3.15 Energy

This chapter describes the existing energy resources that serve the proposed Project (Project) area, including the supply and demand of electrical service and availability, and consumption of transportation fuels, and the impacts on those resources that could occur due to the Project (see Chapter 2, *Project Description*). The Project would not result in the consumption of any natural gas for construction or operation. Therefore, natural gas is not discussed further in this chapter.

3.15.1 Regulatory Setting

3.15.1.1 Federal

There are no federal regulations that apply to the Project.

3.15.1.2 State

California Environmental Quality Act, Appendix F, Energy Conservation

The California Environmental Quality Act (CEQA) Guidelines Appendix F, Energy Conservation, requires EIRs to include a discussion of potential energy impacts and energy conservation measures. Appendix F places "particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy," and notes that significant energy impacts should be "considered in an EIR to the extent relevant and applicable to the project."

Senate Bill 1078

In 2002, Senate Bill (SB) 1078 (Public Utilities Code, Chapter 2.3, Sections 387, 390.1, and 399.25) implemented a California Renewable Portfolio Standard, which established a goal that 20 percent of the energy sold to customers be generated by renewable resources by 2017. The goal was accelerated in 2006 under SB 107 and expanded in 2011 under SB 2, which requires electric service providers and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

Senate Bill 1389, Chapter 568, Statutes of 2002

The California Energy Commission (CEC) is responsible for, among other things, forecasting future energy needs for the state and developing renewable energy resources and alternative renewable energy technologies for buildings, industry, and transportation. SB 1389 (Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report, assessing major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors. The report is also intended to provide policy recommendations to conserve resources, protect the environment, and ensure reliable, secure, and diverse energy supplies. The 2015 *Integrated Energy Policy Report*, required under SB 1389, was released to the public in February 2016.

Assembly Bill 2076, Reducing Dependence on Petroleum

The CEC and California Air Resources Board (CARB) are directed by Assembly Bill (AB) 2076 (passed in 2000) to develop and adopt recommendations for reducing dependence on petroleum. A performance-based goal is to reduce petroleum demand to 15 percent less than 2003 demand by 2020.

Senate Bill 375—Sustainable Communities Strategy

SB 375 was adopted with a goal of reducing greenhouse gas (GHG) emissions from cars and light trucks. Each metropolitan planning organization (MPO) across California is required to develop a sustainable communities strategy (SCS) as part of its regional transportation plan (RTP) to meet the region's GHG emissions reduction target. The 2016–2040 RTP/SCS prepared by the Southern California Association of Governments (SCAG) includes commitments to reduce emissions from transportation sources to comply with SB 375. Please refer to Chapter 3.6, *Greenhouse Gas Emissions*, for additional information on SB 375.

3.15.1.3 Local

The City of Los Angeles (City) General Plan Framework Element, Chapter 9, *Infrastructure and Public Services*, contains the following goals and policies relevant to the Project:

Goal 9M

A supply of electricity that is adequate to meet the needs of Los Angeles Department of Water and Power electric customers located within Los Angeles.

Objective 9.26

Monitor and forecast the electricity power needs of Los Angeles' residents, industries, and businesses.

Policy 9.26.1

The Los Angeles Department of Water and Power (LADWP) shall continue to monitor and forecast its customers' peak load on its system and identify which parts of the system should be upgraded to accommodate expected growth.

Objective 9.27

Continue to ensure that all electric power customers will receive a dependable supply of electricity at competitive rates.

Policy 9.27.1

The LADWP shall continue to generate or purchase electric power to serve its customers.

Objective 9.28

Provide adequate power supply transmission and distribution facilities to accommodate existing uses and projected growth.

Policy 9.28.1

The LADWP shall continue to plan its power supply capability far enough in advance to ensure that it has available capacity to meet customer demand before it is needed.

Policy 9.28.2

The LADWP shall continue to ensure that the City's transmission and distribution system is able to accommodate future peak electric demand for its customers.

