

District of Columbia

Transportation Electrification Roadmap

Equitable EV Service Equipment Placement

Webinar will begin shortly...



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Transportation Electrification Roadmap

Equitable EV Service Equipment Placement

Thursday, 29 April 2021



Welcome – Opening Remarks – Agenda

Agenda Outline

- Welcome
- Introduction to the Grantee: *the Electrification Coalition*
- Transportation Electrification Roadmap (Eric Campbell, DOEE)
 - Goals
 - Recapping January/March webinars
- Intro to EV Supply Equipment/Charging Stations/Charging Infrastructure
 - Current locations/Equitable Placement
- Opportunities:
 - Public Private Partnerships
 - Utility Transportation Electrification Program
 - Curbside Charging
 - Projected Needs/Barriers – Roadmap Analysis
- Breakout Discussion
- Report-out/Questions/Feedback/General Discussion

Schedule of Stakeholder Sessions

- Thur, April 29 | 7pm: Equitable EV Service Equipment Placement
- Thur, May 13 | 7pm: Incentives / Transportation Needs Assessment
- Thur, May 27 | 7pm: Incentives For Businesses, Fleets, Utility and Energy Interests
- Thur, June 24 | 7pm: EV/ EV Service Equipment Strategy
- Thur, July 29 | 7pm: School Bus Electrification
- Thur, August 26 | 7pm: Concluding Roadmap Feedback Group

Register at bit.ly/electrification-roadmap

The Electrification Coalition



Who We Are

The Electrification Coalition (EC) is a nonpartisan, non-profit organization committed to promoting policies and actions that facilitate the deployment of electric vehicles on a mass scale, in order to combat economic and national security dangers caused by our dependence on oil.



- Technical Lead: Climate Mayors EV Purchasing Collaborative
- Electrification Advisor: Bloomberg American Climate Cities Challenge
- Freight Electrification Pilot Project: Hewlett Foundation
- Lead Electrification Partner: Smart Columbus
- Electrification Advisor: City of Atlanta Partnership
- Project Lead: Drive Electric Northern Colorado
- Project Lead: Rochester EV Accelerator



CLEAN ENERGY DC

THE DISTRICT OF COLUMBIA CLIMATE AND ENERGY PLAN

Transportation Electrification

★ ★ ★ DEPARTMENT
OF ENERGY &
ENVIRONMENT

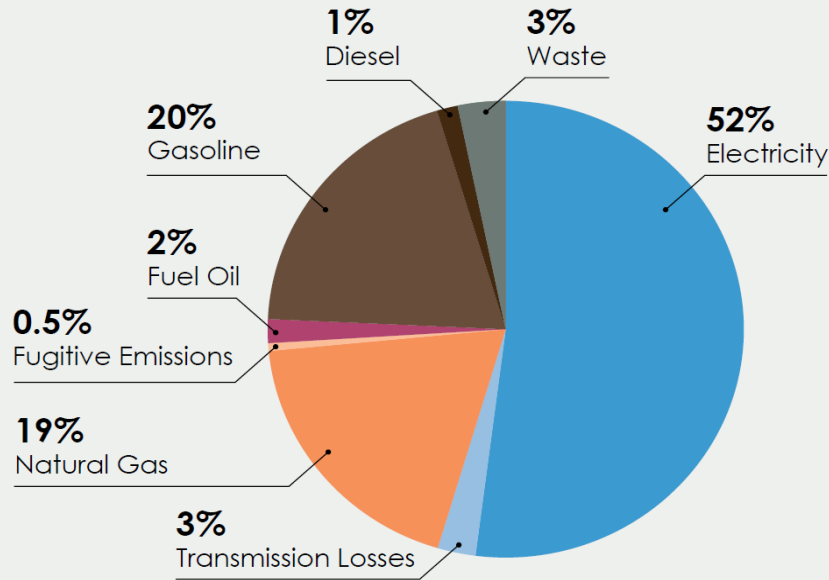
GOVERNMENT OF THE DISTRICT OF COLUMBIA



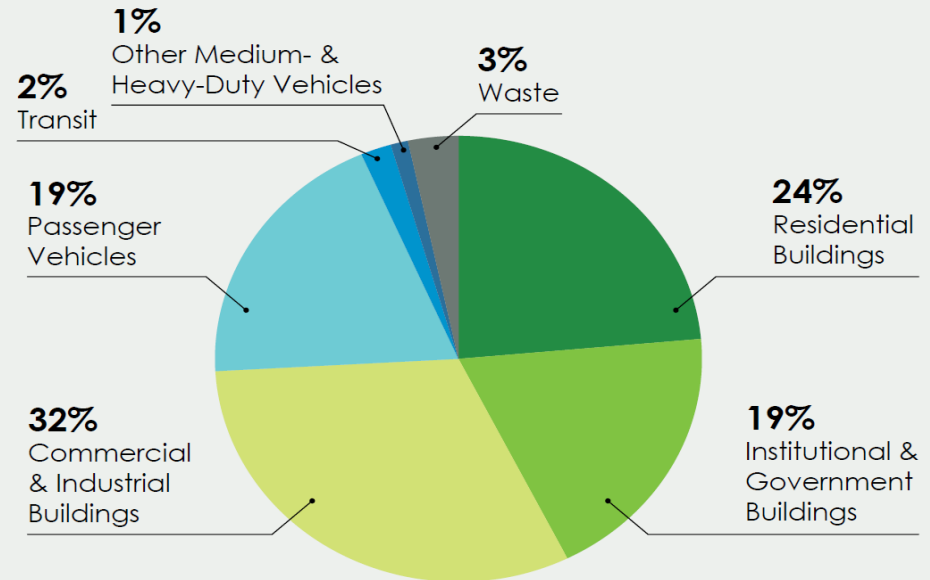
DC CLIMATE AND ENERGY GOALS

Clean Energy DC is the District's first quantified roadmap to meet the Sustainable DC climate and energy goals.

