

Electric Vehicle Charging and Incentives



2024 Montgomery County Energy Summit

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Why Electric Vehicles?

The Climate Action Plan sets a goal for 80% emissions reductions by 2027 and 100% by 2035. Transportation makes up about one third of all emissions. EVs will provide a wide range of benefits to County residents:



Zero tailpipe pollution, 75% lower emissions from driving, and 50% lower lifecycle emissions



Lower cost of ownership from electricity and maintenance costs



Convenient charging at home, work, or your destination

EV Purchasing Co-op

Take the Pledge to make your next vehicle an Electric Vehicle!

The EV Purchasing Co-op offers residents and businesses:

1. Discounts on new and pre-owned vehicles from local dealerships
2. Information to help you buy an EV, find and install charging, and get incentives
3. Events to see and drive EVs



www.MontgomeryCountyMD.gov/ZEV

EV Charging 101

Three types of **Electric Vehicle Supply Equipment (EVSE)** that vary by charging speed, power requirements, and installation cost.

Level 1

- Plug-in standard 120V outlet, 15-20 amps
- ~5 miles per hour
- Meets needs if you drive 30-40 miles daily

Level 2

- 220-240V and 30-50 amps (hardwire or plug)
- ~25 miles per hour
- Typically used for 4-6 hour sessions

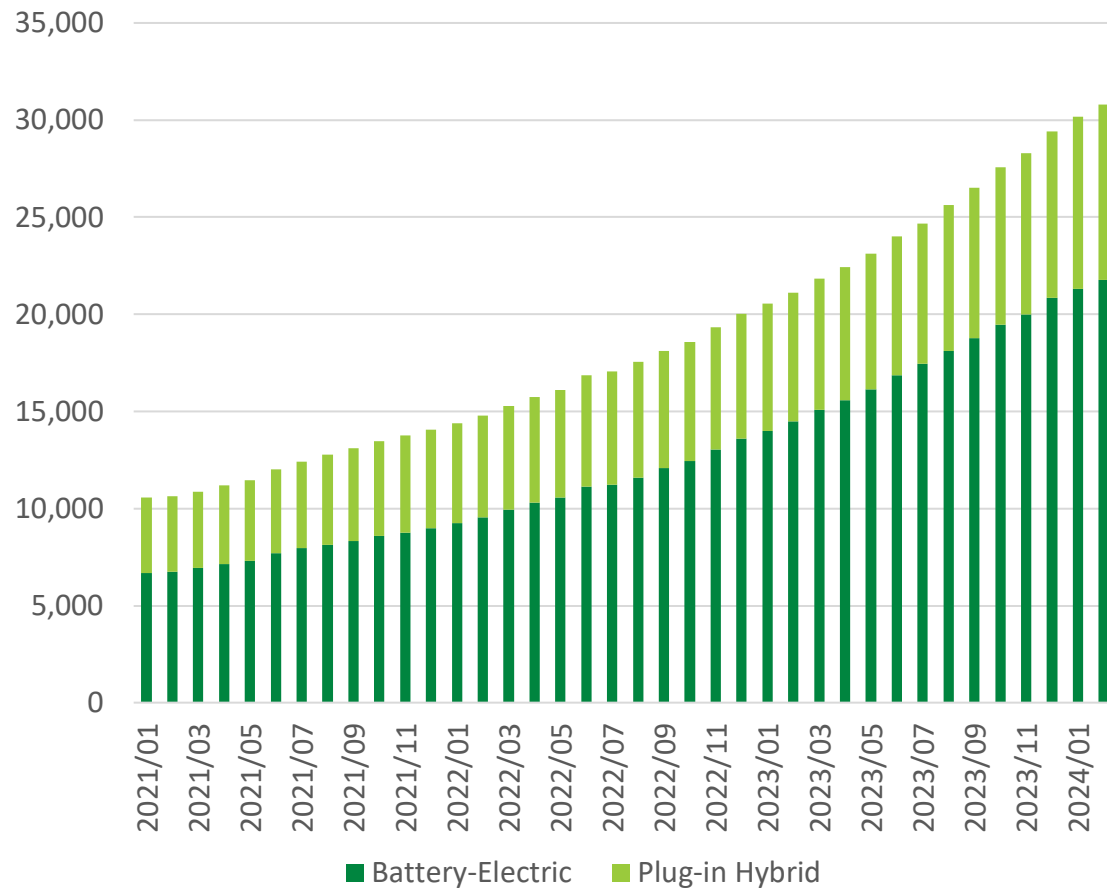
Level 3 (DC Fast Charging)

