

Electric Vehicle Charging Station Technical Assistance Tools and Resources

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1 Introduction

This memo outlines technical assistance, best practices, and resources for Prince William County based on Task 1 of the Expert Match work order. Through this memo and attached report and presentation, Virginia Clean Cities (VCC) provides PWC with tools and resources to develop an electric vehicle charging deployment plan. VCC staff prepared this memo using the best available resources and our 25 years of combined experience in working with communities to procure, install and operate/maintain electric vehicle supply equipment (EVSE).

2 Incentives for Electric Vehicle Charging Stations along Alternative Fuel Corridors

The federal government has designated Route 15 and Interstate 95 and 66 as Electric Vehicle Alternative Fuel Corridors. Funding to support EVSE along these corridors can be accessed through the following programs:

National Electric Vehicle Initiative - A five-year, \$100 million program to deploy DC Fast Chargers along interstates and highways administered by Virginia Department of Transportation

E-VACATION - a five-year, \$10 million, Charging and Fueling Infrastructure program administered by Virginia Energy to build EVSE

MidAtlantic Electrification Partnership administered by VCC and Virginia Energy

Section 30(C) Alternative Fuel Infrastructure Property Tax Credits - public and private sector entities can claim up to 30% federal tax credit for purchase and installation of EVSE.

3 Strategies for Public-Private Engagement on EVSE Infrastructure Deployment

3.1 Community Needs Assessment

- Identify the community's priorities, needs (especially as they pertain to clean transportation and energy), and the impediments preventing private sector investment
- Identify collaboration benefits and goal overlaps
- Ensure the planning process is conducive to what the public/private audience seek to achieve.
- Enlist locals to participate in this assessment as reviewers, collaborators, and advisors for community outreach.

3.2 Stakeholder Mapping

- Identify key stakeholders and audience
- Answering the following questions: Who will be impacted and affect EVSE Infrastructure Deployment? What value is this deployment bringing them? What could motivate them to participate and support it? What negative externalities could they face?

- Include Community groups – Local Business, Social/Civic, Community, Religious, workplaces

3.3 Outreach, Local Businesses

- Strategy: Meet people where they are. Engage participants from communities facing disproportionate burdens. Engage a representative array of perspectives; public, private, and community (e.g., community-based organizations, local government, local businesses, faith-based organizations, neighborhood associations). Uphold transparency and ensure intentions are shared and expectations aligned. Ensure that public concerns and aspirations are consistently understood and considered.
 - Contact chamber of commerce
 - Contract convenience store association
 - Contact real estate developers association
- Includes offering transportation technology information, providing useful resources, and collaboration benefits (partnerships, relationships, networking)
- Target strategic areas where vehicles dwell for long periods (more than two hours)
- Community event exposure: Participate in local events. We can provide information and resources on EVSE Infrastructure Deployment. These events can give the opportunity to help locals navigate the technology, as well as gain information on what would be the best way to move forward in this community.

4 Federal, state and utility incentives

- **Section 30c Alternative fuel vehicle refueling property credit** - Consumers, Businesses, Fleets, and Tax-exempt entities
- **Direct/Elective Pay** - Tax-exempt entities such as religious organizations, community-based organizations, municipalities and other nonprofit organizations can file for the Section 30C credits using Direct Pay.
- **Dominion Energy EV charging programs** - Dominion Energy's Level 2 Charging Program provides a turn-key solution for level 2 EV charging infrastructure. Through the program, Dominion will install and maintain level 2 charging stations for your business, parking area, or multifamily community. The program provides incentives for the EV charging station make-ready and on-bill payment options for the remaining costs.
- **Northern Virginia Electric Cooperative EV-1 Charging Rate** - The EV-1 rate is a voluntary residential electric rate created by Northern Virginia Electric Cooperative specifically for customers with at least one electric vehicle (EV). This voluntary rate incentivizes owners to charge their vehicles when the overall demand for power is lowest (11 p.m. – 6 a.m.).

5 Lessons Learned from Public-Private Partnerships

Public-private partnership (P3) is one method for deploying EVSE.

Table 1. Descriptions of Market Characteristics

Market Characteristic	Description
Public Sector Role	An arrangement that shifts ownership and operations responsibilities to a private partner that addresses public agency concerns.
Technological Change	The public sector assigns the private sector the risks and the mandate to continue to improve performance and technology. Concerns about obsolescence may lead to relatively shorter contract periods.
Uncertain revenue generation	Some level of sharing of revenue risk may be considered.
Relatively Low Capital Costs	The higher P3 transaction costs may be justified for projects with a significant scale, warranting consideration of bundling of projects into a single procurement.
Risk Allocation	There may be exceptional circumstances in which the private party may be granted relief through clauses relating to “supervening events” in the P3 agreement.
Land Ownership	Where publicly owned land is leased and the EV charging infrastructure is expected to generate positive cash flows, lease terms may include either revenue sharing or ongoing lease payments by the private partner to the public entity in exchange for the future stream of user fee revenues from the EV charging infrastructure project.
Third-party involvement	Utilities are likely to constitute an important element in the overall success of the project. Third-party risks should be addressed within the P3 contract and possibly through separate agreements.

5.1 Key considerations/risks for proposed project

- Extensive stakeholder engagement required to ensure buy-in from operators of public transport as well as any other relevant stakeholders
- Need to consider any regulatory requirements of minimum domestic company involvement according to local company law, and ensure close collaboration with government or state-owned entity in the permitting process
- Need to work with grid operators to ensure stable energy grid capabilities to withstand increased electricity consumption from use of electric vehicles
- The government or state-owned entity will need to support the project company’s business case robustness, especially for securing funding, by ensuring that there are demand-side policies or incentives in place that will encourage users to shift from internal combustion engine vehicles to EVs.
- Partnering with a service provider for the project’s marketing, sales, and pricing is needed to identify potential offset buyers, negotiate contracts, and secure good target price per tonne to enable the financial viability of emission reduction credits generation
- Contracting a monitoring, verification, and reporting service provider with experience in conducting monitoring, verification, and reporting and preparing the necessary documents for generating emission reduction credits in a voluntary carbon market standard will reduce risk of registration and issuance delays or bottlenecks and strengthen credibility of project’s carbon integrity quality.

5.2 Develop an EV-Ready Building Metric

An EV-ready building has the electrical infrastructure to support an electric vehicle charging station at a parking spot. Some of the key features of an EV-Ready building and parking lot are:

- Safe and well-lit parking lot
- Electrical panel: A panel with enough capacity to support an EV charger
- Dedicated circuit: A circuit that's dedicated to the EV charger
- Continuous power supply: A direct, continuous path for power to reach the parking spot
- Wired outlet: An outlet that's capable of charging an EV
- Compliance with the National Electrical Code: The charger uses no more than 80% of the capacity of the circuit to which it's attached.

To make a building EV-ready, you can:

- Retrofit parking spots with energized electrical outlets
- Prewire new parking spaces/buildings for EV charging during construction
- EV readiness is a community-wide effort that involves planning, policies, and support services.