GHG EMISSIONS BY SOURCE



GHG EMISSIONS BY SECTOR

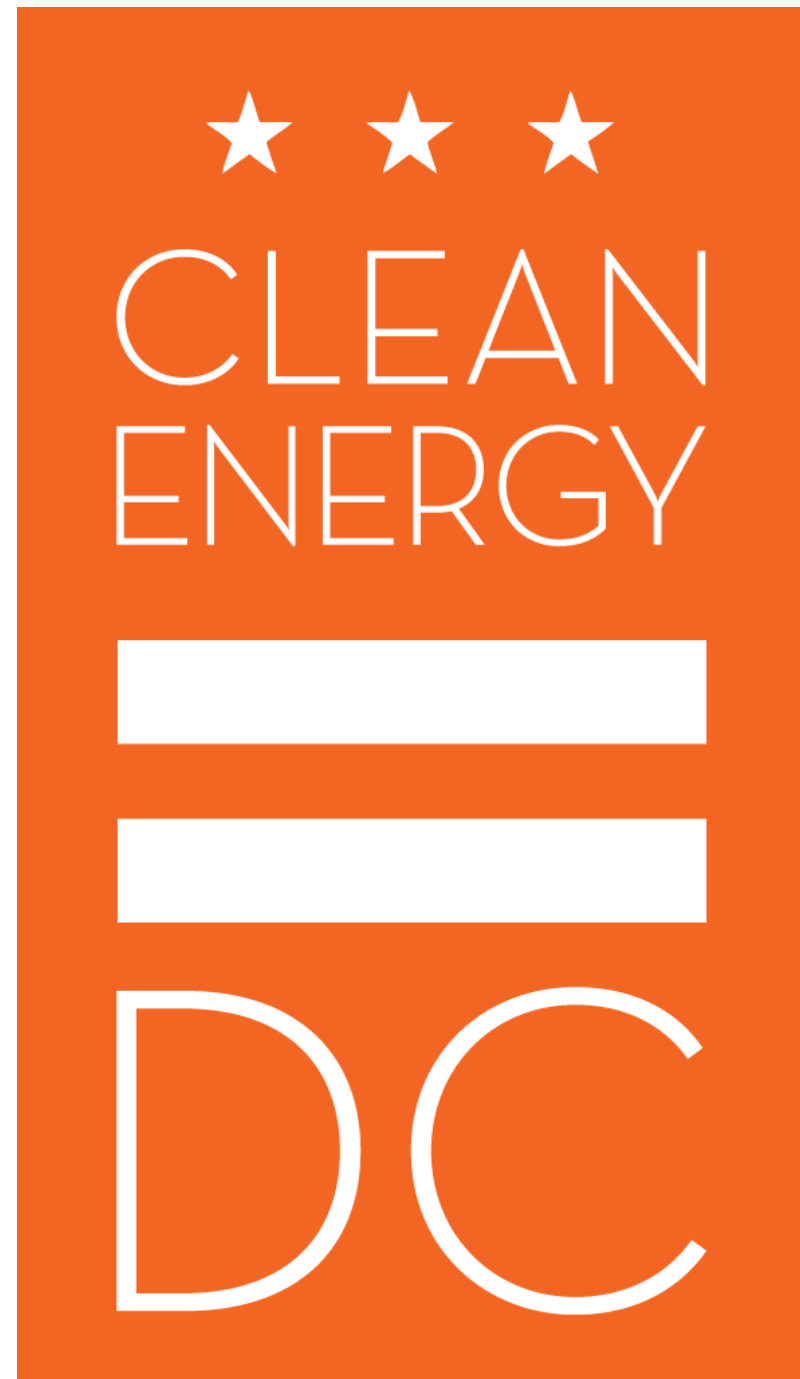


The plan will **reduce emissions by 50 %** by 2032 compared to 2006 levels, and will help the city achieve **carbon neutrality by 2050**

Overview of CEDC Act

The Act, effective as of March 2019, will realize CEDC goals by targeting three areas:

- **Transportation Emissions Reduction and Electrification-** mandates and incentivizes a path for zero-emissions fleets, buses and private vehicles
- **Renewable Energy-** mandates 100% renewable energy by 2032
- **Energy Efficiency-** Establishes a first-of-its kind Building Energy Performance Standard for buildings



Transportation Electrification Roadmap Goals

- 1 Buses and private fleets 50% Low or Zero Emissions Vehicle (ZEV) by 2030 → 100% ZEV by 2045
- 2 100% EV replacement of public buses and school buses at End-Of-Life by 2021
- 3 At least 25% ZEV registrations by 2030 (estimate ~75,000 EVs)

Provide policies, cost estimates, and timelines

QUESTIONS?



CONTACT INFORMATION

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Transportation Electrification Roadmap

Transportation Vision:

Mode Shift to
active
transport
and public
transit




Fuel switch to
Electricity



Transportation Electrification Roadmap

EV Charging is only one piece of the puzzle

- *Consumer EV adoption*
 - *Private fleet electrification*
 - *Dealership engagement*
 - *School bus electrification*
 - *Policy recommendations for Transportation Electrification – incentives, rate design, etc*
- 

Roadmap - Status

Transportation Electrification Roadmap Final Report due **October 31, 2021**

- ***Receive Stakeholder comments and redraft accordingly***

January 27 Webinar – Introduction and Orientation:

- *View our previous **webinar recording** (shared in chat)*
- Outline of Roadmap workstreams in relation to goals; overview of work completed, work that remains, and how it will be achieved.

March 17 Webinar – Introduction to Mobility Equity:

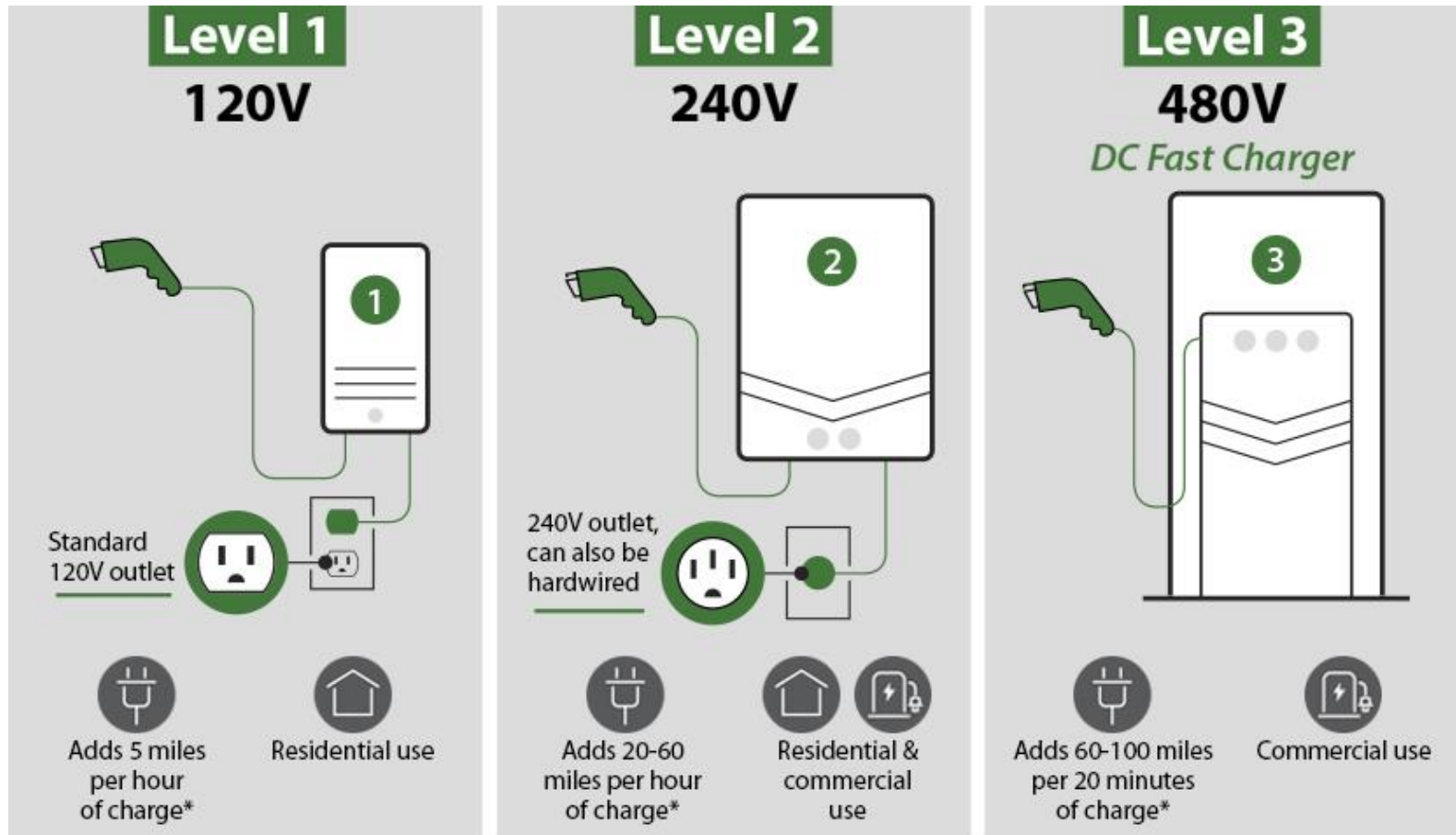
- *View our previous **webinar recording** (shared in chat)*
- Introduction to Electric Vehicles and Charging Equipment; definition of Mobility Equity, review of the 12 mobility equity indicators, and overview of several EV Adoption Strategies (including incentives) that are being considered as recommendations.

A close-up photograph of a person's hand plugging a white charging cable into the charging port of a white electric vehicle. The hand is wearing a silver bracelet and a ring. The background is blurred, showing a red wall and a white door handle. The image has a light green tint.

Equitable EV Service Equipment Placement

EVSE

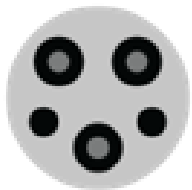
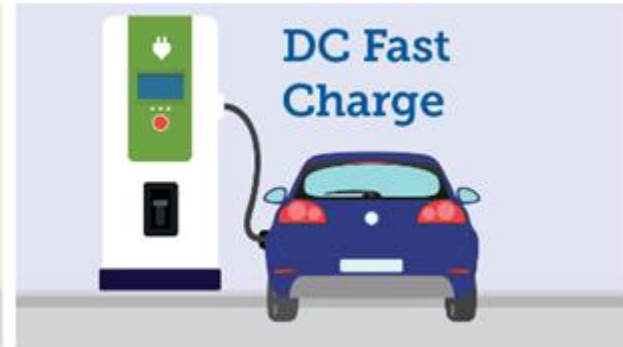
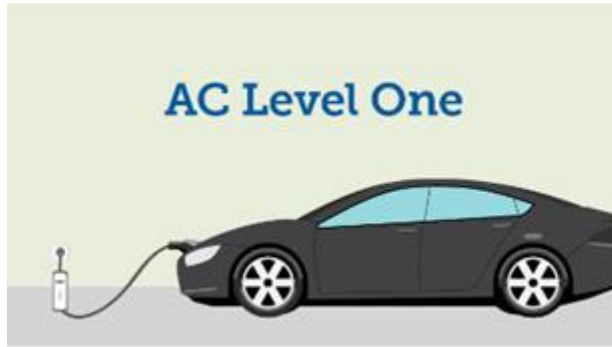
EV Service Equipment (Charging Equipment/Charging Stations)



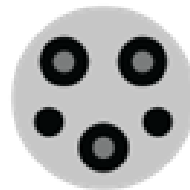
17-25 hours to fully recharge a 100-mile battery

4-5 hours to fully recharge a 100-mile battery

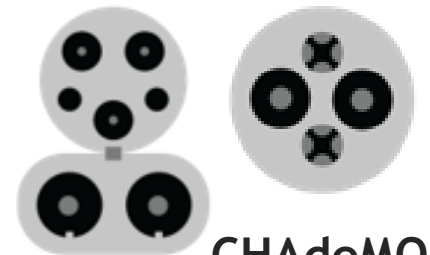
EV Service Equipment (Charging Equipment/Charging Stations)



