

4. ENVIRONMENTAL IMPACT ANALYSIS

D. GREENHOUSE GAS EMISSIONS

1. INTRODUCTION

This section addresses greenhouse gas (GHG) emissions generated by the construction and operation of the Project inclusive of mandatory and voluntary energy and resource conservation measures that have been incorporated into the Project to reduce GHG emissions and associated impacts. The analysis also addresses the consistency of the Project with applicable regulations, plans, and policies set forth by the State of California and the City to reduce GHGs. The Project's potential contributions to global climate change impacts are identified. Details regarding the GHG analysis are provided in the Greenhouse Gas Technical Report provided in Appendix E 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 storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however current data increasingly indicate that the current global conditions differ from past climate changes in rate and magnitude. Global climate change attributable to anthropogenic (human) GHG emissions is currently one of the most important and widely debated scientific, economic and political issues in the United States and the world. The extent to which increased concentrations of GHGs have caused or will cause climate change and the appropriate actions to limit and/or respond to climate change are the subject of significant and rapidly evolving regulatory efforts at the federal and state levels of government.

GHGs are those compounds in the Earth's atmosphere which play a critical role in determining temperature near the Earth's surface. 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. Not all GHGs possess the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the units of equivalent mass of carbon dioxide (CO₂e). Mass emissions are calculated by converting pollutant specific emissions to CO₂e emissions by applying the proper global warming potential (GWP) value.¹ 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 based on the latest science in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 have begun to be used in recent GHG emissions inventories. By applying the GWP ratios, project-related CO₂e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO₂ over a 100-year period is used as a baseline. The CO₂e values are calculated for construction years as well as existing and project build-out conditions in order to generate

¹ *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). The California Air Resources Board (CARB) has begun reporting GHG emission inventories for California using the GWP values from the IPCC AR4.*

a net change in GHG emissions for construction and operation. Compounds that are regulated as GHGs are discussed below.

Carbon Dioxide (CO₂): CO₂ is the most abundant GHG in the atmosphere and is primarily generated from fossil fuel combustion from stationary and mobile sources. CO₂ is the reference gas (GWP of 1) for determining the GWPs of other GHGs.

Methane (CH₄): CH₄ is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The GWP of CH₄ is 21 in the IPCC SAR and 25 in the IPCC AR4.

Nitrous Oxide (N₂O): N₂O produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of N₂O is 310 in the IPCC SAR and 298 in the IPCC AR4.

Hydrofluorocarbons (HFCs): HFCs are fluorinated compounds consisting of hydrogen, carbon, and fluorine. They are typically used as refrigerants in both stationary refrigeration and mobile air conditioning systems. The GWPs of HFCs ranges from 140 for HFC-152a to 11,700 for HFC-23 in the IPCC SAR and 124 for HFC-152a to 14,800 for HFC-23 in the IPCC AR4.

Perfluorocarbons (PFCs): PFCs are fluorinated compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. The GWPs of PFCs range from 6,500 to 9,200 in the IPCC SAR and 7,390 to 17,700 in the IPCC AR4.

Sulfur Hexafluoride (SF₆): SF₆ is a fluorinated compound consisting of sulfur and fluoride. It is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF₆ has a GWP of 23,900 in the IPCC SAR and 22,800 in the IPCC AR4.

a. Existing Conditions

(1) Existing Site Greenhouse Gas Emissions

The Project Site is located within the Downtown area of the City of Los Angeles, and is currently developed with the nine-story Luxe Hotel and surrounding surface parking lots, which would be demolished and removed from the Site. GHG emissions are currently associated with vehicle trips to and from the existing Project Site, on-site combustion of natural gas for heating and cooking, on-site combustion emissions from landscaping equipment, off-site combustion of fossil fuels for electricity, and off-site emissions from solid waste decomposition and wastewater treatment. GHG emissions are estimated using the California Emissions Estimator Model (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.² CalEEMod was used to estimate GHG emissions from electricity, natural gas, solid waste, water and wastewater, fireplaces, and landscaping equipment. Building electricity and natural gas usage rates are adjusted to account for prior Title 24 Building Energy Efficiency Standards.³ Mobile source emissions are estimated based on CARB's updated version of the on-road vehicle emissions factor (EMFAC) model. The most recent version is EMFAC2014, which "represents ARB's current understanding of motor vehicle travel activities and their associated emission levels."⁴ A detailed discussion of the methodology used to estimate the emissions is provided in Appendix E.

The existing Project Site emissions are summarized in **Table 4.D-1, Estimated Existing Site Greenhouse Gas Emissions**. As shown, the primary sources of emissions are from transportation and energy demand (electricity and natural gas). Detailed emissions calculations are provided in Appendix E of this Draft EIR.

Table 4.D-1

Estimated Existing Site Greenhouse Gas Emissions

Emissions Sources	CO ₂ e (Metric Tons per Year) ^a
Existing Site	
Electricity	635
Natural Gas	120
Mobile Sources	362
Solid Waste	44
Water and Wastewater	42
Area (Fireplaces, Landscaping Equipment)	<1
Subtotal	1,203

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix E.

^b CO₂e emissions are calculated using the global warming potential values from the Intergovernmental Panel on Climate Change Fourth Assessment Report.

Source: ESA PCR, 2016

(2) Greenhouse Gas Emissions Inventory

Worldwide man-made emissions of GHGs were approximately 49,000 million metric tons (MMT) CO₂e annually including ongoing emissions from industrial and agricultural sources and emissions from land use changes (e.g., deforestation).⁵ Emissions of CO₂ from fossil fuel use and industrial processes account for 65 percent of the total while CO₂ emissions from all sources accounts for 76 percent of the total. Methane emissions account for 16 percent and N₂O emissions for 6.2 percent. In 2013, the United States was the

² See: <http://www.caleemod.com>.

³ California Air Resources Board, *CalEEMod User's Guide, Appendix F, Section 5, July 2013*, <http://caleemod.com/>. Accessed November 2015. Factors for the prior Title 24 standard are extrapolated based on the technical source documentation.

⁴ California Air Resources Board, *Mobile Source Emissions Inventory*, <http://www.arb.ca.gov/msei/categories.htm#emfac2014>. Accessed November 2015. "USEPA approval is expected by the end of 2015. USEPA will provide a transition period during which either version may be used. Therefore, in anticipation of USEPA approval, use of EMFAC2014 before the end of the year is appropriate."

⁵ Intergovernmental Panel on Climate Change, *Fifth Assessment Report Synthesis Report*, (2014).

world's second largest emitter of carbon dioxide at 5,300 MMT (China was the largest emitter of carbon dioxide at 10,300 MMT).⁶

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2013 GHG inventory data (i.e., the latest year for which data are available from CARB), California emitted 459.3 MMTCO_{2e} including emissions resulting from imported electrical power and 419.3 MMTCO_{2e} excluding emissions related to imported power.⁷ Between 1990 and 2013, the population of California grew by approximately 8.2 million (from 29.8 to 38.0 million).⁸ This represents an increase of approximately 28 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from \$773 billion in 1990 to \$2.31 trillion in 2013 representing an increase of approximately 199 percent (about three times the 1990 gross state product).⁹ Despite the population and economic growth, California's net GHG emissions only grew by approximately 7 percent between 1990 and 2013. The California Energy Commission (CEC) attributes the slow rate of growth to the success of California's renewable energy programs and its commitment to clean air and clean energy.¹⁰ **Table 4.D-2, State of California Greenhouse Gas Emissions**, identifies and quantifies statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2013 (i.e., the most recent year in which data are available from CARB). As shown in the table, the transportation sector is the largest contributor to statewide GHG emissions at 37 percent in 2013.

(3) Effects of Global Climate Change

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC, in its *Fifth Assessment Report, Summary for Policy Makers*, stated that, "it is *extremely likely* that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forcings together."¹¹ A report from the National Academy of Sciences concluded that 97 to 98 percent of the climate researchers most actively publishing in

⁶ PBL Netherlands Environmental Assessment Agency and the European Commission Joint Research Center, *Trends in Global CO₂ Emissions 2014 Report*, (2014).

⁷ California Air Resources Board, "California Greenhouse Gas 2000-2013 Inventory by Scoping Plan Category - Summary," <http://www.arb.ca.gov/cc/inventory/data/data.htm>. Accessed March 2016.

⁸ U.S. Census Bureau, "California, Population of Counties by Decennial Census: 1900 to 1990," <http://quickfacts.census.gov/qfd/states/060001k.html>. Accessed January 2015; California Department of Finance, "E-5 Population and Housing Estimates for Cities, Counties and the State, January 2011-2014, with 2010 Benchmark," <http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php>. Accessed March 2016.

⁹ California Department of Finance, "Financial & Economic Data: Gross Domestic Product, California," http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Misc.htm. Accessed March 2015. Amounts are based on current dollars as of the date of the report (June 2015).

¹⁰ California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, (2007).

¹¹ Intergovernmental Panel on Climate Change, *Fifth Assessment Report, Summary for Policy Makers*, (2013) 15.

Table 4.D-2

State of California Greenhouse Gas Emissions

Category	Total 1990 Emissions using IPCC SAR (MMTCO ₂ e)	Percent of Total 1990 Emissions	Total 2013 Emissions using IPCC AR4 (MMTCO ₂ e)	Percent of Total 2013 Emissions
Transportation	150.7	35%	169.0	37%
Electric Power	110.6	26%	90.5	20%
Commercial	14.4	3%	13.3	3%
Residential	29.7	7%	28.1	6%
Industrial	103.0	24%	92.7	20%
Recycling and Waste ^a	–	–	8.9	2%
High GWP/Non-Specified ^b	1.3	<1%	18.5	4%
Agriculture/Forestry	23.6	6%	36.2	8%
Forestry Sinks	-6.7		-- ^c	--
Net Total (IPCC SAR)	426.6	100%	--	--
Net Total (IPCC AR4) ^d	431	100%	459.3	100%

^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 2012).

^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); California Air Resources Board, “California Greenhouse Gas 2000-2013 Inventory by Scoping Plan Category – Summary,” <http://www.arb.ca.gov/cc/inventory/data/data.htm>. Accessed March 2016.

the field support the tenets of the IPCC in that climate change is very likely caused by human (i.e., anthropogenic) activity.¹²

According to CARB, the potential impacts in California due to global climate change may include: loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; more large forest fires; more drought years; increased erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation.¹³ Below is a summary of some of the potential effects, reported by an array of studies that could be experienced in California as a result of global warming and climate change.

¹² Anderegg, William R. L., J.W. Prall, J. Harold, S.H., Schneider, Expert Credibility in Climate Change, Proceedings of the National Academy of Sciences of the United States of America. 2010;107:12107-12109.

¹³ California Environmental Protection Agency, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, (2006).

(a) Air Quality

Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state.¹⁴

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy*¹⁵ as a response to the Governor's Executive Order S-13-2008. The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the CEC was directed to develop a website on climate change scenarios and impacts that would be beneficial for local decision makers.¹⁶ The website, known as Cal-Adapt, became operational in 2011.¹⁷ The information provided from the Cal-Adapt website represents a projection of potential future climate scenarios. The data are comprised of the average values from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors. According to the Cal-Adapt website, the portion of the City of Los Angeles in which the Project Site is located could result in an average increase in temperature of approximately 5 to 9 percent (about 3.4 to 6.0°F) by 2070-2090, compared to the baseline 1961-1990 period.

(b) Water Supply

Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, "Considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change."¹⁸ For example, some studies identify little change in total annual precipitation in projections for California while others show significantly more precipitation.¹⁹ Warmer, wetter winters would increase the amount of runoff available for groundwater recharge; however, this additional runoff would occur at a time when some basins are either being recharged at their maximum capacity or are already full.²⁰ Conversely, reductions in spring runoff and higher

¹⁴ California Energy Commission, *Scenarios of Climate Change in California: An Overview, February 2006*. <http://www.energy.ca.gov/2005publications/CEC-500-2005-186/CEC-500-2005-186-SF.PDF>. Accessed April 2016.

¹⁵ California Natural Resources Agency, *Climate Action Team, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, (2009)*.

¹⁶ *Ibid.*

¹⁷ The Cal-Adapt website address is: <http://cal-adapt.org>.

¹⁸ Pacific Institute for Studies in Development, Environment and Security, *Climate Change and California Water Resources: A Survey and Summary of the Literature, July 2003*. http://www.pacinst.org/reports/climate_change_and_california_water_resources.pdf. Accessed April 2016.

¹⁹ *Ibid.*

²⁰ *Ibid.*

evapotranspiration because of higher temperatures could reduce the amount of water available for recharge.²¹

The California Department of Water Resources report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta, concludes that “climate change will likely have a significant effect on California’s future water resources...[and] future water demand.” It also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain.” It also reports that the relationship between climate change and its potential effect on water demand is not well understood, but “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows.²² In its *Fifth Assessment Report*, the IPCC states “Changes in the global water cycle in response to the warming over the 21st century will not be uniform. The contrast in precipitation between wet and dry regions and between wet and dry seasons will increase, although there may be regional exceptions.”²³

(c) Hydrology and Sea Level Rise

As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

(d) Agriculture

California has a \$30 billion agricultural industry that produces half the country’s fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.²⁴

²¹ *Ibid.*

²² *California Department of Water Resources Climate Change Report, Progress on Incorporating Climate Change into Planning and Management of California’s Water Resources, July 2006.* http://baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06_update8-2-07.pdf. Accessed April 2016.

²³ *Intergovernmental Panel on Climate Change, Fifth Assessment Report, Summary for Policy Makers, (2013) 20.*

²⁴ *California Climate Change Center, Our Changing Climate: Assessing the Risks to California, (2006).*

(e) Ecosystems and Wildlife

Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise by 2-11.5°F (1.1-6.4°C) by 2100, with significant regional variation.²⁵ Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as two feet along most of the U.S. coast. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.^{26, 27}

b. Regulatory Framework Summary

(1) Federal

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. 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-CO₂ gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The 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.

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05-1120), the United States Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 202 of the federal Clean Air Act to regulate GHGs. The Court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare.

On May 19, 2009, the President announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO₂ per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO₂ per mile. According to

²⁵ National Research Council, *Advancing the Science of Climate Change*, (2010).

²⁶ Parmesan, C., 2004. *Ecological and Evolutionary Response to Recent Climate Change*.

²⁷ Parmesan, C and Galbraith, H, 2004. *Observed Ecological Impacts of Climate Change in North America*. Arlington, VA: Pew. Cent. Glob. Clim. Change.

the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.²⁸

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the Clean Air Act consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not themselves impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

(2) State

California has promulgated a series of executive orders, laws, and regulations aimed at reducing both the level of GHGs in the atmosphere and emissions of GHGs from commercial and private activities within the 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 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, for which it works closely with the federal government and the local air districts. The State Implementation Plan is required for the State to take over implementation of the federal Clean Air Act.

(b) Executive Order S-3-05 and Executive Order B-30-15

California 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.

²⁸ United States 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," <http://www.epa.gov/oms/climate/documents/420f12051.pdf>. 2012.

In accordance with Executive Order S-3-05, the Secretary of CalEPA is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agency representatives involved in the GHG reduction plan include the Secretary of the Business, Transportation and Housing Agency, the Secretary of the Department of Food and Agriculture, the Secretary of the Resources Agency, the Chairperson of CARB, the Chairperson of the California Energy Commission, and the President of the Public Utilities Commission. Representatives from these agencies comprise the California Climate Action Team (CAT).

The CAT provides biennial 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 first CAT Report to the Governor and the Legislature in 2006 contained recommendations and strategies to help meet the targets in Executive Order S-3-05.²⁹ The 2010 CAT Report, finalized in December 2010, expands on the policy oriented 2006 assessment.³⁰ The new information detailed in the CAT Report includes development of revised climate and sea-level projections using new information and tools that have become available in the last two years; and an evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts.

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

- 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.

CARB subsequently expressed its intention to initiate the Climate Change Scoping Plan update during the Summer of 2015, with adoption scheduled for 2016.

(c) California Assembly Bill 32 (AB 32, Nunez) (Chapter 488, Statutes of 2006)

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006, focusing on reducing GHG emissions in California to 1990 levels by 2020. As required by AB 32, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 MMTCO₂e using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under business-as-usual (BAU) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 MMTCO₂e (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 BAU emissions by 28.4 percent in order to meet the 1990 target of 427 MMTCO₂e. In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431

²⁹ California Environmental Protection Agency, *California Climate Action Team Report to the Governor and the Legislature*, (2006).

