IV. Environmental Impact Analysis

G. Greenhouse Gas Emissions

1. Introduction

This section compares the Project's characteristics with applicable regulations, plans, and policies set forth by the State of California, South Coast Air Quality Management District (SCAQMD) the Southern California Association of Governments (SCAG) and the City to reduce greenhouse gas (GHG) emissions to determine whether the Project would not conflict with the provisions of these plans. To assist in analyzing the Project's potential to conflict with applicable regulations, plans and policies, this section also estimates the Project's GHG emissions generated by Project construction and operations, taking into account mandatory and voluntary energy and resource conservation measures that have been incorporated into the Project to reduce GHG emissions. Details of the GHG analysis are provided in the *Air Quality and Greenhouse Gas Technical Documentation* appendix, which is attached as Appendix C of this Draft EIR.

2. Environmental Setting

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and severe weather events. Global warming, a related concept, is the observed increase in average temperature of Earth's surface and atmosphere. One identified cause of global warming is an increase of GHGs in the atmosphere. GHGs are those compounds in Earth's atmosphere that play a critical role in determining Earth's surface temperature.

Earth's natural warming process is known as the "greenhouse effect." It is called the greenhouse effect because Earth and the atmosphere surrounding it are similar to a greenhouse with glass panes in that the glass allows solar radiation (sunlight) into Earth's atmosphere but prevents radiative heat from escaping, thus warming Earth's atmosphere. Some levels of GHGs keep the average surface temperature of Earth close to a hospitable 60 degrees Fahrenheit (ºF). However, as GHG from human activities increase, they build up in the atmosphere and warm the climate, leading to many other changes around the world - in the atmosphere, on land, and in the oceans, with associated adverse climatic and ecological consequences.[1]

Scientists studying the particularly rapid rise in global temperatures have determined that human activity has resulted in increased emissions of GHGs, primarily from the

[1] U.S. Environmental Protection Agency, Climate Change Indicators: Greenhouse Gases, https://www.epa.gov/climate-indicators/greenhouse-gases, accessed February 2022.

burning of fossil fuels (from motor vehicle travel, electricity generation, consumption of natural gas, industrial activity, manufacturing, etc.), deforestation, agricultural activity, and the decomposition of solid waste. Scientists refer to the global warming context of the past century as the "enhanced greenhouse effect" to distinguish it from the natural greenhouse effect.[2]

Global GHG emissions due to human activities have grown since pre-industrial times. As reported by the United States Environmental Protection Agency (USEPA), global carbon emissions from fossil fuels increased by over 16 times between 1900 and 2008 and by about 43 percent between 1990 and 2015. In addition, in the Global Carbon Budget 2019 report, published in December 2019, atmospheric carbon dioxide (CO_2) concentrations in 2018 were found to be 47 percent above the concentration at the start of the Industrial Revolution, and the present concentration is the highest during at least the last 800,000 years.[3] Global increases in CO_2 concentrations are due primarily to fossil fuel use, with land use change providing another significant but smaller contribution. Regarding emissions of non-CO_2 GHGs, these have also increased significantly since 1990.[4] In particular, studies have concluded that it is very likely that the observed increase in methane (CH_4) concentration is predominantly due to agriculture and fossil fuel use.[5]

In August 2007, international climate talks held under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) led to the official recognition by the participating nations that global emissions of GHG must be reduced. According to the "Ad Hoc Working Group on Further Commitments of Annex I Parties under the Kyoto Protocol," avoiding the most catastrophic events forecast by the United Nations Intergovernmental Panel on Climate Change (IPCC) would entail emissions reductions by industrialized countries in the range of 25 to 40 percent below 1990 levels. Because of the Kyoto Protocol's Clean Development Mechanism, which gives industrialized countries credit for financing emission-reducing projects in developing countries, such an emissions goal in industrialized countries could ultimately spur efforts to cut emissions in developing countries as well.[6]

In December 2015, the US entered into the Paris Agreement which has a goal of keeping a global temperature rise this century below 2 degrees Celsius (ºC) above pre-industrial levels and limit the temperature increase further to 1.5ºC. This agreement requires that all parties report regularly on emissions and implementation efforts to achieve these goals.

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2 Pew Center on Global Climate Change, Climate Change 101: Understanding and Responding to Global Climate Change.

3 P. Friedlingstein et al.: Global Carbon Budget 2019, 2019.

4 U.S. Environmental Protection Agency, Global Greenhouse Gas Emissions Data, www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data, accessed September 1, 2021.

5 U.S. Environmental Protection Agency, Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gas, updated April 2021.

6 United Nations Framework Convention on Climate Change, Press Release—Vienna UN Conference Shows Consensus on Key Building Blocks for Effective International Response to Climate Change, August 31, 2007.

Regarding the adverse effects of global warming, as reported by SCAG:

> *Global warming poses a serious threat to the economic well-being, public health and natural environment in southern California and beyond. The potential adverse impacts of global warming include, among others, a reduction in the quantity and quality of water supply, a rise in sea level, damage to marine and other ecosystems, and an increase in the incidences of infectious diseases. Over the past few decades, energy intensity of the national and state economy has been declining due to the shift to a more service-oriented economy. California ranked fifth lowest among the states in CO_2 emissions from fossil fuel consumption per unit of Gross State Product. However, in terms of total CO_2 emissions, California is second only to Texas in the nation and is the 12th largest source of climate change emissions in the world, exceeding most nations. The SCAG region, with close to half of the state's population and economic activities, is also a major contributor to the global warming problem.*[7]

a) GHG Fundamentals

GHGs are those compounds in the Earth's atmosphere which play a critical role in determining temperature near the Earth's surface. GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).[8] More specifically, these gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere but retain some of the low frequency infrared energy, which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. Compounds that are regulated as GHGs are discussed in **Table IV.G-1**, *Description of GHGs*.[9, 10]

Not all GHGs possess the same ability to induce climate change. Carbon dioxide is the most abundant GHG in Earth's atmosphere. Other GHGs are less abundant but have higher global warming potential (GWP) than CO_2. Thus, emissions of other GHGs are commonly quantified in the units of equivalent mass of carbon dioxide (CO_2e). GWP is based on several factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO_2, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years otherwise referred to as atmospheric lifetime) relative to that of CO_2.

7 Southern California Association of Governments, The State of the Region—Measuring Regional Progress, December 2006, p. 121.

8 As defined by California Assembly Bill (AB) 32 and Senate Bill (SB) 104.

9 Intergovernmental Panel on Climate Change, Second Assessment Report, Working Group I: The Science of Climate Change, 1995.

10 Intergovernmental Panel on Climate Change, Fourth Assessment Report, Working Group I Report: The Physical Science Basis, Table 2.14, 2007.

TABLE IV.G-1
DESCRIPTION OF IDENTIFIED GHGS

Greenhouse Gas	GHG Emissions ($MMTCO_2e$)
Carbon Dioxide (CO_2)	An odorless, colorless GHG, which has both natural and anthropocentric sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human-caused) sources of CO_2 are burning coal, oil, natural gas, and wood.
Methane (CH_4)	A flammable gas and the main component of natural gas. When one molecule of CH_4 is burned in the presence of oxygen, one molecule of CO_2 and two molecules of water are released. A natural source of CH_4 is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain CH_4, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle.
Nitrous Oxide (N_2O)	A colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, race cars, and as an aerosol spray propellant.
Hydrofluorocarbons (HFCs)	Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are non-toxic, non-flammable, insoluble, and chemically unreactive in the troposphere (the level of air at Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. Because they destroy stratospheric ozone, the production of CFCs was stopped as required by the Montreal Protocol in 1987. HFCs are synthetic man-made chemicals that are used as a substitute for CFCs as refrigerants. HFCs deplete stratospheric ozone, but to a much lesser extent than CFCs.
Perfluorocarbons (PFCs)	PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere. High-energy ultraviolet rays about 60 kilometers above Earth's surface are able to destroy the compounds. PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane and hexafluoroethane. The two main sources of PFCs are primary aluminum production and semi-conductor manufacturing.
Sulfur Hexafluoride (SF_6)	An inorganic, odorless, colorless, non-toxic, and non-flammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.
Nitrogen Trifluoride (NF_3)	An inorganic, non-toxic, odorless, non-flammable gas. NF_3 is used in the manufacture of semi-conductors, as an oxidizer of high energy fuels, for the preparation of tetrafluorohydrazine, as an etchant gas in the electronic industry, and as a fluorine source in high power chemical lasers.

[a] GHGs identified in this table are ones identified in the Kyoto Protocol and other synthetic gases recently added to the IPCC's Fifth Assessment Report.

SOURCES: Association of Environmental Professionals, Alternative Approaches to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents, Final, June 29, 2007; Environmental Protection Agency, Acute Exposure Guideline Levels (AEGLs) for Nitrogen Trifluoride; January 2009.

The larger the GWP, the more that a given gas warms the Earth compared to CO_2 over that time.[11] These GWP ratios are available from the Intergovernmental Panel on Climate Change (IPCC). Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (SAR). The IPCC updated the GWP values in its Fourth Assessment Report (AR4). The GWPs in the IPCC AR4 are used by CARB for reporting Statewide GHG emissions inventories, consistent with international reporting standards. By applying the GWP ratios, Project-related CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline.

The IPCC has issued an updated Fifth Assessment Report (AR5), which has revised down the majority of the GWP for key regulated pollutants. As CARB still uses AR4 values and the modeling software CalEEmod is built on these assumptions, AR4 GWP values are used for the Project. Generally, the changes from AR4 to AR5 are reductions in warming potential for the GHG most associated with construction and operation of typical development projects. The GWP from AR4 and AR5 and atmospheric lifetimes for key regulated GHGs are provided in **Table IV.G-2**, *Atmospheric Lifetimes and Global Warming Potentials*.

TABLE IV.G-2
ATMOSPHERIC LIFETIMES AND GLOBAL WARMING POTENTIALS

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon) (AR4 Assessment)	Global Warming Potential (100-Year Time Horizon) (AR5 Assessment)
Carbon Dioxide (CO_2)	50-200	1	1
Methane (CH_4)	12 (+/-3)	25	28
Nitrous Oxide (N_2O)	114	298	265
HFC-23: Fluoroform (CHF_3)	270	14,800	12,400
HFC-134a: 1,1,1,2-Tetrafluoroethane (CH_2FCF_3)	14	1,430	1,300
HFC-152a: 1,1-Difluoroethane ($C_2H_4F_2$)	1.4	124	138
PFC-14: Tetrafluoromethane (CF_4)	50,000	7,390	6,630
PFC-116: Hexafluoroethane (C_2F_6)	10,000	12,200	11,100
Sulfur Hexafluoride (SF_6)	3,200	22,800	23,500
Nitrogen Trifluoride (NF_3)	740	17,200	16,100

SOURCES: IPCC, *Climate Change 2007: Working Group I: The Physical Science Basis, Direct Global Warming Potentials*.

[11] GWPs and associated CO2e values were developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) in 1996. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's SAR. The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). CARB has begun reporting GHG emission inventories for California using the GWP values from the IPCC AR4.

b) Projected Impacts of Global Warming in California

In 2009, California adopted a Statewide Climate Adaptation Strategy (CAS) that summarizes climate change impacts and recommends adaptation strategies across seven sectors: Public Health, Biodiversity and Habitat, Oceans and Coastal Resources, Water, Agriculture, Forestry, and Transportation and Energy. The California Natural Resources Agency will be updating the CAS and is responsible for preparing reports to the Governor on the status of the CAS. The Natural Resources Agency has produced climate change assessments which detail impacts of global warming in California.[12] These include:

- Sea level rise, coastal flooding and erosion of California's coastlines would increase, as well as sea water intrusion.
- The Sierra snowpack would decline between 70 and 90 percent, threatening California's water supply.
- Higher risk of forest fires resulting from increasing temperatures and making forests and brush drier. Climate change will affect tree survival and growth.
- Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes resulting in public health impacts.
- Habitat destruction and loss of ecosystems due to climate change affecting plant and wildlife habitats.
- Global warming can cause drought, warmer temperatures and saltwater contamination resulting in impacts to California's agricultural industry.

With regard to public health, as reported by the Center for Health and the Global Environment at the Harvard Medical School, the following are examples of how climate change can affect cardio-respiratory disease: (1) pollen is increased by higher levels of atmospheric CO_2; (2) heat waves can result in temperature inversions, leading to trapped masses or unhealthy air contaminants by smog, particulates, and other pollutants; and (3) the incidence of forest fires is increased by drought secondary to climate change and to the lack of spring runoff from reduced winter snows. These fires can create smoke and haze, which can settle over urban populations causing acute and exacerbating chronic respiratory illness.[13]

[12] State of California, Department of Justice, Office of the Attorney General, Climate Change Impacts in California, https://oag.ca.gov/environment/impact, accessed September 1, 2021.

[13] Paul R. Epstein, et al., *Urban Indicators of Climate Change, Report from the Center for Health and the Global Environment*, (Harvard Medical School and the Boston Public Health Commission, August 2003), unpaginated.

c) Regulatory Framework

There are a number of plans, regulations, programs, and agencies that provide policies, requirements, and guidelines regarding GHG emissions at the federal, State, regional, and local levels. As described below, these plans, guidelines, and laws include the following.

- Federal Clean Air Act
- Corporate Average Fuel Economy (CAFE) Standards
- Energy Independence and Security Act
- California Air Resources Board
- California Greenhouse Gas Reduction Targets
- California Global Warming Solutions Act (AB 32)
- Climate Change Scoping Plan
- Cap-and-Trade Program
- Emission Performance Standards
- Renewables Portfolio Standard Program
- Clean Energy and Pollution Reduction Act
- Pavley Standards
- California Low Carbon Fuel Standard
- Advanced Clean Cars Regulations
- Sustainable Communities and Climate Protection Act (SB 375)
- Senate Bill 743
- Executive Order N-79-20
- California Appliance Efficiency Regulations
- Title 24, Building Standards Code and CALGreen Code
- CEQA Guidelines
- South Coast Air Quality Management District
- Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategy
- City of Los Angeles Green New Deal
- City of Los Angeles Green Building Code
- City of Los Angeles Solid Waste Programs and Ordinances
- City of Los Angeles General Plan
- Traffic Study Policies and Procedures

(1) Federal

(a) Federal Clean Air Act

The USEPA is responsible for implementing federal policy to address GHGs. The United States Supreme Court (Supreme Court) ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that CO_2 and other GHGs are pollutants under the federal Clean Air Act (CAA), which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. In December 2009, USEPA issued an endangerment finding for GHGs under the Clean Air Act, setting the stage for future regulation.

The Federal Government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

(b) Corporate Average Fuel Economy (CAFE) Standards

In response to the *Massachusetts v. Environmental Protection Agency* ruling, President George W. Bush issued Executive Order 13432 in 2007, directing the USEPA, the United States Department of Transportation (USDOT), and the United States Department of Energy (USDOE) to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. The National Highway Traffic Safety Administration (NHTSA) subsequently issued multiple final rules regulating fuel efficiency for and GHG emissions from cars and light-duty trucks for model year 2011 and later for model years 2012-2016 and 2017-2021. In March 2020, the USDOT and the USEPA issued the final Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule, which amends existing CAFE standards and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establishes new standards covering model years 2021 through 2026.[14] These standards set a combined fleet wide average of 36.9 to 37 for the model years affected.[15]

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011 the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018. The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors,

[14] U.S. Environmental Protection Agency, *Final Rule for Model Year 2021 - 2026 Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards*, published April 30, 2020.

[15] National Highway Traffic Safety Administration (NHTSA), *Corporate Average Fuel Economy standards.*

heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program would reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines. Building on the first phase of standards, in August 2016, the USEPA and NHTSA finalized Phase 2 standards for medium and heavy-duty vehicles through model year 2027 that will improve fuel efficiency and cut carbon pollution. The Phase 2 standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons.[16]

(c) Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;
- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and
- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."[17]

(2) State

(a) California Air Resources Board

The California Air Resources Board (CARB), a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, CARB conducts research, sets the California Ambient Air Quality Standards (CAAQS), compiles emission inventories, develops suggested control measures, and provides

16 U.S. Environmental Protection Agency, *EPA and NHTSA Adopt Standards to Reduce GHG and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles for Model Year 2018 and Beyond, August 2016*.

17 A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the Federal Government and the local air districts. The SIP is required for the State to take over implementation of the Federal Clean Air Act. CARB also has primary responsibility for adopting regulations to meet the State's goal of reducing GHG emissions. The State has met its goals to reduce GHG emissions to 1990 levels by 2020. Subsequent State goals include reducing GHG emissions to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.

(b) California Greenhouse Gas Reduction Targets

(i) Executive Order S-3-05

Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

In accordance with Executive Order S-3-05, the Secretary of CalEPA is required to coordinate efforts of various agencies, which comprise the California Climate Action Team (CAT), in order to collectively and efficiently reduce GHGs. The CAT provides periodic reports to the Governor and Legislature on the State of GHG reductions in the State as well as strategies for mitigating and adapting to climate change.

The CAT stated that smart land use is an umbrella term for strategies that integrate transportation and land-use decisions. Such strategies generally encourage jobs/housing proximity, promote transit-oriented development (TOD), and encourage high-density residential/commercial development along transit corridors. These strategies develop more efficient land-use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population.

(ii) Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim Statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
- Ordered all State agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.

- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

(iii) Executive Order B-55-18

Executive Order B-55-18, issued by Governor Brown in September 2018, establishes a new Statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this executive order, CARB would work with relevant State agencies to develop a framework for implementation and accounting that tracks progress towards this goal as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

(c) California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code (HSC), Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines regulated GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable Statewide program to limit emissions of these GHGs from all major industries, with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing State actions that would achieve GHG emissions reductions.

To achieve these goals, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce Statewide GHG emissions from stationary sources consistent with the CAT strategies, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. In order to achieve the reduction targets, AB 32 requires CARB to adopt rules and regulations in an open public process that achieve the maximum technologically feasible and cost-effective GHG reductions.[18]

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amend HSC Division 25.5, establish a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and include provisions to ensure that the benefits of State climate policies reach disadvantaged communities. The new goals outlined in SB 32 update the Climate Change Scoping Plan requirement of AB 32 and involve increasing renewable energy use, imposing

[18] California Air Resources Board's list of discrete early action measures that could be adopted and implemented before January 1, 2010, was approved on June 21, 2007. The three adopted discrete early action measures are: (1) a low-carbon fuel standard, which reduces carbon intensity in fuels statewide; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance; and (3) increased methane capture from landfills, which includes requiring the use of state-of-the-art capture technologies.

tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

AB 197, signed September 8, 2016, is a bill linked to SB 32 and signed on September 8, 2016, prioritizes efforts to cut GHG emissions in low-income or minority communities. AB 197 requires CARB to make available, and update at least annually, on its website the emissions of GHGs, criteria pollutants, and toxic air contaminants for each facility that reports to CARB and air districts. In addition, AB 197 adds two Members of the Legislature to the CARB board as ex officio, non-voting members and creates the Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the Legislature and the houses of the Legislature concerning the State's programs, policies, and investments related to climate change.

(d) Climate Change Scoping Plan

AB 32 required CARB to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (HSC section 38561 (h)). The 2008 Climate Change Scoping Plan proposed a "comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health."[19] The 2008 Climate Change Scoping Plan had a range of GHG reduction actions which included direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms, such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

The 2008 Climate Change Scoping Plan called for a "coordinated set of solutions" to address all major categories of GHG emissions. Transportation emissions were addressed through a combination of higher standards for vehicle fuel economy, implementation of the Low Carbon Fuel Standard (LCFS), and greater consideration to reducing trip length and generation through land use planning and transit-oriented development. Buildings, land use, and industrial operations were encouraged and, sometimes, required to use energy more efficiently. Utility energy providers were required to include more renewable energy sources through implementation of the Renewables Portfolio Standard.[20] Additionally, the 2008 Climate Change Scoping Plan emphasized opportunities for households and businesses to save energy and money through increasing energy efficiency. It indicates that substantial savings of electricity and natural gas will be accomplished through "improving energy efficiency by 25 percent."

