

## 3.5 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

This section presents a summary of regulations applicable to greenhouse gas (GHG) emissions, a summary of the current state of climate change science and GHG emissions sources in California, quantification of GHG emissions generated by the project, and a discussion about their potential contribution to global climate change. In addition, mitigation measures are recommended to reduce the project's contribution to climate change as necessary. For the purposes of this analysis, GHG emissions are measured as metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e). The atmospheric impact of a GHG is based on the global warming potential (GWP) of that gas. The GWP of a gas is a measure of the heat trapping ability of one unit of that gas over a certain timeframe relative to the GWP of one unit of carbon dioxide (CO<sub>2</sub>). The GWP of CO<sub>2</sub> is one (IPCC 2014). Consistent with the methodology used by the California Air Resources Board (CARB) in estimating statewide GHG emissions, this analysis uses GWP values from the Fourth Assessment Report Values by the Intergovernmental Panel on Climate Change (IPCC).

One comment letter received in response to the notice of preparation requested that the EIR evaluate the potential health impacts from long-term exposure to traffic-related air pollutants and diesel particulate matter. This issue pertains to air quality emissions and is addressed in Section 3.4, "Air Quality." See Appendix A for all comments received in response to the notice of preparation (see Appendix A).

### 3.5.1 Regulatory Setting

#### FEDERAL

There is no overarching federal law specifically related to climate change or the reduction of GHG emissions. Additionally, in March 2025, the US Environmental Protection Agency (EPA) announced that it will undertake 31 actions, focusing primarily on reconsidering actions adopted by previous administrations, including numerous actions and regulations related to climate change and the reduction of GHG emissions. These include, but are not limited to, reconsideration of regulations on power plants, the Mandatory Reporting Rule, the Endangerment Finding, and fuel economy standards, among others. As of the writing of this Draft EIR, none of these regulations have been repealed or replaced with newly adopted regulations. Therefore, these regulations are discussed below.

#### Greenhouse Gas Regulations Under the Clean Air Act

##### Endangerment Finding and Cause or Contribute Finding

On December 7, 2009, the EPA administrator signed two distinct findings regarding GHGs under the federal Clean Air Act (CAA) Section 202(a) (42 United States Code [USC] Section 7521).

**Endangerment Finding:** The administrator found that the current and projected concentrations of the six key well-mixed GHGs (CO<sub>2</sub>, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations. On July 29, 2025, EPA announced a proposal to rescind the Endangerment Finding and repeal all GHG emission standards for light-duty, medium-duty, and heavy-duty vehicles and engines pursuant to CAA Section 202(a). As of the writing of this EIR, EPA has not adopted this proposal. Notably, the following regulations detailed under the heading, "Greenhouse Gas Regulations Under the Clean Air Act," above are subject to repeal if EPA's proposed action is adopted.

**Cause or Contribute Finding:** The administrator found that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

### **Mandatory Reporting Rule**

EPA adopted a mandatory GHG reporting rule in September 2009. The rule requires suppliers of fossil fuels or entities that emit industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more of GHG emissions to submit annual reports to EPA beginning in 2011. Vehicle and engine manufacturers were required to begin reporting GHG emissions starting with model year (MY) 2011.

### **Fuel Economy Standards**

In 2024, Corporate Average Fuel Economy (CAFE) standards were finalized for MYs 2027 through 2031. The final rule establishes standards that require an industry-wide fleet average of approximately 49 miles per gallon (mpg) for passenger cars and light trucks. The final rule establishes standards that would require an industry-wide fleet average of approximately 50.4 mpg in MY 2031 for passenger cars and light trucks and an industry fleet-wide average for heavy-duty pickup trucks and vans (HDPUVs) of roughly 2.851 gallons per 100 miles in MY 2035. The final CAFE standards increase at a rate of 2 percent per year for passenger cars in MYs 2027–2031 and 2 percent per year for light trucks in MYs 2029–2031. The final HDPUV fuel efficiency standards increase at a rate of 10 percent per year in MYs 2030–2032 and 8 percent per year in MYs 2033–2035 (NHTSA 2024).

### **Medium- and Heavy-Duty Vehicle Program**

EPA and the National Highway Traffic Safety Administration (NHTSA) also set fuel efficiency and GHG standards for medium- and heavy-duty trucks. In 2011, EPA and NHTSA finalized a joint rule that established a national program to reduce GHG emissions and improve fuel economy for new medium- and heavy-duty engines and vehicles. This rule—called the Phase 1 standards—requires fuel efficiency standards for engines in MYs 2014 through 2018 (40 CFR Parts 85, 86, 1036, 1037, 1065, 1066, and 1068). In 2016, EPA and NHTSA adopted the Phase 2 standards, which require fuel efficiency standards for engines in MYs 2018 through 2027 (40 CFR Parts 9, 22, 85, 86, 600, 1033, 1036, 1037, 1039, 1042, 1043, 1065, 1066, and 1068). On March 29, 2024, a final rule was issued to revise existing standards to reduce GHG emissions from heavy-duty vehicles in MY 2027 and set new, more stringent standards for MYs 2028 through 2032 (EPA 2025).

### **2024-2027 Climate Adaptation Plan**

EPA's 2024-2027 Climate Adaptation Plan focuses on priority actions to address the impacts of climate change and help build a more climate-resilient nation. The plan allows EPA to deliver on its mission to protect human health and the environment, even as the climate changes. Through the plan, EPA will modernize its financial assistance programs to encourage climate-resilient investments throughout the United States. The intent of the plan is to offer financial resources to local jurisdictions, as well as tools, data, information, and technical support needed to assess climate risks and develop climate-resilience solutions based on geographic-specific climate threats. The plan measures potential exposure of extreme heat, extreme precipitation, sea-level rise, wildfire risk, and flooding at federally owned facilities under IPCC's Representative Concentration Pathways 4.5 (intermediate emissions scenario) and 8.5 (high emissions scenario) and identifies adaptation strategies to improve the resilience of identified federal facilities (EPA 2024).

### **Public Law No. 119-15**

On June 12, 2025, Public Law 11915, enacting House Joint Resolution 87, was signed into law. The law utilized the Congressional Review Act to nullify EPA's rule that had granted California a waiver to enforce stricter emissions standards for heavy-duty vehicles under the CAA. The disapproved rule included programs such as the Advanced Clean Trucks regulation and zero-emission requirements for airport shuttles. Passed under the Congressional Review Act, the law prevents EPA from implementing or reissuing the same or similar rules without new congressional authorization. This effectively blocks California, and other states that follow its standards, from enforcing these specific vehicle emission and warranty regulations.

### **Public Law No. 119-16**

In early May 2025, the US House of Representatives passed House Joint Resolution 88 under the Congressional Review Act, aiming to void EPA's December 2024 waiver under the CAA that allowed California to implement the Advanced Clean Cars (ACC II) regulation. ACC II includes a zero-emission vehicle (ZEV) mandate targeting 100 percent new light-duty ZEV sales by 2035. In late May 2025, the Senate followed suit, approving the resolution; the first ever occurrence

that waivers under the CAA have been revoked from a Congressional Review Act. With both chambers' approval, the resolution was signed by the President on June 12, 2025, to formally rescind the State's ability to enforce the ACC II regulation. The implications of this federal resolution on the State's capability to enforce its independent fuel economy standards are uncertain at this time, as the California Attorney General filed a lawsuit against the federal government on June 12, 2025, to challenge House Joint Resolution 88. Whether this action is successful is unknown, as is the possibility that a federal judge will issue a stay to halt the implementation of the ACC II regulation during the legal process. Notably, the mobile source emissions calculations and estimates disclosed in this analysis do not account for this regulatory update as emissions factors have not been updated by CARB at this time.

## STATE

The state has adopted several laws addressing various aspects of climate change, GHG mitigation, energy efficiency, and renewable energy. Much of this establishes a broad framework for the state's long-term GHG and energy reduction goals and climate change adaptation program. Governors have also issued several executive orders (EOs) related to the state's evolving climate change policy. A summary of key laws, regulations, plans, and policies, relevant to the proposed Plan is provided below, organized by general categories.

Notably, the CAA allows California, and other states, to seek a waiver of preemption, which prohibits states from enacting emission standards for new motor vehicles. EPA must grant a waiver, however, before California's rules may be enforced. According to the CAA Section 209(b), "State Standards," EPA shall grant a waiver unless the EPA administrator finds that California:

- ▶ was arbitrary and capricious in its finding that its standards are, in the aggregate, at least as protective of public health and welfare as applicable federal standards;
- ▶ does not need such standards to meet compelling and extraordinary conditions; or
- ▶ such standards and accompanying enforcement procedures are not consistent with Section 202(a) of the CAA.

As of April 2025, in anticipation of federal efforts to nullify or block California's CAA waivers, CARB has rescinded its waiver requests for several regulations including the In-Use Locomotive Regulation, portions of the Advanced Clean Fleets regulation, and the Transportation Refrigeration Unit regulation.