- 480V 3-phase AC input and range in power output, 50-250+ kW
- Public locations with high usage
- Fully charge in 30 minutes or less, but more \$\$
- Frequent fast charging is not recommended for battery maintenance

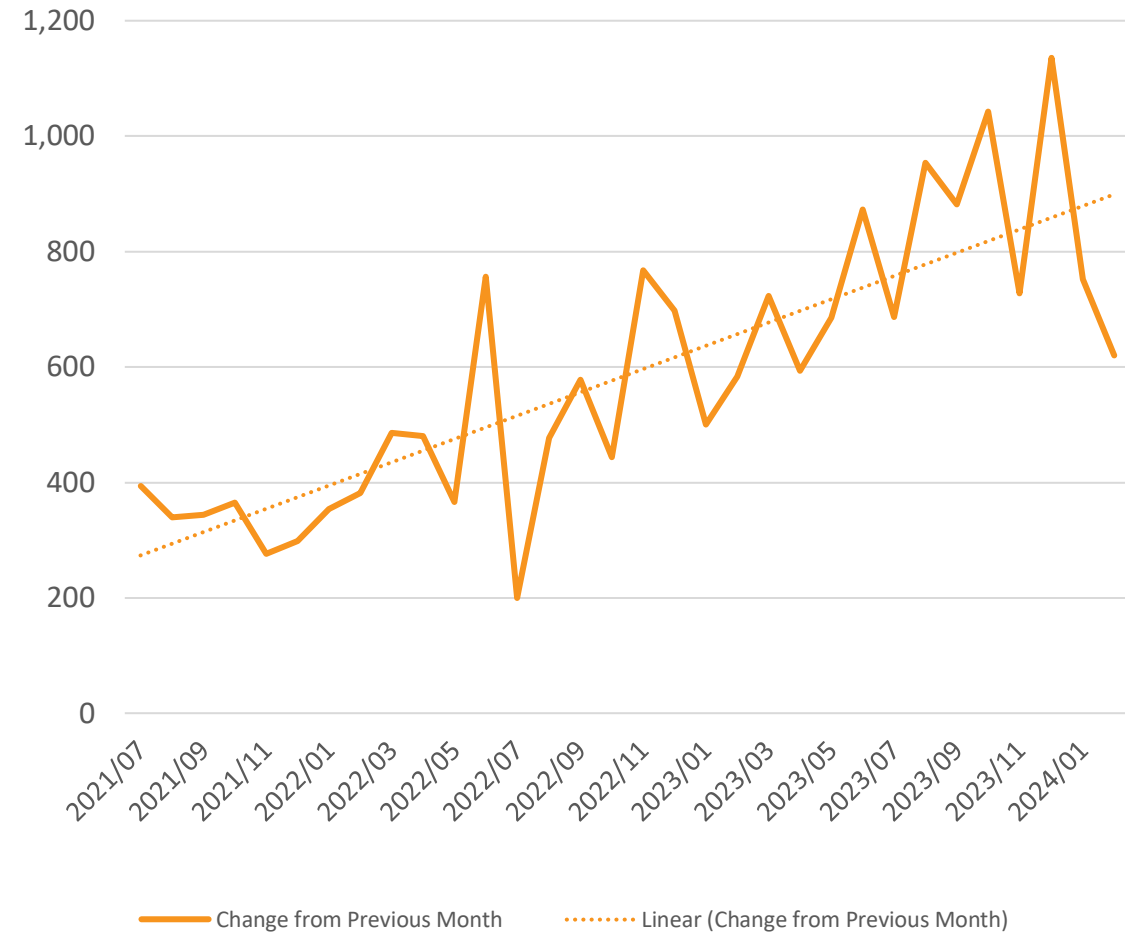
EV Charging is SAFE when installed and operated correctly