The 2008 Climate Change Scoping Plan identified several specific issues relevant to the development projects, including:

19 California Air Resources Board, Climate Change Scoping Plan, December 2008.

20 For a discussion of Renewables Portfolio Standard, refer to subsection California Renewables Portfolio Standard.

- The potential of using the green building framework as a mechanism, which could enable GHG emissions reductions in other sectors (i.e., electricity, natural gas), noting that:

  > *A Green Building strategy will produce greenhouse gas savings through buildings that exceed minimum energy efficiency standards, decrease consumption of potable water, reduce solid waste during construction and operation, and incorporate sustainable materials. Combined, these measures can also contribute to healthy indoor air quality, protect human health, and minimize impacts to the environment.*

- The importance of supporting the Department of Water Resources' work to implement the Governor's objective to reduce per capita water use by 20 percent by 2020. Specific measures to achieve this goal include water use efficiency, water recycling, and reuse of urban runoff. The Climate Change Scoping Plan notes that water use requires significant amounts of energy, including approximately one-fifth of Statewide electricity.
- Encouraging local governments to set quantifiable emission reduction targets for their jurisdictions and use their influence and authority to encourage reductions in emissions caused by energy use, waste and recycling, water and wastewater systems, transportation, and community design.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions reduction target for 2020. The 2020 emissions reduction target was originally set at 427 million metric tons (MMT) of CO_2e using the GWP values from the IPCC SAR. Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the scope of the reductions California must make to return to the 1990 emissions level by 2020 as required by AB 32. CARB originally defined the "business-as-usual", or BAU, scenario as emissions in the absence of any GHG emission reduction measures discussed in the 2008 Climate Change Scoping Plan, as approximately 596 $MMTCO_2e$ (using GWP values from the IPCC SAR). For example, in further explaining CARB's BAU methodology, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards. Therefore, under these original projections, the State would have had to reduce its 2020 BAU emissions by 28.4 percent to meet the 1990 target of 427 $MMTCO_2e$.

(i) 2014 Climate Change Scoping Plan Update

The First Update to the Climate Change Scoping Plan (2014 Scoping Plan) was approved by CARB in May 2014 and built upon the initial Climate Change Scoping Plan with new strategies and recommendations.[21] In 2014, CARB revised the target using the GWP

[21] California Air Resources Board, First Update to the AB 32 Scoping Plan, May 2014.

values from the IPCC AR4 and determined the 1990 GHG emissions inventory and 2020 GHG emissions limit to be increased to 431 $MMTCO_2e$. CARB also updated the State's 2020 BAU emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that had recently been adopted for motor vehicles and renewable energy. CARB's projected Statewide 2020 emissions estimate using the GWP values from the IPCC AR4 was 509.4 $MMTCO_2e$. Therefore, under the First Update to the Climate Change Scoping Plan, the emission reductions necessary to achieve the 2020 emissions target of 431 $MMTCO_2e$ would have been 78.4 $MMTCO_2e$, or a reduction of GHG emissions by approximately 15.4 percent, (down from 28.4 percent).

The stated purpose of the First Update was to "highlight… California's success to date in reducing its GHG emissions and lay… the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050."[22] The First Update found that California was on track to meet the 2020 emissions reduction mandate established by AB 32 and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals.[23]

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the State's economy to evaluate and describe the larger transformative actions that will be needed to meet the State's more expansive emission reduction needs by 2050."[24] Those six areas are: (1) energy; (2) transportation (vehicles/ equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction target.

Based on CARB's research efforts, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050."[25] Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

The First Update discussed new residential and commercial building energy efficiency improvements, specifically identifying progress towards zero net energy buildings as an element of meeting mid-term and long-term GHG reduction goals. The First Update expressed CARB's commitment to working with the California Public Utilities Commission

22 California Air Resources Board, *2014* Scoping Plan, May 2014, p. 4.

23 California Air Resources Board, 2014 Scoping Plan, May 2014, p. 34.

24 California Air Resources Board, 2014 Scoping Plan, May 2014, p. 6

25 California Air Resources Board, 2014 Scoping Plan, May 2014, p. 32

(CPUC) and California Energy Commission (CEC) to facilitate further achievements in building energy efficiency.

(ii) 2017 Climate Change Scoping Plan Update

In response to the passage of SB 32 and the identification of the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) in December 2017.[26] The 2017 Scoping Plan builds upon the framework established by the 2008 Climate Change Scoping Plan and the First Update while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health. The 2017 Scoping Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade program, which constraints and reduces emissions at covered sources.[27]

CARB's projected Statewide 2030 emissions takes into account 2020 GHG reduction policies and programs.[28] The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions would be achieved from electricity sector standards (i.e., utility providers to supply 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. Implementation of mobile source strategies (cleaner technology and fuels) include the following:

- At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025
- At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030
- Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Cars regulations
- Medium- and heavy-duty GHG Phase 2
- Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NO_X standard.

[26] California Air Resources Board, 2017 Scoping Plan Update*,* November 2017.

[27] California Air Resources Board, *2017* Scoping Plan, November 2017, p. 6

[28] California Air Resources Board, 2017 Scoping Plan, November 2017.

- Last Mile Delivery: New regulation that would result in the use of low NO_X or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for Class 3–7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.
- Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming Statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."

The 2017 Scoping Plan discusses the role of local governments in meeting the State's GHG reductions goals because local governments have jurisdiction and land use authority related to: community-scale planning and permitting processes, local codes and actions, outreach and education programs, and municipal operations.[29] Furthermore, local governments may have the ability to incentivize renewable energy, energy efficiency, and water efficiency measures.[30]

For individual projects under CEQA, the 2017 Scoping Plan states that local governments can support climate action when considering discretionary approvals and entitlements. According to the 2017 Scoping Plan, lead agencies have the discretion to develop evidence-based numeric thresholds consistent with the 2017 Scoping Plan, the State's long-term goals, and climate change science.[31]

The City of Los Angeles has not developed per capita targets for 2030 or 2050; however, the City recognizes that GHG emissions reductions are necessary in the public and private sectors. The City has taken the initiative in combating climate change by developing programs such as the Green New Deal and Green Building Code. Each of these programs is discussed further below.

A summary of the GHG emissions reductions required under HSC Division 25.5 is provided in **Table IV.G-3**, *Estimated Statewide Greenhouse Gas Emissions Reductions Required by HSC Division 25.5*.

[29] California Air Resources Board, 2017 Scoping Plan, November 2017, p.97.

[30] California Air Resources Board, 2017 Scoping Plan, November 2017, p.97.

[31] California Air Resources Board, 2017 Scoping Plan, November 2017, p.100.

TABLE IV.G-3
ESTIMATED STATEWIDE GREENHOUSE GAS EMISSIONS REDUCTIONS REQUIRED BY HSC DIVISION 25.5

Emissions Scenario	GHG Emissions ($MMTCO_2e$)
2008 Scoping Plan (IPCC SAR)	
2020 BAU Forecast (CARB 2008 Scoping Plan Estimate)	596
2020 Emissions Target Set by AB 32 (i.e., 1990 level)	427
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2020	169 (28.4%) [a]
2014 Scoping Plan (GHG Estimates Updated in 2014 to Reflect IPCC AR4)	
2020 BAU Forecast (CARB 2014 Scoping Plan Estimate)	509.4
2020 Emissions Target Set by AB 32 (i.e., 1990 level)	431
Reduction below NAT necessary to achieve 1990 levels by 2020	78.4 (15.4%) [b]
2017 Scoping Plan	
2030 BAU Forecast ("Reference Scenario" which includes 2020 GHG reduction policies and programs)	389
2030 Emissions Target Set by AB 32 (i.e., 40% below 1990 Level)	260
Reduction below Business-As-Usual Necessary to Achieve 40% below 1990 Level by 2030	129 (33.2%) [c]

$MMTCO_2e$ = million metric tons of carbon dioxide equivalents

[a] 596 – 427 = 169 / 596 = 28.4%

[b] 509.4 – 431 = 78.4 / 509.4 = 15.4%

[c] 389 – 260 = 129 / 389 = 33.2%

SOURCES: CARB, Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED), Attachment D, August 19, 2011; CARB, GHG 2020 Business-as-Usual (BAU) Emissions Projection, 2014 Edition, 2017, https://ww2.arb.ca.gov/ghg-bau, accessed February 27, 2020; CARB, California's 2017 Climate Change Scoping Plan Update, November 2017.

Under the Scoping Plan Scenario, continuation of the Cap-and-Trade regulation (or carbon tax) is expected to cover approximately 34 to 79 $MMTCO_2$ of the 2030 reduction obligation.[32] The State's short-lived climate pollutants strategy, which is for GHGs that remain in the atmosphere for shorter periods of time compared to longer-lived GHGs like CO_2, is expected to cover approximately 17 to 35 $MMTCO_2e$. The Renewables Portfolio Standard with 50 percent renewable electricity by 2030 is expected to cover approximately 3 $MMTCO_2$. The mobile source strategy and sustainable freight action plan includes maintaining the existing vehicle GHG emissions standards, increasing the

[32] California Air Resources Board, 2017 Scoping Plan, Appendix G, November 2017.

number of zero emission vehicles and improving the freight system efficiency, and is expected to cover approximately 11 to 13 $MMTCO_2$. CARB expects that the reduction in GHGs from doubling of the energy efficiency savings in natural gas and electricity end uses in the CEC 2015 Integrated Energy Policy Report by 2030 would cover approximately 7 to 9 $MMTCO_2$ of the 2030 reduction obligation. The other strategies would be expected to cover the remaining 2030 reduction obligations.

(e) Cap-and-Trade Program

The Climate Change Scoping Plan identifies a Cap-and-Trade Program as one of the strategies California would employ to reduce GHG emissions. CARB asserts that this program will help put California on the path to meet its goal of ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under Cap-and-Trade, an overall limit on GHG emissions from capped sectors is established and facilities subject to the cap will be able to trade permits to emit GHGs.

CARB designed and adopted a California Cap-and-Trade Program[33] pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from public and private major sources (deemed "covered entities") by setting a firm cap on Statewide GHG emissions and employing market mechanisms to achieve the State's emission-reduction mandates. The Statewide cap for GHG emissions from the capped sectors[34] (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the Program's duration.

Under the Cap-and-Trade Program, CARB issues allowances equal to the total amount of allowable emissions over a given compliance period and distributes these to regulated entities. Covered entities that emit more than 25,000 $MTCO_2e$ per year must comply with the Cap-and-Trade Program.[35] Triggering of the 25,000 $MTCO_2e$ per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (Mandatory Reporting Rule or "MRR").[36]

Each covered entity with a compliance obligation is required to surrender "compliance instruments"[37] for each $MTCO_2e$ of GHG they emit. Covered entities are allocated free allowances in whole or part (if eligible), and can buy allowances at auction, purchase allowances from others, or purchase offset credits.

33 California Code of Regulations 17, Section 95800 to 96023.

34 California Code of Regulations 17, Section 95811, 95812.

35 California Code of Regulations 17, Section 95812.

36 California Code of Regulations 17, Section 95100-95158.

37 Compliance instruments are permits to emit, the majority of which will be "allowances," but entities also are allowed to use CARB-approved offset credits to meet up to 8% of their compliance obligations.

The Cap-and-Trade Regulation provides a firm cap, ensuring that the Statewide emission limits will not be exceeded. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site-specific or project-level, GHG emissions reductions. Also, due to the regulatory framework adopted by CARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures.

The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported.[38] Accordingly, for projects that are subject to the CEQA, GHG emissions from electricity consumption are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.[39]

The Program applies to emissions that cover approximately 80 percent of the State's GHG emissions. Demonstrating the efficacy of AB 32 policies, California achieved its 2020 GHG Reduction Target four years earlier than mandated. The largest reductions were the result of increased renewable electricity in the electricity sector, which is a covered sector in the Cap-and-Trade Program.

AB 398 was enacted in 2017 to extend and clarify the role of the State's Cap-and-Trade Program through December 31, 2030. As part of AB 398, refinements were made to the Cap-and-Trade program to establish updated protocols and allocation of proceeds to reduce GHG emissions.

(f) Energy-Related (Stationary) Sources

(i) Emission Performance Standards

SB 1368, signed September 29, 2006, is a companion bill to AB 32, which requires the CPUC and the CEC to establish GHG emission performance standards for the generation of electricity. These standards also generally apply to power that is generated outside of California and imported into the State. SB 1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB 32.

(ii) Renewables Portfolio Standard

SB 1078 (Chapter 516, Statutes of 2002) required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017 as a Renewables Portfolio Standard (RPS). Subsequent amendments provided additional targets throughout the years. Most

[38] California Code of Regulations 17, Section 95811(b).

[39] California Code of Regulations 17, Section 95811, 95812(d).

recently, on October 7, 2015, SB 350 (Chapter 547, Statues of 2015), also known as the Clean Energy and Pollution Reduction Act, further increased the RPS to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. SB 350 also requires the State to double Statewide energy efficiency savings in electricity and natural gas end uses by 2030. The 2017 Scoping Plan incorporated the SB 350 standards and estimated the GHG reductions would account for approximately 21 percent of the 2017 Scoping Plan reductions.[40] On September 10, 2018, SB 100, provided additional RPS targets of 44 percent by 2024, 52 percent by 2027, and 60 percent by 2030, and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by 2045.[41]

(g) Mobile Sources

(i) Pavley Standards

AB 1493 (Chapter 200, Statutes of 2002), enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In 2004, CARB approved the Pavley regulation to require automakers to control greenhouse gas emissions from new passenger vehicles for the 2009 through 2016 model years. Upon adoption of subsequent federal greenhouse gas standards by the USEPA that preserved the benefits of the Pavley regulations, the Pavley regulations were revised to accept compliance with the federal standards as compliance with California's standards in the 2012 through 2016 model years. This is referred to as the "deemed to comply" option.

In January 2012, CARB approved greenhouse gas emission regulations which require further reductions in passenger greenhouse gas emissions for 2017 and subsequent vehicle model years. As noted above, in August 2012, the USEPA and USDOT adopted GHG emission standards for model year 2017 through 2025 vehicles.[42] On November 15, 2012, CARB approved an amendment that allows manufacturers to comply with the 2017-2025 national standards to meet State law. Automobile manufacturers generally comply with these standards through a combination of improved energy efficiency in vehicle equipment (e.g., air conditioning systems) and engines as well as sleeker aerodynamics, use of strong but lightweight materials, and lower-rolling resistance tires.[43]

In 2018, the USEPA proposed the Safer Affordable Fuel-Efficient Vehicles Rule (SAFE) which would roll back fuel economy standards and revoke California's waiver. The rule amended certain average fuel economy and GHG standards for passenger cars covering model years 2021 through 2026. On March 30, 2020, the SAFE Rule was finalized and

40 California Air Resources Board, 2017 Scoping Plan, Table 3, p. 31, November 2017. Calculated as: (108 – 53) / 260 = 21 percent.

41 California Legislative Information, *SB-100* California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases.

42 United States Environmental Protection Agency, 2012.

43 CARB, California's Advanced Clean Cars Midterm Review, pp. ES-17, C-9.

published in the Federal Register, commencing a review period. Subsequent legal challenges from a coalition of states, including California, and private industry groups were issued. In August 2021, USEPA proposed to revise and strengthen the emissions standards for passenger cars and light trucks for model years 2023-2026.

On September 27, 2019, the USEPA withdrew the waiver it had previously provided to California for the State's GHG and ZEV programs under Section 209 of the Clean Air Act.[44] The withdrawal of the waiver was effective November 26, 2019. In response, several states including California filed a lawsuit challenging the withdrawal of the EPA waiver.[45] In April 2021, the USEPA announced it will move to reconsider its previous withdrawal and grant California permission to set more stringent climate requirements for cars and SUVs.[46]

(ii) California Low Carbon Fuel Standard

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates the following: (1) that a Statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) that a LCFS for transportation fuels be established in California. The final regulation was approved by the Office of Administrative Law and filed with the Secretary of State on January 12, 2010; the LCFS became effective on the same day. In September 2015, CARB approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted.[47]

The development of the 2017 Scoping Plan has identified LCFS as a regulatory measure to reduce GHG emission to meet the 2030 emissions target. In September 2018, the standards were amended by CARB to require a 20 percent reduction in carbon intensity by 2030, aligning with California's 2030 targets set by SB 32.[48]

(iii) Advanced Clean Cars Regulations

In 2012, CARB approved the Advanced Clean Cars program, an emissions-control program for model years 2015–2025.[49] The components of the Advanced Clean Cars

44 84 FR 51310.

45 United States District Court for the District Court of Columbia, State of California vs. Chao, Case 1:19-cv-02826, 2019.

46 United States Federal Register, California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a Previous Withdrawal of a Waiver of Preemption; Opportunity for Public Hearing and Public Comment (Document Number: 2021-08826), April 28, 2021.

47 California Air Resources Board, Low Carbon Fuel Standard - About, https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/about, accessed September 1, 2021.

48 California Air Resources Board, CARB amends Low Carbon Fuel Standard for wider impact, 2018, https://ww2.arb.ca.gov/index.php/news/carb-amends-low-carbon-fuel-standard-wider-impact, accessed September 1, 2021.

49 California Air Resources Board, Advanced Clean Cars Program - About, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about, accessed September 1, 2021.

program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[50] During the March 2017 Midterm Review, CARB voted unanimously to continue with the vehicle GHG emission standards and the ZEV program for cars and light trucks sold in California through 2025.[51] Effective November 26, 2019, the federal SAFE Vehicles Rule Part One: One National Program withdrew the California waiver for the GHG and ZEV programs under section 209 of the Clean Air Act, which revokes California's authority to implement the Advanced Clean Cars and ZEV mandates. In response, several states including California filed a lawsuit challenging the withdrawal of the EPA waiver.[52] In April 2021, the USEPA announced it will move to reconsider its previous withdrawal of the waiver.[53]

In addition, Governor Gavin Newsom signed an executive order (Executive Order No. N-79-20) on September 23, 2020 that would phase out sales of new gas-powered passenger cars by 2035 in California with an additional 10-year transition period for heavy vehicles. The State would not restrict used car sales, nor forbid residents from owning gas-powered vehicles. In accordance with the Executive Order, CARB is developing a 2020 Mobile Source Strategy, a comprehensive analysis that presents scenarios for possible strategies to reduce the carbon, toxic and unhealthy pollution from cars, trucks, equipment, and ships. The strategies will provide important information for numerous regulations and incentive programs going forward by conveying what is necessary to address the aggressive emission reduction requirements.

The primary mechanism for achieving the ZEV target for passenger cars and light trucks is CARB's Advanced Clean Cars II (ACC II) Program. The ACC II regulations will focus on post-2025 model year light-duty vehicles, as requirements are already in place for new vehicles through the 2025 model year. A rulemaking package is anticipated to be presented to the Board in June 2022.

50 California Air Resources Board, Advanced Clean Cars Program - About, https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about, accessed September 1, 2021

51 California Air Resources Board, News Release: CARB finds vehicle standards are achievable and cost-effective, ww2.arb.ca.gov/news/carb-finds-vehicle-standards-are-achievable-and-cost-effective, accessed September 1, 2021.

52 United States District Court for the District Court of Columbia, State of California vs. Chao, Case 1:19-cv-02826, 2019.

53 United States Federal Register, *California State Motor Vehicle Pollution Control Standards; Advanced Clean Car Program; Reconsideration of a Previous Withdrawal of a Waiver of Preemption; Opportunity for Public Hearing and Public Comment (Document Number: 2021-08826)*, April 28, 2021.

(iv) Sustainable Communities and Climate Protection Act (SB 375)

The Sustainable Communities and Climate Protection Act of 2008, or SB 375 (Chapter 728, Statutes of 2008), establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions, was adopted by the State on September 30, 2008. SB 375 finds that the "transportation sector is the single largest contributor of greenhouse gases of any sector."[54] Under SB 375, CARB is required, in consultation with the Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. SCAG is the Metropolitan Planning Organization in which the City of Los Angeles is located. CARB set targets for 2020 and 2035 for each of the 18 metropolitan planning organization regions in 2010, and updated them in 2018.[55] In March 2018, the CARB updated the SB 375 targets for the SCAG region to require an eight percent reduction by 2020 and a 19 percent reduction by 2035 in per capita passenger vehicle GHG emissions.[56] As discussed further below, SCAG has adopted an updated Regional Transportation Plan / Sustainable Community Strategies (RTP/SCS) subsequent to the update of the emission targets. The 2020-2045 RTP/SCS is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State's GHG emission reduction goals.[57]

Under SB 375, the target must be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plans) are not required to be consistent with either the RTP or SCS.

(v) Senate Bill 743

Governor Brown signed Senate Bill (SB) 743 in 2013, which creates a process to change the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 requires the Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to level of service (LOS) methodology for evaluating transportation impacts. Particularly within areas served by transit, the required alternative criteria must "promote the reduction of greenhouse gas emissions, the development of multimodal

54 State of California, Senate Bill No. 375, September 30, 2008.

55 California Air Resources Board, Sustainable Communities & Climate Protection Program – About, https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-climate-protection-program/about, accessed September 1, 2021.

56 California Air Resources Board, SB 375 Regional Greenhouse Gas Emissions Reduction Targets, https://www.arb.ca.gov/cc/sb375/finaltargets2018.pdf, accessed September 1, 2021.

57 Southern California Association of Governments, Final 2020-2045 RTP/SCS, Chapter 0: Making Connections, May 7, 2020, page 5.

transportation networks, and a diversity of land uses." Measurements of transportation impacts may include "vehicle miles traveled, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

(h) Building Standards and Other Regulations

(i) California Appliance Efficiency Regulations

The Appliance Efficiency Regulations (Title 20, Sections 1601 through 1608), adopted by the CEC, include standards for new appliances (e.g., refrigerators) and lighting, if they are sold or offered for sale in California. These standards include minimum levels of operating efficiency, and other cost-effective measures, to promote the use of energy- and water-efficient appliances.

