4.8 GREENHOUSE GAS EMISSIONS

This chapter of the Draft Environmental Impact Report (EIR) describes the potential impacts from greenhouse gas (GHG) emissions associated with the adoption and implementation of the proposed project. This chapter describes the regulatory framework and existing conditions, identifies criteria used to determine impact significance, provides an analysis of the potential impacts from GHG emissions, and identifies proposed General Plan 2050 goals, policies, and actions, as well as feasible mitigation measures, that would minimize any potentially significant impacts. The GHG emissions modeling prepared for the proposed GHG Reduction Strategy is included in Appendix B, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR.

Discussions regarding climate-related hazards, such as air quality, landslides, sea-level rise, flooding, drought, and wildfires are in Chapter 4.3, *Air Quality*; Chapter 4.7, *Geology and Soils*; Chapter 4.10, *Hydrology and Water Quality*; and Chapter 4.18, *Wildfire*, of this Draft EIR.

4.8.1 ENVIRONMENTAL SETTING

4.8.1.1 TERMINOLOGY

The following are definitions for terms used throughout this chapter:

- Greenhouse gases (GHG). Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- Global warming potential (GWP). Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO_2) over a given period (20, 100, and 500 years). CO_2 has a GWP of 1.
- Carbon dioxide-equivalent (CO_2e). The standard unit to measure the amount of GHGs in terms of the amount of CO_2 that would cause the same amount of warming. CO_2e is based on the GWP ratios between the various GHGs relative to CO_2.
- $MTCO_2e$. Metric ton of CO_2e.
- $MMTCO_2e$. Million metric tons of CO_2e.

4.8.1.2 GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO_2), methane (CH_4), and ozone (O_3)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contribute to global warming to a lesser extent are nitrous oxide (N_2O), sulfur hexafluoride (SF_6),

hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons.[1,2] The major GHGs are briefly described below.

- **Carbon dioxide (CO_2)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (i.e., sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH_4)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock, and other agricultural practices, and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N_2O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have a stronger greenhouse effect than others. These are referred to as high global warming potential (GWP) gases. The GWP of applicable GHG emissions are shown in Table 4.8-1, *Greenhouse Gas Emissions and Their Relative Global Warming Potential Compared to CO_2*. The GWP is used to convert GHGs to CO_2-equivalence (CO_2e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under IPCC's Fifth Assessment Report (AR5) GWP values for methane (CH_4), a project that generates 10 metric tons (MT) of CH_4 would be equivalent to 280 MT of CO_2.

TABLE 4.8-1 GREENHOUSE GAS EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO_2

GHGs	Fourth Assessment Report (AR4) Global Warming Potential Relative to CO_2 [a]	Fifth Assessment Report (AR5) Global Warming Potential Relative to CO_2 [a]	Sixth Assessment Report (AR6) Global Warming Potential Relative to CO_2 [a]
Carbon Dioxide (CO_2)	1	1	1
Methane (CH_4) [b]	25	28	30
Nitrous Oxide (N_2O)	298	265	273

Notes: The IPCC published updated GWP values in its Sixth Assessment Report (AR6) that reflects the latest information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, GWP values identified in AR5 are used by the 2022 Scoping Plan for long-term emissions forecasting. Therefore, this analysis utilizes AR5 GWP values consistent with the current Scoping Plan.
a. Based on 100-year time horizon of the GWP of the air pollutant compared to CO_2.
b. The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.
Sources: Intergovernmental Panel on Climate Change, 2007, *Fourth Assessment Report: Climate Change 2007*; Intergovernmental Panel on Climate Change, 2013, *Fifth Assessment Report: Climate Change 2013*; IPCC 2021, *Sixth Assessment Report: Climate Change 2022*.

[1] Water vapor (H_2O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant, but part of the feedback loop rather than a primary cause of change.

[2] Black carbon contributes to climate change directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter emitted from burning fuels such as coal, diesel, and biomass. The share of black carbon emissions from transportation is dropping and is expected to continue to do so between now and 2030 as a result of California's air quality programs. The remaining black carbon emissions come largely from woodstoves/fireplaces, off-road applications, and industrial/commercial combustion. However, state and national GHG inventories do not include black carbon due to work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities.

The recent Sixth Assessment Report (AR6) of the IPCC summarizes the latest scientific consensus on climate change. It finds that atmospheric concentrations of CO_2 have increased by 50 percent since the industrial revolution and continue to increase at a rate of two parts per million each year. By the 2030s, and no later than 2040, the world will exceed 1.5 degrees Celsius (°C) warming.[3] These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants.[4] In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. Human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime.[5]

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily upon future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty—for example, on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in frequency of warm spells/heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

[3] California Air Resources Board, 2022 Scoping Plan for Achieving Carbon Neutrality, https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf, accessed July 24, 2023.

[4] California Environmental Protection Agency, Climate Action Team, March 2006, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, http://s3-us-west-2.amazonaws.com/ucldc-nuxeo-ref-media/0bdec21c-ca2b-4f4d-9e11-35935ac4cf5f, accessed July 24, 2023.

[5] Intergovernmental Panel on Climate Change, 2007, *Fourth Assessment Report: Climate Change 2007, Impacts, Adaptation and Vulnerability,* https://www.ipcc.ch/site/assets/uploads/2018/03/ar4_wg2_full_report.pdf, accessed July 24, 2023.

Potential Climate Change Impacts for California

There is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low GHG emissions scenario.[6] Climate change is already impacting California and will continue to affect it for the foreseeable future. For example, the average temperature in most areas of California is already 1 degree Fahrenheit (°F) higher than historical levels, and some areas have seen average increases in excess of 2°F.[7] The California Fourth Climate Change Assessment identifies the following climate change impacts under a business-as-usual scenario:

- Annual average daily high temperatures in California are expected to rise by 2.7°F by 2040, 5.8°F by 2070, and 8.8°F by 2100 compared to observed and modeled historical conditions. These changes are statewide averages. Heat waves are projected to become longer, more intense, and more frequent.
- Warming temperatures are expected to increase soil moisture loss and lead to drier seasonal conditions. Summer dryness may become prolonged, with soil drying beginning earlier in the spring and lasting longer into the fall and winter rainy season.
- High heat increases the risk of death from cardiovascular, respiratory, and other diseases.
- Droughts are likely to become more frequent and persistent.
- Climate change is projected to increase the strength of the most intense precipitation and storm events affecting California.
- Mountain ranges in California are already seeing a reduction in the percentage of precipitation falling as snow. Snowpack levels are projected to decline significantly by 2100 due to reduced snowfall and faster snowmelt. California's water storage system is designed with the expectation that snow will stay frozen for many months, and that as it melts, it will be stored in a series of reservoirs and dams, many of which are used to generate electricity. Changing waterfall patterns therefore impact both water supply and electricity supply.
- Marine layer clouds are projected to decrease, though more research is needed to better understand their sensitivity to climate change.
- Extreme wildfires (i.e., fires larger than 10,000 hectares or 24,710 acres) would occur 50 percent more frequently. The maximum area burned statewide may increase 178 percent by the end of the century. Drought and reduced water supplies can increase wildfire risk.
- Exposure to wildfire smoke is linked to increased incidence of respiratory illness.
- Sea level rise is expected to continue to increase erosion of beaches, cliffs, and bluffs.[8]

[6] Intergovernmental Panel on Climate Change, 2021, *Sixth Assessment Report: Climate Change 2022*, https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf, accessed July 24, 2023.

