

## Technical Memorandum

**To:** Lauren Rhodes and Jan Green Rebstock, Environmental Management Group, Bureau of Engineering, Department of Public Works, City of Los Angeles; Kari Derderian and Clare Lahey, Bureau of Transit Services, Los Angeles Department of Transportation, City of Los Angeles

**From:** Anders Sutherland, Senior Environmental Scientist  
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**Date:** July 28, 2022

**Re:** Los Angeles Department of Transportation Electric Bus Maintenance Facility – Greenhouse Gas Emissions Impact Assessment

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### 1.0 PURPOSE AND ORGANIZATION OF THIS MEMO

The purpose of this memorandum is to document the results of the Greenhouse Gas (GHG) Emissions analysis of the potential environmental impacts associated with construction and operation of the proposed Electric Bus Maintenance Facility (EBMF or proposed project) in south Los Angeles. This study is conducted in support of the Initial Study to be prepared in compliance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines and the Environmental Assessment to be prepared in compliance with the National Environmental Policy Act (NEPA).

### 2.0 PROJECT DESCRIPTION

#### 2.1 Project Location and Setting

The City of Los Angeles (the City) is proposing to construct an EBMF on a 5.5-acre land located at 740 and 800 East 111<sup>th</sup> Place in South Los Angeles (Assessor's Parcel Numbers [APNs] 6071-022-009 and 6071-022-013). The project site is located on light industrial zoned land and has been recently utilized as a logistics warehouse for solar panels. The project site is situated within Council District 8's jurisdiction in the Southeast Los Angeles Community Planning Area of the City (Figures 1 and 2). The proposed project will be operated by the Los Angeles Department of Transportation (LADOT).

The project site is located between East 111<sup>th</sup> Place and East Lanzit Avenue, east of South Avalon Boulevard, and has a relatively flat topography. Small clusters of light-industry land uses can be found in the immediate vicinity of the project site, with adjacent land uses surrounding the project site comprised mostly of multi-family and single-family residences but also encompassing land supporting other activities, including commercial and community-oriented social services, such as education and health facilities. The area is largely urbanized and nearly built-out with little remaining

vacant land. There are no natural features or major land formations, surface water bodies, or waterways near the project site.

**Figure 1 Regional Map**

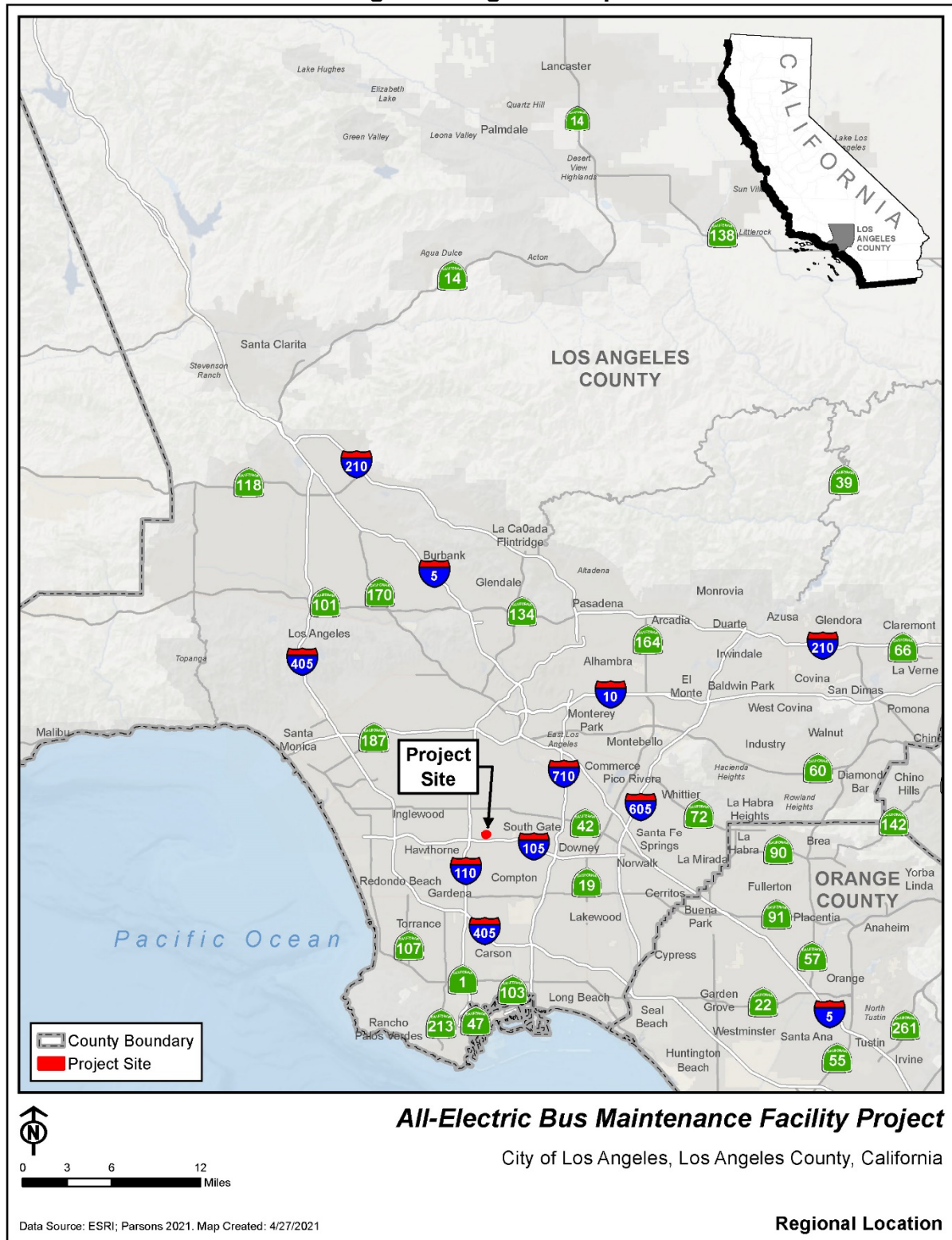
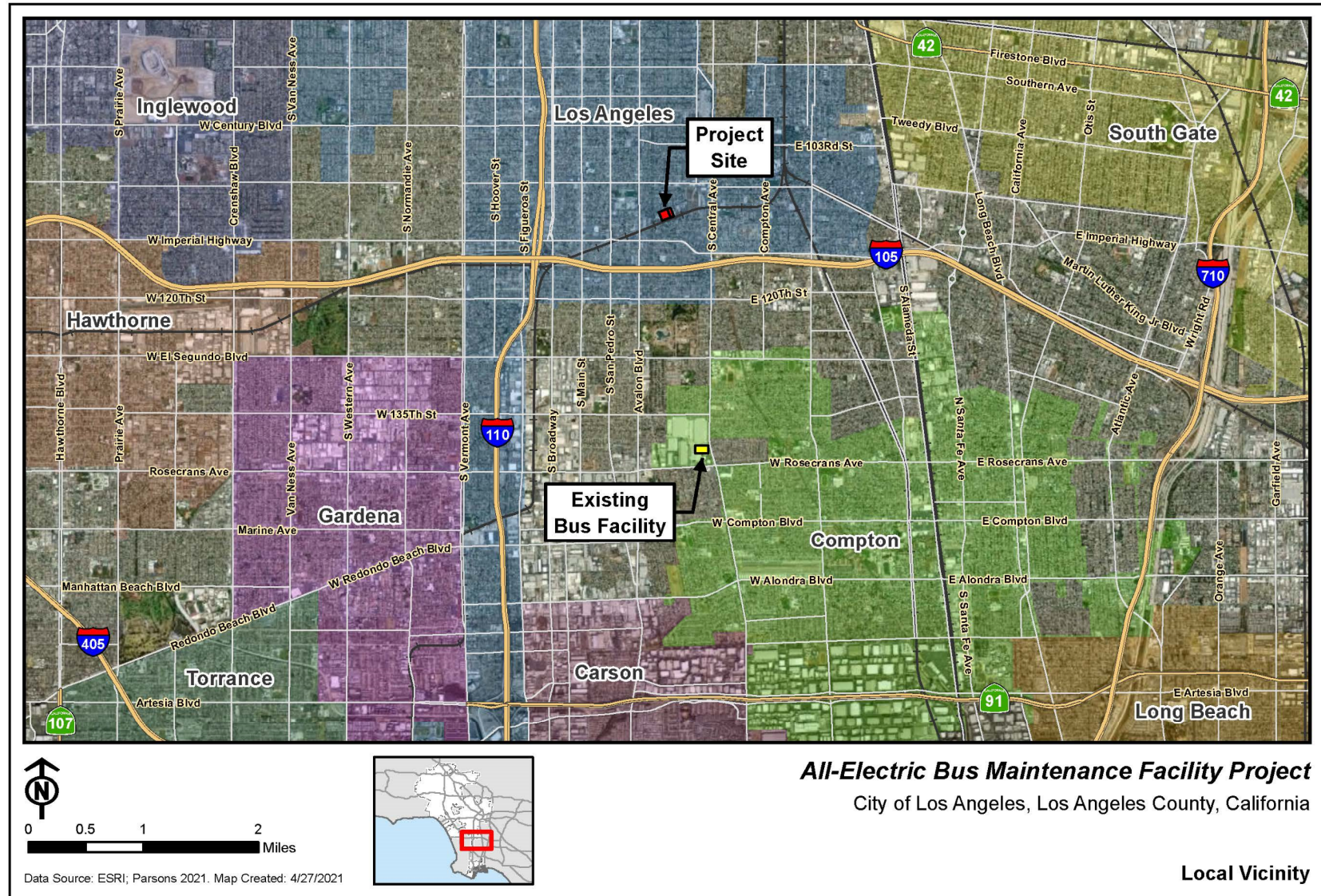




Figure 2 Project Location Map





The site is bounded by East 111<sup>th</sup> Place to the northwest, with single family residences across the street and by the Union Pacific Railroad (UPRR) tracks and Lanzit Avenue to the south, with single family residences beyond the tracks and street. Two buildings exist on the site: a 32,000-square-foot warehouse built in 1957 at the eastern section and a 118,800-square-foot warehouse built in 1956 at the central and western sections. The buildings sit back to back and the eastern and western ends of the site are paved as internal driveways and parking areas. The Animo James B. Taylor Charter Middle School is immediately to the east and the Kedren Health Community Center (which provides primary care, mental health care, and a Headstart/State preschool) is immediately to the west.

Access to the site is provided by two driveways off East 111<sup>th</sup> Place, a street that is designated as a local collector with one lane in each direction and allows daytime on-street parking on each side. The UPRR) rail line runs parallel to East Lanzit Avenue south of the project site. Imperial Highway and Interstate 105 (I-105) are located approximately three and seven blocks south of the project site, respectively.

Figure 3 presents an aerial view of the project site and its general vicinity.

**Figure 3 Aerial View of Project Site and its Immediate Vicinity**





## 2.2 Proposed Project Description

LADOT operates and maintains its existing bus fleet from its South Los Angeles Bus Maintenance Facility, located at 14011 South Central Avenue in Compton. This current facility is not owned by the City and is leased through LADOT's operations services contractor. The existing facility does not have sufficient capacity to accommodate the additional maintenance and storage requirements of the proposed transition to electric buses and expanded charging needs of an all-electric bus fleet.

LADOT proposes to build a bus maintenance facility at the project site to serve its future electric bus fleet. The proposed EBMF is planned as a modern maintenance facility to support a larger and cleaner zero-emissions bus fleet, consisting of 130 all-electric battery bus vehicles for the DASH and Commuter Express services provided by LADOT. The EBMF would be used to store and dispatch electric buses for daily service and would provide repair and maintenance services, parking, charging, and inspection functions. The proposed facility would eventually replace the existing LADOT bus maintenance facility located at 14011 South Central Avenue (approximately 2 miles south of the new facility).

After demolition of the existing buildings on the site, the City proposes to construct several buildings and structures, including a two-story operations building to provide dispatch and administrative functions, a maintenance building with 10 bus maintenance bays, a service building, a bus wash building, Battery-Electric Bus (BEB) parking/charging area, and a second-story parking deck for up to 360 employee/visitor vehicles, with the canopy above the parking deck topped with a 2,000-kilowatt photovoltaic (PV) system. Electrification equipment, including electrical transformers, switch cabinets, and bus chargers, is also proposed. Figures 4 and 5 present the site layouts for the proposed facility.

The EBMF would provide preventive maintenance inspections, BEB charging, light maintenance and repair, emergency maintenance, interior vehicle cleaning, and exterior vehicle washing. It would also accommodate administrative and operations functions and be used as a report base for bus operators. It would include space for employee parking, conference meeting rooms, operations and maintenance staff offices, dispatcher workstations, employee report and recreation rooms, and areas with lockers, showers, and restrooms for operations and maintenance personnel.

The proposed project facility would accommodate as many as 70 of the 30-foot-long DASH buses and 60 of the 45-foot-long Commuter Express buses, comprising a total of 130 BEBs that would be assigned to the new South Los Angeles EBMF. The facility would include surface parking and charging spaces for 130 BEBs in an area located east of the Maintenance Building. The BEBs running easterly from Avalon Boulevard would enter the site through the west entrance driveway on East 111<sup>th</sup> Place, check in with the onsite security guard, and proceed into the site to the southern section for service and washing. Otherwise, BEBs requiring repairs would park at the bus bays along the western section. Other BEBs may directly run in a counterclockwise direction and park at the central area for charging. The BEBs would leave the site through the east exit driveway and run westerly on East 111<sup>th</sup> Place to Avalon Boulevard. Vehicles driven by bus operators,

proposed project staff, other employees, and visitors would enter and exit through the center driveway that connects to a ramp leading to the second-level parking deck.

The construction schedule for the proposed project has not been determined. For environmental analysis purposes, it is assumed construction would be completed in 24 months following the final engineering design and bidding process in 2023. Any required remediation would be completed prior to the start of construction activities. Assuming no or limited remediation is necessary, project construction is tentatively scheduled to begin in mid-2024 and would be completed by mid-2026. Construction activities at the proposed project site would include mobilization and staging; building demolition; site clearing, grading and paving; new structure construction, equipment installation, and minor landscaping and finishing.

Approximately 312 employees would be working onsite, and the facility is planned to be open 24 hours per day, 7 days per week. Staff would be onsite on two or three shifts, which would be staggered depending on their work responsibilities.

### **3.0 GREENHOUSE GAS EMISSIONS CHARACTERISTICS**

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

#### **3.1 Greenhouse Gas Fundamentals**

GHGs are those compounds in Earth's atmosphere that play a critical role in determining Earth's surface temperature. 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. Carbon dioxide (CO<sub>2</sub>) is the most abundant GHG in Earth's atmosphere. Other GHGs are less abundant but have higher global warming potential than CO<sub>2</sub>. Thus, emissions of other GHGs are commonly quantified in the units of equivalent mass of carbon dioxide (CO<sub>2</sub>e). Global Warming Potential (GWP) is based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO<sub>2</sub>, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO<sub>2</sub>.

