

# Electric Vehicle Charging in the District of Columbia

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E. 93 St

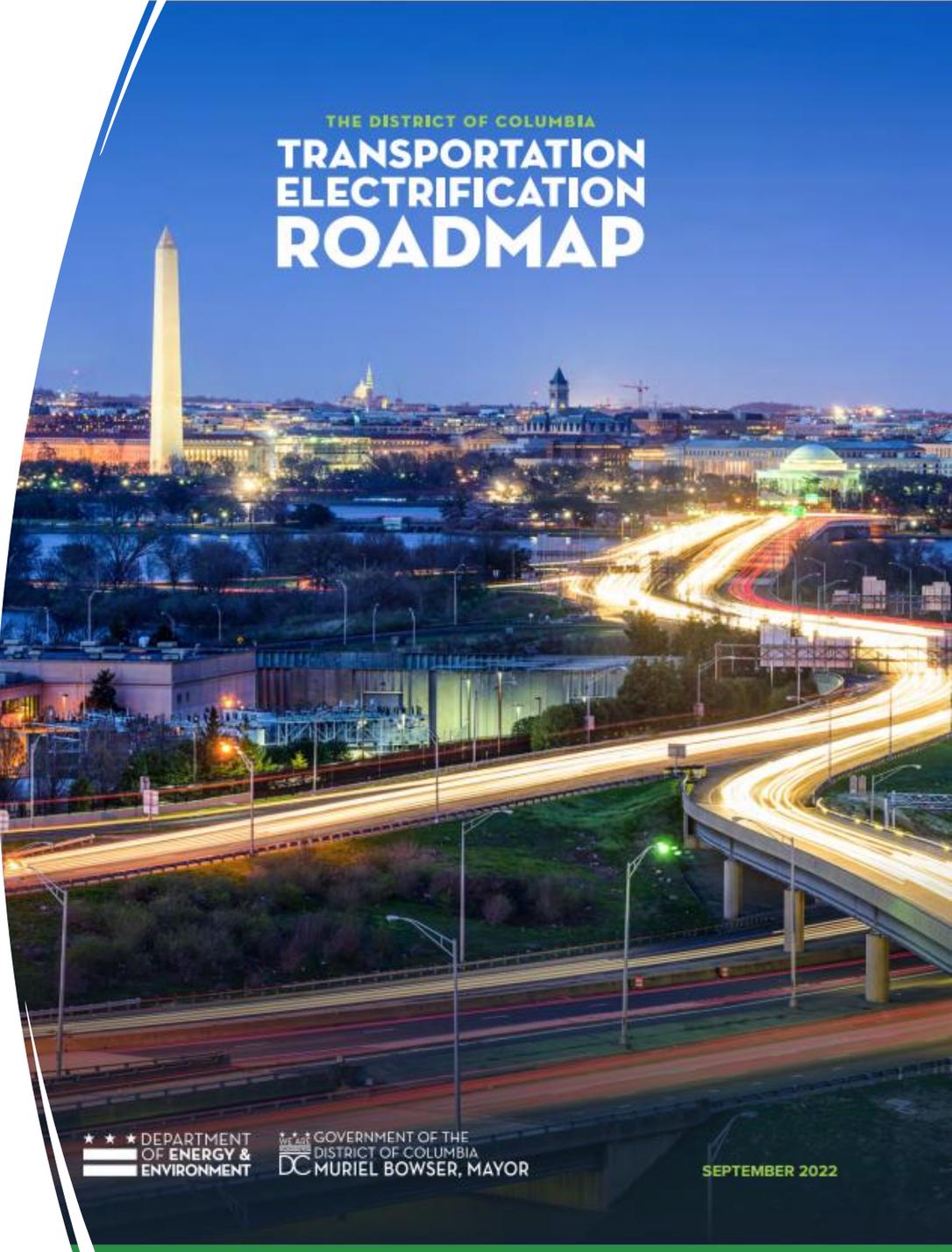
BATTERIES

LUBRICATION

NO PARKING  
ANY TIME  