(ii) Title 24, Building Standards Code and CALGreen Code

The CEC first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards is referred to as the California Green Building Standards (CALGreen) Code and was developed to help the State achieve its GHG reduction goals under HSC Division 25.5 (e.g., AB 32) by codifying standards for reducing building-related energy, water, and resource demand, which in turn reduces GHG emissions from energy, water, and resource demand. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[58] The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality.[59]

On May 9, 2018, the CEC adopted the 2019 Title 24 Standards, which went into effect on January 1, 2020. The 2019 standards continue to improve upon the previous (2016) Title

[58] California Building Standards Commission, 2010 California Green Building Standards Code, 2010.

[59] California Building Standards Commission, 2010 California Green Building Standards Code, 2010.

24 standards for new construction of, and additions and alterations to, residential and non-residential buildings.[60] The 2019 Title 24 Standards ensure that builders use the most energy efficient and energy conserving technologies and construction practices. As described in the 2019 Title 24 Standards represent "challenging but achievable design and construction practices" that represent "a major step towards meeting the Zero Net Energy (ZNE) goal." Single-family homes built with the 2019 Title 24 Standards are projected to use approximately seven percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once the mandated rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. Nonresidential buildings are projected to use approximately 30 percent less energy due mainly to lighting upgrades.[61] Compliance with Title 24 is enforced through the building permit process.

(i) CEQA Guidelines

In August 2007, the California State Legislature adopted Senate Bill 97 (SB 97) (Chapter 185, Statutes of 2007), requiring the Governor's Office of Planning and Research (OPR) to prepare and transmit new CEQA guidelines for the mitigation of GHG emissions or the effects of GHG emissions to the Resources Agency by July 1, 2009. In response to SB 97, the OPR adopted CEQA guidelines that became effective on March 18, 2010.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in the guidelines.[62] The guidelines require a lead agency to make a good-faith effort, based on the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. Discretion is given to the lead agency whether to: (1) use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-based standards. Furthermore, three factors are identified that should be considered in the evaluation of the significance of GHG emissions:

1. The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.[63]

[60] California Energy Commission, 2019 Building Energy Efficiency Standards.

[61] California Energy Commission, 2019 Building Energy Efficiency Standards, Fact Sheet.

[62] See 14 Cal. Code Regs. §§ 15064.7 (generally giving discretion to lead agencies to develop and publish thresholds of significance for use in the determination of the significance of environmental effects), 15064.4 (giving discretion to lead agencies to determine the significance of impacts from GHGs).

[63] 14 Cal. Code Regs. § 15064.4(b).

The administrative record for the Guidelines Amendments also clarifies "that the effects of greenhouse gas emissions are cumulative, and should be analyzed in the context of California Environmental Quality Act's requirements for cumulative impact analysis."[64]

(3) Regional

(a) South Coast Air Quality Management District CEQA Guidance

The City of Los Angeles is located in the South Coast Air Basin (Air Basin), which consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties, in addition to the San Gorgonio Pass area in Riverside County. The South Coast Air Quality Management District (SCAQMD) is responsible for air quality planning in the Air Basin and developing rules and regulations to bring the area into attainment of the ambient air quality standards. This is accomplished through air quality monitoring, evaluation, education, implementation of control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and by supporting and implementing measures to reduce emissions from motor vehicles.

In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds.[65] A GHG Significance Threshold Working Group was formed to further evaluate potential GHG significance thresholds.[66] The SCAQMD proposed the use of a percent emission reduction target to determine significance for commercial/residential projects that emit greater than 3,000 $MTCO_2e$ per year. Under this proposal, commercial/residential projects that emit fewer than 3,000 $MTCO_2e$ per year would be assumed to have a less than significant impact on climate change. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold of 10,000 $MTCO_2e$ per year for stationary source/industrial projects where the SCAQMD is the lead agency. However, the SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects). The Working Group has been inactive since 2011, and SCAQMD has not formally adopted any GHG significance threshold for other jurisdictions.

64 Letter from Cynthia Bryant, Director of the Governor's Office of Planning and Research to Mike Chrisman, California Secretary for Natural Resources, dated April 13, 2009.

65 South Coast Air Quality Management District, Board Meeting, December 5, 2008, Agenda No. 31, http://www3.aqmd.gov/hb/2008/December/081231a.htm, accessed September 1, 2021.

66 South Coast Air Quality Management District, Greenhouse Gases CEQA Significance Thresholds, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds, accessed September 1, 2021.

(b) SCAG Regional Transportation Plan/Sustainable Communities Strategy

To implement SB 375 and reduce GHG emissions by correlating land use and transportation planning, SCAG adopted the 2020-2045 Regional Transportation Plan/ Sustainable Communities Strategy (2020-2045 RTP/SCS) in October 2020. The vision for the region incorporates a range of best practices for increasing transportation choices, reducing dependence on personal automobiles, further improving air quality, and encouraging growth in walkable, mixed-use communities with ready access to transit infrastructure and employment. More and varied housing types and employment opportunities would be located in and near job centers, transit stations and walkable neighborhoods where goods and services are easily accessible via shorter trips. To support shorter trips, people would have the choice of using neighborhood bike networks, car share or micro-mobility services like shared bicycles or scooters. For longer commutes, people would have expanded regional transit services and more employer incentives to carpool or vanpool. Other longer trips would be supported by on-demand services such as microtransit, carshare, and citywide partnerships with ride hailing services. For those that choose to drive, hotspots of congestion would be less difficult to navigate due to cordon pricing and using an electric vehicle will be easier thanks to an expanded regional charging network.

The 2020-2045 RTP/SCS states that the SCAG region was home to about 18.8 million people in 2016 and currently includes approximately 6.0 million homes and 8.4 million jobs.[67] By 2045, the integrated growth forecast projects that these figures will increase by 3.7 million people, with nearly 1.6 million more homes and 1.6 million more jobs. Transit Priority Areas[68] (TPAs) will account for less than one percent of regional total land but are projected to accommodate 30 percent of future household growth between 2016 and 2045. The 2020-2045 RTP/SCS overall land use pattern reinforces the trend of focusing new housing and employment in the region's TPAs. TPAs are a cornerstone of land use planning best practice in the SCAG region because they concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability.

The 2020-2045 RTP/SCS is expected to reduce per capita transportation emissions by 19 percent by 2035, which is consistent with SB 375 compliance with respect to meeting the State's GHG emission reduction goals.[69] Due to fuel economy and efficiency improvements, GHG emission rates of model year 2017 vehicles have

[67] Southern California Association of Governments' 2020-2045 RTP/SCS population growth forecast methodology includes data for years 2010, 2010, 2016, and 2045.

[68] Defined by the 2020-2045 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a major transit stop (rail or bus rapid transit station) with 15-minute or less service frequency during peak commute hours

[69] Southern California Association of Governments, Final 2020-2045 RTP/SCS, Chapter 0: Making Connections, May 7, 2020, page 5.

decreased by 15 to 20 percent when compared to model year 2008 and earlier vehicles. However, for purposes of SB 375 emissions reduction targets, the fuel economy improvements have been largely excluded from the reduction calculation. The SB 375 target focuses on the amount of vehicle travel per capita. As discussed above, OPR recommended that achieving 15 percent lower per capita (residential) or per employee (office) VMT than existing development is both generally achievable and is supported by evidence that connects this level of reduction to the State's emissions goals (i.e., SB 375 goal). The reductions generated by fuel economy improvements are already included as part of the State's GHG emissions reduction program and are not double counted in the SB 375 target calculation.

(4) Local

(a) City of Los Angeles Green New Deal

The City of Los Angeles addressed the issue of global climate change in *Green LA, An Action Plan to Lead the Nation in Fighting Global Warming* ("LA Green Plan/ClimateLA") in 2007. This document outlines the goals and actions the City has established to reduce the generation and emission of GHGs from both public and private activities.

In April 2019, the *Green New Deal (Sustainable City Plan 2019)*, was released, consisting of a program of actions designed to create sustainability-based performance targets through 2050 designed to advance economic, environmental, and equity objectives.[70] The City's Green New Deal is the first four-year update to the City's first Sustainable City pLAn that was released in 2015.[71] It augments, expands, and elaborates on the City's vision for a sustainable future and tackles the climate emergency with accelerated targets and new aggressive goals.

While not a plan adopted solely to reduce GHG emissions, within the City's Green New Deal, "Climate Mitigation," or reduction of GHG is one of eight explicit benefits that help define its strategies and goals. These include reducing GHG emissions through near-term outcomes:

- Reduce potable water use per capita by 22.5 percent by 2025; 25 percent by 2035; and maintain or reduce 2035 per capita water use through 2050.
- Reduce building energy use per square feet for all building types 22 percent by 2025; 34 percent by 2035; and 44 percent by 2050 (from a baseline of 68 mBTU/sq.ft in 2015).
- All new buildings will be net zero carbon by 2030 and 100 percent of buildings will be net zero carbon by 2050.

[70] City of Los Angeles, Green New Deal, 2019.

[71] City of Los Angeles, Sustainable City pLAn, April 2015.

- Increase cumulative new housing unit construction to 150,000 by 2025; and 275,000 units by 2035.
- Ensure 57 percent of new housing units are built within 1,500 feet of transit by 2025; and 75 percent by 2035.
- Increase the percentage of all trips made by walking, biking, micro-mobility/matched rides, or transit to at least 35 percent by 2025, 50 percent by 2035, and maintain at least 50 percent by 2050.
- Reduce VMT per capita by at least 13 percent by 2025; 39 percent by 2035; and 45 percent by 2050.
- Increase the percentage of electric and zero emission vehicles in the city to 25 percent by 2025; 80 percent by 2035; and 100 percent by 2050.
- Increase landfill diversion rate to 90 percent by 2025; 95 percent by 2035 and 100 percent by 2050.
- Reduce municipal solid waste generation per capita by at least 15 percent by 2030, including phasing out single-use plastics by 2028 (from a baseline of 17.85 lbs. of waste generated per capita per day in 2011).
- Eliminate organic waste going to landfill by 2028.
- Reduce urban/rural temperature differential by at least 1.7ºF by 2025; and 3ºF by 2035.
- Ensure the proportion of Angelenos living within 1/2 mile of a park or open space is at least 65 percent by 2025; 75 percent by 2035; and 100 percent by 2050.

(b) City of Los Angeles Green Building Code

On December 11, 2019, the Los Angeles City Council approved Ordinance No. 186,488, which amended Chapter IX of the Los Angeles Municipal Code (LAMC), referred to as the Los Angeles Green Building Code, by adding a new Article 9 to incorporate various provisions of the 2019 CALGreen Code. Projects filed on or after January 1, 2020, must comply with the provisions of the Los Angeles Green Building Code. Specific mandatory requirements and elective measures are provided for three categories: (1) low-rise residential buildings; (2) nonresidential and high-rise residential buildings; and (3) additions and alterations to nonresidential and high-rise residential buildings. Article 9, Division 5 includes mandatory measures for newly constructed nonresidential and high-rise residential buildings.

(c) City of Los Angeles Solid Waste Programs and Ordinances

The recycling of solid waste materials also contributes to reduced energy consumption. Specifically, when products are manufactured using recycled materials, the amount of energy that would have otherwise been consumed to extract and process virgin source materials is reduced as well as disposal energy averted. In 1989, California enacted AB 939, the California Integrated Waste Management Act, which

establishes a hierarchy for waste management practices such as source reduction, recycling, and environmentally safe land disposal.

The City has developed and is in the process of implementing the Solid Waste Integrated Resources Plan, also referred to as the Zero Waste Plan, whose goal is to lead the City towards being a "zero waste" city by 2030. These waste reduction plans, policies, and regulations, along with Mayoral and City Council directives, have increased the level of waste diversion for the City to 76 percent as of 2013.[72] The RENEW LA Plan, aims to achieve a zero waste goal through reducing, reusing, recycling, or converting the resources not going to disposal and achieving a diversion rate of 90 percent or more by 2025.[73] The City has also approved the Waste Hauler Permit Program (Ordinance No. 181,519, LAMC Chapter VI, Article 6, Section 66.32-66.32.5), which requires private waste haulers to obtain AB 939 Compliance Permits to transport construction and demolition waste to City-certified construction and demolition waste processors. The City's Exclusive Franchise System Ordinance (Ordinance No. 182,986), among other requirements, sets a maximum annual disposal level and diversion requirements for franchised waste haulers to promote waste diversion from landfills and support the City's zero waste goals. These programs reduce the number of trips to haul solid waste and therefore reduce the amount of petroleum-based fuels and energy used to process solid waste.

(d) City of Los Angeles General Plan

The City does not have a General Plan Element specific to climate change and GHG emissions, and its General Plan does not have any stated goals, objectives, or policies specifically addressing climate change and GHG emissions. However, the following five goals from the City's General Plan Air Quality Element would also lead to GHG emission reductions:[74]

- Less reliance on single-occupancy vehicles with fewer commute and non-work trips;
- Efficient management of transportation facilities and system infrastructure using cost-effective system management and innovative demand-management techniques;
- Minimal impacts of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality;
- Energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels, and the implement of conservation

[72] City of Los Angeles, Department of Public Works, LA Sanitation, Recycling. https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-r?_adf.ctrl-state=kq9mn3h5a_188, accessed September 1, 2021.

[73] City of Los Angeles, RENEW LA, Five-Year Milestone Report, 2011.

[74] City of Los Angeles, Air Quality Element, June 1991, pages IV-1 to IV-4.

measures, including passive measures, such as site orientation and tree planting; and

- Citizen awareness of the linkages between personal behavior and air pollution and participation in efforts to reduce air pollution.

(e) Traffic Study Policies and Procedures

The City of Los Angeles Department of Transportation (LADOT) has developed the City Transportation Assessment Guidelines (TAG) (July 2019, updated July 2020) to provide the public, private consultants, and City staff with standards, guidelines, objectives, and criteria to be used in the preparation of a transportation assessment. The TAG establishes the reduction of vehicle trips and VMT as the threshold for determining transportation impacts and thus is an implementing mechanism of the City's strategy to reduce land use transportation-related GHG emissions consistent with AB 32, SB 32, and SB 375.

d) Existing Conditions

(1) Existing Statewide Greenhouse Gas Emissions

CARB compiles GHG inventories for the State of California. Based on the year 2019 GHG inventory data (the latest year for which data are available), California emitted 418.2 $MMTCO_2e$ which includes emissions resulting from imported electrical power.[75] Between 1990 and 2019, the population of California grew by approximately 9.8 million (from 29.8 to 39.6 million).[76,77] This represents an increase of approximately 33 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $773 billion in 1990 to $3.1 trillion in 2019, representing an increase of approximately four times the 1990 gross state product.[78] Despite the population and economic growth, California's net GHG emissions were reduced to below 1990 levels in 2016 and has continued to decline. According to CARB, the declining trend coupled with the State's GHG reduction programs (such as the RPS, LCFS, vehicle efficiency standards, and declining caps under the Cap and Trade Program) demonstrate that California is on track to meet the 2020 GHG reduction target codified in HSC, Division 25.5, also known as AB 32 and amended by

[75] California Air Resources Board, Current California GHG Emission Inventory Data - 2000-2019 GHG Inventory (2021 Edition).

[76] United States Census Bureau, National and State Population Estimates: 1990-1994, 1995; 2019 National and State Population Estimates.

[77] California Department of Finance, E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/documents/E-5_2021_InternetVersion.xlsx, accessed August 27, 2021.

[78] California Department of Finance, Gross State Product in California, https://www.dof.ca.gov/Forecasting/Economics/Indicators/Gross_State_Product/documents/CA_GDP.xlsx, accessed August 27, 2021. Amounts are based on current dollars as of the date of the report (April 2020).

SB 32.[79] **Table IV.G-4**, *State of California Greenhouse Gas Emissions,* identifies and quantifies Statewide human-caused GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2019 (i.e., the most recent year in which data are available from CARB). As shown in Table IV.G-3, the transportation sector is the largest contributor to Statewide GHG emissions at approximately 40 percent in 2019.

California's decreasing GHG emissions trend (total and per capita) and increasing population and gross State product trends are shown graphically in **Figure IV.G-1**, *Change in California GDP, Population, and GHG Emissions Since 2000*.

TABLE IV.G-4
STATE OF CALIFORNIA GREENHOUSE GAS EMISSIONS

Category	Total 1990 Emissions using IPCC SAR ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2019 Emissions using IPCC AR4 ($MMTCO_2e$)*	Percent of Total 2019 Emissions*
Transportation	150.7	35%	166.1	39.7%
Electric Power	110.6	26%	58.8	14.1%
Commercial	14.4	3%	15.9	3.8%
Residential	29.7	7%	28.0	6.7%
Industrial	103.0	24%	88.2	21.1%
Recycling and Waste [a]	–	–	8.9	2.1%
High GWP/Non-Specified [b]	1.3	<1%	20.6	4.9%
Agriculture/Forestry	23.6	6%	31.8	7.6%
Forestry Sinks	-6.7	--	-- [c]	--
Net Total (IPCC SAR)	**426.6**	**100%**	--	--
Net Total (IPCC AR4) [d]	**431**	**100%**	**418.2**	**100%**

* Totals may not add up exactly due to rounding.

[a] Included in other categories for the 1990 emissions inventory.

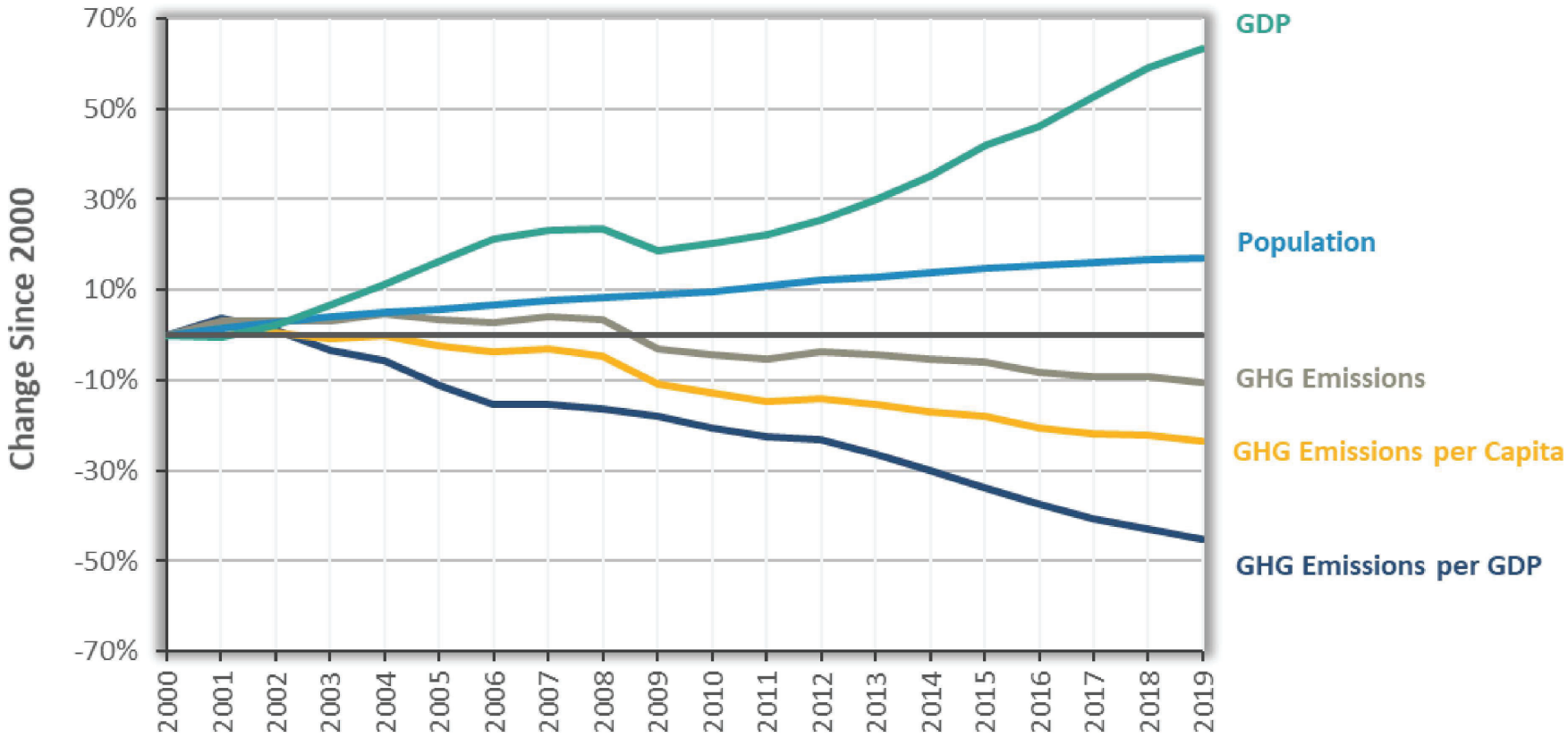
[b] High GWP gases are not specifically called out in the 1990 emissions inventory.