Policy 9.28.3

The LADWP shall continue to advise the Planning and Building and Safety Departments of any construction project that would overload a part of the distribution system during a period of peak demand.

Objective 9.29

Provide electricity in a manner that demonstrates a commitment to environmental principals, ensures maximum customer value, and is consistent with industry standards.

Policy 9.29.1

Develop and deliver services to attract, assist, and retain industries and businesses in Los Angeles.

Policy 9.29.2

Promote the responsible use of natural resources, consistent with City environmental policies.

3.15.2 Environmental Setting

3.15.2.1 Electricity

Existing power and electrical services to Project area are provided by the LADWP, which supplies more than 26 million megawatt hours (MWh) of electricity per year for its 1.4 million residential and business customers (Los Angeles Department of Water and Power 2018). As of 2016, LADWP has more than 7,880 MWh of generation capacity. It is responsible for the maintenance of approximately 10,000 miles of overhead distribution lines and underground distribution cables and 15,452 transmission towers. They also maintain 160 distributing stations, 21 receiving stations, and over 50,000 substructures. Of LADWP's total power resources, about 29 percent are from renewable sources, 34 percent from natural gas, 9 percent from nuclear, and 19 percent from coal. About 70 percent of the electricity in the City is consumed by business and industry, with the remaining 30 percent of residents averaging about 500 kilowatt hours of usage per month.

LADWP also prepares energy forecasts as a part of their Power Integrated Resource Plan (PIRP). LADWP's Load Forecast incorporates updates to reflect the latest load forecast, fuel price and projected renewable price forecasts, and other numerous modeling assumptions. The most recent PIRP from 2016 projects out to Fiscal Year 2039/40. The growth in annual peak demand over the next 10 years is predicted to be about 0.9 percent, approximately 50 megawatts (MW) per year. A summary table of the projected net energy demand for its service area through 2040 are shown in Table 3.15-1.

Table 3.15-1. LADWP Projected Energy Demand through 2040

Demand Forecast	Year		
	2020	2030	2040
Yearly Demand	23,098 GW[a]	27,170 GW	31,301 GW
Peak Daily Demand	5,707 MW	6,507 MW	7,321 MW

Source: Los Angeles Department of Water and Power Integrated Resources Plan, 2016.
[a.] 1 gigawatt (GW) = 1000 MW.

California has a diverse portfolio of energy resources. The state ranked fourth in the nation in conventional hydroelectric generation and first in the nation for net electricity generation from renewable resources. Other energy sources in the state include natural gas, nuclear, and biofuels (U.S. Energy Information Administration 2017).

Energy efficiency efforts have dramatically reduced statewide per capita energy consumption relative to historical averages. According to the U.S. Energy Information Administration, California consumed approximately 7,830 trillion British thermal units (BTUs) of energy in 2016. Per capita energy consumption (i.e., total energy consumption divided by the population) in California is amongst the lowest in the country, with 199 million BTUs in 2016, ranking California 48th among all states in the country. Natural gas accounted for the majority of energy consumption (32 percent), followed by gasoline (22 percent), distillates and jet fuel (14 percent), interstate electricity (11 percent), nuclear and hydroelectric power (6 percent), and a variety of other sources (U.S. Energy Information Administration 2017). The transportation sector consumed the most energy (38.5 percent), followed by the industrial and commercial sectors (California Energy Commission 2016a).

California's per capita energy consumption, in general, is declining because of improvements in energy efficiency and designs. However, despite this reduction in per capita energy use, the state's overall (i.e., non-per capita) energy consumption is expected to increase over the next several decades because of growth in the population, jobs, and demand for vehicle travel. Electricity usage is anticipated to grow about 26 percent over the next two decades, and diesel fuel consumption may increase by 35 percent to 42 percent over that same time period. Gasoline usage, however, is expected to decrease by 8.5 percent to 11.3 percent. This decrease would largely be a result of high fuel prices, efficiency gains, and competing fuel technologies (California Energy Commission 2016a).