MON-FRI

Roadmap  
published  
Late 2022

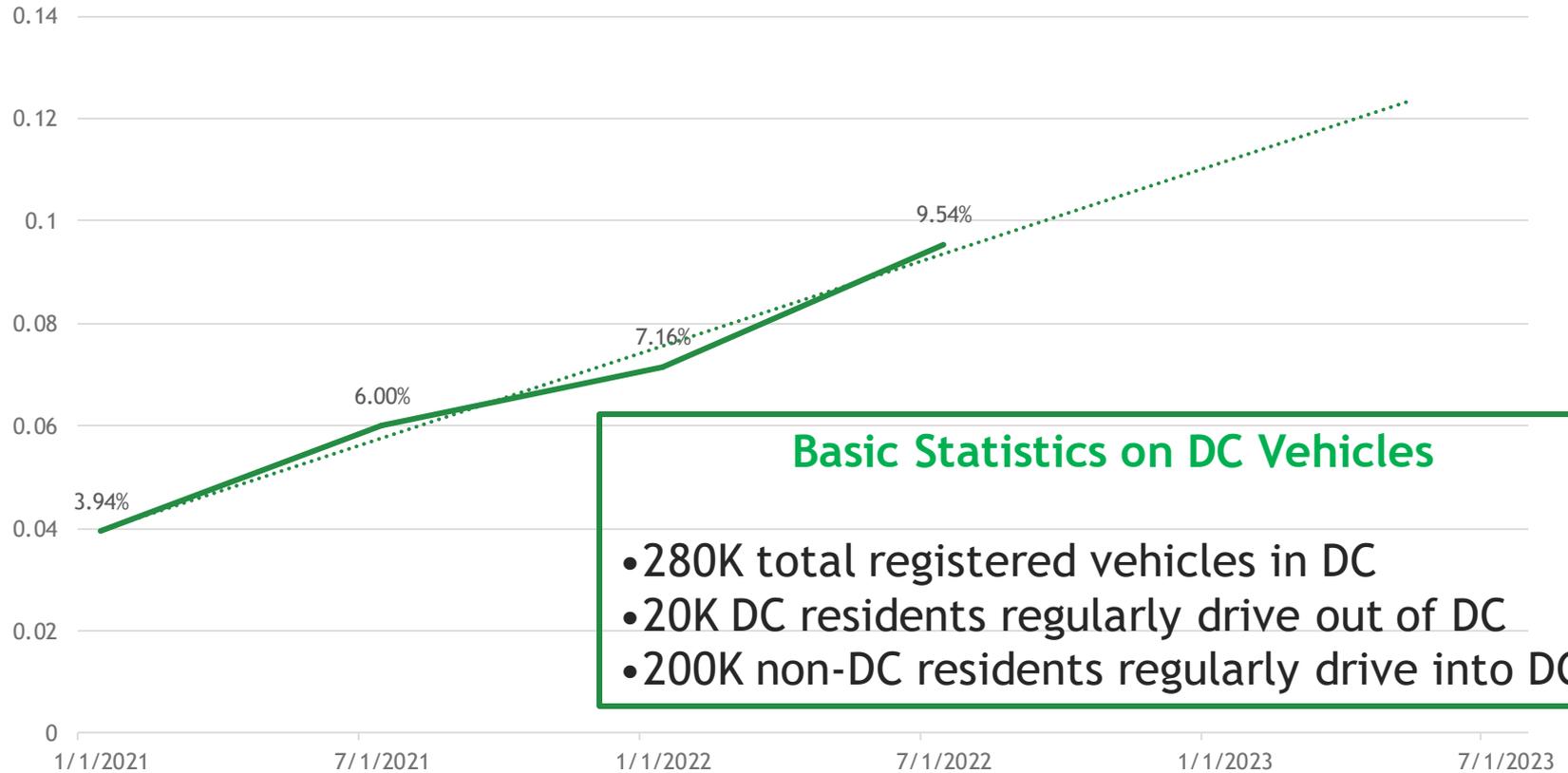
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THE DISTRICT OF COLUMBIA  
**TRANSPORTATION  
ELECTRIFICATION  
ROADMAP**