### Executive Orders

There are four overarching EOs related to the state's GHG-reduction efforts. In general, EOs provide direction to state government agencies but do not place mandates on regional or local governments or the private sector.

#### Executive Order S-3-05

Issued by the California Governor on June 1, 2005, EO S-3-05 set intermittent emissions reduction targets intended to provide incremental progress toward Assembly Bill (AB) 32's GHG emissions reduction target of reducing emissions to 1990 levels by 2020. EO S-3-05 set forth the following GHG reduction targets:

- ▶ By 2010, reduce GHG emissions to 2000 emission levels.
- ▶ By 2020, reduce GHG emissions to 1990 emission levels.
- ▶ By 2050, reduce GHG emissions to 80 percent below 1990 levels.

#### Executive Order S-30-15

On April 15, 2015, EO B-30-15 was issued which established a California GHG reduction target of 40 percent below 1990 levels by 2030. EO B-30-15 was issued to align California's GHG emissions reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris, held in 2015.

The emissions reduction target of 40 percent below 1990 levels by 2030 is intended to keep California on track to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050.

## Legislative Greenhouse Gas Reduction Targets

State law sets forth the following requirements for reducing statewide levels of GHG emissions by 2020, 2030, and 2045.

### Assembly Bill 32, Health and Safety Code Section 38500 et seq.

AB 32 codified the 2020 reduction target of EO S-03-05 (i.e., reduce statewide GHG emissions to 1990 levels by 2020). AB 32 required CARB to develop a scoping plan that describes California's strategy for achieving the 2020 target and to update it every 5 years.

### Senate Bill 32, Health and Safety Code Section 38566

Senate Bill (SB) 32 codified the 2030 reduction target of EO B-30-15 (i.e., reduce statewide GHG emissions to 40 percent below 1990 levels by 2030). Adopted in tandem with SB 32, AB 197 of 2016 (Chapter 250, Statutes of 2016) required CARB, in implementing SB 32's 2030 GHG-reduction target, to (1) prioritize emissions reductions to consider the "social costs" of GHG emissions and (2) prioritize "direct emission reductions" at large stationary sources and at mobile sources.

### Assembly Bill 1279, Health and Safety Code Section 38562.2

On September 16, 2022, the California legislature enacted AB 1279, which codified stringent emissions targets for the state of achieving carbon neutrality no later than 2045 and negative emissions thereafter, and an 85 percent reduction in 1990 anthropogenic emissions level by 2045. (This superseded the previous GHG emissions-reduction target set forth by EO S-3-05.)

## State Agency Greenhouse Gas Reduction Plans and Strategies

CARB and other state agencies have adopted several plans and strategies to reduce statewide GHG emissions as described below.

### Senate Bill 605, Senate Bill 1383, and Assembly Bill 1826

SB 605 (Chapter 523, Statutes of 2014) requires CARB to develop a plan to reduce emissions of short-lived climate pollutants, such as methane, hydrocarbons, black carbon, halocarbons, and tropospheric ozone, because of their high GWP. AB 1826 (Chapter 727, Statutes of 2014) required businesses to recycle their organic waste beginning in 2016. SB 1383 (Chapter 249, Statutes of 2016) required CARB to approve and implement a plan by January 2018 to achieve reductions of short-lived climate pollutants such as methane and tropospheric ozone. SB 1383 also sets a target for reduction of methane and tropospheric ozone. SB 1383 also sets a target for reduction of methane emissions to 40 percent below 2013 levels by 2030. Pursuant to SB 605 and SB 1383, CARB subsequently developed the Short-Lived Climate Pollutant Reduction Strategy, adopted in March 2017. As part of this strategy, the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with CARB, was required to develop regulations to reduce statewide disposal of organic waste by 50 percent of 2014 levels by 2020, and by 75 percent of 2014 levels by 2025, including recovery of at least 20 percent of edible food for human consumption. CalRecycle adopted these regulations in 2017, and they became effective on January 1, 2022.

### 2022 Scoping Plan for Achieving Carbon Neutrality

CARB adopted the *Final 2022 Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan) on December 16, 2022. The 2022 Scoping Plan traces the state's pathway to achieve its goals of carbon neutrality and an 85 percent reduction in emissions by 2045 relative to 1990 levels, as codified by AB 1279 in September 2022. These targets are in line with scientifically established levels to limit the rise in global temperature to no more than 2 degrees Celsius [°C], the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected; these targets also pursue efforts to limit the temperature increase even further to 1.5°C. The 2022 Scoping Plan identifies the reductions needed by each GHG emission sector (e.g., transportation [including off-road mobile-source emissions], industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste) to achieve these goals. The 2022 Scoping Plan details a multitude of strategies for reducing GHG emissions in each of these sectors. Examples of statewide goals include achieving a per capita VMT reduction of at least 25 percent below 2019 levels by 2030 and 30 percent below 2019 levels by 2045 to

reduce GHGs from the transportation sector; installing/retrofitting three million all-electric and electric-ready homes by 2030 and seven million by 2035 with six million heat pumps installed statewide by 2030 to reduce GHG emissions in the commercial and residential building sector; and using long-term planning processes to support grid reliability, expansion of renewable and zero-carbon resources, and infrastructure deployment to reduce energy sector GHG emissions. The 2022 Scoping Plan is the state's current scoping plan.

## Mobile Sources

### Mobile Source Strategy

The Mobile Source Strategy was developed by CARB to provide an integrated planning perspective and common vision for transforming the mobile sector to achieve air quality and climate change goals. It uses conceptual scenarios to illustrate the emissions-reduction potential of different vehicle technology mixes and VMT reductions to inform state policy development (CARB 2024). The Mobile Source Strategy addresses on-road vehicles, including passenger cars and light-duty trucks, medium and heavy-duty trucks, and buses, as well as off-road vehicles and equipment, including locomotives, cargo-handling equipment, and construction equipment. It supports multiple planning efforts, including the state implementation plans for criteria air pollutants, the scoping plan, the Short-Lived Climate Pollutant Reduction Strategy (discussed above), and the Sustainable Freight Action Plan (discussed below). CARB is required to update the Mobile Source Strategy every 5 years. The 2020 Mobile Source Strategy continued the multipollutant planning approach to illustrate the pathways forward for the various mobile sectors that are necessary in order to achieve California's numerous goals and targets through 2050. CARB is currently developing the 2025 Mobile Source Strategy. A discussion draft of the 2025 Mobile Source Strategy was released on October 11, 2024 (CARB 2024).

### Advanced Clean Cars (Passenger Vehicles)

AB 1493 of 2002 (known as Pavley I, Chapter 200, Statutes of 2002) provided the nation's first GHG standards for automobiles. AB 1493 required CARB to adopt vehicle standards that lowered GHG emissions from new light-duty automobiles to the maximum extent feasible beginning in 2009. Additional strengthening of the Pavley standards referred to as the Advanced Clean Cars (ACC) Program's Low Emission Vehicle (LEV) III Regulation was adopted for vehicle MYs 2017–2025 in 2012 (13 California Code of Regulations [CCR] Section 1900 et seq.).

The ACC Program also includes the Zero Emission Vehicle Program and the Clean Fuels Outlet Regulation. The Zero Emission Vehicle Program is designed to achieve California's long-term emission reduction goals by requiring manufacturers to offer for sale specific numbers of ZEVs, which include battery electric, fuel cell, and plug-in hybrid electric vehicles (EV). The Clean Fuels Outlet regulation is intended to ensure that fuels, such as electricity and hydrogen, are available to meet the fueling needs of new advanced technology vehicles as they come to market. The ACC II Program was adopted by CARB in August 2022 and provides the regulatory framework for ensuring the sales requirement goal of EO N-79-20 to ultimately reach 100 percent ZEV sales in the state by 2035.

CARB certified the ACC II Program on August 25, 2022. The ACC II Program builds upon the existing ACC program and establishes more stringent ZEV sales requirements for future benchmark years. CARB also established more stringent GHG emission standards and fuel efficiency standards for fossil fuel-powered on-road vehicles than EPA's standards. In addition, the program's ZEV regulation requires battery, fuel cell, and plug-in hybrid EVs to account for up to 15 percent of California's new vehicle sales by 2025. The ACC II Program also sets sales requirements to ultimately reach the goal of 100 percent ZEV sales in the state by 2035.

The implications of Public Law 119-16, summarized above, on the State's capability to enforce its independent fuel economy standards are uncertain at this time, as the California Attorney General filed a lawsuit against the federal government on June 12, 2025, to challenge Public Law 119-16 (in addition to Public Laws 119-15 and 119-17). Whether this action is successful is unknown, as is the possibility that a federal judge will issue a stay to halt the implementation of the ACC II regulation during the legal process. Notably, the mobile source emissions calculations and estimates disclosed in this analysis do not account for this regulatory update as emissions factors have not been updated by the CARB at this time.