[c] Revised methodology under development (not reported for 2015).

[d] CARB revised the State's 1990 level GHG emissions using GWPs from the IPCC AR4.

SOURCES: California Air Resources Board, Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, 2007; CARB, Current California GHG Emission Inventory Data - 2000-2019 GHG Inventory (2021 Edition).

[79] California Air Resources Board, Frequently Asked Questions for the 2016 Edition California Greenhouse Gas Emission Inventory, 2016.



Metric	Associated 2019 Value
GDP	2.7 Trillion (2012 $)
Population	39.8 Million
GHG Emissions	418.1 Million Tonnes CO_2e
GHG Emissions per Capita	10.5 Tonnes CO_2e per Capita
GHG Emissions per GDP	150 Tonnes CO_2e per Million $

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SOURCE: CARB, 2020. 2020 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2018

Harvard-Westlake River Park Project

Figure IV.G-1
Change in California GDP, Population, and GHG Emissions Since 2000

(2) Existing Project Site Greenhouse Gas Emissions

Existing on-site facilities include the 2,700-square-foot clubhouse with a 10-seat café, a 799-square-foot tennis shack, and 16 tennis courts with approximately 128 court lights that reach a height of 22 feet. A nine-hole golf course comprising approximately 426,000 square feet, a 25-stall driving range with a 2,300-square-foot golf canopy, and a putting green are also located on the Project Site. The original, on-site Weddington Golf & Tennis clubhouse, including its café, which are located on the northeastern portion of the Project Site, would remain as part of the Project. An existing putting green to the northeast of the clubhouse, six existing golf ball-shaped light standards and poles, and the low brick retaining wall along the northeastern edge of the Project Site would also remain. The putting green would remain and be available for public use and enjoyment. The clubhouse, with some interior renovations to improve its usability and address deferred maintenance, would remain as part of the Project and function as a visitor center. While the clubhouse would function as a visitor center, operation of the building would not materially change compared to existing conditions, and as such, this analysis assumes these uses would generate the same operational GHG emissions with or without the Project and were, therefore, not included in existing or operational emissions modeling. The other existing structures and facilities on the Project Site would be demolished and removed to allow for development of the Project. GHG emissions are currently associated with vehicle trips to and from the existing Project Site, landscaping equipment, on-site combustion of natural gas for heating, off-site combustion of fossil fuels for electricity, and off-site emissions from solid waste decomposition, water conveyance, and wastewater treatment. GHG emissions are estimated using CalEEMod, which is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects.

CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.[80] CalEEMod was used to estimate existing site GHG emissions from natural gas, solid waste, water and wastewater, and landscaping equipment. Building natural gas usage rates are adjusted to account for prior Title 24 Building Energy Efficiency Standards.[81] Mobile source emissions have been estimated based on CARB's on-road vehicle emissions factor (EMFAC2017) model.

[80] See: http://www.caleemod.com.

[81] CARB, CalEEMod User's Guide, Appendix E, Section 5, September 2016. Factors for the prior Title 24 standard are extrapolated based on the technical source documentation.

Existing operational emissions for the Project Site are presented in **Table IV.G-5,** *Estimated Existing Project Site GHG Emissions*. Details regarding the calculation of the existing Project Site emissions are provided in Appendix C of this Draft EIR.

TABLE IV.G-5
ESTIMATED EXISTING PROJECT SITE GREENHOUSE GAS EMISSIONS

Emissions Sources	Project CO_2e (Metric Tons per Year) [a,b,c]
Existing Operational	
On Road Mobile Sources	890
Area (landscaping)	<1
Energy (Electricity and Natural Gas)	234
Water Conveyance and Wastewater Treatment	14
Solid Waste	47
Existing Total Emissions	**1,186**

[a] Totals may not add up exactly due to rounding in the modeling calculations

[b] CO_2e emissions are calculated using the global warming potential values from the IPCC AR4. Although the IPCC has released AR5 with updated GWPs, CARB reports the Statewide GHG inventory using the AR4 GWPs, which is consistent with international reporting standards.

[c] Emissions from the Weddington Golf & Tennis clubhouse and putting green are not included in this estimate as these land uses would continue to operate as under existing conditions and were therefore excluded from existing emissions modeling.

SOURCE: ESA, 2021.

(3) Urban Heat Island

Public comments were received in response to the Notice of Preparation (NOP) on the Project's potential to cause or contribute to the urban heat island effect. Because this issue was raised for this Project, urban heat island is discussed and the Project's potential to cause or contribute to the urban heat island effect analyzed in this section. The urban heat island effect is a potential adverse outcome of climate change-induced temperature increases resulting from GHG emissions, which could potentially lead to greater GHG emissions from additional energy needed for cooling. According to the CalEPA, the urban heat island effect refers to large urbanized areas that experience higher temperatures, greater pollution and more negative health impacts during hot summer months when compared to more rural communities.[82] Heat islands are created by a combination of heat-absorptive surfaces (such as dark pavement and roofing), heat-generating activities (such as engines and generators) and the absence of vegetation (which provides evaporative cooling). Daytime temperatures in urban areas

[82] CalEPA, Understanding the Urban Heat Island Index, https://calepa.ca.gov/climate/urban-heat-island-index-for-california/understanding-the-urban-heat-island-index/, accessed December 1, 2020.

are on average 1 to 6ºF higher than in rural areas, while nighttime temperatures can be as much as 22ºF higher as the heat is gradually released from buildings and pavement.[83] AB 296 (Chapter 667, Statutes of 2012) required that CalEPA develop an Urban Heat Island Index (UHII) to quantify the extent and severity of an urban heat island for individual cities to map where and how intensely they manifest at a local scale.[84] In 2015, CalEPA released maps that shows the scientifically assigned UHII scores based on atmospheric modeling for each census tract in and around most urban areas throughout the State. The urban area in which the Project Site is located has a UHII score of 0 to 10 degree-hours per day (Celsius scale).[85] This is equivalent to an average temperature difference between rural and urban in that area of approximately 0 to 0.75ºF.[86] The CalEPA UHII map for the urban area in which the Project Site is located is provided in **Figure IV.G-2**, *California Environmental Protection Agency Urban Heat Island Index Map – San Fernando*. It is important to note that the UHII does not measure the temperatures of an area, but rather it measures the average temperature difference between rural and urban in that area.

3. Project Impacts

a) Thresholds of Significance

(1) CEQA Guidelines Appendix G

In accordance with Appendix G of the CEQA Guidelines, a project would have a significant impact related to GHGs if it would:

Threshold (a): Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

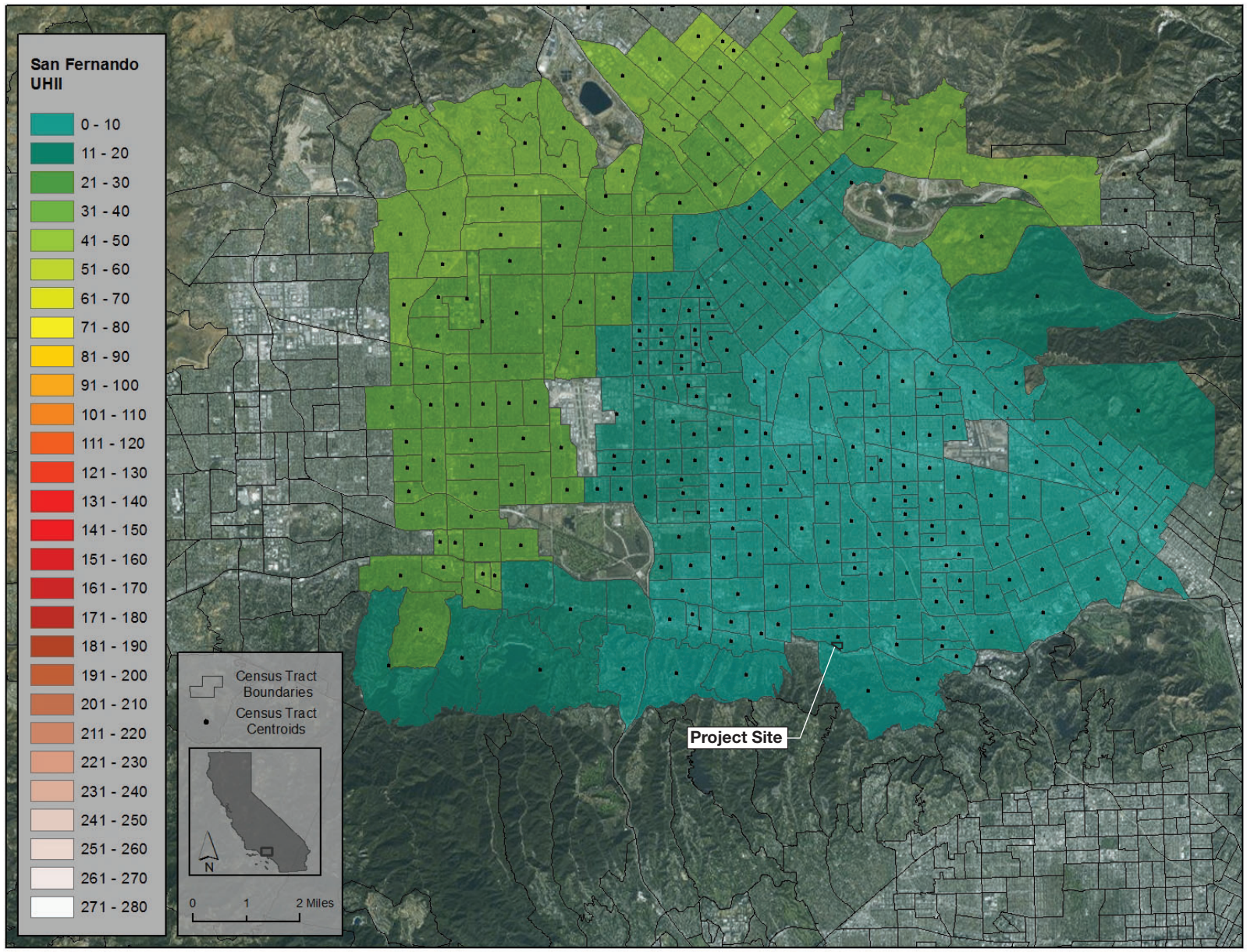
Threshold (b): Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

[83] CalEPA, Understanding the Urban Heat Island Index, https://calepa.ca.gov/climate/urban-heat-island-index-for-california/understanding-the-urban-heat-island-index/, accessed December 1, 2020.

[84] CalEPA, Understanding the Urban Heat Island Index, https://calepa.ca.gov/climate/urban-heat-island-index-for-california/understanding-the-urban-heat-island-index/, accessed December 1, 2020.

[85] According to CalEPA, the degree-hour combines both the intensity of the heat and the duration of the heat into a single numerical measure.

[86] According to CalEPA, to perform an approximate conversion to a total number of ºFahrenheit per day, divide the Index by 24 hours and multiply the result by 1.8ºF. For example, if the Index is 120 degree-hours per day, then the approximate average temperature difference between rural and urban in that area is 9ºF (i.e., 120 / 24 * 1.8 = 9).



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SOURCE: CalEPA, 2015. Creating and Mapping an Urban Heat Island Index for California.

Harvard-Westlake River Park Project

Figure IV.G-2
California Environmental Protection Agency
Urban Heat Island Index Map – San Fernando

CEQA Guidelines Section 15064.4 gives lead agencies the discretion to determine whether to assess those emissions quantitatively or qualitatively. If a qualitative analysis is used, in addition to quantification, this section recommends certain qualitative factors that may be used in the determination of significance (i.e., extent to which the project may increase or reduce GHG emissions compared to the existing environment; whether the project exceeds an applicable significance threshold; and extent to which the project complies with regulations or requirements adopted to implement a reduction or mitigation of GHGs). CEQA Guidelines Section 15064.4 does not establish a threshold of significance; rather, lead agencies are granted discretion to establish significance thresholds for their respective jurisdictions, including looking to thresholds developed by other public agencies, or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), so long as any threshold chosen is supported by substantial evidence (see CEQA Guidelines Section 15064.7(c)). Although GHG emissions can be quantified as discussed below under Subsection IV.G.3.(b), *Methodology*, CARB, SCAQMD, and the City have not adopted quantitative project-level significance thresholds for GHG emissions that would be applicable to the Project.

The California Natural Resources Agency (CNRA) has also clarified that the Guidelines focus on the effects of GHG emissions as cumulative impacts, and that they should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15064(h)).[87]

OPR released a technical advisory on CEQA and climate change that provided some guidance on assessing the significance of GHG emissions, and states that "lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice," and that while "climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment."[88] Furthermore, the technical advisory states that "CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project."[89]

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements

87 See generally California Natural Resources Agency, Final Statement of Reasons for Regulatory Action, December 2009, pages 11-13, 14, and 16; see also Letter from Cynthia Bryant, Director of the Office of Planning and Research to Mike Chrisman, Secretary for Natural Resources, April 13, 2009.

88 See generally California Natural Resources Agency, Final Statement of Reasons for Regulatory Action, December 2009, pages 11-13, 14, and 16; see also Letter from Cynthia Bryant, Director of the Office of Planning and Research to Mike Chrisman, Secretary for Natural Resources, April 13, 2009.

89 Governor's Office of Planning and Research, Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review.

that will avoid or substantially lessen the cumulative problem within the geographic area of the project.[90] To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.[91] Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."[92]

Thus, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of non-significance for GHG emissions if a project complies with a program and/or other regulatory schemes to reduce GHG emissions.

CARB's Climate Change Scoping Plan, SCAG's 2020-2045 RTP/SCS, City's Green New Deal, and the Los Angeles Green Building Code all apply to the Project and are all intended to reduce GHG emissions to meet the Statewide targets set forth in AB 32 and amended by SB 32. Thus, in the absence of any adopted quantitative threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions, including CARB's 2017 Scoping Plan, SCAG's 2020-2045 RTP/SCS, City's Green New Deal, and the Los Angeles Green Building Code. If the Project is not in conflict with the applicable regulatory plans and policies to reduce GHG emissions, then the Project would result in a less than significant impact with respect to GHG emissions.

(2) 2006 L.A. CEQA Thresholds Guide

The 2006 L.A. CEQA Thresholds Guide does not identify any criteria to evaluate GHG emissions impacts. Thus, the potential for the Project to result in impacts from GHG emissions is based on the CEQA Guidelines Appendix G thresholds.

For the reasons set forth above, to answer both State CEQA Guidelines Appendix G Threshold (a) and Threshold (b) for greenhouse gas emissions, the City will consider whether the Project is not in conflict with the Climate Change Scoping Plan, SB 375 (through demonstration of conformance with the 2020-2045 RTP/SCS), the City's Green New Deal, and the Los Angeles Green Building Code. As discussed above, OPR has noted that lead agencies "should make a good-faith effort to calculate or estimate GHG emissions from a project."[93] GHG emissions are quantified below, consistent with OPR guidelines.

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90 CCR, Title 14, Section 15064(h)(3).

91 CCR, Title 14, Section 15064(h)(3).

92 CCR, Title 14, Section 15064(h)(3).

93 Governor's Office of Planning and Research, Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, 2008.

b) Methodology

(1) Project Consistency with Applicable Plans and Policies

The Project's GHG emission impacts are evaluated by assessing whether the Project conflicts with applicable GHG reduction strategies and local actions approved or adopted by CARB, SCAG, and the City. As there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on whether the Project is not in conflict with, and therefore is consistent with, Statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the Project's GHG-related impacts on the environment consistent with CEQA Guidelines Section 15064.4 and CEQA Guidelines Appendix G.

A consistency analysis is provided and describes the Project's compliance with performance-based standards included in the regulations outlined in the applicable portions of CARB's Climate Change Scoping Plan, the 2020-2045 RTP/SCS, City's Green New Deal, and the Los Angeles Green Building Code.

Since the Project proposes to provide outdoor athletic fields utilizing artificial grass as a sustainable alternative and replacement to the existing turf grass, the potential for the Project's artificial turf to create a significant effect related to the urban heat island effect is discussed based on applicable and available studies and assessments.

(2) Quantification of Greenhouse Gas Emissions

In addition to the evaluation of the Project's consistency with plans adopted for the purpose of reducing and/or mitigating GHG emissions, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the Project using recommended air quality models, as described below. The primary purpose of quantifying the Project's GHG emissions is to satisfy CEQA Guidelines Section 15064.4(a), which requires a good-faith effort by the lead agency to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the Project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. The significance of the Project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the Project, and is evaluated solely on the basis of consistency with GHG reduction plans, policies, and regulations.

The California Climate Action Registry (Climate Registry) has prepared the General Reporting Protocol for calculating and reporting GHG emissions from a number of general and industry-specific activities.[94] The GHG emissions provided in this report are consistent with the General Reporting Protocol framework. The General Reporting

[94] The Climate Registry, General Reporting Protocol Version 2.1, 2016.

Protocol recommends separating GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include the following:

- Scope 1: Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).
- Scope 2: Indirect, off-site emissions associated with purchased electricity or purchased steam.
- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy.[95]

CARB recommends consideration of indirect emissions to provide a more complete picture of the GHG footprint of a facility: "As facilities consider changes that would affect their emissions – addition of a cogeneration unit to boost overall efficiency even as it increases direct emissions, for example – the relative impact on total (direct plus indirect) emissions by the facility should be monitored. Annually reported indirect energy usage also aids the conservation awareness of the facility and provides information" to CARB to be considered for future strategies by the industrial sector.[96] For these reasons, CARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the AB 32 reporting requirements. Additionally, OPR directs lead agencies to "make a good-faith effort, based on available information, to calculate, model, or estimate…GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities."[97] Therefore, direct and indirect emissions have been calculated for the Project.

A fundamental challenge in the analysis of GHG emissions is the global nature of the existing and cumulative future conditions. Changes in GHG emissions can be difficult to attribute to a particular project because the project may cause a shift in the locale for some type of GHG emissions, rather than simply causing "new" GHG emissions. As a result, there is a lack of clarity as to whether a project's GHG emissions represent a net global increase, reduction, or no change in GHGs that would exist if the project were not implemented. Therefore, the analysis of the Project's GHG emissions is conservative in that it assumes all of the GHG emissions are new additions to the atmosphere.

It is considered reasonable and consistent with criteria pollutant calculations to consider those GHG emissions resulting from Project-related incremental (net) increases from emissions sources mentioned in the scope categories above, such as emissions from the use of on-road mobile vehicles, electricity, and natural gas, compared to existing

95 Embodied energy includes energy required for water pumping and treatment for end-uses. Third-party vehicles include vehicles used by spectators, visitors, students and employees traveling to and from the Project Site.

96 California Air Resources Board, Staff Report: Initial Statement of Reasons for Rulemaking, Revisions to the Regulation for Mandatory Reporting of Greenhouse Gas Emissions Pursuant to the California Global Warming Solutions Act of 2006 (AB 32), 2010, page 27.

97 Governor's Office of Planning and Research, Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, 2008, page 5.

conditions. This includes Project construction activities such as demolition, hauling, and construction worker trips. This analysis also considers indirect GHG emissions from water conveyance, wastewater generation, and solid waste handling. Since potential impacts resulting from GHG emissions are long-term rather than acute, GHG emissions are calculated on an annual basis.

GHG emissions are estimated using the California Emissions Estimator Model (CalEEMod, version 2016.3.2), which is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.[98] At the time that the emissions modeling was conducted, CalEEMod Version 2016.3.2 was the version that was available. While the Version 2020.4.0 is now available, the use of Version 2020.4.0 would produce similar, if not fewer, resulting emissions. CalEEMod Version 2020.4.0 includes updated utility factors and energy demand factors based on newer and more stringent building energy efficiency standards, which would result in fewer operational emissions in both the air quality and GHG emissions assessments. CalEEMod 2020.4.0 did not update emission factors relative to construction equipment and uses the same construction equipment emission factors as Version 2016.3.2. Therefore, the use of CalEEMod Version 2016.3.2 in this analysis does not underestimate emissions, would not lead to different impact determinations than disclosed herein, and provides for a slightly more conservative (i.e., environmentally protective) analysis with respect to operational emissions.

(a) Construction Emissions

The emissions of GHGs associated with construction of the Project were calculated for each year of construction activity using CalEEMod and EMFAC. Construction emissions are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date). Project construction is estimated to start in 2022, but may commence at a later date. If the onset of construction is delayed to a later date than assumed in the modeling analysis, construction impacts would be similar to or less than those analyzed, because a more energy-efficient and cleaner burning construction equipment and vehicle fleet mix would be expected in the future. This is because State regulations require construction equipment fleet operators to phase-in less polluting heavy-duty equipment and trucks over time. As a result, should the Project commence construction on a later date than modeled in this GHG impact analysis, GHG impacts would be less than the impacts disclosed herein.