³⁰ California Environmental Protection Agency, *California Climate Action Team Report to the Governor and the Legislature*, (2010).

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 were recently adopted for motor vehicles and renewable energy.³¹ CARB's revised 2020 BAU emissions estimate using the GWP values from the IPCC AR4 is 509.4 MMTCO_{2e}. Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 MMTCO_{2e} would be 78.4 MMTCO_{2e}, or a reduction of GHG emissions by approximately 15.4 percent. A summary of the GHG emissions reductions required under AB 32 is provided in **Table 4.D-3, Estimated Greenhouse Gas Emissions Reductions Required by AB 32**.

Table 4.D-3

Estimated Greenhouse Gas Emissions Reductions Required by AB 32

Emissions Category	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
2011 Scoping Plan (IPCC AR4)	
2020 BAU Forecast (CARB 2011 Scoping Plan Estimate)	509.4
2020 Emissions Target Set by AB 32 (i.e., 1990 level)	431
Reduction below Business-As-Usual necessary to achieve 1990 levels by 2020	78.4 (15.4%)^b

MMTCO_{2e} = million metric tons of carbon dioxide equivalents

$$^a \quad 596 - 427 = 169 / 596 = 28.4\%$$

$$^b \quad 509.4 - 431 = 78.4 / 509.4 = 15.4\%$$

Source: California Air Resources Board, *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED), Attachment D, August 19, 2011*; California Air Resources Board, *2020 Business-as-Usual (BAU) Emissions Projection, 2014 Edition*, <http://www.arb.ca.gov/cc/inventory/data/bau.htm>. Accessed November 2015.

AB 32 does not establish GHG emissions reduction targets for individual sectors of emissions. The Bay Area Air Quality Management District (BAAQMD) is the only air district in California that has undertaken an analysis of land-use driven sector GHG emissions reductions attributable to CARB's *Climate Change Scoping Plan* regulations. The BAAQMD estimated that a 26.2 percent reduction from statewide land use-driven GHG emissions would be necessary to meet the AB 32 goal of 1990 emissions by 2020. The BAAQMD estimated that a 23.9 percent reduction in land use-driven GHG emissions is expected to be achieved through successful implementation of the original Scoping Plan regulations. This resulted in a gap of 2.3 percent in necessary additional GHG emissions reductions to meet AB 32.

AB 32 defines GHGs as CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆ and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The

³¹ California Air Resources Board, *2020 Business-as-Usual (BAU) Emissions Projection, 2014 Edition*, <http://www.arb.ca.gov/cc/inventory/data/bau.htm>. Accessed November 2015.

law further requires that reduction measures be technologically feasible and cost effective. Under AB 32, 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 equivalent to 1990 statewide levels by 2020. On or before June 30, 2007, CARB was required to publish a list of discrete early action GHG emission reduction measures that would be implemented to be made enforceable by 2010. In 2007, CARB published its Final Report for Proposed Early Actions to Mitigate Climate Change in California.³² This report described recommendations for discrete early action measures to reduce GHG emissions as part of California's AB 32 GHG reduction strategy. Resulting from this are three new regulations proposed to meet the definition of "discrete early action greenhouse gas reduction measures," including the following: a low carbon fuel standard; reduction of HFC 134a (HFC used in automobile air-conditioning systems) emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill gas capture. CARB estimates that by 2020, the reductions from those three measures would range from 13 to 26 MMTCO₂e. Six additional early-action regulations were adopted on October 25, 2007 that targeted: motor vehicles; auxiliary engines from docked ships; PFCs from the semiconductor industry; propellants in consumer products; automotive maintenance; and SF₆ from non-electricity sectors.

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (Health and Safety Code section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap. The initial scoping plan was approved in 2008, and contained a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives. The first update to the Scoping Plan was approved by CARB in May, 2014 and built upon the initial Scoping Plan with new strategies and recommendations.

(d) California Assembly Bill No. 1493 (AB 1493, Pavley) (Chapter 200, Statutes of 2002)

In response to the transportation sector accounting for more than half of California's CO₂ emissions, 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 setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The State of California in 2004 submitted a request for a waiver from federal clean air regulations, which ordinarily preempts state regulation of motor vehicle emission standards, to allow the state to require reduced tailpipe emissions of CO₂. In late 2007, the USEPA denied California's waiver request. In early 2008, the state brought suit against USEPA related to this denial. In January 2009, the President directed the USEPA to assess whether its denial of the waiver was appropriate under the federal Clean Air Act. In June 2009, the USEPA granted California the waiver.

However, as discussed previously, the USEPA and USDOT have adopted federal standards for model year 2012 through 2016 light-duty vehicles. In light of the USEPA and USDOT standards, California - and states adopting California emissions standards - have agreed to defer to the proposed national standard through model year 2016. The 2016 endpoint of the federal and state standards is similar, although the federal

³² *California Air Resources Board, Proposed Early Actions to Mitigation Climate Change in California, 2007.*

standard ramps up slightly more slowly than required under the state standard. The state standards (called the Pavley standards) require additional reductions in CO₂ emissions beyond model year 2016 (referred to as Pavley Phase II standards). As noted above, the USEPA and USDOT have adopted GHG emission standards for model year 2017 through 2025 vehicles. These standards are slightly different from the Pavley Phase II standards, but the State of California has agreed not to contest these standards, in part due to the fact that while the national standard would achieve slightly less reductions in California, it would achieve greater reductions nationally and is stringent enough to meet state GHG emission reduction goals.³³ On November 15, 2012, CARB approved an amendment that allows manufacturers to comply with the 2017-2025 national standards to meet state law.

(e) Executive Order S-01-07

Executive Order S-01-07 was enacted by the Governor 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 Low Carbon Fuel Standard (LCFS) for transportation fuels be established in California.

(f) Senate Bill 97 (SB 97, Dutton) (Chapter 185, Statutes of 2007)

Senate Bill (SB) 97 (Chapter 185, Statutes of 2007), enacted in 2007, amended CEQA to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directed the California Office of Planning and Research (OPR) to develop revisions to the State CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" and directed the Resources Agency to certify and adopt these revised State CEQA Guidelines by January 2010. The revisions were completed in March 2010 and codified into the California Code of Regulations and became effective within 120 days pursuant to CEQA. The amendments provide regulatory guidance for the analysis and mitigation of the potential effects of GHG emissions. The CEQA Guidelines require:

- Inclusion of GHG analyses in CEQA documents;
- Determination of significance of GHG emissions; and
- If significant GHG emissions would occur, adoption of mitigation to address significant emissions.

(g) Senate Bill 375 (SB 375, Steinberg) (Chapter 728, Statutes of 2008)

SB 375 (Chapter 728, Statutes of 2008), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. Under SB 375, CARB is required, in consultation with the Metropolitan Planning Organization, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. On September 23, 2010, CARB adopted the vehicular GHG emissions reduction targets for the Southern California Association of Governments (SCAG), which is the Metropolitan Planning Organization for the region in which the City of Los Angeles is located. The target is a per capita reduction of 8 percent for 2020 and 13 percent for 2035 compared to the 2005 baseline. Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations.

³³ California Air Resources Board, "Advanced Clean Cars Summary," http://www.arb.ca.gov/msprog/clean_cars/acc%20summary-final.pdf. Accessed June 2013.

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 plan) are not required to be consistent with either the RTP or SCS. On April 7, 2016, SCAG adopted the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS), which is an update to the previous 2012-2035 RTP/SCS. Using growth forecasts and economic trends, the RTP/SCS provides a vision for transportation throughout the region for the next 25 years. It considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs. The RTP/SCS successfully achieves and exceeds the GHG emission-reduction targets set by CARB by demonstrating an 8 percent reduction by 2020 and 18 percent reduction by 2035 compared to the 2005 level on a per capita basis.

SCAG's RTP/SCS provides specific strategies for successful implementation. These strategies include supporting projects that encourage a diverse job opportunities for a variety of skills and education, recreation and culture and a full-range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles. In addition, the 2016 RTP/SCS includes new strategies to promote active transportation. It promotes short trips proposing to develop strategic framework to support local planning and projects that serve short trips, expand understanding and consideration of public health in the development of local plans and projects, through improvements in sidewalk quality, local bike networks, and neighborhood mobility areas. It also proposes increasing access to the California Coast Trail, light rail and, bus stations and promoting corridors that support biking and walking, such as through a regional greenway network and local bike networks. The 2016 RTP/SCS proposes to better align active transportation investments with land use and transportation strategies, increase competitiveness of local agencies for federal and state funding, and to expand the potential for all people to use active transportation.

(h) Title 24, Building Energy Efficiency Standards and CALGreen Code

The California Energy Commission first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, 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 Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. 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.”³⁴ 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. When the CALGreen Code went into effect in 2009, compliance through 2010 was voluntary. As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. 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.³⁵ The CALGreen Code was most recently updated in 2013 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2014 with supplemental changes on July 1, 2015.³⁶

(i) Renewables Portfolio Standard

SB 1078 (Chapter 516, Statutes of 2002) requires 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. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the State's Renewables Portfolio Standard to 33 percent renewable power by 2020. Pursuant to Executive Order S-21-09, CARB was also preparing regulations to supplement the Renewables Portfolio Standard with a Renewable Energy Standard that will result in a total renewable energy requirement for utilities of 33 percent by 2020. But on April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's Renewables Portfolio Standard to 33 percent by 2020. SB 350 (Chapter 547, Statutes of 2015) further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. SB 350 was signed into law on October 7, 2015.

(j) Cap-and-Trade Program

The Climate Change Scoping Plan identifies a Cap-and-Trade Program as one of the strategies California will employ to reduce GHG emissions. CARB asserts that this program would help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020, and 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 would be able to trade permits to emit GHGs.

CARB designed and adopted a California Cap-and-Trade Program³⁷ pursuant to its authority under AB 32. The development of this Program included a multi-year stakeholder process and consideration of potential impacts on disproportionately impacted communities. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed “covered entities”) by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning

³⁴ California Building Standards Commission, *2010 California Green Building Standards Code*, (2010).

³⁵ California Building Standards Commission, *2010 California Green Building Standards Code*, (2010).

³⁶ California Building Standards Commission, *CALGreen (Part 11 of Title 24)*, <http://www.bsc.ca.gov/Home/CALGreen.aspx>. Accessed November 2015.

³⁷ 17 CCR §§ 95800 to 96023.

to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors³⁸ (e.g., electricity generation, petroleum refining, and cement production) commenced in 2013 and would 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 MTCO₂e per year must comply with the Cap-and-Trade Program.³⁹ Triggering of the 25,000 MTCO₂e 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").⁴⁰

Each covered entity with a compliance obligation is required to surrender "compliance instruments"⁴¹ for each MTCO₂e of GHG they emit. Covered entities are allocated free allowances in whole or part (if eligible), buy allowances at auction, purchase allowances from others, or purchase offset credits. A "compliance period" is the time frame during which the compliance obligation is calculated. The years 2013 and 2014 are the first compliance period, the years 2015–2017 are the second compliance period, and the third compliance period is from 2018–2020. At the end of each compliance period, each facility will be required to surrender compliance instruments to CARB equivalent to their total GHG emissions throughout the compliance period. There also are requirements to surrender compliance instruments covering 30 percent of the prior year's compliance obligation by November of each year. For example, in November 2014, a covered entity was required to submit compliance instruments to cover 30 percent of its 2013 GHG emissions.

The Cap-and-Trade Regulation provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. As summarized by CARB in its First Update to the Climate Change Scoping Plan:

*The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. **But as the cap declines, aggregate emissions must be reduced.***⁴²

In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program. However, as climate change is a global phenomenon and the effects of

³⁸ See generally 17 CCR §§ 95811, 95812.

³⁹ 17 CCR § 95812.

⁴⁰ 17 CCR §§ 95100-95158.

⁴¹ 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.

⁴² CARB, *First Update to the Climate Change Scoping Plan: Building on the Framework*, at 86 (May 2014) (emphasis added).

GHG emissions are considered cumulative in nature, a focus on aggregate GHG emissions reductions is warranted.

Further, the reductions in GHG emissions that would be achieved by the Cap-and-Trade Program inherently are variable and, therefore, impossible to quantify with precision:

The Cap-and-Trade Regulation is different from most of the other measures in the Scoping Plan. The [R]egulation sets a hard cap, instead of an emission limit, so the emission reductions from the program vary as our estimates of “business as usual” emissions in the future are updated. In addition, the Cap-and-Trade Program works in concert with many of the direct regulatory measures—providing an additional economic incentive to reduce emissions. Actions taken to comply with direct regulations reduce an entity’s compliance obligation under the Cap-and-Trade Regulation. So, for example, increased deployment of renewable electricity sources reduces a utility’s compliance obligation under the Cap-and-Trade Regulation.⁴³

If California’s direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California’s direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. In other words, the Cap-and-Trade Program functions similarly to an insurance policy for meeting California 2020’s GHG emissions reduction mandate:

The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the “capped sectors.” Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap.⁴⁴

[T]he Cap-and-Trade Regulation provides assurance that California’s 2020 limit will be met because the regulation sets a firm limit on 85 percent of California’s GHG emissions.⁴⁵

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 architecture adopted by CARB under 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.⁴⁶ Accordingly, GHG emissions associated with CEQA projects’ electricity usage are covered by the Cap-and-Trade Program.

⁴³ *Ibid.*

⁴⁴ CARB, *First Update to the Climate Change Scoping Plan: Building on the Framework*, at 88 (May 2014)

⁴⁵ *Id.* at 86-87.

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.⁴⁷ While the Cap-and-Trade Program technically covered fuel suppliers as early as 2012, they did not have a compliance obligation (i.e., they were not fully regulated) until 2015:

*Suppliers of natural gas, suppliers of RBOB [Reformulated Gasoline Blendstock for Oxygenate Blending] and distillate fuel oils, suppliers of liquefied petroleum gas, and suppliers of liquefied natural gas specified in sections 95811(c), (d), (e), (f), and (g) that meet or exceed the annual threshold in section 95812(d) **will have a compliance obligation beginning with the second compliance period.***⁴⁸

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions.

The Cap-and-Trade Program covers the GHG emissions associated with the combustion of transportation fuels in California, whether refined in-state or imported. The point of regulation for transportation fuels is when they are "supplied" (i.e., delivered into commerce). However, transportation fuels that are "supplied" in California, but can be demonstrated to have a final destination outside California, do not generate a compliance obligation. The underlying concept here is that CARB is seeking to capture tailpipe GHG emissions from the combustion of transportation fuels supplied to California end-users. Accordingly, as with stationary source GHG emissions and GHG emissions attributable to electricity use, virtually all, if not all, of GHG emissions from CEQA projects associated with vehicle combustion of transportation fuels are covered by the Cap-and-Trade Program.

(3) Regional

The Project 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 Geronio 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.

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

⁴⁶ 17 CCR § 95811(b).

⁴⁷ 17 CCR §§ 95811, 95812(d).

⁴⁸ *Id.* at § 95851(b)(emphasis added).

- Phase out the use and corresponding emissions of chlorofluorocarbons, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons by the year 2000;
- Develop recycling regulations for hydrochlorofluorocarbons (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and
- Support the adoption of a California GHG emission reduction goal.

In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds.⁴⁹ Within its October 2008 document, the SCAQMD proposed the use of a percent emission reduction target to determine significance for commercial/residential projects that emit greater than 3,000 metric tons per year. On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for stationary source/industrial projects where the SCAQMD is lead agency. However, the SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects) and has formed a GHG Significance Threshold Working Group to further evaluate potential GHG significance thresholds.⁵⁰ The aforementioned Working Group was inactive from 2011 through 2016 and the SCAQMD has not formally adopted any GHG significance threshold for land use development projects.

(4) Local

(a) City Of Los Angeles Green LA Plan

In acknowledgment of the overlap between land use and GHG emissions, the City of Los Angeles, in May 2007, published *Green LA, An Action Plan to Lead the Nation in Fighting Global Warming*⁵¹ (*LA Green Plan*), outlining the goals and actions the City has established to reduce the generation and emission of GHGs from both public and private activities. According to the *LA Green Plan*, the City of Los Angeles is committed to the goal of reducing emissions of CO₂ to 35 percent below 1990 levels by 2030. To achieve this, the City will:

- Increase the generation of renewable energy;
- Improve energy conservation and efficiency; and
- Change transportation and land use patterns to reduce dependence on automobiles.

