



Memorandum

TO: TRANSPORTATION AND
ENVIRONMENT COMMITTEE

FROM: Matt Loesch
Lori Mitchell
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**SUBJECT: ELECTRIC VEHICLE FLEET AND
CHARGING INFRASTRUCTURE
UPDATE**

DATE: November 13, 2023

Approved

Date

11/22/23

RECOMMENDATION

Accept the report on the status of the Electric Vehicle Fleet and Charging Infrastructure Workplan.

BACKGROUND

Emissions from transportation make up about half of San José's total greenhouse gas emissions.¹ Electrifying transportation through the adoption of electric vehicles (EVs), buses, medium- and heavy-duty vehicles, and e-bikes will be a major factor in reducing emissions. In Fiscal Year (FY) 2023-2024, the Departments of Energy (administrator of San José Clean Energy), Public Works, and Transportation are focused on two priorities:

1. Developing a master plan to electrify the City of San José fleet and install accompanying charging infrastructure, and
2. Ensuring residents have equitable access to public charging infrastructure and affordable charging rates.

Departments are prioritizing these areas in response to state regulations and City climate goals.

In August 2022, the California Air Resources Board established the Advanced Clean Cars rule that will rapidly scale down the availability of new cars that run on gas, and by 2035, only zero-emission cars and light trucks will be for sale.² San José's pathway to Carbon Neutrality by 2030 accelerated the city's Climate Smart goals to transition 79-88% of passenger vehicles to electric by 2030 and reduce commute trips in single-occupancy vehicles.³

¹ [Climate Smart San José 2021 Communitywide Greenhouse Gas Inventory](#)

² [California Air Resources Board Press Release August 25, 2022](#)

³ According to the [California Energy Commission](#), Santa Clara County leads the state in EV adoption; more than 43% of new cars purchased this year have been electric.

In April 2023, the California Air Resources Board adopted the Advanced Clean Fleet rule, which requires many fleets in the state, including local government fleets, to begin to transition medium and heavy-duty vehicles to zero-emission options, which includes electric and hydrogen, starting in 2024.⁴

There are two compliance pathways:

1. Starting in 2024, 50% of new vehicle purchases must be zero-emission; that increases to 100% starting in 2027; or
2. Transition a percentage of vehicles to meet zero-emission milestones that increases to 100% by 2035-2042, depending on vehicle type (Appendix 1).

The rule is expected to drive manufacturers to produce more zero-emission trucks. However, fleet owners can request exemptions to purchase an internal combustion engine vehicle if a zero-emission option does not exist and the fleet cannot meet the targets. The Department of Public Works manages the City's fleet and associated equipment, including 2,900 active assets, of which 2,100 are vehicles utilized across all City departments. Approximately 50% of the vehicles use alternative fuels, including renewable diesel, propane, and all-electric or hybrid fuel mixes. All-electric and hybrid vehicles make up nearly 12% of the City's fleet inventory, equating to nearly 250 vehicles, with 200 current charging stations throughout Citywide facilities and another 20 charging stations coming online with the new Fire Training and Emergency Operations Center.

In the community, EV adoption has been concentrated among higher-income households that can charge at home. While the high purchase prices have been a barrier to EV adoption for many, federal and state programs and market forces are making EVs more affordable and accessible for low-income consumers. However, low-income households and renters face barriers to installing charging at their homes and have little access to public charging infrastructure (Figure 1). Low-income single-family homeowners and renters may lack the financial resources to purchase and install chargers at home. Residents of multi-family housing often do not have control over the upgrades and improvements to the property needed to install chargers. Space and electrical capacity constraints and higher costs may limit the number of chargers property managers are willing to install in multi-family housing. The private sector has primarily invested in charging infrastructure in high-income areas where EV adoption is highest, creating a feedback loop that exacerbates the charging gap and leaves low-income communities and communities of color behind.