98 See: http://www.aqmd.gov/caleemod/.

The output values used in this analysis were adjusted to be Project-specific based on equipment types and the construction schedule. These values were then applied to the same construction phasing assumptions used in the criteria pollutant analysis (see Section IV.B, *Air Quality*, of this Draft EIR) to generate GHG emissions values for each construction year. The emissions have been estimated using the CalEEMod software, an emissions inventory software program recommended by SCAQMD, and the CARB EMFAC model. The SCAQMD guidance, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, recognizes that construction-related GHG emissions from projects "occur over a relatively short-term period of time" and that "they contribute a relatively small portion of the overall lifetime project GHG emissions."[99]

In accordance with SCAQMD guidance, GHG emissions from construction have been amortized (i.e., averaged annually) over the lifetime of the Project. The SCAQMD defines the lifetime of a project as 30 years. [100] Therefore, the Project's total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate comparable to operational emissions. A more detailed discussion of the methodology for projecting the Project's construction emissions and descriptions of the Project's construction subphasing and equipment list are available in the *Air Quality and Greenhouse Gas Technical Documentation* appendix for the Project, which is provided in Appendix C of this Draft EIR.

(b) Operational Emissions

Similar to construction, operational GHG emissions are also estimated using CalEEMod, along with CARB's EMFAC model. CalEEMod was used to estimate GHG emissions from electricity, natural gas, solid waste, water and wastewater, commercial fireplaces (i.e., for lounge areas), and landscaping equipment. Mobile emissions were estimated based on emission factors from EMFAC along with VMT values taken from the Transportation Assessment (TA), and used to estimate on-road mobile source GHG emissions.[101] As discussed in the Section IV.M., *Transportation*, of this Draft EIR, the Project's daily VMT was estimated for the different users that would utilize the Project, which include Harvard-Westlake School students, visiting teams, spectators, and employees. In addition, while the community use component of the Project, which is classified as a community-serving recreational facility, is exempt from VMT analysis per LADOT's *Transportation Assessment Guidelines*,[102] the emissions associated with VMT from the community use component of the Project were accounted for in the Project's operational emissions for the purposes of this GHG analysis, including from typical community use. The Project's

99 South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008.

100 South Coast Air Quality Management District, Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, December 5, 2008, page 5.

101 Fehr & Peers, Transportation Assessment – Harvard-Westlake River Park Project for Assessor Parcel Numbers 2375-018-020 and portion of APN 2375-018-903 Los Angeles River Parcel 276,4141 Whitsett Avenue, Studio City, CA 91604, April 2021. Provided in Appendix M of this Draft EIR.

102 Los Angeles Department of Transportation, Transportation Assessment Guidelines, July 2020.

GHG analysis also accounted for annual VMT from community use events that could occur during the year, including five community Special Events with approximately 500 attendees per event. In addition to the VMT generated by the students, visiting teams, spectators, and employees, the GHG emissions from VMT generated by occasional Harvard-Westlake School events that would occur during the academic year at the Project Site were included in the annual VMT, including 27 smaller Harvard-Westlake School Special Events with approximately 500 attendees per event, three larger Harvard-Westlake School Special Events with approximately 2,000 attendees per event.[103] Finally, the net total annual VMT takes credit for the existing annual VMT associated with the existing Weddington Golf & Tennis that would no longer occur with implementation of the Project. The Project would generate an estimated total annual VMT of 3,958,345. When taking into account the existing uses which will be eliminated, the Project would generate an estimated net increase of 1,757,395 annual VMT (of which, more than two-thirds is attributable to community uses of the Project Site).[104] Refer to VMT data in Appendix C and Appendix M of this Draft EIR. The Project's emissions were calculated for Project buildout in 2025.

The GHG emissions calculations for the Project include credits or reductions for implementation of relevant project design features set forth in this Draft EIR. The analysis of Project GHG emissions at buildout also takes into account actions and mandates already approved and expected to be in force by Project buildout (e.g., Pavley I and II Standards and implementation of California's Statewide RPS beyond current levels of renewable energy). Emissions reductions regarding Cap-and-Trade were not included in this analysis.

Operational GHG emissions were calculated for the GHG conditions where the Project With GHG Reduction Characteristics, Features, and Measures represents emission factors from the Project in the year 2025 consistent with SB 100, which was adopted after the 2017 Scoping Plan and represents the State's most current RPS law and growth in electricity demand with an emission factor of 626.48 lbs/megawatt hour (MWh) for year 2025 scaled proportionately based on the future year renewable energy targets of 44 percent by 2024 and at least 52 percent by 2027, and includes all project design features (see Subsection IV.G.3.c, Project Design Features, below).

As previously noted, operational mobile source GHG emissions are estimated based on CARB's EMFAC model. Mobile source emissions are based on annual VMT from the TA

103 Fehr & Peers, Transportation Assessment – Harvard-Westlake River Park Project for Assessor Parcel Numbers 2375-018-020 and portion of APN 2375-018-903 Los Angeles River Parcel 276,4141 Whitsett Avenue, Studio City, CA 91604, April 2021. Provided in Appendix M of this Draft EIR.

104 Fehr & Peers, Transportation Assessment – Harvard-Westlake River Park Project for Assessor Parcel Numbers 2375-018-020 and portion of APN 2375-018-903 Los Angeles River Parcel 276,4141 Whitsett Avenue, Studio City, CA 91604, April 2021. Provided in Appendix M of this Draft EIR.

prepared for the Project.[105] The daily VMT for the community use component of the Project were based on trip generation estimates and the average trip length (5.9 miles) estimated based on a weighted average trip length by zip code distribution to the Project Site, as documented in the TA.

In addition, the operational mobile source GHG emissions estimates are based on GHG emission factors for the mobile sources and the GWP values for the GHGs emitted. Emissions of GHGs from motor vehicles are dependent on specific vehicle types and models that would travel to and from the Project Site. The national policy for fuel efficiency and emissions standards for the United States auto industry requires that new passenger cars and light-duty trucks achieve an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO_2 per mile by model year 2016 (Phase I standards), based on USEPA calculation methods. In August 2012, more stringent phased-in standards were adopted for new model year 2017 through 2025 passenger cars and light-duty trucks. New model year 2020 vehicles are projected to achieve 41.7 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 213 grams of CO_2 per mile (Phase II standards). By 2025, new vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile (Phase II standards).[106] However, as mentioned above in Subsection IV.G.2.b)(1), *Regulatory Framework – Federal,* in April 2020, the final USEPA and NHTSA SAFE Vehicles Rule was published in the Federal Register. However, as directed in President Biden's executive order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis Executive Order, the USEPA and NHTSA are now evaluating whether and how to replace the SAFE Rule.

The most current version of the CARB and USEPA-approved EMFAC model does not account for the effect of the SAFE Vehicles Rules. CARB has provided off-model adjustment factors for criteria pollutant emissions and for GHG emissions.[107,108] These adjustment factors were accounted for in the Project's construction and operational mobile emissions calculations. If the SAFE Vehicles Rules are rescinded pending the results of the USEPA and NHTSA evaluations, mobile source GHG emissions beyond 2021 would be slightly less than disclosed in this Draft EIR.

105 Fehr & Peers, Transportation Assessment – Harvard-Westlake River Park Project for Assessor Parcel Numbers 2375-018-020 and portion of APN 2375-018-903 Los Angeles River Parcel 276,4141 Whitsett Avenue, Studio City, CA 91604, April 2021. Provided in Appendix M of this Draft EIR.

106 U.S. Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012.

107 California Air Resources Board, EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One, November 20, 2019.

108 California Air Resources Board, EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO2) Emissions to Account for the SAFE Vehicles Rule Part One and the Final SAFE Rule, June 26, 2020.

All vehicle types could visit the Project Site. Therefore, this assessment uses SCAQMD's motor vehicle fleet mix and the fleet average calendar year emissions factors from EMFAC to estimate mobile source GHG emissions.

With regard to energy demand, the consumption of fossil fuels to generate electricity and to provide space heating and cooling and hot water generates GHG emissions. Emissions of GHGs associated with energy usage under the Project's proposed land uses are calculated using the CalEEMod tool. Future fuel consumption rates are estimated based on specific square footage of the Project's athletic, recreational, and vehicular parking land uses, as well as predicted water supply needs of the Project. Emission factors for GHGs due to electrical generation to serve the demands of the existing Project Site were obtained from the LADWP *2017 Power Strategic Long-Term Resource Plan*, which accounts for the generation mix using renewable and non-renewable sources.[109] Approximately 34 percent of LADWP's 2019 electricity purchases were from renewable sources, which is similar to the 32 percent Statewide percentage of electricity purchases from renewable sources.[110] LADWP would provide an increasing percentage from renewable sources in compliance with the RPS with 50 percent by 2025, 55 percent by 2030, and 65 percent by 2036. Based on data from LADWP, the CO_2 intensity for electricity sales as of year 2016 was 834 lbs CO_2/MWh. With the passage of SB 100, LADWP would be required to update plans to provide an increasing percentage of renewable electricity pursuant to the regulation (i.e., 60 percent by December 31, 2030 and 100 percent by December 31, 2045).

Based on LADWP future projections for the Project opening year of 2025, an estimated emission factor of 626.48 lbs CO_2/MWh for electricity was calculated using LADWP projections from existing plans for compliance with the RPS (i.e., SB 100) and future projected energy supply resources.[111,112,113]

As described in Section II., *Project Description*, the Project Site would include a total of 32 light poles above the conforming 30-foot height limit based on the Project Site's zoning, including the six relocated existing golf ball-shaped light standards. Electricity from lighting poles/fixtures was based on the Harvard-Westlake River Park Project Studio City, CA Lighting Technical Report, provided by Musco Lighting and the Illuminance Calculations for the lighting poles/fixtures that provided the load in kilowatts (kW), annual electricity use was then calculated based on the estimated number of days and assumed number of hours per day the lighting poles/fixtures were assumed to be operational. GHG

109 Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, 2017, page C-12.

110 Los Angeles Department of Water and Power, 2019 Power Content Label, October 2020.

111 SB-100 California Renewables Portfolio Standard Program: Emissions of Greenhouse Gases, https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180

112 Los Angeles Department of Water and Power, 2017 Power Strategic Long-Term Resource Plan, December 2017.

113 California Energy Commission, Utility Energy Supply Plans from 2015, 2016, http://www.energy.ca.gov/almanac/electricity_data/s-2_supply_forms_2015/, accessed February 27, 2020.

emissions from electricity use from lighting poles/fixtures was then estimated based on the carbon intensity (CI) factors of LADWP electricity. In addition, light-emitting diode (LED) screen electricity was estimated based on standard load in watts (W) of an LED screen, annual electricity use was then calculated based on the estimated number of days and assumed number of hours per day the LED screens were conservatively assumed to be operational.[114] Similarly, GHG emissions from electricity use from LED screens was then estimated based on the CI factors of LADWP electricity.

Emissions of GHGs associated with solid waste disposal under the Project's proposed land uses are calculated using the CalEEMod tool. The emissions are based on the size of the Project's athletic and recreational land uses, the waste disposal rate for the land uses was estimated based on the assumed average number of visitors, students, and employees on the Project Site per day, and the GWP values for the GHGs emitted.[115] Refer to Section IV.O.3, *Utilities and Service Systems – Solid Waste*, of this Draft EIR for estimated solid waste disposal and diversion rates from the Project. The City has developed and is in the process of implementing, the Solid Waste Integrated Resources Plan, also referred to as the City's Zero Waste Plan, whose goal is to lead the City towards being a "zero waste" City by 2030. These waste reduction plans, policies, and regulations, along with Mayoral and City Council directives, have increased the level of waste diversion (e.g., recycling) for the City to 76 percent as of 2013.[116]

The emissions of GHGs associated with water demand and wastewater generation from the Project are calculated using CalEEMod. The emissions are based on the size of the Project land uses, the water demand factors, the electrical intensity factors for water supply, treatment, and distribution and for wastewater treatment, the GHG emission factors for the electricity utility provider, and the GWP values for the GHGs emitted.[117] Refer to Section IV.O.1, *Utilities and Service Systems – Water Supply,* of this Draft EIR for the estimated water usage rate for the Project.

The emissions of GHGs associated with operational area sources under the Project are calculated using the CalEEMod tool. The emissions for landscaping equipment are based on the size of the open space based on the Project's athletic, recreational, and parking land uses, the GHG emission factors for fuel combustion, and the GWP values for the GHGs emitted.

The GHG emissions calculations for the Project include credits or reductions for implementation of relevant Project Design Features as described in Subsection 3.c,

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114 Assumed total lighting poles/fixtures have a combined load of 122.62 watts based on illuminance calculations provided for Project by Musco Lighting and that each LED screen requires a load of 739.2 watts and all lighting poles/fixtures and each screen conservatively assumed to be on for 4 hours a day for 323 days a year, which includes all weekdays, Sundays and 10 Saturdays. For complete list of assumptions refer to Appendix C of this Draft EIR.

115 CAPCOA, California Emissions Estimator Model, User's Guide For CalEEMod Version 2016.3.2.

116 City of Los Angeles, Bureau of Sanitation, Zero Waste Progress Report, 2013.

117 CAPCOA, California Emissions Estimator Model, User's Guide For CalEEMod Version 2016.3.2.

Project Design Features for an on-site photovoltaic system.[118] A detailed discussion of the methodology used to estimate the GHG emissions from the Project and existing uses is provided in Appendix C of this Draft EIR.

Operational GHG emissions are assessed based on the Project-related incremental increase in GHG emissions compared to baseline conditions. Under CEQA, the baseline environmental setting is established as the time the Notice of Preparation for this EIR circulated on September 30, 2020.

In order to evaluate the efficacy of the GHG reduction characteristics, features, and measures that would be implemented as part of the Project, this analysis compares the Project's GHG emissions to the emissions that would be generated by the Project Without GHG Reduction Characteristics, Features, and Measures. This approach mirrors the concepts used in CARB's Climate Change Scoping Plan, which demonstrates GHG reductions compared to a Project Without GHG Reduction Characteristics, Features, and Measures. For informational purposes and to evaluate the efficacy of the GHG reduction characteristics, features, and measures that would be implemented as part of the Project, operational GHG emissions were calculated based on a scenario without Project Design Features and consistent with CARB's Climate Change Scoping Plan Statewide BAU forecast for the AB 32 target year of 2020 and continued reductions through SB 32 through 2030, with a CO_2 intensity factor of 740.03 lbs/MWh for year 2025, which represents the RPS law and growth in electricity demand, but does not include SB 100 that was signed into law after CARB's Climate Change Scoping Plan. In addition, the Project Without GHG Reduction Characteristics, Features, and Measures scenario does not account for land use characteristics of the Project that reduce VMT given its location at an urban infill location with nearby access to public transportation. For this scenario, default trip lengths for commercial to customer trips and commercial to work trips from CalEEMod for the Air District[119] were applied to the applicable trip rates for the Harvard-Westlake School students, visiting teams, spectators, and employees as determined by the Project's TA to determine the Project Without GHG Reduction Characteristics, Features, and Measures scenario's annual VMT of 5,196,809 (emissions results and summary are presented in subsection IV.G.3.d)(1)(b)(iii) and Table IV.G-7, and detailed emissions calculations are provided in Appendix C of this Draft EIR).

There are challenges in determining consumption-based GHG emissions for embodied GHG emissions, such as the production of construction materials and consumer goods and services, as many require elongated supply chains. Therefore, the data necessary to accurately quantify embodied emissions may not be readily available due to the fact that other jurisdictions (particularly outside California or outside the United States) may not track GHG emissions in sufficient detail. Furthermore, as discussed in the Draft

118 The Project would include 153 net new trees. CO_2 sequestration from the 153 net new trees was conservatively not included since this would account for a minimal amount of GHG offset credit.

119 CAPCOA, California Emissions Estimator Model, Appendix D – Default Data Tables For CalEEMod Version 2016.3.2.

Association of Environmental Professionals (AEP) White Paper: Production, Consumption and Lifecycle Greenhouse Gas Inventories: Implications for CEQA and Climate Action Plans, "CEQA admonishes lead agencies to avoid speculation in completing their analyses and making conclusions. Moreover, CEQA does not require a lead agency to complete every study possible, but rather to fully disclose impacts based on reasonably available data. Developing project-specific estimates of embedded GHG emissions for all construction materials, or future consumed goods and services that are related to complex supply chains, would require extensive research and may not be able to accurately identify GHG emissions for many consumed items without substantial uncertainty."[120]

In addition, the State addressed embodied (lifecycle) GHG emissions in the Final Statement of Reasons for Regulatory Action, prepared for the amendment to Appendix F of the CEQA Guidelines pursuant to SB 97:

> *The amendments to Appendix F remove the term —lifecycle. No existing regulatory definition of —lifecycle exists. In fact, comments received during OPR's public workshop process indicate a wide variety of interpretations of that term. (Letter from Terry Rivasplata et al. to OPR, February 2, 2009, at pp. 5, 12 and Attachment; Letter from Center for Biological Diversity et al. to OPR, February 2, 2009, at pp. 17.) Thus, retention of the term —lifecycle in Appendix F could create confusion among lead agencies regarding what Appendix F requires. Moreover, even if a standard definition of the term —lifecycle existed, requiring such an analysis may not be consistent with CEQA. As a general matter, the term could refer to emissions beyond those that could be considered —indirect effects of a project as that term is defined in section 15358 of the State CEQA Guidelines. Depending on the circumstances of a particular project, an example of such emissions could be those resulting from the manufacture of building materials. (CAPCOA White Paper, pp. 50-51.) CEQA only requires analysis of impacts that are directly or indirectly attributable to the project under consideration. (State CEQA Guidelines, § 15064(d).) In some instances, materials may be manufactured for many different projects as a result of general market demand, regardless of whether one particular project proceeds. Thus, such emissions may not be caused by the project under consideration. Similarly, in this scenario, a lead agency may not be able to require mitigation for emissions that result from the manufacturing process. Mitigation can only be required for emissions that are actually caused by the project. (CEQA Guidelines Section 15126.4(a)(4).)*[121]

120 Association of Environmental Professionals, Draft AEP White Paper - Production, Consumption and Lifecycle Greenhouse Gas Inventories: Implications for CEQA and Climate Action Plans, 2017, page 5-3.

121 California Natural Resources Agency, Final Statement of Reasons for Regulatory Action – Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 397, page 71.

Therefore, embodied GHG emissions were not considered in this analysis as they are not consistent with generally recommended GHG emissions analysis methodology under CEQA.

c) Project Design Features

The following Project Design Feature is applicable to the Project.

GHG-PDF-1: Solar Voltaic System. The Project will be designed to include solar voltaic panels providing 339,000 kilo Watt-hours (kWh) per year[122] on the roof of the gymnasium that would reduce the amount of electricity demand from City utilities.

d) Analysis of Project Impacts

Threshold (a): Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

(1) Impact Analysis

As described above, compliance with a GHG emissions reduction plan renders a project's impact less than significant. In support of the consistency analysis which describes the Project's compliance with or exceedance of performance-based standards included in the regulations and policies outlined in the applicable portions of the Climate Change Scoping Plan, the 2020-2045 RTP/SCS, the City's Green New Deal, and the Los Angeles Green Building Code, quantitative calculations are provided below. The Project would generate an incremental contribution to and a cumulative increase in GHG emissions. A specific discussion regarding potential GHG emissions associated with the construction and operational phases of the Project is provided below.

(a) Construction Emissions

The emissions of GHGs associated with construction of the Project, including the off-site improvements to the segment of Valleyheart Drive south of Los Angeles Fire Department Fire Station 78 and to portions of the Zev Greenway adjacent to the Project Site and the installation of an Americans with Disabilities Act (ADA)-compliant accessible pedestrian ramp leading to the Zev Greenway at Coldwater Canyon Avenue (Coldwater Canyon Avenue Riverwalk Path Ramp), were calculated for each year of construction activity using CalEEMod and EMFAC. Construction would be completed in approximately 30 months (construction of the Project is anticipated to begin in the third quarter of 2022 pending Project consideration and approval and is estimated to be completed in the fourth quarter of 2024 with construction occurring for approximately two and a half years). Results of the GHG emissions calculations are presented in **Table IV.G-6**, *Estimated Construction Greenhouse Gas Emissions*.

[122] The solar voltaic panel system would supply approximately 11.5 percent of the Project's energy demand. For complete list of assumptions refer to Appendix C of this Draft EIR.

TABLE IV.G-6
ESTIMATED CONSTRUCTION GHG EMISSIONS

Emission Source	CO_2e (Metric Tons) [a,b]
Construction Year 1	2,817
Construction Year 2	5,516
Construction Year 3	4,570
Total	12,902
Amortized Over 30 Years	430

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix C of this Draft EIR.

[b] CO_2e emissions are calculated using the global warming potential values from the IPCC AR4.

SOURCE: ESA, 2021.