### **Low Carbon Fuel Standard**

The Low Carbon Fuel Standard (LCFS) originally mandated a statewide goal to be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 (17 CCR Section 95480 et seq.). In September 2018, to help achieve SB 32's emission reduction target, the LCFS regulation was amended to increase the statewide goal to a 20 percent reduction in carbon intensity of California's transportation fuels by 2030. The majority of the emissions benefits due to the LCFS come from the production cycle (upstream emissions) of the fuel rather than the combustion cycle (tailpipe) (CARB 2020). On November 8, 2024, CARB approved amendments to the LCFS regulation to maintain momentum for global, national, and local private sector investment toward increasing cleaner fuel and transportation options for consumers, accelerating the deployment of zero-emission infrastructure and clean fuel production to support clean vehicle regulations, and keeping the state on track to meet statutorily mandated air quality and climate targets (CARB 2025a). On January 3, 2025, CARB submitted the final proposed amendments to the LCFS regulation to the Office of Administrative Law (OAL) for review in accordance with Government Code Section 11349.1 (CARB 2025a). On February 18, 2025, OAL issued a routine disapproval of amendments to the LCFS regulation on technical grounds, not on the merits of the regulation. CARB staff have 120 days to make necessary revisions and resubmit the regulation for OAL approval (CARB 2025a). As of the writing of this Draft EIR, CARB has not resubmitted the regulation for OAL approval.

### **Medium- and Heavy-Duty Vehicles**

In 2008, CARB approved the Phase 1 Tractor-Trailer Greenhouse Gas Regulation to reduce GHG emissions by requiring the use of aerodynamic tractors and trailers that are also equipped with low-rolling-resistance tires (13 CCR Section 2020 et seq.). The regulation applies to certain Class 8 tractors manufactured for use in California and is harmonized with the parallel EPA and NHTSA Phase 1 heavy-duty truck standards. CARB amended the Tractor-Trailer Greenhouse Gas Regulation in 2019 (Phase 2 standards) to align with EPA and NHTSA Phase 2 heavy-duty truck standards.

### **Advanced Clean Fleets**

CARB's 2022 Advanced Clean Fleets regulation was developed to reduce diesel particulate matter (PM) through the transition of medium- and heavy-duty trucks to become fully electric by 2045. At the time of the writing of this Draft EIR, California has withdrawn its request for a waiver and authorization for the addition of the Advanced Clean Fleets regulation to its emissions control program in anticipation of federal efforts to nullify or block its CAA waivers (CARB 2025b). CARB is not enforcing the existing portions of the Advanced Clean Fleets regulation that require a federal waiver or authorization, such as the portions of the Advanced Clean Fleet regulation that apply to high-priority and drayage fleets. However, not all elements of the Advanced Clean Fleets regulation require a federal waiver or authorization (CARB 2025b). State and local government fleets will still be required to be fully electric by 2045 as this portion of the Advanced Clean Fleets regulation does not require a federal waiver.

## **Building Efficiency**

### **California Building Energy Efficiency Standards (Title 24, Part 6)**

California's energy consumption of new residential and nonresidential buildings is regulated by the California Code of Regulations Title 24, Part 6, Building Energy Efficiency Standards (California Energy Code). The California Energy Commission (CEC) updates the California Energy Code every 3 years with more stringent design requirements for reduced energy consumption. The 2022 California Energy Code went into effect on January 1, 2023. The 2022 California Energy Code advances on-site energy generation progress started in the 2019 California Energy Code by encouraging electric heat pump technology and use, establishing electric-ready requirements when natural gas is installed, expanding solar photovoltaic (PV) system and battery storage standards, and strengthening ventilation standards to improve indoor air quality. CEC estimates that the 2022 California Energy Code will save consumers \$1.5 billion and reduce GHGs by 10 MMTCO<sub>2</sub>e over the next 30 years (CEC 2021). The 2025 Building Energy Efficiency Standards (2025 California Energy Code) were adopted on September 11, 2024, and will go into effect on January 1, 2026. CEC estimates that the 2025 California Energy Code is projected to save \$4.8 billion in energy costs over its lifetime and reduce GHGs by about 4 MMTCO<sub>2</sub>e, equivalent to the annual energy consumption of over half a million homes (CEC 2024).

### **California Green Building Standards (Title 24, Part 11)**

The California Green Building Standards Code (CALGreen) is a portion of the California Building Code developed by CEC that consists of both voluntary and mandatory requirements related to green building standards for statewide residential and nonresidential construction. The standards are updated every 3 years, and the current version is the 2022 CALGreen Code. However, the 2025 CALGreen Code was adopted on September 11, 2024, and will go into effect on January 1, 2026. The 2025 version proposes increased requirements for EV charging infrastructure (i.e., a higher percentage of parking spaces that must be equipped with EV chargers and more stringent requirements for the types of chargers that must be installed) in both residential and nonresidential buildings. The 2025 CALGreen Code also includes required analysis of embodied carbon in building materials, which was not required under the 2022 CALGreen Code. Lastly, the 2025 CALGreen Code includes updates to energy efficiency standards aimed at further reducing energy consumption in buildings and promoting the use of renewable energy sources (CEC 2024). CALGreen requirements are complementary with the California Energy Code discussed above.

### **Metropolitan Transportation Plan/Sustainable Communities Strategy**

The Sacramento Area Council of Governments (SACOG) is an association that includes the Counties of El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba. SACOG is responsible for preparing and updating the metropolitan transportation plan/sustainable communities strategy (MTP/SCS). The MTP/SCS is a 20-year plan for growth and transportation investment that facilitates vibrant, healthy communities where residents have access to affordable homes, good jobs, and clean air. The MTP/SCS proactively links land use, air quality, and transportation needs. On November 20, 2025, the SACOG Board of Directors adopted the 2025 MTP/SCS update to the MTP/SCS (SACOG 2025).

## **LOCAL**

### **Placer County Air Pollution Control District**

The Placer County Air Pollution Control District (PCAPCD) has issued guidance on the analysis of GHG emissions in Chapter 5 of the District's CEQA Air Quality Handbook (PCAPCD 2017). The chapter outlines expectations and methodologies for the analysis of GHG emissions generated by a proposed project, and guidance on determining the significance of impacts and appropriate mitigation. PCAPCD recommends that both construction and operations related GHG emissions be quantified for a proposed project, and that the significance of GHG emissions be determined in a manner based on whether such emissions are cumulatively considerable. PCAPCD has developed thresholds of significance for land use development projects, including a de minimis level of 1,100 MTCO<sub>2</sub>e/year, applicable to the operational phase of projects, as well as an efficiency matrix based on per capita or per square feet (sf) of land use development. In addition, PCAPCD has adopted a bright-line mass emissions threshold (10,000 MTCO<sub>2</sub>e/year) applicable to stationary sources operational emissions and construction emissions for all project types.

As explained below in Section 3.5.3 under "Thresholds of Significance," PCAPCD participated with other local air districts within the greater Sacramento region in development of a GHG threshold of significance for CEQA.

### **City of Roseville General Plan 2035**

The City of Roseville General Plan 2035 contains a number of policies applicable to the proposed project that address air quality and climate change (City of Roseville 2020). Key provisions from the Air Quality and Climate Change Elements are summarized below. Numerous other General Plan elements also address sustainability and the reduction of GHG emissions, including the Circulation Element, Land Use Element, and Public Facilities Element.

#### **Air Quality and Climate Change Element Policies**

- ▶ **Policy AQ1.3** Projects that could generate or expose sensitive uses to substantial air pollutant concentrations should incorporate strategies to reduce exposure to such emissions using measures recommended by the Placer County Air Pollution Control District and other applicable, feasible strategies, as needed, to avoid significant air quality impacts.
- ▶ **Policy AQ1.6** Require new development and City projects to reduce greenhouse gas emissions sources in the Planning Area consistent with the State's legislative framework, to the greatest degree feasible.

- ▶ **Policy AQ1.7** The City will participate in and support regional greenhouse gas reduction and adaptation programs that are consistent with the General Plan and have available funding.
- ▶ **Policy AQ1.8** Use the Multi-Hazard Mitigation Plan and regional collaborations to guide implementation of adaptation and resilience strategies associated with the anticipated local impacts of climate change.
- ▶ **Policy AQ1.10** Improve overall health and sustainability of the community by reducing emissions of greenhouse gases that contribute to climate change.
- ▶ **Policy AQ1.11** Promote local purchase and use of electric vehicles through incentives and strategic expansion of charging infrastructure.
- ▶ **Policy AQ1.12** Develop transportation systems that reduce vehicle emissions by improving the desirability of walking, bicycling, and public transportation relative to vehicular travel.
- ▶ **Policy AQ1.13** Identify feasible strategies to reduce transportation emissions from new projects and existing development within the Planning Area.

