

CITY OF LOS ANGELES
INTER-DEPARTMENTAL MEMORANDUM

Date: September 5, 2023

To: Municipal Facilities Committee
Los Angeles City Hall East – Room 1500
Attention: Matthew W. Szabo, City Administrative Officer, Chair (CAO)

From: Connie Llanos, Interim General Manager
Department of Transportation

Subject: LADOT Washington Yard Microgrid Project

SUMMARY

This report provides an overview of the planned facility upgrade at the Los Angeles Department of Transportation’s Mid-City (“Washington”) Yard and funding plan. The project includes five 1.44 megawatt direct current chargers with eighty eight (88) power cord reels and a solar-power-supported microgrid. It is partially financed by a California Energy Commission grant.

RECOMMENDATION

LADOT recommends the Los Angeles Municipal Facilities Committee NOTE and FILE this report.

BACKGROUND

State regulation and local directives require that LADOT transition to a 100% zero-emission transit fleet. The Innovative Clean Transit Regulation issued by the California Air Resources Board (CARB) mandates that all transit agencies in California transition to 100 percent zero emission bus fleets by 2040. The City Council directed the department to achieve a 100% zero-emission transit fleet by 2030 or earlier (C.F. 17-0739). In Executive Directive 25 (Green New Deal for Los Angeles), Mayor Garcetti directed LADOT to achieve a 100% zero-emission transit fleet by the 2028 Olympics.

LADOT is converting its more than 400 bus fleet to battery-electric vehicles by replacing propane, compressed natural gas, and gasoline vehicles at the end of their useful life with battery-electric vehicles. LADOT put its first four BYD alternating current (AC) battery-electric buses into operation in 2017 and another 25 Proterra direct current (DC) battery-electric buses into operation in 2020. In October 2019, Council authorized LADOT to enter into an agreement with BYD Motors, LLC. to procure one hundred thirty (130) electric buses (30 AC buses and 100 DC buses) and thirty (30) 80kW AC Chargers (C-134342). Thirty-five buses (35) from this order have been delivered, with the remaining ninety-five (95) scheduled to be delivered through the end of 2023.

Over the next five years, LADOT will retrofit its bus yards to enable electric bus charging and maintenance. LADOT owns three of its four operations and maintenance facilities: (1) the North Yard (12760 Foothill Boulevard), (2) the Mid-City Yard (1910-1950 East Washington Boulevard), and (3) the Downtown Yard (454 Commercial Street). LADOT leases two properties: (1) the South Yard (1201 North Central Avenue, Compton, CA 90220), leased on LADOT's behalf by its South Region operations contractor, and (2) a future bus charging facility underneath the 10-Freeway at 16th Street and Maple Avenue, leased by LADOT from Caltrans. At this time, LADOT's bus yards are equipped with charging capacity for 26 AC buses and 53 DC buses. LADOT expects to be able to charge 34 AC buses by January 2023, 101 DC buses by June 2024, and up to 160 DC buses by June 2025.

MID-CITY ("WASHINGTON") YARD

LADOT purchased 1950 East Washington Blvd in 2018 and expanded it with the purchase of 1910 East Washington Blvd in 2019. LADOT operates sixteen DASH routes from the Washington Yard: Beachwood Canyon, Boyle Heights/East LA, Lincoln Heights/Chinatown, Crenshaw, El Sereno/City Terrace, Fairfax, Observatory/Los Feliz, Highland Park/Eagle Rock, Hollywood, Hollywood/Wilshire, King-East, Larchmont Shuttle, Leimert/Slauson, Midtown, Pico Union/Echo Park, and Wilshire Center/Koreatown.

Propane, CNG, and electric buses operate from the Washington Yard. The yard includes a propane fueling station, a CNG fueling station, and eight AC chargers. Four AC bus chargers were installed in 2017 to charge LADOT's original four AC battery-electric buses. LADOT, with support from LADWP, GSD, and BOE, installed an additional four AC bus chargers in August 2023. The eight installed AC chargers are able to charge up to 34 AC buses. LADOT will soon phase out propane buses at the Washington Yard. Once additional charging infrastructure is established at the Washington Yard, LADOT will phase out CNG buses.

WASHINGTON YARD MICROGRID PROJECT

The Washington Yard Microgrid project will consist of five (5) 1.44MW chargers with eighty eight (88) DC dispensers and twenty four (24) 80kW AC dispensers; solar panels, canopies, and carports; and a Battery Electric Storage System (BESS). Once complete, the project will be able to charge over 100 battery-electric buses.

