





California Energy Commission Clean Transportation Program

FINAL PROJECT REPORT

EVgo Final Report for Reliable Fast Charging Access for Multi-Family Housing — Northern California

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Prepared by: EVgo Services LLC



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Jessica Crawford **Primary Author**

EVgo Services LLC 11835 W Olympic Blvd, Ste 900E Los Angeles, CA 90064

Agreement Number: ZVI-22-005

Sara Sanders

Commission Agreement Manager

Corey Permann

Branch Manager

PASSENGER ELECTRIC VEHICLE INFRASTRUCTURE BRANCH

Hannon Rasool
Director
FUELS AND TRANSPORTATION

Drew Bohan **Executive Director**

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PREFACE

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Clean Transportation Program. The statute authorizes the California Energy Commission (CEC) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the Clean Transportation Program through January 1, 2024, and specifies that the CEC allocate up to \$20 million per year (or up to 20 percent of each fiscal year's funds) in funding for hydrogen station development until at least 100 stations are operational.

The Clean Transportation Program has an annual budget of about \$100 million and provides financial support for projects that:

- Reduce California's use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
- Produce sustainable alternative and renewable low-carbon fuels in California.
- Expand alternative fueling infrastructure and fueling stations.
- Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
- Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
- Establish workforce-training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

To be eligible for funding under the Clean Transportation Program, a project must be consistent with the CEC's annual Clean Transportation Program Investment Plan Update. The CEC issued GFO-21-603 to demonstrate replicable and scalable business and technology models for large-scale deployment of electric vehicle (EV) charging infrastructure capable of maximizing access and EV travel for multi-family housing (MFH) residents. In response to GFO-21-603 the recipient submitted an application which was proposed for funding in the CEC's notice of proposed awards on May 11, 2022 and the agreement was executed as ZVI-22-005 on December 9, 2022.

ABSTRACT

This report summarizes the work completed by EVgo for the Reliable Fast Charging Access for Multi-Family Housing – Northern California Project. EVgo installed nine direct current fast chargers (DCFCs) capable of serving ten stalls in two locations in Santa Clara County to increase availability of accessible fast charging infrastructure that benefits multi-family housing residents. Additionally, EVgo subcontracted Forth to conduct community outreach to raise awareness of the new charging stations and promote EV adoption; part of which included the distribution of 100 charging vouchers to local EV drivers.

Keywords: Electric vehicles, fast charging stations, multi-family housing, community outreach, Northern California

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EXECUTIVE SUMMARY

Direct current fast chargers (DCFCs) are essential near multi-family housing to support the growing demand for clean transportation and make EV ownership more accessible. Many residents of apartments lack dedicated parking spaces with charging infrastructure, making it challenging to charge their vehicles overnight. Closely located DCFCs provide a practical solution to this problem by enabling quick, efficient charging during the day or in between commutes. Placing fast chargers near multifamily housing properties can encourage more people to transition to EVs, reduce reliance on fossil fuels, and support broader environmental goals. Additionally, it ensures equity in access to sustainable transportation, as renters, who may not have home charging options, can still benefit from the convenience and benefits of electric mobility.

EVgo installed nine DCFCs capable of serving ten stalls in two locations in Santa Clara County for the benefit of nearby multifamily housing residents. The charging stations are located at the following locations:

- Seven Trees Shopping Center: 4060 Monterey Rd, San Jose, CA 95111
- Chase Bank: 17599 Monterey St, Morgan Hill, CA 95037

It took just over two years to operationalize these charging stations. This is a typical build schedule for most DCFC infrastructure. The most critical component to stay on target with this timeframe was early coordination with the utility to assess needed power capacity/upgrades as well as get ahead on the long lead time for utility-side make-ready equipment.

To encourage use by multi-family housing residents, Forth was contracted by EVgo to market the charging stations to target demographics and deliver 100 complimentary EVgo Plus vouchers in Northern California. This was done through an online survey, in-person outreach, and social media posts. In-person outreach was the most successful method for getting responses.

Overall, these nine DCFCs will provide local charging access for approximately six different nearby multifamily housing units as well as the greater Northern California community. It is anticipated that these charging stations will divert upwards of 9,600 tons of greenhouse gas emissions over the next 10 years, helping to contribute to improved air quality for the region.

The Final Report section summarizes the work performed throughout this project and the outcomes. The Data Collection and Analysis section presents key data metrics associated with this project.

Final Report

Purpose

The goal of this project was to install nine DCFCs capable of serving ten stalls in two locations in Santa Clara County to increase availability of accessible fast charging infrastructure that benefits multi-family housing residents.