### **General Plan Implementation Measures**

Appendix A of the General Plan identifies the General Plan's implementation measures, which are proactive activities designed to implement General Plan policies. The following may apply to the project:

#### **Air Quality and Climate Change Mitigation Strategies - Area and Stationary Sources (Ongoing)**

Require area and stationary source projects that generate significant amounts of air pollutants to incorporate air quality mitigation in their design, including the use of best available control technology for stationary industrial sources; clean fuel sources for heating and cooling; clean fuel technology at fueling stations; and other strategies, in consultation with PCAPCD.

#### **Air Quality and Climate Change Mitigation Strategies - Mobile Sources (Ongoing)**

Implement mitigation strategies to reduce air pollutant and greenhouse gas emissions from motor vehicles. These strategies, which may consist of improvements and refinements to the transportation and circulation infrastructure, may include, but are not limited to:

- ▶ Filling gaps or missing links in infrastructure systems (i.e., bike/pedestrian trails, bridge crossings, railroad crossings, street extensions) prior to the construction and occupancy of residential developments utilizing that infrastructure;
- ▶ Promoting commercial/industrial project proponent sponsorship of van pools or club buses;
- ▶ Encouraging commercial/industrial project day care and employee services at the employment site;
- ▶ Encouraging the provision of transit, especially for employment-intensive uses;
- ▶ Discouraging single-occupant vehicle trips through parking supply and pricing controls or other measures identified by the PCAPCD;
- ▶ Requiring that new development be designed to promote pedestrian and bicycle access and circulation;
- ▶ Providing safe and secure bicycle parking facilities at major activity centers, such as public facilities, employment sites, and shopping and office centers;
- ▶ Promoting project design that encourages pedestrian and cyclist use, including grade separated crossing at major arterials, clear, and safe connections between projects and uses; and
- ▶ Installing sidewalks in residential and commercial developments with protective curbing and adequate lighting and pedestrian amenities.

### Air Quality and Climate Change Mitigation Strategies - Land Use (Ongoing)

Encourage development to be located and designed to minimize greenhouse gas and air pollutant emissions and avoid exposure to substantial pollutant concentrations by doing the following:

- ▶ Providing separation between sources of substantial air pollutant emissions and sensitive receptors and/or provide landscaping using plant species that are shown to reduce pollutant exposure;
- ▶ Providing ancillary employee services (including, but not limited to, childcare, restaurants, banks, and convenience markets) at major employment centers to reduce midday vehicle trips;
- ▶ Providing for mixed-use and transit-supportive development that reduces the length and frequency of vehicle trips or reduces the need for vehicle trips by providing practical pedestrian, bicycle, and transit options; and
- ▶ Encouraging small neighborhood-serving commercial uses within or adjacent to residential neighborhoods.

### City of Roseville Communitywide Sustainability Action Plan

The Roseville Communitywide Sustainability Action Plan (SAP) sets forth a comprehensive strategy to reduce GHG emissions, as well as to promote economic growth based on clean technology and sustainable practices (City of Roseville 2010). While the 2035 General Plan includes goals and policies that guide the City's approach to addressing sustainability and climate change, the SAP serves as a more detailed strategy to implement the City's sustainability and climate change policies.

The SAP contains the City's GHG emissions baseline inventory and sets a GHG emissions reduction target of reducing emissions from the baseline level (conducted in 2008) of 7.5 MTCO<sub>2e</sub> per service population to 6.0 MTCO<sub>2e</sub> per service population by 2020 (City of Roseville 2010). The GHG reduction measures are summarized in Table 3.5-1.

**Table 3.5-1 Roseville Sustainability Action Plan Strategies and GHG Emission Reductions**

Sustainable Action Strategy	Summary of Measures	Total Estimated GHG Emission Reductions	Percent of Total GHG Reductions Required to Meet Target
Transportation	Rideshare and Carpooling Transit Expansion Bike and Pedestrian Enhancements Alternative Fuel Infrastructure Intelligent Transportation Systems	49,130 MTCO <sub>2e</sub>	66%
Land Use and Green Building	Urban Forestry Numerous supporting measures related to alternative transportation modes	NA	2%
Energy	Retrofits of Existing Residential Buildings Retrofits of Existing Commercial Buildings New Residential Building Energy Efficiency New Commercial Building Energy Efficiency	19,460 MTCO <sub>2e</sub>	26%
Solid Waste	Food Waste to Energy	1,090 MTCO <sub>2e</sub>	1%
Water	Reduce Water Use 20% Per Capita	3,520 MTCO <sub>2e</sub>	5%
Marketing and Education	Community-Based Social Marketing Promote sustainable lifestyles	NA	NA

Notes: GHG = greenhouse gas; MTCO<sub>2e</sub> = metric tons of carbon dioxide equivalent; NA = not available. Totals may not be exact due to rounding.

Source: City of Roseville 2010; adapted and compiled by Ascent in 2025.

## 3.5.2 Environmental Setting

### THE PHYSICAL SCIENTIFIC BASIS OF GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on Earth.

Human-caused emissions of GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is very likely that human-induced GHG increases were the main driver of tropospheric warming since comprehensive satellite observations started in 1979, and virtually certain that human-induced GHG forcing (i.e., heating effect caused by GHGs in the atmosphere) is the primary driver of the observed changes in hot and cold extremes on the global scale (IPCC 2023).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO<sub>2</sub> is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO<sub>2</sub> emissions, approximately 55 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO<sub>2</sub> emissions remain stored in the atmosphere (Ciais et al. 2013: 467).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

### GREENHOUSE GAS EMISSION SOURCES

The City of Roseville conducted a GHG baseline inventory for the year 2008 as part of the SAP. The City's baseline year inventory is summarized in Table 3.5-2.

**Table 3.5-2 City of Roseville Communitywide Greenhouse Gas Emissions Inventory for 2008 (MTCO<sub>2e</sub>)**

Sector	Total Emissions (MTCO <sub>2e</sub> )
On-Road Mobile Sources	530,088
Commercial/Industrial Energy Use	292,730
Residential Energy Use	156,267
Residential Natural Gas Use	102,996
Commercial/Industrial Natural Gas Use	53,827
Wastewater Treatment	39,068
Solid Waste	13,110
Water Use	14,298
Total	1,202,383

Notes: MTCO<sub>2e</sub> = million metric tons of carbon dioxide equivalent.

Source: City of Roseville 2010: Table A-1.

## EFFECTS OF CLIMATE CHANGE ON THE ENVIRONMENT

According to the IPCC, which was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme, global average temperature will increase by 3.7 to 4.8°C (6.7 to 8.6 degrees Fahrenheit [°F]) by the end of the century unless additional efforts to reduce GHG emissions are made (IPCC 2014: 10). According to *California's Fourth Climate Change Assessment*, with global GHGs reduced at a moderate rate California will experience average daily high temperatures that are warmer than the historic average by 2.5°F from 2006 to 2039, by 4.4°F from 2040 to 2069, and by 5.6°F from 2070 to 2100; and if GHG emissions continue at current rates then California will experience average daily high temperatures that are warmer than the historic average by 2.7°F from 2006 to 2039, by 5.8°F from 2040 to 2069, and by 8.8°F from 2070 to 2100 (OPR et al. 2018).

Since its previous climate change assessment in 2012, California has experienced several of the most extreme natural events in its recorded history: a severe drought from 2012 to 2016, an almost non-existent Sierra Nevada winter snowpack in 2014-2015, increasingly large and severe wildfires, and back-to-back years of the warmest average temperatures (OPR et al. 2018). According to California Natural Resource Agency's *Safeguarding California Plan: 2018 Update*, California experienced the driest 4-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014 (CNRA 2018). The year 2024 was the warmest year since global records began in 1850 at 1.29°C (2.32°F) above the 20th century average of 13.9°C (57.0°F). This value is 0.10°C (0.18°F) more than the previous record set in 2023. The 10 warmest years in the 175-year record have all occurred during the last decade (2015–2024) (NOAA 2025). In contrast, the northern Sierra Nevada experienced one of its wettest years on record during the 2016-2017 water year (CNRA 2018).

Other environmental resources could be indirectly affected by the accumulation of GHG emissions and the resulting rise in global average temperature. In recent years, California has been marked by extreme weather and its effects. According to the California Natural Resources Agency's *Safeguarding California Plan: 2018 Update*, California experienced the driest 4-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014 (CNRA 2018: 55). In contrast, the northern Sierra Nevada experienced its wettest year on record during the 2016-2017 water year (CNRA 2018: 64).