[7] California Office of Emergency Services, June 2020, *California Adaptation Planning Guide*, https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf, accessed July 24, 2023.

[8] California Office of Emergency Services, June 2020, *California Adaptation Planning Guide*, https://www.caloes.ca.gov/HazardMitigationSite/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf, accessed July 24, 2023.

Table 4.8-2, *Summary of Greenhouse Gas Emissions Risk to California*, shows the global climate change risks to California, which includes impacts public health, water resources, agriculture, coastal sea level, forest and biological resources, energy, and wildfire.

TABLE 4.8-2 SUMMARY OF GREENHOUSE GAS EMISSIONS RISK TO CALIFORNIA

Impact Category	Potential Risks
Public Health	Heat waves will be more frequent, hotter, and longer Poor air quality made worse Higher temperatures increase ground-level ozone (i.e., smog) levels
Water Resource	Decreasing Sierra Nevada snow pack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea Level	Accelerated sea level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pest and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand	Potential reduction in hydropower Increased energy demand
Wildfire	Earlier snowmelt, higher temperatures, and longer dry periods over a longer fire season will directly increase wildfire risk. Indirectly, wildfire risk will also be influenced by potential climate-related changes in vegetation and ignition potential from lightning. Human activities will continue to be the biggest factor in ignition risk. The number of large fires statewide is estimated to increase by 58 percent to 128 percent above historical levels by 2085. Under the same emissions scenario, estimated burned area will increase by 57 percent to 169 percent, depending on location.

Sources: California Climate Change Center, July 2012, *Our Changing Climate 2012, Vulnerability and Adaptation to the Increasing Risks from Climate Change in California;* Climate Change Center, July 2006, *Our Changing Climate, Assessing the Risks to California*; Climate Change Center, May 2009, *The Future Is Now: An Update on Climate Change Science, Impacts, and Response Options for California;* California Natural Resources Agency, July 2014, *Safeguarding California: Reducing Climate Risk, An Update to the 2009 California Climate Adaptation Strategy;* California Office of Emergency Services, June 2020, *California Adaptation Planning Guide; California Council on Science and Technology, September 2012, California's Energy Future: Portraits of Energy Systems for Meeting Greenhouse Gas Reduction Targets, https://ccst.us/wp-content/uploads/2012ghg.pdf, accessed July 24, 2023*

4.8.1.3 REGULATORY FRAMEWORK

Federal Regulations

The United States Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not impose any emission reduction requirements but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.[9]

To regulate GHGs from passenger vehicles, the EPA was required to issue an endangerment finding. The finding identified emissions of six key GHGs—CO_2, CH_4, N_2O, hydrofluorocarbons, perfluorocarbons, and SF_6—that have been the subject of scrutiny and intense analysis for decades by scientists around the world. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, according to guidance by the Bay Area Air Quality Management District (BAAQMD), are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

United States Mandatory Report Rule for GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO_2e per year are required to submit an annual report.

Update to Corporate Average Fuel Economy Standards (2017 to 2026)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon (MPG) in 2025. However, on March 30, 2020, the EPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 MPG for model year 2026 vehicles (85 Federal Register 24174 (April 30, 2020)).

[9] United States Environmental Protection Agency, December 2009, EPA: Greenhouse Gases Threaten Public Health and the Environment. Science overwhelmingly shows greenhouse gas concentrations at unprecedented levels due to human activity, https://archive.epa.gov/epapages/newsroom_archive/newsreleases/08d11a451131bca585257685005bf252.html, accessed July 24, 2023.

On December 21, 2021, under the direction of Executive Order (EO) 13990, the National Highway Traffic Safety Administration repealed SAFE Vehicles Rule Part One, which had preempted state and local laws related to fuel economy standards. In addition, the National Highway Traffic Safety Administration announced new proposed fuel standards on March 31, 2022. Fuel efficiency under the new standards proposed will increase 8 percent annually for model years 2024 to 2025 and 10 percent annual for model year 2026. Overall, the new CAFE standards require a fleet average of 49 MPG for passenger vehicles and light trucks for model year 2026, which would be a 10 MPG increase relative to model year 2021.[10]

State Regulations

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in EO S-03-05, EO B-30-15, EO B-55-18, Assembly Bill (AB) 32, AB 1279, Senate Bill (SB) 32, and SB 375.

Executive Order S-03-05

EO S-03-05 was signed June 1, 2005, and set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Global Warming Solutions Act (2006)

The Global Warming Solutions Act, commonly known by its legislative bill number AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. This Act follows the 2020 tier of emissions reduction targets established in EO S-03-05. The California Air Resources Board (CARB) prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of this Act.

Executive Order B-30-15

EO B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. EO B-30-15 also directed CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires State agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in EO S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, *Safeguarding California*, in order to ensure climate change is accounted for in state planning and investment decisions.

[10] National Highway Traffic Safety Administration, April 1, 2022, USDOT Announces New Vehicle Fuel Economy Standards for Model year 2024-2026, https://www.nhtsa.gov/press-releases/usdot-announces-new-vehicle-fuel-economy-standards-model-year-2024-2026, accessed July 24, 2023.

Senate Bill 32 and Assembly Bill 197

In September 2016, SB 32 and AB 197 were signed into law, making the executive order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

Executive Order B-55-18

EO B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." EO B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

2022 Climate Change Scoping Plan Update

CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) on December 15, 2022, which lays out a path to achieve carbon neutrality by 2045 or earlier and to reduce the State's anthropogenic GHG emissions.[11] The Scoping Plan was updated to address the carbon neutrality goals of EO B-55-18 (discussed below) and the ambitious GHG reduction target as directed by AB 1279. Previous Scoping Plans focused on specific GHG reduction targets for our industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. This plan expands upon earlier Scoping Plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. Carbon neutrality takes it one step further by expanding actions to capture and store carbon including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic sources of carbon pollution at the same time. The path forward was informed by the recent AR6 of the IPCC and the measures would achieve 85 percent below 1990 levels by 2045 in accordance AB 1279. CARB's 2022 Scoping Plan identifies strategies as shown in Table 4.8-3, *Priority Strategies for Local Government Climate Action Plans*, that would be most impactful at the local level for ensuring substantial process towards the State's carbon neutrality goals.

[11] California Air Resources Board, December 2022, *2022 Scoping Plan for Achieving Carbon Neutrality*, https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf, accessed July 24, 2023.