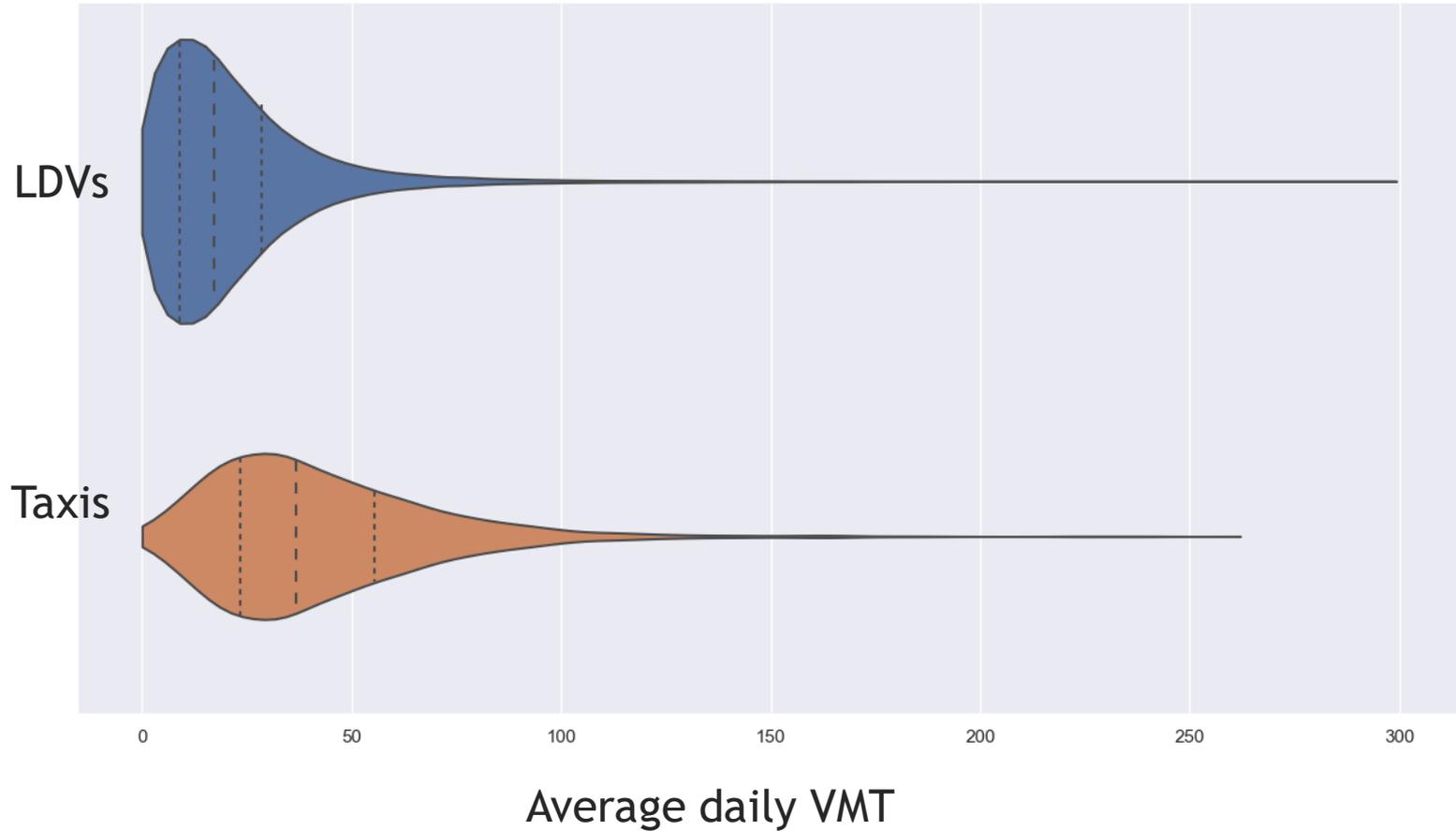
# Projections of DC EV Registration using all data

EV Share of new vehicle registrations with trend



Using all data available, approximately 11.15% of new vehicles will be EVs in DC the January 2023 registration dataset.