The changes in precipitation exacerbate wildfires throughout California through a cycle of high vegetative growth coupled with dry, hot periods which lowers the moisture content of fuel loads. As a result, the frequency, size, and devastation of forest fires have increased. In November 2018, the Camp Fire destroyed the town of Paradise in Butte County and caused 85 fatalities, becoming the state's deadliest fire in recorded history, and the largest fires in the state's history have occurred in the 2018–2020 period. Moreover, changes in the intensity of precipitation events following wildfires can also result in devastating landslides. In January 2018, following the Thomas Fire, 0.5 inches of rain fell in 5 minutes in Santa Barbara causing destructive mudslides formed from the debris and loose soil left behind by the fire. These mudslides resulted in 21 deaths.

As temperatures increase, the amount of precipitation falling as rain rather than snow also increases, which could lead to increased flooding because water that would normally be held in the snowpack of the Sierra Nevada and the Cascade Range until spring would flow into the Central Valley during winter rainstorm events. This scenario would place more pressure on California's levee/flood control system (CNRA 2018). Furthermore, in the extreme scenario involving the rapid loss of the Antarctic ice sheet and the glaciers atop Greenland, the sea level along California's coastline is expected to rise 54 inches by 2100 if GHG emissions continue at current rates (OPR et al. 2018).

Temperature increases and changes to historical precipitation patterns will likely affect ecological productivity and stability. Existing habitats may migrate from climatic changes where possible, and those habitats and species that cannot retreat will be severely threatened. Altered climate conditions will also facilitate the movement of invasive species to new habitats, thus potentially outcompeting native species. Altered climatic conditions dramatically endanger the survival of arthropods (e.g., insects, spiders) which could have cascading effects throughout ecosystems (Lister and Garcia 2018). Conversely, a warming climate may support the populations of other insects such as ticks

and mosquitos, which transmit diseases harmful to human health such as the Zika virus, West Nile virus, and Lyme disease (European Commission Joint Research Centre 2018).

Changes in temperature, precipitation patterns, extreme weather events, wildfires, and sea-level rise have the potential to threaten transportation and energy infrastructure, crop production, forests and rangelands, and public health (CNRA 2018; OPR et al. 2018). The effects of climate change will also have an indirect adverse impact on the economy as more severe natural disasters cause expensive physical damage to communities and the state.

### 3.5.3 Environmental Impacts and Mitigation Measures

#### METHODOLOGY

GHG emissions associated with the project would be generated during project construction and during operations after the project is built. Estimated levels of construction- and operation-related GHGs are presented below. The project is evaluated for its consistency with adopted regulations, plans, and policies aimed at reducing GHG emissions, including the 2022 Scoping Plan, SACOG MTP/SCS, City of Roseville General Plan, communitywide Sustainability Action Plan, and PCAPCD's adopted thresholds of significance.

#### Construction-Related Greenhouse Gas Emissions

Construction of the proposed project would generate GHG emissions primarily associated with construction equipment and vehicle usage. Short-term construction generated GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.30 (CAPCOA 2025), as recommended by PCAPCD and other air districts in California. Modeling was based on project-specific information (e.g., size of the buildings, duration of construction, construction phasing.) where available; assumptions based on typical construction activities; and default values in CalEEMod that are based on the project location and land use type proposed. Annual emissions associated with on-site equipment use, worker commute, and material hauling/off hauling were modeled and summed based on the anticipated worst-case year of construction, for comparison to PCAPCD's annual GHG emissions threshold. Detailed model assumptions and inputs for these calculations are presented in Appendix B.

As described in Chapter 2, "Project Description," the project would be developed in 10 phases. The backbone infrastructure phase is anticipated to begin construction in early 2027 and be completed in 18 months. The full buildout year is expected to be 2038. See Tables 2-5 and 2-6 in Chapter 2, "Project Description," for a list of individual phases and associated timing.

Land use types were modeled based on allowable commercial land uses from Tables 2-1 and 2-3 in Chapter 2, "Project Description." Where specific land uses were not available, the likely and conservative equivalents were used to estimate mass emissions. The innovation land uses were modeled as data centers, research and development medical facilities, and automobile repair shops; the medical offices were modeled as a medical office building; and the retail land use was modeled as a hardware store.

#### Operational Greenhouse Gas Emissions

Operational emissions of GHGs were estimated for the following sources: area sources (e.g., landscape maintenance), energy use (i.e., electricity and natural gas consumption), water use, solid waste generation, refrigerants, mobile sources, on-site generators, wet labs, and autobody shop paint booths. Operational mobile-source GHG emissions were modeled based on the estimated level of vehicle miles traveled (VMT) by employees, new residents, and vendors making deliveries. VMT estimates were derived from data generated during the traffic impact analysis conducted by Fehr & Peers for the project (see Section 3.3, "Transportation and Circulation"). Mobile-source emissions were calculated using CalEEMod. Based on the nature of proposed uses, mobile source emissions would result from VMT generated by both heavy-duty trucks as well as light-duty vehicles.

GHG emissions associated with area, energy, water, solid waste, refrigerant, and passenger mobile sources were calculated in CalEEMod and GHG emissions associated with trucks, generators, the autobody shop paint booths, and

wet labs were modeled in excel using project-specific information. In compliance with PCAPCD Rule 225, Wood Burning Appliances, residential land uses were modeled without fireplaces and wood burning stoves. Autobody solvent quantities and emissions factors were provided by PCAPCD for a representative existing body shop (Montoya, pers. comm., 2025). Emissions from wet labs were calculated using a chemical inventory available from the UC San Diego 2019 Hillcrest Long Range Development Plan (UCSD 2019) and off-gassing loss rates available from the UC San Diego 2018 Long Range Development Plan Air Quality Technical Report and Health Risk Assessment (UCSD 2018: 54). Using the wet lab building square footage anticipated for the project (UCSD 2019), emissions for each chemical were scaled.

Two types of diesel generators would be included in the project: 15 3-megawatt Tier 4 generators with 4,000 horsepower (HP) each to provide power to the future potential data center and 12 emergency diesel generators for the commercial and retail buildings with 500 HP. Generator emissions associated with the data centers were calculated using CARB emission factors for Tier 4 off-road diesel generators and for non-Tier 4 backup generators at all other building emissions were calculated using CalEEMod default emission factors (i.e., statewide average emissions factors and Tier) for 500 HP generators.

Indirect emissions associated with electricity were estimated in CalEEMod using GHG intensity factors based on project location and operational year. Specific model assumptions and inputs for these calculations can be found in Appendix B.

## THRESHOLDS OF SIGNIFICANCE

The issue of global climate change is inherently a cumulative issue as the GHG emissions of individual projects cannot be shown to have any material effect on global climate. Thus, the project's impact on climate change is addressed only as a cumulative impact. State CEQA Guidelines Section 15064 and relevant portions of Appendix G recommend that a lead agency consider a project's consistency with relevant, adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. Under Appendix G of the State CEQA Guidelines, implementing a project would result in a cumulatively considerable contribution to climate change if it would:

- ▶ generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- ▶ conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

PCAPCD developed recommended thresholds of significance for evaluating construction- and operation-related GHG emissions for proposed land use and stationary development projects. PCAPCD's recommended approach is summarized as follows:

- ▶ De Minimis Level for the operational phases of 1,100 metric tons of CO<sub>2</sub>e per year (MTCO<sub>2</sub>e/year). A project can be considered as less than cumulatively considerable if its operational emissions are below 1,100 MTCO<sub>2</sub>e/year since its contribution is relatively small compared to the cumulative GHG emissions in Placer County. No further GHG analysis is required. Projects that exceed this level must conduct further analysis and apply thresholds below, as discussed herein.
- ▶ Projects with operational emissions above 1,100 MTCO<sub>2</sub>e/year (De Minimis Level) but below 10,000 MTCO<sub>2</sub>e/year (Bright Line Threshold) are required to use the PCAPCD's Efficiency Matrix based on the project's location and land use type. The Efficiency Matrix includes per unit (per capita for residential, per 1,000 sf for non-residential) urban and rural metrics. This approach is only applicable to land use projects with residential and/or commercial components. Projects that cannot meet the appropriate values in the Efficiency Matrix are considered to be cumulatively considerable.
- ▶ Bright-line Threshold of 10,000 MTCO<sub>2</sub>e/year applies to the construction and operational phase of land use development projects as well as to operational emissions of stationary source projects. Project emissions exceeding this threshold are determined to be cumulatively considerable impacts even if the project meets the efficiency thresholds.

Thus, based on the project type and available thresholds of significance, the project would result in a significant impact related to climate change, if it would result in:

- ▶ construction or operational GHG emissions that exceed 10,000 MTCO<sub>2</sub>e/year;
- ▶ operational-related emissions that exceed the efficiency matrix of 4.5 MTCO<sub>2</sub>e/capita for urban residential land uses or 26.5 MTCO<sub>2</sub>e/1,000 sf for urban non-residential land uses; or
- ▶ inconsistency with the 2022 Scoping Plan, City General Plan, or Communitywide SAP.