TABLE 4.8-3 PRIORITY STRATEGIES FOR LOCAL GOVERNMENT CLIMATE ACTION PLANS

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV) and provide electric vehicle (EV) charging at public sites.
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans).
Vehicle Miles Traveled (VMT) Reduction	Reduce or eliminate minimum parking standards.
	Implement Complete Streets policies and investments, consistent with general plan circulation element requirements.
	Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating fares, microtransit, etc.
	Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking.
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing allowable density of the neighborhood).
	Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements)
Building Decarbonization	Adopt all-electric new construction reach codes for residential and commercial uses.
	Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers).
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances.
	Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing)
	Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings).

Source: California Air Resources Board, December 2022, *2022 Scoping Plan for Achieving Carbon Neutrality*, accessed July 24, 2023, https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf.

For residential and mixed-use development projects, CARB recommends this first approach to demonstrate that these land use development projects are aligned with State climate goals based on the attributes of land use development that reduce operational GHG emissions while simultaneously advancing fair housing. Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 have all the following attributes:

- Transportation Electrification
  - Provide EV charging infrastructure that, at a minimum, meets the most ambitious voluntary standards in the California Green Building Standards Code at the time of project approval.

- Vehicle Miles Traveled (VMT) Reduction
  - Is located on infill sites that are surrounded by existing urban uses and reuses or redevelops previously undeveloped or underutilized land that is presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
  - Does not result in the loss or conversion of the State's natural and working lands;
  - Consists of transit-supportive densities (minimum of 20 residential dwelling units/acre), or is in proximity to existing transit stops (within a half mile), or satisfies more detailed and stringent criteria specified in the region's Sustainable Communities Strategy (SCS);
  - Reduces parking requirements by:
    - Eliminating parking requirements or including maximum allowable parking ratios (i.e., the ratio of parking spaces to residential units or square feet); or
    - Providing residential parking supply at a ratio of <1 parking space per dwelling unit; or
    - For multifamily residential development, requiring parking costs to be unbundled from costs to rent or own a residential unit.
  - At least 20 percent of the units are affordable to lower-income residents;
  - Result in no net loss of existing affordable units.
- Building Decarbonization
  - Use all electric appliances without any natural gas connections and does not use propane or other fossil fuels for space heating, water heating, or indoor cooking.

The second approach to project-level alignment with State climate goals is net zero GHG emissions. The third approach to demonstrating project-level alignment with State climate goals is to align with GHG thresholds of significance, which many local air quality management and air pollution control districts have developed or adopted.[12]

Assembly Bill 1279

Assembly Bill 1279, signed in September 2022, codified the carbon neutrality targets of EO B-55-18 for year 2045 and sets a new legislative target for year 2045 of 85 percent below 1990 levels for anthropogenic GHG emissions. CARB will be required to update the scoping plan to identify and recommend measures to achieve the net-zero and GHG emissions-reduction goals.

Sustainable Communities and Climate Protection Act

The Sustainable Communities and Climate Protection Act, commonly known by its legislative bill number SB 375, was adopted in 2008 to connect the GHG emissions reduction targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with

[12] California Air Resources Board, December 2022, *2022 Scoping Plan for Achieving Carbon Neutrality*, https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf, accessed July 24, 2023.

goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, this Act required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPO). Metropolitan Transportation Commission (MTC) is the MPO for the Bay region, which includes Napa, Marin, San Francisco, and Contra Costa counties. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018, which became effective in October 2018. CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018, are subject to these new targets. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated Sustainable Communities and Climate Protection Act (SB 375) targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks compared to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from Sustainable Communities and Climate Protection Act (SB 375) than are currently in place, which for 2035 translates into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted SCS. As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 $MMTCO_2e$ in 2035 compared to the current targets.[13]

Transportation Sector Specific Regulations

Assembly Bill 1493 (Pavley Law)

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles. (See also the previous discussion of federal regulations under subheading "Update to Corporate Average Fuel Economy Standards [2017 to 2026].")

[13] California Air Resources Board, February 2018, *Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets*, https://ww2.arb.ca.gov/sites/default/files/2020-06/SB375_Updated_Final_Target_Staff_Report_2018.pdf, accessed July 24, 2023.

In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles (ZEV) into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions.

Advanced Clean Fleets and Advanced Clean Trucks

In April 2023, CARB adopted the Advanced Clean Cars II rule, which requires all new passenger vehicles, trucks, and SUVs sold in California to be zero emissions by 2035. The regulation amends the Zero-Emission Vehicle Regulation to require an increasing number of ZEVs to support Governor Newsom's 2020 EO N-79-20 and amends the Low-Emission Vehicle Regulations to include increasingly stringent standards for gasoline cars and heavier passenger trucks to continue to reduce smog-forming emissions. This rule will substantially reduce air pollutants that threaten public health and would further develop the ZEV market starting with the 2026 model year.

In April 2023, CARB approved the Advanced Clean Fleets, which requires a phased-in transition toward zero-emission medium-and-heavy duty vehicles. Under the new rule, fleet owners operating vehicles for private services (such as Postal Service, state and local government fleets) will begin their transition toward ZEVs starting in 2024. The rule also requires an end to combustion truck sales in 2036 and follows the 2020 adoption of the Advanced Clean Trucks rule, which put in place a requirement for manufacturers to increase the sale of zero-emission trucks.

Executive Order S-01-07

On January 18, 2007, the state set a new Low-Carbon Fuel Standard (LCFS) for transportation fuels sold in the state. EO S 01 07 set a declining standard for GHG emissions measured in CO_2e gram per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applied to refiners, blenders, producers, and importers of transportation fuels, and used market-based mechanisms to allow these providers to choose the most economically feasible methods for reducing emissions during the "fuel cycle."

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZEVs in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle (EV) charging stations). EO B 16-2012 also directed the number of ZEVs in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are zero emission by 2015 and at least 25 percent by 2020. The executive order also established a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

Executive Order N-79-20

On September 23, 2020, EO N-79-20 was signed into law. The goal of this EO is for 100 percent of in-state sales of new passenger cars and trucks to be zero emission by 2035. Additionally, the fleet goals for trucks are for 100 percent of drayage trucks to be zero emission by 2035, and 100 percent of medium- and heavy-duty vehicles in the state to be zero emission by 2045, where feasible. The EO's goal for the state is to transition to 100 percent zero-emission off-road vehicles and equipment by 2035, where feasible.

Renewables Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, and X1-2 and Executive Order S 14 08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under SB 1078 (Sher) and SB 107 (Simitian). Under the Renewable Portfolio Standards (RPS), certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. EO S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production decreases indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Clean Energy and Pollution Reduction Act

The Clean Energy and Pollution Reduction Act, commonly known by its legislative bill number SB 350, was enacted on October 7, 2015. This Act establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. This Act also sets a new goal to double energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, SB 100 was signed into law to replace the Clean Energy and Pollution Reduction Act (SB 350) requirements. Under SB 100, the RPS for public-owned facilities and retail sellers consists of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

The Clean Energy, Jobs, and Affordability Act Of 2022

The Clean Energy, Jobs, and Affordability Act Of 2022, commonly known as its legislative bill number SB 1020 was signed into law on September 16, 2022. SB 1020 provides interim RPS targets (90 percent renewable energy by 2035 and 95 percent renewable energy by 2040) and requires renewable energy and zero-carbon resources to reach 100 percent clean electricity by 2045.