Approach

EVgo identified project locations within its network plan that fell within a 5-mile radius of multiple multifamily housing complexes that also contained affordable housing units. EVgo negotiated with the property owners to lease space to house the charging stations and also owned and operated the equipment and network. The EVgo team facilitated the project management and oversaw the subcontractors that led the design and construction work. Once the chargers were online, EVgo coordinated with Forth to promote the charging stations to EV drivers that resided in nearby multifamily housing.

Activities Performed

There were numerous steps to bring the charging stations from concept to completion. The main stages and their associated activities are as follows:

- 1. Investigation
 - a. Site Assessment
 - b. Drone Surveys
- 2. Feasibility
 - a. Conceptual Layout
 - b. Utility Assessment
 - c. Financial Review
- 3. Initial Design
 - a. Site Survey
 - b. CD30 (30% finalized construction drawing)
 - c. Executed Site Host Agreement
- 4. Final Design
 - a. CD90 (90% finalized construction drawing)
 - b. Final Capital Expenditures
 - c. CD100 (100% finalized construction drawing)
- 5. Permitting
 - a. Planning/Zoning Approval
 - b. Building Permit
- 6. Utility Development
 - a. Switchgear Allocation
 - b. Final Utility Design

- c. Executed Utility Easement
- 7. Pre-Construction
 - a. Solicit Installation Contractor
 - b. Final Approvals
 - c. Pre-Construction Meetings with External Parties
- 8. Construction
 - a. Charging Equipment Request/Delivery
 - b. Electrical Distribution Equipment Request/Delivery
 - c. Utility Approval for Construction
 - d. Installation
 - e. Punch Walk
- 9. Utility Construction
 - a. Meter Installation
 - b. Energization
- 10. Commissioning
 - a. Municipal Inspection
 - b. Operationalize

There were also various activities involved in performing the community outreach. Forth was contracted by EVgo to deliver 100 complimentary EVgo Plus vouchers in Northern California. Distribution was targeted among Justice40 residents mainly residing in multifamily housing located near the two fast charging stations. Potential program participants were led to an online form hosted by Forth, which collected demographic information, including where applicants live in relation to the program chargers. Forth staff reviewed responses and then sent qualifying applicants EVgo voucher codes with information on how to register for complementary EVgo Plus memberships. Additionally, Forth performed a few in-person outreach campaigns at the charging stations to recruit eligible participants and share information about the EVs. There were also several social media posts published in both English and Spanish.

Results

Six DCFCS constituting six ports went online at Seven Trees Shopping Center. Three DCFCs constituting four ports went online at Chase Bank.

100 EVgo Plus vouchers in Northern California were redeemed.

Advancements in Science and Technology

While these projects were standard, they have helped increase the availability of charging stations to those that may not have access to in-home charging. Intentional placement of DCFCs in communities that could benefit the most from EVs enhances equity in the transportation industry and supports the fulfillment of EVgo's "Electric for All" mission.

Project Success

EVgo was able to meet the objectives set out in this agreement, and therefore, considers the completion of this project a success. The charging stations were operational within two years,

all 100 EVgo Plus Subscriptions were redeemed, reports/deliverables were submitted according to the schedule with minor adjustments, and the charging stations have been getting high utilization.

The charging stations and vouchers will contribute to increased access to charging for MFH residents in Northern California.

Observations

It took just over two years to operationalize these charging stations. This is a typical build schedule for most DCFC infrastructure. The most critical component to stay on target with this timeframe was early coordination with the utility to assess needed power capacity/upgrades as well as get ahead on the long lead time for utility-side make-ready equipment.

As far as the outreach, in-person outreach significantly outperformed social media efforts in driving participation. Conversations with potential program applicants often resulted in conveying knowledge about the benefits of EVs and sharing information on incentive programs that ease the financial burden of purchasing and charging EVs. However, it is evident that there is still a limited EV presence in MFH areas primarily due to broader economic and structural barriers. While free EVgo Plus memberships provide some relief, deeper subsidies are needed to make EV adoption truly viable for low-income drivers.

Conclusions

EVgo appreciates the support provided from the CEC to be able to successfully deploy two charging stations that can serve multi-family housing residents as well as any EV driver in California.

Recommendations

If EVgo were to do this project differently, one step the agreement team might consider taking is to work with a community-based organization to help gather feedback from multifamily housing residents on their preferences and charging needs. Conducting surveys or hosting focus groups could provide valuable insights into where residents would prefer charging stations to be located, and any concerns they may have regarding accessibility, cost, or availability. By directly involving residents in the planning process, EVgo could better understand the specific challenges faced by those without dedicated parking spots and ensure the deployment of chargers in locations that maximize convenience and usage.