# VMT profile of DC drivers



LDV = Light Duty Vehicle

## EV Charging Levels

FIG. 9



### LEVEL 1

Uses standard 120V outlets. 120V circuits are also used by most home electronics.

**1 HOUR = 5 MILES**



### LEVEL 2

Uses 240V circuits. 240V circuits are also used by dryers and stovetops.

**1 HOUR = 25 MILES**



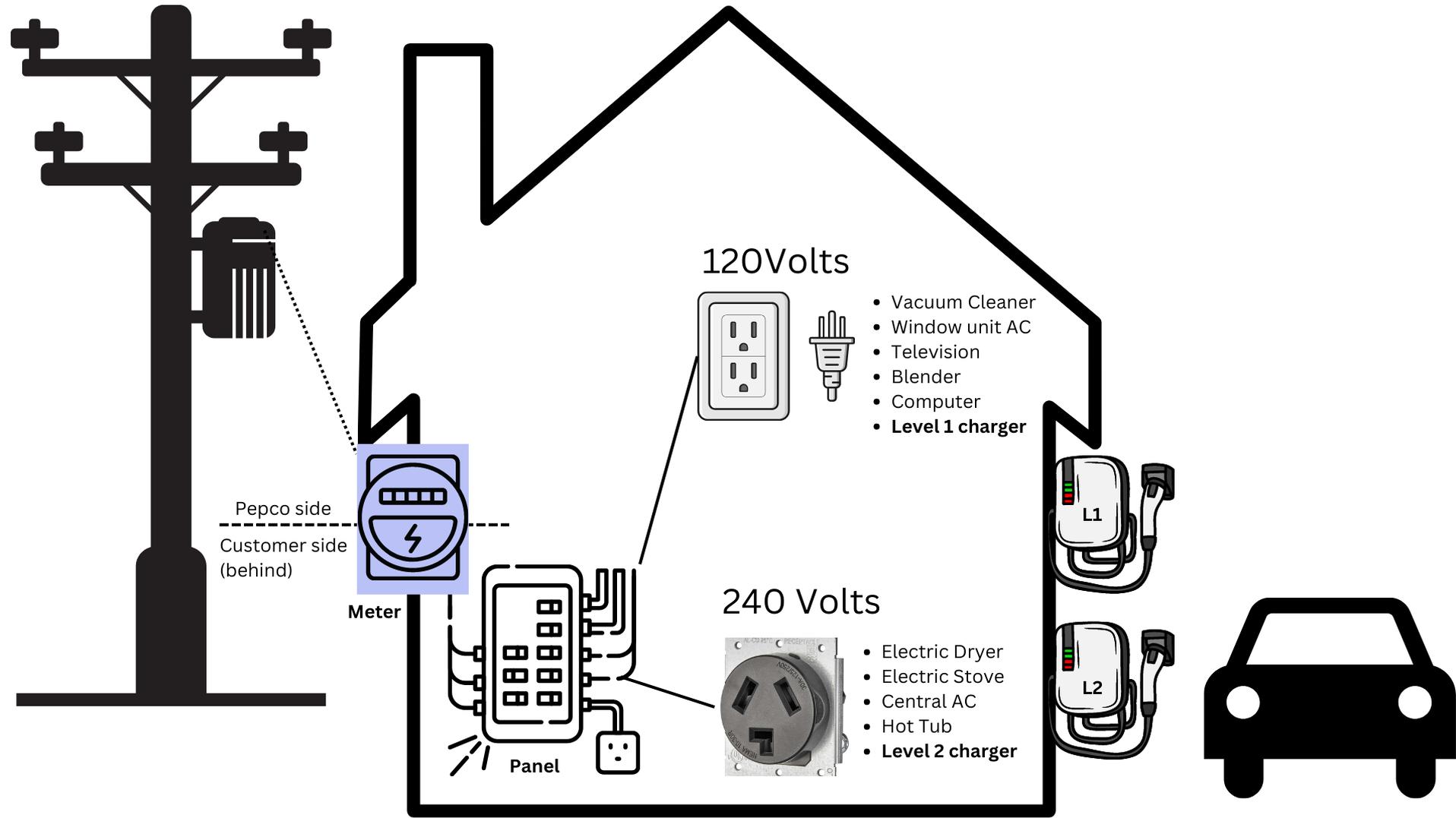
### DC FAST / LEVEL 3

Uses 480V circuits at public charging stations.

**10 MINUTES = 40 MILES**

About 80% of EV charging happens at home

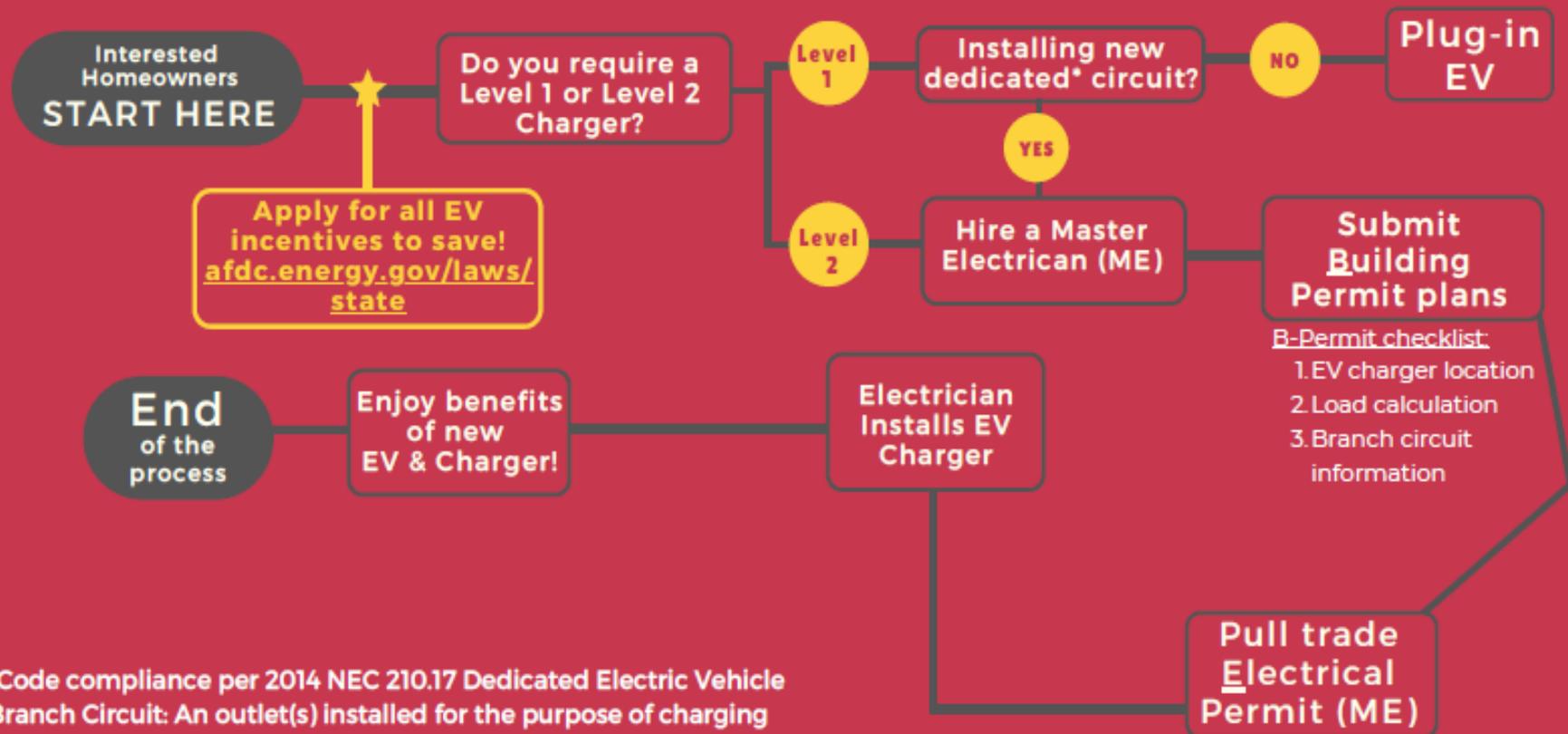
# Electric Vehicle Home Charging Diagram