Energy Efficiency Regulations

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for the consideration and possible incorporation of new energy efficiency technologies and methods.

The 2022 Building Energy Efficiency Standards were adopted on August 11, 2021, and went into effect on January 1, 2023. The 2022 standards encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, strengthen ventilation standards, and more. The 2022 standards require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers.[14]

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2022. The 2022 CALGreen standards became effective on January 1, 2023.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated

[14] California Energy Commission, May 19, 2021, Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report, CEC-400-2021-077-D.

appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Diversion Regulations

Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code Section 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the Act requires that each city and county prepare and submit a source reduction and recycling element. This Act also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code Section 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October of 2014, AB 1826 was signed into law requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.

Water Efficiency Regulations

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to SB 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed "SBX7-7." SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirement (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of a 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves, to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Reduction Strategy

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during the incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use. In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Regional Regulations

Sonoma County Transportation Authority

The Sonoma County Transportation Authority (SCTA) is the congestion management agency for Sonoma County. SCTA is tasked with developing a comprehensive transportation improvement program among local jurisdictions that will reduce traffic congestion and improve land use decision-making and air quality. SCTA's latest congestion management program is the 2016 Comprehensive Transportation Plan (CTP).

SCTA's countywide transportation model must be consistent with the regional transportation model developed by the MTC with Association of Bay Area Governments (ABAG) data. The countywide transportation model is used to help evaluate cumulative transportation impacts of local land use decisions on the congestion management program system. In addition, SCTA's updated CTP includes multimodal performance standards and trip reduction and transportation demand management strategies consistent with the goal of reducing regional VMT in accordance with SB 375.

As part of the implementing framework for the CTP, communities in Sonoma County have identified Priority Development Areas (PDA) to focus future population and employment growth. Increased density in PDAs is intended to locate more people near jobs and services in an effort to reduce travel and transportation related GHG emissions.[15]

Plan Bay Area

As described in Chapter 4.0, *Environmental Analysis*, of this Draft EIR, MTC and ABAG adopted *Plan Bay Area* 2050 on October 21, 2021.[16] *Plan Bay Area* provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of Sustainable Communities and Climate Protection Act (SB 375). Under the *Plan Bay Area* strategies, just under half of all Bay Area households would live within 0.5 miles of frequent transit by 2050. Transportation and environmental strategies that support active and shared modes, combined with a transit-supportive land use pattern, are forecast to lower the share of Bay Area residents that drive to work alone from over 50 percent in 2015 to 36 percent in 2050. GHG emissions from transportation would decrease significantly as a result of these transportation and land use changes, and the Bay Area would meet the state mandate of a 19 percent reduction in per-capita emissions by 2035—but only if all strategies are implemented.[17]

As described in Chapter 4.0 of this Draft EIR, to achieve *Plan Bay Area*'s sustainable vision for the Bay Area, the *Plan Bay Area* land use concept plan for the region concentrates the majority of new population and employment growth in the region in PDAs[18] and Transit Priority Areas (TPAs).[19] Development in PDAs and TPAs leverage existing infrastructure and therefore can minimize development in green field (undeveloped) areas and maximize growth in transit-rich communities to help lower VMT and consequently reduce GHG emissions, air quality pollutants, and noise from vehicles with internal combustion engines dependent on fossil fuels and reduce wasteful, inefficient, or unnecessary consumption of energy resources. As shown on Figure 4-1, *Priority Development Areas and Transit Priority Areas*, in Chapter 4.0 of this Draft EIR, the EIR Study Area has six PDAs and three TPAs—the Mendocino Avenue/Santa Rosa Avenue Corridor PDA, North Santa Rosa Station PDA and TPA, Downtown Station Area

[15] Sonoma County Transportation Authority, September 2016, *Moving Forward 2040: Sonoma County's Comprehensive Transportation Plan*, https://scta.ca.gov/wp-content/uploads/2016/09/CTP16_090616.pdf, accessed August 24, 2023.

[16] Association of Bay Area Governments and Metropolitan Transportation Commission, October 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed July 21, 2023.

[17] Association of Bay Area Governments and the Metropolitan Transportation Commission, 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed August 24, 2023.

[18] PDAs are transit-oriented, infill development opportunity areas within existing communities.

[19] TPAs are half-mile buffers surrounding major transit stops or terminals.

PDA and TPA, Sebastopol Road Corridor PDA, Roseland PDA, Santa Rosa Avenue PDA, and Santa Rosa Transit Mall TPA.

Bay Area Clean Air Plan

BAAQMD adopted the 2017 *Clean Air Plan, Spare the Air, Cool the Climate* (2017 Clean Air Plan) on April 19, 2017. The 2017 Clean Air Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the state's 2030 GHG reduction target and 2050 GHG reduction goal. It also includes a vision for the Bay Area in a post-carbon year 2050 that encompasses the following:

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.[20]

A comprehensive multipollutant control strategy has been developed to be implemented in the next 3 to 5 years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, toxic air contaminants, and GHG from a full range of emission sources. These control measures cover the following sectors: 1) stationary (industrial) sources; 2) transportation; 3) energy; 4) agriculture; 5) natural and working lands; 6) waste management; 7) water; and 8) super-GHG pollutants. Overall, the proposed control strategy is based on the following key priorities:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of "super-GHGs" such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
  - Increase efficiency of the energy and transportation systems.
  - Reduce demand for vehicle travel, and high-carbon goods and services.
- Decarbonize the energy system.
  - Make the electricity supply carbon-free.
  - Electrify the transportation and building sectors.

Bay Area Commuter Benefits Program

Under BAAQMD Regulation 14, *Model Source Emissions Reduction Measures*, Rule 1, *Bay Area Commuter Benefits Program*, employers with 50 or more full-time employees within the BAAQMD are required to register and offer commuter benefits to employees. In partnership with the BAAQMD and the MTC, the rule's purpose is to improve air quality, reduce GHG emissions, and decrease the Bay Area's traffic congestion by encouraging employees to use alternative commute modes, such as transit, vanpool, carpool, bicycling, and walking. The benefits program allows employees to choose from one of four

[20] Bay Area Air Quality Management District, 2017, *Spare the Air: Cool the Climate, Final 2017 Clean Air Plan*, https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed July 24, 2023.

commuter benefit options including a pre-tax benefit, employer-provided subsidy, employer-provided transit, and alternative commute benefit.