J1772



J1772



CCS
Combo

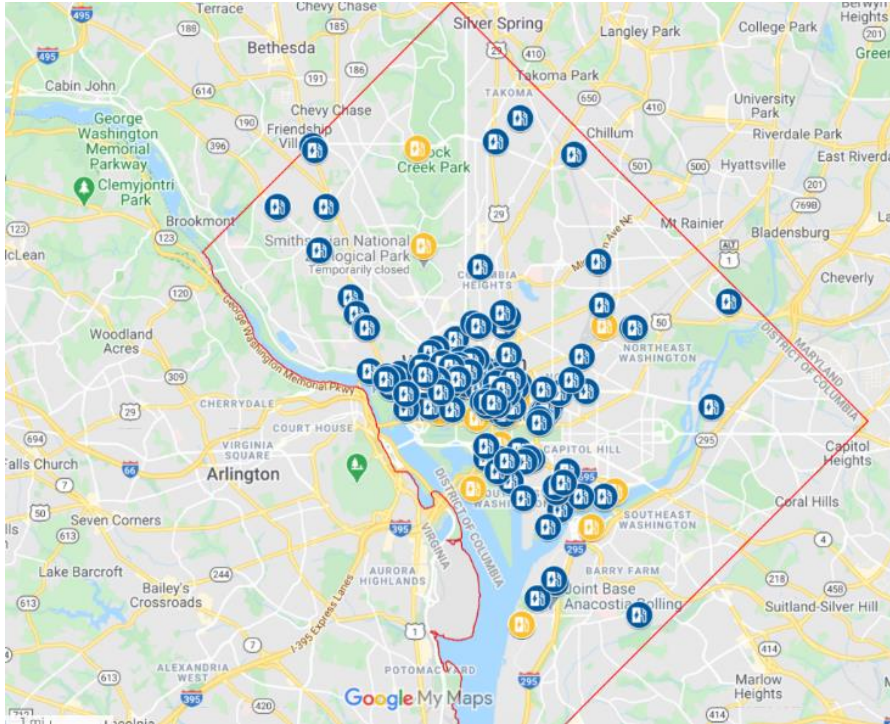
CHAdeMO



Tesla Combo



Equitable EV Service Equipment Placement



Current EV Charging Deployment

Equitable Placement Priorities:

- *Plan for the Electric Future*
- *Provide Public Amenity*
- *Equal access in every Ward*
- *Affordable pricing*

Equitable EV Service Equipment Placement

- 3 At least 25% ZEV registrations by 2030 (estimate ~75,000 EVs)

PROJECTED EV CHARGING NEED BY 2030

EV Charger Type	Number of Charge Ports
Workplace – Level 2 (L2)	2,677
Public – Level 2 (L2)	1,858
Public – DC Fast Charging (DCFC)	542

CURRENT PUBLIC EV CHARGING:

LEVEL 2 - 546 OUTLETS

LEVEL 3 - 33 OUTLETS

EVSE Vendors: Public Private Partnerships

Montgomery County, March 2021:

- Opening pre-determined spaces on County-owned property for EVSE companies to install-finance-operate-maintain electric vehicle charging stations.
- Third-party would implement, at its sole cost. **Final award is to be based on the proposal that provides the greatest overall community benefit and value to the County.**

Considerations: Sovereignty/security concerns

Curbside Charging

DC law and regulations **do not currently permit the running of residential power into public space such as the curbside** to support private electrical infrastructure including EV charging stations and electrical outlets.

DDOT:

- Final rulemaking underway -- EVSE vendors will be able to apply for permits to **install, own, and operate EV charging stations in public space and along the curb.**
- Rulemaking explicitly allows for blocks with **Residential Parking Permit (RPP) parking** to be considered by vendors.
- Vendors who apply for permits **must present their plans to affected ANCs**

Curbside Charging

Eligible parking spaces:

- Residential blocks with/without RPP

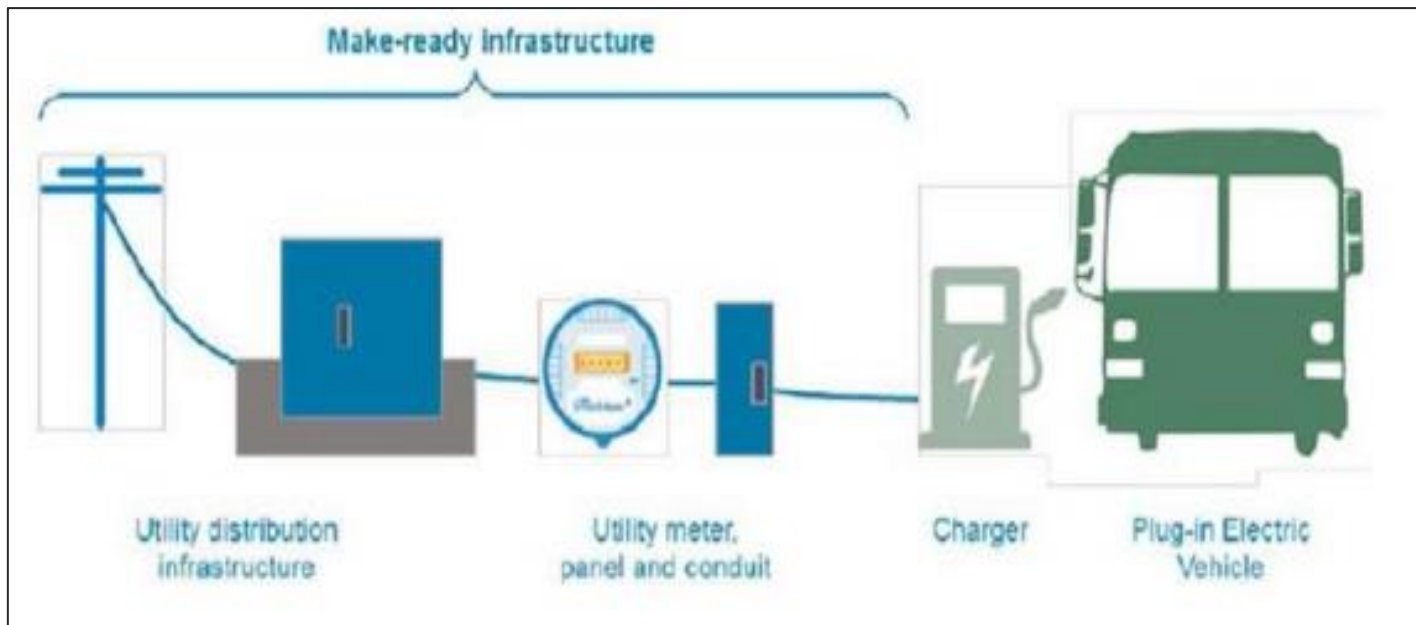
Exclusions:

- Rush hour restrictions
- Snow emergency routes
- Locations with reserved accessible parking
- Streets designated as part of **moveDC**'s transit or bicycle priority network
- Places where bus and bicycle lanes are adjacent to the curb.

Utility Transportation Electrification

Pepco's Proposed Transportation Electrification Program

- The PSC did approve Pepco to provide “make ready” infrastructure to support EV charging stations, which includes improvements to utility-side infrastructure up to the conduit and meter.