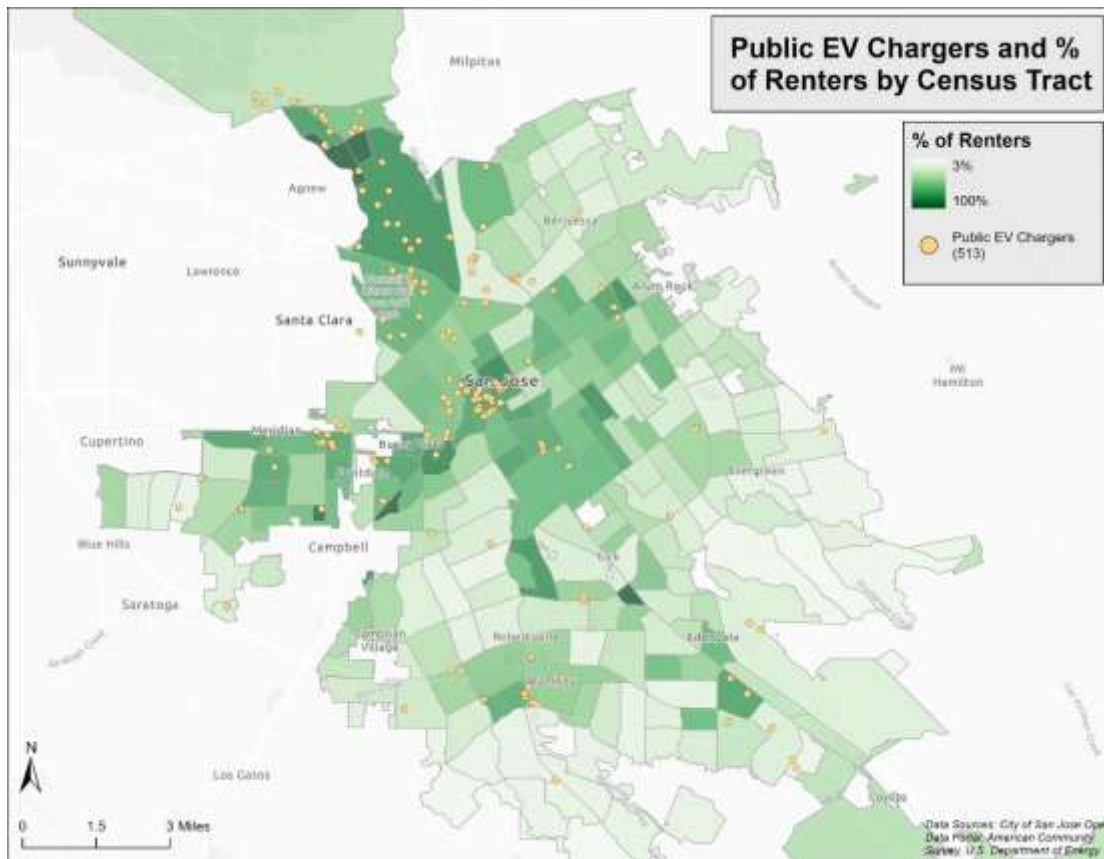
San José Clean Energy's \$14 million California Electric Vehicle Infrastructure Project (CALeVIP) investment with the California Energy Commission is increasing the prevalence of charging infrastructure in low-income communities, but more public investment is needed to close the charging access gap.⁵ Control of EV charging retail rates will be essential for the City

⁴ [California Air Resources Board Press Release April 28, 2023](#). CARB has not set a rule requiring fleets to transition light-duty vehicles to zero-emissions options. However, fleets face the market conditions created by CARB's Advanced Clean Cars rule.

⁵ [Memorandum to the City Council, October 22, 2019](#); [Project page](#).

to ensure that low-income residents have affordable charging options. Fast-charging retail rates – set by third-party owners of chargers – can be 40% higher than off-peak home charging rates.⁶ While both options cost less than gas, residents unable to charge at home may face higher fueling costs without intervention.