Local Regulations

Santa Rosa City Code

The Santa Rosa Municipal Code (SRCC) includes various directives pertaining to GHG emissions. The SRCC is organized by title, chapter, and section, and in some cases, articles. Most provisions related to GHG emissions are in Title 18, *Building Regulations,* as follows:

- Title 18, *Buildings and Construction.* This title adopts by reference, with the additions, insertions, deletions, and changes listed throughout, the California Green Building Standards Code in Chapter 18-42, *California Green Building Standards Code*. This title also includes Chapter 18-68, *Expedited Permit Process for Small Residential Rooftop Solar Energy Systems,* which provides for an expedited, streamlined solar permitting process that complies with the Solar Rights Act and AB 2188 in order to achieve timely and cost-effective installations of small residential rooftop solar energy systems.

4.8.1.4 EXISTING CONDITIONS

Community-Wide GHG Emissions Inventory

The City's community-wide GHG emissions inventory conducted for the proposed GHG Reduction Strategy (see Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR, and Appendix A, *Greenhouse Gas Reduction Strategy*, of the proposed General Plan 2050) includes the following sectors:

- Transportation. GHG emissions created by driving on-road vehicles, including passenger and freight vehicles, in Santa Rosa. In the 2019 inventory, this sector also includes emissions from fuel use on Sonoma-Marin Area Rail Transit (SMART) trains.
- Residential energy. GHG emissions are attributed to the use of electricity and natural gas in residential buildings.
- Nonresidential energy. GHG emissions are attributed to the use of electricity and natural gas in nonresidential buildings.
- Solid waste. GHG emissions released from trash collected from residents and businesses in Santa Rosa.
- Off-road equipment. GHG emissions from equipment that does not provide on-road transportation, such as tractors for construction or equipment used for landscape maintenance.
- Agriculture. GHG emissions from fertilizer used for crop cultivation.
- Water and wastewater. This sector accounts for the electricity used to process and transport from the water used by and the wastewater generated from city community members, as well as direct emissions from processing wastewater.

- **Land use and sequestration.** Emissions released into the atmosphere from development of previously undeveloped land and GHG emissions absorbed and stored in trees and soils on locally controlled lands as part of healthy ecosystems.
- **Stationary sources.** Emissions from fuel use at major industrial facilities permitted by state and regional air quality authorities. Stationary source emissions are informational and are not included in the community total.
- **Wildfire and controlled burns.** Emissions released by wildfires and controlled burns.

Industrial sources of emissions that require a permit to operate from BAAQMD are not included in the community inventory. However, due to the 15/15 Rule,[21] natural gas and electricity use data for industrial land uses may also be aggregated with the nonresidential land uses in the data provided by Pacific Gas & Energy (PG&E) and Sonoma Clean Power (SCP). Life-cycle emissions are not included in this analysis because not enough information is available for the proposed project, and therefore, would be speculative. Black carbon emissions are not included in the GHG analysis because CARB does not include this short-lived climate pollutant in the state's GHG emissions inventory but treats it separately.

GHG Emissions Factors

Table 4.8-4, *Existing Greenhouse Gas Emission Factors,* shows the emissions factors for the baseline year. Some sectors, including agriculture and off-road emissions, are calculated using formulae or models and do not have specific emission factors.

TABLE 4.8-4 EXISTING GREENHOUSE GAS EMISSIONS FACTORS

Emissions Sector	Unit	Baseline Year Rate	Source
On-road transportation (light and medium-duty vehicles)	$MTCO_2e$/ mile	0.000347	California Air Resources Board
On-road transportation (heavy-duty vehicles)	$MTCO_2e$/ mile	0.001124	California Air Resources Board
On-road transportation (all vehicles)	$MTCO_2e$/ mile	0.00044	California Air Resources Board
PG&E electricity	$MTCO_2e$/ kWh	2.65062E-05	PG&E
SCP electricity (CleanStart)	$MTCO_2e$/ kWh	1.87125E-05	SCP
SCP electricity (EverGreen)	$MTCO_2e$/ kWh	1.75747E-05	SCP
Direct access electricity	$MTCO_2e$/ kWh	0.0004	California Energy Commission
Natural gas	$MTCO_2e$/ therm	0.0053	US Community Protocol
Municipal Solid Waste (MSW)	$MTCO_2e$/ ton	0.2779	CalRecycle
Alternative Daily Cover (ADC)	$MTCO_2e$/ ton	0.2419	CalRecycle

Source: Based on the emissions inventory and forecast being conducted for the City's GHG Reduction Strategy Plan, 2024. See Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR, and Appendix A, *Greenhouse Gas Reduction Strategy*, of the proposed General Plan 2050.

[21] The 15/15 Rule was adopted by the California Public Utility Commission in the Direct Access Proceeding (CPUC Decision 97-10-031) to protect customer confidentiality. The 15/15 Rule requires that any aggregated information provided by the utilities must be made up of at least 15 customers (100 for residential sectors) and a single customer's load must be less than 15 percent of an assigned category.

Community Emissions

Emissions associated with the EIR Study Area are shown in Table 4.8-5, *Existing Greenhouse Gas Emissions Inventory in the EIR Study Area.*

TABLE 4.8-5 EXISTING GREENHOUSE GAS EMISSIONS INVENTORY IN THE EIR STUDY AREA

Emissions Sector	Existing $MTCO_2e$	% of Total
On-Road Transportation	541,140	58%
Nonresidential Energy	162,400	17%
Residential Energy	158,340	17%
Off-road Equipment	40,570	4%
Solid Waste/Landfills	33,630	4%
Water and Wastewater	5,510	1%
Agriculture	280	<1%
Land Use and Sequestration	-13,060	-1%
Total Community Emissions	**928,810**	**100%**
Service Population (SP)	**275,569**	--
$MTCO_2e$/SP	3.4	--
Stationary Sources [a]	12,400	--

Source: Based on the emissions inventory and forecast being conducted for the City's GHG Reduction Strategy Plan, 2024. See Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR and Appendix A, *Greenhouse Gas Reduction Strategy*, of the proposed General Plan 2050.
Notes: All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows.
a. Stationary sources are not included in the community-wide GHG inventory total. They are provided as informational items.

The existing land uses in Santa Rosa consist of single-family and multi-family residences, recreation/parks, retail, office, commercial, industrial, and institutional uses. Operation of these land uses generates GHG emissions from natural gas used for energy, heating, and cooking; electricity usage; vehicle trips for employees and residents; area sources such as landscaping and agricultural equipment and consumer cleaning products; water demand; waste generation; and solid waste generation.[22]

4.8.2 STANDARDS OF SIGNIFICANCE

Implementation of the proposed project would result in a significant impact related to GHG emissions if it would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG emissions.
3. In combination with past, present, and reasonably foreseeable projects, result in cumulative GHG emission impacts in the area.

[22] Emissions from water demand and wastewater are emissions associated with electricity used to supply, treat, and distribute water.