Locally, LADWP is committed to a renewable energy policy that seeks to supply 100 percent renewable energy by 2045 to the utility's customers. LADWP has a diverse power production portfolio, which consists of a variety of renewable and non-renewable sources. As of 2017, LADWP received 30 percent of its power from renewable sources, primarily wind and biomass/waste. Energy production from hydroelectric source (2 percent of LADWP's mix) typically varies by season and by year, depending on hydrologic conditions. Regional electricity loads also tend to be higher in the summer because high summer temperatures drive increased demand for air-conditioning. Los Angeles County consumes a relatively large portion of the state's overall energy. LADWP's electricity consumption is approximately 8.8 percent of the statewide total (California Energy Commission 2016).

The "urban heat island effect" also contributes to the amount of energy consumed in the City. The United States Environmental Protection Agency (U.S. EPA) provides the following definition of "heat island" and describes how it impacts energy:

> "The term 'heat island' describes built up areas that are hotter than nearby rural areas. The annual mean air temperature of a City with 1 million people or more can be 1.8°F to 5.4°F (1°C to 3°C) warmer than its surroundings. In the evening, the difference can be as high as 22°F (12°C). Heat islands can affect communities by increasing summertime peak energy demand, air conditioning costs, air pollution and greenhouse gas emissions, heat-related illness and mortality, and water quality" (United States Environmental Protection Agency 2018a).

As described above, the urban heat island effect contributes to energy demand due to increases in the use of air conditioning during warmer weather. According to *Energy-Saving Potentials and Air Quality Benefits of Urban Heat Island Mitigation*, an urban heat island report cited by the U.S. EPA, electricity demand for cooling increases 1.5 to 2.0 percent for every 1° Fahrenheit (F) increase in air temperatures, starting from 68°F to 77°F, suggesting that 5 to 10 percent of community-wide demand for electricity is used to compensate for the heat island effect (Akbari 2005). During extreme heat events, which are exacerbated by urban heat islands, the resulting demand for cooling can overload electric systems and require a utility to institute controlled, rolling brownouts or blackouts to avoid power outages.

The urban heat island effect is relevant to the Project because the street trees help reduce the urban heat island effect. Trees and vegetation lower surface and air temperatures by providing shade and through evapotranspiration, which is the process by which water is transferred from the land to the atmosphere by evaporation from plants. Shaded surfaces, for example, may be 20°F to 45°F cooler than the peak temperatures of unshaded materials. Evapotranspiration, alone or in combination with shading, can help reduce peak summer temperatures by 2°F to 9°F (U.S. Environmental Protection Agency 2018c). A simple way to cool cities is to plant urban vegetation. On a large scale, the evapotranspiration from vegetation will cool a community a few degrees in the summer. The 2005 Akbari study stated that computer simulations for Los Angeles show that planting three trees per house can cool down the City by an average of 2°F to 3°F. The City is implementing an alternative materials pilot program that began in late 2017 to evaluate the effectiveness of cool pavement technologies and inform future decisions related to reducing the urban heat island effect throughout the City (City 2018). See Chapter 3.9, *Land Use and Planning*, for additional information on alternative materials. Also, see Chapter 3.6, *Greenhouse Gas Emissions*, for additional discussion of the urban heat island effect.

3.15.2.2 Transportation Fuels

In California, the transportation sector is the state's largest energy-consumer, due to high demand from California's many motorists, major airports, and military bases. The majority of transportation energy is currently derived from a wide variety of petroleum products. Automobiles and trucks consume gasoline and diesel fuel. The transportation sector consumes relatively minor amounts of natural gas or electricity, but propelled mainly by air quality laws and regulations, technological innovations in transportation are expected to increasingly rely on compressed natural gas and electricity as energy sources. Energy consumption by on-road motor vehicles reflects the types and numbers of vehicles, the extent of their use (typically described in terms of vehicle miles traveled [VMT]), and their fuel economy (typically described in terms of miles per gallon [mpg]).