It is estimated that rough grading cut volumes would be 251,836 cubic yards (unadjusted) and the fill volume would be 1,836 cubic yards (unadjusted), for a net cut/fill volume of approximately 250,000 cubic yards (unadjusted)[123] of soil would be hauled from the Project Site during the grading and excavation phase. Emissions from haul trucks and continuous pour concrete trucks were estimated outside of CalEEMod using EMFAC emission factors for heavy-duty trucks. It should be noted that the GHG emissions shown in Table IV.G-6 are based on construction equipment operating continuously throughout the workday. In reality, construction equipment tends to operate periodically or cyclically throughout the workday. Therefore, the GHG emissions shown reflect a conservative estimate.

Although GHGs are generated during construction and are accordingly considered one-time emissions, it is important to include them when assessing all of the long-term GHG emissions associated with a project. As recommended by the SCAQMD, construction-related GHG emissions were amortized over a 30-year project lifetime in order to include these emissions as part of a project's annualized lifetime total emissions. In accordance with this methodology, the estimated Project's construction GHG emissions have been amortized over a 30-year period and are added to the annualized operational GHG emissions.

(b) Operational Emissions

The Project's annual GHG emissions included emissions from operations and construction calculated by CalEEMod and EMFAC for mobile source emissions. As previously described, construction GHG emissions for the entire construction period were amortized over 30 years. The Project must comply with the portions of the Los Angeles Green Building Code and State's CALGreen Code / California Title 24 Building

123 "Unadjusted" cut and fill is a programmed estimate that does not account for minor shrinkage from compaction, swelling, or other factors that may require final manual adjustments to achieve finished gradients/ heights.

Energy Efficiency requirements applicable to the Project, and meeting these requirements are assumed in the quantitative analysis below. The Project would implement energy saving measures as listed in Project Design Feature GHG-PDF-1, which includes the installation of solar photovoltaic panels that would reduce the Project's electricity demand from LADWP and is accounted for as a quantitative GHG reduction for the Project. As explained above, the Project's mobile source emission calculations associated with the Project are calculated using the VMT from the TA prepared for the Project.[124]

Maximum unmitigated, annual net GHG emissions resulting from on road mobile sources, area sources (landscape maintenance equipment and natural gas heaters), energy (i.e., electricity, natural gas), water conveyance and wastewater treatment, and solid waste were calculated for the Project buildout year (2025). The Project's total and net GHG emissions from operation of the Project are shown in **Table IV.G-7,** *Estimated Operational Greenhouse Gas Emissions – Project*, below.

As discussed previously, State, regional, and local GHG reduction plans and policies, such as CARB's Climate Change Scoping Plan, SCAG's 2020-2045 RTP/SCS, and City's Green New Deal, would be applicable to the Project. These plans and policies are intended to reduce GHG emissions in accordance with the goals of AB 32. In order to evaluate the efficacy of the GHG reduction characteristics, features, and measures that would be implemented as part of the Project as required by these GHG reduction plans and policies and while other methodologies for calculating Project GHG reduction efficiencies exist, this analysis compares the Project's GHG emissions to the emissions that would be generated by the Project without implementation of GHG reduction characteristics, features, and measures and is presented here for informational purposes only. This comparison is provided to evaluate the Project's efficiency with respect to GHG emissions but is not the threshold of significance used for impact analysis. The analysis assumes the Project without implementation of GHG reduction characteristics, features, and measures would incorporate the same land uses and building square footage as the Project. Furthermore, this analysis is consistent with the most current regulatory policies and GHG quantification methods; however, the scientific, regulatory environment regarding GHG reduction and CEQA approaches for GHG analysis are constantly evolving and would continue to do so into the future.

124 Fehr & Peers, Transportation Assessment – Harvard-Westlake River Park Project for Assessor Parcel Numbers 2375-018-020 and portion of APN 2375-018-903 Los Angeles River Parcel 276,4141 Whitsett Avenue, Studio City, CA 91604, April 2021. Provided in Appendix M of this Draft EIR.

TABLE IV.G-7
ESTIMATED OPERATIONAL GREENHOUSE GAS EMISSIONS – PROJECT

Emissions Sources	CO_2e at Buildout Year (2025) (Metric Tons per Year) [a]	
	Project with implementation of GHG reduction characteristics, features, and measures	**Project without implementation of GHG reduction characteristics, features, and measures**
Project Operational		
Mobile Sources [b] (Includes VMT associated from both the Project and Community Use)	1,420	1,865
Area	<1	<1
Electricity	693	972
Natural Gas	93	94
Water and Wastewater Treatment	64	73
Solid Waste	19	19
Construction (Amortized)	430	430
Project Subtotal	2,719	3,452
Existing Site (refer to Table IV.G-5)	1,186	1,186
Net Total (Project minus Existing)	**1,533**	**2,266**

[a] Totals may not add up exactly due to rounding in the modeling calculations.

[b] As discussed in subsection IV.G.3.b) *Methodology,* while the community use component of the Project, which is classified as a community-serving recreational facility, is exempt from VMT analysis per LADOT's *Transportation Assessment Guidelines*, the emissions associated with VMT from the community use component of the Project were accounted for in the Project's operational emissions for the purposes of this GHG analysis, including from typical weekday community use. The Project's GHG analysis also accounted for annual VMT from occasional community use events that could occur during the year, including five Community Events with approximately 500 attendees per event. Factoring in these various uses, estimated operational GHGs associated with community uses account for more than two-thirds of the Project total. Refer to VMT data in Appendix C and Appendix M of this Draft EIR.

SOURCE: ESA, 2021.

The quantification of GHG emissions for the Project without implementation of GHG reduction characteristics, features, and measures scenario is evaluated based on the specific and defined circumstances that CARB relied on when it projected the State's GHG emissions in the absence of GHG reduction measures in the Climate Change Scoping Plan. Furthermore, the specific Project Site characteristics and project design features, such as Project Design Feature GHG-PDF-1 (Solar Voltaic System), were not included as part of the calculations using the CalEEMod tool for the Project without implementation of GHG reduction characteristics, features, and measures as they encompass GHG

reduction strategies and features that would be consistent with State, regional, and local GHG reduction plans and policies or would go above and beyond regulatory requirements (for complete list of assumptions refer to Appendix C of this Draft EIR).

(c) Comparison of Project GHG emissions to Project \Without Implementation of GHG Reduction Characteristics, Features, and Measures

When considering only the Project's emissions, Table IV.G-7 shows that the Project's operational emissions of 2,719 $MTCO_2e$ would be generated primarily by mobile sources and secondarily by energy (electricity and natural gas) and in 2025 would be approximately 21 percent below the emissions that would be generated by the Project without implementation of GHG reduction characteristics, features, and measures (i.e., based on the quantitative reduction, including those associated with Project Design Feature GHG-PDF-1). On a net GHG emissions basis (i.e., subtracting the existing site GHG emissions), the Project's net operational emissions of 1,533 $MTCO_2e$ in 2025 would be approximately 32 percent below the net emissions that would be generated by the Project without implementation of GHG reduction characteristics, features, and measures (i.e., based on the quantitative reduction, including those associated with Project Design Feature GHG-PDF-1). The Project without implementation of GHG reduction characteristics, features, and measures does not account for land use characteristics of the Project that reduce VMT given its location at an urban infill location with nearby access to public transportation and does not account for energy savings beyond regulatory requirements, such as the Project's solar voltaic panels supplying 339,000 kWh/year of renewable electricity (approximately 11.5 percent of the Project's electricity demand). Thus, this analysis quantitatively demonstrates the efficiency of the Project GHG reduction measures as set forth in the applicable GHG reduction plans and policies and that the Project would result in a GHG-efficient development. The approximately 21 percent reduction in emissions (i.e., Project scenario and Project without implementation of GHG reduction characteristics, features, and measures) is due to the following primary factors:

- **Optimize Building Energy Performance and Lower the CI of electricity.** As discussed under Subsection IV.G.3.c), *Project Design Features*, above, the Project would be designed with Project Design Feature GHG-PDF-1, where the Project would include solar voltaic panels on the roof of the gymnasium to reduce the amount of electricity drawn from City utilities. In addition, under the RPS, LADWP is required to reduce the CI of their electricity. The CI of LADWP electricity would be anticipated to be 740.03 lbs/MWh, which is consistent with CARB's Climate Change Scoping Plan Statewide BAU forecast for the AB 32 target year of 2020 and continued reductions through SB 32 through 2030, but does not account for newer RPS requirements such as SB 100 that was signed into law after the 2017 Scoping Plan. As discussed above, the future year CO_2 emission factor of 626.48 lbs/MWh for year 2025 was scaled proportionately based on the future year renewable energy targets of 47 percent by 2025 consistent with SB

100 (refer to Appendix C for additional details).[125,126] For the Project, these features account for approximately a 28.7 percent reduction in electricity emissions and an 8.1 percent reduction in total GHG emissions in the first operational year of 2025. For the Project, the lower CI of electricity also accounts for a 12.3 percent reduction in emissions associated with Project water supply, treatment, and distribution and for wastewater treatment and a 0.3 percent reduction in total GHG emissions in the first operational year of 2025. Thus, the reduction in GHG emissions from optimizing building energy performance and lowering the CI of electricity would be 8.4 percent of the total GHG emissions (detailed emissions calculations are provided in Appendix C of this Draft EIR).

- **Reduction in vehicle trips and VMT associated with the Project's land use characteristics.** As discussed above, based on the Project's land use characteristics, VMT reductions are expected due to the Project's infill nature, location, and design. These characteristics account for a 23.9 percent reduction in VMT and a 12.9 percent reduction in total GHG emissions in the first operational year of 2025.

It is important to note that the total net Project emissions in Table IV.G-7 do not reflect the fact that Project operational-related GHG emissions would likely be lower as the Project would provide additional sustainability features that would help to reduce the Project's outdoor water demand and reduce associated GHG emissions from water supply, conveyance, distribution and treatment. As described in Section IV.O.1, *Utilities and Service Systems –Water Supply,* the Project would implement the following water-saving features: the one million gallon stormwater capture and reuse system that is expected to provide a minimum of one-third of the Project's total annual irrigation demand; replacing the existing uses with new athletic and recreational facilities, including athletic fields utilizing artificial grass as a sustainable alternative to turf grass and reduction in water demand and avoid the use of pesticides; and maintaining 41 percent of the Project Site as pervious areas to allow water to reach below the top surface condition and be reused. These water-saving features were conservatively not accounted for in the quantitative GHG emissions analysis since a specific outdoor water reduction value could not conclusively be calculated and the actual amount of water demand and GHG reductions could fluctuate year-to-year depending on factors beyond the control of the Project, such as annual rainfall totals.

It is also important to note that the total net Project emissions in Table IV.G-7 do not account for declining GHG emissions in future years as emissions reduction plans, policies, and regulations at the State, local, and regional level (including the RTP/SCS and Climate Change Scoping Plan, discussed above) are achieved and as the State's Cap-and-Trade program continues to be implemented. Emissions related to electricity would decline as

125 LADWP, 2016 Briefing Book, 2016.

126 California Energy Commission, Utility Energy Supply Plans from 2015, LADWP modified December 6, 2016, http://www.energy.ca.gov/almanac/electricity_data/s-2_supply_forms_2015/, accessed February 27, 2020.

utility providers, including LADWP, met their RPS obligations to provide renewable electricity sources to meet the future RPS obligations of 60 percent by December 31, 2030, and 100 percent by December 31, 2045. Emissions from mobile sources would also decline in future years as older vehicles are replaced with newer vehicles, resulting in a greater percentage of the vehicle fleet meeting more stringent combustion emissions standards, such as the model year 2017-2025 Pavley Phase II standards.

As stated above, because there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on whether it conflicts with Statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the primary basis for determining the significance of the Project's GHG-related impacts on the environment. Accordingly, as shown below in Threshold (b), since the Project would not conflict with applicable plans, regulations or goals, the Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

(d) Post Buildout Emissions

Executive Orders S-3-05 and B-30-25 establish a goal to reduce GHG emissions to 80 percent below 1990 levels by 2050. This goal has not been codified by the Legislature and CARB has not adopted a strategy or regulations to meet the 2050 goal. However, studies have shown that, in order to meet the 2050 goal, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, would be required. In its original 2008 Scoping Plan, CARB acknowledged that the "measures needed to meet the 2050 goal are too far in the future to define in detail."[127] In the 2014 Scoping Plan, CARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."[128] The 2017 Scoping Plan recognizes that additional work is needed to achieve the more stringent 2050 target: "While the Scoping Plan charts the path to achieving the 2030 GHG emissions reduction target, we also need momentum to propel us to the 2050 Statewide GHG target (80 percent below 1990 levels). In developing this Scoping Plan, we considered what policies are needed to meet our mid-term and long-term goals."[129] For example, the 2017 Scoping Plan acknowledges that "though Zero Net Carbon Buildings are not feasible at this time and more work needs to be done in this area, they would be necessary to achieve the 2050 target. To that end, work must begin now to

127 California Air Resources Board, Climate Change Scoping Plan, December 2008, page 117.

128 California Air Resources Board, First Update to the AB 32 Scoping Plan, May 2014, page 32.

129 California Air Resources Board, 2017 Scoping Plan, November 2017.

review and evaluate research in this area, establish a planning horizon for targets, and identify implementation mechanisms."[130]

- **Energy Sector:** Technological improvements and additions to California's renewable resource portfolio would favorably influence the Project's emissions level.[131]
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all would serve to reduce the Project's emissions level.[132]
- **Water Sector:** The Project's emissions level would be reduced as a result of further enhancements to water conservation technologies.[133]
- **Waste Management Sector:** Plans to further improve recycling, reuse, and reduction of solid waste would beneficially reduce the Project's emissions level.[134]

The *Air Quality and Greenhouse Gas Technical Documentation* appendix for the Project, which is provided in Appendix C of this Draft EIR, was prepared after thorough investigation of feasible methodologies to determine the potential GHG impacts associated with the Project. Due to the technological shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the Project's impacts relative to the 2050 goal is speculative for purposes of CEQA. Despite the thorough investigation performed, due to the uncertainty regarding specific State and local actions that would be implemented to achieve the 2050 GHG emission reduction targets, calculating Project emissions levels for 2050 would be highly speculative. Nonetheless, Statewide efforts are underway to facilitate the State's achievement of those goals, and it is reasonable to expect the Project's emissions level to decline as the regulatory initiatives identified by CARB in the 2017 Scoping Plan are implemented, and other technological innovations occur.

In addition, the Project is the type of land use development that is encouraged by the 2020-2045 RTP/SCS to reduce VMT and expand multi-modal transportation options in order for the region to achieve the GHG reductions from the land use and transportation sectors required by SB 375, which, in turn, advances the State's long-term climate policies. The Project Site is located near multiple transportation options, including LADOT's DASH Van Nuys/Studio City bus with stops at Whitsett Avenue/Valley Spring Lane located adjacent to the Project Site and the Metro Local Line 167 with stops at Whitsett Avenue/Ventura Boulevard located 0.13 mile to the south of the Project Site. Other transit services include Metro BRT Line 750 and Local Line 150/240 bus Ventura Boulevard/Coldwater Canyon, which provide connections to the Metro B (Red) Line North

130 California Air Resources Board, 2017 Scoping Plan, November 2017.

131 California Air Resources Board, First Update to the AB 32 Scoping Plan, May 2014, pages 40–41.

132 California Air Resources Board, First Update to the AB 32 Scoping Plan, May 2014, pages 55–56.

133 California Air Resources Board, First Update to the AB 32 Scoping Plan, May 2014, page 65.

134 California Air Resources Board, First Update to the AB 32 Scoping Plan, May 2014, page 69.

Hollywood Station 2.25 miles to the east of the Project Site, which also serves the Metro G (Orange) Line. Although the Project is not required to provide any bicycle parking spaces per the LAMC, the Project would also provide up to 100 on-site bicycle parking spaces, which would encourage users of the Project to travel to and from the site, as well as to the array of nearby transportation stops, by bicycle. The Project would also reduce vehicle trips and VMT by implementing a shuttle system between the School's Upper Campus and the Project Site whenever there are School activities underway at the Project Site, in order to encourage efficient transportation and reduce VMT associated with the Project. These Project characteristics are related to key GHG reduction strategies in SCAG's 2020-2045 RTP/SCS, which include locating uses in areas accessible to transit and providing biking infrastructure to improve active transportation options and transit access. Additional details regarding the Project's furtherance of key GHG reduction strategies in the SCAG 2020-2045 RTP/SCS are discussed in Threshold (b) as well as in Appendix C of this Draft EIR. By furthering implementation of SB 375, the Project supports regional land use and transportation GHG reductions, and would not conflict with State climate targets for 2030 and beyond.

Stated differently, the Project's emissions total at buildout represents the maximum emissions inventory for the Project as California's emissions sources are being regulated (and foreseeably expected to continue to be regulated in the future) in furtherance of the State's environmental policy objectives. As such, given the reasonably anticipated decline in Project emissions once fully constructed and operational, the Project would not conflict with the 2030 and 2050 targets and Executive Orders S-3-05 and B-30-15.

(e) Conclusion

As set forth above, the Project would generate increased GHG emissions over existing conditions. However, even a very large individual project would not generate enough GHG emissions on its own to significantly influence global climate change. Moreover, as discussed under Threshold (b) below, the Project would not conflict with the Climate Change Scoping Plan, the 2020-2045 RTP/SCS, the City's Green New Deal, and the Los Angeles Green Building Code. The Project's consistency with these applicable regulatory plans and policies to reduce GHG emissions, along with implementation of Project Design Features as discussed in this Draft EIR, particularly Project Design Feature GHG-PDF-1 in Subsection IV.G.3.c), *Project Design Features*, would reduce the Project's GHG emissions by 21 percent (or 32 percent on a net GHG emissions basis) compared to the Project without implementation of GHG reduction characteristics, features, and measures. In summary, the plan consistency analysis provided below under Threshold (b) demonstrates that the Project's design features would not conflict with regulations and policies and would comply with or exceed the regulations and reduction actions/strategies outlined in the Climate Change Scoping Plan, the 2020-2045 RTP/SCS, City's Green New Deal, and the Los Angeles Green Building Code. **The Project's evaluation of consistency with the above plans is the primary basis for determining the significance of the Project's GHG-related impacts on the environment. Accordingly, as shown below in Threshold (b), since the Project would not conflict**

with applicable plans, regulations or goals, the Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

(2) Mitigation Measures

Impacts related to the Project's generation of GHG emissions were determined to be less than significant. Therefore, no mitigation measures are required.

(3) Level of Significance After Mitigation

Impacts related to the Project's generation of GHG emissions were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

Threshold (b): Would the Project conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

(1) Impact Analysis

As mentioned above, in the absence of any adopted quantitative threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted for the purpose of reducing the emissions of GHGs.

As described above, compliance with a GHG emissions reduction plan renders a less-than-significant impact. The analyses below demonstrate that the Project would not conflict with the applicable GHG emission reduction plans and policies included within CARB's Climate Change Scoping Plan, the 2020-2045 RTP/SCS, City's Green New Deal, and the Los Angeles Green Building Code. As shown herein, the Project would not conflict with the applicable GHG reduction plans and policies.

(a) CARB's Climate Change Scoping Plan

The Climate Change Scoping Plan outlines a framework that relies on a broad array of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based mechanisms, such as the Cap-and-Trade program. The Climate Change Scoping Plan builds off of a wide array of regulatory requirements that have been promulgated to reduce Statewide GHG emissions, particularly from energy demand and mobile sources. While these regulatory requirements are not targeted at specific land use development projects, they would indirectly reduce a development project's GHG emissions. A discussion of these regulatory requirements that would reduce the Project's GHG emissions are provided below. As detailed below and in Appendix C of this Draft EIR, the Project would not conflict with the Climate Change Scoping Plan and the implementing GHG reduction strategies.