4.8.2.1 GREENHOUSE GAS EMISSION IMPACTS

BAAQMD's 2022 *CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* (GHG Justification Report) contains instructions on how to evaluate, measure, and mitigate GHG impacts generated from land use development projects and plans. For purposes of this analysis, the City of Santa Rosa is using BAAQMD's current GHG plan-level significance thresholds to evaluate the proposed project's potential impacts related to GHG emissions.

BAAQMD, in its GHG Justification Report, recommends the use of one of two plan-level criteria to determine the GHG emission impact resulting from a proposed plan. If a proposed plan cannot demonstrate consistency with the BAAQMD-recommended Criterion A or Criterion B, that plan would result in a potentially significant impact related to GHG emissions.

A. The proposed plan must be consistent with a local GHG reduction strategy that meets the criteria under California Environmental Quality Act (CEQA) Guidelines Section 15183.5(b); or
B. The proposed plan must meet the State's goals to reduce emissions to 40 percent below 1990 levels by 2030 and carbon neutrality by 2045.

The proposed project includes the proposed GHG Reduction Strategy which is an update to the City's current Santa Rosa Community-wide Climate Action Plan (CCAP) adopted on June 5, 2012. The proposed GHG Reduction Strategy demonstrates consistency with the latest legislative reduction target established by SB 32 for year 2030 and AB 1279 for year 2045. Therefore, Criterion A and B are used herein to determine the proposed project's GHG emissions impacts.

4.8.2.2 GREENHOUSE GAS PLAN CONSISTENCY

To determine whether the proposed project is consistent with the applicable plan or policy adopted for the purpose of reducing GHG emissions, the proposed project is analyzed for consistency with applicable policies contained in the State's Scoping Plan and *Plan Bay Area*. It should be noted that the proposed project builds on the City's proposed GHG Reduction Strategy's emission reduction objectives, emissions inventory, and forecast to align with current legislative reduction targets established by SB 32 and AB 1279.

4.8.3 IMPACT DISCUSSION

GHG-1	**Implementation of the proposed project would not generate GHG, either directly or indirectly, that may have a significant impact on the environment.**

Future potential development over the buildout horizon of the proposed project would contribute to global climate change through direct and indirect emissions of GHGs from land uses within the EIR Study Area.

Forecast Emissions Compared to Existing Conditions

Potential buildout over the buildout horizon of the proposed project is not linked to a specific development time frame but is assumed over a 25-year project horizon through 2050. For purposes of evaluating if the proposed project would achieve State's GHG reduction goal for year 2030 (SB 32) and year 2045 (AB 1279), forecasted GHG emissions for year 2030, 2045, and 2050 are shown.

Table 4.8-6, *EIR Study Area GHG Emissions Business-as-Usual Forecast*, provides a comparison of the change in GHG emissions in the EIR Study Area between the CEQA baseline (2019), year 2030, year 2045, and the proposed General Plan 2050 horizon year (2050) conditions. As shown in Table 4.8-6, the increase in residential units and population associated with the proposed General Plan 2050 results in an increase in on-road transportation, residential and nonresidential building energy use, solid waste, off-road equipment, water and wastewater, and agriculture.

Table 4.8-6 accounts for reductions from State measures that have been adopted to reduce GHG emissions, including:

- The RPS requires increases in renewable electricity supplies.
- The Clean Car Standards require increased fuel efficiency of on-road vehicles and decreased carbon intensity of vehicle fuels.
- The updated Title 24 Building Energy Efficiency Standards require new buildings to achieve increased energy efficiency targets.
- The LCFS mandates reduced carbon intensity of fuels used in off-road equipment.
- The short-lived climate pollutants law (SB 1383) proposes a comprehensive strategy to reduce methane and other emissions of short-lived GHGs through regulations on dairy operations and urban landfills, including higher diversion rates of food waste from landfills.

After accounting for reductions from State and regional actions, projected development in the years 2030, 2045, and 2050 would result in a net increase of 45,260 $MTCO_2e$, 106,960 $MTCO_2e$, and 127,580 $MTCO_2e$ GHG emissions from existing conditions, respectively. The primary reason for the overall increase in community-wide GHG emissions is mainly due to the net increase in service population of 28,335 people at year 2030, 66,976 people at year 2045 and 79,856 people at year 2050. Without additional local GHG reduction strategies, the EIR Study Area would not achieve consistency with the GHG reduction goals of SB 32 (i.e., 40 percent reduction below 1990 levels by 2030) and AB 1279 (i.e., 85 percent reduction below 1990 levels by 2045).

TABLE 4.8-6 EIR STUDY AREA GHG EMISSIONS BUSINESS-AS-USUAL FORECAST

	GHG Emissions ($MTCO_2e$/Year)						
Emissions Sector	Baseline	Year 2030	Net Change 2030 from Baseline	Year 2045	Net Change 2045 from Baseline	Year 2050	Net Change 2050 from Baseline
On-Road Transportation	541,140	549,620	8,480	561,180	20,040	565,020	23,880
Nonresidential Energy	162,400	168,310	5,910	176,380	13,980	179,080	16,680
Residential Energy	158,340	176,180	17,840	200,520	42,180	208,620	50,280
Off-road Equipment	40,570	51,300	10,730	63,400	22,830	67,490	26,920
Solid Waste	33,630	37,090	3,460	41,810	8,180	43,380	9,750
Water and Wastewater	5,510	5,550	40	5,540	30	5,540	30
Agriculture	280	180	-100	50	-230	10	-270
Land Use and Sequestration	-13,060	-14,160	-1,100	-13,110	-50	-12,750	310
Total Community Emissions (BAU)	**928,810**	**974,070**	**45,260**	**1,035,770**	**106,960**	**1,056,390**	**127,580**
Reductions from State and Regional Actions	—	**-170,570**	—	**-344,240**	—	**-363,680**	—
Total Community Emissions (with Existing State Actions)	—	**803,500**	—	**691,530**	—	**692,710**	—
SB 32 (2030) and AB 1279 (2045) Target	—	669,420	—	167,350	—	167,350	—
Target achieved?	—	**No**	—	**No**	—	**No**	—

Source: Based on the emissions inventory and forecast being conducted for the City's GHG Reduction Strategy, 2024. See Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR and Appendix A, *Greenhouse Gas Reduction Strategy*, of the proposed General Plan 2050.
Notes: BAU = business as usual; estimates do not incorporate any emission reductions from statewide or GHG reduction measures.