Figure 1. Public EV Chargers and Percentage of Renters by Census Tract (Data Sources: City of San José Open Data Portal, American Community Survey, U.S. Department of Energy)



Helping car owners switch from gas to electric-powered vehicles will significantly reduce emissions. It won't reduce the number of vehicles or traffic on our roads, and it will not make our roads safer for pedestrians and cyclists. It also doesn't fundamentally address equity as many people cannot drive for a variety of reasons, such as cost, age, or disability. To ensure that all residents have access to zero-emission transportation, staff recommend expanding the number, variety, and affordable options that are available throughout the city, including but not limited to bikeshare, shared scooters, electric microtransit (on-demand neighborhood shuttles), and e-carshare services.

Three Council-approved plans have guided previous staff work in the two priority areas: Public Works Department's Green Fleet Policy and Vehicle Replacement Policy, Transportation

⁶ Assumes off-peak home charging rate of \$0.28/kWh versus \$0.40/kWh for public fast charging.

Department's Electric Mobility Roadmap, and Energy Department's Programs Roadmap.⁷ The FY 2023-2024 EV Fleet and Charging Infrastructure work plan is the result of a staff prioritization exercise that builds off actions identified in the Council-approved plans. Staff first developed a list of 28 initiatives that could possibly be pursued to support EV adoption and the installation of charging infrastructure, both internally for the City's use and externally for the public. With support from the City Manager's Office, representatives from each department participated in a prioritization exercise, scoring initiatives according to Community Value, Opportunity Enablement/Risk Mitigation, Time Criticality, and Job Duration and ultimately yielding a score for each initiative. The team then reviewed the prioritized list and identified a shortlist of initiatives to pursue in FY 2023-2024.

ANALYSIS

The FY 2023-2024 EV Fleet and Charging Infrastructure work plan includes several initiatives in the two priority areas, outlined in subsections below. Staff stood up two working groups, each focused on one of the priorities, with some overlapping staff. Ultimately, both working groups have the common goal of increasing the amount of charging infrastructure in San José to meet both fleet and public needs. Federal, state, and local programs are providing billions in grant funding to municipalities to install EV charging infrastructure over the next years (Appendix 2). Coordination between the departments on grant funding opportunities and applications will be essential, especially since many grant funding opportunities require 24/7 public access to chargers but some allow designated chargers for fleets. Staff envisions applying for grants to install chargers⁸ on City properties for fleet and public use – including for shared services like electric bike share – particularly in low-income communities with little to no public charging infrastructure.

Fleet Electrification

In the Fleet Electrification working group, Public Works and Energy Departments' staff is focused on bringing on a consultant soon to develop a Fleet Electrification Master Plan. The Master Plan will include several analyses, strategies, and recommendations, such as:

- A vehicle procurement and charger installation schedule that considers compliance with the Advanced Clean Fleet rule, the release of new medium and heavy-duty models and technologies, and the long lead times for vehicle and equipment supply chains, utility upgrades, and securing funding.
- Costs for EV procurement, charging installations, and lifetime fueling costs (electricity) will be compared against internal combustion engine procurement and lifetime fueling costs (gasoline).
- Assessments of the electrical capacity of City buildings and grid capacity on the circuit to identify the best approaches to install charging infrastructure in the most needed areas for

⁷ [Green Fleet Policy](#), [Electric Mobility Roadmap](#), [San José Clean Energy Programs Roadmap](#)

⁸ Level 1, Level 2, and/or Level 3 (Direct Current Fast Charging)

fleet, employee, and public vehicles. On the fleet side, this will be compared against vehicle telematics data, which charts where vehicles are at any time of day and where they are parked in the evening, as well as different team needs (e.g., for the vehicle to be available for rapid response 24/7) to identify the best strategy for charging and the number of chargers needed.