Though California's population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.8 billion gallons in 2017 to between 12.3 and 12.7 billion gallons in 2030, a reduction of 20 to 22 percent (California Energy Commission 2017). This decline is due to both increasing vehicle electrification and higher fuel economy for new gasoline vehicles (United States Environmental Protection Agency 2018b).

3.15.3 Environmental Impact Analysis

3.15.3.1 Approach

The energy analysis for the Project evaluated the following sources of energy consumption associated with the project:

- Short-term construction—gasoline and diesel consumed by vehicles and construction equipment.
- Operational on-road vehicles—BTUs associated with gasoline and diesel consumed by watering and inspection vehicles.
- Increased demand for power, heating, and cooling—electricity consumed as a result of the urban heat island effect.

The CEQA Guidelines, Appendix F, Energy Conservation, state that EIRs are required to include a discussion of the potential energy impacts of projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. California is the most populous state in the nation and its total energy demand is second only to Texas (United States Energy Information Administration 2012).

Continuation of the construction and operational maintenance activities from the Project would result in energy consumption through gasoline and diesel fuel use. Annual transportation fuel consumption during the operational activities of the Project was quantified by totaling the estimated gasoline required for maintenance of the sidewalk repair sites. Electricity would not be consumed for either construction or operation/maintenance activities. Removal of street trees could result in increased cooling costs from a temporary loss of the street tree canopy until no net loss in the street tree canopy is achieved (see Chapter 3.3 *Biological Resources*). It is important to note that street trees are expected to be replaced at a 2:1 ratio for the first 10 years, at a 3:1 ratio for years 11 to 21, and a 2:1 ratio for the last 9 years of the Project. Hence, there is a gain in canopy size that would occur. Annual electricity consumption required for the Project as a result of the loss of the street tree canopy cannot be quantified because of the variable nature of street tree growth, but it is qualitatively evaluated by describing the estimated period of net loss in the street tree canopy and discussing potential associated increase in cooling costs in Section 3.15.3.4, *Construction Impacts*. The estimated period of net gain in the street tree canopy and the potential associated beneficial decrease in cooling costs are also described. For consumption of transportation fuels, analysts combined the estimated gasoline and diesel fuel use associated with the use of construction equipment, haul trucks, and vehicles used for worker commutes.

The estimated amount of transportation fuel consumed under the Project is based on air quality assumptions and associated projections provided in Chapter 3.2*, Air Quality,*[1] which provides estimates both in the form of gallons of transportation fuel consumed per year and pounds (or kilograms) of carbon dioxide emitted per year. For the purpose of energy analysis, estimates provided in gallons of gasoline consumed per year were used directly. Estimates provided in pounds of carbon dioxide per year were converted into gallons of transportation fuel per year by using a factor of 22.5 pounds of carbon dioxide per gallon of diesel fuel and 19.4 pounds of carbon dioxide per gallon of gasoline (The Climate Registry 2017). Appendix L*, Energy Calculations,* of this document provides the detailed data assumptions and calculations used to determine the total estimated amount of energy consumed during construction and operation of the Project. Furthermore, because construction and operation of the Project would occur simultaneously and be ongoing over its lifetime, the Project's potential impacts on energy consumption are also assessed by including aggregate estimates that consider the demand/consumption associated with both construction (for both scenarios) and operation. This approach provides overall consumption estimates (for the lifetime of the Project) for transportation fuels; there would be no consumption of electricity during construction and, therefore, only transportation fuels are considered on an aggregate basis.

3.15.3.2 Project Design Features

No project design features associated with energy resources are anticipated.

3.15.3.3 Thresholds of Significance

The following significance criteria discussion is based on Appendix G of the CEQA Guidelines and City-specific guidelines, including the City's 2006 *L.A. CEQA Thresholds Guide*, and provide the basis for determining significance of impacts associated with energy impacts resulting from the Project. The determination of whether an energy impact would be significant is based on the professional judgment of the City as Lead Agency supported by the recommendations of qualified personnel at ICF and relies on the substantial evidence in the administrative record.