Data Collection and Analysis

One-Time Data

EVgo compiled the following data, to the extent it is available to us:

- Number, type, date, and location of chargers installed
- Nameplate capacity of the installed equipment, measured in kilowatts (kW) for chargers
- Number and type of outlets per charger
- Location type
- Total cost per charger, the subsidy from the CEC per charger, federal subsidy per charger, utility subsidy per charger, and privately funded share per charger
- EV adoption of residents in the multi-family housing served by the project
- Success rate of property recruitment
- Number of multi-family housing units served by the project
 - Number of multi-family housing units in disadvantaged or low-income communities
 - Number of affordable housing units

12 Months of Data

EVgo compiled the following data, to the extent it is available to us:

- Number of charging sessions
- Number of unique users
- Number of unique users who are residents in multi-family housing units identified in the project
- Number of sessions by each recipient of a free EVgo Plus subscription offered under this project, anonymized
- Average charger downtime
- Peak power delivered (kW)
- Duration of active charging, hourly
- Duration of charging session, hourly
- Average session duration
- Energy delivered, measured in Kilowatt-hours (kWh)
- Average kWh dispensed
- Types of vehicles using the charging equipment
- Applicable price for charging
- Payment method for public charging
- Energy delivered back to grid or facility if a bidirectional charging use case (kWh)
- Normal operating hours, uptime, downtime, and explanations of variations

- Gallons of gasoline and/or diesel fuel displaced
- Expected air emissions reductions

Renewable Energy

There is no current or planned use of renewable energy at the facility. However, EVgo was the first EV charging network in the U.S. to use 100% renewable energy to power its charging stations. EVgo contracts with its energy suppliers and renewable energy certificate partners to ensure that each gigawatt-hour delivered on its fast-charging network financially supports an operating renewable energy generator in the U.S.

Facility Energy Efficiency

EVgo just leases parking lot space for these two sites and is not the property owner or facility manager. The EVgo team therefore cannot speak to the energy efficiency measures used in the associated facilities that may exceed Title 24 standards in Part 6 of the California Code Regulations.

Economic Development

Four different subcontractors were hired to complete this project, which created jobs for a handful of people throughout the two-year design and construction window. Additionally, this work was made possible by EVgo's 300+ employees. With these projects being located at shopping centers, it is likely that EV drivers will shop while charging their cars, potentially resulting in increased business and sales and ultimately state revenue through sales tax.

Greenhouse Gas Emissions

To date, the charging stations have collectively displaced 963 tons in greenhouse gases. At this rate, the charging stations may displace as much as 9,600 tons over a 10-year life-cycle.

Proposal vs. Actual Comparison

In the application, EVgo proposed to build 4x 350 kW and 2x 100 kW DCFCs at Seven Tree Shopping Center and 2x 350 kW and 2x 100 kW DCFCs at Chase Bank. This aligns identically to the project that the EVgo team delivered on.

GLOSSARY

BATTERY ELECTRIC VEHICLE (BEV)—Also known as an "All-electric" vehicle (AEV), BEVs utilize energy that is stored in rechargeable battery packs. BEVs sustain their power through the batteries and therefore must be plugged into an external electricity source in order to recharge.

CALIFORNIA DEPARTMENT OF TRANSPORTATION (Caltrans)—Responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the state's boundaries.

CALIFORNIA ENERGY COMMISSION (CEC)—The state agency established by the Warren-Alquist State Energy Resources Conservation and Development Act in 1974 (Public Resources Code, Sections 25000 et seq.) responsible for energy policy. The Energy Commission's five major areas of responsibilities are:

- 1. Forecasting future statewide energy needs
- 2. Licensing power plants sufficient to meet those needs
- 3. Promoting energy conservation and efficiency measures
- 4. Developing renewable and alternative energy resources, including providing assistance to develop clean transportation fuels
- 5. Planning for and directing state response to energy emergencies.

DIRECT CURRENT (DC)—A charge of electricity that flows in one direction and is the type of power that comes from a battery.

DIRECT CURRENT FAST CHARGER (DCFC) – Electric vehicle charging that uses direct current anywhere from 200 to 1000 volts and can reach a maximum power output of 450 kilowatts.

ELECTRIC VEHICLE (EV) – A type of vehicle that is powered entirely or partially by electricity, rather than by traditional internal combustion engines that run on gasoline or diesel.

KILOWATT (kW) -- One thousand (1,000) watts. A unit of measure of the amount of electricity needed to operate given equipment. On a hot summer afternoon a typical home, with central air conditioning and other equipment in use, might have a demand of four kW each hour.

KILOWATT-HOUR (kWh) -- The most commonly-used unit of measure telling the amount of electricity consumed over time. It means one kilowatt of electricity supplied for one hour. In 1989, a typical California household consumes 534 kWh in an average month.

MULTI-FAMILY HOUSING (MFH) - A type of residential building or complex that contains multiple separate housing units designed to accommodate more than one family.