County of Fairfax, Virginia

MEMORANDUM

DATE: December 13, 2021

TO: Board of Supervisors

FROM: Bryan J. Hill
County Executive

SUBJECT: 2021 Update Regarding Electric Vehicle Charging Infrastructure

Board Direction

On July 10, 2018, the Board adopted its initial Operational Energy Strategy (OES), which included electric vehicles (EVs) among its 10 focus areas. The 2018 OES established a target to install Level 2 charging infrastructure at up to 20 major government facilities by 2025.[1] In response to discussion at the Board's July 2020 Environmental Committee meeting, staff has begun to supplement locations to include parking garages for county fleet vehicles.

On November 4, 2020, following a competitive procurement and negotiations, a five-year contract with renewal options was awarded to National Car Charging LLC (NCC). The NCC team includes ChargePoint, which operates the largest online network of independently owned EV charging stations and makes the technology used in it. Attachment 1 shows several of the ChargePoint Level 2 EV charging stations available for installation under this contract.

Funding for EV Charging Infrastructure

To date, the Board has approved $3.046 million to fund the purchase and installation of EV charging infrastructure, including EV charging stations. FY 2021 carryover funding also will fund the purchase of eight electric Nissan Leafs.

Completed and Planned Installations

Charging stations located in county-owned parking lots and publicly-accessible garages will be available for use by the public as well as county employees, who will be able to charge personal vehicles for a fee, and for use by county fleet vehicles. Stations located in restricted-access county-owned garages and lots will be available for use only by county fleet vehicles.

Staff has compiled a list of 79 county government and Park Authority facilities where the EV charging stations could be installed. These sites, which are located throughout the county and in

[1] There are three types of EV charging systems: Level 1, Level 2, and Level 3 (DC fast charger). Charging times and rates differ between these systems, with Level 1 systems charging at the slowest rate. These systems also have different voltage and infrastructure requirements. A typical Level 2 charging system, which generally can fully charge an EV in four to six hours, requires a dedicated 240-volt circuit.

the City of Fairfax, are identified in Attachment 2. Fire and Police Stations that are not co-located with other uses are not included on this list.

Figure 1 below shows the five Fairfax County Government parking garages at which the installation of EV charging infrastructure is nearing completion. These five garages will provide 37 parking spaces with EV charging capability.

Figure 1: Status of EV Installations at County Government Sites

Site	# EV stations	# Parking Spaces	Comments
Fairfax County Government Center	One single-port and 8 dual-port stations	17 spaces	17 spaces located in a secure garage with no public access. Next phase is expected to address surface lot.
Herrity Building Garage	3 dual-port stations	6 spaces	
Merrifield Center	3 dual-port stations	6 spaces	
Pennino Building Garage	3 dual-port stations	6 spaces	
Public Safety Headquarters	1 dual-port station	2 spaces	An additional 18 spaces in the secure garage are planned for next phase.

Factors considered when identifying a potential site for the installation of EV charging infrastructure include location, modifications needed to accommodate additional electrical load, expected demand, existing EV infrastructure, and proximity to other EV chargers. (EV charging stations can be located by zip code via the federal website Alternative Fuels Data Center.)

Highlighted in yellow on Attachment 2 are 24 county government sites that are expected to be in the next tranche of planned work and installations. Projects in this next tranche are likely to be completed before or by mid-CY 2023.

Installation and Considerations

A. Equipment Availability and Supply Chain Issues

Earlier this year, the Facilities Management Department reported that Dominion Energy (Dominion) was experiencing delays in obtaining some electrical equipment needed to upgrade or enhance the county's existing electrical infrastructure. According to a recent update from Dominion, given current conditions including available materials and staffing, the company will require approximately 18 weeks to complete its utility work on EV infrastructure projects once agreement is reached on preliminary matters including the scope of work and issuance of a purchase order.

B. Permitting

With respect to the installation of EV charging stations at county government facilities, the types of required permits depend on factors including the location of the station (e.g., parking garage or parking lot) and type of installation (e.g., bollard- or wall-mounted). In addition, at county

parking garages that are considered "EV-ready" due to the installation of conduit during construction, a structural permit is required to ensure that the installation of EV charging stations will not negatively affect the structures.

In April 2021, Land Development Services (LDS) released Technical Bulletin 21-06 to help streamline the Zoning review process of EV charging space requests. If a proposal meets all requirements, then no additional Zoning review will be required. Instead, the applicant need only submit the approved copy of the checklist with the electrical, building, or site application. Additional Zoning review will be required if one or more of the requirements in the checklist are not met. According to Zoning staff, it will work with the applicant to address deficiencies before issuing a use determination outlining any necessary changes.