For energy impacts, the Appendix G sample questions ask the following:

VI.a) Would the project result in potentially significant environment impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

VI.b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As discussed in Section 3.8.1, *Regulatory Setting*, energy legislation, policies, and standards adopted by California and local governments were enacted and promulgated for the purpose of reducing energy consumption and improving efficiency (i.e., reducing the wasteful and inefficient use of energy). Therefore, for the purposes of this analysis, *wasteful*, *inefficient*, or *unnecessary* are defined as circumstances in which the Project would conflict with applicable state or local energy legislation, policies, and standards or result in increased per capita energy consumption. Accordingly, inconsistency with legislation, policies, or standards designed to avoid wasteful, inefficient, and

[1] See Chapter 3.2*, Air Quality* for a detailed description of the approach used to create the assumptions and associated projections of carbon dioxide emissions and fuel consumption associated with the Project that inform the fuel consumption estimates used herein.

unnecessary energy usage, as well as increased per capita energy consumption relative to the current citywide average, is used to evaluate whether the Project would result in a significant impact related to energy resources and conservation.

In addition, Appendix F of the CEQA Guidelines states that the means for achieving the goal of energy conservation include the following:

1. Decreasing overall per capita energy consumption.
2. Decreasing reliance on fossil fuels such as coal, natural gas, and oil.
3. Increasing reliance on renewable energy sources.

The *L.A. CEQA Thresholds Guide* provides further guidance for determining the significance of impacts on energy. Based on the *L.A. CEQA Thresholds Guide*, a determination of impacts on energy would be made by considering the following factors:

- The extent to which the project would require new (off-site) energy supply facilities and distribution infrastructure or capacity-enhancing alterations to existing facilities.
- Whether and when the needed infrastructure was anticipated by adopted plans.
- The degree to which the project designs and/or operations incorporate energy conservation measures, particularly those that go beyond City requirements.

Therefore, for the purposes of this Draft EIR, and consistent with Appendix F and Appendix G of the CEQA Guidelines, as well as the *L.A. CEQA Thresholds Guide*, the Project would have a significant environmental impact on energy resources if the following were to occur:

- **EN-1:** Would the proposed Project result in the wasteful, inefficient, or unnecessary consumption of energy? *Appendix G of the CEQA Guidelines* and the *L.A. CEQA Thresholds Guide*.

3.15.3.4 Construction Impacts

EN-1. Would the proposed Project result in the wasteful, inefficient, or unnecessary consumption of energy?

This impact would be less than significant during construction.

Electricity Consumption

Construction activities under the Project would not require the consumption of electricity. Although electric compressors and concrete vibrators would be used for sidewalk repair, a diesel-powered generator would produce the electricity required to operate these pieces of equipment.

While construction activities under the Project would not require direct consumption of electricity, the required removal of street trees under the Project could indirectly increase electricity consumption due to the urban heat island effect. As described in Section 3.15.2.1, *Electricity*, an urban heat island describes developed areas that are hotter than rural areas. The majority of the City is highly developed, such as the neighborhoods of Koreatown, Echo Park, and Westlake. One contributor to the urban heat island heat is denuded landscape. The Project would result in the removal of up to 12,860 street trees over the lifespan of the Project, but would plant up to 30,405 street trees, resulting in an overall net gain of 128 acres in the street tree canopy beginning in year 30 of the Project and continuing beyond year 30. In each 5-year construction increment, more street trees would be planted than removed; however, if the street trees removed are mature, there would be a short-term loss of street tree canopy until the replacement street trees reach maturity. At the site of each individual street tree removal, the replacement street tree will reach maturity in 15 years, as noted in Chapter 3.3, *Biological Resources*. With the replacement of street trees at either a 2:1 or 3:1 ratio under the Project, the replacement street trees will result in a localized increase in the street canopy after maturity. Therefore, the Project could contribute to the Los Angeles urban heat island and increased temperatures in the City temporarily.