(i) Energy and Water

- **California Renewables Portfolio Standard (RPS) program (SB 100) and SB 350:** While this action does not directly apply to individual projects, the Project complies with the RPS program inasmuch as its electricity is provided by LADWP, which, in compliance with the RPS program, is required to obtain 33 percent renewable power by 2020 and has committed to achieving 50 percent renewables by 2025.[135] Furthermore, per the updated requirements of SB 100, signed by Governor Brown on September 10, 2018, LADWP would be required to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030 and should plan to achieve 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045. Thus, the Project would be supplied with electricity via renewable sources at increasing rates over time reducing the Project's electricity-related GHG emissions. As required under SB 350, doubling of the energy efficiency savings from final end uses of retail customers by 2030 would primarily rely on the existing suite of building energy efficiency standards under CCR Title 24, Part 6 and utility-sponsored programs such as rebates for high-efficiency appliances, heating, ventilation, and air conditioning (HVAC) systems, and insulation. The Project would comply with Title 24 Standards.
- **SB 1368/AB 398, CCR Title 20, Cap-and-Trade Program:** The State's Cap-and-Trade Program reduces GHG emissions from major sources (deemed "covered entities") by setting a firm cap on Statewide GHG emissions and employing market mechanisms to achieve emission reduction targets. While the Cap-and-Trade Program does not directly apply to individual projects, the Project would benefit from the Program inasmuch as the Project's electricity usage and mobile source emissions would be covered by the Cap-and-Trade Program as LADWP and California fuel suppliers are covered entities, resulting in an indirect reduction of GHG emissions from the Project's energy consumption and mobile source emissions.
- **Title 24 Building Energy Efficiency Standards, and the CALGreen Code:** The Project would meet or exceed the energy standards in the Title 24 Building Energy Efficiency Standards, and the CALGreen Code and would implement project design features, including Project Design Feature GHG-PDF-1, where the Project would be designed to include solar voltaic panels on the roof of the gymnasium to reduce the amount of electricity drawn from City utilities. Additionally, as described in Section IV.O.1, *Utilities and Service Systems – Water Supply,* the Project would provide sustainability features, such as the one million gallon stormwater capture and reuse system that is expected to provide a minimum of one-third of the Project's total annual irrigation demand; replacing the existing uses with new athletic and recreational facilities, including athletic fields utilizing artificial grass as a sustainable alternative to turf grass, thereby reducing water demand and avoiding the use of pesticides; and maintaining 41 percent of the Project Site as pervious areas to allow water to reach below the top surface condition and be

135 Los Angeles Department of Water and Power, 2017 Power Strategic Integrated Long-Term Resource Plan, December 2017, page ES-18.

reused, that would all reduce the Project's outdoor water demand; all of which would reduce the Project's GHG emissions associated with water conveyance and wastewater treatment. As stated previously, the 2008 Climate Change Scoping Plan notes that water use requires significant amounts of energy, including approximately one-fifth of Statewide electricity.

(ii) Mobile

- **AB 1493 (Pavley Regulations):** The State's Pavley Regulations apply to new passenger vehicles from model year 2012 through 2016 (Phase I) and model years 2017–2025 (Phase II). While this action does not apply to individual projects, future residents, employees, and visitors to the Project Site would purchase new vehicles in compliance with this regulation. Mobile source emissions generated by future spectators, visitors, students and employees to the Project Site would be reduced with implementation of AB 1493. However, it is noted that the vehicle emissions standards beyond model year 2020 may not occur if the Federal SAFE Vehicles Rules and the One National Program on Federal Preemption of State Fuel Economy Standards are upheld by the Courts.
- **Advanced Clean Cars Program:** The Advanced Clean Cars (ACC) program includes Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years. While this action does not directly apply to individual projects, the standards would apply to all vehicles purchased or used by spectators, visitors, students and employees, and visitors to the Project Site. The Project would designate a minimum of 8 percent of on-site parking for carpool and/or alternative-fueled vehicles. In addition, the Project design provides for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into a minimum of 30 percent of the parking spaces, with 10 percent of the LAMC-required spaces further improved with electric vehicle charging stations. As such, the Project would support compliance with this regulation.
- **Advance Clean Truck Regulation:** The Advanced Clean Truck Regulation has two components, a manufacturer sales requirement and a reporting requirement. The manufacturer component of the regulation requires manufacturers that certify Class 2b-8 chassis or complete vehicles with combustion engines would be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55 percent of Class 2b – 3 truck sales, 75 percent of Class 4 – 8 straight truck sales, and 40 percent of truck tractor sales. The reporting component of the regulation requires large employers, including retailers, manufacturers, brokers and others, would be required to report information about shipments and shuttle services. Fleet owners, with 50 or more trucks, would be required to report about their existing fleet operations. This information would help

identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs. This would be applicable to occasional delivery trucks to the Project Site.

- **Low Carbon Fuel Standard (Executive Order S-01-07):** This regulation establishes a Statewide goal to reduce the carbon intensity of California's transportation fuels by at least 7.5 percent in the CI of California's transportation fuels by 2020 and a 20 percent reduction in CI from a 2010 baseline by 2030. While this action does not directly apply to individual projects, future residents, employees, and visitors to the Project Site would utilize transportation fuels in compliance with this regulation. GHG emissions related to vehicular travel by Project would benefit from this regulation and mobile source emissions generated by future spectators, visitors, students and to the Project Site would be reduced with implementation of the LCFS.
- **SB 375:** SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the State's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. While this action does not directly apply to individual projects, the Project would not conflict with the SCAG 2020-2045 RTP/SCS goals and objectives under SB 375 to implement "smart growth." As discussed below in Subsection 3.d)(1)(a)(ii), the Project would not conflict with the SCAG 2020-2045 RTP/SCS. The Project would incorporate physical and operational Project characteristics that would reduce vehicle trips and VMT and encourage alternative modes of transportation for spectators, visitors, students and employees. The Project would support reducing VMT given its location at an urban infill location with nearby access to public transportation within 0.25 mile of the Project Site. The Project Site is located near LADOT's Downtown Area Short Hop (DASH) Van Nuys/Studio City bus with stops at Whitsett Avenue/Valley Spring Lane adjacent to the Project Site, and the Los Angeles County Metropolitan Transit Authority (Metro) Local Line 167 with stops at Whitsett Avenue/Ventura Boulevard, 0.13 mile to the south of the Project Site. Other transit services include Metro Bus Rapid Transit (BRT) Line 750 and Local Line 150/240 bus Ventura Boulevard/Coldwater Canyon, which provide connections to the Metro B (Red) Line North Hollywood Station 2.25 miles to the east of the Project Site, which also serves the Metro G (Orange) Line. The Project would also reduce vehicle trips and VMT by implementing a shuttle system between the School's Upper Campus and the Project Site whenever there are School activities underway at the Project Site, in order to encourage efficient transportation and reduce VMT associated with the Project. To further reduce reliance on fossil fuels and transportation-related GHG emissions, the Project would designate a minimum of eight percent of on-site parking for carpool and/or alternative-fueled vehicles (33 spaces). The Project would also provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into a minimum of 30 percent of the parking spaces (approximately 160 spaces), with 10 percent of the LAMC-required spaces further improved with electric vehicle charging stations (approximately 54 spaces).

(iii) Solid Waste

- **California Integrated Waste Management Act (IWMA) of 1989 and AB 341:** The IWMA mandated that State agencies develop and implement an integrated waste management plan which outlines the steps to be taken to divert at least 50 percent of their solid waste from disposal facilities. AB 341 directs CalRecycle to develop and adopt regulations for mandatory commercial recycling and sets a Statewide goal for 75 percent disposal reduction by the year 2020. In addition, the City has developed and is in the process of implementing the Solid Waste Integrated Resources Plan, also referred to as the Zero Waste Plan, whose goal is to lead the City towards being a "zero waste" city by 2030. While this action does not directly apply to individual projects, the Project would benefit from the IWMA and the SWIRP inasmuch as it would be served by a solid waste collection and recycling service that include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Citywide recycling targets. According to the City of Los Angeles Zero Waste Progress Report (March 2013), the City achieved a landfill diversion rate of approximately 76 percent by year 2012.[136]

As demonstrated above, the Project would not conflict with the future anticipated Statewide GHG reductions goals. CARB has outlined a number of potential strategies for achieving the 2030 Statewide reduction target of 40 percent below 1990 levels, as mandated by SB 32. These potential strategies include using renewable resources for half of the State's electricity by 2030, increasing the fuel economy of vehicles and the number of zero-emission or hybrid vehicles, reducing the rate of growth in VMT, supporting other alternative transportation options, and use of high-efficiency appliances, water heaters, and HVAC systems.[137] The Project would benefit from Statewide and utility-provider efforts towards increasing the portion of electricity provided from renewable resources. The utility provider for the Project, LADWP, provided 34 percent of 2019 electricity purchases from renewable sources[138] and would be required to provide 50 percent by 2025, 60 percent by 2030, and 100 percent by 2045. The Project would also benefit from Statewide efforts towards increasing the fuel economy standards of vehicles. The Project would support reducing VMT given its location at an infill site close to existing transit options, as described above.

As a result, the Project would not conflict with applicable Climate Change Scoping Plan strategies and regulations to reduce GHG emissions.

136 City of Los Angeles Department of Public Works, Bureau of Sanitation, Zero Waste Progress Report, March 2013.

137 Energy + Environmental Economics (E3), Summary of the California State Agencies' PATHWAYS Project: Long-Term Greenhouse Gas Reduction Scenarios, April 6, 2015.

138 LADWP, 2019 Power Content Label, October 2020.

(iv) Post-2030 Analysis

The 2017 Scoping Plan also outlines strategies to reduce GHG emissions to achieve the 2030 target from sectors that are not directly controlled or influenced by the Project, but nonetheless contribute to Project-related GHG emissions. For instance, the Project itself is not subject to the Cap-and-Trade regulation; however, Project-related emissions would decline pursuant to the regulation as utility providers and transportation fuel producers are subject to renewable energy standards, Cap-and-Trade, and the LCFS. While CARB is in the process of expanding the regulatory framework to meet the 2030 reduction target based on the existing laws and strategies in the 2017 Scoping Plan, the Project would support or not impede implementation of these potential GHG reduction strategies identified by CARB for all the reasons summarized above.

In June 2018, an updated report was published on the California PATHWAYS model, which was used in the preparation of the 2017 Scoping Plan. This updated report determined that "meeting the state's 2030 climate goals requires scaling up and using technologies already in the market such as energy efficiency and renewables, while pursing aggressive market transformation of new technologies that have not yet been utilized at scale in California (for example, zero-emission vehicles and electric heat pumps)."[139] Priority GHG reduction strategies include energy efficiency in buildings, renewable energy, and smart growth through increased use of public transit, walking, biking, telepresence, and denser, mixed-use community design. The Project would not conflict with these strategies given it would incorporate renewable energy measures, including Project Design Feature GHG-PDF-1, where the Project would be designed to include solar voltaic panels on roof of the gymnasium to provide 339,000 kWh/year of renewable electricity and reduce the amount of electricity drawn from City utilities and energy efficient measures, including water demand reduction measures as described in Section IV.O.1, *Utilities and Service Systems – Water Supply*, minimizing energy use to support efforts by its utility provider, LADWP, to obtain renewable energy pursuant to State mandates. Furthermore, the Project would support the priority market transformation strategy of zero-emission light-duty vehicles by providing for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into a minimum of 30 percent of the parking spaces, with 10 percent of the LAMC-required spaces further improved with electric vehicle charging stations. As such, the Project would not conflict with the findings relevant to the Project from the updated California PATHWAYS model report.

With Statewide efforts underway to facilitate the State's achievement of those goals, it is reasonable to expect the Project's GHG emissions to decline from their opening year levels as reported in Table IV.G-7, above, as the regulatory initiatives identified by CARB in the 2017 Scoping Plan are implemented, and other technological innovations occur. Stated differently, the Project's emissions at buildout likely represents the maximum

139 California Energy Commission, Energy Research and Development Division, Final Project Report, Deep Decarbonization in a High Renewables Future Updated Results from the California PATHWAYS Model, June 2018.

emissions for the Project as anticipated regulatory developments and technology advances are expected to reduce emissions associated with the Project, such as emissions related to electricity use and vehicle use.

Even though the 2017 Scoping Plan and supporting documentation do not provide an exact regulatory and technological roadmap to achieve 2050 goals, they demonstrate that various combinations of policies could allow the Statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the study or not currently feasible at the time the 2017 Scoping Plan was adopted could enable the State to meet the 2050 targets.[140] For example, the 2017 Scoping Plan states some policies are not feasible at this time, such as Net Zero Carbon Buildings, but that this type of policy would be necessary to meet the 2050 target.

Based on the above, the Project would not conflict with CARB's Climate Change Scoping Plan, and there would be an anticipated decline in Project emissions once fully constructed and operational; the Project would not conflict with the State's GHG reduction targets for 2030 and 2050. Therefore, impacts would be less than significant. As stated above, a detailed consistency table that contains a list of the State's Climate Change Scoping Plan GHG-reducing strategies applicable to the Project and describes that the Project would not conflict with the Climate Change Scoping Plan is available in the *Air Quality and Greenhouse Gas Technical Documentation* appendix for the Project, which is provided in Appendix C of this Draft EIR.

(b) SCAG's 2020-2045 RTP/SCS

Transportation-related GHG emissions would be the largest source of emissions from the Project. This finding is consistent with the findings in regional plans, including the 2020-2045 RTP/SCS, which recognizes that the transportation sector is the largest contributor to the State's GHG emissions. At the regional level, the 2020-2045 RTP/SCS is an applicable plan adopted for the purpose of reducing GHGs.

The purpose of the 2020-2045 RTP/SCS is to achieve the regional per capita GHG reduction targets for the passenger vehicle and light-duty truck sector established by CARB pursuant to SB 375. To accomplish this goal, the 2020-2045 RTP/SCS identifies various strategies to reduce per capita VMT. The 2020-2045 RTP/SCS is expected to

140 E3, Summary of the California State Agencies' PATHWAYS Project: Long-Term Greenhouse Gas Reduction Scenarios, April 6, 2015; Greenblatt, Jeffrey, "Modeling California Impacts on Greenhouse Gas Emissions," Energy Policy, Vol. 78, 2015, pages 158-172. The CARB, CEC, California Public Utilities Commission, and the California Independent System Operator engaged E3 to evaluate the feasibility and cost of a range of potential 2030 targets along the way to the State's goal of reducing GHG emissions to 80% below 1990 levels by 2050. With input from the agencies, E3 developed scenarios that explore the potential pace at which emission reductions can be achieved as well as the mix of technologies and practices deployed. E3 conducted the analysis using its California PATHWAYS model. Enhanced specifically for this study, the model encompasses the entire California economy with detailed representations of the buildings, industry, transportation, and electricity sectors.

help SCAG reach its GHG reduction goals, as identified by CARB, with reductions in per capita passenger vehicle GHG emissions for specified target years.

In addition to demonstrating the region's ability to attain and exceed the GHG emission-reduction targets set forth by CARB, the 2020-2045 RTP/SCS outlines a series of actions and strategies for integrating the transportation network with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. Thus, successful implementation of the 2020-2045 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, while reducing automobile use. With regard to individual developments, such as the Project, strategies and policies set forth in the 2020-2045 RTP/SCS can be grouped into the following three categories: (1) reduction of vehicle trips and VMT, (2) increased use of alternative fuel vehicles, and (3) improved energy efficiency. These strategies and policies are addressed below.

In order to assess the Project's potential to conflict with the 2020-2045 RTP/SCS, this section analyzes the Project's land use characteristics for consistency with the strategies and policies set forth in the 2020-2045 RTP/SCS to meet GHG emission-reduction targets set by CARB.[141] Generally, projects are considered to not conflict with applicable land use plans and regulations, such as SCAG's 2020-2045 RTP/SCS, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. The Project would not conflict with the 2020-2045 RTP/SCS goals and benefits intended to improve mobility and access to diverse destinations, provide better "placemaking," provide more transportation choices, and reduce vehicular demand and associated emissions. Thus, successful implementation of the 2020-2045 RTP/SCS would result in more complete communities with a variety of transportation and housing choices, while reducing automobile use.

(i) Integrated Growth Forecast

The 2020-2045 RTP/SCS provides socioeconomic forecast projections of regional population growth. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the specific area; these are used by SCAG in all phases of implementation and review. While the Project does not propose residential uses or new businesses, new employees would be introduced by the Project. On a typical day in which no high attendance events (i.e., fewer than 300 spectators and participants) would take place, there would be a maximum of 80 employees. On occasional days in which high attendance events (i.e., greater than 300 spectators and participants) would take place, there would be a maximum of approximately 100 employees. A majority of these employees would be comprised of existing coaches and athletic administrators who currently work at the School's Upper Campus on Coldwater Canyon Avenue. Approximately 20 percent of employees would be net new and would include security,

[141] As discussed in the 2020-2045 RTP/SCS, the actions and strategies included in the 2020-2045 RTP/SCS remain unchanged from those adopted in the 2012-2035 and 2016-2040 RTP/SCS.

custodial, administrative, Information Technology (IT), and landscaping positions (see the Project's Initial Study, included as Appendix A to this DEIR). According to the 2020-2045 RTP/SCS, the employment forecast for the City of Los Angeles Subregion in 2021 is approximately 1,897,883 employees.[142] In 2025, the projected occupancy year of the Project, the City of Los Angeles Subregion is anticipated to have 1,937,552 employees.[143] Thus, the Project's estimated 20 employees would constitute 0.02 percent of the employment growth forecasted in the City between 2021 and 2025. Accordingly, the Project's generation of employees would not conflict with employment generation projections contained in the 2020-2045 RTP/SCS. Refer to Section IV.J, *Land Use and Planning*, of this Draft EIR, for additional information regarding consistency with the 2020-2045 RTP/SCS.

(ii) VMT Reduction Strategies and Policies

The Project represents an infill development at a location served by several local and regional bus lines. Existing transit options serving the Project include LADOT's DASH Van Nuys/Studio City bus with stops at Whitsett Avenue/Valley Spring Lane adjacent to the Project Site, and Metro Local Line 167 at Whitsett Avenue/Ventura Boulevard, 0.13 mile to the south of the Project Site. Other transit services include Metro BRT Line 750 and Local Line 150/240 bus at Ventura Boulevard/Coldwater Canyon, which provide connections to the Metro B (Red) Line North Hollywood Station 2.25 miles to the east of the Project Site, which also serves the Metro G (Orange) Line. As previously discussed, the Project would implement a shuttle system between the School's Upper Campus and the Project Site whenever there are School activities underway at the Project Site. The local and regional bus line services and the implementation of the shuttle system would encourage efficient transportation and reduce VMT associated with the Project. In addition, although the Project is not required to provide any bicycle parking spaces per the LAMC, the Project would also provide up to 100 on-site bicycle parking spaces. The Project would provide spectators, visitors, students and employees with the ability to access nearby public transit and opportunities for walking and biking, which would facilitate a reduction in VMT and related vehicular GHG emissions, and would not conflict with the VMT Reduction Strategies and Policies of the 2020-2045 RTP/SCS.

The Project would also not be in conflict with the following key GHG reduction strategies in SCAG's 2020-2045 RTP/SCS as substantiated below, which are based on changing the region's land use and travel patterns in the following key areas[144]:

142 Southern California Association of Governments, 2020-2045 RTP/SCS, Demographics and Growth Forecast Technical Report, May 2020, Table 13 County Forecast of Population, Households, and Employment, pp. 29. Based on a linear interpolation of 2020–2030 data.

143 Southern California Association of Governments, 2020-2045 RTP/SCS, Demographics and Growth Forecast Technical Report, May 2020, Table 13 County Forecast of Population, Households, and Employment, pp. 29. Based on a linear interpolation of 2020–2030 data.

144 Southern California Association of Governments, 2020-2045 RTP/SCS, May 2020, pp. 3, 21, 26, 50, 52, 69, and 144.

- Compact growth in areas accessible to transit;
- Locate jobs in proximity to transit;
- Locate job growth focused in Priority Growth Areas; and
- Biking and walking infrastructure to improve active transportation options and transit access.

As discussed previously, the Project represents an infill development well served by public transportation. As described under subsection IV.G.3.d)(1)(a)(ii), *CARB'S Climate Change Scoping Plan*, above, several transit providers operate service within the immediate vicinity of the Project Site. The 2020-2045 RTP/SCS focuses on orienting job growth in Priority Growth Areas served by high quality transit and into other infill areas where urban infrastructure already exists. The Project supports this by locating recreational uses (including a clubhouse and café) at an urban infill location with an existing street grid and in proximity to existing public transit options and in proximity to off-site uses (i.e., commercial, shopping and entertainment businesses and neighborhood housing uses) would allow people in the neighborhood and community to utilize the nearby Project Site services. In addition, the Project would utilize a shuttle system between the School's Upper Campus and the Project Site whenever there are School activities underway at the Project Site, in order to encourage efficient transportation and reduce VMT associated with the Project. Furthermore, the Project would also provide up to 100 on-site bicycle parking spaces and connections to walking and bicycle paths. The Project would provide spectators, visitors, students and employees with the ability to access nearby public transit and opportunities for walking and biking, which would facilitate a reduction in VMT and related vehicular GHG emissions, which would not conflict with the goals of the 2020-2045 RTP/SCS.

By locating the Project's proposed school athletic and recreational land uses within an area that has existing high quality public transit (with access to existing regional bus and rail service) and employment opportunities within walking distance, and by including features that support and encourage pedestrian activity and other non-vehicular transportation and increased transit use in the Studio City neighborhood of the Los Angeles area, the Project would reduce vehicle trips and VMT and resulting air pollution and GHG emissions. Therefore, by facilitating a land use pattern that promotes sustainability, the Project's characteristics developed at its location would not conflict with VMT objectives of the 2020-2045 RTP/SCS.

A detailed consistency table that contains a list of the 2020-2045 RTP/SCS actions and strategies GHG-reducing strategies applicable to the Project and describes that the Project would not conflict with the 2020-2045 RTP/SCS is available in the *Air Quality and Greenhouse Gas Technical Documentation* appendix for the Project, which is provided in Appendix C of this Draft EIR.

