

City of Alexandria, Virginia
FY 2023 Proposed Operating Budget & CIP
Budget Questions & Answers

April 4, 2022

Question: I would like additional detail on how many personal car owners do own EV personal cars in Alexandria currently, if we know where in the city they are generally located, if they own their own chargers, the ratio we would expect (example, if there are 1,200 cars, and we have 2-3 cars per charger...) to see to determine how many EV \$500,000 would buy in this budget this year, where these EV chargers would be placed, if like gas, the chargers would have a purchase option for car owners, or if it is expected that the service would be free for those owners, and where we are in terms of partnerships and grants to assist in purchasing these chargers. I would like all of this explored in order to decide costs/benefits of this CIP service for our constituents.

Response:

The Electric Vehicle Charging Infrastructure Capital Improvement Program project is proposed to accomplish three outcomes:

- 1) To invest in charging infrastructure to support the City fleet's transition to electric vehicles per the City's Alternative Fuel Vehicle Policy.
- 2) To invest in focused publicly-accessible charging at City locations, including parks, libraries, and recreation centers.
- 3) To invest in make-ready or matching funds to support P3 or utility partnerships, and state or federal government grants.

City Fleet Charging

The funding proposed in FY 2023 is to support installation of charging infrastructure for the City fleet electric vehicle needs – including additional site planning and engineering – for an estimated minimum of 40-50 City fleet vehicles (depending on charger type and location, for fleet applications, we estimate about 2-3 vehicles per charger port, on average). For FY 2024 and beyond, additional funding is proposed for continuing implementation of charging infrastructure for City fleet needs. Alternative budget scenarios funding will support additional investment in City fleet charging.

Publicly-Accessible Charging

Based on analysis of the 2021 year personal property tax data, there are about 1,200 battery-electric (BEV) and plug-in hybrid electric (PHEV) vehicles registered in Alexandria. Analyses of the spatial distribution of these electric vehicles, or whether electric vehicle owners have a charger installed at their household or dwelling, are not available.

Best estimates suggest that the number of registered BEV's and PHEV's reflect approximately 1 percent of all cars registered in Alexandria. The number of electric vehicles are expected to grow significantly as automobile manufacturers phase out production of traditional, internal-

combustion engine vehicles. The City's Electric Vehicle Charging Infrastructure Readiness Strategy (EVRS)¹ estimates that, subject to supportive shifts in federal, state, and local policies, the number of electric vehicles could precipitously grow to be nearly 40 percent of all new car registrations in Alexandria by 2030.

The City's EVRS estimates the Alexandria community's charging infrastructure needs over time. Most charging needs over time will be accommodated through charging infrastructure installed at household and workplace premises. However, publicly-accessible charging serves the important role of supplementing household and workplace charging to support equity goals, and to support community members' local travel patterns. Publicly-accessible charging is a broad terminology that reflects non-private, non-exclusive use of charging, which includes third-party-operated retail options, utility-offered options, and publicly-hosted charging such as what the City could potentially offer at parks, recreation centers, libraries, or other civic locations.²

For publicly-accessible charging, there is no industry-standard number of vehicles per charger. Publicly-accessible charging typically takes into account filling gaps in charging networks, utilization profiles, synergistic or adjacent activities, and other factors. However, based on high-level analysis using data and trends considered in the City's EVRS, US Department of Energy electric vehicle charging modeling tools, and industry trend reporting currently suggests the state of the market is about 20-30 electric vehicles per publicly-accessible charging station (an average across both Level 2- and DC Fast Charging-type stations). As household and workplace charging options become more available and overall charging becomes more pervasive, and as battery range and technologies mature, this "ratio" is likely to also change.

Typically, publicly-accessible charging is offered for a fee, where such fee may seek to recover the costs of electricity dispensed, infrastructure and sunk costs, dwell or parking times, or other costs to operate the charging infrastructure.

As proposed, for FY 2024 and subsequent years, the CIP project includes funding for publicly-accessible charging infrastructure at City locations. Alternative budget scenarios funding could support the advance of publicly-accessible charging infrastructure at City locations in FY 2023.

Partnerships - Make-Ready and Matching Funds

As proposed, for FY 2024 and subsequent years, the CIP project includes funding for make-ready³ work, or for matching funds to support any public-private partnership, utility partnership, or any state or federal grant programs.

City staff, including the Assistant City Manager for Public Private Partnerships, have been in contact with private charging companies to explore potential P3 charging infrastructure opportunities for both City fleet and publicly-accessible charging. In some cases, make-ready or matching funds may facilitate partnership opportunities in locations where private charging companies may not otherwise locate charging infrastructure on their own accord. Such

locations may be important for the City's policy goals – for example, locating and operating charging infrastructure that support meeting the City's ALL Alexandria equity goals.

Additionally, the City is in discussions with Dominion Energy about any potential programs they may offer in the future to provide charging infrastructure themselves, or to offer programs to offset costs. Finally, City staff are positioning to apply for any state or federal grant funding available through the federal Infrastructure Investment and Jobs Act or other available grant or funding programs.

Footnotes

1. Electric Vehicle Charging Infrastructure Readiness Strategy (EVRS), May 2021, <https://media.alexandriava.gov/docs-archives/tes/eco-city/info/alexandria=evrs=final.pdf>
2. It should be noted, the Electrical Vehicle Charging Infrastructure Readiness Strategy includes recommendations to: 1) Consider City Investment to Support Publicly Accessible Charging (Recommendation E-3); and, 2) Develop City-owned Charging Stations as a Last Resort (Recommendation E-4).
3. Make-ready generally refers to the installation of fundamental electrical infrastructure necessary to install and operate a charging station, including, but not limited to: conduit; transformer, panel, and charger concrete pads; wiring; etc. In context of partnership opportunities, an organization may invest make-ready infrastructure to make a partnership opportunity financially viable for a partnership to occur.