# ELECTRIC VEHICLE CHARGER PERMITTING PROCESS

ADMINISTERED BY DOB



\*Code compliance per 2014 NEC 210.17 Dedicated Electric Vehicle Branch Circuit: An outlet(s) installed for the purpose of charging electric vehicles is required to be supplied by a separate dedicated branch circuit. This circuit shall have no other outlets and extension cord usage is prohibited for fire and electrical safety.

**E-Permit checklist:**

1. Must be pulled by a ME or their designee
2. Select the "battery charger" category

## What does it cost to install Public Charging Stations?

Pepco is authorized by the Maryland Public Service Commission to install, operate and maintain public charging stations in Montgomery and Prince George's County. According to a report submitted by Pepco to the MD PSC on 2/1/23, the average labor & materials cost to install public charging station ports is:

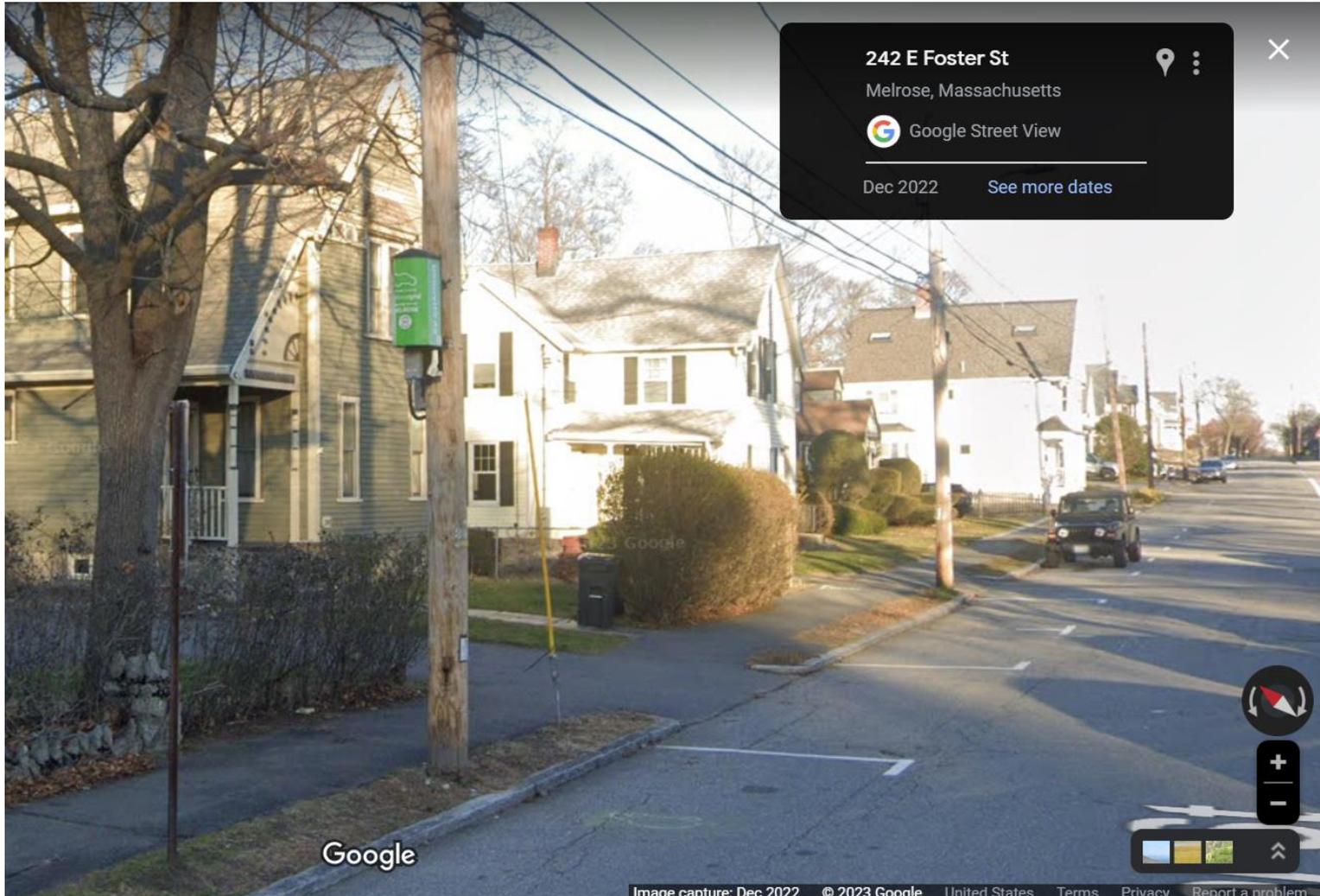
**Level 2: \$29,259**

**DC Fast Charging (Level 3): \$145,022**



# Pole Mounted Charging

A WRI report stated that costs to install pole-mounted chargers are 55% lower



ELECTRIC  
VEHICLE  
PARKING  
ONLY WHILE  
CHARGING



ELECTRIC  
VEHICLE  
PARKING  
ONLY WHILE  
CHARGING



wheaton college  
EV UNITS





EV  
ELECTRIC VEHICLE  
CHARGING  
2 HOUR LIMIT



RESERVED  
PARKING  
ELECTRIC  
VEHICLES  
ONLY

Charging  
Stations  
Are For  
Hotel Guests Only  
PERMIT REQUIRED

RESERVED  
PARKING  
ELECTRIC  
VEHICLES  
ONLY





MOM's Organic

Reserved  
for Electric  
Car  
Charging