In 2008, the City released an implementation program for the LA Green Plan referred to as ClimateLA, which provides detailed information about each action item discussed in the LA Green Plan framework. Action items range from harnessing wind power for electricity production and energy efficiency retrofits in City buildings, to converting the City's fleet vehicles to cleaner and more efficient models, and reducing water

⁴⁹ California Air Resources Board, Board Meeting, Date: December 5, 2008, Agenda No. 31, <http://www3.aqmd.gov/hb/2008/December/0812ag.html>. Accessed January 2016.

⁵⁰ California Air Resources Board, Greenhouse Gases CEQA Significance Thresholds, <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds>. Accessed January 2016.

⁵¹ See: http://environmentla.org/pdf/GreenLA_CAP_2007.pdf.

consumption. Information about proposed and/or ongoing programs, opportunities for achieving the City's goals, specific challenges, and a list of milestones is provided for each action item. The scope of these actions range from those impacting only municipal facilities, such as retrofitting City Hall with high efficiency lighting systems, to those facilitating changes in the private sector, such as rebates for the purchase of energy-efficient appliances. ClimateLA is a living document, reflecting a process of ongoing learning and continuous improvement as technology advances and City departments develop expertise in the methods of lowering GHG emissions.

To achieve goals outlined in the LA Green Plan, in April 2008, the City of Los Angeles adopted the Green Building Program Ordinance to address the impact on climate change from new development. In 2011, the Green Building Program Ordinance was amended for consistency with the CalGreen Building Code. As of January 1, 2011, all new buildings (residential and non-residential) would be subject to the Los Angeles Green Building Code (LAGBC). The LAGBC is based on the 2013 CalGreen Standards to increase energy efficiency, and reduce waste.⁵²

(b) City Of Los Angeles pLAN

The *Sustainable City pLAN* is a comprehensive and actionable directive from the Mayor to improve the environmental, economic, and equitable conditions in the City of Los Angeles. The pLAN is a tool that the Mayor will use to manage the City and establish visions, goals, and metrics for City Departments. The pLAN establishes the following visions for City Departments for the following categories:

- **Environment:** Local Water (lead the nation in water conservation and source the majority of water locally); Local Solar (increase Los Angeles' clean and resilient energy supplies by capturing energy from abundant sunshine); Energy Efficient Buildings (save money and energy by increasing the efficiency of buildings); Carbon and Climate Leadership (as a proactive leader on climate issues, strengthen Los Angeles' economy by dramatically reducing GHG emissions and rallying other cities to follow Los Angeles' lead); and Waste and Landfills (become the first big city in the United States to achieve zero-waste, and recycle and reuse most of its waste locally).
- **Economy:** Housing and Development (address Los Angeles' housing shortage, ensure that most new units are accessible to high-quality transit, and close the gap between income and rents); Mobility and Transit (invest in rail, bus lines, pedestrian/bike safety, and complete neighborhoods that provide more mobility options and reduce vehicle miles traveled); Prosperity and Green Jobs (strengthen and grow the economy including through increased jobs and investments in clean technology sectors); and Preparedness and Resiliency (prepare for natural disasters and decrease vulnerability to climate change).
- **Equity:** Air Quality (healthy air to breathe); Environmental Justice (ensure the benefits of the pLAN extend to all Angelenos); Urban Ecosystem (have access to parks, open space, including a revitalized Los Angeles River Watershed); and Livable Neighborhoods (live in safe, vibrant, well-connected, and healthy neighborhoods).

⁵² *Los Angeles Green Building Code Ordinance, Amended 2014.*

(c) City Of Los Angeles Health Atlas

The City of Los Angeles has conducted a comprehensive health study that describes the baseline health conditions in the City and provides a context for understanding the demographic conditions, social and economic factors, physical environment, access to health care, and health behaviors contributing to the health of City residents and workers. The findings are documented in the *Health Atlas for the City of Los Angeles* (Health Atlas), published in June 2013. The Health Atlas is not a plan specifically developed to reduce GHG emissions. Nonetheless, while the primary focus of the Health Atlas is on factors that affect the health behaviors and health status of residents and workers, much of the data is relevant to land use GHG emissions as those emissions reflect similar issues regarding land use patterns, urban design, and transportation systems. Data in the Health Atlas is summarized by Community Plan Area. There are 35 Community Plans that guide the physical development of neighborhoods in the City by establishing the goals and policies for land use and provide specific, neighborhood-level detail, relevant policies, and implementation strategies necessary to achieve the City's long-range overarching General Plan objectives.

3. ENVIRONMENTAL IMPACTS

a. Methodology

The evaluation of potential impacts to GHG emissions that may result from the construction and long-term operations of the Project is conducted as follows. Additional details are provided in the Greenhouse Gas Technical Report in Appendix E.

(1) Greenhouse Gas Emissions

(a) Project Consistency with City and Regional Goals and Actions

The significance of the Project's GHG emissions are evaluated with respect to the consistency of the Project with applicable GHG reduction strategies and local actions adopted by the City of Los Angeles. As discussed previously, the City has established goals and actions to reduce the generation and emission of GHGs from both public and private activities in the *LA Green Plan* and the *Mayor's Sustainable City pLAN*.

(b) Greenhouse Gas Emissions

For the purposes of this EIR, total GHG emissions from the Project were quantified to provide information to decision makers and the public regarding the level of the Project's annual GHG emissions. GHG emissions are typically separated into three categories that reflect different aspects of ownership or control over emissions. They include:

- 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.⁵³

⁵³ Embodied energy includes energy required for water pumping and treatment for end-uses.

For purposes of this analysis, it is considered reasonable and consistent with criteria pollutant calculations to consider those GHG emissions resulting from Project-related incremental (net) increase in the use of on-road mobile vehicles, electricity, and natural gas compared to existing 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.

Construction emissions are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source emissions factors. The emissions are estimated using the CalEEMod (Version 2013.2.2) software, an emissions inventory software program recommended by the SCAQMD. 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 4.B, Air Quality**, in this Draft EIR) to generate GHG emissions values for each construction year. 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.”⁵⁴ The guidance recommends that construction project GHG emissions should be “amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies.”⁵⁵ In accordance with SCAQMD guidance, GHG emissions from construction have been amortized over the 30-year lifetime of the Project.

This EIR provides the existing and Project operational emissions for the Project Site, which have been estimated using the CalEEMod (Version 2013.2.2) software and the EMFAC2014 on-road emissions factor model. For mobile sources, CalEEMod was used to generate the VMT from the existing and Project uses based on the trip rates in the traffic study.⁵⁶ The estimated VMT takes into account trip distance reductions from characteristics including the existing Project Site’s residential density, below market rate housing costs, neighborhood walkability, and proximity to existing public transit and job centers. The estimated VMT reductions are calculated using the equations and methodologies prescribed in the California Air Pollution Control Officer’s Association (CAPCOA) guidance document, *Quantifying Greenhouse Gas Mitigation Measures*, which provides emission reduction calculation formulas for transportation characteristics and measures.⁵⁷ Emission factors were obtained from EMFAC2014, which was run in the emissions mode (also referred to as the “Burden” mode) and used to generate South Coast Air Basin-specific vehicle fleet emission factors. Mobile source emissions are the product of the CalEEMod estimated VMT and the EMFAC2014 emission factors.

⁵⁴ *South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, (2008) 3-8.*

⁵⁵ *South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, (2008) 3-8.*

⁵⁶ *Gibson Transportation Consulting, Inc., Traffic Study for the 1020 S. Figueroa Street Project, Los Angeles, California, (2016).*

⁵⁷ *California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, (2010).*

With regard to energy demand, the consumption of fossil fuels to generate electricity and to provide heating and hot water generates GHG emissions. Energy demand rates are estimated based on specific square footage of the multi-family residential, hotel, and restaurant/retail land uses, as well as predicted water supply needs for these uses. Energy demand (off-site electricity generation and on-site natural gas consumption) for the Project is calculated within CalEEMod using the CEC's *California Commercial End Use Survey* (CEUS) data set, which provides energy demand by building type and climate zone.⁵⁸ However, since the data from the CEUS is from 2002, correction factors are incorporated into CalEEMod to account for the appropriate version of the Title 24 Building Energy Efficiency Standards in effect. Emission factors for GHGs due to electrical generation to serve the demands of the existing Project Site were obtained from the LADWP *2015 Power Integrated Resource Plan*, which accounts for the generation mix using renewable and non-renewable sources.⁵⁹ LADWP provides 20 percent of electricity via renewable sources⁶⁰ but would provide an increasing percentage from renewable sources in compliance with the Renewables Portfolio Standard with 33 percent by 2020, 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030.

Emissions of GHGs from solid waste disposal are calculated using CalEEMod software. The emissions are based on the waste disposal rate for the land uses, the waste diversion rate, and the GHG emission factors for solid waste decomposition. The GHG emission factors, particularly for CH₄, depend on characteristics of the landfill, such as the presence of a landfill gas capture system and subsequent flaring or energy recovery. The default values, as provided in CalEEMod, for landfill gas capture (e.g., no capture, flaring, energy recovery), which are statewide averages, are used in this assessment.

Emissions of GHGs from water and wastewater are due to the required energy to supply, distribute and treat. Wastewater also results in emissions of GHGs from wastewater treatment systems. Emissions are calculated using CalEEMod and are based on the water usage rate for the land uses, 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 emission factors for the wastewater treatment process. Refer to **Section 4.K.1, Water Supply**, of this Draft EIR for the estimated water usage rate for the existing Project Site.

Other sources of GHG emissions from operation of the Project include equipment used to maintain landscaping, such as lawnmowers and trimmers. The CalEEMod software uses landscaping equipment GHG emission factors from the CARB OFFROAD model and the CARB *Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (6/13/2003)*.⁶¹ The Project would not include fireplaces in the residential buildings; therefore, fireplace emissions are not included in the GHG analysis for the residential buildings.

Emissions calculations include credits or reductions for the Project Design Features and GHG reducing measures, some of which are required by regulation, such as reductions in energy and water demand.

⁵⁸ California Energy Commission, *California Commercial End-Use Survey*, <http://capabilities.itron.com/CeusWeb/Chart.aspx>. Accessed December 2013.

⁵⁹ Los Angeles Department of Water and Power, *2015 Power Integrated Resource Plan*, (2015) C-12.

⁶⁰ Los Angeles Department of Water and Power, *2015 Power Integrated Resource Plan*, (2015) ES-1.

⁶¹ California Air Resources Board, *OFFROAD Modeling Change Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment*, (6/13/2003), http://www.arb.ca.gov/msei/2001_residential_lawn_and_garden_changes_in_eqpt_pop_and_act.pdf. Accessed November 2013.

Because the Project is subject to the City's Green Building Code, Project Design Features will be incorporated consistent with the minimum requirements as well as the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Silver Certification or equivalent rating to which the Project is committed.

Operational GHG impacts 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.

(2) Consistency with Greenhouse Gas Reduction Plan, Policies, and Actions

In the latest *CEQA Guidelines* amendments, which went into effect on March 18, 2010, the Office and Planning and Research encourages lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. The City does not have a programmatic mitigation plan to tier from, such as a Greenhouse Gas Emissions Reduction Plan as recommended in the relevant amendments to the *CEQA Guidelines*. However, the City has adopted the *LA Green Plan*, Sustainable City pLAN, and Green Building Code that encourage and require applicable projects to implement energy efficiency measures. In addition, the California CAT Report provides recommendations for specific emission reduction strategies for reducing GHG emissions and reaching the targets established in AB 32 and Executive Order S-3-05. Thus, if the Project is designed in accordance with these policies and regulations, it would result in a less than significant impact, because it would be consistent with the overarching State regulations on GHG reduction (AB 32).

b. Thresholds of Significance

(1) CEQA Guidelines, Appendix G

Until the passage of AB 32, CEQA documents generally did not evaluate GHG emissions or impacts on global climate change. Rather, the primary focus of air pollutant analysis in CEQA documents was the emission of criteria pollutants, or those identified in the California and federal Clean Air Acts as being of most concern to the public and government agencies (e.g., toxic air contaminants). With the passage of AB 32 and SB 97, CEQA documents now contain a more detailed analysis of GHG emissions. However, the analysis of GHGs is different from the analysis of criteria pollutants. Since the half-life of CO₂ is approximately 100 years, GHGs affect the global climate over a relatively long timeframe. Conversely, for criteria pollutants, significance thresholds/impacts are based on daily emissions; and the determination of attainment or non-attainment are based on the daily exceedance of applicable ambient air quality standards (e.g., 1-hour and 8-hour exposures). Also, the scope of criteria pollutant impacts is local and regional, while the scope of GHG impacts is global.

In its January 2008 *CEQA and Climate Change* white paper, the CAPCOA identified a number of potential approaches for determining the significance of GHG emissions in CEQA documents. In its white paper, CAPCOA suggests making significance determinations "on a case-by-case basis in the context of the project at the time it comes forward" when no significance thresholds have been formally adopted by a lead agency.⁶²

⁶² California Air Pollution Control Officer's Association, *CEQA and Climate Change*, (2008) 23.

Pursuant to SB 97, OPR's recommended amendments to the CEQA Guidelines for GHGs were adopted by the Resources Agency on December 30, 2009. Analysis of GHG emissions in a CEQA document presents unique challenges to lead agencies. However, such analysis must be consistent with existing CEQA principles and, therefore, the amendments comprise relatively modest changes to various portions of the existing CEQA Guidelines. The amendments add no additional substantive requirements; rather, the Guidelines merely assist lead agencies in complying with CEQA's existing requirements. Modifications address those issues where analysis of GHG emissions may differ in some respects from more traditional CEQA analysis. Other modifications clarify existing law that may apply both to an analysis of GHG emissions as well as more traditional CEQA analyses.

The following two questions relating to the effects of GHGs were added to the CEQA Guidelines, Appendix G (Environmental Checklist).

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

The CEQA Guidelines, Appendix G items are discussed in detail below.

(a) Direct or Indirect Project GHG Emissions

Section 15064.4 of the CEQA Guidelines was adopted to assist lead agencies in determining the significance of the impacts of GHGs. Consistent with developing practice, this section urges lead agencies to quantify GHG emissions of projects where possible. In addition to quantification, this section recommends consideration of 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). The amendments do not establish a threshold of significance. Lead agencies are called on to establish significance thresholds for their respective jurisdictions in which a lead agency may appropriately look to thresholds developed by other public agencies, or suggested by other experts, such as CAPCOA, so long as any threshold chosen is supported by substantial evidence (see Section 15064.7(c)). The CEQA Guidelines amendments also clarify that the effects of GHG emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see Section 15130(f)).⁶³

In its January 2008 CEQA and Climate Change white paper, CAPCOA identified a number of potential approaches for determining the significance of GHG emissions in CEQA documents. CAPCOA suggests making significance determinations on a case-by-case basis when no significance thresholds have been formally adopted by a lead agency. Although GHG emissions can be quantified, CARB, SCAQMD and the City of Los Angeles, have yet to adopt project-level significance thresholds for GHG emissions that would be applicable to the Project. Assessing the significance of a project's contribution to cumulative global climate change

⁶³ See generally Section 15130(f); see also Letter from Cynthia Bryant, Director of the Office of Planning and Research to Mike Chrisman, S

involves: (1) evaluating the project's sources of GHG emissions; and (2) considering project consistency with applicable emission reduction strategies and goals, such as those set forth by the lead agency or other regional or state agency. Based on the foregoing, a project that generates GHG emissions, either directly or indirectly, would have a significant impact if the Project:

GHG-1 Results in GHG emissions that are not consistent with the City of Los Angeles goals and actions to reduce the generation and emission of GHGs from both public and private activities pursuant to the applicable portions of the *LA Green Plan* and *Sustainable City pLAN*.

(b) Consistency with Greenhouse Gas Reduction Plans, Policies, and Actions

Local and regional agencies and the State recommend general policies and measures to minimize and reduce GHG emissions from land use development projects. Thus, if the Project is designed in accordance and not in conflict with applicable policies and measures, it would result in a less than significant impact since it would be consistent with the strategies and actions to reduce GHG emissions. Therefore, a significant impact would occur if the Project:

GHG-2 Conflicts with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

(2) Other Greenhouse Gas Reduction Plan Considerations

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.⁶⁴ 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.⁶⁵ 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.**"⁶⁶ Put another way, 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 the California Cap-and-Trade Program or other regulatory schemes to reduce GHG emissions.