(iii) Increased Use of Alternative Fueled Vehicles Policy Initiative

A goal of the 2020-2045 RTP/SCS, with regard to individual development projects, such as the Project, is to increase alternative fueled vehicles to reduce per capita GHG emissions. The 2020-2045 RTP/SCS policy initiative focuses on providing charge port infrastructure and accelerating fleet conversion to electric or other near zero-emission technologies. The Project would provide at least 10 percent of the total LAMC-required parking spaces with EV charging stations and 30 percent of the total LAMC-required parking spaces provided to be capable of supporting future EVSE as dictated by City requirements. As such, the Project would not conflict with this goal of the 2020-2045 RTP/SCS.

(iv) Energy Efficiency Strategies and Policies

The 2020-2045 RTP/SCS includes strategies for individual developments, such as the Project, to improve energy efficiency (e.g., reducing energy consumption) to reduce GHG emissions. As discussed in Section II, *Project Description*, of the Draft EIR, the Project has been designed and would be constructed to incorporate environmentally sustainable building features and construction protocols required by the Los Angeles Green Building Code and CALGreen Code. These standards would reduce energy and water usage and waste and, thereby, reduce associated greenhouse gas emissions and help minimize the impact on natural resources and infrastructure. The Project would include energy-saving measures. These measures include natural light to be harvested for the main spaces in the gymnasium building using large expanses of glass and skylights; daylighting systems to coordinate the levels of artificial lighting; HVAC systems that would be sized and designed in compliance with the CALGreen Code to maximize energy efficiency caused by heat loss and heat gain; high efficiency, low-e insulated glass units to be used for the gymnasium building envelope; glazing to be protected from direct sunlight with deep overhangs and window screening to mitigate glare, and reduce solar radiation and heat gain; and new and existing tree canopies to be utilized to protect building walls from sun exposure and provide shade for the ground area. These measures were generally accounted for based on compliance with 2019 Title 24 standards. Furthermore, the Project would incorporate Project Design Feature GHG-PDF-1, which includes solar voltaic panels on the roof of the gymnasium that would provide 339,000 kWh/yr of renewable electricity and reduce the amount of electricity demand from City utilities. The solar voltaic panels would be estimated to generate electricity equivalent to approximately 11.5 percent of the Project's energy demand.

The Project would include water sustainability features, which would include, but not limited to, the installation of low-flow toilets, low-flow faucets, low-flow showers, and other energy and resource conservation measures. In addition, as described in Section IV.O.1, *Utilities and Service Systems – Water Supply,* the Project would provide sustainability features, such as the one million gallon stormwater capture and reuse system that is expected to provide a minimum of one-third of the Project's total annual irrigation demand; replacing the existing uses with new athletic and recreational facilities, including athletic

fields utilizing artificial grass as a sustainable alternative to turf grass and reduction in water demand and avoid the use of pesticides; and maintaining approximately 41 percent of the Project Site as pervious areas to allow water to reach below the top surface condition and be reused, that would all reduce the Project's outdoor water demand, thereby reducing the Project's GHG emissions associated with water conveyance and wastewater treatment. Therefore, based on the above, the Project would not conflict with energy strategies in the 2020-2045 RTP/SCS.

(v) Land Use Characteristics

In order to assess the Project's consistency with the 2020-2045 RTP/SCS, this Draft EIR also analyzes the Project's land use characteristics, such as density and proximity to job centers, for consistency with those utilized by SCAG in its SCS. The Project's consistency with the applicable land use goals and principles set forth in the 2020-2045 RTP/SCS is discussed in Section IV.J, *Land Use and Planning*, **Table LU-1**, *Consistency of the Project with Applicable Strategies of the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy Intended to Avoid or Mitigate an Environmental Effect*, provided in Appendix J of this Draft EIR. As concluded therein, the Project would not conflict with applicable land use strategies of the 2020-2045 RTP/SCS.

(vi) Conclusion

As discussed in the above analysis, the Project would not conflict with and would support the goals and benefits of the 2020-2045 RTP/SCS to reduce GHG emissions that are potentially applicable to the Project As stated above, a detailed consistency table that contains a list of the 2020-2045 RTP/SCS actions and strategies GHG-reducing strategies applicable to the Project and describes that the Project would not conflict with the 2020-2045 RTP/SCS is available in the *Air Quality and Greenhouse Gas Technical Documentation* appendix for the Project, which is provided in Appendix C of this Draft EIR. Accordingly, the Project is the type of land use development that is encouraged by the 2020-2045 RTP/SCS to reduce VMT and expand multi-modal transportation options in order for the region to achieve the GHG reductions from the land use and transportation sectors required by SB 375, which, in turn, advances the State's long-term climate policies. By furthering implementation of SB 375, the Project supports regional land use and transportation GHG reductions consistent with State regulatory requirements.

(c) City's Green New Deal

The City's Green New Deal includes both short-term and long-term aspirations through the year 2050 in various topic areas, including water, solar power, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development, mobility and transit, and air quality, among others.

While not a plan adopted solely to reduce GHG emissions, within the City's Green New Deal, climate mitigation is one of eight explicit benefits that help define its strategies and goals. Although the Green New Deal mainly targets GHG emissions related to City-owned

buildings and operations, certain reductions associated with the Project would promote the Green New Deal's goals. Such measures include increasing renewable energy usage; reduction of per capita water usage; promotion of walking and biking, promotion of educational and recreational uses close to transit; and various recycling and trash diversion goals. In addition, a detailed consistency table that contains a list of the Green New Deal actions and strategies GHG-reducing strategies applicable to the Project and describes that the Project would not conflict with the Climate Change Scoping Plan is available in the *Air Quality and Greenhouse Gas Technical Documentation* appendix for the Project, which is provided in Appendix C of this Draft EIR.

Although the City's Green New Deal is not an adopted plan or directly applicable to private development projects, the Project would not conflict with these aspirations as it is an infill development consisting of educational and recreational uses on a Project Site in proximity to transit. In addition, the Project would comply with Title 24 Standards and would implement measures to reduce overall energy usage compared to baseline conditions. Furthermore, the Project would also result in GHG reductions beyond those specified by the City and would minimize its GHG emissions by implementing Project Design Feature GHG-PDF-1, which includes solar voltaic panels on the roof of the gymnasium that would generate 339,000 kWh/yr of renewable electricity and reduce the amount of electricity demand from City utilities. The solar voltaic panels would offset approximately 11.5 percent of the Project's electricity demand. The Project would comply with the City of Los Angeles Solid Waste Management Policy Plan, and the Exclusive Franchise System Ordinance (Ordinance No. 182,986) in furtherance of the aspirations included in the Green New Deal with regard to energy-efficient buildings and waste and landfills. The Project would also provide bicycle parking and connections to walking and biking paths in furtherance of reducing VMT and decreasing GHG.

Additionally, as described in Section IV.O.1, *Utilities and Service Systems – Water Supply,* the Project would provide sustainability features that would all reduce the Project's outdoor water demand, which would reduce the Project's GHG emissions associated with water conveyance and wastewater treatment (see Section IV.O.1, *Utilities and Service Systems – Water Supply,* for additional details). Therefore, as the Project's GHG emissions would be generated in connection with a development located and designed to be consistent with the applicable City plan goals and actions for reducing GHG emissions, the Project would not conflict with these City plans adopted for the purpose of reducing GHG emissions, and the Project's GHG emissions would result in less-than-significant impacts.

(d) Los Angeles Green Building Code

As memorialized in Project Design Feature GHG-PDF-1, the Project would comply with the Los Angeles Green Building Code and would additionally reduce GHG emissions by including solar voltaic panels on the roof of the gymnasium to reduce the amount of electricity drawn from City utilities and complying with the California 2019 Title 24 Building Energy Efficiency Standards, as amended by the City. The Project would also meet the mandatory measures of the CALGreen Code as amended by the City by incorporating

strategies, such as natural light to be harvested for the main spaces in the gymnasium building using large expanses of glass and skylights; daylighting systems to coordinate the levels of artificial lighting; HVAC systems that would be sized and designed in compliance with the CALGreen Code to maximize energy efficiency caused by heat loss and heat gain; high efficiency, low-e insulated glass units to be used for the gymnasium building envelope; glazing to be protected from direct sunlight with deep overhangs and window screening to mitigate glare, and reduce solar radiation and heat gain; and new and existing tree canopies to be utilized to protect building walls from sun exposure and provide shade for the ground area. The Project would also include the installation of low-flow toilets, low-flow faucets, low-flow showers, and other energy and resource conservation measures.

As described in Section IV.O.1, *Utilities and Service Systems – Water Supply,* the Project would provide additional sustainability features, such as the one million gallon stormwater capture and reuse system that is expected to provide a minimum of one-third of the Project's total annual irrigation demand; replacing the existing uses with new athletic and recreational facilities, including athletic fields utilizing artificial grass as a sustainable alternative to turf grass and reduction in water demand and avoid the use of pesticides; and maintaining 41 percent of the Project Site as pervious areas to allow water to reach below the top surface condition and be reused, which would all reduce the Project's outdoor water demand, thereby reducing the Project's GHG emissions associated with water conveyance and wastewater treatment. Therefore, the Project would not conflict with the Los Angeles Green Building Code.

(e) Urban Heat Island

Under existing conditions, in order to maintain an appropriate, manicured playing field for golf, the Project Site has limited understory landscaping and ornamental vegetation, non-diverse and non-native trees (whose primary function is to delineate one golf hole from another) and non-native turf grass. The Project would replace the existing golf uses with new athletic and recreational facilities, including outdoor athletic fields utilizing artificial grass as a sustainable alternative to turf grass, thereby reducing irrigation water demand, which would reduce the Project's GHG emissions associated with water conveyance and wastewater treatment, and avoiding the use of pesticides.

The following provides a discussion of the composition of artificial turf, which includes an overview of the components of artificial turf and the compounds of theoretical concern regarding the urban heat island effect, which is a potential adverse outcome of climate change-induced temperature increases resulting from GHG emissions and could potentially lead to greater GHG emissions from additional energy needed for cooling. Based on the available studies and assessments, the potential for the Project's artificial turf to create a significant effect related to the urban heat island effect is discussed. Additional supporting information regarding the urban heat island effect is provided in Appendix C-2 of this Draft EIR.

A study conducted by Milone & MacBroom, Inc., evaluated temperature rise of artificial turf materials under a number of environmental conditions.[145] Two fields within Connecticut were selected for this study. Temperature monitoring occurred on June 10 and July 11, 2008, at one field (Field F) and on June 17, 2008, at a second field (Field G). The New York State Department of Health conducted its own temperature survey to gain a better understanding of the surface temperature of artificial turf fields. The findings from this survey are contained in the report *An Assessment of Chemical Leaching, Releases to Air and Temperature at Crumb-Rubber Infilled Synthetic Turf Fields*.[146]

Based on the studies, surface temperatures of artificial turf are higher compared to natural turf due to solar heating and is most pronounced in the polyethylene and polypropylene fibers used to replicate natural grass. Air temperatures at 1 feet above artificial turf were measured to be two to nine degrees higher as compared to the measured ambient air temperature. Air temperatures at 2 and 5 feet above artificial turf were measured to be generally equivalent to the measured ambient air temperature. Additionally, rapid cooling of the artificial turf fibers was noted if the sunlight was interrupted or filtered by clouds with observed data indicating a cooling of 40 to 50ºF over a 10-minute period when there was observed cloud cover. As shown in Figure II-2 of Chapter II, *Project Description*, the Project Site is located in an already developed urban area with an asphalt roadway grid, and nearby commercial parking lots and commercial and residential buildings, which are general urban features that can potentially contribute to the urban heat island effect. However, as shown in Figure IV.G-2, the urban area in which the Project Site is located is rated with the lowest UHII score of 0 to 10 degree-hours per day (Celsius scale) – equivalent to an average temperature difference between rural and urban in that area of approximately 0 to 0.75ºF. Thus, the Project's artificial turf would not substantially contribute to an increase in the urban heat island effect for the area given that the totality of the urbanized development in the area already yields the lowest UHII score. Furthermore, the urban heat island effect is most pronounced during the nighttime. In general, daytime temperatures in urban areas are on average 1 to 6ºF higher than in rural areas, while nighttime temperatures can be as much as 22ºF higher as the heat is gradually released from buildings and pavement.[147] However, artificial turf fibers undergo rapid cooling if sunlight is interrupted or filtered by clouds with observed data indicating a cooling of 40 to 50ºF over a 10-minute period with observed cloud cover. As discussed above, empirical data showed that rapid cooling of the fibers occurred when sunlight was interrupted or filtered by clouds, which is indicative of lower thermal mass of the artificial turf fibers compared to other materials or structures that tend to retain or store heat, such as buildings or pavement. Thus,

145 Milone & MacBroom, Inc., Thermal Effects Associated with Crumb Rubber In-filled Synthetic Turf Athletic Fields, December 2008.

146 Lim, Ly, & Walker, Randi, An assessment of chemical leaching, releases to air and temperature at crumb-rubber infilled synthetic turf fields. New York State Department of Environmental Conservation (NYDEC), 2009.

147 CalEPA, Understanding the Urban Heat Island Index, https://calepa.ca.gov/climate/urban-heat-island-index-for-california/understanding-the-urban-heat-island-index/. Accessed December 1, 2020.

unlike buildings and pavement that retain daytime heat and gradually release heat during the nighttime hours, artificial turf fibers would undergo rapid cooling as the sun sets and would not contribute substantially to nighttime heating.

As discussed in Chapter II, *Project Description*, the Project would implement an extensive tree and landscaping program that would remove 240 of the existing 421 inventoried on- and off-site trees (four which are deemed dead and, therefore, excluded from mitigation requirements), and plant 393 trees resulting in a net increase of 153 trees beyond existing conditions (or a 36 percent increase). According to the USEPA, trees help reduce urban heat island effects by shading building and ground surfaces, deflecting radiation from the sun, and releasing moisture into the atmosphere, which results in cooling through evapotranspiration.[148] The increase in trees would help offset some of the highly-localized surface temperature warming effects from the proposed outdoor athletic fields utilizing artificial grass through increased Site-wide tree shading, deflection of solar radiation, and evapotranspiration compared to existing conditions.

Based on the above, the Project would have a less-than-significant impact with respect to the urban heat island effect.

(f) Conclusion

In conclusion, the Project's consistency with applicable GHG reduction plans and policies demonstrate that the Project does not conflict with regulations and policies and complies with or exceeds the regulations and reduction actions/strategies outlined in the Climate Change Scoping Plan, 2025-2045 RTP/SCS, the City's Green New Deal, and the Los Angeles Green Building Code. The Project would also have a less-than-significant impact with respect to the urban heat island effect. **Therefore, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs, and Project-specific impacts with regard to GHG emissions would be less than significant.**

(2) Mitigation Measures

Impacts regarding conflicts with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs were determined to be less than significant. Therefore, no mitigation measures are required.

(3) Level of Significance After Mitigation

Impacts regarding conflicts with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs were determined to be less than significant

[148] U.S. Environmental Protection Agency, Reduce Urban Heat Island Effect, November 2, 2020, https://www.epa.gov/green-infrastructure/reduce-urban-heat-island-effect, accessed December 1, 2020.

without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.

e) Cumulative Impacts

Analysis of GHG emissions is cumulative in nature because impacts are caused by cumulative global emissions and; additionally, climate change impacts related to GHG emissions do not necessarily occur in the same area as the project is located. Given that the Project would generate GHG emissions that would not conflict with applicable reduction plans and policies, and given that GHG emission impacts are cumulative in nature, the Project's incremental contribution to cumulatively significant GHG emissions would be less than significant.

(1) Impact Analysis

Although the Project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. The State has mandated a goal of reducing Statewide emissions to 40 percent below 1990 levels by 2030, even though Statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce Statewide GHG emissions. Currently, there are no applicable CARB, SCAQMD, or City of Los Angeles significance thresholds or specific reduction targets, and no approved policy or guidance to assist in determining significance at the project or cumulative levels. Additionally, there is currently no generally accepted methodology to determine whether GHG emissions associated with a specific project represent new emissions or existing, displaced emissions. Therefore, consistent with CEQA Guidelines Section 15064h(3),[149] the City, as lead agency, has determined that the Project's contribution to cumulative GHG emissions and global climate change would be less than significant if the Project would not conflict with the applicable regulatory plans and policies to reduce GHG emissions: Climate Change

[149] As indicated above, the CEQA Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."

Scoping Plan, SCAG's 2020-2045 RTP/SCS, City's Green New Deal, and the Los Angeles Green Building Code.

Subsection IV.G.3.d)(1)(a)(ii), *CARB's Climate Change Scoping Plan,* illustrates that implementation of the Project's regulatory requirements and Project Design Features, including State mandates, would contribute to GHG reductions. These reductions represent a reduction from the Project without implementation of GHG reduction characteristics, features, and measures scenario and support State goals for GHG emissions reduction. The methods used to establish this relative reduction are consistent with the approach used in CARB's Climate Change Scoping Plan for the implementation of AB 32.

The Project is consistent with the approach outlined in CARB's Climate Change Scoping Plan, particularly its emphasis on the identification of emission reduction opportunities that promote economic growth while achieving greater energy efficiency and accelerating the transition to a low-carbon economy. In addition, as recommended by CARB's Climate Change Scoping Plan, the Project would use "green building" features as a framework for achieving GHG emissions reductions as new buildings would be designed to comply with the City's requirements and the CALGreen Code.

As part of SCAG's 2020-2045 RTP/SCS, a reduction in VMT within the region is a key component to achieving the 2035 GHG emission reduction targets established by CARB. As discussed previously, the Project Site's land use characteristics demonstrate that the Project's VMT would be reduced compared to a standard non-infill project and based on its location efficiency.

As discussed in Section IV.B, *Air Quality*, and in Section IV.J, *Land Use and Planning*, of this Draft EIR, the Project would not conflict with applicable land use policies of the City of Los Angeles and SCAG pertaining to air quality, including reducing GHG emissions.

The Project also would comply with the City's Green New Deal, as discussed under Threshold (b) in Subsection IV.G.3.d)(1)(a)(iii), *City's Green New Deal*, which emphasizes improving energy conservation and energy efficiency, increasing renewable energy generation, and changing transportation and land use patterns to reduce auto dependence. The Project would also comply with the Los Angeles Green Building Code, which emphasizes improving energy conservation and energy efficiency, and increasing renewable energy generation. The Project's regulatory requirements and project design features provided above and throughout this Draft EIR would advance these objectives. Furthermore, the related projects would also be anticipated to comply with many of these same emissions reduction goals and objectives (e.g., Los Angeles Green Building Code).

As discussed above, the Project would not conflict with the applicable GHG reduction plans and policies. The comparison of the Project's emissions to a scenario without GHG reduction features demonstrates the efficacy of the measures contained in these policies. Moreover, while the Project is not directly subject to the Cap-and-Trade Program, that Program would indirectly reduce the Project's GHG emissions by regulating "covered

entities" that affect the Project's GHG emissions, including energy, mobile, and construction emissions. More importantly, the Cap-and-Trade Program would backstop the GHG reduction plans and policies applicable to the Project in that the Cap-and-Trade Program would be responsible for relatively more emissions reductions if California's direct regulatory measures reduce GHG emissions less than expected. The Cap-and-Trade Program would ensure that the GHG reduction targets of AB 32 and SB 32 are met.

The 2017 Scoping Plan demonstrates that the State's existing and proposed regulatory framework would allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030. Even though the 2017 Scoping Plan and supporting documentation do not provide an exact regulatory and technological roadmap to achieve the 2050 goal, they demonstrated that various combinations of policies could allow the Statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target. Subsequent to the findings of these studies, SB 32 was passed on September 8, 2016, which would require CARB to ensure that Statewide GHG are reduced to 40 percent below the 1990 emissions level by 2030. As discussed above, the new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

Regarding the urban heat island effect, the Project's artificial turf would not substantially contribute to an increase in the urban heat island effect for the area given that the cumulative totality of the urbanized development in the area already yields the lowest UHII score. Furthermore, the urban heat island effect is most pronounced during the nighttime. However, artificial turf fibers undergo rapid cooling if sunlight is interrupted or filtered by clouds with observed data indicating a cooling of 40 to 50ºF over a 10-minute period with observed cloud cover. Thus, unlike buildings and pavement that retain and gradually release heat during the nighttime hours, artificial turf fibers, which have significantly less thermal mass than buildings and pavement, would undergo rapid cooling as the sun sets and would not cumulatively contribute substantially to nighttime heating and increased GHG emissions from the need for additional cooling energy.

Thus, based on the above, the Project would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. In addition, the Project would have a less-than-significant impact with respect to the urban heat island effect. In the absence of adopted standards and established significance thresholds, and given this consistency, the Project's impacts would not be cumulatively considerable, and, therefore, the Project's cumulative GHG emissions impacts would be less than significant.

(2) Mitigation Measures

Cumulative impacts regarding GHG emissions were determined to be less than significant. Therefore, no mitigation measures are required.

(3) Level of Significance After Mitigation

Cumulative impacts regarding GHG emissions were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included, and the impact level remains less than significant.