The larger the GWP, the more that a given gas warms the earth compared to CO<sub>2</sub> over that time period. 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. 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 and are shown in Table 1 for CO<sub>2</sub>, methane (CH<sub>4</sub>), and Nitrous Oxide (N<sub>2</sub>O).



**Table 1: Atmospheric Lifetimes and Global Warming Potentials**

<b>Greenhouse Gas</b>	<b>Atmospheric Lifetime (years)</b>	<b>Global Warming Potential (100-year time horizon)</b>
Carbon Dioxide (CO <sub>2</sub> )	50–200	1
Methane (CH <sub>4</sub> )	12 (+/-3)	25
Nitrous Oxide (N <sub>2</sub> O)	114	298
Source: IPCC, Climate Change 2007: <i>Working Group I: The Physical Science Basis, Direct Global Warming Potentials</i> . <a href="http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html">www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html</a> , accessed June 8, 2021.		

These three GHGs are the most relevant to the proposed project as they account for a substantial majority of GHG emissions associated with land use development projects and are the most effective to regulate under CEQA. By applying the GWP ratios, project-related CO<sub>2</sub>e emissions can be tabulated in metric tons per year (units expressed as MT CO<sub>2</sub>e/year). Typically, the GWP ratio corresponding to the warming potential of CO<sub>2</sub> over a 100-year period is used as a baseline. The CO<sub>2</sub>e values are calculated for construction years as well as existing and project build-out conditions in order to generate a net change in GHG emissions for construction and operation.

### 3.2 Projected Impacts of Global Warming in California

In 2009, California adopted a statewide Climate Adaptation Strategy (CAS) that summarizes climate change impacts and recommends adaptation strategies across seven sectors: Public Health, Biodiversity and Habitat, Oceans and Coastal Resources, Water, Agriculture, Forestry, and Transportation and Energy. The California Natural Resources Agency will be updating the CAS and is responsible for preparing reports to the Governor on the status of the CAS. The Natural Resources Agency has produced climate change assessments which detail the impacts of global warming in California.<sup>1</sup> These include:

- Sea level rise, coastal flooding and erosion of California's coastlines would increase, as well as sea water intrusion.
- The Sierra snowpack would decline between 70 and 90 percent, threatening California's water supply.
- Higher risk of forest fires resulting from increasing temperatures and making forests and brush drier. Climate change will affect tree survival and growth.
- Attainment of air quality standards would be impeded by increasing emissions, accelerating chemical processes, and raising inversion temperatures during stagnation episodes resulting in public health impacts.

<sup>1</sup>State of California, Department of Justice, Office of the Attorney General, *Climate Change Impacts in California*, <https://oag.ca.gov/environment/impact>, accessed April 21, 2021.

- Habitat destruction and loss of ecosystems due to climate change affecting plant and wildlife habitats.
- Global warming can cause drought, warmer temperatures and saltwater contamination resulting in impacts to California's agricultural industry.

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

## 4.0 EXISTING CONDITIONS

### 4.1 Statewide Greenhouse Gas Emissions Inventory

The California Air Resources Board (CARB) is responsible for preparing, adopting, and updating California's GHG emissions inventory under Assembly Bill 1803 (2006). The statewide annual GHG emissions inventory serves as an important tool for examining historical trends and tracking California's progress in reducing GHG emissions. The 2021 edition of the CARB GHG inventory includes emissions of seven GHGs identified in AB 32 for the years 2000 to 2019. Table 2 displays the statewide GHG emissions from 2010 to 2019 by economic sectors categorized in the 2008 Scoping Plan. Generally, California's GHG emissions have followed a declining trend over the past decade.

**Table 2: California GHG Emissions Inventory Trend**

Sector	CO <sub>2</sub> e Emissions (Million Metric Tons)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Transportation	165.1	161.8	161.4	161.3	162.6	166.2	169.8	171.2	169.6	166.1
Industrial	91.1	89.4	88.9	91.7	92.5	90.3	89.0	88.8	89.2	88.2
Electric Power	90.3	89.2	98.2	91.4	88.9	84.8	68.6	62.1	63.1	58.8
Commercial/Residential	45.9	46.0	43.5	44.2	38.2	38.8	40.6	41.3	41.4	43.8
Agriculture	33.7	34.4	35.5	33.8	34.7	33.5	33.3	32.5	32.7	31.8
High GWP	13.5	14.5	15.5	16.8	17.7	18.6	19.2	20.0	20.4	20.6
Recycling and Waste	8.3	8.4	8.3	8.4	8.4	8.5	8.6	8.7	8.7	8.9
<b>Emissions Total</b>	<b>447.9</b>	<b>443.7</b>	<b>451.3</b>	<b>447.6</b>	<b>443.0</b>	<b>440.7</b>	<b>429.1</b>	<b>424.6</b>	<b>425.1</b>	<b>418.2</b>
Source: CARB, California Greenhouse Gas Emission Inventory – 2021 Edition, available at <a href="https://ww2.arb.ca.gov/ghg-inventory-data">https://ww2.arb.ca.gov/ghg-inventory-data</a> .										

<sup>2</sup>Paul R. Epstein, et al., *Urban Indicators of Climate Change – Report from the Center for Health and the Global Environment*, (Harvard Medical School and the Boston Public Health Commission, August 2003), unpaginated.

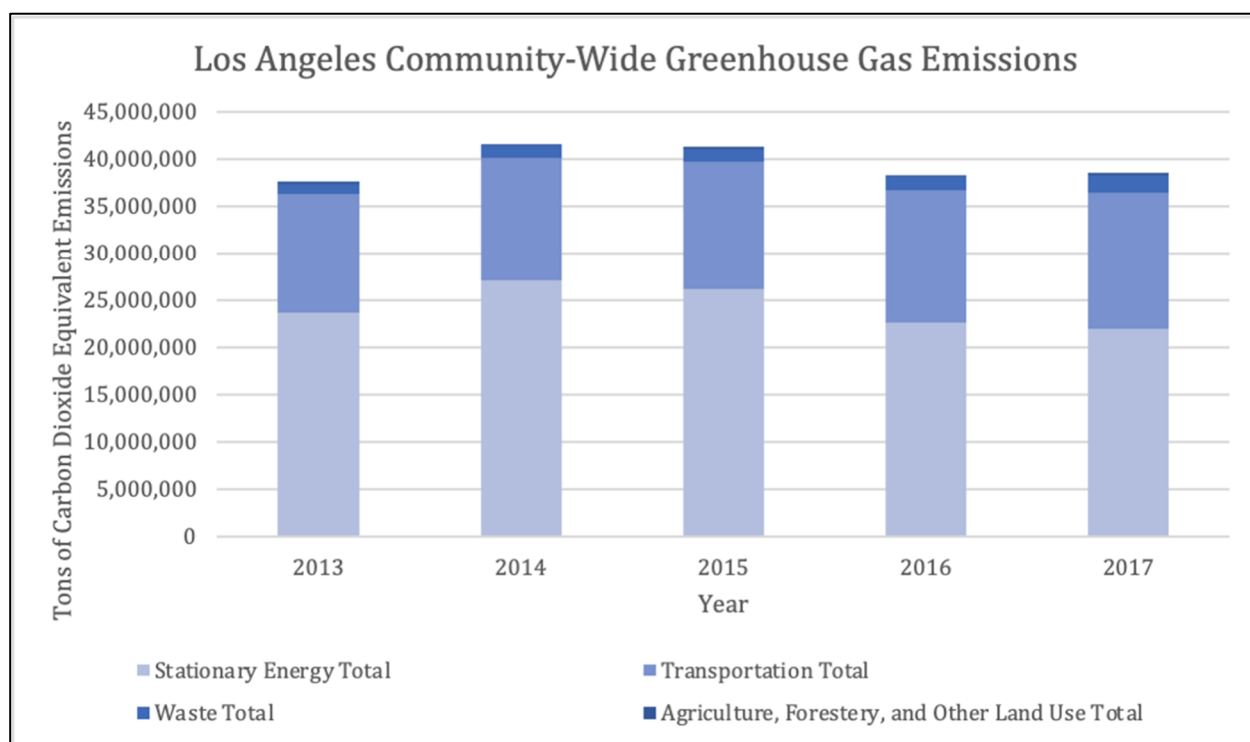


In 2019, emissions from routine GHG emitting activities statewide were approximately 29.7 million metric tons of CO<sub>2</sub>e (MMTCo<sub>2</sub>e) (6.6 percent) lower than 2010 levels, and approximately 13 MMTCo<sub>2</sub>e below the 1990 level (431 MMTCo<sub>2</sub>e), which is the State's 2020 GHG target.

## 4.2 City of Los Angeles Climate Adaptation

As part of the Sustainable City pLAn (2015), the City began tracking its GHG emissions inventory and progress in control strategies to reduce emissions in annual reports. Consistent with state-level regulatory initiatives to reduce GHG emissions, the City selected the 1990 GHG emissions level of 54.1 MMTCo<sub>2</sub>e as the comparative baseline for determining the efficacy of emission control strategies. According to Los Angeles' First Annual Report (2015–2016), the City has reduced GHG emissions to 20 percent below 1990 levels as of 2013, which was initially the stated goal to achieve by 2017.<sup>3</sup> The annual citywide GHG emissions inventory that is an element of the Sustainable City pLAn determined that emissions were reduced to 25 percent below 1990 levels in the 2017–2018 reporting year. The chart below in Figure 4 displays the total annual emissions for the City between 2013–2017 and the contributions by sector.<sup>4</sup>

**Figure 4 Los Angeles Community-Wide Greenhouse Gas Emissions**



<sup>3</sup>City of Los Angeles, *Mayor's Sustainability Team, Sustainable City pLAn First Annual Report 2015-2016*, 2017.

<sup>4</sup>City of Los Angeles, *Los Angeles Open Data Portal – Community-Wide Greenhouse Gas Emissions*, 2020.

Within the City, the combination of stationary (i.e., building operations energy) and transportation sources comprise approximately 95 percent of total GHG emissions. The City is also currently striving to improve from being 50 percent energy-reliant on coal power to coal-free by 2025 and to expand its existing power mix of 30 percent renewable energy to 100 percent by 2045. The Sustainable City pLAN is described in more detail under Regulatory Setting Section 5.4 below.

### **4.3 Existing Site Activities**

The project site is currently developed with two industrial buildings that have been left vacant for a period of time but are currently used as a logistics warehouse for solar panels temporarily while in escrow with the City. GHG emissions are currently generated by on-site industrial activities. The proposed construction and operation of the proposed project would cease the past and current use of this industrial site.

## **5.0 REGULATORY SETTING**

### **5.1 Federal Regulations and Judicial Rulings**

***Massachusetts v. Environmental Protection Agency.*** The USEPA is responsible for implementing federal policy to address GHGs. The United States Supreme Court (Supreme Court) ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that CO<sub>2</sub> and other GHGs are pollutants under the federal CAA, which the USEPA must regulate if it determines they pose an endangerment to public health or welfare. The Supreme Court did not mandate that the USEPA enact regulations to reduce GHG emissions. Instead, the Court found that the USEPA could avoid taking action if it found that GHGs do not contribute to climate change or if it offered a “reasonable explanation” for not determining that GHGs contribute to climate change. On April 17, 2009, the USEPA issued a proposed finding that GHGs contribute to air pollution that may endanger public health or welfare. The USEPA stated that high atmospheric levels of GHGs “are the unambiguous result of human emissions and are very likely the cause of the observed increase in average temperatures and other climatic changes.” The USEPA further found that “atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act.” The findings were signed by the USEPA Administrator on December 7, 2009. The USEPA Administrator made two distinct findings regarding GHGs under Section 202(a) of the CAA.

**Final Endangerment Finding.** The USEPA adopted a Final Endangerment Finding for defined GHGs. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA (USEPA, 2021b). 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.



**Energy Independence and Security Act.** The Energy Independence and Security Act (EISA) of 2007 facilitates the reduction of national GHG emissions by increasing the supply of alternative fuel sources, strengthening standards for energy conservation, and requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs. Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of “green jobs.” A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserves natural resources.

## 5.2 State Regulations and Plans

California has adopted many regulations to reduce statewide GHG emissions. The following provides a brief overview of regulations most relevant to the proposed project.

**California Greenhouse Gas Reduction Targets (2005).** Executive Order S-3-05 created GHG emission reduction targets in California. The targets included reducing GHG emissions to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The California Climate Action Team (CAT) was created to collectively and efficiently reduce GHG emissions. The CAT provides periodic reports to the Governor and Legislature on the status 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. The CAT stated that smart land use is an umbrella term for strategies that integrate transportation and land-use decisions. Such strategies generally encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors.

Executive Order B-30-15 directed State agencies to establish a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030. It also ordered State agencies to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets and directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

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

**Assembly Bill 32 (2006) and Senate Bill 32 (2016).** In 2006, the California State Legislature adopted AB 32, which focuses on reducing GHG emissions in California to 1990 levels by 2020. It represents the first enforceable Statewide program to limit emissions of these GHGs from all major industries, with penalties for noncompliance.

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.

To achieve these goals, which are consistent with the California CAT GHG targets for 2010 and 2020, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources consistent with the CAT strategies, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. To achieve the reduction targets, AB 32 requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

In 2016, the California State Legislature adopted SB 32 and its companion bill, AB 197. SB 32 and AB 197 established a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and included provisions to ensure that the benefits of State climate policies reach disadvantaged communities. The new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

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

CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions reduction target for 2020. The 2020 emissions reduction target was originally set at 427 MMTCO<sub>2</sub>e. Forecasting the amount of emissions that would occur in 2020 if no actions are taken was necessary to assess the scope of the reductions California has to make to return to the 1990 emissions level by 2020 as required by AB 32. CARB originally defined the “business-as-usual” or BAU scenario as emissions in the absence of any GHG emission reduction measures discussed in the 2008 Climate Change Scoping Plan. For example, in further explaining CARB’s BAU methodology, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2008 Climate Change Scoping Plan, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 28.5 percent from the otherwise projected 2020 emissions level (i.e., those emissions that

would occur in 2020, absent GHG-reducing laws and regulations). CARB originally used an average of the State's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 MMTCO<sub>2e</sub>. Therefore, under the original projections, the State would have had to reduce its 2020 BAU emissions by 28.4 percent to meet the 1990 target of 427 MMTCO<sub>2e</sub>.

***Association of Irrigated Residents v. California Air Resource Board (City & County of San Francisco Super. Ct. No. CPF-09-509562)***. Subsequent to the adoption of the 2008 Climate Change Scoping Plan, a lawsuit was filed challenging CARB's approval of the Climate Change Scoping Plan Functional Equivalent Document, the Court found that the environmental analysis of the alternatives to the Climate Change Scoping Plan was not sufficient under CEQA. The supplemental analysis indicated that there is the potential for adverse environmental impacts associated with implementation of the various GHG emission reduction measures recommended in the 2008 Climate Change Scoping Plan. CARB updated the projected 2020 BAU emissions inventory based on current economic forecasts and emission reduction measures already in place, replacing its prior 2020 BAU emissions inventory. CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent (down from 28.5 percent) from BAU conditions. When the 2020 emissions level projection was also updated to account for newly implemented regulatory measures discussed above, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16 percent (down from 28.5 percent) from the BAU conditions.