Up to 35 Smart Level 2 charging stations; Up to 5 depot and 1 on-route chargers; 20 Fast-Charging stations

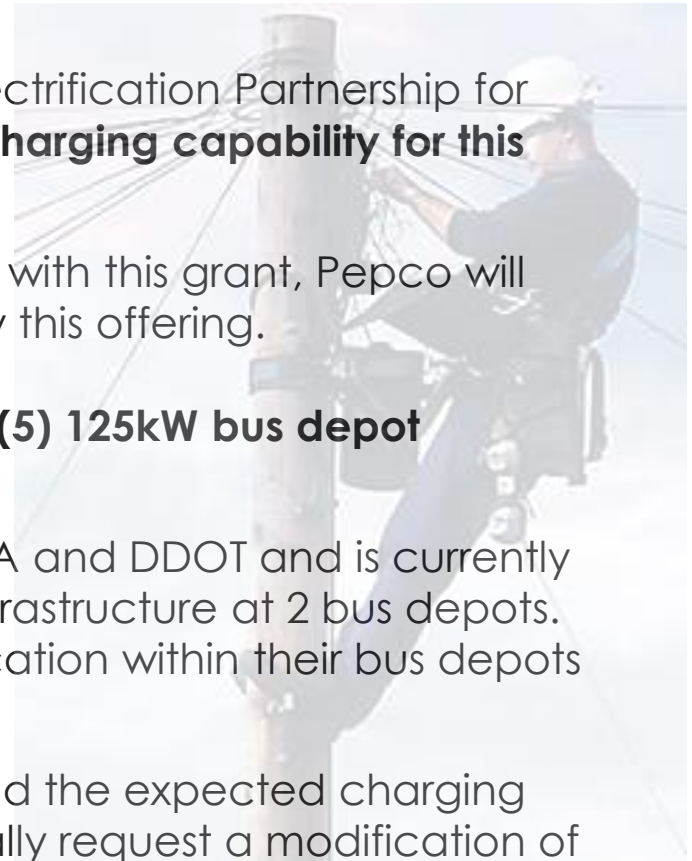
Utility Transportation Electrification

Offering 10: Make-ready infrastructure for 2 DCFC and 10 Level II for taxi/rideshare

- Pepco applied through the Mid-Atlantic Electrification Partnership for **federal DOE grant funding to increase the charging capability for this Offering.**
- Should the parties choose to move forward with this grant, Pepco will make a formal request to the PSC to modify this offering.

Offering 11: Make-ready infrastructure for five (5) 125kW bus depot chargers and one (1) 500kW on-route charger

- Pepco continues to coordinate with WMATA and DDOT and is currently reviewing requests for EVCS make-ready infrastructure at 2 bus depots. Both WMATA and DDOT's plans for electrification within their bus depots currently call for 150kW chargers.
- Parties are reviewing available capacity and the expected charging profile at the bus depots. Pepco may formally request a modification of this Offering to meet the needs of the transit agencies.



Utility Transportation Electrification

Excerpts from Pepco's **Transportation Electrification Program** (April 2021 Update):

Offering 7: Make-ready infrastructure for 35 Public Smart Level II EVCS

- Through March 31, 2021, construction completed for four (4) Level II EVCS.
 - Another six (6) stations under construction
- Applications for thirteen (13) stations under review at commercial locations.

Offering 8: Make-ready infrastructure for 20 Public DCFC

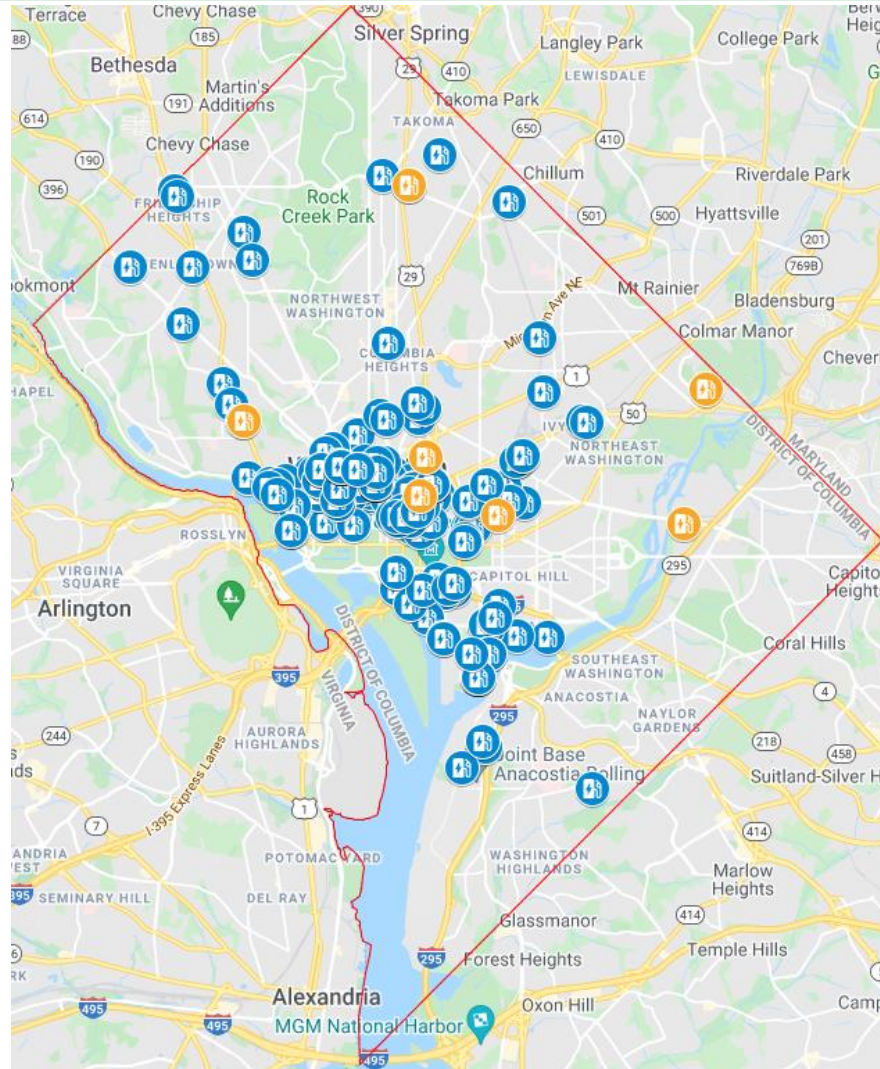
- Pepco received inquiry for a rebate for previously installed DCFC, but has not received applications for DCFC installations in commercial spaces.