## ISSUES NOT DISCUSSED FURTHER

All issues pertaining to GHG emissions are discussed below.

## ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### Impact 3.5-1: Generate Greenhouse Gas Emissions, Either Directly or Indirectly, That May Have a Significant Impact on the Environment

The project is estimated to generate maximum annual emissions of 5,164 MTCO<sub>2</sub>e from construction activities and 21,197 MTCO<sub>2</sub>e/year during full buildout operations in 2038. Annual maximum construction emissions of 5,164 MTCO<sub>2</sub>e would not exceed the PCAPCD bright-line threshold of 10,000 MTCO<sub>2</sub>e/year. Operational emissions associated with the residential component of the project (i.e., 3.3 MTCO<sub>2</sub>e/capita) would not exceed the applicable efficiency threshold of 4.5 MTCO<sub>2</sub>e/capita and emissions associated with the non-residential component (i.e., 14.9 MTCO<sub>2</sub>e/1,000 sf) would not exceed the applicable efficiency threshold of 26.5 MTCO<sub>2</sub>e/1,000 sf. However, the project results in total emissions which exceed the bright-line threshold of 10,000 MTCO<sub>2</sub>e/year and therefore, this impact would be **significant**.

#### Construction

Construction within the project site would include construction of buildings, an electrical substation, and associated infrastructure to support residential, medical, retail, innovation, parks, and open space uses. The project would also include off-site improvements along Blue Oaks Boulevard and Phillip Road. Project-related construction activities would result in the generation of GHG emissions from the use of heavy-duty off-road construction equipment, delivery trucks associated with materials transport, and vehicle use during worker commute.

Construction activities associated with the project's residential component are anticipated to begin in 2028 and occur over a 6-year timeframe in five phases. The residential component would be built over years but would be largely driven by market demand. Depending on market demand, construction associated with the project's innovation and commercial component could begin as early as 2029 and would be developed in four phases. The first phase of innovation/commercial construction overlaps with the second phase of residential construction. Although it could take decades for the entire innovation and commercial development to come to fruition, for the purposes of this analysis, full buildout year is expected to be 2038. A summary of the total construction-related GHG emissions associated with project implementation is shown in Table 3.5-3.

**Table 3.5-3 Project-Generated Construction Greenhouse Gas Emissions**

Construction Year	Unmitigated GHG Emissions (MTCO <sub>2</sub> e/year)	Phases Included <sup>1</sup>
2027	489	Backbone
2028	342	Backbone, R1
2029	633	R1, R2/I1
2030	1,693	R2, I1, R3
2031	528	R3, R4/I2

Construction Year	Unmitigated GHG Emissions (MTCO <sub>2</sub> e/year)	Phases Included <sup>1</sup>
2032	477	R4/I2, R5
2033	492	R5, I3
2034	227	I3
2035	-	No construction in 2035
2036	171	I4
2037	112	I4
<b>Total</b>	<b>5,164</b>	
<b>PCAPCD Threshold of Significance</b>	<b>10,000</b>	
<b>Threshold Exceeded?</b>	<b>No</b>	

Notes: Totals may not add due to rounding; GHG = greenhouse gas; MTCO<sub>2</sub>e = metric tons of carbon dioxide equivalent; /year = per year; PCAPCD = Placer County Air Pollution Control District.

<sup>1</sup> Individual phases are defined in Tables 2-5 and 2-6 in Chapter 2, "Project Description." "Backbone" refers to backbone infrastructure, "R" refers to a residential phase, and "I" refers to an innovation and commercial phase.

Source: Modeled by Ascent in 2025.

The project would generate total construction emissions up to 5,164 MTCO<sub>2</sub>e over the entire construction for all phases. The maximum level of GHG emissions generated by the project in a single year of construction between the years 2027 and 2037 would be 1,693 MTCO<sub>2</sub>e in 2030, as shown in Table 3.5-3. Therefore, construction emissions associated with the project would not exceed the PCAPCD bright-line threshold of 10,000 MTCO<sub>2</sub>e/year.

### Operations

Operational GHG emissions would be generated by vehicle trips to and from the project site, electricity usage, water usage, wastewater and solid waste generation, and area sources such as landscaping equipment. The project operational GHG emissions associated with the full buildout year (i.e., 2038) used in this analysis are summarized in Table 3.5-4.

**Table 3.5-4 Project-Generated Operational Greenhouse Gas Emissions (MTCO<sub>2</sub>e)**

Emissions Source	Residential	Non-Residential	Total GHG Emissions (MTCO <sub>2</sub> e/year)
Area Sources	<1	24	24
Building Energy	558	4,827	5,385
Water and Wastewater	27	57	84
Solid Waste	132	771	903
Refrigerants	<1	4	4
Generators	<1	413	413
Mobile – Passenger Vehicles	4,614	6,921	11,535
Trucks	<1	2,850	2,850
<b>Total Operational GHG Emissions</b>	<b>5,331</b>	<b>15,867</b>	<b>21,197</b>
Metric (Capita/non-residential SF)	1,614	1,062,041	N/A
<b>GHG Efficiency</b>	<b>3.3 per capita</b>	<b>14.9 per 1000 SF</b>	N/A
<b>Threshold of Significance</b>	<b>4.5 per capita</b>	<b>26.5 per 1000 SF</b>	10,000 MTCO <sub>2</sub> e/year
<b>Exceeds Threshold of Significance?</b>	<b>No</b>	<b>No</b>	<b>Yes</b>

Notes: Totals may not add due to rounding; GHG = greenhouse gas; MTCO<sub>2</sub>e/year = metric tons of carbon dioxide equivalent per year; SF = square feet; N/A = not applicable.

Source: Modeled by Ascent in 2025.

The residential component of the project would result in total operational GHG emissions of 3.3 MTCO<sub>2</sub>e/capita. This would not exceed the applicable PCAPCD operational efficiency threshold of 4.5 MTCO<sub>2</sub>e/capita. The non-residential components of the project (i.e., innovation, retail, office) would generate 14.9 MTCO<sub>2</sub>e/1,000 sf which would not exceed the applicable PCAPCD operational efficiency threshold of 26.5 MTCO<sub>2</sub>e/1,000 sf for urban non-residential land uses. Although the project would not exceed the GHG efficiency metrics, the operational activities associated with the project would generate total GHG emissions of 21,197 MTCO<sub>2</sub>e/year, as shown in Table 3.5-4, which exceeds the PCAPCD 10,000 MTCO<sub>2</sub>e/year bright-line threshold.

### **Summary**

Implementation of the project would not result in an increase in GHG emissions that exceed the applicable construction (i.e., 10,000 MTCO<sub>2</sub>e/year) and operational efficiency (i.e., 4.5 MTCO<sub>2</sub>e/capita for residential projects and 26.5 MTCO<sub>2</sub>e/1,000 sf for urban non-residential land use) thresholds. However, the project would result in total emissions of 21,197 MTCO<sub>2</sub>e/year which exceed the bright-line threshold of 10,000 MTCO<sub>2</sub>e/year and therefore would result in a considerable contribution to global climate change. This impact would be **significant**.

## **Mitigation Measures**

### **Mitigation Measure 3.5-1a: Implement All Feasible On-Site Features to Reduce Operational GHG Emissions**

The project applicant shall reduce operational GHG emissions through the implementation of on-site mitigation measures. These measures shall be designed to account for any potential physical site constraints (e.g., solar is more effective when not obstructed by trees) and shall apply to all buildings of all phases of project development.

The following measures require that mobile-source GHG emissions are reduced to the greatest extent considering available and applicable technologies, and that building-related energy emissions (i.e., 5,798 MTCO<sub>2</sub>e/year) are fully offset. Compliance with these measures shall be demonstrated through an applicant-prepared Energy Feasibility Study, submitted for review and approval by the City of Roseville prior to recordation of the final map plan.

#### **Transportation**

- ▶ Implement Mitigation Measure 3.4-3c as described in Section 3.4, "Air Quality."
- ▶ Implement Mitigation Measure 3.4-3d as described in Section 3.4, "Air Quality."

#### **Building Energy**

##### **Onsite Solar Generation**

- ▶ The project shall incorporate onsite solar photovoltaic (PV) systems to the maximum extent feasible for both residential and non-residential development. Residential buildings shall comply with all applicable California Building Code and Title 24 solar requirements in effect at the time of building permit issuance. For non-residential development, including commercial, institutional, and data center uses, each building shall be evaluated at the building permit stage to determine feasible onsite solar PV installation based on the proposed use, available and usable roof or canopy area, structural capacity, orientation, shading, and anticipated energy demand. At a minimum, non-residential buildings shall be designed to be solar-ready and shall install PV systems sized to utilize a substantial portion of feasible roof or canopy area or otherwise demonstrate equivalent onsite renewable energy generation through alternative configurations.
- ▶ To supplement rooftop solar installation and maximize onsite renewable energy generation, the project may utilize solar photovoltaic systems mounted on parking-area canopies as an alternative or complementary compliance pathway for non-residential development. Solar canopies may be used to meet all or a portion of the onsite solar requirement where rooftop installation is constrained by building design, roof area, structural limitations, or operational needs. Parking-area solar systems shall be designed to optimize feasible photovoltaic generation while maintaining required parking capacity, circulation, and safety standards. Use of solar canopies may also provide ancillary benefits such as vehicle shading and reduced heat island effects.