**First Update to the Climate Change Scoping Plan (2014)**. 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. CARB revised the target and determined the 1990 GHG emissions inventory and 2020 GHG emissions limit to be 431 MMTCO<sub>2e</sub>. 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 regulations that had recently been adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate is 509.4 MMTCO<sub>2e</sub>. The First Update found that California was on track to meet the 2020 emissions reduction mandate established by AB 32. According to the latest emissions inventory from CARB, the total, statewide 2018 GHG emissions were 425.3 million metric tons, which was 6.0 million metric tons below the 2020 target. The First Update noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals. Therefore, under the first update to the Scoping Plan, the emission reductions necessary to achieve the 2020 emissions target of 431 MMTCO<sub>2e</sub> would have been 78.4 MMTCO<sub>2e</sub>, or a reduction of GHG emissions by approximately 15.4 percent.

**California's 2017 Climate Change Scoping Plan (2017)**. In response to the passage of SB 32 and the identification of the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan. The 2017 Update builds upon the framework established by the 2008 Climate Change Scoping Plan and the First Update while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its



GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health. The 2017 Update includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and-Trade program, which constraint and reduce emissions at covered sources.

The 2017 Scoping Plan discusses the role of local governments in meeting the State's GHG reductions goals because local governments have jurisdiction and land use authority related to: community-scale planning and permitting processes, local codes and actions, outreach and education programs, and municipal operations. Furthermore, local governments may have the ability to incentivize renewable energy, energy efficiency, and water efficiency measures. For individual projects under CEQA, the 2017 Scoping Plan states that local governments can support climate action goals when considering discretionary approvals and entitlements. According to the 2017 Scoping Plan, lead agencies have the discretion to develop evidence-based numeric thresholds consistent with the Scoping Plan, the State's long-term goals, and state-of-the-science.

**Senate Bill 375—Sustainable Communities Strategy (2008).** SB 375 was adopted with the goal of reducing GHG emissions from cars and light trucks. Under SB 375, the reduction 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.

**California Buildings Standard Code – Title 24 Standards (Rev. 2019).** The California Energy Commission first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations [CCR], Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the State. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. The standards require that enforcement agencies determine compliance with the CCR, Title 24, Part 6 before issuing building permits for any construction.

**California Code of Regulations – Green Building Standards Code (2019).** 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 by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices. The CalGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission. The CalGreen Code establishes mandatory measures for new residential and non-residential buildings, including energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality.

### 5.3 Regional Plans and Policies

**Southern California Association of Governments RTP/SCS (2020).** SB 375 requires CARB to develop regional CO<sub>2</sub> emission reduction targets, compared to 2005 emissions, for cars and light trucks only for 2020 and 2035. Each Metropolitan Planning Organization (MPO) is required to prepare an SCS as part of the RTP in order to reduce CO<sub>2</sub> by better aligning planning in transportation, land use, and housing. On September 3, 2020, the Southern California Association of Governments (SCAG)—the MPO for the six-county region encompassing Los Angeles County, Ventura County, Orange County, Imperial County, Riverside County, and San Bernardino County—adopted the 2020–2045 RTP/SCS, titled *Connect SoCal*, which is an update to the previous 2016–2040 RTP/SCS. *Connect SoCal* incorporates a range of best practices for increasing transportation choices, reducing dependence on personal automobiles, further improving air quality and reducing GHG emissions, and encouraging growth in walkable, mixed-use communities with convenient access to transit infrastructure and employment. SCAG, in conjunction with CARB, determined that implementation of *Connect SoCal* would achieve regional GHG reductions relative to 2005 SCAG areawide levels of approximately 8 percent in 2020 and approximately 19 percent by 2045. The regional GHG emissions reductions achieved through the *Connect SoCal* Growth Vision are consistent with the regional targets set forth by CARB through SB 375.

**South Coast Air Quality Management District Policies.** The South Coast Air Quality Management District (SCAQMD) is responsible for air quality planning in the South Coast Air Basin—which comprises Orange County, Los Angeles County (excluding Antelope Valley), and the western, non-desert portions of San Bernardino and Riverside Counties, as well as the San Geronio Pass—and for 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.<sup>5</sup> The policy commits SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan.

In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds.<sup>6</sup> A GHG Significance Threshold Working Group was formed to further evaluate potential GHG significance thresholds.<sup>7</sup> The SCAQMD proposed the use of a percent emission reduction target to determine significance for commercial/residential projects that emit greater than 3,000 MTCO<sub>2</sub>e per year. Under this proposal,

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<sup>5</sup>SCAQMD, *SCAQMD’s Historical Activity on Climate Change*, 2014, <http://www.aqmd.gov/nav/about/initiatives/climate-change>, accessed November 2021.

<sup>6</sup>SCAQMD, *Board Meeting, December 5, 2008, Agenda No. 31*, <http://www3.aqmd.gov/hb/2008/December/081231a.htm>, accessed November 2021.

<sup>7</sup>SCAQMD, *Greenhouse Gases CEQA Significance Thresholds*, <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds>, accessed November 2021.

commercial/residential projects that emit fewer than 3,000 MTCO<sub>2</sub>e per year would be assumed to have a less than significant impact on climate change.

On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold of 10,000 MTCO<sub>2</sub>e per year for stationary source/industrial projects where the SCAQMD is the lead agency. However, the SCAQMD has yet to adopt a GHG significance threshold for land use development projects (e.g., residential/commercial projects); therefore, the commercial/residential thresholds were not formally adopted. The aforementioned Working Group has been inactive since 2011, however, and SCAQMD has not formally adopted any GHG significance threshold for land use development projects.

## **5.4 Local Plans and Policies**

### **Green LA – An Action Plan to Lead the Nation in Fighting Global Warming (2007).**

On May 15, 2007, Los Angeles Mayor Antonio Villaraigosa released the Green LA Climate Action Plan (Green LA) that established an overall goal of reducing the City of Los Angeles' GHG emissions by 35 percent below 1990 levels by 2030. This goal exceeds the targets set by both California and the Kyoto Protocol, and is the greatest reduction target of any large United States city. The cornerstone of the LA Green Plan is increasing the City's use of renewable energy to 35 percent by 2020. About 34 percent of current LADWP electricity generation is from renewable sources.

**Sustainable City pLAn (2015 & 2019).** On April 8, 2015, Mayor Eric Garcetti released the Sustainable City "pLAn," a roadmap to achieve back-to-basics short-term results while setting the path to strengthen and transform the City. The pLAn is made up of short-term (by 2017) and longer-term (by 2025 and 2035) targets in 14 categories to advance the City's environment, economy, and equity. In 2019, Mayor Eric Garcetti released an update to the pLAn—referred to as L.A.'s Green New Deal—that accelerates previous sustainability targets and looks even further out to 2050. One provision of L.A.'s Green New Deal is the achievement of an entirely zero-emission bus fleet by the year 2030, which was adopted by the Los Angeles City Council in November 2017 (Council File 17-0739).

**Los Angeles City Green Building Code (2020).** The City adopted the Green Building Code to reduce the City's carbon footprint. The Green Building Code applies to new buildings and alterations with building valuations over \$200,000 (residential and non-residential). The Green Building Code is based on the 2019 CalGreen Code within Title 24, Part 11, commonly known as CalGreen, that was developed and mandated by the State to attain consistency among the various jurisdictions within the State; reduce the building's energy and water use; and reduce waste (see discussion of CalGreen, above).

## **6.0 IMPACT ANALYSIS**

### **6.1 CEQA Analysis**

#### **6.1.1 CEQA Thresholds of Significance**

As the 2006 L.A. CEQA Thresholds Guide was adopted prior to the requirement for GHG emissions to be addressed as part of CEQA, there are no local thresholds of significance related to GHG emissions that are identified in the guide. As such, the significance thresholds related to GHG emissions identified in Appendix G of the 2021 CEQA Guidelines are used to analyze potential impacts associated with the project.

According to the Environmental Checklist in Appendix G of the CEQA Guidelines, a project may have a significant environmental impact related to Greenhouse Gas Emissions if it would:

- GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- GHG-2: Conflict with any applicable plan, policy, regulation, or recommendation of an agency adopted for the purpose of reducing emissions of GHGs?

With respect to GHG emissions, CEQA Guidelines Section 15064.4 provides guidance to lead agencies for determining the significance of impacts from GHG emissions. Section 15064.4(a) provides that a lead agency should make a good-faith effort based, to the extent possible, on scientific and factual data to describe, calculate, or estimate the amount of GHG emissions resulting from a project. Section 15064.4(a) further provides that a lead agency shall have the discretion to determine, in the context of a particular project, whether: (1) to use a model or methodology to quantify GHG emissions resulting from a project and which model methodology to use and/or (2) to rely on qualitative analysis or performance-based standards. Pursuant to CEQA Guidelines Section 15064.4(a), the analysis presented herein uses a model or methodology to quantify GHG emissions resulting from the project. The analysis contained herein provides a good-faith effort to describe, calculate, and estimate GHG emissions resulting from the project.

CEQA Guidelines Section 15064.4(b) also provides that, when assessing the significance of impacts from GHG emissions, a lead agency should consider (1) the extent to which the project may increase or reduce GHG emissions compared with existing conditions, (2) whether the project's GHG emissions exceed a threshold of significance that the lead agency determines applies to the project, and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The analysis of the potential impacts from the project's GHG emissions follows this approach. The CEQA Guidelines do not provide numeric or qualitative thresholds of significance for evaluating GHG emissions. Instead, they leave the determination of the significance of GHG emissions up to the lead agency and authorize the lead agency to consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided



the decision of the lead agency to adopt such thresholds is supported by substantial evidence (CEQA Guidelines Sections 15064.4(a) and 15064.7(c)).

A number of lead agencies within the State and region, including multiple air districts, have drafted, adopted, or recommended threshold approaches and guidelines for analyzing GHG emissions and climate change in CEQA documents. However, there are currently no quantitative thresholds that have been adopted by a local agency relevant to the project. The City has not drafted nor adopted threshold approaches and guidelines for analyzing GHG emissions and climate change in CEQA documents. While the City has completed an action plan related to climate change in 2007 (GreenLA), this action plan does not qualify for tiering under CEQA (specifically, CEQA Guidelines Section 15183.5) because the CAP has not undergone CEQA review per the tiering requirements from Section 15183.5. Therefore, the project-specific analysis herein cannot rely on a qualitative tiering analysis with the City's CAP. Thus, there is no City guidance or officially adopted quantitative threshold applicable to the project.

At the regional scale, SCAQMD staff developed draft GHG CEQA guidance through a stakeholder working group that convened 15 times between 2008–2010 and adopted a staff proposal for industrial projects that the SCAQMD is the lead agency (SCAQMD, 2008). For other projects subject to CEQA within the district, SCAQMD's draft GHG guidance recommended a tiered approach to analyzing GHG emissions in CEQA documents. This tiered approach allowed for flexibility when analyzing GHG emissions based on project size, land use type, or other characteristics. The various tiers include: (1) potential CEQA exemptions for certain projects, (2) compliance with a qualified GHG reduction strategy, (3) comparison with separate screening level thresholds for industrial and commercial/residential projects, (4) consistency with compliance options, including a performance-based reduction analysis (i.e., compare with a BAU level), compliance with AB 32, and/or comparison with efficiency-based thresholds (i.e., quantitative thresholds that are based on a per capita efficiency metric), and/or (5) implement offsite mitigation to reduce GHG emission impacts to a less-than-significant level. The draft GHG guidance is included as part of the periodic updates to SCAQMD's CEQA Air Quality Handbook. However, because the proposed thresholds for CEQA projects were never officially adopted by the SCAQMD or the City, they are not applicable to the project.

Based on the available threshold concepts evaluated in the CEQA Guidelines and recommended by expert agencies, the assessment herein analyzed operational emissions in the context of adopted GHG emissions reduction plans at the state, regional, and local levels. The applicable state-level guidance is the CARB Climate Change Scoping Plan, and the applicable regional-level guidance is the SCAG RTP/SCS. Although the City's pLAN does not qualify as a GHG reduction plan under the CEQA Guidelines, the GHG emissions impacts assessment evaluated how the project would contribute to local efforts to reduce GHG emissions.

## 6.1.2 CEQA Impacts Assessment Methodology

CEQA Guidelines Section 15064.4 gives lead agencies the discretion to determine whether to assess GHG emissions quantitatively or qualitatively. The primary purpose of quantifying the project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The GHG emissions analysis calculated the amount of GHG emissions that would be attributable to the project using recommended air quality models, as described below.

### 6.1.2.1 GHG Emissions Quantification

In accordance with Section 15064.4(c), GHG emissions that would be generated by the project were estimated using the California Emissions Estimator Model (CalEEMod, Version 2020.4.0), which is the preferred regulatory tool recommended by SCAQMD for estimating GHG emissions from proposed CEQA projects. CalEEMod relies on an emissions factors database compiled from the CARB EMFAC on-road mobile source emissions inventory model and the CARB OFFROAD off-road equipment model, as well as regional survey data for energy resource consumption, water use, and solid waste generation, to produce estimates of GHG emissions. The following discussions describe sources of GHG emissions during construction activities and future long-term operations.

**Construction.** Construction of the proposed project is tentatively anticipated to begin no earlier than the summer of 2024 and would take approximately two years to complete. Similar to the emissions analysis prepared for the Air Quality Impacts Assessment for the proposed project (TAHA, 2021), sources of GHG emissions during project construction would include heavy-duty off-road diesel equipment and vehicular travel to and from the EBMF construction site. The construction analysis used CalEEMod to estimate the total GHG emissions that would be generated by construction equipment and vehicles during construction of the proposed project. The CalEEMod database is populated with outputs from the CARB Off-Road Emissions Inventory Program (OFFROAD) and on-road Emission FACTor (EMFAC) emissions estimation models which are used to calculate emissions from construction activities, including off- and on-road vehicles, respectively. CalEEMod also relies upon known emissions data associated with certain activities or equipment (often referred to as “default” data, values or factors) that can be used if site-specific information is not available.

The input values used in this analysis were adjusted to be specific to the proposed project based on equipment types and the construction schedules of recently implemented transit maintenance facilities within the region. Construction of the proposed project would generally involve the following activities:

- (1) demolition of the existing warehouse structures and paved ground surfaces on the project site and removal of demolition debris
- (2) clearing of the site to prepare for grading and paving
- (3) grading and leveling the site

- (4) paving
- (5) building construction and equipment installation
- (6) finishing, painting, and landscaping.