Proposed Rates for Public EV Charging

Under its contract with the county, NCC sells and installs EV charging stations while ChargePoint provides a networking plan, technical support, and maintenance. The ChargePoint software available under the county's Master Services and Subscription Agreement with ChargePoint allows the county to manage usage and rates, charge or bill for use, and run sustainability reports. The software also allows the system to accept electronic payment from public users and to provide the vehicle-specific information for fleet vehicles necessary for interdepartmental billing by the Department of Vehicle Services.

Staff is currently developing proposed rates for EV charging service provided to the public for Level 2 EV charging through ChargePoint stations installed by NCC. Staff plans to present its proposal to the Board in early 2022 for its consideration. Presenting the proposal will involve both authorization to advertise a public hearing and a public hearing on the proposed rates.

Conclusion

Staff anticipates continuing to move forward with design, permitting, and installation work. In addition, in early 2022 staff anticipates presenting to the Board a proposal regarding rates payable by the public for EV charging service.

Please contact Kambiz Agazi at 703-324-1788 or via email at Kambiz.Agazi@fairfaxcounty.gov if you have questions or need more information.

Attachments: Attachment 1, Examples of ChargePoint Level 2 Charging Stations
Attachment 2, Potential Sites for Installation of EV Charging Infrastructure

cc: Rachel O'Dwyer Flynn, Deputy County Executive
Ellicia Seard-McCormick, Deputy County Executive
Christina Jackson, Chief Financial Officer and Director, Department of Management and Budget
Kambiz Agazi, Director, Office of Environmental and Energy Coordination
Mark Moffatt, Director, Department of Vehicle Service

Attachment 1
Examples of ChargePoint Level 2 EV Charging Stations

Type of ChargePoint Station		
CT 4011-GW1: Single Bollard Gateway	CT 4021-GW1: Dual Bollard Gateway	CT 4023-GW1: Dual Wall Mount Gateway
Dimensions: 12 x 24 x 72	Dimensions: 12 x 24 x 72	Dimensions: 12 x 24 x 72
		

The First ENERGY STAR Certified EV Charger

https://www.nationalcarcharging.com/collections/commercial

Attachment 2
Potential Sites for Installation of Electric Vehicle (EV) Charging Infrastructure

The table below shows 79 county government and Park Authority locations that staff has identified as potential sites for the installation of EV charging infrastructure, including EV charging stations (EVCS). Sites are organized by the nine Supervisor districts, followed by sites located in the City of Fairfax.

Rows shaded in light green show five government parking garages at which the installation of EVCS infrastructure is nearing completion. The 24 sites highlighted in yellow show the next tranche of planned work and installations. Park Authority sites have not been included in this next tranche because an amendment to the Code of Virginia is required before the Park Authority may provide EV charging service for a fee.

Fire and Police Stations that are not co-located with other uses are not included in this list. The McLean and Reston Community Centers are included in the list of sites for the Dranesville and Hunter Mill districts, respectively, but each center is responsible for its own contracting and so will not rely on Fairfax County Government to install EV charging infrastructure.

Site	Site Status		# EV Stations	# Parking Spaces	Comments
	Existing	In Design or Construction			
Braddock District					
Audrey Moore RECenter	X				
Braddock District Government Center and Kings Park Library	X				
Burke Centre Community Library	X				
Fairfax County Government Center	X		One single-port and 8 dual-port stations	17 spaces	EVCS installed in secure garage with no public access. Next phase expected to address surface lot.
Herrity Building Garage	X		3 dual-port stations	6 spaces	
Monument Drive Commuter Parking Garage and Transit Center		Estimated completion 09/2023	20 dual-port stations planned	40 spaces	Garage will be EV-ready (power capacity and conduit)

Site	Site Status		# EV Stations	# Parking Spaces	Comments
	Existing	In Design or Construction			
Pennino Building Garage	X		3 dual-port stations	6 spaces	
Public Safety Headquarters Garage	X		1 dual-port station installed; 9 dual-port stations planned	19 spaces	EVCS installations in secure garage with no public access
Stormwater Wastewater Consolidation Facility		Estimated completion 04/2024	9 single-port stations planned	9 spaces	Will be EV-ready (power capacity and conduit)
Virginia Railway Express Burke Center Garage	X				
Dranesville District					
Dolley Madison Library	X				
Great Falls Library	X				
Herndon Fortnightly Library	X		1 dual-port station	2 spaces	EVCS installed by Town of Herndon, which shares parking with Fairfax County. (777 Lynn St.)
Innovation Center Station Parking Garage		In post-construction phase	10 dual-port stations planned	20 spaces	This Silver Line parking garage is EV-ready (power capacity and conduit)
Lewinsville Center	X				
McLean Community Center	X				MCC provides its own contracting
McLean Government Center and Police Station	X		2 dual-port stations planned	4 spaces	Stations planned for use by FCPD vehicles in secure area
Spring Hill RECenter	X				
Tysons-Pimmit Regional Library	X				
Hunter Mill District					
Cathy Hudgins Community Center at Southgate	X				