The project is made possible by a grant from the California Energy Commission. In November 2020, Council authorized LADOT to submit an application for the California Energy Commission (CEC) Clean Transportation Program for Zero-Emission Transit Fleet Infrastructure Deployment grant to design and build the Washington Yard Microgrid Project. The CEC selected the project for award and in November 2021, LADOT entered into a grant agreement ARV-21-041 with the CEC. Within the application and grant agreement, LADOT named four external project partners and outlined each partners' expertise and project scope.

A microgrid is a small, self-contained electricity system that generates, stores, and uses electricity. While it is generally connected to the main power grid (“the grid”), a microgrid can disconnect from the grid during an outage. When the grid is functioning normally, any excess power generated by the Washington Yard Microgrid can be fed back into the grid. When there is an outage, the microgrid can disconnect from the grid and use its own energy (generated by solar panels and stored in the Battery Energy Storage System) to power the yard’s EV chargers, maintenance bays, and dispatch center. In an emergency, the microgrid can be used as a source of power for other critical emergency services. The project will also reduce LADOT’s energy costs through the capture and use of solar energy. The Washington Yard Microgrid will be one of the Country’s first microgrids to support charging a battery-electric bus fleet.

LADOT is staging the project in two phases. Phase I includes design, engineering, and permitting for the Washington Yard Microgrid Project at the 1950 E Washington Blvd parcel. It will also include an electrical assessment of the 1910 E Washington Blvd parcel to aid LADOT in determining what types of infrastructure upgrades can be integrated into the project in the future. In July 2023, LADOT executed a contract with Apparent, Inc. to complete this scope. Phase I is expected to be completed in spring 2024.

Phase II is anticipated to begin in spring or summer of 2024, pending contracting timelines. It consists of procurement and construction of the five (5) 1.44MW Chargers with eighty eight (88) DC dispensers; procurement, construction, and installation of solar panels, canopies, carports; installation of a Battery Electric Storage System (BESS); and LADWP power upgrades. Phase II will also include project evaluation (data analysis) and community outreach and education. Phase II is expected to take at least two years to complete due to the timeline anticipated for the required LADWP power upgrades.

CEC GRANT REQUIREMENTS

The grant agreement funds are currently set to liquidate in June 2026. To meet the grant timeline, LADOT would need to meet the following milestones:

- Project completion in December 2024;
- One year of operational data collection January-December 2025;
- Final analysis report submitted in March 2026; and
- Grant liquidation in June 2026.

Due to unanticipated delays in contracting and long lead times for LADWP power upgrades, LADOT is approximately two years behind schedule and anticipates completing the project in December 2026. LADOT meets monthly with the grantor and reports quarterly, and is working with the grantor to secure an extension.

WASHINGTON MICROGRID PROJECT BUDGET

LADOT has \$27,665,374 designated for transit yard electrification. In prior year appropriations, LADOT has a balance of \$19,970,000 for the purposes of electrifying its maintenance yards. In the FY 23-24 budget, the City Council authorized an additional \$4,295,374 from Prop A and \$3,400,000 in

Municipal Improvement Corporation of Los Angeles (MICLA) funding to electrify LADOT transit yards.

The Washington Yard Microgrid Project is estimated to cost \$21.6 million. Phase I will cost \$3.9 million (LADOT executed a \$3.9 million contract with Apparent, Inc. for Phase I in July 2023). This contract is funded by FY 2020 Proposition A Local Transit Assistance (PALTA) budget, Fund No. 385, Account 94SA20 - Facility Upgrades for Electrification. This contract reduces the overall available local available funds for yard electrification to \$23.8 million.

Phase II is estimated to cost \$17.7 million. LADOT has assembled the budget for Phase II from several funding sources. To date, LADOT has secured \$14.38 million for Phase II:

- \$6 million from the California Energy Commission
- \$2.67 million from the Federal Transit Administration in FTA 5307 15%
- \$1.77 million from Caltrans in SB1 State of Good Repair (SGR)
- \$3.4 million from Caltrans in Transit and Intercity Rail Capital Program (TIRCP)
- \$540,000 from Los Angeles Department of Water and Power (via an MOU that provides LADWP funds to LADOT in exchange for Low-Carbon Fuel Standard tax credits)

Phase II of the project will take three years to complete with expenditures beginning in FY24 and ending in FY27. LADOT expects to spend \$7.7 million on Phase II in FY24 from a combination of Prop A and MICLA sources. Most of the money to be spent in FY24 on Phase II is reimbursable from the above funding sources.

LADOT will continue to seek additional funds in future budget cycles and from external grant sources. If LADOT is unable to secure additional funds, Phase II will require the use of \$3.32 million in non-reimbursable Prop A funds for electrification.