The GHG emissions analysis quantified total GHG emissions that would be generated by off-road equipment and on-road vehicle sources during each phase of proposed project construction. GHG emissions that would be generated by the construction of the project were estimated and amortized over a 30-year operational lifetime.<sup>8</sup>

Construction of the proposed project would result in short-term GHG emissions produced by construction equipment exhaust. CalEEMod calculates emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O from construction equipment using the emission factors (EFs) for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O populated from the CARB OFFROAD model that are incorporated into CalEEMod for each type of equipment. Construction activities generate GHG emissions from on-road vehicle trips from personal vehicles for worker commuting, vendor deliveries of equipment and materials, and trucks for soil and debris hauling. These GHG emissions are based on the number of trips and the vehicle miles traveled (VMT), along with emission factors from EMFAC for CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. CalEEMod accounts for running exhaust and evaporative emissions, as well as vehicle starts. Detailed equations for equipment and vehicle GHG emission calculations are available in the CalEEMod Technical Appendix.<sup>9</sup> The CalEEMod output files for the proposed project construction emissions modeling can be found in Attachment A.

**Operations.** Following the completion of construction activities in 2026, the proposed EBMF would provide critical infrastructure to support implementation of the zero-emission BEB fleet within the City. The GHG emissions analysis for proposed project operations involved two elements: estimating direct and indirect GHG emissions generated by EBMF routine operations in CalEEMod and estimating indirect GHG emissions associated with the BEB fleet charging. The proposed project will provide BEB servicing and inspection, washing and charging, interior cleaning, fare collection, and repair and maintenance 24 hours per day, every day of the week. Approximately 312 employees would be working onsite on two or three shifts, which would be staggered depending on their work responsibilities. The Transportation/Traffic Impact Analysis for the proposed project (Parsons, 2021) determined that the project would generate 759 daily trips.

CalEEMod was used to estimate annual GHG emissions associated with the standard building operations of the proposed project, including emissions associated with employee commuting, energy use, property landscaping and maintenance, water and wastewater, and solid waste disposal. Table 3 presents an overview of the proposed project components. For the purposes of emissions modeling, the proposed project is

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<sup>8</sup>SCAQMD, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, October 2008.

<sup>9</sup>CAPCOA, *California Emissions Estimator Model User Guide (Version 2020.4.0) Appendix A: Calculation Detail for CalEEMod*, May 2021.

considered as a combination of industrial park and automobile care center land uses within CalEEMod. Detailed model input files can be found in Attachment A.

**Table 3: Proposed Electric Bus Maintenance Facility Components**

Major Buildings/Areas	Size	Uses
Maintenance Building	35,912 SF	11 bus bays for repair/inspection; drive in/back out configuration
Operations Building (on 2nd level of Maintenance Building)	12,234 SF	Administration and Dispatch
Service Building	8,150 SF	Office and support areas; Storage areas; 3 service lanes; utility room
Bus Wash Building	4,120 SF	1 wash bay with drive-through configuration; equipment room; utility room;
Bus Fleet Parking and Charging Area	Below Parking Deck	130 stacked spaces for DASH and Commuter Express buses
Employee/Visitor Parking Deck (360 Stalls on 2nd floor of bus parking)	196,560 SF	20 spaces for non-revenue fleet and 340 stalls for employees and visitors; stair enclosure; electrical infrastructure; lobby; offices; meeting areas
Canopy covering Parking Deck	118,530 SF	2,000 KW Photo-voltaic capacity

Source: LADOT, Feasibility Study for an All-Electric Bus Facility, 2019.

In addition to typical building operations, the proposed project would provide BEB charging infrastructure, and BEB charging would result in indirect emissions associated with the generation of electricity for BEB propulsion. Based on preliminary evaluation by LADOT, the proposed EBMF facility would provide up to 65 depot fast chargers with power delivery up to 125 kilowatts (kW).<sup>10</sup> The proposed EBMF would include an 80-kW Alternating Current (AC) Charging System, as well as a 2,000-kW solar photovoltaic (PV) system to meet electricity demands for bus charging. Each bus would take approximately two to three hours to charge, and up to 38 BEBs could be charging simultaneously under the current site configuration. For the purposes of this analysis, it was assumed that 76 BEBs would be charged each night at 100 kW with an average charging duration of 2.5 hours, requiring approximately 250 kilowatt-hours (kWh) per bus. Electricity at the project site for BEB charging would be provided by the City of Los Angeles Department of Water and Power (LADWP), which reported an existing carbon intensity of its delivered power mix of 579 pounds of CO<sub>2e</sub> per megawatt-hour (lbs.CO<sub>2e</sub>/MWh) in 2020.<sup>11</sup>

To note, the proposed project would eventually replace the existing LADOT bus maintenance facility located at 14011 South Central Avenue (approximately 2 miles south

<sup>10</sup>LADOT Transit, *Zero-Emission Bus Rollout Plan*, October 2020.

<sup>11</sup>LADWP, *2020 Power Content Label*, Version: October 2021.



of the new facility), where LADOT presently operates and maintains its existing bus fleet. The existing facility was estimated to generate approximately 669 daily vehicle trips (Parsons, 2021), and the existing fleet operating out of the South Yard is comprised of 95 buses with 92 powered by compressed natural gas (CNG) and 3 powered by propane. At full implementation of the proposed project, GHG emissions associated with operations at the LADOT South Yard facility would cease. The GHG emissions analysis prepared for this Technical Memorandum included the net daily vehicle trips resulting from implementation of the proposed project, which was determined to be 90 trips. However, existing GHG emissions from building energy, area, and utility sources at the South Yard were not evaluated, and therefore the net GHG emissions associated with implementation of the proposed project would be lower than disclosed in this Technical Memorandum once the LADOT activities at the existing South Yard are discontinued.

#### **6.1.2.2 Consistency with GHG Reduction Plans**

As described above, the impact assessment focuses on an evaluation of the proposed project's consistency with—or otherwise lack of interference with or obstruction towards—plans and policies that have been promulgated to reduce GHG emissions. The discussion of consistency with GHG reduction plans was framed on how the proposed project could affect successful implementation of the State's *Climate Change Scoping Plan*, the SCAG *Connect SoCal* 2020–2045 RTP/SCS, and local initiatives such as L.A.'s *Green New Deal* and City Council Motion 17-0739 to decrease reliance on non-renewable energy resources and improve energy efficiency across an array of municipal and business sectors. In the 2017 Scoping Plan Update, CARB established a statewide target of 6 MTCO<sub>2e</sub> per capita by 2030 and 2 MTCO<sub>2e</sub> per capita by 2050 from light and medium duty autos and trucks. SCAG adopted regional GHG reduction targets set by CARB for light and medium duty autos and trucks of 8 percent by 2020 and 19 percent by 2035 in its *Connect SoCal* Growth Vision. L.A.'s *Green New Deal* (the *2019 Sustainable City pLAN*) incorporates statewide and regional planning initiatives to reduce GHG emissions and was designed to be consistent with the Climate Change Scoping Plan and the RTP/SCS. Thus, if the proposed project is designed in accordance with these plans, policies, regulations, and requirements, then its implementation would result in a less than significant impact because it would be consistent with the overarching state, regional, and local plans for GHG reduction.

Consistency with plans and policies is evaluated by discussing proposed project design features related to energy efficiency, renewable energy, infill development, transit accessibility, water conservation, and per capita VMT and emissions. All of these elements have beneficial effects related to minimizing and reducing GHG emissions associated with land use development. The discussion of proposed project consistency with applicable plans and policies considers the location and land use, mandatory compliance with the City's Green Building Code, provision of on-site renewable energy, water conservation through plumbing fixtures and irrigation, and the proposed project's contribution to reducing GHG emissions from on-road passenger vehicles and light duty trucks.

### 6.1.3 Analysis of Project Impacts

Using the Initial Study Checklist questions in Appendix G of the CEQA Guidelines, project impacts are analyzed for significance as follows:

- a) *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

**Reference:** State CEQA Guidelines – Appendix G (2021); CalEEMod; Senate Bill 100.

**Comment:** A significant impact may occur if the proposed project produced a combination of direct and indirect GHG emissions that could have a significant impact on the environment. Direct sources of GHG emissions involved in the proposed project construction and operations include construction equipment and vehicles, as well as operational mobile (commuting vehicle trips), energy (natural gas combustion), and area (landscaping) sources. Indirect GHG emissions would be associated with solid waste disposal, water and wastewater distribution, and electricity generation. The magnitude of GHG emissions generated by the proposed project is relied upon, in part, to inform the impact determination, which is ultimately based on consistency with GHG emissions reduction plans.

**Less than significant impact.** Construction of the proposed project is anticipated to begin in mid-2024 and last for approximately two years. CalEEMod was used to quantify the total amount of GHG emissions that would be generated by construction activities, and the construction emissions were amortized over a 30-year operational lifetime in accordance with SCAQMD methodologies. Construction of the proposed project would generate a short-term total of 688.4 MTCO<sub>2e</sub>, which converts to approximately 22.9 MTCO<sub>2e</sub> when amortized over 30 years as shown in Table 4, below. When combined with operational emissions, the total annual proposed project GHG emissions would be approximately 2,470.3 MTCO<sub>2e</sub> per year. This value represents a conservative estimate based on the assumption that bus charging would require approximately 19 MWh daily to charge 76 BEBs for 2.5 hours at 100 kW, and also does not factor into account the amount of electricity that would be supplied by the 2,000-kW PV system.

Additionally, the carbon intensity of the LADWP power mix would be reduced in future years to comply with Senate Bill 100, which requires all electricity service providers within the State to obtain 44 percent of supplied power from renewable resources by the end of 2024 and 52 percent of supplied renewable power by the end of 2027, with the ultimate goal of reaching 60 percent renewable by the end of 2030. Annual indirect GHG emissions associated with the provision of LADWP electricity would gradually decline in future years as the power mix expands its renewable portfolio. Regardless of expected GHG emissions reductions associated with on-site renewable energy and the expansion of LADWP's renewable power mix, implementation of the proposed project would generate no more than 2,470.3 MTCO<sub>2e</sub> annually, which would be substantially below the SCAQMD's annual mass threshold for industrial uses.

**Table 4: Estimated Annual GHG Emissions**

<b>Emissions Source</b>	<b>Source Type</b>	<b>Annual Emissions (MTCO<sub>2e</sub>)</b>
Amortized Construction	Direct	22.9
Area (i.e., Landscaping)	Direct	<0.1
Building Energy	Direct/Indirect	394.6
Net Mobile Vehicle Trips <sup>(1)</sup>	Direct	87.9
Waste Disposal	Indirect	89.6
Water Distribution	Indirect	53.9
BEB Charging	Indirect	1,821.3
<b>Total Annual Emissions</b>		<b>2,470.3</b>
SCAQMD Annual Threshold (Industrial Uses)		10,000
<b>On-Site Renewable Energy Analysis</b>		
<b>Fraction of Power Provided</b>	<b>Electricity Emission Reduction (MTCO<sub>2e</sub>)</b>	<b>Net Annual Emissions (MTCO<sub>2e</sub>)</b>
5%	108.3	2,339.1
10%	216.6	2,230.8
15%	324.9	2,122.5
20%	433.2	2,014.2
25%	541.5	1,905.9
(1) Emissions from vehicle trips represent net change of 90 daily trips generated (Parsons, 2021). Source: TAHA, 2021.		

The bottom portion of Table 4 provides a demonstrative analysis of the GHG emissions that would occur annually with the implementation of the proposed project, assuming a range of proportions of electrical power provided by the on-site renewable PV installation. As shown above, for every 5 percent of the total required electricity produced for proposed project operations, the on-site PV installation would provide an emissions benefit of approximately 108.3 MTCO<sub>2e</sub> annually. Furthermore, the project would be constructed in accordance with the City's Green Building Code, which would minimize the building's energy and water use and waste disposal needs, and associated GHG emissions.

The emissions analysis did not account for existing LADOT operations at the South Yard, where 95 buses—92 powered by CNG and 3 powered by propane—are currently stored and maintained. Once the proposed project is fully implemented, LADOT operations at the South Yard would eventually cease as they are replaced by the EBMF. The net increase in GHG emissions would be lower than disclosed in Table 4, above, after accounting for the cessation of energy, utility, and area source GHG emissions attributed to the existing facility. Thus, the implementation of the proposed project would result in a less than significant impact related to the magnitude of direct and indirect GHG emissions that it would produce.

b) *Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?*

**Reference:** State CEQA Guidelines (Appendix G, 2021); CARB Climate Change Scoping Plan; SCAG RTP/SCS; L.A.'s Green New Deal.

**Comment:** A significant impact may occur if the implementation of the proposed project would impede the achievement of goals, targets, or objectives officially adopted by plans and regulations for the purpose of reducing GHG emissions. Applicable regulatory actions promulgated to reduce GHG emissions include Executive Order S-3-05, the AB 32 Climate Change Scoping Plan, Executive Order B-30-15, SB 32, and the SCAG Connect SoCal 2020–2045 RTP/SCS.

**Less than significant impact.** Electrification of transit services is a core component of GHG emission reduction planning initiatives at the state, regional, and local levels. The following analysis describes the extent to which the project complies with or does not conflict with adopted plans and policies to reduce GHG emissions. As the effects of GHG emissions on the environment are fundamentally cumulative, the assessment of potential impacts evaluated the combined emissions from short-term construction activities and long-term EBMF operations in the context of applicable plans and policies.

At the State level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch designed to reduce GHG emissions. The goal of Executive Order S-3-05 to reduce GHG emissions to 1990 levels by 2020 was adopted by the Legislature as the 2006 Global Warming Solutions Act (AB 32) and codified into law in HSC division 25.5. The goal of Executive Order B-30-15 to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030 was adopted by the Legislature in SB 32 and also codified into law in Health and Safety Code (HSC) Division 25.5. In support of HSC Division 25.5, the State has promulgated a robust framework of laws and strategies to reduce GHG emissions in the *Climate Change Scoping Plan*.

The *Climate Change Scoping Plan* and subsequent updates in 2014 and 2017 contain a range of GHG reduction actions that include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program. Table 5 provides an evaluation of how the proposed project is consistent with applicable reduction actions/strategies. As evidenced by the elements described below, the project would be consistent with the applicable GHG emissions reduction plans and would not conflict with initiatives to reduce GHG emissions.