⁶⁴ 14 CCR § 15064(h)(3).

⁶⁵ *Ibid.*

⁶⁶ *Ibid.* (emphasis added).

c. Project Characteristics and Project Design Features

(1) Land Use Characteristics

The Project would represent an urban infill development, since it would be undertaken on a currently developed site, and would be located near existing off-site commercial and retail destinations and in close proximity to existing public transit stops, which would result in reduced vehicle trips and VMT. This would be in comparison to a business-as-usual project of similar size and land uses at a greenfield site without close access to off-site destinations and public transit stops. The Project would result in a corresponding reduction in transportation-related emissions compared to a business-as-usual project that is developed at a greenfield location without existing off-site destinations and public transit stops.

As discussed above, CAPCOA has provided guidance for mitigating or reducing emissions from land use development projects within its guidance document titled *Quantifying Greenhouse Gas Mitigation Measures*. The land use characteristics listed below are consistent with the CAPCOA guidance document, and would reduce vehicle trips to and from the Project Site and vehicle trip distances compared to a business-as-usual project without these land use characteristics and would achieve a reduction in associated transportation-related air pollutant and GHG emissions.

- **Increased Density:** Increased density, measured in terms of persons, jobs, or dwelling units per unit area, reduces emissions associated with transportation as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies such as enhanced transit services. This measure corresponds to CAPCOA guidance measure LUT-1.⁶⁷ According to CAPCOA, the reduction in VMT from this measure applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill⁶⁸ location and is mixed-use; therefore, this measure applies to the Project. The Project would increase the Project Site density to approximately 241 dwelling units per acre and 206 jobs per acre (refer to Section 4.I, *Population, Housing, and Employment*, of this Draft EIR, which provides employment data used to estimate the number of jobs per acre).
- **Location Efficiency:** Location efficiency describes the location of a project relative to the type of urban landscape such as an urban area, compact infill, or suburban center. In general, compared to the statewide average, a project could realize VMT reductions up to 65 percent in an urban area, up to 30 percent in a compact infill area, or up to 10 percent in a suburban center for land use/location strategies.⁶⁹ This measure corresponds to CAPCOA guidance measure LUT-2.⁷⁰ According to

⁶⁷ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010) 155-158.

⁶⁸ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010) 59-60. *The project area meets the characteristics for an urban setting with respect to typical building heights of 6 stories or much higher, grid street pattern, minimal setbacks, constrained parking, high parking prices, high quality rail service (i.e., Metro Blue, Expo, Red and Purple Lines), location relative to regional cores (5 miles or less) and jobs/housing balance (the Central City Community Plan Area has an existing jobs/housing ratio of approximately 7.2).*

⁶⁹ CalEEMod, by default, assumes that trip distances in the South Coast Air Basin are slightly longer than the statewide average. This is due to the fact that commute patterns in the South Coast Air Basin involve a substantial portion of the population commuting relatively far distances, which is documented in the Southern California Association of Governments 2012 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS). The RTP/SCS shows that, even under future Plan conditions, upwards of 34 percent of all work trips are 15 miles or longer (SCAG, *Performance Measures Appendix*, p. 7, 2012). The RTP/SCS does not specify the current percentage of work trips greater than 15 miles in the region, but it can be assumed that the percentage is currently greater than 34 percent since the goal of the RTP/SCS is to reduce overall VMT in the region. It is thus reasonable to assume that the trip distances in South Coast Air Basin are analogous to the statewide average given that the default model trip distances in the

(Footnote continued on next page)

CAPCOA, the reduction in VMT from this measure applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this measure applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this measure include the geographic location of the project within the region. The Project Site represents an urban infill location within the Downtown area of the City of Los Angeles. The Project Site is served by existing public transportation located within a quarter-mile. The Project Site is within an active urban center with many existing off-site commercial, entertainment, hotel, and residential buildings. The location efficiency of the Project Site would result in synergistic benefits that would reduce vehicle trips and VMT compared to the statewide and South Coast Air Basin average and would result in corresponding reductions in transportation-related emissions.

- **Increased Land Use Diversity and Mixed-Uses:** Locating different types of land uses near one another can decrease VMT since trips between land use types are shorter and could be accommodated by alternative modes of transportation, such as public transit, bicycles, and walking. This measure corresponds to CAPCOA guidance measure LUT-3.⁷¹ According to CAPCOA, the reduction in VMT from this measure applies to urban and suburban settings (also potentially for rural master-planned communities) for mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this measure applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this measure include the percentage of each land use type in the project. The Project would co-locate complementary commercial and residential land uses in close to proximity to existing off-site commercial and residential uses. The Project would include on-site retail and residential land uses and would be located within a quarter-mile of off-site commercial and residential uses, as well as major transit facilities. The increases in land use diversity and mix of uses on the Project Site, as well as proximity to transit, would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions.
- **Increased Destination Accessibility:** This measure corresponds to CAPCOA guidance measure LUT-4.⁷² According to CAPCOA, the reduction in VMT from this measure applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use, including residential and retail uses; therefore, this measure applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this measure include the distance to downtown or major job center. The Project would be located in an area that offers access to multiple other nearby destinations including restaurant, bar, office, retail, entertainment, movie theater, and residential uses. The Project Site is also located near other job centers in the region and within the Downtown area itself. The access to multiple destinations in close proximity to the Project Site would reduce vehicle trips and VMT compared to the statewide and South Coast Air Basin average, encourage walking and non-

South Coast Air Basin are slightly longer but still generally similar to the statewide average. Therefore, projects could achieve similar levels of VMT reduction (65 percent in an urban area, 30 percent in a compact infill area, or 10 percent for a suburban center) compared to the South Coast Air Basin average.

⁷⁰ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010) 159-161.

⁷¹ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010) 162-166.

⁷² California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010) 167-170.

automotive forms of transportation, and would result in corresponding reductions in transportation-related emissions.

- **Increased Transit Accessibility:** Locating a project with high density near transit facilitates encourages the use of transit by people traveling to or from a project site. This measure corresponds to CAPCOA guidance measure LUT-5.⁷³ According to CAPCOA, the reduction in VMT from this measure applies to urban and suburban settings (also potentially for rural settings adjacent to a commuter rail station with convenient access to a major employment center) for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this measure applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this measure include the distance to transit stations near the Project. The Project would be located within a quarter-mile of public transportation, including existing Metro bus routes (e.g., 4, 28, 81, 442, 460, 701, 721, 728, 910/950, Commuter Express 422/423/438/448/534, DASH F) and the Metro Blue and Expo Lines, and nearby access to the Metro Red and Purple Lines within one-half mile.. The Project would provide access to on-site uses from existing pedestrian pathways. The Project would also provide parking for bicycles on-site to encourage utilization of alternative modes of transportation. The increased transit accessibility would reduce vehicle trips and VMT versus the statewide and South Coast Air Basin average, encourage walking and non-automotive forms of transportation, and would result in corresponding reductions in transportation-related emissions.
- **Improve Design of Development:** Improved street network characteristics within a neighborhood enhances walkability and connectivity. Characteristics include street accessibility usually measured in terms of number of intersections (e.g., four-way intersections) per square mile. This measure corresponds to CAPCOA guidance measure LUT-9.⁷⁴ According to CAPCOA, the reduction in VMT from this measure applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this measure applies to the Project. The Project would be located in a highly street-accessible area with approximately 76 four-way intersections within a one mile area of the Project Site, which exceeds the standard intersection density assumed in baseline VMT modeling. The increased intersection density would reduce vehicle trips and VMT versus the statewide and South Coast Air Basin average, encourage walking and non-automotive forms of transportation, and would result in corresponding reductions in transportation-related emissions.
- **Provide Pedestrian Network Improvements:** Providing pedestrian access that minimizes barriers and links a project site with existing or planned external streets encourages people to walk instead of drive. This measure corresponds to CAPCOA guidance measure SDT-1.⁷⁵ According to CAPCOA, the reduction in VMT from this measure applies to urban, suburban, and rural settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this measure applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this measure include pedestrian access connectivity within the Project and to/from off-site destinations. As discussed in Section 4.J, *Transportation and Traffic*, the walkability of existing facilities is based on the availability of pedestrian routes necessary

⁷³ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010) 171-175.

⁷⁴ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010) 182-185.

⁷⁵ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010) 186-189.

to accomplish daily tasks without the use of an automobile. These attributes are quantified by WalkScore.com and assigned a score out of 100 points. With the various commercial businesses and entertainment facilities adjacent to residential neighborhoods of the Downtown area and proximity to public transit, the walkability of the Downtown area is approximately 90 points;⁷⁶ this compares to the citywide score of 64 points. As discussed in Chapter 2.0, *Project Description*, the Project would improve the street-level pedestrian environment and connectivity within the LA LIVE, Staples Center, the Los Angeles Convention Center and the surrounding streetscape, with the creation of new pedestrian scale features such as a public plaza along S. Figueroa with street level retail/restaurant uses, street trees and landscaping, public art, and signage and lighting. The Project would promote pedestrian activities and connections to interior uses. Pedestrian access to the Hotel Tower and lobby would be from a hotel motor-court on 11th Street and from the hotel lobby fronting S. Figueroa Street. Pedestrian access to the two stories of commercial and restaurant frontage along the periphery of the Podium fronting 11th Street, S. Figueroa Street, S. Flower Street, and Olympic Boulevard would be directly from those streets at the ground level or via elevators, stairs or escalators. Pedestrian access to the lobby for Residential Tower 1 at the corner of 11th Street and S. Flower Street would be from S. Flower Street. Pedestrian access to the lobby of Residential Tower 2 at the corner of S. Figueroa Street and Olympic Boulevard would be from Olympic Boulevard. Pedestrian access to the residential units in the Podium at the street level would be via either the Residential Tower 1 or Residential Tower 2 residential lobbies. In summary, the Project would provide an internal pedestrian network for Project visitors and residents that links to the existing off-site pedestrian network including existing off-site sidewalks, and would therefore result in some reduction in VMT and associated transportation-related emissions.

(2) Project Design Features

The Project would achieve several objectives of the City of Los Angeles General Plan Framework Element, SCAG RTP/SCS, and SCAQMD Air Quality Management Plan for establishing a regional land use pattern that promotes sustainability. The Project would support pedestrian activity in the Downtown area, and contribute to a land use pattern that addresses housing needs and reduces vehicle trips and air pollution by locating residential uses within an area that has public transit (with access to existing regional bus and rail service), and employment opportunities, restaurants and entertainment all within walking distance.

The Project would be designed to meet the standards for the equivalent of the USGC LEED Silver Certification standards through the incorporation of green building techniques and other sustainability features. Key Project Design Features that would contribute to energy efficiencies include the use of glass/window areas for ventilation and daylight accessibility, low albedo (high reflectivity) color paving to reduce heat island effect and drought tolerant landscaping. Other building features would include such items as stormwater retention; installation of heating, ventilation, and air conditioning (HVAC) systems that utilize ozone-friendly refrigerants; use of materials and finishes that emit low quantities of VOCs; use of high efficiency fixtures and appliances, water conservation features; and recycling of solid wastes. The Project would also provide bicycle parking and preferred parking for fuel efficient or electric vehicles. The Project would also be designed to comply with the City of Los Angeles Green Building Ordinance. The following Project Design Feature would reduce greenhouse gas emissions as well as air pollutant emissions:

⁷⁶ *WalkScore.com(www.walkscore.com) rates the Project Site(1020 S. Figueroa Street) with a score of 90 of 100 possible points(scores accessed on March 16, 2016 for the Downtown Los Angeles district). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.*

PDF-AQ-1: Green Building Measures: The Project would be designed and operated to meet or exceed the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code and achieve the equivalent of the USGBC LEED Silver Certification level. Green building measures would include, but are not limited to the following:

- The Project would implement a construction waste management plan to divert all mixed construction and demolition debris to City certified construction and demolition waste processors, consistent with the Los Angeles City Council approved Council File 09-3029;
- The Project would be designed to optimize energy performance and reduce building energy cost by 14 percent for new construction compared to the Title 24 Building Energy Efficiency Standards as specified in the LEED 2009 Energy and Atmosphere credit 1 (EAc1);
- The Project would be designed to optimize energy performance and reduce building energy cost by installing energy efficient appliances that meet the USEPA ENERGY STAR rating standards or equivalent;
- The Project would include double-paned windows to keep heat out during summer months and keep heat inside during winter months.
- The Project would include lighting controls with occupancy sensors to take advantage of available natural light.
- The Project would reduce outdoor potable water use by a minimum of 50 percent compared to baseline water consumption. Reductions would be achieved through drought-tolerant/California native plant species selection, artificial turf, irrigation system efficiency, alternative water supplies (e.g., rainwater harvesting for use in landscaping), and/or smart irrigation systems (e.g., weather-based controls).
- The Project would reduce indoor potable water use by a minimum of 40 percent compared to baseline water consumption by installing water fixtures that exceed applicable standards.
- The Project would provide on-site recycling areas, consistent with City of Los Angeles strategies and ordinances, with the goal of achieving 70 percent waste diversion by 2020, and 90 percent by 2025.
- To encourage carpooling and the use of electric vehicles by Project residents and visitors, the Applicant shall designate a minimum of 8 percent of on-site parking for carpool and/or alternative-fueled vehicles, and the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 10 percent of the parking spaces.

PDF-AQ-2: Construction Measures: The Project shall utilize off-road diesel-powered construction equipment that meets or exceeds the CARB and USEPA Tier 4 off-road emissions standards for equipment rated at 50 hp or greater during Project construction. Equipment such as tower cranes, pumps, and welders shall be electric or alternative fueled (i.e., non-diesel). To the extent possible, pole power will be made

available for use with electric tools, equipment, lighting, etc. Alternative-fueled generators shall be used when commercial models that have the power supply requirements to meet the construction needs of the Project are readily available from local suppliers and/or contractors. These requirements shall be included in applicable bid documents and successful contractor(s) must demonstrate the ability to supply such equipment. A copy of each unit's certified tier specification or model year specification and CARB or SCAQMD operating permit (if applicable) shall be available upon request at the time of mobilization of each applicable unit of equipment.

d. Project Impacts

(1) Greenhouse Gas Emissions

Threshold GHG-1: A significant impact would occur if the Project would result in GHG emissions that are not consistent with the City of Los Angeles goals and actions to reduce the generation and emission of GHGs from both public and private activities pursuant to the applicable portions of the *LA Green Plan* and *Sustainable City pLAn*.

Impact Statement GHG-1: *The Project would generate GHG emissions due to construction and operational activities; however, the net increase in annual GHG emissions, directly and indirectly, would be consistent with the City of Los Angeles LA Green Plan and Sustainable City pLAn. Therefore, as the Project would be consistent with the applicable City's goals and actions for GHG emissions, GHG emissions and associated impacts would be less than significant.*

(a) Project Consistency with City Goals and Actions

The Project's significance with respect to GHG emissions is evaluated based on its consistency with applicable GHG emissions goals and actions from the City of Los Angeles. **Table 4.D-4, Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions**, and **Table 4.D-5, Consistency with Applicable City of Los Angeles Sustainable City pLAn Goals**, contains a list of GHG-reducing strategies applicable to the Project. The Project-level analysis describes the consistency of the Project with these GHG emissions reduction goals and actions. As discussed in Table 4.D-4, the Project is consistent with the applicable goals and actions. In addition, as discussed, the Project would also result in GHG reductions beyond those specified by the City and would minimize the GHG emissions relative to the existing Project Site conditions by incorporating energy efficient design features, and VMT reduction characteristics. Therefore, as the Project is consistent with the applicable City's goals and actions for GHG emissions, the Project would result in less than significant GHG emissions and impacts would be less than significant.