MOM's Organic Market  
Reserved  
for Electric Car  
Charging

chargepro

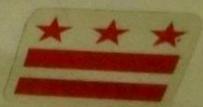


1E6130

Janet



BOLT EV



## Existing DC, Federal, and Pepco Electric Vehicle Incentives

- DC Incentives
  - Excise Tax - Fully-electric vehicles are **exempt from DC Excise Tax** (otherwise 1% to 10.1% of vehicle purchase price depending on weight/mpg)
  - Alternative Fueling Infrastructure Credit - **50% of the allowable costs** for the purchase/installation of charging station. Credit shall **not exceed \$1,000 per station at a private residence; \$10,000 per station on non-residential property** designed for use by the public.
  - Federal Government Incentives
    - Vehicle Tax Credit - credit up to **\$7,500 for new** qualified vehicles/purchasers; **qualified used EV's/EV purchasers may be eligible for one-time \$4,000 credit.**
    - EV Charger Tax Credit - a nonrefundable tax credit of **30% of the hardware and installation costs** for EV chargers installed at residence with a **maximum of \$1,000.**
    - Charger Grant Programs - \$17m in NEVI award; potential up to \$15m CFI competitive grant
- Pepco DC Incentives - EV Smart Program
  - Whole House Time of Use Rate - residents can save money when charging during off-peak hours, when electricity prices are lower.
  - Public Charger Program - Pepco installs utility side infrastructure to support public charging
  - Public Transportation Charger Program - Pepco installs utility side infrastructure to support taxi or public bus charging