Montgomery County Plug-in Vehicle Data

Plug-in Vehicle Registrations in Montgomery County
(Jan 2021- December 2023, Monthly)

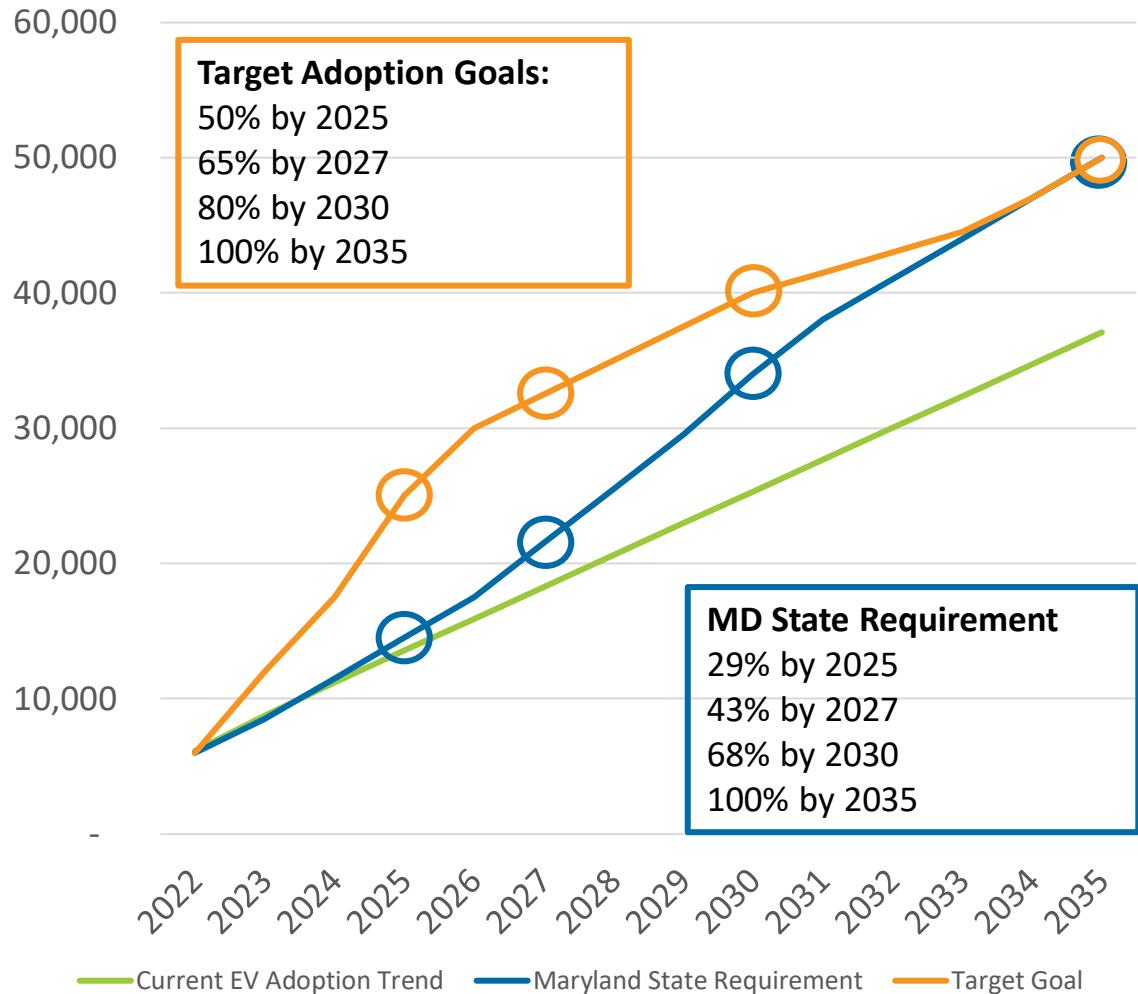


Newly Registered Plug-in Vehicles by Month

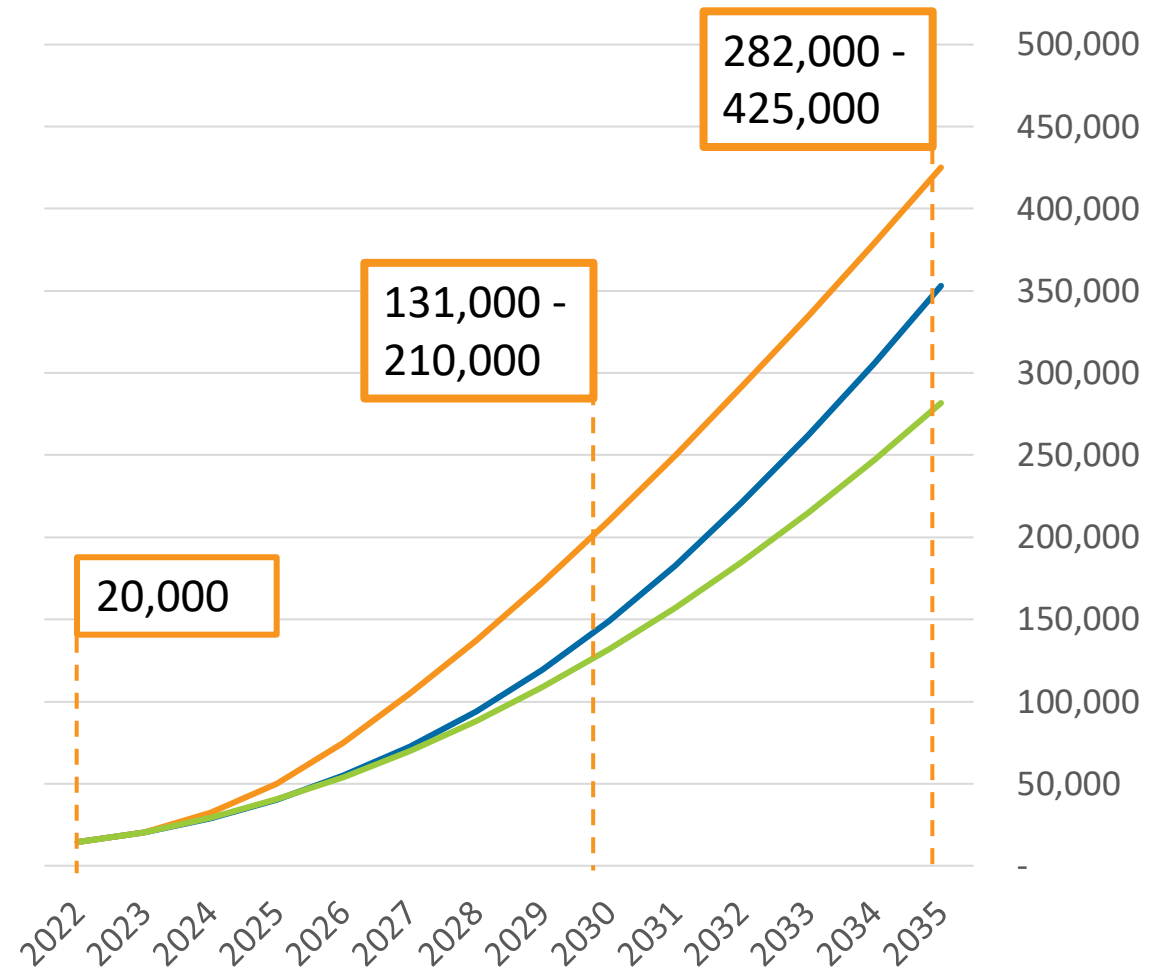


Plug-in Vehicle Projections for Montgomery County

New Plug-in Vehicles Registered Each Year



Cumulative Total of Registered Plug-in Vehicles by Year



Projected EV Charging Demand



Based on projected market adoption of electric vehicles, U.S. DOE's National Renewable Energy Laboratory estimates the following need for EV charging for our region:

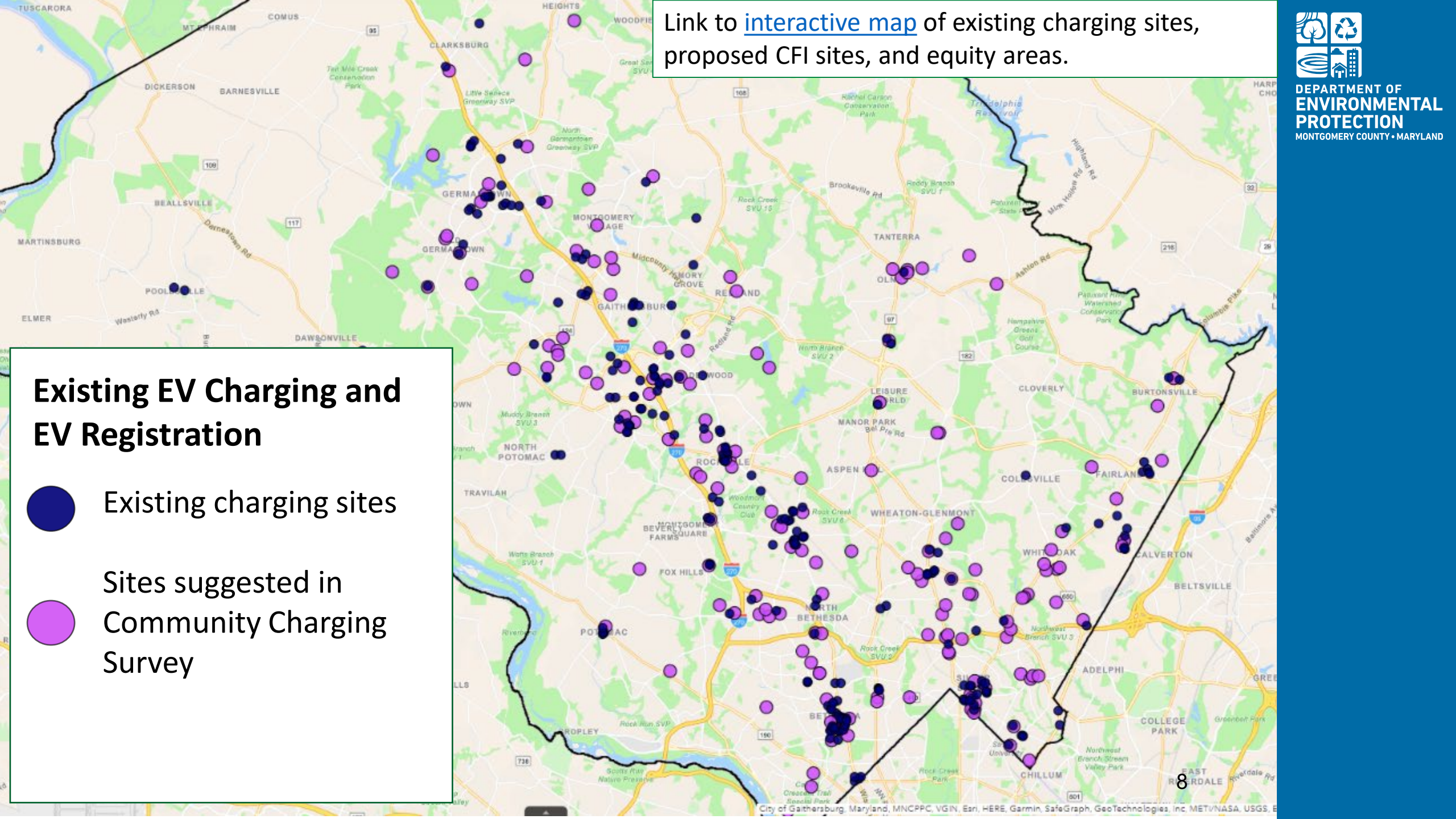
Years	Number of Plug-in Vehicles	Private Workplace Level 2 Ports	Multi-Unit Dwelling Level 1 and 2 Ports	Public Level 2 Ports	Total Level 2 Ports	Public Level 3 Ports
Market Today	26,000	<100	<100	618	~800	123
2026	50,000	1,829	807	2,872	5,500	208
2027	75,000	2,745	1,213	4,300	8,200	313
2028	100,000	3,661	1,616	5,732	10,900	418
2030	150,000	4,409	2,415	7,132	14,900	412
2035	300,000	8,820	4,834	14,268	27,800	826

*Assumes 70% of drivers have access to home charging; lower home charging access requires more public and workplace charging

Link to [interactive map](#) of existing charging sites, proposed CFI sites, and equity areas.

