

ITEM 7 – Information
September 18, 2024

Regional Electric Vehicle Infrastructure Implementation (REVII) Strategy

Background: The Regional Electric Vehicle Infrastructure Implementation (REVII) Strategy was developed as a guide to help state and local jurisdictions across the region plan for developing their EV charging infrastructure to support the transition LDVs to electric power. ICF will provide an overview of the final strategy document.



MEMORANDUM

TO: Transportation Planning Board
FROM: Erin Morrow, TPB Transportation Engineer
SUBJECT: Regional Electric Vehicle Infrastructure Implementation (REVII) Strategy
DATE: September 13, 2024

Transitioning the region's four million light-duty vehicles (LDV) from fossil fuels to clean fuels was identified in the TPB's Climate Change Mitigation Study of 2021 (CCMS) as an action with the highest potential to reduce greenhouse gas (GHG) emissions from the on-road transportation sector and help the region achieve its GHG reduction goals. Electric vehicles (EVs) comprise a growing share of LDVs in the region. In less than 15 years, the number of EVs has grown from zero to almost three percent of the LDVs in the region. The share of EVs is expected to continue to increase due in part to new dedicated federal funding for EV charging infrastructure. The Bipartisan Infrastructure Law (2021) established a \$7.5B program within the U.S. Department of Transportation (DOT) to fund the development and installation of EV charging infrastructure - the \$5 billion National Electric Vehicle Infrastructure (NEVI) Formula Program and the \$2.5B Charging and Fueling Infrastructure Discretionary Grant Program (CFI Program).

The Regional Electric Vehicle Infrastructure Implementation (REVII) Strategy is a joint effort by TPB and COG to support the implementation of the findings from the CCMS by developing a blueprint for a robust regional network of EV chargers as a major element of the region's commitment to reducing GHG emissions from motor vehicles. The REVII Strategy [document](#) and accompanying [EV charger siting priority map](#) are now available for local governments to consult and utilize as they develop and implement their EV charging station deployment processes and apply for federal and state grants. The REVII Strategy has already been used to develop a COG-led regional application for Round 2 of the CFI Program.

BACKGROUND

To help achieve the region's greenhouse gas (GHG) emission reduction goals, both the TPB and COG support the adoption of EVs and the deployment of EV chargers. In June 2022, the TPB adopted Resolution R18-2022, adopting GHG reduction goals and strategies for the on-road transportation sector. One of those strategies is to "deploy a region-wide robust electric vehicle charging network." Development of the REVII Strategy was funded through the TPB's UPWP as a resource to member jurisdictions to help implement one of TPB's key strategies to reduce on-road GHG emissions. In September 2022, the COG Board adopted Resolution R40-2022, which established the Regional Electric Vehicle Deployment Working Group (REVD) under the Climate, Energy, and Environment Policy Committee (CEEPC) to coordinate regional collaboration on EVs and EV infrastructure deployment. The REVD Working Group, which has representatives from TPB and COG members, provided input and review for the REVII Strategy project.

THE REVII STRATEGY

The REVII Strategy is intended to serve as planning resource to assist the region in developing a network of publicly accessible EV charging stations and has three key objectives:

- Identify locations for publicly accessible Level 2 and direct current fast charging (DCFC)¹ facilities to support increased EV adoption throughout the metropolitan Washington region.
- Support reliable access to publicly accessible EV charging infrastructure, particularly in areas with limited at-home charging, including multi-family housing (MFH) developments and disadvantaged communities.
- Help ensure that all populations in the metropolitan Washington region, including disadvantaged communities and individuals living within equity emphasis areas (EEAs), are able to access and benefit from the financial and environmental benefits of EVs.

The REVII Strategy has two primary components:

- Projections for light-duty EV registrations and EV charger needs for this region for three EV adoption rate scenarios (low, medium, and high adoption) at three planning benchmark years (2030, 2035, and 2045) at the county level, including the District of Columbia and the City of Alexandria.
- A GIS-based EV charger siting priority map that identifies priority locations for deploying chargers for three different scenarios: prioritizing DCFCs with high utilization, prioritizing Level 2 chargers with an equity focus, and prioritizing DCFC with a multi-family housing focus.

At the time of the analysis for the REVII Strategy, the region had almost 4,000 publicly accessible Level 2 charging ports and almost 400 DCFCs. These represent 29% of the Level 2 chargers and 79% of the DCFCs projected to be needed by 2030 under the low adoption scenario and 14% of the Level 2 and 37% of the DCFCs projected under the high adoption scenario, indicating that there is a significant need for additional infrastructure.

CHARGING AND FUELING INFRASTRUCTURE (CFI) DISCRETIONARY GRANT PROGRAM

On August 27, the Biden-Harris Administration announced recipients for [CFI Round 1b awards](#) and [COG's proposal was selected](#) to receive \$3.9 million to install EV chargers across metropolitan Washington. Sites are located in the Cities of Alexandria and Fairfax, and Arlington, Fairfax, Frederick, and Prince George's Counties.

The REVII Strategy was used to develop the recently submitted COG-led regional application for CFI Round 2.

Potential partners for the Round 2 application initially proposed over 200 sites for electric vehicle supply equipment (EVSE). To help select the final sites for the application, COG conducted an assessment of each site location to determine whether the sites are identified as priorities in the REVII Strategy's EV charging siting priority map; identify climate risks using the TPB's [Transportation](#)

¹Level 2 charging gives EVs 10 to 20 miles of range per hour and is most suitable for residential and workplace locations where charging for at least 4 hours at a time is feasible. DCFC charging gives 60 to 80 miles of range per 20 minutes of charging.

[Resilience Improvement Program \(TRIP\) interactive mapping tool](#); estimate the GHG and air quality benefits using the AFLEET CFI Emissions Tool; assess whether sites are EV capable as identified by Pepco and Dominion EV Capacity maps and utility review; and determine whether sites are in rural areas or in or near disadvantaged communities. This assessment prioritized the selection of locations, and identified where utility upgrades may be needed, where resilience strategies like floodproofing may be needed, and where the proposal will target engagement of rural and disadvantaged communities.

If selected, the EVSE sites proposed in the COG CFI Round 2 application would expand community-based infrastructure and fill gaps in access by equitably expanding the deployment of publicly accessible EVSE in community locations. The proposed EVSE sites are located throughout the broader metropolitan Washington region expanding beyond our member jurisdictions, including in Maryland - Frederick, Montgomery, Prince George's Counties, and the Cities of Bowie, Gaithersburg, and Takoma Park; and in Virginia - Arlington, Fairfax, Loudoun, Orange, and Prince William Counties, the Cities of Alexandria and Manassas, and the Towns of Gordonsville and Leesburg.