**Table 5: Proposed Project Consistency with GHG Emissions Reduction Plans**

Strategy	Project Consistency
<b>2008 CLIMATE CHANGE SCOPING PLAN MEASURES</b>	
<b>California Light-Duty Vehicle GHG Standards.</b> Implement adopted Pavley standards and planned second phase of program. Align zero-emission vehicle, alternative and renewable fuel, and vehicle technology initiatives with long-term climate change goals.	<b>Consistent.</b> The implementation of Pavley vehicle standards is managed at the State level and applies to vehicle and engine manufacturers. The proposed project would not conflict with vehicle emissions standards and would contribute to planning initiatives with the intent of reducing reliance on single-occupancy and petroleum-fueled passenger vehicles and light duty trucks. Supporting the use of zero-emission transit vehicles directly benefits statewide efforts to reduce GHG emissions from the transportation sector.
<b>Energy Efficiency.</b> Maximize energy efficiency building and appliance standards and pursue additional efficiency efforts including new technologies, and new policy and mechanisms.	<b>Consistent.</b> The proposed project would be designed in accordance with the 2020 Los Angeles Green Building Code and the 2019 CalGreen Code. Renewable energy would be generated on-site to supplement the electric power mix supplied by LADWP, which will expand its renewable resources to 44 percent of electricity from renewables by 2024 and 52 percent by 2027. The proposed project would not obstruct energy efficiency measures.
<b>Renewables Portfolio Standard.</b> Achieve 33 percent renewable energy mix statewide by 2020 from the current level of 12 percent in 2008.	<b>Consistent.</b> The proposed project would install solar PV technologies to generate renewable energy on-site and reduce reliance on the power grid. Additionally, implementation of the proposed project would not interfere with LADWP endeavors to expand its renewable energy supply in accordance with the schedule established by adoption of Senate Bill 100.
<b>Low-Carbon Fuel Standard.</b> Develop and adopt the Low Carbon Fuel Standard.	<b>Consistent.</b> The project would not conflict with implementation of the transportation fuel standards. Vehicles involved in project construction and operations would utilize fuels available to the public through commercial sellers, which would be regulated by the Low Carbon Fuel Standard administered by CARB.

**Table 5: Proposed Project Consistency with GHG Emissions Reduction Plans**

<b>Strategy</b>	<b>Project Consistency</b>
<b>Vehicle Efficiency Measures.</b> Implement light-duty vehicle efficiency measures.	<b>Consistent.</b> Only CARB has the authority to promulgate and enforce light-duty vehicle efficiency measures. The project would not interfere with implementation of light-duty vehicle efficiency measures and vehicles associated with the project that are subject to the regulations would comply with these measures.
<b>Medium/Heavy-Duty Vehicle Standards.</b> Adopt medium- and heavy-duty vehicle efficiency standards.	<b>Consistent.</b> Only CARB has the authority to promulgate and enforce medium- and heavy-duty vehicle efficiency measures. The project would not interfere with implementation of vehicle efficiency standards and commuting, or commercial vehicles associated with the project that are subject to the regulations would comply with these standards.
<b>Green Building Strategy.</b> Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	<b>Consistent.</b> The proposed project would comply with provisions of CalGreen and the Los Angeles Green Building Code as much as practicable.
<b>High GWP Gases Emissions.</b> Adopt measures to reduce emissions of high GWP gases.	<b>Consistent.</b> CARB identified Early Action Measures in the Climate Change Scoping Plan to reduce GHG emissions from refrigerants in car air conditioners and consumer products. Implementation of the project would not introduce a new source of high GWP gases to the area, and vehicles associated with the project would be subject to CARB regulations.
<b>Recycling and Waste.</b> Reduce methane emissions at landfills. Increase waste diversion, composting and other beneficial uses of organic materials and mandate commercial recycling. Move toward zero waste.	<b>Consistent.</b> Waste associated with the project would be received and managed by the City Bureau of Sanitation. The City has committed to an extensive waste recycling program, which would be implemented onsite, through the Sustainable City pLAN.
<b>Water.</b> Continue efficiency programs and use cleaner energy sources to move and treat water.	<b>Consistent.</b> The proposed project would comply with the City's Green Building Code and adopted policies and standards applicable to the project site. Water-efficient irrigation systems and drought-tolerant landscaping would be installed where feasible.

**Table 5: Proposed Project Consistency with GHG Emissions Reduction Plans**

Strategy	Project Consistency
2017 CLIMATE CHANGE SCOPING PLAN MEASURES	
<b>Mobile Source Strategy – Advanced Clean Cars.</b> Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations (through model year 2025).	<b>Consistent.</b> Light-duty vehicle standards are administered and enforced by CARB. Vehicles associated with the proposed project that are subject to the regulations would be required to comply. Implementation of the proposed project would not interfere with automobile manufacturing to meet the light-duty vehicle standards.
<b>Mobile Source Strategy – Zero Emission Fleet.</b> Achieve a statewide vehicle fleet of at least 1.5 million zero-emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero-emission vehicles (ZEV) by 2030.	<b>Consistent.</b> Implementation of the proposed project would directly contribute, and be a critical component of, state, regional, and local efforts to provide reliable ZEV transit services by 2030. The proposed project is crucial to support the City in establishing a robust framework of public transit infrastructure to reduce GHG emissions from traditional transportation sources.
<b>Mobile Source Strategy – Innovative Clean Transit.</b> Transition to a suite of innovative clean transit options; CARB Scoping Plan Scenario assumed 20 percent of new urban buses purchased beginning in 2018 will be zero-emission buses with the proliferation of zero-emission technology expanded to 100 percent of new sales by 2030.	<b>Consistent.</b> The clean transit fleet regulations are promulgated and enforced by CARB. Implementation of the proposed project would indirectly accommodate the expansion of a zero-emission bus fleet for the City, although the BEB fleet is not part of the proposed project. Furthermore, the City has engaged in the Zero Emissions Roadmap 2028 through the Transportation Electrification Partnership to ambitiously develop a fleet of zero-emission buses to serve the community. The proposed project represents a fundamental and essential infrastructure element of the City's ZEV fleet.
<b>Mobile Source Strategy – Last Mile Delivery.</b> New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks, primarily for Class 3–7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030.	<b>Consistent.</b> The enhanced regulations pertaining to last mile delivery trucks are administered and enforced by CARB. The project would not interfere with implementation of new truck fleets meeting more stringent NO <sub>x</sub> standards.

**Table 5: Proposed Project Consistency with GHG Emissions Reduction Plans**

<b>Strategy</b>	<b>Project Consistency</b>
<b>Mobile Source Strategy – Reduction in VMT.</b> Further reduce VMT through continued implementation of SB 375 and regional SCSs; forthcoming statewide implementation of SB 743; explore additional VMT reduction strategies.	<b>Consistent.</b> The project site is located within a Transit Priority Area (TPA) as defined by the SCAG Connect SoCal plan, which is a desired target for infill redevelopment. Additionally, the proposed project was determined to be exempt from an SB 743 VMT analysis due to the anticipated net vehicle trip increase of 90 daily vehicle trips. The proposed project would provide BEB support infrastructure to the City of Los Angeles that would accommodate future planned expansion of transit ZEVs.
<b>Implement SB 350 by 2030 – Renewables.</b> Increase the RPS to 50 percent of retail sales by 2030 and ensure grid reliability.	<b>Consistent.</b> The proposed project would use electricity from the LADWP, which has committed to diversify its portfolio of energy sources to achieve 50 percent renewables by 2030. The proposed project would also implement on-site solar PV installation to supply a portion of the EBMF electrical demand.
<b>Implement SB 350 by 2030 – Efficiency Targets.</b> Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030.	<b>Consistent.</b> The proposed project would not interfere with LADWP efforts to achieve energy efficiency savings in accordance with SB 350. On-site renewable electricity provided by the PV solar installation would offset some energy demands of the proposed project. Additionally, all building structures would be designed and built in accordance with the CalGreen Code and Los Angeles Green Building Code.
<b>SCAG RTP/SCS MEASURES</b>	
<b>Sustainable Communities Strategy.</b> Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations.	<b>Consistent.</b> Implementation of the proposed project would provide critical support infrastructure to accommodate the planned expansion of ZEV transit throughout the City. The proposed project would be consistent with the surrounding land uses and would not obstruct multimodal transportation options.
<b>Sustainable Communities Strategy.</b> Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets.	<b>Consistent.</b> Implementation of the proposed project would provide a state-of-the-art BEB charging facility to serve as crucial infrastructure as the City expands its ZEV fleet technologies. The proposed project would provide LADOT with the necessary facilities to accommodate the ZEVs to meet the 2030 and 2040 transportation electrification goals.

**Table 5: Proposed Project Consistency with GHG Emissions Reduction Plans**

Strategy	Project Consistency
<b>Sustainable Communities Strategy:</b> Plan for growth near transit investments and support implementation of first/last mile strategies.	<b>Consistent.</b> The proposed project would not interfere with land use developments near transit investments and would improve the features identifying access to available transit connectivity throughout the City. The proposed project represents a transit investment that would accommodate the enhancement of ZEV transit services to communities across the City.
<b>Sustainable Communities Strategy:</b> Encourage design and transportation options that reduce the reliance on and number of solo car trips.	<b>Consistent:</b> Implementation of the proposed project would accommodate a new fleet of 130 BEBs that would otherwise have no place to be serviced and maintained. The proposed project represents a critical component of regional transportation planning efforts to reduce single-occupancy vehicle trips.
Source: CARB, <i>Climate Change Scoping Plan</i> , 2008; CARB, <i>California's 2017 Climate Change Scoping Plan</i> , November 2017; SCAG, <i>Connect SoCal 2020–2045 RTP/SCS</i> ; TAHA, 2021.	

Although *L.A.'s Green New Deal* does not represent an approved Climate Action Plan under CEQA, the *2019 Sustainable City Plan* includes the proposed project as necessary to achieve its goals. Implementation of the proposed project is essential to achieving City initiatives to adapt to the effects of climate change. The *2020 LADOT Transit Rollout Plan* recognized that the EBMF is needed to meet the City's goal of 100 percent BEBs by 2030, as adopted through City Council motion 17-0739 that was incorporated into *L.A.'s Green New Deal*. An overview of the most applicable targets established by *L.A.'s Green New Deal* is provided in Table 6 below, along with a brief discussion of how the proposed project would provide direct benefits towards meeting these objectives. Therefore, the implementation of the proposed project would be consistent with all applicable GHG reduction plans and policies, and this impact would be less than significant.



**Table 6: Proposed Project Consistency with L.A.'s Green New Deal**

Sector and Targets	Project Consistency
<p><b><u>Environmental Justice</u></b></p> <ul style="list-style-type: none"> <li>• Improve the raw scores of LA communities in the worst 10 percent of CalEnviroScreen Indicators by an average of 25 percent by 2025 and 50 percent by 2035.</li> <li>• Reduce the number of annual childhood asthma-related emergency room visits in L.A.'s most contaminated neighborhoods to less than 14 per 1,000 children by 2025 and 8 per 1,000 children by 2035.</li> </ul>	<p><b>Consistent.</b> Implementation of the proposed project would introduce a BEB charging and maintenance facility, where future LADOT transit vehicles being serviced would not have diesel- or CNG-fueled engines. Therefore, the proposed project would not constitute a new land use source of diesel or CNG combustion emissions that could contribute to a worsening of CalEnviroScreen Indicators or local asthma prevalence in children. Also, the proposed project would indirectly support the reduction of air pollutant and GHG emissions from the existing LADOT South Yard fleet of CNG and propane buses.</p>
<p><b><u>Renewable Energy</u></b></p> <ul style="list-style-type: none"> <li>• LADWP will supply 55 percent renewable energy by 2025, 80 percent by 2036, and 100 percent by 2045.</li> <li>• Incrementally increase cumulative MW of local solar, energy storage capacity, and demand-response programs by 2025, 2035, and 2050.</li> </ul>	<p><b>Consistent.</b> The proposed project would not obstruct LADWP endeavors to expand its renewable energy portfolio and would not place a disproportionate burden on existing LADWP capacity. Furthermore, the proposed project would feature on-site solar PV installation to reduce its reliance on the LADWP power grid. The proposed project would not prevent LADWP from obtaining additional renewable resources for its power mix.</p>
<p><b><u>Clean &amp; Healthy Buildings</u></b></p> <ul style="list-style-type: none"> <li>• All new buildings will be net zero carbon by 2030, and 100 percent of buildings will be net zero carbon by 2050.</li> </ul>	<p><b>Consistent.</b> Construction of the proposed project buildings would be completed in 2026 and would not affect City efforts to design all buildings to be net zero by 2030. Furthermore, the proposed project would feature on-site renewable energy generation to offset a proportion of its electrical demands.</p>

**Table 6: Proposed Project Consistency with L.A.'s Green New Deal**

Sector and Targets	Project Consistency
<p><b><u>Housing &amp; Development</u></b></p> <ul style="list-style-type: none"> <li>• Ensure 57 percent of new housing units are built within 1,500 feet of transit by 2025 and 75 percent by 2035.</li> </ul>	<p><b>Consistent.</b> Although the proposed project does not contain a residential element, implementation of the EBMF would accommodate an expanded ZEV fleet of BEBs that would provide service to the City. While the proposed project would not directly expand the existing transit network, it would provide critical infrastructure to support future planned transit operations in south Los Angeles that would reflect an increase in transit service relative to existing LADOT operations at the South Yard facility.</p>
<p><b><u>Mobility &amp; Transit</u></b></p> <ul style="list-style-type: none"> <li>• Increase the percentage of all trips made by walking, biking, micro-mobility/matched rides or transit to at least 35 percent by 2025, 50 percent by 2035, and maintain through at least 2050.</li> <li>• Reduce VMT per capita by at least 13 percent by 2025, 39 percent by 2035, and 45 percent by 2050.</li> </ul>	<p><b>Consistent.</b> The proposed project would provide critical infrastructure to support the planned expansion of the LADOT ZEV Transit fleet. Implementation of the proposed project would not obstruct the City's efforts to increase the proportion of trips that are taken in modes other than single-occupancy vehicles.</p>
<p><b><u>Zero Emission Vehicles</u></b></p> <ul style="list-style-type: none"> <li>• Increase the percentage of electric and ZEVs in the city to 25 percent by 2025, 80 percent by 2035, and 100 percent by 2050.</li> <li>• Electrify 100 percent of LA Metro and LADOT buses by 2030.</li> </ul>	<p><b>Consistent.</b> The proposed project would indirectly accommodate the expanded use of ZEVs for transit services throughout the City. LADOT acknowledges that the planned expansion of ZEV transit would not be feasible without implementation of the proposed project. Therefore, the proposed project represents a critical component of infrastructure to achieve the goals of <i>L.A.'s Green New Deal</i>, although it does not directly contribute to realizing the goals related to ZEVs.</p>
Source: City of Los Angeles, <i>L.A.'s Green New Deal – Sustainable City pLAN 2019</i> ; TAHA, 2021.	

## **6.2 NEPA Analysis**

LADOT plans to seek financial support from the Federal Transit Administration (FTA) for the proposed project construction. The project is, therefore, subject to NEPA analysis.

### **6.2.1 No Build Alternative**

For the purpose of the impact analysis, under the No Build Alternative, existing conditions at the South Yard and EBMF project site would remain unchanged. Thus, the proposed EBMF would not be constructed at the proposed project site and, consequently, LADOT's South Yard and its associated bus fleet would have to remain as existing because electric bus charging systems are not available at the South Yard for the use of an all-electric bus fleet. While the City is starting to purchase BEBs—and improvements to the City's Washington Yard, Sylmar Yard, and Downtown Yard are in progress—under this alternative, no improvements to LADOT's South Yard would occur and the project would not be built. Rather, the South Yard would continue current operations, and the existing structures and improvements at 740–780 and 800 East 111<sup>th</sup> Place would remain in place and could be leased and used by other businesses/entities.