Table 4.D-4

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
Focus Area: Energy		
E1	Meet the goal to increase renewable energy from solar, wind, biomass, and geothermal sources to 20 percent by 2010.	Not Applicable. This action applies to LADWP and other utility providers and does not apply to the Project. LADWD has achieved the 20 percent by 2010 target. The Project would not conflict with or impede the City’s ability to implement this action.
E2	Increase use of renewable energy to 35 percent by 2020.	See E1, above.
E3	Reduce the use of coal-fired power plants.	Not Applicable. This action applies to LADWP and other utility providers and does not apply to the Project. The Project would not conflict with or impede the City’s ability to implement this action.
E4	Increase the efficiency of natural gas-fired power plants.	Not Applicable. This action applies to LADWP and other utility providers and does not apply to the Project. The Project would not conflict with or impede the City’s ability to implement this action.
E5	Increase biogas co-firing of natural gas-fired power plants.	Not Applicable. This action applies to LADWP and other utility providers and does not apply to the Project. The Project would not conflict with or impede the City’s ability to implement this action.
E6	Present a comprehensive set of green building policies to guide and support private sector development.	Consistent. The Project would be designed and operated to meet or exceed the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code and meet the standards of the USGBC LEED Silver Certification level or its equivalent. The Project would incorporate energy efficiency measures defined in PDF-AQ-1. As a result, the Project would be consistent with City’s green building policies.

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
<p>E7 Reduce energy use by all City departments to the maximum extent feasible.</p>	<p>This measure seeks to reduce energy use associated with the operation of streetlights and traffic signals by replacing lights with energy-efficient lighting sources, manage City computers by turning off or placing in standby computers when they are not in use, and implementing other energy saving measures.</p>	<p>Consistent. While this action applies to City departments, the Project would be designed and operated to meet or exceed the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code and meet the standards of the USGBC LEED Silver Certification level or its equivalent. The Project would incorporate energy efficiency measures defined in PDF-AQ-1. As a result, the Project would be consistent with the City’s action to reduce energy use.</p>
<p>E8 Complete energy efficiency retrofits of all City-owned buildings to maximize energy efficiency and reduce energy consumption.</p>	<p>For several years, the City has been meeting aggressive environmental standards for its new construction program, but has now also identified energy saving opportunities for 497 of the existing Council-controlled buildings that it owns and operates.</p>	<p>Consistent. While this action applies to City-owned buildings, the Project would be designed and operated to meet or exceed the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code and meet the standards of the USGBC LEED Silver Certification level or its equivalent. The Project would incorporate energy efficiency measures defined in PDF-AQ-1. As a result, the Project would be consistent with the City’s action to reduce energy use.</p>
<p>E9 Install the equivalent of 50 “cool roofs” on new or remodeled City buildings.</p>	<p>Designed with high albedo (reflectivity) to reflect the sun’s heat, cools roofs can provide energy saving to buildings and also help reduce the urban heat island effect. Green or vegetated roofs provide the same benefits, with the additional benefits of green space and reduced stormwater runoff.</p>	<p>Consistent. While this action applies to City-owned buildings, the Project would include a 6,000 sf Residential Rooftop Amenity Deck on Level 33 (above the 32nd story of Residential Tower 1) and Level 39 (above the 38th story of Residential Tower 2) that would include landscaping and lounging areas. Also, a Podium Garden Terrace would be located on top of the fourth level of the Podium. The Podium Garden Terrace would serve each of the three towers for Project residents, guests and hotel patrons. The Podium Garden Terrace would feature a bar and dining area near the Hotel Tower, open areas for adult and children recreational activities, pools, strolling/exercise areas for pets, and quiet/passive areas</p>

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
E10	Install solar heating for all City-owned swimming pools.	<p>The City has determined this measure to be infeasible because the majority of City-owned pools are seasonal and therefore not heated and the costs to retrofit the pools to operate on electricity would be extremely prohibitive. The City also found that the pools that are heated (by natural gas) are covered to retain heat, which is the most cost-effective method for heating the pools.</p>
E11	Improve energy efficiency at drinking water treatment and distribution facilities.	<p>with shaded zones. Overall, the Project would include a total of 36,500 sf of Podium Garden Terrace and 9,000 sf of rooftop amenity decks on the residential and hotel buildings. As shown in Figure 2-3, Conceptual Site Plan, the Podium Garden Terrace would be extensively vegetated with minimal hardscape primarily dedicated for pool, spa, and lounge seating areas, exercise areas, and walkways. The rooftop amenity deck areas would include vegetation as well as hardscape areas for walkways, pool, spa, and lounge seating areas, exercise areas, and walkways.</p> <p>In addition to rooftop vegetation, the Project would implement cool roof strategies that meet the standards of the USGBC LEED Silver Certification level or its equivalent. At least 75 percent of the project building's roof would be covered by materials having a Solar Reflectance Index of at least 78. As a result, the Project would be consistent with the City's action to install cool roofs on new buildings.</p> <p>Consistent. While this action has been determined to be infeasible for City-owned pools, the Project would be equipped with a pool and spa that would be consistent with the City's actions with respect to heating. The Project pool and spa would be heated by natural gas or solar and would be covered when closed to retain heat.</p>
E12	Maximize energy efficiency of wastewater treatment equipment.	<p>This action is intended to reduce the amount of electricity used for water pumping and water treatment, thus leading to reduced GHG emissions from fossil-fueled electric power plants.</p> <p>Not Applicable. This action applies to LADWP and does not apply to the Project. The Project would not conflict with or impede the City's ability to implement this action.</p> <p>The City of Los Angeles Bureau of Sanitation can employ direct action/s to reduce energy usage, including: a) investigate and test modifications to treatment processes that could reduce wastewater volume, electricity, and/or</p> <p>Not Applicable. This action applies to City of Los Angeles Bureau of Sanitation and does not apply to the Project. The Project would not conflict with or impede the City's ability to implement this action.</p>

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
E13	<p>Distribute two compact fluorescent light (CFL) bulbs to each of the 1.4 million households in the City.</p>	<p>natural gas usage; or increase the production of biogas, which is used to produce electricity; and b) research the availability of more energy-efficient treatment equipment.</p> <p>Consistent. While this action applies to LAWPD, the Project would incorporate energy efficiency measures defined in PDF-AQ-1, which includes lighting controls with occupancy sensors to take advantage of available natural light. The Project would also utilize energy efficient lighting, such as CFLs, light emitting diodes (LEDs), or other energy efficient lighting technology. The Project would be consistent with the City’s action to provide energy efficient lighting to City residents.</p>
E14	<p>Increase the level and types of customer rebates for energy efficient appliances, windows, lighting, and heating and cooling systems.</p>	<p>To reduce energy consumption and related CO₂ emissions, the LADWP will purchase 2.4 million compact fluorescent light bulbs (CFLs) and distribute two bulbs to each of the City’s 1.2 million households.</p> <p>Consistent. While this action applies to LADWP, the Project would incorporate energy efficiency measures defined in PDF-AQ-1, which includes energy efficient lighting, lighting controls with occupancy sensors, energy efficient appliances, energy efficient windows, and energy efficient HVAC systems. The Project would be consistent with the City’s action to encourage building energy efficiency.</p>
E15	<p>Increase the distribution of energy efficient refrigerators to qualified customers.</p>	<p>Through implementation and aggressive promotion of existing non-residential energy efficiency programs in LADWP’s service territory, energy consumption and related GHG emissions will continue to be reduced. LADWP will work closely with professional organizations, chambers of commerce, contractors, and vendors to promote energy efficiency and encourage businesses to retrofit with new efficient technologies.</p> <p>Consistent. While this action applies to LADWP, the Project would incorporate energy efficiency measures defined in PDF-AQ-1, which includes energy efficient appliances. The Project would be consistent with the City’s action to provide energy efficient appliances to City residents.</p>
E16	<p>Create a fund to “acquire” energy savings as a resource from LADWP customers.</p>	<p>To facilitate energy conservation among customers who receive low-income rate assistance (Rates 06 and 86), LADWP intends to offer up to 50,000 new energy-efficient refrigerators, in exchange for the customers’ older, less-efficient refrigerators.</p> <p>Not Applicable. This action applies to LADWP and does not apply to the Project. The Project would not conflict with or impede the City’s ability to implement this action.</p>

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
Focus Area: Water		
<p>W1 Meet all additional demand for water resulting from growth through water conservation and recycling.</p>	<p>The Mayor’s Office and LADWP developed the <i>Securing LA’s Water Future</i> plan, which is an aggressive, multi-faceted approach to developing a locally sustainable water supply. The plan includes a set of key short-term and long-term strategies to secure our water future, such as:</p> <p>Short-Term Conservation Strategies:</p> <ol style="list-style-type: none"> 1. Enforcing prohibited uses of water (levying fines and sanctions against water abusers and increase water conservation awareness). 2. Expanding the list of prohibited uses of water (possible further restrictions on watering landscape and washing/rinsing vehicles without a self-closing nozzle). 3. Extending outreach efforts, water conservation incentives, and rebates. 4. Encouraging regional conservation measures (encourage all water agencies in the region to adopt water conservation ordinances which include prohibited uses and enforcement). <p>Long-Term Conservation Strategies:</p> <ol style="list-style-type: none"> 1. Increasing water conservation through reduction of outdoor water use and new technology. 2. Maximizing water recycling. 3. Enhancing stormwater capture 4. Accelerating clean-up of the groundwater basin. 5. Expanding groundwater storage. 	<p>Consistent. While this action primarily applies to the City and LADWP, the Project would incorporate water efficiency measures defined in PDF-AQ-1. The reductions would be achieved through the installation of water efficient fixtures that exceed applicable standards, drought-tolerant/California native plant species selection, irrigation system efficiency, and/or smart irrigation systems (e.g., weather-based controls). The Project would not allow for residents to wash or rinse their cars with a hose on the premises. As a result, the Project would be consistent with the applicable short- and long-term water conservation strategies.</p>
<p>W2 Reduce per capita water consumption by 20%.</p>	<p>See W1, above.</p>	<p>See W1, above.</p>
<p>W3 Implement the City’s innovative water and wastewater integrated resources plan that will increase conservation, and maximize use of recycled water, including capture and reuse of stormwater.</p>	<p>See W1, above.</p>	<p>See W1, above.</p>

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
Focus Area: Transportation		
T1 Require 85% of City fleet to be powered by alternative fuels.	To reduce both air pollution and GHG emissions, City Departments will continue to acquire alternative fuel and advanced technology vehicles to replace those powered by conventional fuels.	Not Applicable. This action applies to the City and does not apply to the Project. The Project would not conflict with or impede the City's ability to implement this action.
T2 Convert 100% of City refuse collection trucks and street sweepers to alternative fuels.	To reduce the use of conventional diesel fuel, reduce GHG and toxic air pollutant emissions, the City will continue to acquire solid resources collection vehicles (for refuse, dead animals, yard trimmings, and commingled recyclable materials) and street sweeper vehicles that are fueled by natural gas, an alternative fuel.	Not Applicable. This action applies to the City and does not apply to the Project. The Project would not conflict with or impede the City's ability to implement this action.
T3 Convert 100% of Metropolitan Transportation Authority (MTA) buses to alternative fuels. Convert 100% of City Department of Transportation (DOT) Commuter Express Diesel Buses to Alternative Fuel.	In 2011, the Los Angeles County Metropolitan Transportation Authority retired its last diesel bus and operates solely on alternative fuels – primarily compressed natural gas (CNG). ⁷⁷	Not Applicable. This action applies to MTA and the City and does not apply to the Project. The Project would not conflict with or impede MTA and the City's ability to continue implementation of this action.
T4 Complete the Automated Traffic Surveillance and Control System (ATSAC).	This action reduces vehicle emissions that result from idling at intersections. By reducing vehicle stops, delays and travel time through improved traffic signal timing, vehicles can travel a longer distance at a consistent rate of speed, improving fuel economy.	Consistent. The Project traffic analysis takes into account the signalized study intersections equipped with the ATSAC and the Adaptive Traffic Control System (ATCS), which are computer-based traffic control systems. Refer to Section 4.J, Transportation and Traffic , of this Draft EIR for additional information. The Project would be consistent with this action.
T5 Expand FlyAway shuttles serving Los Angeles International Airport (LAX) and other regional airports, and convert existing FlyAway	Providing additional convenient options to air travelers can decrease the number of vehicle trips to and from LAX, thereby decreasing associated GHG emissions. Since the commencement of the Union Station FlyAway service, LAWA has been studying other potential sites, including	Not Applicable. This action applies to Los Angeles World Airports (LAWA) and does not apply to the Project. The Project would not conflict with or impede the City's ability to continue implementation of this action.

⁷⁷ Los Angeles County Metropolitan Transportation Authority, "Metro Retires Last Diesel Bus, Becomes World's First Major Transit Agency to Operate Only Clean Fuel buses," January 12, 2011. Available: https://www.metro.net/news/simple_pr/metro-retires-last-diesel-bus/.

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
<p>buses to alternative fuels.</p> <p>T6 Make transit information easily available, understandable, and translated into multiple languages.</p>	<p>locations in Long Beach, Norwalk, El Monte, Anaheim and other areas.</p> <p>A Los Angeles Department of Transportation (LADOT) partnership with the Personnel Department and ELA will enable DOT to determine in which additional languages transit information should be provided. Facilitating access to transit information increases the likelihood of transit use, which can reduce single occupancy vehicle trips and help alleviate traffic congestion, and most importantly, reducing associated greenhouse gas emissions.</p>	<p>Consistent. The Project would provide new on-site residents with available LADOT and Metro regional transit information.</p>
<p>T7 Increase the City employee participation in the rideshare program and increase subsidy for use of mass transit.</p>	<p>Employee rideshare programs are intended to reduce the number of single-occupant vehicle trips associated with commuting to the workplace. These programs help reduce traffic, as well as reducing the air pollutants from personal vehicles.</p>	<p>Consistent. While this action applies to the City, the Project would implement mitigation measure MM-TRAF-1, which requires the Applicant to implement a comprehensive Travel Demand Management (TDM) Program to promote non-auto travel and reduce the use of single-occupant vehicle trips (refer to Section 4.J, Transportation and Traffic, for additional information). Measures may include a transportation information center, educational programs, kiosks and/or other measures.</p>
<p>T8 Promote walking and biking to work, within neighborhoods, and to large events and venues.</p>	<p>Promoting alternate modes of travel will reduce the carbon emissions associated with single occupancy vehicles (SOVs). As described in Action Items LU1 and LU2, the City is promoting high-density and mixed-use housing close to major transportation arteries. Such developments will also support the advancement of Action Item T8, by improving accessibility for those who wish to walk and bike to work.</p>	<p>Consistent. The Project would promote walking and bicycling by providing convenient access to and from on-site uses from various at-grade sidewalks and areas with café tables, and parkway planters to facilitate pedestrian accessibility. A key feature of the design is the provision of a 5,000 sf public outdoor plaza along S. Figueroa Street that would support connectivity between the Project and LA LIVE while also encouraging pedestrian activity and an active street front. The Project would locate residential, commercial, and hotel uses within an area that has public transit (with access to existing regional bus service and the Metro Blue and Expo Lines Pico and 7th Street/Metro Center Stations), and employment opportunities, restaurants and entertainment all</p>

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
T9	Expand the regional rail network.	Metro planning calls for investments to expand the Metro Rail system by another 32 miles.
Focus Area: Land Use		
LU1	Promote high-density housing close to major transportation stops (same as Action Items LU3 and LU6).	Promoting higher density housing in areas close to transportation stops is an important component of the City's General Plan. Higher density housing with good access to transit helps accommodate the City's growing population and helps relieve traffic congestion, by increasing ridership on public transit.
LU2	Promote and implement transit-oriented development (TOD).	Transit Oriented Districts (TODs) represent opportunities for creating cohesive, vibrant, walkable communities where fragmented, auto-dependent corridors now exist. TODs are a positive alternative to low-density traditional land use patterns that typically segregate housing, jobs and neighborhood services from one another. In contrast, TODs cluster these community elements in close proximity, so a greater portion of trips can be made by transit, bike, or on foot.