Local GHG Reduction Measures

The proposed General Plan 2050 directs implementation of the proposed GHG Reduction Strategy. The proposed GHG Reduction Strategy is an update to and replacement of the City's 2012 CCAP. Like the previous 2012 CCAP, the integrated GHG Reduction Strategy includes GHG reduction measures and implementation programs based on the City's ongoing implementation of the 2012 CCAP, an updated GHG emissions inventory, and projections of future GHG emissions. The GHG emissions impact of the following existing actions have been quantified in the EIR Study Area:

- Participation in SCP. The City of Santa Rosa is a participant in SCP, a community choice electricity provider that provides higher levels of renewable energy than PG&E. In 2019, SCP provided approximately 86 percent of Santa Rosa's residential and 90 percent of its nonresidential electricity, excluding direct access electricity.
- Solar system installations. Since 2019, approximately 4,500 residential and 80 commercial solar systems have been installed in Santa Rosa.
- Micromobility programs. Between July 2022 and June 2023, the City's Bird Scooter program provided nearly 9,000 scooter rides. In February 2019, the SCTA released a request for proposals for implementation of a county-wide bike sharing program, which would also operate in Santa Rosa.
- Installation of public EV chargers. The City of Santa Rosa contains approximately 162 publicly available EV chargers.
- Installation of graywater systems. Since the beginning of 2020, the City has rebated the installation of seven graywater systems.
- Cash for Grass Rebate Program. The City's Cash for Grass Rebate Program provides rebates for qualifying residents and building owners who replace their lawns with water-efficient landscaping.
- Expansion and upgrading of the City's bike network. Since 2020 the City has constructed 0.6 miles of new bike lanes and has upgraded 5.6 miles, primarily from Class II to Class IIB bikes lanes. The City committed to adding another 4 miles of bike lanes to the bike network by the end of 2023.
- Electric new construction reach code. On November 19, 2019, the City passed a reach code that required new residential construction of three stories and below to be all electric.[23]

The City's GHG Reduction Strategy identifies GHG emissions reductions for the EIR Study Area that would ensure consistency with the State GHG reduction mandates of SB 32, AB 1279, and the State's carbon neutrality goals. Table 4.8-7, *Proposed GHG Reduction Strategies*, shows the local GHG emission reductions associated with each of the GHG reduction measures.

[23] The City has suspended its enforcement of Ordinance 2022-015 because of a decision on January 2, 2024, by the U.S. Court of Appeals 9th Circuit that invalidated a City of Berkeley ordinance that prohibited natural gas infrastructure in new buildings, precluding cities and counties from adopting ordinances that prohibit the installation of gas plumbing in buildings. The City is currently evaluating options for a replacement reach code that will achieve similar objectives for energy efficiency and GHG emissions reductions in a manner that is consistent with the recent court decision.

TABLE 4.8-7 PROPOSED GHG REDUCTION MEASURES

GHG Reduction Measures	2030 GHG Reductions ($MTCO_2e$/Year)	2045 GHG Reductions ($MTCO_2e$/Year)	2050 GHG Reductions ($MTCO_2e$/Year)
1. Locate and design new development to minimize vehicle dependence	13,740	11,560	13,550
2. Improve the frequency, coverage, and effectiveness of local and regional transit and rail networks.	10,860	14,930	17,120
3. Develop and expand transportation demand management (TDM) programs to reduce VMT and dependence on single-occupancy vehicle trips.	610	1,090	1,160
4. Enhance active transportation and micromobility systems.	1,680	2,990	3,500
5. Accelerate the adoption of zero-emission light-duty and heavy-duty vehicles.	50,500	248,880	256,420
6. Transition to zero-emission motorized equipment, including construction and landscaping.	13,240	32,120	39,270
7. Reduce community-wide energy use and increase energy efficiency in new and existing buildings, including municipal buildings.	31,580	182,370	191,560
8. Transition to carbon neutral new buildings.	1,730	8,940	10,230
9. Increase local renewable energy generation and the use of renewable, carbon free, and distributed energy systems, including energy storage, throughout the city.	70	—	—
10. Reduce the amount of recyclable and compostable material sent to landfills.	6,930	10,820	11,220
11. Reduce total waste generation.	2,080	3,840	5,230
12. Improve indoor and outdoor water use efficiency.	—	—	—
13. Expand water catchment and reuse opportunities.	—	—	—
14. Increase local natural carbon sequestration opportunities in Santa Rosa.	4,550	15,470	19,020
15. Reduce embedded carbon in goods and services used by the City and community members.	—	—	—
16. Maximize opportunities for local food production.	—	—	—
17. Integrate climate action across all City departments and programs.	—	—	—
Total GHG Reductions from Proposed GHG Reduction Measures	**137,570**	**533,020**	**568,290**

Source: Santa Rosa GHG Reduction Strategy, 2024. See Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR and Appendix A, *Greenhouse Gas Reduction Strategy*, of the proposed General Plan 2050.
Notes: Emissions may not total to 100 percent due to rounding. Based on GWPs in the IPCC's AR6.

Table 4.8-8, *GHG Emissions Reduction Target Analysis with the Proposed GHG Reduction Strategy*, shows that with the additional local measures identified in the proposed GHG Reduction Strategy, the EIR Study Area would achieve the SB 32 GHG reduction target for year 2030, AB 1279 GHG reduction targets for year 2045 and beyond to horizon year 2050. With implementation of the proposed GHG Reduction Strategy, the EIR Study Area would achieve a 40 percent decrease in GHG emissions in the EIR Study Area by 2030 from 1990 levels, an 86 percent decrease in GHG emissions in the EIR Study Area by 2045 from 1990 levels, 89 percent decrease in GHG emissions by 2050 from 1990 levels, and would make substantial progress toward the State's carbon neutrality goals. Therefore, the proposed project would not result in a substantial increase in the magnitude of community-wide GHG emissions and would be consistent with the GHG reduction goals identified under SB 32 and AB 1279.

TABLE 4.8-8 GHG REDUCTION TARGET ANALYSIS WITH THE PROPOSED GHG REDUCTION STRATEGY

Scenario	2030 GHG Emissions ($MTCO_2e$/Year)	2045 GHG Emissions ($MTCO_2e$/Year)	2050 GHG Emissions ($MTCO_2e$/Year)
Total Community Emissions (BAU)	974,070	1,035,770	1,056,390
GHG Reductions from State & Regional Actions	-170,570	-344,240	-363,680
GHG Reductions from Proposed GHG Reduction Measures	-137,570	-533,020	-568,290
Total Community Emissions (with State Actions & Regional Actions + Proposed GHG Reduction Measures)	**665,930**	**158,510**	**124,420**
SB 32 (2030) and AB 1279 (2045) Target	669,420	167,350	167,350
Achieves Target	Yes	Yes	Yes

Source: Santa Rosa GHG Reduction Strategy, 2024. See Appendix B, *Air Quality and Greenhouse Gas Emissions Data,* of this Draft EIR and Appendix A, *Greenhouse Gas Reduction Strategy*, of the proposed General Plan 2050.
Notes: Emissions may not total to 100 percent due to rounding. Based on GWPs in the IPCC's AR6.

As identified in Table 4.8-8, the proposed project would be consistent with the current long-term legislative reduction targets under SB 32 and AB 1279, which is attributable to both Statewide emission reduction strategies such as CARB's Advanced Clean Cars II and Advanced Clean Fleets Regulations. Furthermore, Chapter 3, *Circulation, Open Space, Conservation, and Greenhouse Gas Reduction,* of the proposed General Plan 2050 contains goals, policies, and actions that require local planning and development decisions to consider GHG emissions (see Chapter 4.15, *Transportation*, of this Draft EIR for a complete list of these goals, policies, and actions).