- Opportunities for future-proofing to reduce costs and take advantage of emerging vehicles and fueling/charging technologies.
- Charging strategies that can decrease capital and operating costs and greenhouse gas emissions while maintaining service levels and the City's ability to control pricing, which may include charging- or EV-as-a-service-contracts with private companies, siting privately owned and operated charging infrastructure on City property, shared charging stations, and daytime charging.

Staff is targeting to receive a final Master Plan in Q2 of calendar year 2024 to position the City for grant applications to fund charging infrastructure for the City fleet, including potentially the Bipartisan Infrastructure Law's Charging and Fueling Infrastructure Community Program.⁹

Charging Infrastructure Geographic Information System (GIS) Planning Tool

Department of Transportation staff has developed a GIS planning tool to identify strategic locations to deploy charging infrastructure and utilize for grant applications. Layers include existing public EV chargers; regional, state, and federal equity screens; City facilities; public transit stops/stations; census tracts; and City designations, such as council districts and neighborhoods. In FY 2023-2024, staff will work with a consultant to refine the tool and maximize usability. Priority fleet charging locations identified in the Master Plan will be included in the GIS planning tool once available.

Other Charging Infrastructure Initiatives

Some of the initiatives to be pursued in FY 2023-2024 include:

- **Direct Current Fast Charging Hubs Pilot Program:** In November 2022, the City Council approved a fast charging hubs pilot program, whereby San José Clean Energy would enter into tolling agreement(s) with one or more vendors to deploy one to three fast charging hubs at City-owned or private sites in low-income communities to increase access to affordable and reliable EV charging. Each hub would contain parking spaces and chargers to accommodate at least 10 EVs and run for ten years. San José Clean Energy would control variable retail pricing to encourage middle-of-the-day charging. Since then, staff have bid out the program, negotiated with bidders, interviewed other market participants, and determined that the program should be rebid to receive more offers. Additionally, staff believe there could be cost and scaling benefits if the program were to align with the City's fleet charging needs. The consultant producing the Fleet

⁹ [Press release Charging and Fueling Infrastructure Discretionary Grant Program March 14, 2023](#)

Electrification Master Plan will analyze whether there are synergies; if so, staff will return to the City Council for consideration of an amended program proposal.

- **Third-party Charging Providers:** Energy and Transportation Department staff will explore whether allowing third-party charging providers such as Tesla and EVGo to install chargers on City property could help the City meet fleet and public charging needs cost-effectively and equitably. The City could benefit from having control over or influencing the retail rates, specifically to better reflect the cost of energy on the power grid and include discounts for low-income residents and/or the City fleet. Staff will work with the City Attorney's Office and Office of Economic Development to develop a policy similar to Council Policy 7-10,¹⁰ which guides macro telecommunication installations on city-owned facilities, to standardize the requirements and process for EV charger installations.
- **Workplace Charging Analysis:** Energy staff will hire a consultant to review the Department of Transportation's commute data to determine whether major companies in San José employ residents from lower-income parts of the city. Findings could inform a future workplace charging program whereby San José Clean Energy could provide a rebate or install chargers at employers while retaining control of the retail rates to ensure low-income residents have access to affordable charging. Incentivizing workplace charging also helps San José Clean Energy meet its goal of shifting more EV charging to the middle of the day to help ensure abundant clean solar resources are fully utilized, thereby reducing greenhouse gas emissions, energy procurement costs, and customer rates.

Shared and Micromobility Initiatives

The City has received two grants in 2023 to advance shared and micro-mobility projects, including:

- **Micro-Mobility Hubs on San Fernando Street.** In July 2023 the City received a \$1.5M grant award from the MTC Mobility Hub Program to develop two micro-mobility hubs on San Fernando Street, which is currently being re-designed to better accommodate bike, pedestrian, and transit users. The proposed micro-mobility hubs will be installed once the San Fernando project is completed and will further improve the services available to pedestrians and people who travel by transit and micro-mobility, including e-bike/e-scooter chargers.
- **¡Bikeshare en Mayfair!** In October, the City was awarded a \$1.5 million Clean Mobility Options grant from the California Air Resources Board (CARB) to help Lyft/Bay Wheels extend bike share to the Mayfair neighborhood; for the Department of Transportation to work with local community-based organizations to encourage its use; and to subsidize the cost of rides to and from the community. The program will include e-bikes.