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
<p>LU3 Make available underutilized City land for housing and mixed-use development.</p>	<p>The City can leverage the value of its real estate assets, whether developed and unimproved lands, to further Smart Growth policies such as improving access to transportation, strengthening job/housing linkages, reducing vehicle trips, providing non-traditional open space such as linear networks, and parkland that is built upon freeway covers.</p>	<p>Metro Red and Purple Lines are within one-half mile of the Project Site. The increases in land use diversity and mix of uses on the Project Site would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions. As a result, the Project is consistent with this City action.</p> <p>Consistent. While this action applies to City-owned land and facilities, the Project would be consistent. The Project would replace an existing surface parking lot with new development locating employment and housing opportunities within a one-quarter mile of frequent and comprehensive transit. The Project would provide sufficient parking consistent with Los Angeles Municipal Code (LAMC) requirements to the serve the new development (refer to Section 4.J, Transportation and Traffic, for an analysis of parking impacts). The Project would co-locate complementary commercial and residential land uses in close proximity to existing off-site commercial and residential uses. The Project would be located in an area accessible to alternative forms of transportation including walking, bicycling, and transit. The Project would include a public 5,000 sf of outdoor plaza along S. Figueroa Street; a 36,500 sf Podium Garden Terrace with a pool, and recreational areas; and a 6,000 sf roof garden space on the roof of both towers equipped with lounge seating, outdoor bar tops and bar stools, and pool deck. The Project further includes 27,000 sf of private residential balconies. As a result, the Project is consistent with this City action.</p>
<p>LU4 Make available underutilized City land for parks and open space.</p>	<p>See LU3, above.</p>	<p>See LU3, above.</p>

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
LU5 Clean up brownfields sites for community economic revitalization projects and open space.	Brownfields are a tremendous resource—open space in the urban core—available for redevelopment as projects, many of which confer public benefits. Each brownfield site that is successfully redeveloped can result in improved utilization of existing infrastructure, such as transit, and a concomitant decrease in vehicle trips. Brownfields can also be turned into urban parks, thereby expanding our urban forest.	Not Applicable. The Project is not a brownfield site. The Project would not conflict with or impede the City's ability to implement this action.
LU6 Make available underutilized City land within 1,500 feet of transit for housing and mixed-use development.	See LU3, above.	See LU3, above.
Focus Area: Waste		
Wst1 Reduce or recycle 70% of trash by 2015.	Source reduction and recycling programs not only conserve natural resources and landfill space, but also confer climate benefits.	Consistent. The Project would be served by a solid waste collection and recycling service that may 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 <i>Zero Waste Progress Report</i> (March 2013), the City achieved a landfill diversion rate of approximately 76 percent by year 2012. ⁷⁸
Focus Area: Open Space and Greening		
OS/G1 Create 35 new parks.	Parks and their trees, shrubs and other vegetation help mitigate climate change impacts by absorbing CO ₂ and releasing oxygen into the atmosphere.	Consistent. The Project would replace an existing surface parking lot with new development that includes a total of 9,250 sf of public open space, 36,500 sf of Podium Garden Terrace, and 9,000 sf of rooftop amenity decks. The Project would provide landscaping and garden uses that would complement the aesthetic character of the Project Site and enhance its relationship to surrounding buildings. The exterior boundaries of the Project Site along S. Figueroa Street, W. 11 th Street, and W.

⁷⁸ City of Los Angeles, *Zero Waste Progress Report, 2013*. Accessed: http://www.lacitysan.org/solid_resources/recycling/publications/PDFs/CLA_%20Zero_Waste_Progress_Report.pdf.

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
OS/G2 Revitalize the Los Angeles River to create open space opportunities along the 32-mile corridor within the City of Los Angeles.	The primary goal of the Los Angeles River Revitalization Master Plan (LARRMP) is to revitalize the River by restoring some of its ecological functions. Where feasible, projects will enhance the creation and protection of habitat, floodwater retention, groundwater recharge, water quality, and other natural processes.	Not Applicable. The Los Angeles River is not a component of the Project nor is the Project Site adjacent to the Los Angeles River. The Project would not conflict with or impede the City's ability to implement this action.
OS/G3 Plant 1 million trees throughout Los Angeles.	The Mayor launched the "Million Trees LA" (MTLA) Initiative in September 2006. The initiative is rooted in the idea that natural processes can reduce pollution and transform our city into a sustainable, green city. The one million new trees will provide shade and reduce energy costs, clean the air, absorb the GHGs that cause global warming, capture polluted urban runoff, improve water quality, provide homes for wildlife, and add beauty to neighborhoods.	Consistent. In total, the Project would include 163 new and existing trees compared to the 22 trees existing on site and along the surrounding streets under existing conditions. Street trees would be planted along S. Figueroa Street, W. 11 th Street, and W. Olympic Street. The Project would provide landscaping and garden uses that would complement the aesthetic character of the Project Site and enhance its relationship to surrounding buildings. All of the open spaces areas would have extensive landscaping and well-detailed hardscape. As a result, the Project would be consistent with this action and help the City to achieve its goal.

Table 4.D-4 (Continued)

Consistency with Applicable City of Los Angeles Green LA Plan GHG Emissions Goals and Actions

Action	Description	Consistency Analysis
OS/G4 Identify opportunities to “daylight” streams.	The "daylighting" of streams"—bringing them to above ground channels again—has been identified as a strategy the City could employ to address new regulatory requirements pertaining to stormwater runoff. The Bureau of Sanitation (BOS), with assistance from the Department of Recreation and Parks (RAP), has submitted many of the grant applications for the daylighting of streams in strategic locations. Specific daylighting projects include the Hazard Park Wetland and Stream Restoration Project and the North Atwater Creek Restoration and Water Quality Enhancement Project. These projects will restore wetlands for stormwater runoff capture and treatment and provide habitat linkage to the Los Angeles River.	Not Applicable. The City has not identified feasible Projects for the daylighting of streams in dense urban environments such as Downtown. As a result, this measure is not applicable to the Project. The Project would not conflict with or impede the City’s ability to implement this action.
OS/G5 Identify and develop promising locations for stormwater infiltration to recharge groundwater aquifers.	Stormwater infiltration is a Best Management Practice (BMP) that mirrors the natural process of infiltration found in undeveloped (or natural) watersheds. Where site conditions allow, a portion of urban stormwater runoff can be managed through infiltration, to effectively increase the volume of water returned to the soil and reduce the volume of direct runoff to streams and sewers. Increased infiltration also improves flood protection and aids in meeting local water demand by helping to recharge (replenish) underground aquifers.	Consistent. The Project would comply with City stormwater management requirements. As a result, the Project would be consistent with this action.
OS/G6 Collaborate and partner with schools to create more parks in neighborhoods.	See OS/G1, above.	See OS/G1, above.

Source: City of Los Angeles, Green LA Plan, 2008; ESA PCR, 2016.

Table 4.D-5

Consistency with Applicable City of Los Angeles Sustainable City pLAN Goals

Action	Description	Consistency Analysis
Focus Area: Environment		
Local Water	Lead the nation in water conservation and source the majority of water locally.	Consistent. The Project would incorporate water efficiency measures defined in PDF-AQ-1. The reductions would be achieved through the installation of water efficient fixtures that exceed applicable standards, drought-tolerant/California native plant species selection, irrigation system efficiency, and/or smart irrigation systems (e.g., weather-based controls). The Project would not conflict with the City's and LADWP's ability to provide locally sourced water.
Local Solar	Increase Los Angeles' clean and resilient energy supplies by capturing energy from abundant sunshine.	Consistent. Building rooftop areas without landscaping, pool, deck, garden or other improvements shall be construction as solar-ready for the future installation of on-site solar photovoltaic (PV) or solar water heating (SWH) systems.
Energy Efficient Buildings	Save money and energy by increasing the efficiency of buildings.	Consistent. The Project would be designed and operated to meet or exceed the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code and meet the standards of the USGBC LEED Silver Certification level or its equivalent. The Project would incorporate energy efficiency measures defined in PDF-AQ-1.
Carbon and Climate Leadership	As a proactive leader on climate issues, strengthen Los Angeles' economy by dramatically reducing GHG emissions and rallying other cities to follow Los Angeles' lead.	Consistent. The Project would be designed to incorporate energy and water efficient designs that exceed the standards, which would result in substantial GHG emissions reductions. The Project would also be located in an area well served by multiple public transportation options and in a highly walkable environment, which would substantially reduce transportation-related GHG emissions.
Waste and Landfills	Become the first big city in the United States to achieve zero-waste, and recycle and reuse most of its waste locally.	Consistent. The Project would be served by a solid waste collection and recycling service that may include mixed waste processing, and that yields waste diversion results comparable to source separation and

Table 4.D-5 (Continued)

Consistency with Applicable City of Los Angeles Sustainable City Plan Goals

Action	Description	Consistency Analysis
Focus Area: Economy		
Housing and Development	Address Los Angeles' housing shortage, ensure that most new units are accessible to high-quality transit, and close the gap between income and rents.	Consistent. The Project would be located in an area well served by multiple public transportation options and in a highly walkable environment, which would substantially reduce transportation-related GHG emissions. The Project would be located in a major job center for the region, allowing residents to live close to places of work and retail, commercial, and entertainment uses.
Mobility and Transit	Invest in rail, bus lines, pedestrian/bike safety, and complete neighborhoods that provide more mobility options and reduce vehicle miles traveled.	Consistent. The Project would be located in an area well served by multiple public transportation options and in a highly walkable environment, which would substantially reduce vehicle miles traveled and transportation-related GHG emissions.
Prosperity and Green Jobs	Strengthen and grow the economy including through increased jobs and investments in clean technology sectors.	Consistent. The Project would provide jobs during construction, which would require technical knowledge and skills related to the installation of sustainable and energy efficient building systems. Operation of the Project would require periodic maintenance, which would require personnel with technical knowledge and skills in maintaining energy efficient building systems. The Project would also be located in a major job center for the region, allowing residents to live close to places of work allowing for increased job opportunities and improved commute patterns for residents.
Preparedness and Resiliency	Prepare for natural disasters and decrease vulnerability to climate change.	Consistent. The Project would be constructed to meet or exceed City requirements for fire, earthquake, and other building safety standards.

Table 4.D-5 (Continued)

Consistency with Applicable City of Los Angeles Sustainable City Plan Goals

Action	Description	Consistency Analysis
Focus Area: Equity		
Air Quality	Healthy air to breathe.	Consistent. The Project would implement emissions reductions measures during construction and operations to minimize air pollutant emissions, as discussed in PDF-AQ-1 and PDF-AQ-2. Implementation of these measures would ensure air quality impacts are less than significant.
Environmental Justice	Ensure the benefits of the pLAN extend to all Angelenos.	Not Applicable. The City is responsible for ensuring the benefits of the pLAN extend to all Angelenos. The Project would not conflict with or impede the City’s ability to implement this action.
Urban Ecosystem	Have access to parks, open space, including a revitalized Los Angeles River Watershed.	Consistent. The Project would provide a 5,000 sf public outdoor plaza along S. Figueroa Street that would support connectivity between the Project and LA LIVE while also encouraging pedestrian activity and an active street front. The outdoor plaza would incorporate landscape features, seating, and potential for public art display areas within this space. An additional 4,250 sf of street level open space would be provided for a total of 9,250 sf of public open space. Residents and guests/visitors would have access to 36,500 sf of Podium Garden Terrace, and 9,000 sf of rooftop amenity decks.
Livable Neighborhoods	Live in safe, vibrant, well-connected, and healthy neighborhoods.	Consistent. The Project would provide a vibrant, safe, and well-connected neighborhood. Street trees would be planted along S. Figueroa Street, W. 11 th Street, and W. Olympic Street. The Project would provide landscaping and garden uses that would complement the aesthetic character of the Project Site and enhance its relationship to surrounding buildings. All of the open spaces areas would have extensive landscaping and well-detailed hardscape. The Project would improve the street-level pedestrian environment and connectivity within the LA LIVE, Staples Center, the Los

Table 4.D-5 (Continued)

Consistency with Applicable City of Los Angeles Sustainable City Plan Goals

Action	Description	Consistency Analysis
		Angeles Convention Center and the surrounding streetscape, with the creation of new pedestrian scale features such as a public plaza along Figueroa with street level retail/restaurant uses, street trees and landscaping, public art, and signage and appropriate street lighting.

Source: City of Los Angeles, Green LA Plan, 2008; ESA PCR, 2016.

(b) Calculation of Construction Emissions

In order to provide additional information to decision makers and the public, the emissions of GHGs associated with construction of the Project were calculated for each year of construction activity. Detailed emissions calculations are provided in Appendix E. Results of the GHG emissions calculations are presented on **Table 4.D-5, Estimated Unmitigated Construction Greenhouse Gas Emissions**. Although construction-related GHGs are one-time emissions, any assessment of Project emissions must include construction.

Table 4.D-5

Estimated Unmitigated Construction Greenhouse Gas Emissions

Emission Source	CO ₂ e (Metric Tons) ^{a,b}
Construction Phase 1	
Year 1	214
Year 2	1,186
Year 3	1,314
Year 4	500
Construction Phase 2	
Year 5	258
Year 6	763
Year 7	826
Year 8	148
Total Construction Emissions	5,208
Amortized Construction Emissions (30-years)	174

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix E.

^b CO₂e emissions are calculated using the global warming potential values from the Intergovernmental Panel on Climate Change Fourth Assessment Report.

Source: ESA PCR, 2016

(c) Calculation of Operational Emissions

In order to provide additional information to decision makers and the public, the emissions of GHGs associated with operation of the Project were calculated. The Project must comply with the portions of City's Green Building Code applicable to residential and mixed-use development. Additionally, physical and operational Project characteristics for which sufficient data is available to quantify the reductions from building energy and resource consumption have been included in the quantitative analysis, and include but are not limited to the following measures: installation of energy efficient appliances; low-water fixtures; water efficient irrigation; and reduced building energy usage by at least 14 percent compared to the ASHRAE Standard 90.1-2007 and Title 24-2005 standard as specified in the LEED 2009 Energy and Atmosphere credit 1 (EAc1).

Maximum annual net GHG emissions resulting from motor vehicles, energy (i.e., electricity, natural gas), water conveyance, and waste sources were calculated for the expected opening year. The maximum opening year GHG emissions from operation of the Project are shown in **Table 4.D-6, Estimated Unmitigated Operational Greenhouse Gas Emissions**. Emissions of GHGs were assessed for the interim year (2020) when Phase 1 would become operational and for the full Project buildout year (2023) with concurrent operation of both Phase 1 and Phase 2. To provide context for the emissions shown in Table 4.D-6, the Project's net GHG emissions at full buildout of 5,793 MTCO_{2e} per year, would be approximately 0.0013 percent of the State of California's 2013 GHG emissions (See Table 4.D-2 for California 2013 GHG emissions) and 0.00001 percent of the global GHG emissions (refer to subsection 4.D.2.a(2) for global GHG emissions). Project operational-related GHG emissions would decline in future years as emissions reductions from the State's Cap-and-Trade program are fully realized. Emissions from electricity would decline as utility providers, including LADWP, meet their Renewables Portfolio Standard obligations for 33 percent renewable electricity by 2020. Future regulations would also be implemented to increase the percentage of renewable electricity to 50 percent by 2030 consistent with SB 350, which would achieve additional reductions in emissions from electricity demand. 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.

Transportation-related GHG emissions are the largest sector of emissions from the Project. This is consistent with regional plans, such as the SCAG RTP/SCS, which recognizes that the transportation sector is the largest contributor to the State's GHG emissions. The purpose of the SCAG 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. SCAG's Draft Program EIR for the RTP/SCS, released in December 2015, states that "[e]ach [Metropolitan Planning Organization] is required to prepare an SCS in conjunction to [sic] with the RTP in order to meet these GHG emissions reduction targets by aligning transportation, land use, and housing strategies with respect to [Senate Bill] 375."⁷⁹ SCAG's RTP/SCS plans for regional population growth using smart land use strategies. As part of the SCS/RTP, "transportation network improvements would be included, and more compact, infill, walkable and mixed-use development strategies to accommodate new region's growth would be encouraged to accommodate increases in population, households, employment, and travel demand."⁸⁰ Moreover, the RTP/SCS states that while "[p]opulation and job growth would induce

⁷⁹ Southern California Association of Governments, *Draft Program Environmental Impact Report – 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*, (2015) 3.8-37.

⁸⁰ Southern California Association of Governments, *Draft Program Environmental Impact Report – 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*, (2015) 3.8-35.

Table 4.D-6

Estimated Unmitigated Operational Greenhouse Gas Emissions

Emissions Sources	Interim Year (Phase 1 Operations) CO ₂ e (Metric Tons per Year) ^{a,b}	Full Buildout (Phase 1 and 2 Operations) CO ₂ e (Metric Tons per Year) ^{a,b}
Opening Operational Year		
Electricity	2,558	4,365
Natural Gas	516	904
Mobile Sources	782	1,094
Solid Waste	99	192
Water and Wastewater	142	255
Area (Landscaping Equipment)	5	11
Subtotal	4,101	6,822
Existing Site	1,203	1,203
Net Increase	2,898	5,619
Amortized Construction Emissions	174	174
Total Net Emissions	3,072	5,793

^a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in Appendix E].