An energy utility's planning regarding the energy needs of its service territory relies on local and regional development plans. This dynamic process is subject to regulatory oversight by the Public Utility Commission (PUC). Every two years, through *Long-Term Procurement Plan* proceedings, the PUC assesses the system and local resource needs of the state's three investor-owned utilities over a 10-year horizon.[2] The PUC establishes upfront standards for utility procurement and cost recovery by reviewing and approving proposed procurement plans prior to their implementation. Integral to this process is the utility demand forecast, which is subject to review by the CEC and used in its Integrated Energy Policy Report.[3] To ensure consistency with approved plans, the PUC conducts annual Energy Resource Recovery Account proceedings in which energy forecasts are refined. This continual planning process ensures that the local energy requirements for a region, both current and planned, will be accommodated by the local utility. Consequently, it is anticipated that the Project would not have a detrimental effect on local and regional energy supplies or requirements for additional capacity.

In addition, the Project would not impede the local utility's ability to meet the Project's peak- and base-period demand for electricity and other forms of energy. As described in Section 3.15.2.1, peak energy demand, including demand of electricity, increases as a result of increased temperatures. Therefore, the Project may indirectly contribute to a localized increase in electricity consumption until there is a no net loss in street tree canopy, which is anticipated by year 30 of the Project. The amount the Project would contribute to increased energy use for cooling is indeterminable due to the complexity of the urban heat island effect and the many factors that contribute to it. It is unlikely that this increased electricity demand would be large enough to affect local and regional electricity supplies so that additional capacity or infrastructure would be required to meet increased demand. When the City experiences a net gain in street tree canopy by year 30, the effect on the urban heat island would decrease. The gain in canopy size would contribute to reduced electricity costs for cooling Citywide over the long term. The Project would not result in the wasteful, inefficient, or unnecessary consumption of energy. There would be a less-than-significant impact related to electricity consumption.

Transportation Fuel Consumption

During the construction scenarios, the following activities would require the consumption of transportation fuel: use of heavy-duty construction equipment; worker trips to and from construction sites; material delivery and disposal trips; and loading demolition debris into trucks.

[2] The PUC issues key Long-Term Procurement Plan decisions on planning assumptions and scenarios.

[3] Pursuant to law (SB 1389, Bowen and Sher, Chapter 568, Statutes of 2002), the California Energy Commission is required to assess and forecast all aspects of energy supply, production, transportation, delivery and distribution, demand, and prices. The California Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety (Public Resources Code Section 25301(a)).

The anticipated consumption of transportation fuel required for the continuing construction activities from the Project is approximately 148,705 gallons of transportation fuel (gasoline and diesel) per year during peak construction activity, as shown in Appendix L, *Energy Calculations*. This would total approximately 3.3 million gallons, or 418,456 BTUs, of transportation fuel for construction over the 30-year lifetime of the Project. As stated in Section 3.15.2.3, the California Energy Commission estimates that the overall consumption of transportation fuel in California was 15.8 billion gallons in 2017 and would be between 12.3 and 12.7 billion gallons by 2030. The City would use a fleet of fuel-efficient vehicles for all work that would be required under the Project, which would reduce the demand for transportation fuels. Therefore, the Project would not result in a wasteful, inefficient, and unnecessary usage of energy; result in a substantial increase in energy demand that would affect local or regional energy supplies; or require additional capacity or infrastructure to meet an increased demand. As a result, transportation fuel impacts would be less than significant.

Mitigation Measures

No mitigation is required for construction impacts.

3.15.3.5 Operational Impacts

The continuation of operational activities from the Project would include sidewalk inspection and street tree monitoring and watering with a hose that is attached to a water tank on a pick-up truck. During construction activities, the street trees would have been planted in a 4- by 6-foot street tree well, per the proposed Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program. As discussed Chapter 2, *Project Description*, the street trees will be manually watered 33 times annually. For the times when manual watering is not feasible, two 15-gallon water bags would be placed in the street tree well for the new street trees until the next scheduled manual watering. Other than routine watering and inspection, there are no additional operations associated with the Project. As a result of the proposed Revised Street Tree Retention, Removal and Replacement Policy for the Sidewalk Repair Program, there would be an increase in the number of street trees from the baseline count of 711,248 to 728,793 and an approximate 0.72 percent net increase of the street tree canopy cover.