¹⁰ [Council Policy 7-10 Placement of Communication Facilities on City-Owned Property](#)

Additionally, on November 7, Lyft/Bay Wheels announced that with support from the Metropolitan Transportation Commission (MTC), it will deploy 650 e-bikes in San José, in addition to the approximately 100 currently available. This Spring, MTC approved an investment of about \$17M in the region's bikeshare system, most of which is dedicated to increasing the number of e-bikes in the program. Approximately \$5 million of that total is being spent in San José.

COORDINATION

This memorandum has been coordinated with the City Attorney's Office and City Manager's Budget Office.

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For questions, please contact Kate Ziemba, Senior Environmental Program Manager, Energy Department, at kate.ziemba@sanjoseca.gov.

ATTACHMENTS

- Appendix 1: California Advanced Clean Fleet Rule: Zero-emission Vehicle Fleet Milestones by Milestone Group and Year
- Appendix 2: Summary of Upcoming EV Charging Infrastructure Grant Opportunities

Appendix 1:

California Advanced Clean Fleet Rule: Zero-emission Vehicle Fleet Milestones by Milestone Group and Year (Source: [California Air Resources Board](#))

Percentage of vehicles that must be zero-emission	10%	25%	50%	75%	100%
Milestone Group 1: Box trucks, vans, buses with two axles, yard tractors, light-duty package delivery vehicles	2025	2028	2031	2033	2035 and beyond
Milestone Group 2: Work trucks, day cab tractors, buses with three axles	2027	2030	2033	2036	2039 and beyond
Milestone Group 3: Sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042 and beyond

Appendix 2: Summary of Upcoming EV Charging Infrastructure Grant Opportunities

Grant Name/Agency	Opportunity	Application Amount	Timeline
Sustainable Transportation Planning Grant, Caltrans (State)	Available for technical planning, such as development of a strategic Electric Vehicle Charging Station Network Plan	\$300,500 (total project cost)	Apply in Winter 2024; awarded Summer 2025
Transformative Climate Communities, Sustainable Growth Council (State)	Department of Transportation applied for funds for electric shared mobility education and community engagement	\$300,000 (total project cost/grant amount), 0% match	Applied in Fall 2023, awarded Winter 2023
Sustainable Transportation Equity Program (STEP) + CARB’s Clean Mobility in Schools (CMIS) State of California Joint Program	Department of Transportation is developing an East San José Mobility Equity proposal for an East San Jose electric microtransit pilot and the installation of 12 EV chargers. If awarded, the program will provide funding for up to 300 vulnerable and very low-income residents to access micro-mobility and transit services; and will support other programs such as e-bike cargo delivery, mechanic apprenticeships, and key safety/promotion events, including support for Viva Calle.	To be determined	Application due Fall 2023
Communities in Charge	Departments considering application in FY 2023-2024 once design work for selected priority sites is completed.	N/A	To be determined
Transit station public charging program, Metropolitan Transit Commission	Department of Transportation reviewing opportunity with VTA to consider application in FY 2023-2024	N/A	To be determined

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Charging and Fueling Infrastructure (CFI) Community Program, US DOT – 2023 funding round	Department of Transportation applied for funding to install 12 Level 2 chargers at three libraries in East San José	\$1.2M	Applied in spring 2023; notice of award expected in the coming months
Charging and Fueling Infrastructure (CFI) Community Program, US DOT – Future funding round	Energy Department considering applying to install more Level 2 and/or fast chargers at various City properties to meet fleet and public charging needs (20% match requirement)	\$10-20M	Next round of funding expected to open Q2 CY 2024