^b CO₂e emissions are calculated using the global warming potential values from the Intergovernmental Panel on Climate Change Fourth Assessment Report.

Source: ESA PCR, 2016

land use change (development projects) and increase VMT, and would result in direct and indirect GHG emissions,” the RTP/SCS would “supports sustainable growth through a more compact, infill, and walkable development pattern.”⁸¹

Consistent with SCAG’s RTP/SCS alignment of transportation, land use, and housing strategies, the Project would accommodate increases in population, households, employment, and travel demand by implementing smart land use strategies. As discussed previously, the Project Site is an infill location close to jobs, housing, shopping and entertainment uses and in close proximity to existing and future public transit stops, which would result in reduced VMT, as compared to a project of similar size and land uses at a location without close and walkable access to off-site destinations and public transit stops.

The estimated reduction in VMT discussed previously in **Subsection 4.D.3.c, Project Characteristics and Project Design Features**, for the Project is supported by area-specific data in the *Health Atlas for the City of Los Angeles* (Health Atlas), published by the City in June 2013.⁸² Data collected by the City in support of its *Health*

⁸¹ Southern California Association of Governments, *Draft Program Environmental Impact Report – 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*, (2015) 3.8-36.

⁸² City of Los Angeles, *Health Atlas for the City of Los Angeles*, (2013).

Atlas for the City of Los Angeles demonstrates that the Project would be located in an area that would substantially reduce mobile source GHG emissions relative to the Citywide and statewide average and that the Project would be consistent with regional planning efforts in accordance with the SCAG RTP/SCS to reduce VMT and associated emissions. The Health Atlas includes a number of findings related to land use mix and diversity, employment density, walkability, access to public transit, and other land use transportation findings organized by Community Plan Area. The Project is located in the Central City Community Plan Area. A summary and analysis of the Health Atlas findings relative to the Central City Community Plan Area are provided below.

- **Land Use Diversity:** According to the Health Atlas, a “mix of land uses can increase walking and other physical activity” and “offer more destinations for non-automobile trips.”⁸³ The Health Atlas evaluates land use diversity based on the presence of 19 types of uses or amenities, including supermarkets, convenience stores, banks, gyms, department stores, farmer’s markets, libraries, and parks, grouped into four categories: food retail, community-serving retail, services, civic and community facility. The Central City Community Plan Area scored relatively high out of the 35 Community Plan Areas, indicating that the area has a high number of different types of amenities available in the Community Plan Area (a score of 11, which is in the highest one-third of the scores). The data indicates that the Central City Community Plan Area has a high potential for walkability and offers a high number of destinations available for non-motorized trips. These findings are substantiated by the CAPCOA guidance, *Quantifying Greenhouse Gas Mitigation Measures*. CAPCOA measure LUT-3 (Increase Diversity of Urban and Suburban Developments [Mixed Use]) states that “different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport.”⁸⁴ The Health Atlas findings are also related to the goals and benefits of the SCAG RTP/SCS, which seeks improved “mobility and access by placing destinations closer together and decreasing the time and cost of traveling between them.”⁸⁵ According to SCAG, incorporating “smart land use strategies encourages walking, biking, and transit use, and therefore reduces vehicular demand” and associated pollutants.⁸⁶ The high scores for the number of destinations available for non-motorized trips within the Central City Community Plan Area supports the expectation that projects located in the area would achieve substantial reductions in VMT and associated mobile source emissions relative to the Citywide average. It also follows that projects located in the area would be expected to achieve substantial reductions in VMT and associated mobile source emissions relative to the statewide average since the City of Los Angeles is more urbanized and has a higher diversity of land uses than the state as a whole. Therefore, based on City data and expert guidance from state and regional agencies, the Project would result in a substantial reduction in emissions from mobile sources and would have a substantially greater level of transportation efficiency when compared to the Citywide and statewide average. Furthermore, the land use diversity scores for the Central City Community Plan Area in the Health Atlas show that the Project would be located in an area consistent with the regional SCAG

⁸³ *City of Los Angeles, Health Atlas for the City of Los Angeles, (2013) 86-87.*

⁸⁴ *California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, (2010) 162.*

⁸⁵ *Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, (2012) 113.*

⁸⁶ *Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, (2012) 39.*

RTP/SCS goals to improve mobility and access to diverse destinations, and to reduce vehicular demand and associated emissions.

- **Employment Density:** The Health Atlas recognizes that “[h]igher levels of employment density, particularly retail job densities, are associated with more walking trips” as they “allow for more frequent and comprehensive transit service.”⁸⁷ In turn, “[d]enser employment districts which are rich in transit service typically result in more walking and transit use ... and makes jobs more accessible to all residents.”⁸⁸ The Health Atlas evaluates employment density as the number of jobs per square mile. The Central City Community Plan Area has the highest employment density of the 35 Community Plan Areas in the City with nearly 80,000 jobs per square mile. The Citywide average employee density is approximately 1,185 jobs per square mile.⁸⁹ The data indicates that the Central City Community Plan Area has a high potential for walkability and making use of frequent and comprehensive transit services, such as the Metro Red Line and connecting bus lines. These findings are substantiated by the CAPCOA guidance measure LUT-1 (Increase Density), which states that “[i]ncreased densities affect the distance people travel and provide greater options for the mode of travel they choose.”⁹⁰ Measure LUT-1 also states that increased densities “provides a foundation for implementation of many other strategies which would benefit from increased densities” such as “enhanced transit service.”⁹¹ The Health Atlas findings are also related to the goals and benefits of the SCAG RTP/SCS, which seeks improved mobility and access and implementation of smart land use strategies that encourage walking, biking, and transit use, resulting in reduced vehicular demand and associated pollutants. The high employment density of the Central City Community Plan Area supports the expectation that projects located in the area would have high levels of walkability and high potential for transit usage. As a result, the Project would be expected to achieve substantial reductions in VMT and associated mobile source emissions relative to the Citywide and statewide average. Therefore, based on City data and expert guidance from state and regional agencies, the Project’s location in an employment dense area would result in a substantial reduction in emissions from mobile sources and would have a substantially greater level of transportation efficiency when compared to the Citywide and statewide average. Furthermore, the land employment density score for the Central City Community Plan Area in the Health Atlas shows that the Project would be located in an area consistent with the regional SCAG RTP/SCS goals to improve mobility and access to diverse destinations, and to reduce vehicular demand and associated emissions.
- **Walkability:** The land use mix and diversity and employment density findings indicate that the Central City Community Plan Area has a high potential for walkability. The Health Atlas also provides a direct quantitative analysis of the walkability of each Community Plan Area using a Walkability Index based on four components: land use mix, residential density, retail density, and intersection density. Higher scores represent more walkable areas. The Central City Community Plan Area has the highest Walkability Index of the 35 Community Plan Areas in the City. Furthermore, as discussed in Section 4.J, *Transportation and Traffic*, the walkability score for the Downtown area, as quantified

⁸⁷ *City of Los Angeles, Health Atlas for the City of Los Angeles, (2013) 90.*

⁸⁸ *City of Los Angeles, Health Atlas for the City of Los Angeles, (2013) 90.*

⁸⁹ *City of Los Angeles, Health Atlas for the City of Los Angeles, (2013) 102.*

⁹⁰ *California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, (2010) 155.*

⁹¹ *California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, (2010) 155.*

by WalkScore.com, is approximately 90 points out of a possible 100;⁹² this compares to the citywide score of 64 points. The data indicates that the Central City Community Plan Area is a highly walkable area. These findings are substantiated by the CAPCOA guidance measure LUT-9 (Improve Design of Development), which indicates that design elements that enhance walkability and connectivity, such as intersection density, reduce VMT and associated GHG emissions. The Health Atlas findings are also related to the goals and benefits of the SCAG RTP/SCS, which seeks better “placemaking,” defined as “the process of developing options for locations where they can live and work that include a pleasant and convenient walking environment that reduces their reliance on their car.”⁹³ The high Walkability Index of the Central City Community Plan Area supports the expectation that projects located in the area would have a highly walkable environment. As a result, the Project would be expected to achieve substantial reductions in VMT and associated mobile source emissions relative to the Citywide and statewide average. Therefore, based on City data and expert guidance from state and regional agencies, the Project’s location in a walkable area would result in a substantial reduction in emissions from mobile sources and would have a substantially greater level of transportation efficiency when compared to the Citywide and statewide average. Furthermore, the land employment density score for the Central City Community Plan Area in the Health Atlas show that the Project would be located in an area consistent with the regional SCAG RTP/SCS goals to provide better “placemaking” and to reduce vehicular demand and associated emissions.

- **Workers Commuting by Walking, Biking, and Public Transportation:** The Health Atlas also indicates that the Central City Community Plan Area has a high percentage of workers that commute to work by walking, biking, and public transportation. The Central City Community Plan Area has the 2nd highest percentage of workers that commute to work by walking, biking, and public transportation, at about 37 percent for the area as a whole, based on 2010 data (greater than the 3rd highest Westwood Community Plan Area but less than the 1st highest Westlake Community Plan Area). The statewide percentage of workers that commute to work by walking, biking, and public transportation is approximately 9 percent, based on census data for the 2010 to 2014 period.⁹⁴ As discussed previously, the Central City Community Plan Area is a highly walkable area and the area is also well served by frequent and comprehensive transit including the Metro Blue, Expo, Red, Purple, and Gold Lines, which provides convenient access to locations within Downtown Los Angeles and a multitude of locations outside the Downtown area, and multiple bus lines. Thus, the data indicates that the Central City Community Plan Area substantially exceeds the statewide average for the percentage of workers that commute to work by walking, biking, and public transportation. The Health Atlas findings are further substantiated by the CAPCOA guidance measures LUT-1, LUT-3, and LUT-9, as discussed previously, and also by LUT-5 (Increase Transit Accessibility), which indicates that “high density near transit will facilitate the use of transit by people.”⁹⁵ The Health Atlas findings are also related to the goals and benefits of the SCAG RTP/SCS, which seeks “[s]trategies focused on

⁹² WalkScore.com(www.walkscore.com) rates the Project Site(1020 S. Figueroa Street) with a score of 90 of 100 possible points(scores accessed on March 16, 2016 for the Downtown Los Angeles district). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

⁹³ Southern California Association of Governments, *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*, (2012) 112.

⁹⁴ U.S. Census Bureau, *American FactFinder, Data Set B08301 (Means of Transportation to Work, California, 2010-2014)*, <http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t>. Accessed December 2015.

⁹⁵ California Air Pollution Control Officers Association, *Quantifying Greenhouse Gas Mitigation Measures*, (2010) 171.

high-quality places, compact infill development, and more housing and transportation choices.”⁹⁶ The high proportion of workers that commute to work by walking, biking, and public transportation in the Central City Community Plan Area supports the expectation that projects located in the area would be accessible to alternative forms of transportation. As a result, the Project would be expected to achieve substantial reductions in VMT and associated mobile source emissions relative to the Citywide and statewide average. Therefore, based on City data and expert guidance from state and regional agencies, the Project’s location in an area accessible to alternative forms of transportation including walking, bicycling, and transit would result in a substantial reduction in emissions from mobile sources and would have a substantially greater level of transportation efficiency when compared to the Citywide and statewide average. Furthermore, the Project would be located in an area consistent with the regional SCAG RTP/SCS goals to provide more transportation choices and to reduce vehicular demand and associated emissions.

The above data from the City’s Health Atlas supports the VMT reduction findings in this analysis. The Project’s specific location in close proximity to high-quality transit, including the Metro Blue, Expo, Red and Purple Lines and multiple bus routes, its close proximity to other off-site retail, restaurant, entertainment, commercial, and job destinations, and its highly walkable environment support the finding in this analysis that the Project would achieve a reduction in VMT better than the City and statewide average.

Overall, the net increase in annual GHG emissions, directly and indirectly, would be consistent with the City of Los Angeles LA Green Plan and Sustainable City pLAN. Therefore, as the Project would be consistent with the applicable City’s goals and actions for GHG emissions, the Project would result in less than significant GHG emissions and impacts would be less than significant.

(2) Greenhouse Gas Reduction Plans

Threshold GHG-2: A significant impact would occur if the Project would conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Impact Statement GHG-2: *The Project would be consistent with the AB 32 goals and CARB guidelines for assessing GHG emissions. Further, the Project would include land use characteristics and design features that would be consistent with State, Regional, and Local Regulations for reducing GHG emissions. Therefore, as the Project would be consistent with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions, impacts regarding greenhouse gas reduction plans would be less than significant.*

(a) Consistency with Plans, Policies, or Regulations

Due to the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the Project’s less-than-significant increase in annual GHG emissions would cause a measurable change in global GHG emissions necessary to influence global climate change. Newer construction materials and practices, energy efficiency requirements, and newer appliances tend to emit lower levels of air pollutant emissions, including GHGs, as compared to those built years ago; however, the net effect is difficult to

⁹⁶ Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, (2012) 114.

quantify. The GHG emissions of the Project alone would not likely cause a direct physical change in the environment. According to CAPCOA, “GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective.”⁹⁷ It is global GHG emissions in their aggregate that contribute to climate change, not any single source of GHG emissions alone. Because of the less than significant annual GHG emissions estimated for this Project, the lack of evidence indicating that those emissions would cause a measurable change in global GHG emissions necessary to exacerbate global climate change, and the fact that the Project incorporates physical and operational Project characteristics and Project Design Features that would ensure consistency of Project GHG emissions with City goals and actions, rendering them less than significant, the Project is considered not to conflict with the GHG reduction goals of AB 32 and associated GHG reduction plans such as SCAG’s RTP/SCS.

The Project’s estimated VMT reductions would be consistent with regional plans to reduce transportation-related GHG emissions as part of the overall statewide strategy under AB 32. The Project would be consistent with and support the goals and benefits of the SCAG RTP/SCS, which seeks improved “mobility and access by placing destinations closer together and decreasing the time and cost of traveling between them.”⁹⁸ According to SCAG, incorporating “smart land use strategies encourages walking, biking, and transit use, and therefore reduces vehicular demand” and associated pollutants.⁹⁹ Additionally, the SCAG RTP/SCS seeks better “placemaking,” defined as “the process of developing options for locations where [people] can live and work that include a pleasant and convenient walking environment that reduces their reliance on their car.”¹⁰⁰ The high scores for walkability and number of destinations available for non-motorized trips within the Central City Community Plan Area (as demonstrated by data from the City’s Health Atlas) shows that the existing infrastructure and built environment is sufficiently developed that projects located in the area would be expected to achieve substantial and credible reductions in trip distances and overall VMT. The high employment density of the Central City Community Plan Area supports the expectation that projects located in the area would provide high levels of walkability and high potential for transit usage by project residents, employees, and visitors. The high number of workers that commute to work by walking, biking, and public transportation in the Central City Community Plan Area is additional proof that projects located in the area would provide access to more transportation choices for project residents, employees, and visitors and that projects would have a substantially greater level of transportation efficiency when compared to the Citywide and statewide average. The Project would therefore be consistent with the SCAG 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. As such, the Project would be consistent with regional plans to reduce VMT and associated GHG emissions.

As discussed previously, the Project would comply with the Los Angeles Green Building Code to reduce GHG emissions by increasing energy-efficiency beyond requirements, reducing indoor and outdoor water

⁹⁷ *California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).*

⁹⁸ *Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, (2012) 113.*

⁹⁹ *Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, (2012) 39.*

¹⁰⁰ *Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, (2012) 112.*

demand, installing energy-efficient appliances and equipment, and achieving equivalent to the LEED Silver Certification level. The Project would also incorporate characteristics that would reduce transportation-related GHG emissions by locating Project-related jobs and retail and restaurant, near residential and commercial uses and within a quarter-mile of high-quality transit including the Metro Expo and Blue Lines, thereby encouraging alternative forms of transportation and pedestrian activity. These measures are consistent with the City's GHG reduction, sustainability, and smart-growth goals of improving energy and water efficiency in buildings, decreasing per-capita water use, using energy efficient appliances and equipment, and creating a more livable city.

When implemented, the following planned City actions, as presented in the LA Green Plan, may further decrease emissions of GHGs from the Project. These actions are not under the control of the Project; however, they would nonetheless further reduce Project-related GHG emissions:

- Decreasing emissions from Department of Water and Power electrical generation and import activities;
- Promoting walking and biking to work, within neighborhoods, and to large events and venues; and
- Expanding the regional rail network to reduce VMT.