No environmental effects related to GHG emissions would occur at the project site under the No Build Alternative for the proposed project. Additionally, the No Build Alternative would not implement solar PV installations to expand local renewable energy production.

### **6.2.2 Build Alternative**

There are no officially promulgated mass-based thresholds for GHG emissions under NEPA. As discussed under 6.1.3, *Analysis of Project Impacts*, above, implementation of the Build Alternative would introduce a new BEB service and maintenance facility to south Los Angeles that would generate no more than 3,128.3 MTCO<sub>2e</sub> of GHG emissions annually. This mass quantity is substantially below the SCAQMD threshold for industrial uses that are subject to its discretionary action as a Lead Agency, although the quantitative threshold is not directly applicable to the proposed project. The discussion in 6.1.3, *Analysis of Project Impacts*, above provides a robust examination of how the proposed project would conform to the provisions of statewide (*Climate Change Scoping Plan*), regional (*Connect SoCal*), and local (*L.A.'s Green New Deal*) GHG reduction plans and would contribute beneficially to realizing the ambitious goals set forth within these planning documents. Based on the CEQA analyses provided above and the nature of the EBMF as a critical piece of ZEV infrastructure, no adverse effects would result from implementation of the Build Alternative.

## **7.0 RECOMMENDED MEASURES**

Based on the analysis above, impacts would be less than significant, and no mitigation measures would be required.

## 8.0 REFERENCES

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## **9.0 PREPARERS**

Anders Sutherland, Senior Environmental Scientist, TAHA

**Attachment A – CalEEMod Annual Output File and Emission Calculation Sheet**

# Annual GHG Emissions Calculations

## Construction

	MTCO2e/year
2024	179.2032
2025	340.9335
2026	168.2501

**Total Con (MTCO2e) 688.4**

## Operations

From CalEEMod Output File	Amortized Con	22.9		
	Area	0.0115	Elec	NatGas
	Energy	394.65	344.77	49.88
	Mobile (Project & Net)	741.39	87.91	
	Waste	89.61		
	Water	53.88		
	Bus Charging	1821.34		

Total Annual GHG  
Emissions (MTCO2e) 2,447.4

Percent of Project Electricity Provided by On-Site PV	GHG Reduction (MTCO2e/year)	Net Emissions (MTCO2e)
5%	108.3055846	2,339.1
10%	216.6111693	2,230.8
15%	324.9167539	2,122.5
20%	433.2223386	2,014.2
25%	541.5279232	1,905.9

## Bus Charging

BEB charged/night	76
charge duration (hrs)	2.5
avg. electricity (kW)	100

kwh/day	19000
mwh/day	19
lb/mWh	579

lbsCO2e/year	4,015,365.0
MTCO2e/year	1,821.3



## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****LADOT Electric Bus Maintenance Facility****Los Angeles-South Coast County, Annual****1.0 Project Characteristics****1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	20.38	1000sqft	0.47	20,384.00	0
Other Asphalt Surfaces	109.30	1000sqft	2.51	109,300.00	0
Parking Lot	69.60	1000sqft	1.60	69,600.00	0
Unenclosed Parking with Elevator	196.56	1000sqft	0.00	196,560.00	0
Automobile Care Center	40.03	1000sqft	0.92	40,032.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	33
<b>Climate Zone</b>	11			<b>Operational Year</b>	2026
<b>Utility Company</b>	Los Angeles Department of Water & Power				
<b>CO2 Intensity (lb/MWhr)</b>	691.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Auto Care Center = Bus Maintenance (35,912 sf) + Bus Washing (4,120 sf)  
 Industrial Park = Ops Bldg (12,234 sf) + Service Bldg (8,150 sf)  
 Total Lot Acreage = 5.5 acres.

Construction Phase - Preliminary Schedule - Earliest possible completion.

Off-road Equipment - Painting/Finishing/Striping

Off-road Equipment - Construction Inventory

Off-road Equipment - Demolition Inventory (LABOE)

Off-road Equipment - Grading Inventory

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Off-road Equipment - Paving Inventory

Off-road Equipment - Site Prep Inventory (LABOE)

Trips and VMT - Anticipated Vehicle Activity Inventory

Demolition - Existing Buildings = 32ksf &amp; 118.8ksf

Grading -

Architectural Coating - Compliance with SCAQMD Rule 403 uses 50 g/L limit for building envelope.

Vehicle Trips - Traffic Memo: 759 trips &amp; 6,271 daily VMT

Construction Off-road Equipment Mitigation - Compliance with SCAQMD Rule 403 requires 3x daily watering.

Energy Mitigation -

Water Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	20.00	45.00
tblConstructionPhase	NumDays	230.00	360.00
tblConstructionPhase	NumDays	20.00	45.00
tblLandUse	LandUseSquareFeet	20,380.00	20,384.00
tblLandUse	LandUseSquareFeet	40,030.00	40,032.00
tblLandUse	LotAcreage	4.51	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	8.00	4.00
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tblOffRoadEquipment	UsageHours	8.00	6.00
tblTripsAndVMT	HaulingTripNumber	686.00	1,080.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	71.00	14.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	15.00	40.00
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tblTripsAndVMT	WorkerTripNumber	15.00	40.00
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tblTripsAndVMT	WorkerTripNumber	36.00	16.00
tblVehicleTrips	CC_TTP	28.00	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

tblVehicleTrips	CW_TL	16.60	8.27
tblVehicleTrips	CW_TTP	59.00	100.00
tblVehicleTrips	DV_TP	19.00	0.00
tblVehicleTrips	PB_TP	2.00	0.00
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tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	1.24	37.25
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	3.37	37.25

**2.0 Emissions Summary**

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## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****2.1 Overall Construction****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0765	0.6708	0.9044	1.9500e-003	0.2220	0.0274	0.2494	0.0738	0.0254	0.0992	0.0000	176.4839	176.4839	0.0371	6.0100e-003	179.2032
2025	0.1435	1.1713	1.8455	3.7900e-003	0.1241	0.0408	0.1649	0.0332	0.0386	0.0718	0.0000	337.6005	337.6005	0.0545	6.6200e-003	340.9335
2026	0.3697	0.5888	0.9400	1.8800e-003	0.0559	0.0207	0.0765	0.0150	0.0197	0.0347	0.0000	166.7655	166.7655	0.0256	2.8400e-003	168.2501
Maximum	0.3697	1.1713	1.8455	3.7900e-003	0.2220	0.0408	0.2494	0.0738	0.0386	0.0992	0.0000	337.6005	337.6005	0.0545	6.6200e-003	340.9335

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0303	0.1582	1.0364	1.9500e-003	0.1120	2.8200e-003	0.1148	0.0356	2.7800e-003	0.0384	0.0000	176.4837	176.4837	0.0371	6.0100e-003	179.2031
2025	0.0624	0.3050	2.0142	3.7900e-003	0.1241	4.8400e-003	0.1289	0.0332	4.7700e-003	0.0380	0.0000	337.6002	337.6002	0.0545	6.6200e-003	340.9332
2026	0.3270	0.1845	1.0187	1.8800e-003	0.0559	2.4100e-003	0.0583	0.0150	2.3900e-003	0.0173	0.0000	166.7654	166.7654	0.0256	2.8400e-003	168.2500
Maximum	0.3270	0.3050	2.0142	3.7900e-003	0.1241	4.8400e-003	0.1289	0.0356	4.7700e-003	0.0384	0.0000	337.6002	337.6002	0.0545	6.6200e-003	340.9332

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	28.83	73.35	-10.28	0.00	27.39	88.66	38.48	31.32	88.12	54.44	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-17-2024	9-16-2024	0.3466	0.1136
2	9-17-2024	12-16-2024	0.3234	0.0544
3	12-17-2024	3-16-2025	0.3039	0.0820
4	3-17-2025	6-16-2025	0.3321	0.0923
5	6-17-2025	9-16-2025	0.3318	0.0919
6	9-17-2025	12-16-2025	0.3298	0.0925
7	12-17-2025	3-16-2026	0.3256	0.0909
8	3-17-2026	6-16-2026	0.6706	0.4231
		Highest	0.6706	0.4231



## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2763	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
Energy	5.0100e-003	0.0456	0.0383	2.7000e-004		3.4600e-003	3.4600e-003		3.4600e-003	3.4600e-003	0.0000	393.3507	393.3507	0.0173	2.9000e-003	394.6474
Mobile	0.3545	0.3802	3.5292	7.6500e-003	0.8587	5.6000e-003	0.8643	0.2291	5.2000e-003	0.2343	0.0000	730.8212	730.8212	0.0501	0.0313	741.3920
Waste						0.0000	0.0000		0.0000	0.0000	36.1689	0.0000	36.1689	2.1375	0.0000	89.6070
Water						0.0000	0.0000		0.0000	0.0000	2.6900	42.7026	45.3925	0.2783	6.7700e-003	54.3682
<b>Total</b>	<b>0.6358</b>	<b>0.4258</b>	<b>3.5730</b>	<b>7.9200e-003</b>	<b>0.8587</b>	<b>9.0800e-003</b>	<b>0.8678</b>	<b>0.2291</b>	<b>8.6800e-003</b>	<b>0.2378</b>	<b>38.8589</b>	<b>1,166.8852</b>	<b>1,205.7441</b>	<b>2.4833</b>	<b>0.0409</b>	<b>1,280.0261</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2763	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
Energy	5.0100e-003	0.0456	0.0383	2.7000e-004		3.4600e-003	3.4600e-003		3.4600e-003	3.4600e-003	0.0000	393.3507	393.3507	0.0173	2.9000e-003	394.6474
Mobile	0.3545	0.3802	3.5292	7.6500e-003	0.8587	5.6000e-003	0.8643	0.2291	5.2000e-003	0.2343	0.0000	730.8212	730.8212	0.0501	0.0313	741.3920
Waste						0.0000	0.0000		0.0000	0.0000	36.1689	0.0000	36.1689	2.1375	0.0000	89.6070
Water						0.0000	0.0000		0.0000	0.0000	2.6900	42.2116	44.9015	0.2783	6.7700e-003	53.8758
<b>Total</b>	<b>0.6358</b>	<b>0.4258</b>	<b>3.5730</b>	<b>7.9200e-003</b>	<b>0.8587</b>	<b>9.0800e-003</b>	<b>0.8678</b>	<b>0.2291</b>	<b>8.6800e-003</b>	<b>0.2378</b>	<b>38.8589</b>	<b>1,166.3942</b>	<b>1,205.2531</b>	<b>2.4833</b>	<b>0.0409</b>	<b>1,279.5337</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.04</b>	<b>0.04</b>	<b>0.00</b>	<b>0.00</b>	<b>0.04</b>

## 3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/17/2024	8/16/2024	5	45	
2	Site Preparation	Site Preparation	8/19/2024	9/6/2024	5	15	
3	Grading	Grading	9/9/2024	11/8/2024	5	45	

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

4	Paving	Paving	11/11/2024	1/10/2025	5	45
5	Building Construction	Building Construction	1/13/2025	5/29/2026	5	360
6	Architectural Coating	Architectural Coating	3/30/2026	5/29/2026	5	45

**Acres of Grading (Site Preparation Phase): 7.5****Acres of Grading (Grading Phase): 22.5****Acres of Paving: 4.11****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 90,624; Non-Residential Outdoor: 30,208; Striped Parking Area: 22,528 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	4.00	81	0.73
Demolition	Excavators	2	6.00	158	0.38
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Crawler Tractors	1	4.00	212	0.43
Site Preparation	Excavators	2	6.00	158	0.38
Site Preparation	Rubber Tired Dozers	1	4.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Excavators	2	6.00	158	0.38
Grading	Graders	1	4.00	187	0.41
Grading	Rubber Tired Dozers	1	4.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Paving	Pavers	2	6.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Rough Terrain Forklifts	2	6.00	100	0.40

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Building Construction	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Welders	1	6.00	46	0.45
Architectural Coating	Aerial Lifts	3	6.00	63	0.31
Architectural Coating	Air Compressors	3	6.00	78	0.48

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	40.00	0.00	1,080.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	6	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	40.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	40.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	80.00	14.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	6	16.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 Demolition - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0742	0.0000	0.0742	0.0112	0.0000	0.0112	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0180	0.1506	0.2678	4.2000e-004		7.0600e-003	7.0600e-003		6.7000e-003	6.7000e-003	0.0000	36.6535	36.6535	8.5200e-003	0.0000	36.8664
<b>Total</b>	<b>0.0180</b>	<b>0.1506</b>	<b>0.2678</b>	<b>4.2000e-004</b>	<b>0.0742</b>	<b>7.0600e-003</b>	<b>0.0813</b>	<b>0.0112</b>	<b>6.7000e-003</b>	<b>0.0179</b>	<b>0.0000</b>	<b>36.6535</b>	<b>36.6535</b>	<b>8.5200e-003</b>	<b>0.0000</b>	<b>36.8664</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1300e-003	0.0745	0.0192	3.1000e-004	9.2900e-003	4.5000e-004	9.7400e-003	2.5500e-003	4.3000e-004	2.9800e-003	0.0000	31.0507	31.0507	1.7500e-003	4.9300e-003	32.5644
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6700e-003	2.0300e-003	0.0286	8.0000e-005	9.8600e-003	6.0000e-005	9.9200e-003	2.6200e-003	5.0000e-005	2.6700e-003	0.0000	7.7853	7.7853	1.9000e-004	1.9000e-004	7.8466
<b>Total</b>	<b>3.8000e-003</b>	<b>0.0765</b>	<b>0.0479</b>	<b>3.9000e-004</b>	<b>0.0192</b>	<b>5.1000e-004</b>	<b>0.0197</b>	<b>5.1700e-003</b>	<b>4.8000e-004</b>	<b>5.6500e-003</b>	<b>0.0000</b>	<b>38.8360</b>	<b>38.8360</b>	<b>1.9400e-003</b>	<b>5.1200e-003</b>	<b>40.4110</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.2 Demolition - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0290	0.0000	0.0290	4.3800e-003	0.0000	4.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8300e-003	0.0210	0.2981	4.2000e-004		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	36.6534	36.6534	8.5200e-003	0.0000	36.8664
<b>Total</b>	<b>4.8300e-003</b>	<b>0.0210</b>	<b>0.2981</b>	<b>4.2000e-004</b>	<b>0.0290</b>	<b>6.4000e-004</b>	<b>0.0296</b>	<b>4.3800e-003</b>	<b>6.4000e-004</b>	<b>5.0200e-003</b>	<b>0.0000</b>	<b>36.6534</b>	<b>36.6534</b>	<b>8.5200e-003</b>	<b>0.0000</b>	<b>36.8664</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1300e-003	0.0745	0.0192	3.1000e-004	9.2900e-003	4.5000e-004	9.7400e-003	2.5500e-003	4.3000e-004	2.9800e-003	0.0000	31.0507	31.0507	1.7500e-003	4.9300e-003	32.5644
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6700e-003	2.0300e-003	0.0286	8.0000e-005	9.8600e-003	6.0000e-005	9.9200e-003	2.6200e-003	5.0000e-005	2.6700e-003	0.0000	7.7853	7.7853	1.9000e-004	1.9000e-004	7.8466
<b>Total</b>	<b>3.8000e-003</b>	<b>0.0765</b>	<b>0.0479</b>	<b>3.9000e-004</b>	<b>0.0192</b>	<b>5.1000e-004</b>	<b>0.0197</b>	<b>5.1700e-003</b>	<b>4.8000e-004</b>	<b>5.6500e-003</b>	<b>0.0000</b>	<b>38.8360</b>	<b>38.8360</b>	<b>1.9400e-003</b>	<b>5.1200e-003</b>	<b>40.4110</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0266	0.0000	0.0266	0.0128	0.0000	0.0128	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.8400e-003	0.0766	0.0819	1.5000e-004		3.4200e-003	3.4200e-003		3.1500e-003	3.1500e-003	0.0000	13.5796	13.5796	4.3900e-003	0.0000	13.6894
<b>Total</b>	<b>7.8400e-003</b>	<b>0.0766</b>	<b>0.0819</b>	<b>1.5000e-004</b>	<b>0.0266</b>	<b>3.4200e-003</b>	<b>0.0300</b>	<b>0.0128</b>	<b>3.1500e-003</b>	<b>0.0160</b>	<b>0.0000</b>	<b>13.5796</b>	<b>13.5796</b>	<b>4.3900e-003</b>	<b>0.0000</b>	<b>13.6894</b>