EN-1. Would the proposed Project result in the wasteful, inefficient, or unnecessary consumption of energy?

This impact would be less than significant during operation.

Electricity Consumption

Operational activities from the Project include watering and inspecting the street trees that are newly planted during sidewalk repair and the only energy used would be in the form of transportation fuel would be used. Impacts associated with potential increased costs are discussed in Section 3.15.3.4, *Construction Impacts*. As noted, the Project would result in the removal of up to 12,860 street trees over the 30-year lifespan of the Project, but would plant up to 30,405 street trees, resulting in an overall net gain of approximately 128 acres in the street tree canopy beginning in year 30 of the Project and continuing beyond year 30. Therefore, in the long term, the Project would contribute to reducing citywide temperatures and electricity consumption.

Transportation Fuel Consumption

Other vehicles used for street tree watering and inspections could result in the consumption of gasoline and/or diesel fuel. The anticipated consumption of transportation fuel during operational activities from the Project is approximately 10,623 gallons of transportation fuel per year, as shown in Appendix L, *Energy Calculations*. This would total approximately 318,690 gallons of transportation fuel, or approximately 41,280 BTUs, for operation over the 30-year lifetime of the Project. As stated in Section 3.15.2.3, the California Energy Commission estimates that the overall consumption of transportation fuel in California was 15.8 billion gallons in 2017 and between 12.3 and 12.7 billion gallons by 2030. The City would use a fleet of fuel-efficient vehicles for all work that would be required under the Project. As a result, transportation fuel impacts during the operational activities from the Project would be less than significant.

Therefore, the Project would not result in the wasteful, inefficient, and unnecessary usage of energy or a substantial increase in energy demand that would affect local or regional energy supplies.

Mitigation Measures

No mitigation measures related to operational activities are required.

3.15.3.6 Summary of Combined Construction and Operational Impacts

Construction and operation would occur over the lifetime of the Project simultaneously at various times and locations. Table 3.15-2 provides a summary of the potential impacts of the Project regarding the consumption of transportation fuels on an aggregate basis, combining the effects of both construction and operation. Based on the analysis in the chart, combined construction and operational impacts from the Project would be less than significant.

Mitigation Measures

No mitigation measures related to combined construction and operational impacts are required.

3.15.4 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts related to energy would occur.

Table 3.15-2. Summary of Construction plus Operations Impacts

Threshold of Significance	Construction Scenarios 1 and 2	Operation	Aggregate Impacts
EN-1. Would the proposed Project result in the wasteful, inefficient, or unnecessary consumption of energy?	Construction Scenarios 1 and 2 would result in the consumption of 148,705 gallons of transportation fuel (gasoline and diesel) per year, approximately 3.3 million gallons of transportation fuel over the lifetime of the Project. The City would use a fleet of fuel-efficient vehicles that would not result in an inefficient or wasteful use of fuel resources or a substantial increase in energy demand that would affect local or regional energy supplies.	Operational activities would result in the consumption of 10,623 gallons of transportation fuel per year, 318,690 gallons of transportation fuel over the 30-year lifetime of the Project. The City would use a fleet of fuel-efficient vehicles that would not result in an inefficient or wasteful use of fuel resources or a substantial increase in energy demand that would affect local or regional energy supplies.	Construction and operation would result in consumption of a total of 159,328 gallons of transportation fuel per year, 3.7 million gallons over the 30-year lifetime of the Project. The City would use a fleet of fuel-efficient vehicles that would not result in an inefficient or wasteful use of fuel resources or a substantial increase in energy demand that would affect local or regional energy supplies. The impact would be less than significant.

Source: ICF 2019.