Consistency with GHG reduction strategies is an important priority and reasonable reduction efforts should be taken. **Table 4.D-7, *Consistency with Applicable Greenhouse Gas Reduction Strategies***, contains a list of GHG-reducing strategies potentially applicable to the Project. The Project-level analysis describes the consistency of the Project with these strategies. Furthermore, in addition to the Project's consistency with applicable GHG reduction strategies, the Project would not conflict with the future statewide GHG reductions goals. CARB has outlined a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels. These potential strategies include 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 high speed rail and other alternative transportation options, and use of high efficiency appliances, water heaters, and HVAC systems. The Project would benefit from statewide and utility-provider efforts towards increasing the portion of electricity provided from renewable resources. The Project would also benefit from statewide efforts towards increasing the fuel economy standards of vehicles. The Project would support alternative transportation and reducing VMT growth by locating at an infill location close to existing transit (including the Metro Expo and Blue Lines at the Pico and 7th/Metro Center Stations as well as the Metro Red and Purple Lines at the 7th/Metro Center Station). The Project would utilize energy efficiency appliances and equipment and would reduce its building energy consumption via compliance with LEED Silver certification or equivalent. While CARB is in the process of developing a framework for the 2030 reduction target in the Scoping Plan, the Project would support or not impede implementation of these potential reduction strategies identified by CARB.

Because the Project would implement Project Design Features intended to achieve equivalent to the LEED Silver Certification level and incorporate water conservation, energy conservation, tree-planting, and other features consistent with the City's Green Building Code and the LA Green Plan, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions and impacts would be less than significant.

Table 4.D-7

Consistency with Applicable Greenhouse Gas Reduction Strategies

Source	Category / Description	Consistency Analysis
AB 1493 (Pavley Regulations)	Reduces greenhouse gas emissions in new passenger vehicles from model year 2012 through 2016 (Phase I) and model year 2017-2025 (Phase II). Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	Consistent. The Project would not conflict with this regulation and would not conflict with implementation of the vehicle emissions standards.
SB 1368	Establishes an emissions performance standard for power plants within the State of California.	Consistent. The Project would not conflict with this regulation and would not conflict with implementation of the emissions standards for power plants.
Low Carbon Fuel Standard	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	Consistent. The Project would be consistent with this regulation and would not conflict with implementation of the transportation fuel standards.
California Green Building Standards Code Requirements	All bathroom exhaust fans shall be ENERGY STAR compliant.	Consistent. The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1, Appendix G and the Title 24 Building Energy Efficiency Standards.
	HVAC Systems will be designed to meet ASHRAE standards.	Consistent. The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1, Appendix G and the Title 24 Building Energy Efficiency Standards.
	Energy commissioning shall be performed for buildings larger than 10,000 square feet.	Consistent. The Project would meet this requirement as part of its compliance with the City's requirements and voluntary compliance with USGBC LEED Silver Certification or equivalent standards.
	Air filtration systems are required to meet a minimum of MERV 8 or higher.	Consistent. The Project would meet or exceed this requirement as part of its compliance with the City's requirements, and the CALGreen Code.
	Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	Consistent. The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.	Consistent. The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.

Table 4.D-7 (Continued)

Consistency with Applicable Greenhouse Gas Reduction Strategies

Source	Category / Description	Consistency Analysis
	Long-term and short-term bike parking shall be provided for up to five percent of vehicle trips.	Consistent. The Project would exceed this requirement as part of the incorporated physical and operational Project characteristics to reduce vehicle trips and VMT and encourage alternative modes of transportation for patrons and employees. The Project would provide parking for approximately 887 bicycles on-site.
	Stormwater Pollution Prevention Plan (SWPPP) required.	Consistent. The Project would meet this requirement via compliance with Statewide General Construction Activity Stormwater Permit (GCASP) requirements and implementation of required erosion and sediment control and pollution prevention best management practices (BMPs).
	Indoor water usage must be reduced by 20% compared to current California Building Code Standards for maximum flow.	Consistent. The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code
	All irrigation controllers must be installed with weather sensing or soil moisture sensors.	Consistent. The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Wastewater usage shall be reduced by 20 percent compared to current California Building Standards.	Consistent. The Project would meet or exceed this requirement as part of its compliance with the City's requirements and the CALGreen Code and voluntary compliance with USGBC LEED Silver Certification or equivalent standards.
	Requires a minimum of 50 percent recycle or reuse of nonhazardous construction and demolition debris.	Consistent. The Project would meet or exceed this requirement as part of its compliance with the City's requirements and the CALGreen Code and voluntary compliance with USGBC LEED Silver Certification or equivalent standards.
	Requires documentation of types of waste recycled, diverted or reused.	Consistent. The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires use of low VOC coatings consistent with AQMD Rule 1168.	Consistent. The Project would be consistent with this regulation and would meet or exceed the low VOC coating requirements.
	100 percent of vegetation, rocks, soils from land clearing shall be recycled or stockpiled on-site.	Consistent. The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.

Table 4.D-7 (Continued)

Consistency with Applicable Greenhouse Gas Reduction Strategies

Source	Category / Description	Consistency Analysis
Climate Action Team	Reduce diesel-fueled commercial motor vehicle idling.	Consistent. The Project would be consistent with the CARB Air Toxics Control Measure (ATCM) to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any given time (refer to Regulatory Compliance Measure RC-AQ-2 above, and in Section 4.B, <i>Air Quality</i> , of this Draft EIR).
	Achieve California’s 50 percent waste diversion mandate (Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction.	Consistent. The Project would meet this requirement as part of its compliance with the City’s requirements and the CALGreen Code.
	Plant five million trees in urban areas by 2020 to effect climate change emission reductions.	Consistent. The Project would provide appropriate landscaping on the Project Site including vegetation and trees.
	Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.	Consistent. The Project would meet this requirement as part of its compliance with the City’s requirements and the CALGreen Code and voluntary compliance with USGBC LEED Silver Certification or equivalent standards.
	Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.	Consistent. The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1, Appendix G and the Title 24 Building Energy Efficiency Standards.
	Apply strategies that integrate transportation and land-use decisions, including but not limited to promoting jobs/housing proximity, high-density residential/ commercial development along transit corridors, and implementing intelligent transportation systems.	Consistent. The Project would incorporate physical and operational Project characteristics that would reduce vehicle trips and VMT and encourage alternative modes of transportation for patrons and employees.
	Reduce energy use in private buildings.	Consistent. The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in ASHRAE 90.1, Appendix G and the Title 24 Building Energy Efficiency Standards.

Source: ESA PCR, 2016.

(b) Consistency with Executive Orders S-3-05 and B-30-15

At the state level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing GHG emissions. Executive Order S-3-05's goal to reduce GHG emissions to 1990 levels by 2020 was codified by the Legislature as the 2006 Global Warming Solutions Act (AB 32). As analyzed above, the Project would be consistent with AB 32. Therefore, the Project does not conflict with this component of the Executive Orders.

The Executive Orders also establish the goals to reduce GHG emissions to 40 below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. These goals have not been codified into law by the Legislature. However, studies have shown that, in order to meet the 2030 and 2050 targets, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. In its *Climate Change Scoping Plan*, CARB acknowledged that the "measures needed to meet the 2050 goal are too far in the future to define in detail."¹⁰¹ In the First Update, however, 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."¹⁰² Due to the technological shifts required and the unknown parameters of the regulatory framework in 2030 and 2050, quantitatively analyzing the Project's impacts further relative to the 2030 and 2050 goals currently is speculative for purposes of CEQA. Moreover, CARB has not calculated and released the BAU emissions projections for 2030 or 2050, which are necessary data points for quantitatively analyzing a CEQA Project's consistency with these targets.

Although the Project's emissions levels in 2030 and 2050 cannot yet be reliably quantified, 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 First Update are implemented, and other technological innovations occur. Stated differently, the Project's emissions total at build-out 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 be consistent with the Executive Orders' goals.

The Climate Change Scoping Plan recognizes that AB 32 establishes an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the state on a path to meet the long-term 2050 goal of reducing California's greenhouse gas emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate."¹⁰³ Also, CARB's First Update provides that it "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent

¹⁰¹ CARB, *Climate Change Scoping Plan*, p. 117, December 2008.

¹⁰² CARB, *First Update*, p. 32, May 2014.

¹⁰³ CARB, *Climate Change Proposed Scoping Plan*, p. 15, October 2008

below 1990 levels by 2050,” and many of the emission reduction strategies recommended by CARB would serve to reduce the Project’s post-2020 emissions level to the extent applicable by law:^{104,105}

- **Energy Sector:** Continued improvements in California’s appliance and building energy efficiency programs and initiatives, such as the State’s zero net energy building goals, would serve to reduce the Project’s emissions level.¹⁰⁶ Additionally, further additions to California’s renewable resource portfolio would favorably influence the Project’s emissions level.¹⁰⁷
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the Project’s emissions level.¹⁰⁸
- **Water Sector:** The Project’s emissions level will be reduced as a result of further enhancements to water conservation technologies.¹⁰⁹
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the Project’s emissions level.¹¹⁰

While the 2020 cap would remain in effect post-2020,¹¹¹ the Cap-and-Trade Program is not currently scheduled to extend beyond 2020 in terms of additional GHG emissions reductions. However, CARB has expressed its intention to extend the Cap-and-Trade Program beyond 2020 in conjunction with setting a mid-term target. The “recommended action” in the First Update to the Climate Change Scoping Plan for the Cap-and-Trade Program is: “Develop a plan for a post-2020 Cap-and-Trade Program, including cost containment, to provide market certainty and address a mid-term emissions target.”¹¹² The “expected completion date” for this recommended action is 2017.¹¹³

In addition to CARB’s First Update, in January 2015, during his inaugural address, Governor Jerry Brown expressed a commitment to achieve “three ambitious goals” that he would like to see accomplished by 2030 to reduce the State’s GHG emissions: (1) increasing the State’s Renewables Portfolio Standard from 33 percent in 2020 to 50 percent in 2030; (2) cutting the petroleum use in cars and trucks in half; and (3) doubling the efficiency of existing buildings and making heating fuels cleaner.¹¹⁴ These expressions of

¹⁰⁴ CARB, *First Update*, p. 4, May 2014. See also *id.* at pp. 32–33 [recent studies show that achieving the 2050 goal will require that the “electricity sector will have to be essentially zero carbon; and that electricity or hydrogen will have to power much of the transportation sector, including almost all passenger vehicles.”]

¹⁰⁵ *Id.* at Table 6: *Summary of Recommended Actions by Sector*, pp. 94–99, May 2014.

¹⁰⁶ *Id.* at pp. 37–39, 85, May 2014.

¹⁰⁷ *Id.* at pp. 40–41, May 2014.

¹⁰⁸ *Id.* at pp. 55–56, May 2014.

¹⁰⁹ CARB, *First Update*, p. 65, May 2014.

¹¹⁰ *Id.* at p. 69, May 2014.

¹¹¹ California Health & Safety Code § 38551(a) (“The statewide greenhouse gas emissions limit shall remain in effect unless otherwise amended or repealed.”).

¹¹² CARB, *First Update*, p. 98 (May 2014).

¹¹³ *Ibid.*

¹¹⁴ Los Angeles Times, *Transcript: Governor Jerry Brown’s January 5, 2015, Inaugural Address*, <http://www.latimes.com/local/political/la-me-pc-brown-speech-text-20150105-story.html>. Accessed March 2, 2015.

Executive Branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change. As discussed previously, the Governor has already signed into law SB 350 (Chapter 547, Statutes of 2015), which increased the Renewables Portfolio Standard to 50 percent by 2030 and included interim targets of 40 percent by 2024 and 45 percent by 2027.

Further, recent studies shows that the State's existing and proposed regulatory framework can allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, 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 study could allow the State to meet the 2030 and 2050 targets.¹¹⁵

For the reasons described above, the Project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the establishment of the 2030 and 2050 targets. Therefore, as the Project would be consistent with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions, impacts regarding greenhouse gas reduction plans would be less than significant.

e. Cumulative Impacts

The emissions of a single project will not cause or exacerbate global climate change. It is possible that a substantial increase in GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs from even relatively small (on a global basis) increases in GHG emissions. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and therefore significant. A cumulatively considerable impact is the impact of a proposed project in addition to the related projects. However, in the case of global climate change, the proximity of the project to other GHG-generating activities is not directly relevant to the determination of a cumulative impact. Although the State requires Metropolitan Planning Organizations and other planning agencies to consider how region-wide planning decisions can impact global climate change, there is currently no established non-speculative method to assess the cumulative impact of proposed independent private-party development projects.

Although AB 32 sets a statewide target for 2020 GHG emissions, the implementing tools of the law (e.g., CARB's *Climate Change Scoping Plan*) are clear that the reductions are not expected to occur uniformly from all sources or sectors. CARB has set targets specific to the transportation sector (land use-related

¹¹⁵ *Energy and Environmental Economics (E3), "Summary of the California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios" (April 2015); Greenblatt, Jeffrey, Energy Policy, "Modeling California Impacts on Greenhouse Gas Emissions" (Vol. 78, pp. 158-172). The California Air Resources Board, California Energy Commission, 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.*

transportation emissions), for example, and under SB 375 SCAG must incorporate these GHG-reduction goals into the Regional Transportation Plan and demonstrate that its Sustainable Communities Strategy or Alternative Planning Strategy is consistent with the Regional Housing Needs Assessment. One of the goals of this process is to ensure that the efforts of State, regional and local planning agencies accommodate the contemporaneous increase in population and employment with a decrease in overall GHG emissions. For example, adopting zoning designations that reduce density in areas which are expected to experience growth in population and housing needs, is seen as inconsistent with anti-sprawl goals of sustainable planning. Although development under a reduced density scenario results in lower GHG emissions from the use of that land compared to what is currently or hypothetically allowed (by creating fewer units and fewer attributable vehicle trips), total regional GHG emissions will likely fail to decrease at the desired rate or, worse, increase if regional housing and employment needs of an area are met with a larger number of less-intensive development projects. Therefore, it is not simply a cumulative increase in regional development or the resultant GHG emissions that threatens GHG reduction goals.

The land use sector can accommodate growth and still be consistent with statewide plans to reduce GHG emissions. To that end, various agencies are required to develop programs to guide future building and transportation development towards minimized resource consumption and lowered resultant pollution. As discussed above, the City has adopted a Green Building Code that includes mandatory measures. However, the Green Building Code also includes voluntary options applicable to and chosen by each individual project developer, and their efficacy in reducing GHG emissions can vary. In addition, the emissions models used for project-level evaluations may not fully reflect improvements in technology and other reductions in GHG emissions that are likely to occur in the future pursuant to State regulations, such as future model year vehicle emission standards after 2025, as well as other future federal and/or State regulations. Therefore, it is not possible or meaningful to calculate emissions from each of the identified related projects and compare that with a numeric threshold or reduction target.

As discussed in Table 4.D-7, the Project would be consistent with applicable GHG reduction strategies recommended by the City and State. In addition, the Project would support and be consistent with relevant and applicable GHG emission reduction strategies in SCAG's Sustainable Communities Strategy. These strategies include providing residences, including retail uses in an urban infill location and within a relatively short distance of existing transit stops; providing employment near current transit stops and neighborhood commercial centers; and supporting alternative and electric vehicles via the installation of on-site electric vehicle charging stations. As a result, the Project would be consistent with the State's goals. Furthermore, the overwhelming majority of the Project-related GHG emissions are from source sectors that include electricity generated in-state or imported and the combustion of transportation fuels. These sectors are already covered entities under the Cap-and-Trade Program and as such would be reduced sector-wide in accordance with the goals of AB 32, in addition to the previously discussed GHG emissions reductions from the Project-specific energy efficiency design features, and VMT-reducing characteristics. Given that the Project would generate GHG emissions consistent with applicable reduction plans and policies that therefore are less than significant, and given that GHG emission impacts are cumulative in nature, the Project's incremental contribution to cumulatively significant GHG emissions would be less than cumulatively considerable, and impacts would be less than significant.

4. MITIGATION MEASURES

The Project would not result in significant impacts associated with GHG emissions. Therefore, no mitigation measures would be required.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Not applicable. Impacts related to Project GHG emissions would be less than significant.