitive land uses and air pollution sources as a buffer. Locate operable windows, balconies, and building air intakes far away from emission sources.	Establishes the City's commitment to ensure mixed-use projects are designed to minimize potential risks from sources of air pollution.	(d) Expose sensitive receptors to substantial pollutant concentrations
HP-3.10: Truck Routes	Ensure projects that generate truck traffic and existing truck routes avoid sensitive land uses such as residences, schools, daycares, senior facilities, and residences.	Reduces potential sensitive receptor exposure to dust and exhaust emissions from truck travel.	(d) Expose sensitive receptors to substantial pollutant concentrations

As shown in Table 7-13, proposed General Plan Goal HP-3 and Policies HP-3.2 to HP-3.4 and HP-3.7 to HP-3.10 establish the overall goal and intent of the City to protect residents and employees from harmful pollutants, including TACs, by working with the community to reduce emissions, ensuring developers mitigate indoor air quality, and evaluating the location of new emissions sources and new receptors and implementing BAAQMD procedures for assessing health risks. Although the land use diagram does not identify overlay zones around existing sources of TAC emissions, the policies within the General Plan clearly state guidelines for projects and areas of the City where risks would be minimized. Therefore, the implementation of these policies would render potential adverse community risks and hazards both to and from future development projects a **less than significant impact**.

Impact 7-3: Odors. *Implementation of the Burlingame 2040 General Plan would result in new sensitive receptors that could be exposed to odors from existing or new industrial and commercial sources; however, the implementation of General Plan policies would ensure a substantial number of people are not exposed to objectionable odors. This would represent a **less than significant impact** (see criteria [e], in subsection 7.3.1, "Significance Criteria," above).*

According to the BAAQMD's CEQA Air Quality Guidelines land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). While odors do not present a health risk of themselves, they are often considered a nuisance by people who live, work, or otherwise are located near outdoor odor sources. The BAAQMD's CEQA Air Quality Guidelines identify a screening distance for one and two miles for food processing facilities and wastewater treatment plants, respectively. Projects located outside of these screening distances would most likely not be exposed to odors, while projects within these screening distances may be exposed to odors.

The Burlingame 2040 General Plan does not directly authorize any new potential odor sources within the City, but implementation of the General Plan would increase residential development within the City, including development that could be less than one mile from the City's existing wastewater treatment plant, and new retail, restaurant, and other commercial land uses permitted by the General Plan in mixed-use areas such as the Broadway, California Drive, and North Burlingame Mixed Use Areas.

Consistent with BAAQMD's CEQA Air Quality Guidelines, the proposed Burlingame 2040 General Plan would not result in a significant odor impact if it identifies the potential locations of odor sources and identifies goals, policies, and objectives to minimize potentially adverse odor impacts. Table 7-14 summarizes the proposed Burlingame 2040 General Plan goals and policies that address potential TAC emissions and associated with odors within the City.

Table 7-14: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Odors

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
Healthy People and Healthy Places Element			
Goal HP-3	Minimize exposure of residents and employees of local businesses to harmful air pollutants.	Establishes the City's commitment to work with agencies with regulatory authority over air quality at the regional level.	(e) Create objectionable odors that affect a substantial number of people
HP-3.2 Local Air Quality Standards	Work with local businesses, industries, and developers to reduce the impact of stationary and mobile sources of pollution. Ensure that new development does not create cumulative net increases in air pollution and require Transportation Demand Management Techniques (TDM) when air quality impacts are unavoidable.	Establishes the City's commitment to work with agencies to reduce stationary and other potential sources of odors.	(e) Create objectionable odors that affect a substantial number of people
HP-3.3 Indoor Air Quality Standards	Require that developers mitigate impacts on indoor air quality for new residential and commercial developments, particularly along higher density corridors, near industrial uses, along the freeway and rail line, such as in North Burlingame, along Rollins Road, and in Downtown. Potential mitigation strategies include installing air filters (MERV 13 or higher), building sound walls, and planting vegetation and trees as pollution buffers.	Establishes the City's commitment to mitigate air quality impacts	(e) Create objectionable odors that affect a substantial number of people
HP-3.7 Proximity to Sensitive Locations	Avoid locating stationary and mobile sources of air pollution near sensitive uses such as residences, schools, childcare facilities, healthcare facilities, and senior living facilities. Where adjacencies exist, include site planning and building features that minimize potential conflicts and impacts.	Establishes the City's commitment to avoid locating sources of hazardous pollutants near sensitive receptor locations.	(d) Expose sensitive receptors to substantial pollutant concentrations

Table 7-14: Existing Regulations and Proposed Burlingame General Plan Policies to Avoid or Reduce Impacts from Odors

Regulation/Policy	Description of Regulation/Policy	How Does It Avoid or Reduce Impact?	Applicable Significance Criteria
HP-3.8: Proximity to Emission Sources	Avoid locating residential developments and other sensitive uses near significant pollution sources such as freeways and large stationary source emitters. Require Bay Area Air Quality Management District recommended procedures for air modeling and health risk assessment for new sensitive land uses located near sources of toxic air contaminants.	Establishes the City's commitment to avoid locating sensitive receptors near freeways and large stationary sources and to implement appropriate risk assessment procedures when necessary.	(d) Expose sensitive receptors to substantial pollutant concentrations
HP-3.9: Building Site Design and Operations	Place sensitive uses within development projects (e.g. residences, daycares, medical clinics) as far away from emission sources (including loading docks, busy roads, stationary sources) as possible. Design open space, commercial buildings, or parking garages between sensitive land uses and air pollution sources as a buffer. Locate operable windows, balconies, and building air intakes far away from emission sources.	Establishes the City's commitment to ensure mixed-use projects are designed to minimize potential risks from sources of air pollution, including odors.	(d) Expose sensitive receptors to substantial pollutant concentrations

As shown in Table 7-14, proposed General Plan Goal HP-3 and Policies HP-3.2 to HP-3.4 and HP-3.7 to HP-3.10 establish the overall goal and intent of the City to protect residents and employees from harmful pollutants, including odors, by working with the community to reduce emissions, ensuring developers mitigate indoor air quality, and evaluating the location of new emissions sources and new receptors. The implementation of these policies would render potential odor impacts to and from future development projects a **less than significant impact**.