Site	Site Status		# EV Stations	# Parking Spaces	Comments
	Existing	In Design or Construction			
Fairfax Connector Reston-Herndon Bus Operations Center	X		3 dual-port stations planned	6 spaces	
Herndon Station Garage		Post-construction substantially complete	20 single-port stations planned	20 spaces	Transit site is EV-ready (conduits)
North County (Reston) Government Center and Police Station	X		3 dual-port stations planned	6 spaces	
Patrick Henry Library	X				In early design
Reston Community Center	X				RCC provides its own contracting
Reston Human Services Center	X				Currently in CIP
Reston Regional Library	X				In pre-design, with EVCS to be determined
Lee District					
Alban DVS Maintenance Facility	X		1 dual-port station planned	2 spaces	
Kingstowne Consolidated Facility: Franconia Government Center, Police Station and Kingstowne Library		Estimated completion 06/2024	16 single-port stations planned	16 spaces	Will be EV-ready (power capacity and conduit)
John Marshall Library	X				
Lee District Community Center	X				
Lee District RECenter	X				
Richard Byrd Library	X				
South County Human Services Center	X				Site will be affected by planned Richmond Highway Corridor construction (expected 2023).
Springfield CBC Commuter Parking Garage		Estimated completion	4 dual-port stations	8 spaces	Project envisions 4 additional dual-port stations

Site	Site Status		# EV Stations	# Parking Spaces	Comments
	Existing	In Design or Construction			
		04/2023			
Mason District					
Bailey's Community Center	X				
George Mason Regional Library	X				
Mason District Government Center and Police Station	X				In early design, with EVCS to be determined
Springfield Warehouse	X		1 single-port station planned	1 space	Dual-port station under consideration. EVCS required per terms of state grant.
Thomas Jefferson Library	X				
Woodrow Wilson Library	X				
Operational Support Bureau (Pineridge)		Estimated completion 01/2025	6 stations planned: 2 single-port and 4 dual-port stations	10 spaces	Will be EV-ready (power capacity and conduits)
Mount Vernon District					
George Washington RECenter	X				
Gum Springs Community Center	X				
Hollin Hall Center	X				
Huntington Community Center	X				
Laurel Hill Adaptive Reuse	X				On hold pending master reuse plan.
Lorton Community Center and Lorton Community Library		Estimated completion 07/2022	3 stations planned: 1 single-port and 2 dual-port stations	5 spaces	Will be EV-ready (power capacity and conduit)
Martha Washington Library	X				
Mount Vernon RECenter	X		4 single-port stations planned	4 spaces	Will be EV-ready (power capacity and conduit)

Site	Site Status		# EV Stations	# Parking Spaces	Comments
	Existing	In Design or Construction			
Mount Vernon Government Center and Police Station	X				Will need to coordinate with Stormwater project. Facility in CIP; five years out from design.
Newington DVS Maintenance Facility	X		3 dual-port stations planned	6 spaces	
Original Mount Vernon H.S. Redevelopment – Historic Building Renovations	X				In design, with EVCS to be determined
Sherwood Regional Library	X				
South County Police Station and Animal Shelter		Estimated completion 03/2023	2 dual-port stations planned	4 spaces	Will be EV-ready (power capacity and conduit)
Workhouse Arts Foundation	X				Awaiting master plan
Providence District					
James Lee Community Center	X				
Judicial Center Visitor Parking Garage	X				In CIP, with EVCS to be determined.
Judicial Complex Employee Parking Garage	X				
Merrifield Center			3 dual-port stations	6 spaces	
Oak Marr RECenter	X				
Oakton Library	X				
Providence Community Center	X				
Providence RECenter	X				
Springfield District					
McConnell Public Safety and Transportation Operations Center and Police Forensics Facility	X				

Site	Site Status		# EV Stations	# Parking Spaces	Comments
	Existing	In Design or Construction			
Mott Community Center	X				
Pohick Regional Library	X				
FCPD Heliport	X		2 dual-port stations planned	4 spaces	FCPD and public access
South Run RECenter	X				
Springfield Governmental Center and West Springfield Police and Fire Station # 27	X				Currently in CIP
West Ox DVS Maintenance Facility	X		3 dual-port stations planned	6 spaces	
Sully District					
Centreville Regional Library	X				
Chantilly Regional Library	X				
Cub Run RECenter	X				
Sully District Government Center and Police Station	X		2 dual-port stations planned	4 spaces	EVCS planned for installation in FCPD secure area
Sully Community Center		Estimated completion 02/2022	2 dual-port stations planned	4 spaces	Design includes EV conduit
Fairfax City					
Fairfax City Regional Library	X				Requires coordination with City of Fairfax
Jermantown DVS Maintenance Facility	X		3 dual-port stations planned	6 spaces	
Joseph Willard Health Center	X				In design, with EVCS to be determined