Potential future development projects over the buildout horizon of the proposed project would experience emission reductions from implementation of State measures and strategies to reduce Statewide GHG emissions, such as the LCFS mandate or RPS requirements. The proposed General Plan 2050 goals, policies, and actions listed above, and the strategies that would be maintained from the proposed GHG Reduction Strategy would serve to further support potential GHG reductions for potential future development projects in the EIR Study Area.

Furthermore, the proposed GHG Reduction Strategy is consistent with State and BAAQMD's CEQA Guidelines, which establishes it as a "qualified" GHG Reduction Plan and allows it to support streamlined environmental review of GHG emissions for new development. A project-specific environmental review that relies on the Reduction Strategy for its cumulative impact analysis must show consistency with the Reduction Strategy by preparing a Consistency Checklist, which allows the applicant to identify specific GHG reduction strategies from the Reduction Strategy that are applicable to the project and demonstrate how the project will implement these strategies to ensure that the project's emissions are consistent with community-wide emissions forecast contained herein.

In summary, implementation of the proposed project would result in a net decrease in emissions from existing conditions. Additionally, with implementation of the proposed GHG Reduction Strategy, emissions from existing and planned development in the EIR Study Area would achieve the GHG reduction goals identified under SB 32 for year 2030, AB 1279 for year 2045, and additional reductions for horizon year 2050, which is consistent with the thresholds identified by BAAQMD's CEQA Guidelines. Therefore, growth

within the EIR Study Area associated with the proposed project would not have a cumulatively considerable impact on GHG emissions and this impact would be *less than significant*.

Significance without Mitigation: Less than significant.

GHG-2	The proposed project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

The following discusses consistency other applicable plans adopted for the purpose of reducing GHG emissions, which include CARB's Scoping Plan and MTC/ABAG's Plan Bay Area.

CARB Scoping Plan

The CARB Scoping Plan is applicable to State agencies but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require local jurisdictions to adopt its policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the State agencies from the Scoping Plan result in GHG emissions reductions at the local level. So local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the LCFS mandate and changes in the corporate average fuel economy standards.

Potential future development projects over the buildout horizon of the proposed project would be required to adhere to the programs and regulations identified by the Scoping Plan and implemented by State, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32, SB 32, and AB 1279. Future development projects would be required to comply with these state GHG emissions reduction measures because they are statewide strategies. For example, new buildings over the buildout horizon of the proposed project would be required to meet the CALGreen and Building Energy Efficiency Standards in effect at the time when applying for building permits. Furthermore, the proposed General Plan 2050 goals, policies, and actions listed under impact discussion GHG-1 would help achieve GHG reduction goals.

Moreover, the proposed General Plan 2050 directs implementation of the proposed GHG Reduction Strategy. As described under impact discussion GHG-1, the proposed GHG Reduction Strategy aligns the GHG reduction goals for the EIR Study Area for existing and new development with SB 32, AB 1279, and the carbon neutrality goals identified in the 2022 Scoping Plan. Therefore, the proposed project would result in a net benefit because implementation of the proposed GHG Reduction Strategy would align future development in the EIR Study Area with the policies and objectives identified by CARB. Implementation of the proposed project would not obstruct implementation of the CARB Scoping Plan, and impacts would be *less than significant*.

Plan Bay Area

Plan Bay Area aims to achieve the passenger vehicle emissions reductions identified under SB 375 and build a sustainable vision for the Bay Area.[24] In addition to significant transit and roadway performance investments to encourage focused growth, *Plan Bay Area* directs funding to neighborhood active transportation and complete streets projects, climate initiatives, lifeline transportation and access initiatives, safety programs, and PDA planning. The EIR Study Area contains six PDAs and three TPAs, as shown on Figure 4-1, *Priority Development Areas and Transit Priority Areas*, in Chapter 4.0, *Environmental Analysis*, of this Draft EIR.

While *Plan Bay Area* does not override local land use control, it provides guidance to the local jurisdictions such as the City of Santa Rosa on how future development can be consistent with the State's GHG and VMT reduction goals. This includes constructing more infill development in downtowns and centers in close proximity to jobs and services.

As discussed in Chapter 3, *Project Description*, of this Draft EIR, the expansion of the city into surrounding lands is no longer a focus of City planning efforts, and the City has identified 21 Areas of Change where the City will focus on housing, services, connectivity, and/or infrastructure needed to make these complete neighborhoods. Table 4-2, *General Plan 2050 Areas of Change by Priority Development and Transit Priority Areas*, in Chapter 4.0 of this Draft EIR shows the 11 Areas of Change that are within or directly adjacent to a PDA and/or TPA. Accordingly, future development is projected to occur primarily in the form of infill/intensification on sites already developed or underutilized, and/or in close proximity to existing development and infrastructure. While the proposed project does not prohibit development opportunities outside of infill locations, the proposed General Plan 2050 contains goals, policies, and actions that require local planning and development decisions to consider GHG and VMT reduction goals consistent with *Plan Bay Area* (see subheading "Plan Bay Area" under impact discussion LU-2 in Chapter 4.11, *Land Use*, of this Draft EIR for a complete list of these goals, policies, and actions).

Furthermore, the proposed General Plan 2050 itself would not introduce a substantial number of unplanned population growth in the EIR Study Area, as described in Chapter 4.13, *Population and Housing*, of this Draft EIR. The proposed General Plan 2050 includes goals, policies, and actions that would limit development in certain areas and control the growth within the EIR Study Area. All potential future development would be required to comply with any required site-specific infrastructure improvements and to pay any project-specific impact fees.

Overall, the proposed project would be consistent with the overall goals of *Plan Bay Area* in concentrating new development in locations where there is existing infrastructure and transit. Therefore, the proposed project would not conflict with the land use concept plan in Plan Bay Area and impacts would be *less than significant*.

Significance without Mitigation: Less than significant.

[24] Association of Bay Area Governments and the Metropolitan Transportation Commission, October 2021, *Plan Bay Area 2050*, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf, accessed July 24, 2023.

GHG-3 The proposed project would not, in combination with past, present, and reasonably foreseeable projects, result in cumulative GHG emission impacts in the area.

Project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, impacts under impact discussions GHG-1 and GHG-2 are not project-specific impacts to global warming, but the proposed project's contribution to this cumulative impact. As discussed above, the EIR Study Area would experience a reduction in GHG emissions for the years 2030, 2045, and 2050 from existing conditions despite the anticipated population and employment growth. Additionally, with implementation of the proposed GHG Reduction Strategy, implementation of the proposed project would meet the legislative reduction target that aligns with SB 32 and AB 1279 and substantial progress with the State's carbon neutrality targets. be consistent with applicable plans adopted for the purpose of reducing GHG emissions. Consequently, GHG emissions generated by the proposed project and their contribution to global climate change would not be cumulatively considerable, and cumulative impacts would be *less than significant*.

Significance without Mitigation: Less than significant.