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.8000e-004	9.5500e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.5951	2.5951	6.0000e-005	6.0000e-005	2.6155
<b>Total</b>	<b>8.9000e-004</b>	<b>6.8000e-004</b>	<b>9.5500e-003</b>	<b>3.0000e-005</b>	<b>3.2900e-003</b>	<b>2.0000e-005</b>	<b>3.3100e-003</b>	<b>8.7000e-004</b>	<b>2.0000e-005</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>2.5951</b>	<b>2.5951</b>	<b>6.0000e-005</b>	<b>6.0000e-005</b>	<b>2.6155</b>



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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.3 Site Preparation - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0104	0.0000	0.0104	5.0100e-003	0.0000	5.0100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9000e-003	8.2200e-003	0.0981	1.5000e-004		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	13.5796	13.5796	4.3900e-003	0.0000	13.6894
<b>Total</b>	<b>1.9000e-003</b>	<b>8.2200e-003</b>	<b>0.0981</b>	<b>1.5000e-004</b>	<b>0.0104</b>	<b>2.5000e-004</b>	<b>0.0106</b>	<b>5.0100e-003</b>	<b>2.5000e-004</b>	<b>5.2600e-003</b>	<b>0.0000</b>	<b>13.5796</b>	<b>13.5796</b>	<b>4.3900e-003</b>	<b>0.0000</b>	<b>13.6894</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.9000e-004	6.8000e-004	9.5500e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.5951	2.5951	6.0000e-005	6.0000e-005	2.6155
<b>Total</b>	<b>8.9000e-004</b>	<b>6.8000e-004</b>	<b>9.5500e-003</b>	<b>3.0000e-005</b>	<b>3.2900e-003</b>	<b>2.0000e-005</b>	<b>3.3100e-003</b>	<b>8.7000e-004</b>	<b>2.0000e-005</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>2.5951</b>	<b>2.5951</b>	<b>6.0000e-005</b>	<b>6.0000e-005</b>	<b>2.6155</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Grading - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0797	0.0000	0.0797	0.0385	0.0000	0.0385	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2232	0.2395	4.5000e-004		9.7000e-003	9.7000e-003		8.9300e-003	8.9300e-003	0.0000	39.5331	39.5331	0.0128	0.0000	39.8528
<b>Total</b>	<b>0.0228</b>	<b>0.2232</b>	<b>0.2395</b>	<b>4.5000e-004</b>	<b>0.0797</b>	<b>9.7000e-003</b>	<b>0.0894</b>	<b>0.0385</b>	<b>8.9300e-003</b>	<b>0.0475</b>	<b>0.0000</b>	<b>39.5331</b>	<b>39.5331</b>	<b>0.0128</b>	<b>0.0000</b>	<b>39.8528</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6700e-003	2.0300e-003	0.0286	8.0000e-005	9.8600e-003	6.0000e-005	9.9200e-003	2.6200e-003	5.0000e-005	2.6700e-003	0.0000	7.7853	7.7853	1.9000e-004	1.9000e-004	7.8466
<b>Total</b>	<b>2.6700e-003</b>	<b>2.0300e-003</b>	<b>0.0286</b>	<b>8.0000e-005</b>	<b>9.8600e-003</b>	<b>6.0000e-005</b>	<b>9.9200e-003</b>	<b>2.6200e-003</b>	<b>5.0000e-005</b>	<b>2.6700e-003</b>	<b>0.0000</b>	<b>7.7853</b>	<b>7.7853</b>	<b>1.9000e-004</b>	<b>1.9000e-004</b>	<b>7.8466</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.4 Grading - 2024****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0311	0.0000	0.0311	0.0150	0.0000	0.0150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5200e-003	0.0239	0.2879	4.5000e-004		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	39.5331	39.5331	0.0128	0.0000	39.8527
<b>Total</b>	<b>5.5200e-003</b>	<b>0.0239</b>	<b>0.2879</b>	<b>4.5000e-004</b>	<b>0.0311</b>	<b>7.4000e-004</b>	<b>0.0318</b>	<b>0.0150</b>	<b>7.4000e-004</b>	<b>0.0158</b>	<b>0.0000</b>	<b>39.5331</b>	<b>39.5331</b>	<b>0.0128</b>	<b>0.0000</b>	<b>39.8527</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6700e-003	2.0300e-003	0.0286	8.0000e-005	9.8600e-003	6.0000e-005	9.9200e-003	2.6200e-003	5.0000e-005	2.6700e-003	0.0000	7.7853	7.7853	1.9000e-004	1.9000e-004	7.8466
<b>Total</b>	<b>2.6700e-003</b>	<b>2.0300e-003</b>	<b>0.0286</b>	<b>8.0000e-005</b>	<b>9.8600e-003</b>	<b>6.0000e-005</b>	<b>9.9200e-003</b>	<b>2.6200e-003</b>	<b>5.0000e-005</b>	<b>2.6700e-003</b>	<b>0.0000</b>	<b>7.7853</b>	<b>7.7853</b>	<b>1.9000e-004</b>	<b>1.9000e-004</b>	<b>7.8466</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2024****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0137	0.1322	0.2029	3.2000e-004		6.5000e-003	6.5000e-003		5.9800e-003	5.9800e-003	0.0000	27.7868	27.7868	8.9900e-003	0.0000	28.0115
Paving	4.4300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0181</b>	<b>0.1322</b>	<b>0.2029</b>	<b>3.2000e-004</b>		<b>6.5000e-003</b>	<b>6.5000e-003</b>		<b>5.9800e-003</b>	<b>5.9800e-003</b>	<b>0.0000</b>	<b>27.7868</b>	<b>27.7868</b>	<b>8.9900e-003</b>	<b>0.0000</b>	<b>28.0115</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-004	7.4700e-003	2.7300e-003	3.0000e-005	1.1700e-003	4.0000e-005	1.2000e-003	3.4000e-004	3.0000e-005	3.7000e-004	0.0000	3.3132	3.3132	1.1000e-004	4.8000e-004	3.4583
Worker	2.1900e-003	1.6700e-003	0.0236	7.0000e-005	8.1100e-003	5.0000e-005	8.1600e-003	2.1500e-003	4.0000e-005	2.2000e-003	0.0000	6.4012	6.4012	1.6000e-004	1.6000e-004	6.4517
<b>Total</b>	<b>2.3900e-003</b>	<b>9.1400e-003</b>	<b>0.0263</b>	<b>1.0000e-004</b>	<b>9.2800e-003</b>	<b>9.0000e-005</b>	<b>9.3600e-003</b>	<b>2.4900e-003</b>	<b>7.0000e-005</b>	<b>2.5700e-003</b>	<b>0.0000</b>	<b>9.7145</b>	<b>9.7145</b>	<b>2.7000e-004</b>	<b>6.4000e-004</b>	<b>9.9100</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 3.5 Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.8900e-003	0.0169	0.2400	3.2000e-004		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	27.7868	27.7868	8.9900e-003	0.0000	28.0115
Paving	4.4300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>8.3200e-003</b>	<b>0.0169</b>	<b>0.2400</b>	<b>3.2000e-004</b>		<b>5.2000e-004</b>	<b>5.2000e-004</b>		<b>5.2000e-004</b>	<b>5.2000e-004</b>	<b>0.0000</b>	<b>27.7868</b>	<b>27.7868</b>	<b>8.9900e-003</b>	<b>0.0000</b>	<b>28.0115</b>

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-004	7.4700e-003	2.7300e-003	3.0000e-005	1.1700e-003	4.0000e-005	1.2000e-003	3.4000e-004	3.0000e-005	3.7000e-004	0.0000	3.3132	3.3132	1.1000e-004	4.8000e-004	3.4583
Worker	2.1900e-003	1.6700e-003	0.0236	7.0000e-005	8.1100e-003	5.0000e-005	8.1600e-003	2.1500e-003	4.0000e-005	2.2000e-003	0.0000	6.4012	6.4012	1.6000e-004	1.6000e-004	6.4517
<b>Total</b>	<b>2.3900e-003</b>	<b>9.1400e-003</b>	<b>0.0263</b>	<b>1.0000e-004</b>	<b>9.2800e-003</b>	<b>9.0000e-005</b>	<b>9.3600e-003</b>	<b>2.4900e-003</b>	<b>7.0000e-005</b>	<b>2.5700e-003</b>	<b>0.0000</b>	<b>9.7145</b>	<b>9.7145</b>	<b>2.7000e-004</b>	<b>6.4000e-004</b>	<b>9.9100</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2025****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7500e-003	0.0257	0.0437	7.0000e-005		1.2600e-003	1.2600e-003		1.1600e-003	1.1600e-003	0.0000	6.0058	6.0058	1.9400e-003	0.0000	6.0543
Paving	9.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>3.7100e-003</b>	<b>0.0257</b>	<b>0.0437</b>	<b>7.0000e-005</b>		<b>1.2600e-003</b>	<b>1.2600e-003</b>		<b>1.1600e-003</b>	<b>1.1600e-003</b>	<b>0.0000</b>	<b>6.0058</b>	<b>6.0058</b>	<b>1.9400e-003</b>	<b>0.0000</b>	<b>6.0543</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.6100e-003	5.8000e-004	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.7035	0.7035	2.0000e-005	1.0000e-004	0.7343
Worker	4.4000e-004	3.2000e-004	4.7500e-003	1.0000e-005	1.7500e-003	1.0000e-005	1.7600e-003	4.7000e-004	1.0000e-005	4.7000e-004	0.0000	1.3503	1.3503	3.0000e-005	3.0000e-005	1.3605
<b>Total</b>	<b>4.8000e-004</b>	<b>1.9300e-003</b>	<b>5.3300e-003</b>	<b>2.0000e-005</b>	<b>2.0000e-003</b>	<b>2.0000e-005</b>	<b>2.0200e-003</b>	<b>5.4000e-004</b>	<b>2.0000e-005</b>	<b>5.5000e-004</b>	<b>0.0000</b>	<b>2.0538</b>	<b>2.0538</b>	<b>5.0000e-005</b>	<b>1.3000e-004</b>	<b>2.0948</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.5 Paving - 2025****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4000e-004	3.6500e-003	0.0519	7.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	6.0058	6.0058	1.9400e-003	0.0000	6.0543
Paving	9.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>1.8000e-003</b>	<b>3.6500e-003</b>	<b>0.0519</b>	<b>7.0000e-005</b>		<b>1.1000e-004</b>	<b>1.1000e-004</b>		<b>1.1000e-004</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>6.0058</b>	<b>6.0058</b>	<b>1.9400e-003</b>	<b>0.0000</b>	<b>6.0543</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.6100e-003	5.8000e-004	1.0000e-005	2.5000e-004	1.0000e-005	2.6000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.7035	0.7035	2.0000e-005	1.0000e-004	0.7343
Worker	4.4000e-004	3.2000e-004	4.7500e-003	1.0000e-005	1.7500e-003	1.0000e-005	1.7600e-003	4.7000e-004	1.0000e-005	4.7000e-004	0.0000	1.3503	1.3503	3.0000e-005	3.0000e-005	1.3605
<b>Total</b>	<b>4.8000e-004</b>	<b>1.9300e-003</b>	<b>5.3300e-003</b>	<b>2.0000e-005</b>	<b>2.0000e-003</b>	<b>2.0000e-005</b>	<b>2.0200e-003</b>	<b>5.4000e-004</b>	<b>2.0000e-005</b>	<b>5.5000e-004</b>	<b>0.0000</b>	<b>2.0538</b>	<b>2.0538</b>	<b>5.0000e-005</b>	<b>1.3000e-004</b>	<b>2.0948</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Building Construction - 2025****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1094	1.0520	1.4705	2.4800e-003		0.0386	0.0386		0.0365	0.0365	0.0000	212.9876	212.9876	0.0494	0.0000	214.2237
<b>Total</b>	<b>0.1094</b>	<b>1.0520</b>	<b>1.4705</b>	<b>2.4800e-003</b>		<b>0.0386</b>	<b>0.0386</b>		<b>0.0365</b>	<b>0.0365</b>	<b>0.0000</b>	<b>212.9876</b>	<b>212.9876</b>	<b>0.0494</b>	<b>0.0000</b>	<b>214.2237</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8800e-003	0.0712	0.0257	3.2000e-004	0.0112	3.5000e-004	0.0115	3.2200e-003	3.3000e-004	3.5500e-003	0.0000	31.1470	31.1470	1.0900e-003	4.4900e-003	32.5121
Worker	0.0281	0.0205	0.3003	9.0000e-004	0.1109	6.2000e-004	0.1115	0.0295	5.7000e-004	0.0300	0.0000	85.4064	85.4064	1.9200e-003	1.9900e-003	86.0486
<b>Total</b>	<b>0.0300</b>	<b>0.0916</b>	<b>0.3260</b>	<b>1.2200e-003</b>	<b>0.1221</b>	<b>9.7000e-004</b>	<b>0.1230</b>	<b>0.0327</b>	<b>9.0000e-004</b>	<b>0.0336</b>	<b>0.0000</b>	<b>116.5533</b>	<b>116.5533</b>	<b>3.0100e-003</b>	<b>6.4800e-003</b>	<b>118.5607</b>



## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Building Construction - 2025****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0301	0.2078	1.6310	2.4800e-003		3.7400e-003	3.7400e-003		3.7400e-003	3.7400e-003	0.0000	212.9873	212.9873	0.0494	0.0000	214.2234
<b>Total</b>	<b>0.0301</b>	<b>0.2078</b>	<b>1.6310</b>	<b>2.4800e-003</b>		<b>3.7400e-003</b>	<b>3.7400e-003</b>		<b>3.7400e-003</b>	<b>3.7400e-003</b>	<b>0.0000</b>	<b>212.9873</b>	<b>212.9873</b>	<b>0.0494</b>	<b>0.0000</b>	<b>214.2234</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8800e-003	0.0712	0.0257	3.2000e-004	0.0112	3.5000e-004	0.0115	3.2200e-003	3.3000e-004	3.5500e-003	0.0000	31.1470	31.1470	1.0900e-003	4.4900e-003	32.5121
Worker	0.0281	0.0205	0.3003	9.0000e-004	0.1109	6.2000e-004	0.1115	0.0295	5.7000e-004	0.0300	0.0000	85.4064	85.4064	1.9200e-003	1.9900e-003	86.0486
<b>Total</b>	<b>0.0300</b>	<b>0.0916</b>	<b>0.3260</b>	<b>1.2200e-003</b>	<b>0.1221</b>	<b>9.7000e-004</b>	<b>0.1230</b>	<b>0.0327</b>	<b>9.0000e-004</b>	<b>0.0336</b>	<b>0.0000</b>	<b>116.5533</b>	<b>116.5533</b>	<b>3.0100e-003</b>	<b>6.4800e-003</b>	<b>118.5607</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Building Construction - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0463	0.4449	0.6219	1.0500e-003		0.0163	0.0163		0.0154	0.0154	0.0000	90.0778	90.0778	0.0209	0.0000	90.6005
<b>Total</b>	<b>0.0463</b>	<b>0.4449</b>	<b>0.6219</b>	<b>1.0500e-003</b>		<b>0.0163</b>	<b>0.0163</b>		<b>0.0154</b>	<b>0.0154</b>	<b>0.0000</b>	<b>90.0778</b>	<b>90.0778</b>	<b>0.0209</b>	<b>0.0000</b>	<b>90.6005</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8000e-004	0.0299	0.0107	1.3000e-004	4.7200e-003	1.5000e-004	4.8700e-003	1.3600e-003	1.4000e-004	1.5000e-003	0.0000	12.9285	12.9285	4.6000e-004	1.8600e-003	13.4957
Worker	0.0112	7.8500e-003	0.1194	3.7000e-004	0.0469	2.5000e-004	0.0472	0.0125	2.3000e-004	0.0127	0.0000	35.3096	35.3096	7.4000e-004	7.9000e-004	35.5648
<b>Total</b>	<b>0.0120</b>	<b>0.0377</b>	<b>0.1301</b>	<b>5.0000e-004</b>	<b>0.0516</b>	<b>4.0000e-004</b>	<b>0.0520</b>	<b>0.0138</b>	<b>3.7000e-004</b>	<b>0.0142</b>	<b>0.0000</b>	<b>48.2381</b>	<b>48.2381</b>	<b>1.2000e-003</b>	<b>2.6500e-003</b>	<b>49.0605</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.6 Building Construction - 2026****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0127	0.0879	0.6898	1.0500e-003		1.5800e-003	1.5800e-003		1.5800e-003	1.5800e-003	0.0000	90.0776	90.0776	0.0209	0.0000	90.6004
<b>Total</b>	<b>0.0127</b>	<b>0.0879</b>	<b>0.6898</b>	<b>1.0500e-003</b>		<b>1.5800e-003</b>	<b>1.5800e-003</b>		<b>1.5800e-003</b>	<b>1.5800e-003</b>	<b>0.0000</b>	<b>90.0776</b>	<b>90.0776</b>	<b>0.0209</b>	<b>0.0000</b>	<b>90.6004</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8000e-004	0.0299	0.0107	1.3000e-004	4.7200e-003	1.5000e-004	4.8700e-003	1.3600e-003	1.4000e-004	1.5000e-003	0.0000	12.9285	12.9285	4.6000e-004	1.8600e-003	13.4957
Worker	0.0112	7.8500e-003	0.1194	3.7000e-004	0.0469	2.5000e-004	0.0472	0.0125	2.3000e-004	0.0127	0.0000	35.3096	35.3096	7.4000e-004	7.9000e-004	35.5648
<b>Total</b>	<b>0.0120</b>	<b>0.0377</b>	<b>0.1301</b>	<b>5.0000e-004</b>	<b>0.0516</b>	<b>4.0000e-004</b>	<b>0.0520</b>	<b>0.0138</b>	<b>3.7000e-004</b>	<b>0.0142</b>	<b>0.0000</b>	<b>48.2381</b>	<b>48.2381</b>	<b>1.2000e-003</b>	<b>2.6500e-003</b>	<b>49.0605</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.7 Architectural Coating - 2026****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2972					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1037	0.1774	2.9000e-004		3.9300e-003	3.9300e-003		3.8900e-003	3.8900e-003	0.0000	24.7030	24.7030	3.3600e-003	0.0000	24.7869
<b>Total</b>	<b>0.3105</b>	<b>0.1037</b>	<b>0.1774</b>	<b>2.9000e-004</b>		<b>3.9300e-003</b>	<b>3.9300e-003</b>		<b>3.8900e-003</b>	<b>3.8900e-003</b>	<b>0.0000</b>	<b>24.7030</b>	<b>24.7030</b>	<b>3.3600e-003</b>	<b>0.0000</b>	<b>24.7869</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.8000e-003	6.4000e-004	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.7768	0.7768	3.0000e-005	1.1000e-004	0.8108
Worker	9.4000e-004	6.6000e-004	0.0100	3.0000e-005	3.9400e-003	2.0000e-005	3.9700e-003	1.0500e-003	2.0000e-005	1.0700e-003	0.0000	2.9700	2.9700	6.0000e-005	7.0000e-005	2.9914
<b>Total</b>	<b>9.9000e-004</b>	<b>2.4600e-003</b>	<b>0.0107</b>	<b>4.0000e-005</b>	<b>4.2200e-003</b>	<b>3.0000e-005</b>	<b>4.2600e-003</b>	<b>1.1300e-003</b>	<b>3.0000e-005</b>	<b>1.1600e-003</b>	<b>0.0000</b>	<b>3.7467</b>	<b>3.7467</b>	<b>9.0000e-005</b>	<b>1.8000e-004</b>	<b>3.8023</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****3.7 Architectural Coating - 2026****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2972					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1000e-003	0.0565	0.1882	2.9000e-004		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	24.7030	24.7030	3.3600e-003	0.0000	24.7868
<b>Total</b>	<b>0.3013</b>	<b>0.0565</b>	<b>0.1882</b>	<b>2.9000e-004</b>		<b>4.1000e-004</b>	<b>4.1000e-004</b>		<b>4.1000e-004</b>	<b>4.1000e-004</b>	<b>0.0000</b>	<b>24.7030</b>	<b>24.7030</b>	<b>3.3600e-003</b>	<b>0.0000</b>	<b>24.7868</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.8000e-003	6.4000e-004	1.0000e-005	2.8000e-004	1.0000e-005	2.9000e-004	8.0000e-005	1.0000e-005	9.0000e-005	0.0000	0.7768	0.7768	3.0000e-005	1.1000e-004	0.8108
Worker	9.4000e-004	6.6000e-004	0.0100	3.0000e-005	3.9400e-003	2.0000e-005	3.9700e-003	1.0500e-003	2.0000e-005	1.0700e-003	0.0000	2.9700	2.9700	6.0000e-005	7.0000e-005	2.9914
<b>Total</b>	<b>9.9000e-004</b>	<b>2.4600e-003</b>	<b>0.0107</b>	<b>4.0000e-005</b>	<b>4.2200e-003</b>	<b>3.0000e-005</b>	<b>4.2600e-003</b>	<b>1.1300e-003</b>	<b>3.0000e-005</b>	<b>1.1600e-003</b>	<b>0.0000</b>	<b>3.7467</b>	<b>3.7467</b>	<b>9.0000e-005</b>	<b>1.8000e-004</b>	<b>3.8023</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

## EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

## 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3545	0.3802	3.5292	7.6500e-003	0.8587	5.6000e-003	0.8643	0.2291	5.2000e-003	0.2343	0.0000	730.8212	730.8212	0.0501	0.0313	741.3920
Unmitigated	0.3545	0.3802	3.5292	7.6500e-003	0.8587	5.6000e-003	0.8643	0.2291	5.2000e-003	0.2343	0.0000	730.8212	730.8212	0.0501	0.0313	741.3920

## 4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
Industrial Park	759.16	759.16	759.16	2,285,269	2,285,269
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	759.16	759.16	759.16	2,285,269	2,285,269

## 4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
Industrial Park	8.27	8.40	6.90	100.00	0.00	0.00	100	0	0

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.537891	0.065289	0.189998	0.126515	0.023567	0.006518	0.011114	0.008084	0.000933	0.000591	0.025474	0.000708	0.003318
Industrial Park	0.537891	0.065289	0.189998	0.126515	0.023567	0.006518	0.011114	0.008084	0.000933	0.000591	0.025474	0.000708	0.003318
Other Asphalt Surfaces	0.537891	0.065289	0.189998	0.126515	0.023567	0.006518	0.011114	0.008084	0.000933	0.000591	0.025474	0.000708	0.003318
Parking Lot	0.537891	0.065289	0.189998	0.126515	0.023567	0.006518	0.011114	0.008084	0.000933	0.000591	0.025474	0.000708	0.003318
Unenclosed Parking with Elevator	0.537891	0.065289	0.189998	0.126515	0.023567	0.006518	0.011114	0.008084	0.000933	0.000591	0.025474	0.000708	0.003318

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	343.7686	343.7686	0.0164	1.9900e-003	344.7706
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	343.7686	343.7686	0.0164	1.9900e-003	344.7706
NaturalGas Mitigated	5.0100e-003	0.0456	0.0383	2.7000e-004		3.4600e-003	3.4600e-003		3.4600e-003	3.4600e-003	0.0000	49.5821	49.5821	9.5000e-004	9.1000e-004	49.8768
NaturalGas Unmitigated	5.0100e-003	0.0456	0.0383	2.7000e-004		3.4600e-003	3.4600e-003		3.4600e-003	3.4600e-003	0.0000	49.5821	49.5821	9.5000e-004	9.1000e-004	49.8768



## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****5.2 Energy by Land Use - NaturalGas****Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	718975	3.8800e-003	0.0352	0.0296	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	38.3672	38.3672	7.4000e-004	7.0000e-004	38.5952
Industrial Park	210159	1.1300e-003	0.0103	8.6500e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.2149	11.2149	2.1000e-004	2.1000e-004	11.2815
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>5.0100e-003</b>	<b>0.0455</b>	<b>0.0383</b>	<b>2.7000e-004</b>		<b>3.4600e-003</b>	<b>3.4600e-003</b>		<b>3.4600e-003</b>	<b>3.4600e-003</b>	<b>0.0000</b>	<b>49.5821</b>	<b>49.5821</b>	<b>9.5000e-004</b>	<b>9.1000e-004</b>	<b>49.8768</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****5.2 Energy by Land Use - NaturalGas****Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	718975	3.8800e-003	0.0352	0.0296	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	38.3672	38.3672	7.4000e-004	7.0000e-004	38.5952
Industrial Park	210159	1.1300e-003	0.0103	8.6500e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004	0.0000	11.2149	11.2149	2.1000e-004	2.1000e-004	11.2815
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>5.0100e-003</b>	<b>0.0455</b>	<b>0.0383</b>	<b>2.7000e-004</b>		<b>3.4600e-003</b>	<b>3.4600e-003</b>		<b>3.4600e-003</b>	<b>3.4600e-003</b>	<b>0.0000</b>	<b>49.5821</b>	<b>49.5821</b>	<b>9.5000e-004</b>	<b>9.1000e-004</b>	<b>49.8768</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****5.3 Energy by Land Use - Electricity****Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	434748	136.4572	6.5100e-003	7.9000e-004	136.8549
Industrial Park	254800	79.9758	3.8100e-003	4.6000e-004	80.2089
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	24360	7.6460	3.6000e-004	4.0000e-005	7.6683
Unenclosed Parking with Elevator	381326	119.6895	5.7100e-003	6.9000e-004	120.0384
<b>Total</b>		<b>343.7686</b>	<b>0.0164</b>	<b>1.9800e-003</b>	<b>344.7706</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****5.3 Energy by Land Use - Electricity****Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	434748	136.4572	6.5100e-003	7.9000e-004	136.8549
Industrial Park	254800	79.9758	3.8100e-003	4.6000e-004	80.2089
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	24360	7.6460	3.6000e-004	4.0000e-005	7.6683
Unenclosed Parking with Elevator	381326	119.6895	5.7100e-003	6.9000e-004	120.0384
<b>Total</b>		<b>343.7686</b>	<b>0.0164</b>	<b>1.9800e-003</b>	<b>344.7706</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2763	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
Unmitigated	0.2763	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115

**6.2 Area by SubCategory****Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2426					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1000e-004	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
<b>Total</b>	<b>0.2763</b>	<b>5.0000e-005</b>	<b>5.5500e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0115</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2426					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.1000e-004	5.0000e-005	5.5500e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.0108	0.0108	3.0000e-005	0.0000	0.0115
<b>Total</b>	<b>0.2763</b>	<b>5.0000e-005</b>	<b>5.5500e-003</b>	<b>0.0000</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>		<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0108</b>	<b>0.0108</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.0115</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

Use Water Efficient Irrigation System

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	44.9015	0.2783	6.7700e-003	53.8758
Unmitigated	45.3925	0.2783	6.7700e-003	54.3682

**7.2 Water by Land Use****Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	3.76607 / 2.30823	24.6359	0.1238	3.0300e-003	28.6356
Industrial Park	4.71288 / 0	20.7567	0.1545	3.7400e-003	25.7326
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>45.3925</b>	<b>0.2783</b>	<b>6.7700e-003</b>	<b>54.3682</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****7.2 Water by Land Use****Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	3.76607 / 2.16743	24.1449	0.1238	3.0300e-003	28.1432
Industrial Park	4.71288 / 0	20.7567	0.1545	3.7400e-003	25.7326
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>44.9015</b>	<b>0.2783</b>	<b>6.7700e-003</b>	<b>53.8758</b>

**8.0 Waste Detail****8.1 Mitigation Measures Waste**



## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	36.1689	2.1375	0.0000	89.6070
Unmitigated	36.1689	2.1375	0.0000	89.6070

**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	152.91	31.0394	1.8344	0.0000	76.8987
Industrial Park	25.27	5.1296	0.3032	0.0000	12.7083
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>36.1689</b>	<b>2.1375</b>	<b>0.0000</b>	<b>89.6070</b>

## LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****8.2 Waste by Land Use****Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	152.91	31.0394	1.8344	0.0000	76.8987
Industrial Park	25.27	5.1296	0.3032	0.0000	12.7083
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>36.1689</b>	<b>2.1375</b>	<b>0.0000</b>	<b>89.6070</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment****Fire Pumps and Emergency Generators**

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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**Boilers**

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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LADOT Electric Bus Maintenance Facility - Los Angeles-South Coast County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**User Defined Equipment**

Equipment Type	Number
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**11.0 Vegetation**

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