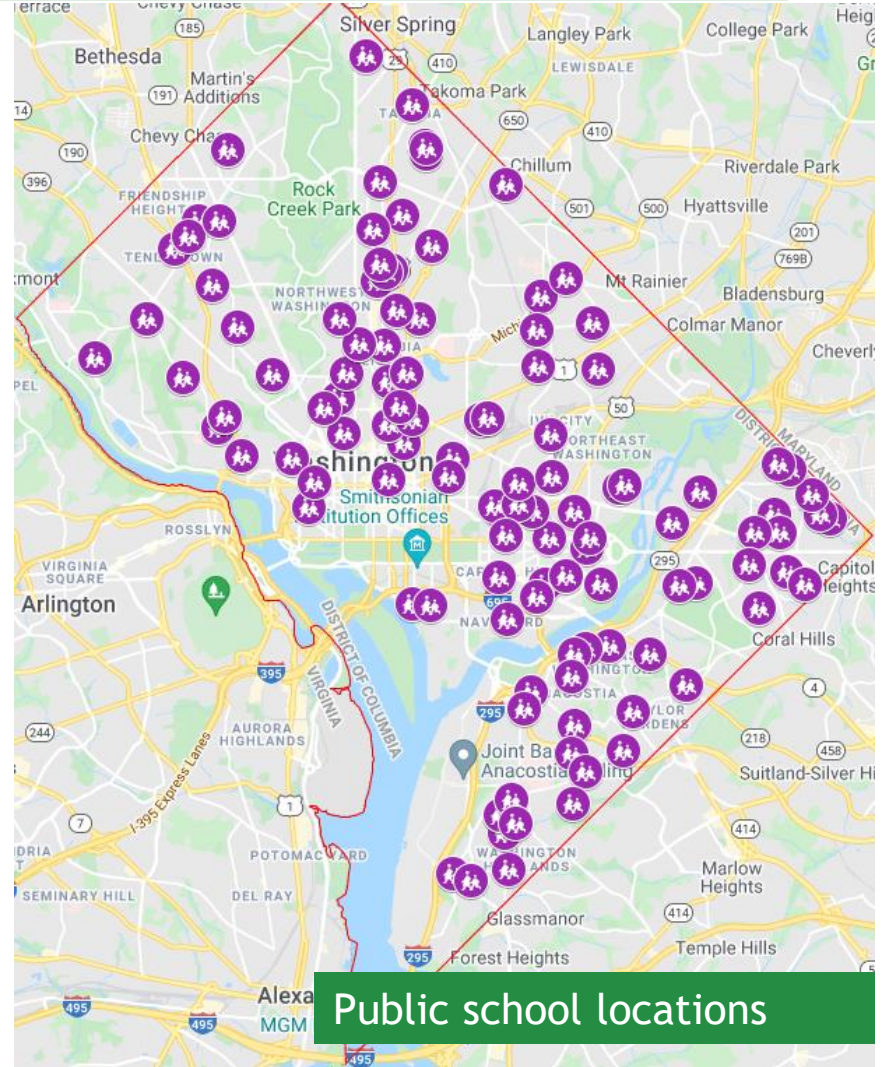
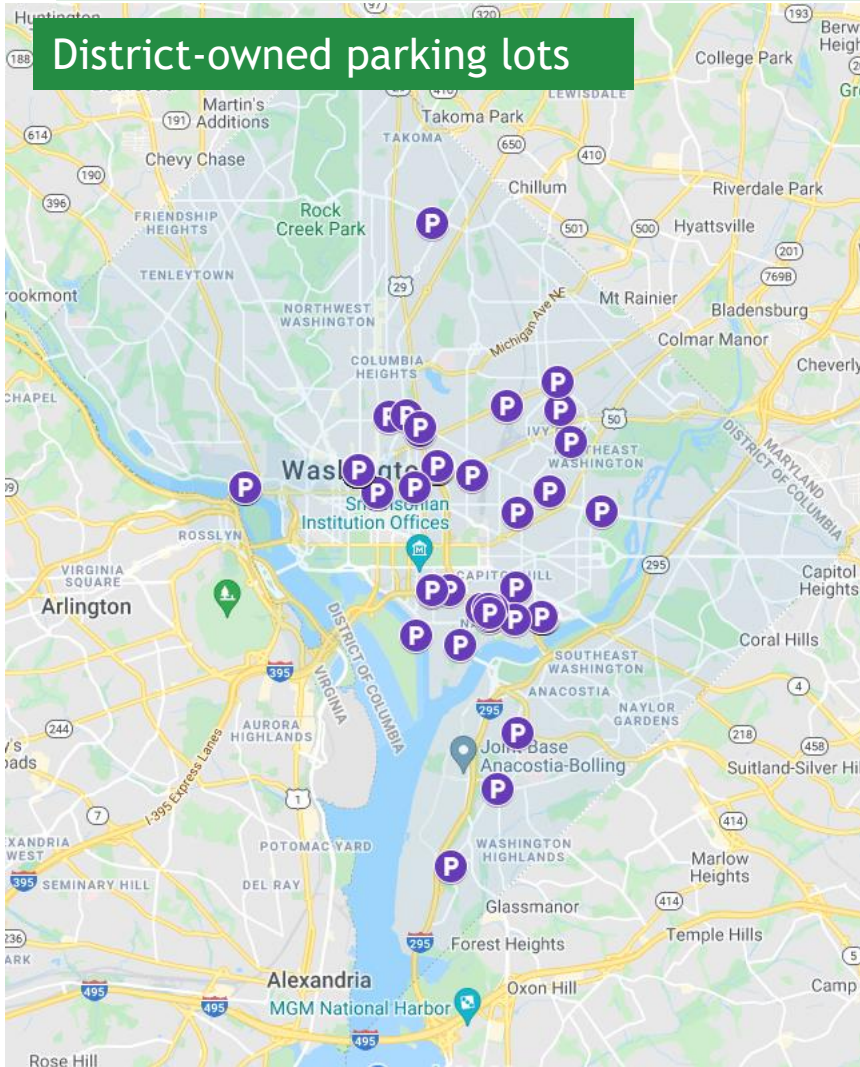
EVCS = EV Charging Station

Current Public EVSE Locations

CURRENT PUBLIC EV CHARGING:
LEVEL 2 - 546 OUTLETS (BLUE)
LEVEL 3 - 33 OUTLETS (YELLOW)

