FACTSHEET:

Alexandria Electric Vehicle Charging Infrastructure Readiness Strategy (EVRS)

May 2021

Overview: The EVRS provides a framework for advancing electric vehicle charging infrastructure in the City of Alexandria, Virginia. The EVRS describes current initiatives, technologies, and public perceptions related to EV charging in Alexandria. The EVRS culminates in a set of recommendations (Page 2) to build a thriving EV ecosystem in the city over the long term.

Download the Full EVRS on the City's Website: Link

Environmental Context

- **34%** of Alexandria's greenhouse gas emissions (primarily CO_2) come from the transportation sector.
- EVs charged in Dominion Energy's service territory emit the same greenhouse gas emissions per mile as a gasoline car with **85 miles-per-gallon** fuel economy.
- As Alexandria's electricity supply shifts toward more renewable energy generation, emissions from EVs will continue to decline.

Benefits of Electric Vehicles

- Improved environmental justice outcomes
- Reduced greenhouse gas emissions
- Smoothed electrical loads with managed charging
- Increased use of locally-produced fuels
- Lower noise levels from traffic
- Reduced household fuel expenditures
- Shift towards locally-produced fuels

Electric Vehicles in Alexandria

5% of new passenger cars in Alexandria were battery electric and plug-in hybrid electric vehicles in 2019. This is higher than the national average of **1% to 2%**.

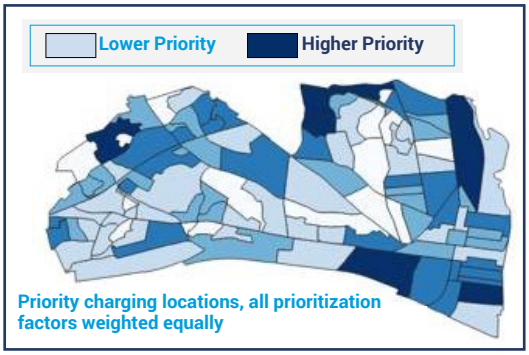
Alexandria has **3.8 plugs per 10,000 people**, which is more than Washington, D.C., and U.S. average but fewer than other leading jurisdictions, which have around **6.0 plugs per 10,000 people**.

Supporting Social and Racial Equity

The EVRS framework works to reflect the city's ALL Alexandria commitments –see Resolution 2794–throughout its analysis and recommendations.

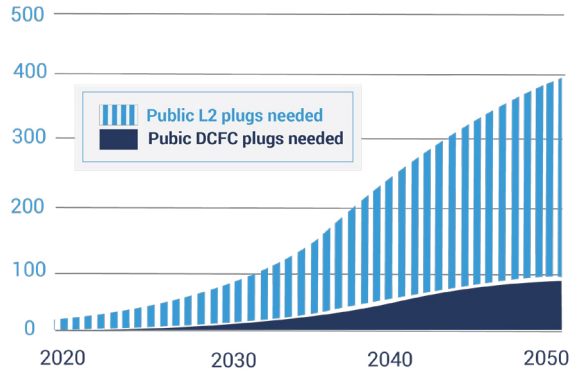
Planning for Plugs in Alexandria

The EVRS supports planning for a robust, equitable, and cost-effective charging infrastructure now and in the future. Regions of the city differ in their need for public charging. For example, the map shows priority areas in need of charging today. The graph to the right shows the total number of plugs needed citywide between today and 2050 for a moderate EV-growth scenario.



Priority charging locations, all prioritization factors weighted equally

Number of Plugs Needed to Support Strong City Policy



EVRS Recommendations

The EVRS is built around a set of 31 recommendations—including potential near- and long-term actions—that could result in a more effective increase of electric vehicle charging infrastructure. The recommendations address six key areas:

Meeting Charging Demand. Actions that remove charging availability as a barrier for segments of the population like vehicle owners without private parking.

- **A-1** Promote parking synergies for residents of multifamily dwellings
- **A-2** Consider right-of-way charging opportunities for residents lacking off-street parking
- **A-3** Serve as a clearinghouse of potential charging locations
- **A-4** Create shared mobility hubs
- **A-5** Promote charging locations at grocery stores, parks, and retail stores
- **A-6** Promote DCFC stations near highway off-ramps

Enhancing Communications and Awareness. Actions that inform and build capacity among the general population.

- **B-1** Establish near- and medium-term targets for publicly accessible electric vehicle charging infrastructure
- **B-2** Establish a process to benchmark progress
- **B-3** Demonstrate community leadership
- **B-4** Champion charging infrastructure by electrifying the city fleet, as outlined in the Environmental Action Plan 2040
- **B-5** Build and maintain internal competencies
- **B-6** Promote Alexandria as an Electric Vehicle Capital City
- **B-7** Utilize innovative pilot programs

Strengthening Zoning, Building Codes, and Permitting. Actions that remove barriers to installing new charging infrastructure.

- **C-1** Amend zoning ordinance to include charging stations as a permitted accessory use
- **C-2** Establish electric vehicle installation checklist
- **C-3** Encourage electric vehicle charging in parking space requirements
- **C-4** Adopt curbside management policies to prioritize electric vehicle charging
- **C-5** Revise standard conditions to increase minimum requirements
- **C-6** Adopt design criteria related to electric vehicle charging stations
- **C-7** Consider appropriate standards for historic districts
- **C-8** Train local officials
- **C-9** Allow developers to use a transportation management plan (TMP) fund for EV infrastructure

Advocating in State Government or with Dominion Energy. Actions for which city staff can advocate at the state level or with Dominion Energy that will strengthen the region's electric vehicle ecosystem.

- **D-1** Advocate for opportunities that accelerate charging station deployment
- **D-2** Advocate for opportunities that accelerate electric vehicle adoption
- **D-3** Advocate for continued, equitable decarbonization of electricity supply

Building Successful Business Models for Chargers. Actions that improve the business case for publicly accessible charging stations.

- **E-1** Coordinate between parties interested in new charging stations
- **E-2** Develop dealership programs for offering chargers
- **E-3** Consider city investment to support publicly accessible charging
- **E-4** Develop city-owned charging stations as a last resort

Implementing the Recommendations. Actions aimed at advancing the implementation of the Recommendations above.

- **F-1** Establish Inter-Departmental Implementation Working Group
- **F-2** Appoint an Electric Vehicle Navigator

Future Considerations

- Vehicle-to-Building and Vehicle-to-Grid technologies are emerging as viable options to increase cost savings, electric system reliability, and resilience of both buildings and the grid.
- EV technologies are expanding to delivery vehicles, mail trucks, and other medium-duty vehicles.
- Utility business models and rates are evolving with the disruption of renewable energy, interactive communications technologies, storage technologies, emerging market constructs, and ways to incentivize more productive and efficient use of electrical grid assets and systems.

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