### Onsite Backup Energy Storage

- ▶ The project shall incorporate battery energy storage systems (BESS) to support onsite renewable energy generation, enhance energy resilience, and reduce reliance on fossil-fuel backup power. Residential development may include unit-scale or building-scale battery systems designed to support critical loads during grid outages, while non-residential development, including commercial uses and data centers, shall evaluate and install appropriately sized centralized or building-specific BESS capable of load shifting, peak demand reduction, and backup power for critical operations. Battery systems shall be designed to integrate with onsite solar PV systems and be coordinated through a site-wide energy management system or microgrid infrastructure that allows for load prioritization and islanding during outages. Final BESS sizing and configuration shall be determined at the time of discretionary approval or building permit issuance based on the proposed land use, operational needs, and safety requirements, with compliance verified by the City of Roseville

### Data Center Alternative Backup Power Technologies

- ▶ For data center uses proposed within the project site, the project applicant shall evaluate and implement alternatives to conventional diesel-fueled backup generators to reduce GHGs emissions while maintaining required reliability and resiliency. Prior to discretionary approval or issuance of building permits for any data center facility, the applicant shall prepare an Energy and Backup Power Alternatives Assessment that evaluates lower-emission and zero-emission strategies, including but not limited to large-scale battery energy storage systems (BESS), renewable diesel or other low-carbon fuels, hydrogen-ready or fuel-cell technologies (e.g., linear generators). The ultimate design and technology shall be determined based on available technologies at the time of map plan submittal and based on the assessment conducted by a qualified energy consultant or engineer. The most practical and commercially available alternative to diesel-power generators shall be chosen.

### Mitigation Measure 3.5-1b: Decarbonize New Nonresidential Buildings

For nonresidential uses that do not include manufacturing or processing equipment that requires natural gas for processing (e.g., light manufacturing, some research and development), no natural gas infrastructure shall be permitted. Consistency with this measure shall be determined at building permit issuance, based on site-specific building plans submitted for review, and confirmed by the City prior to issuance of certificate of occupancy. The applicant shall submit building plans that demonstrate no natural gas service connections or gas-fired equipment are proposed.

### Mitigation Measure 3.5-1c: Use Renewable Natural Gas

Nonresidential land uses that require natural gas shall be sourced using renewable natural gas, as commercially available. Use of renewable natural gas reduces upstream GHG emissions by avoiding fugitive methane emissions from methane-producing facilities and activities. Renewable natural gas is captured from wastewater treatment plants, dairies, and landfills, and may be processed for uses that typically rely on fossil-fuel natural gas, thereby avoiding the global warming potential of fugitive methane emissions from these sources. Consistency with this measure requires a site-specific feasibility assessment to demonstrate that natural gas is required and to determine the availability of renewable gas sources, subject to City review and approval.

### Mitigation Measure 3.5-1d: Off-Site GHG Reduction Measures

Implementation of Mitigation Measure 3.5-1a through 3.5-1c would result in the reduction of GHG emissions of up to 5,798 MTCO<sub>2</sub>e/year (the total amount of building energy and backup energy associated GHG emission). To compensate for emissions in excess of 10,000 MTCO<sub>2</sub>e for a single year, an additional reduction of 5,399 MTCO<sub>2</sub>e of emissions would be required. To achieve this reduction, the applicant shall compensate by purchasing off-site GHG reduction credits for the remaining mass emissions associated with operations to PCAPCD's adopted threshold of 10,000 MTCO<sub>2</sub>e (for one year) after implementation of on-site GHG reductions associated with Mitigation Measure 3.5-1a through 3.5-1c. The level of GHG offsets needed to achieve the threshold may be re-calculated prior to approval of final map plan, so long as GHG estimates are prepared by a qualified GHG specialist retained by the project applicant, approved by the City, and based on substantial evidence. It should also be noted that inclusion of onsite measures that offset rather than reduce tailpipe emissions (e.g., renewable fuels) can be counted toward this measure. Further, to comply with this measure, any GHG offset purchased shall comply with the following parameters.

The GHG reductions achieved through an offset or through the purchase of a carbon credit must meet the following criteria:

**Real:** They represent reductions actually achieved (not based on maximum permit levels).

**Additional/surplus:** They are not already planned or required by regulation or policy (i.e., not double counted).

**Quantifiable:** They are readily accounted for through process information and other reliable data.

**Enforceable:** They are acquired through legally binding commitments/agreements.

**Validated:** They are verified through the accurate means by a reliable third party.

**Permanent:** They will remain as GHG reductions in perpetuity.

The purchase of GHG offsets shall prioritize implementation of offsets generated within or as close to Placer County as possible but may also include offsets from the rest of California and from other states with offset validity laws at least as strict as California's, in order of preference. All carbon offsets must be purchased from programs verified by a major third-party registry; examples include, but are not limited to, Climate Action Reserve (CAR), American Carbon Registry, and Verra (formally the Verified Carbon Standard), or directly in coordination with PCAPCD and in accordance with their off-site carbon credit program available at the time of map submittal. The purchase and retirement of the GHG offset must be demonstrated to the City, prior to issuance of any building permits.

#### Significance after Mitigation

Mitigation Measure 3.4-3c would reduce GHG emissions (i.e., up to 323 MTCO<sub>2</sub>e/year; See Appendix B) by promoting EV use. Implementation of Mitigation Measure 3.5-1a would reduce onsite GHG emissions associated with building energy and transportation. Mitigation Measure 3.5-1b would prohibit natural gas use for most nonresidential uses and Mitigation Measure 3.5-1c would require the use of renewable natural gas for the nonresidential land uses that would require natural gas. Implementation of these mitigation measures would reduce onsite operational GHG emissions. However, given that the actual future tenants are unknown at this time, the exact onsite GHG emissions reductions cannot be quantified, and it cannot be guaranteed at this time that GHG emissions would be reduced to the levels necessary. Mitigation Measure 3.5-1d would offset a single year of operation-related GHG emissions but would not reduce emissions for the life of the project below the applicable threshold. For these reasons, this impact would be **significant and unavoidable**.

### **Impact 3.5-2: Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases**

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The project would generate GHG emissions that exceed PCAPCD thresholds and, therefore, would result in a considerable contribution to global climate change. The project would include several measures that align with State and local plans intended to reduce GHG emissions, including the 2022 Scoping Plan, SACOG MTP/SCS, City General Plan and measures included in the SAP. However, the project would not include the implementation of voluntary standards related to transportation electrification and building decarbonization, and thus would conflict with these key attributes of the 2022 Scoping Plan. Therefore, implementation of the project would conflict with the goals and policies outlined in applicable plans adopted for the purpose of reducing GHG emissions. Therefore, this impact would be **significant**.

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Project consistency with applicable local and State plans that were developed with the intent of reducing GHG emissions was evaluated qualitatively. Each applicable plan is discussed separately below.

#### 2022 Scoping Plan

The 2022 Scoping Plan assesses the State's progress toward achieving the 2030 target for reduced GHG emissions and lays out the framework for achieving the statewide goal of carbon neutrality by 2045. The 2022 Scoping Plan identifies key actions necessary to achieve the state's goals, including moving to zero-emission transportation; phasing out the use of fossil gas for heating homes and buildings; transitioning to low-GWP chemicals and refrigerants; providing communities with sustainable options for walking, biking, and public transit to reduce reliance

on cars; and continued investment in solar powered–infrastructure, and other resources that provide clean, renewable energy to displace fossil-fuel fired electrical generation. Appendix C of the 2022 Scoping Plan includes detailed GHG reduction measures and potential measures developed as part of meeting the requirements of AB 197. In addition, Appendix D of the 2022 Scoping Plan includes a framework that local governments can follow when addressing GHG emissions in CEQA review to ensure local actions align with statewide goals and actions addressed in the plan.

The overall priority areas identified by CARB in the 2022 Scoping Plan include transportation electrification, VMT reduction, and building decarbonization. CARB provides project attributes associated with each that are intended as a guide to help local jurisdictions qualitatively identify projects that are consistent with the state’s climate goals. Projects that include all these key attributes would be consistent with the State climate goals; projects that incorporate some but not all these attributes can also demonstrate consistency with the State climate goals. CARB does specifically note that Appendix D (i.e., the Local Action guidance) project attributes were developed for residential and residential mixed-use project types only and does not address other land use types. Therefore, there may be project attributes associated with other land use types (e.g., innovation) that, if implemented, could also align with the overall intent of the 2022 Scoping Plan to reduce GHGs from identified priority areas.