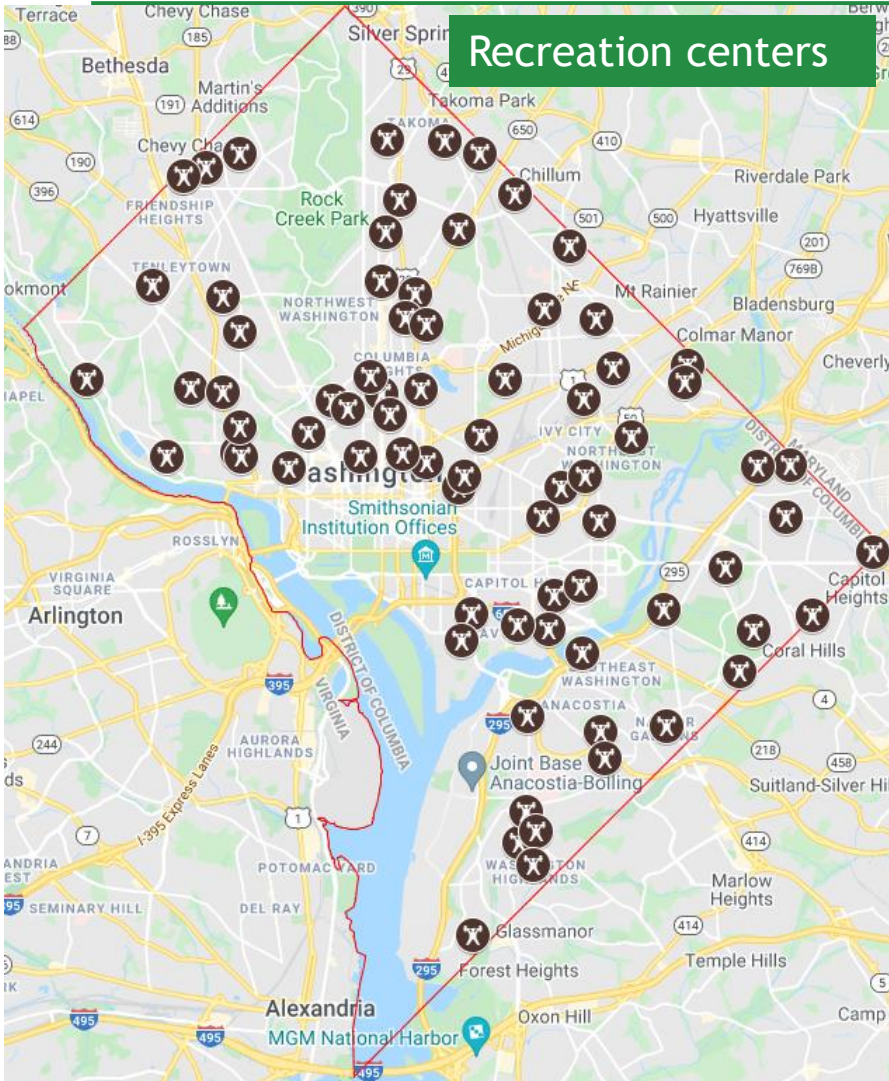


Analysis – Public EVSE Locations

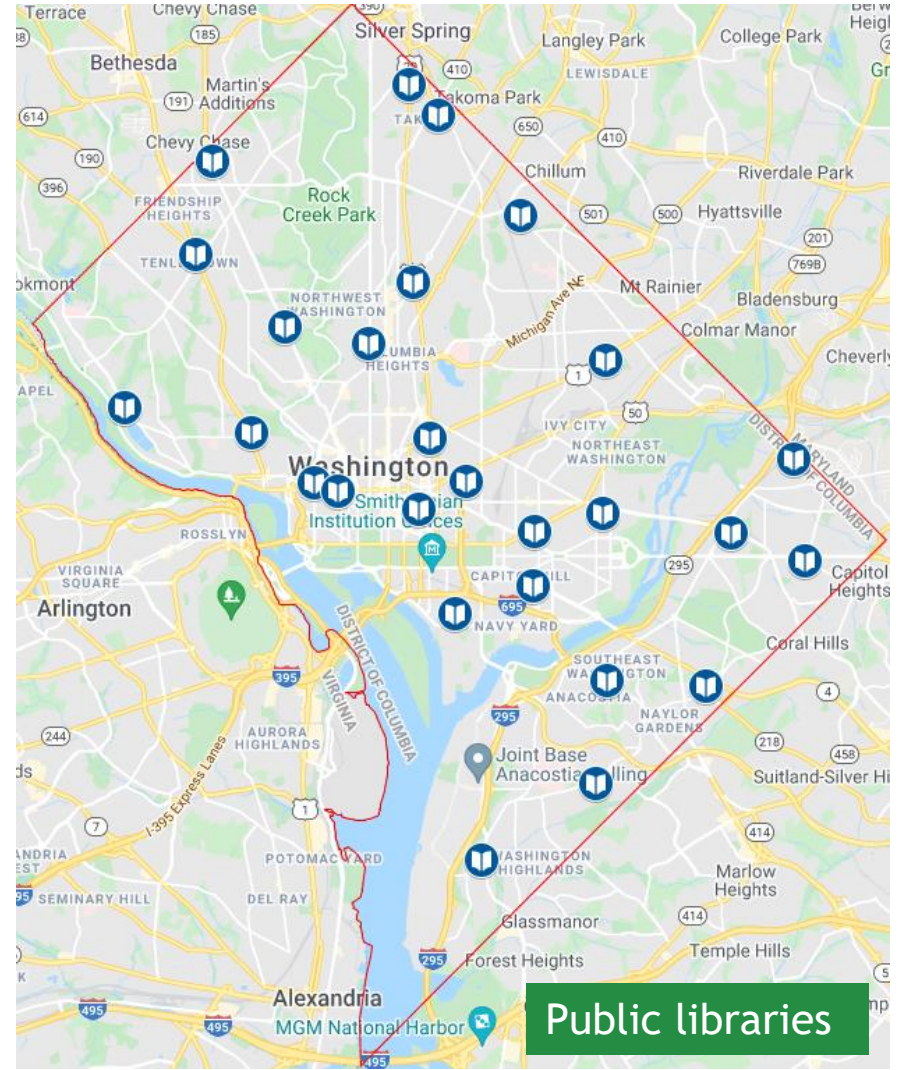


Analysis – Public EVSE Locations

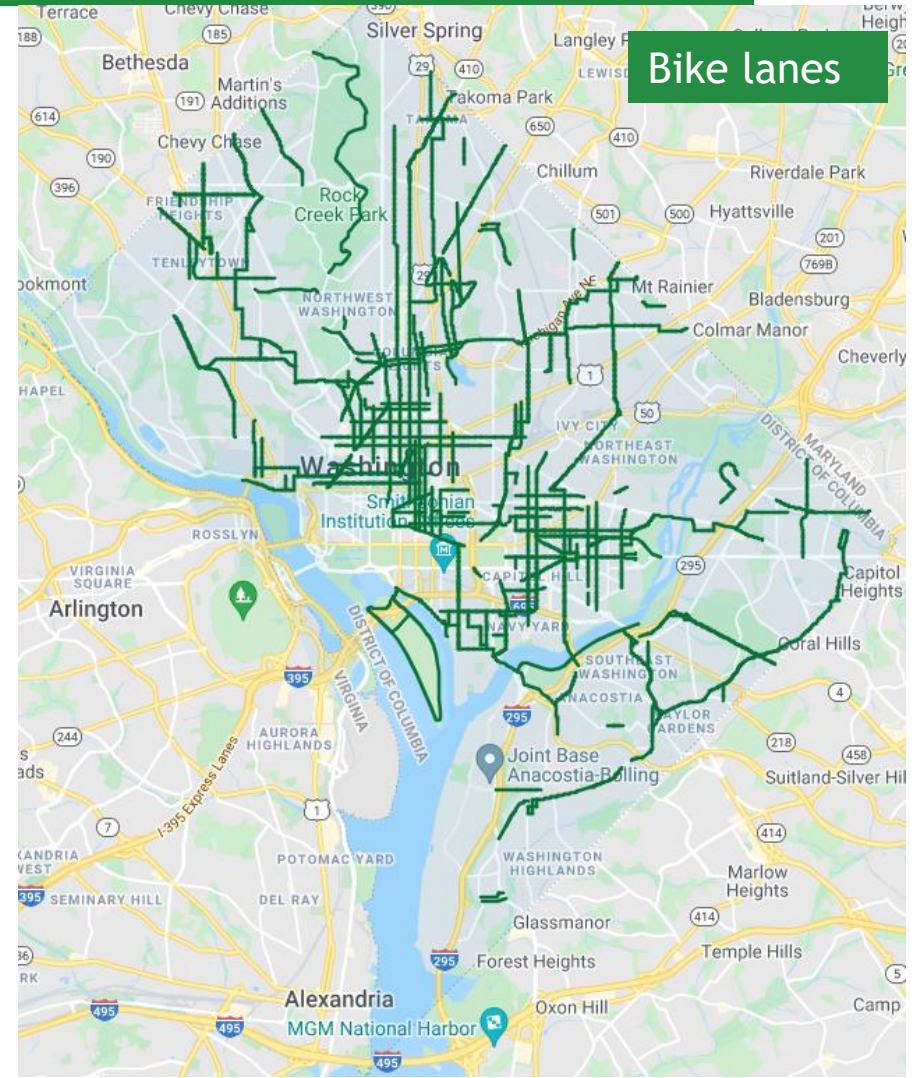
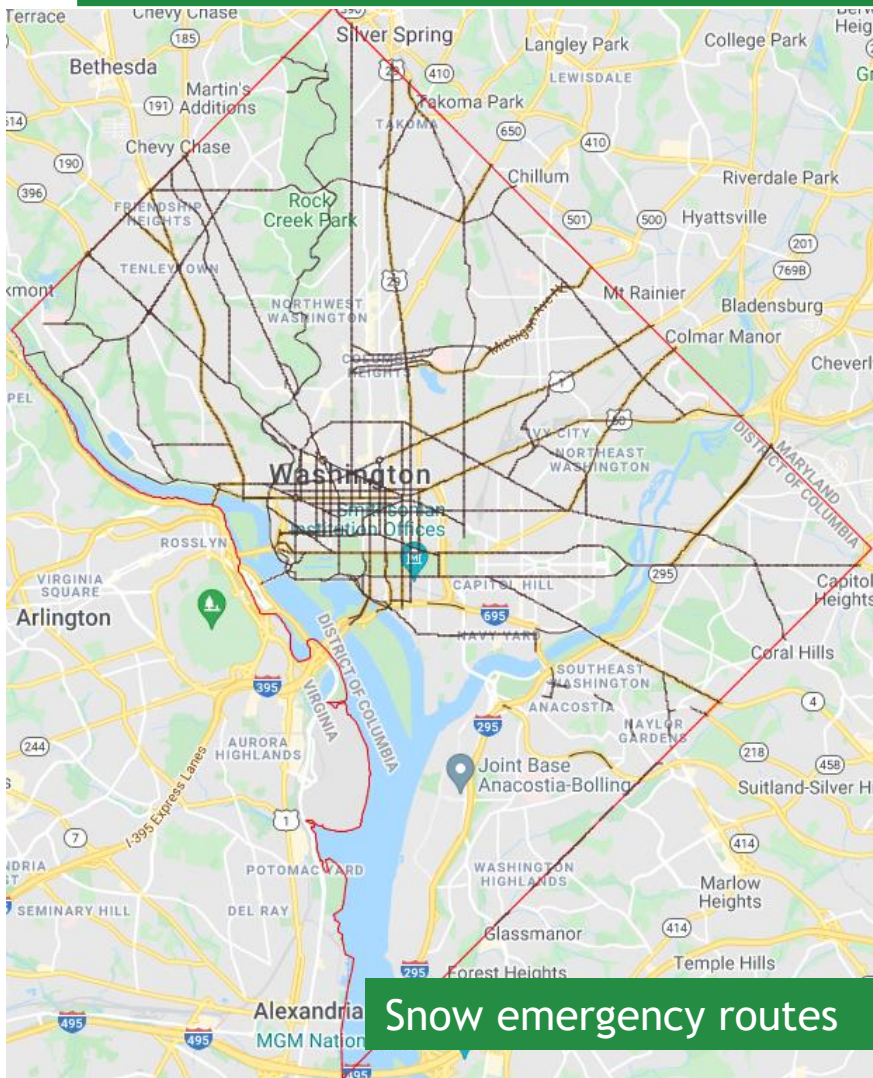
Recreation centers



Public libraries



Analysis – Public EVSE Locations



Breakout Groups



Feedback on:

- The most useful charging levels in each use-case: Residential (MUDs, curbside); public chargers (L2 vs L3 needs); workplace charging?
- Infrastructure placement -- where would you like to see EVSE infrastructure? Needs, concerns?
- Private sector EVSE development – any concerns about specific vendors?

Report Out / Discussion / Questions

How Can We Improve?

How do you want to see EV development incorporate equity?

What would you like to see addressed that has not been?

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Coalition