



CITY OF CLEVELAND

Mayor Justin M. Bibb

**MAYOR'S OFFICE OF
SUSTAINABILITY**

EV Charging – 4 city locations

February 6, 2024

Mayors Office of Sustainability



Why EV Charging Stations Matter In Cleveland

- More EV and Plug-In Hybrid (PHEV) ownership in region
- Reduce transportation emissions and improve air quality
- Equitable access for residents – neighborhood locations
- Visitors to businesses --- "top off" while visiting restaurant, entertainment area, etc.
- Cleveland's reputation as a sustainable city – tangible evidence of progress on climate action



EV Charger locations – City-Owned – CPP supplied



Canal Basin

- INSTALLED, NOT ACTIVATED
- 2 dual port Level 2 Chargers installed, 4 spaces
- **Downtown visitor location (Capital funding)**



Fredrick Douglas Recreation Center

- INSTALLED, ACTIVATED
- 1 dual port Level 2 Charger installed –
Neighborhood resident location (OH EPA)



West Side Market

- NOT YET INSTALLED – Q1 2025
- 1 dual port Level 2 Charger
- **Downtown resident location (NOACA IJJA)**



Willard Garage

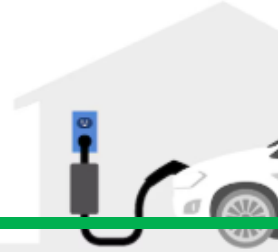
- NOT YET INSTALLED – Q1 2025
- 1 dual port Level 2 Charger
- **Downtown location (NOACA IJJA)**



Types of Electric Vehicle Charging Stations

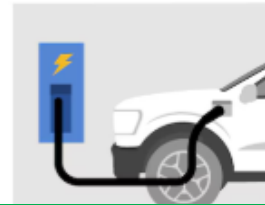
AC - Level 1

- 120V
- Location: Anywhere with a standard outlet
- Range: 3-5 miles per hour
- Charging time from 20%: 30-50+ hours for a BEV and 5-6 hours for a PHEV



AC - Level 2

- 208V-240V
- Location: Home, work, or public station
- Range: 10-20 miles per hour
- Charging time from 20%: 3-8 hours



DC Fast - Level 3

- At least 400-1000V
- Location: Public station
- Range: 80% of capacity
- Charging time: 15-60 minutes or more



EV Charger types

- Level 1 chargers - plug in at home
- 120V AC outlet
- Comes with the vehicle
- 5-6 hrs for Plug-in hybrid,
- 5 miles of range added in 1 hour
- Level 2 chargers - residential and commercial settings
- 240V or 208v AC line, breaker switch
- Most common in Public charging
- 1-2 hours PHEV, 5-6 hours BEV
- 25 miles of range added in one hour
- Lifespan 15-20 years with regular service
- Level 3 chargers
- DC Fast Charging
- Most common in Highway service areas, dealerships and Fleet charging
- BEV only – 20min – 1 hour to fully charge
- 180-240 miles added in 1 hour
- Lifespan 15-20 years with regular service



City of Cleveland Program for EV Charging fee Structure

EV CHARGING STATION FEE CALCULATION

Revenue stream

- Charging Fees

=

Expenses

- Electricity Cost - CPP
- Operation Cost
- Maintenance Cost (including upgrades)

Charging Fee = Electric Charge + Operations + Maintenance

Anticipate initial range of price for customer would be \$0.25 - \$0.40 per kWh, to be determined by BOC



Q & A



Thank you!