## Additional Relevant Electrification Incentives that Support Electric Vehicles

### Federal Incentives - Inflation Reduction Act

- Home Energy Rebates - Around \$60m to be administered by DOEE
  - Electric Panel Upgrade - up to \$4,000
  - Electric Wiring Installation - up to \$2,500
- Electrification Tax Credit - electric panel (\$600)

\*Please note that all the existing Federal and District Government incentives for work behind the utility meter are designed for the home-owner to own the upgrade.

## Planned DOEE Near-Term Actions to Support Electric Vehicles

- By September 2023 (1 year), identify 200 locations to install EV charging infrastructure to prioritize EV adoption, through incentives & priority funding, in areas historically overburdened by poor air quality.
- Build out public Level 2 charging by increasing chargers at a 2% ratio of District-registered EVs by 2025 w emphasis on Wards 5, 7 & 8.
- Build out workplace Level 2 charging by increasing chargers to 2% of estimated commuters driving into DC by 2025.
- Expand public EV charging by deploying chargers at 50 District-owned properties such as libraries, parks, & recreation centers, by 2025 w emphasis on Wards 5, 7 & 8.
- Pursue or develop grant opportunities (e.g. CFI) to fund pilot projects that support vehicle electrification & future of gas stations.
- Partner w National Park Service & federal agencies to install EV charging stations in parking lots by recreation sites, such as Fort DuPont Park & Rock Creek Park, & at National Arboretum, by 2025.

# Chargers in DC per US DOE

Public Chargers					
Level 1		level 2		DC Fast Charge	
stations	ports	stations	ports	stations	ports
2	5	257	766	7	44
Total Stations		266			
Total Ports		815			
Private Chargers					
Level 1		level 2		DC Fast Charge	
stations	ports	stations	ports	stations	ports
8	24	41	108	1	2
Total Stations		50			
Total Ports		134			

# CFI Application by the numbers

## CFI Application by the numbers



### 7 Projects

DC-owned sites, Shell/Volta, Georgetown U, Zipcar, Itselectric, bp pulse/uber/hertz, Capital Bikeshare



### 257 sites

40 electrified CABI stations, 89 upgraded ZipCar sites, 100 Itselectric sites, 1 university bus depot, 1 large for hire vehicle hub



### Capacity to simultaneously charge 335 EVs

293 Level 2 ports plus 42 Level 3 ports



### Approx \$15M in Federal Funds requested

Over 20% in local "matching" funds

# Federal NEVI Program (DDOT)

- Publicly accessible Level 3 EV chargers along designated corridors
- \$16.6M formula funding over 5 years from USDOT. \$2.4M in FY22 & additional funding yearly thru FY26. Unused \$\$ rolls over to the next year.
- Currently in planning/hiring phase
- Projects directly related to EV charging:
  - upgrading existing & constructing new EV charging infrastructure
  - installation of on-site electrical service equipment
  - community and stakeholder engagement
  - charging station signage
  - data sharing, and related mapping analyses.

# Council Legislation 25-0106

- “Comprehensive Electric Vehicle Infrastructure Access, Readiness, and Sustainability Amendment Act of 2023”
- As introduced, mandates 7,500 public EV charging stations by 2027
- Right to charge (tenants & condo owners)
- Consideration during Streetscape planning
- Grant provisions to subsidize installation of EV charging infrastructure on private property
- Grid capacity study
- EV chargers & EV ready in new buildings
- Public hearings held on 7/10 & 7/12

# Questions?

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GOVERNMENT OF THE  
DISTRICT OF COLUMBIA  
MURIEL BOWSER, MAYOR