### **Transportation Electrification**

The 2022 Scoping Plan transportation electrification key project attribute states that a project should provide “EV charging infrastructure that, at a minimum, meets the most ambitious voluntary standards in the CALGreen Code at the time of project approval” (CARB 2022: 22). Therefore, meeting code requirements alone is not adequate to achieve the intent of this measure. Projects would need to provide additional EV charging facilities above the minimum requirements. The project would meet the mandatory requirements of the 2022 CALGreen Code related to EV charging infrastructure requirements because 345 parking stalls (20 percent) on the innovation and commercial portion of the project site would be EV-capable; however, the project would not implement the most ambitious voluntary standards (i.e., Tier 2), which specifies, in part, that 45 percent of parking spaces are EV-capable. Therefore, the project would conflict with the overall intent of the 2022 Scoping Plan to reduce GHG emissions.

### **VMT Reduction**

The VMT reduction priority area aims to reduce fossil fuel consumption and GHG emissions from the transportation sector by promoting land use planning principles and project design features that reduce VMT. As discussed in Section 3.3, “Transportation and Circulation,” the project would have an average VMT per service population of 14.24 miles, which is well below the existing Citywide VMT per service population average of 27.4, and the applicable Citywide VMT per service population threshold of 23.3 miles. Therefore, the project would be consistent with this reduction priority area, which aims to reduce project-generated VMT. The project design also aligns with criteria put forth in the 2022 Scoping Plan including locating development on infill sites that do not result in a loss of natural and working lands and including transit-supportive densities (e.g., 20 units/acre to 50 units/acre). The residential component of the project would be high-density residential (i.e., approximately 23 units/acre) and, thus, would align with the definition of transit-supportive density. In addition, although the project site is currently grazing land and not considered an infill site, the project would include approximately 4.9 acres of park and 13.9 acres of open space along the Pleasant Grove Creek and Pleasant Grove Creek Bypass Channel and pedestrian and bicycle infrastructure, thus maintaining access to natural lands. For these reasons, the project would not conflict with this area of the 2022 Scoping Plan.

### **Building Decarbonization**

The residential component of the project is designed to be all-electric, exceeding current building code requirements and furthering the 2022 Scoping Plan objective of reducing reliance on fossil fuel such as natural gas. The current California Building Code requires solar panels for new residential land uses. For non-residential uses, while the building code does not require solar, future solar panel systems would be optional and feasibility/applicability would be determined at the time of each development application based on the specific land use proposed. The 2022 Scoping Plan acknowledges that electrification is not possible in all situations and it is anticipated in the Scoping Plan future emissions scenario that natural gas emissions from industrial boilers, generators, and associated unique sources that do not have alternative fuel counterparts would continue to be developed (CARB 2022: Appendix H). Although the nonresidential components would not be all-electric, natural gas would only be used if needed to meet

the operational needs of an advanced manufacturer or other specific use; it would not be utilized for heating, ventilation, or air conditioning (HVAC). However, there is an additional option to reduce project-generated natural gas emissions beyond what is currently proposed. Therefore, the project would conflict with the overall intent of the 2022 Scoping Plan to reduce GHG emissions.

### **Summary**

Although the project would be consistent with the 2022 Scoping Plan key attributes related to VMT reduction and building decarbonization, it would not implement the most ambitious voluntary standards related to transportation electrification and building decarbonization. Therefore, the project would conflict with the 2022 Scoping Plan.

### **SACOG Metropolitan Transportation Plan/Sustainable Communities Strategy**

The SACOG MTP/SCS includes policies and implementation actions that will help achieve the plan's four major objectives. One of the main objectives of the project is to design a comprehensively planned community with a mix of land uses and a range of residential densities to create a balanced community. This project objective aligns with MTP/SCS Policy Vibrant-6 which aims to implement complete communities that include a balance of homes, jobs, services, amenities, and diverse transportation options (SACOG 2025: 91). The project would also provide high-density residential, which aligns with MTP/SCS Policy Vibrant-2 which aims to increase housing options, jobs and services, and access to amenities (SACOG 2025: 90). The project would not conflict with any applicable policies in the SACOG MTP/SCS for the purpose of reducing GHG emissions.

### **City of Roseville General Plan 2035**

The project includes a variety of features that would reduce GHG emissions and align with policies and strategies in the City General Plan that are intended to address climate change. For example, as discussed in Chapter 2, "Project Description," the project would include an 8-foot-wide pedestrian and bike path along the east side of Street A from Blue Oaks Boulevard to south of the proposed bridge at which point it would transition to 10 feet wide along the east side of Street A and stop at Street T. The project would also include sidewalks and bike lanes along additional streets within the project site and onsite bike racks for visitors and long-term onsite bike parking for employees. The implementation of these active transportation facilities is consistent with General Plan Policy AQ1.12, which aims to develop transportation systems that improve the desirability of walking and bicycling as well as with the Ongoing Mobile Sources General Plan Air Quality and Climate Change Mitigation Strategies, which encourages new development to promote pedestrian and bicycle access and circulation and to provide safe and secure bicycle parking facilities at employment sites and office centers. The project also includes extensions and improvements to Blue Oaks Boulevard and Phillip Road which would fill gaps in the infrastructure systems. These extensions and improvements would occur in phases as needed to serve each phase of the proposed development, consistent with Air Quality and Climate Change Mitigation Strategies included in the City General Plan. Finally, while the actual tenants are not yet known, the project would include Community Commercial uses to serve the adjacent residential areas, consistent with the General Plan Policy Air Quality and Climate Change Mitigation Strategies that encourage small neighborhood-serving commercial uses adjacent to residential neighborhoods. The implementation of these project features would reduce project-generated emissions in alignment with the policies and strategies in the City General Plan.

### **City of Roseville Communitywide Sustainability Action Plan**

The City of Roseville's SAP sets detailed strategies to attain the City's sustainability and climate change policies. The SAP was developed with the intent of reducing GHG emissions, in line with the State's GHG reduction targets for the year 2020. The project would be developed well beyond the target year of the SAP and, therefore, the GHG reduction targets in the SAP would not be applicable to the project. Nonetheless, the incorporation of electric infrastructure and increased renewable energy would be consistent with measures in the SAP. However, considering that the SAP does not contain emissions reduction targets applicable to the project, a consistency analysis with this plan would not provide meaningful information relating to the project's ability to meet the City of Roseville's 2030 and 2050 GHG goals.

### **Summary**

The project includes features that would reduce GHG emissions and would be consistent with policies and strategies included in the 2022 Scoping Plan, SACOG MTP/SCS, City's General Plan, and measures included in the SAP.

Although the project would be consistent with the 2022 Scoping Plan key attributes related to VMT reduction and building decarbonization, the project would not include the implementation of voluntary standards related to transportation electrification and, thus, would conflict with this key attribute. Therefore, implementation of the project would conflict with the goals and policies outlined in State plans adopted for the purpose of reducing GHG emissions. Thus, this impact would be **significant**.

## Mitigation Measures

### Mitigation Measure 3.5-2a: Implement Mitigation Measure 3.4-3c

The project applicant shall implement Mitigation Measures 3.4-3c in Section 3.4, "Air Quality."

### Mitigation Measure 3.5-2b: Implement Mitigation Measure 3.4-3e

The project applicant shall implement Mitigation Measure 3.4-3e in Section 3.4, "Air Quality."

### Mitigation Measure 3.5-2c: Implement Mitigation Measure 3.5-1c

The project applicant shall implement Mitigation Measure 3.5-1c.

### Significance after Mitigation

Implementation of Mitigation Measure 3.5-2a would require the project applicant to provide the necessary EV charging infrastructure (i.e., the most ambitious voluntary standards established in the 2025 CALGreen Code) in compliance with the state's transportation electrification goals. This measure is necessary to demonstrate that a project is doing its "fair share" in assisting the state in meeting its long-term GHG reduction goals. Implementation of Mitigation Measure 3.5-2c would require the use of renewable natural gas for the nonresidential project components that would require natural gas. Consistency with this measure would require a site-specific feasibility assessment to demonstrate that the nonresidential land use would require natural gas and to determine the availability of renewable gas sources and would be subject to City review and approval. With implementation of Mitigation Measure 3.5-2a, the project would implement the most ambitious voluntary standards related to transportation electrification and with implementation of Mitigation Measure 3.5-2b, the project would implement a mandatory commute reduction program for employees, further reducing GHG emissions associated with transportation. With implementation of Mitigation Measure 3.5-2c, the project would incorporate an additional way to reduce natural gas emissions beyond what is currently proposed under the project. Therefore, with mitigation, the project would not conflict with the 2022 Scoping Plan. This impact would be reduced to a **less-than-significant** level.

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