Existing EV Charging and EV Registration

-  Existing charging sites
-  Sites suggested in Community Charging Survey



Shared vs. Assigned Parking

Assigned Parking:

- Property owners with assigned or deeded parking spaces have a **"Right-to-Charge"** in Maryland
- HOAs must give reasonable accommodations to install EV charging at the owner's expense.
- This may require upgrades to the community's electrical panel and other common property.

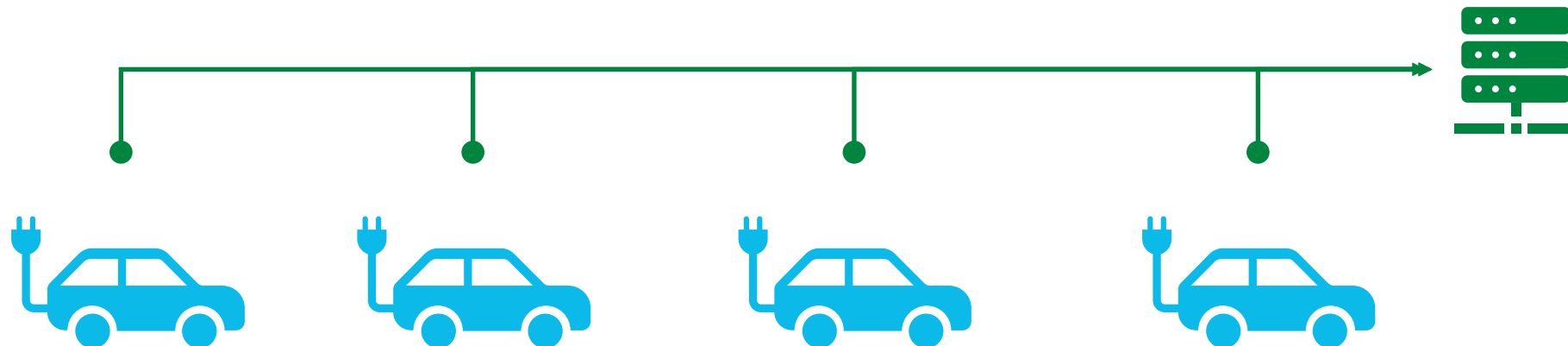
Shared Parking:

- Shared Level 2 chargers can serve multiple EV drivers, typically installed in shared parking areas.
- Consider at least one charging port for every ten parking spaces 10%.
- Access and pricing can be managed through an EV charging network subscription.



Load Management

- The number of EV charging stations on the property is limited by the available electrical capacity of the property and sub-panel.
- Splitting power between stations can mean lower electrical output per charger and longer charging times.
- **Automated Load Management Systems** control power usage among charging stations to allow simultaneous charging for multiple vehicles.




EV Charging Installation Process...

- 1. Assess Needs:** Survey residents about their plans to determine the number of EV chargers your community will need.
- 2. Seek Technical Assistance:** Consult experienced electricians and contractors during the planning stage for project design and feasibility studies. Ask the **Montgomery County Green Bank** about technical assistance for your project.
- 3. Shop Around:** Get quotes from multiple contractors and be sure to set clear expectations in your contract. The contractor should be responsible for obtaining all permits and passing inspection.
- 4. Contact Utility:** Inform the utility provider of your plans. They will inform you if any upgrades are required to complete the project. Be sure to explore incentives or rate programs that could reduce costs.
- 5. Get Community Approval:** EV charging installation may require approval from a community's board or a majority of owners. Send clear communications to owners and residents about the project and ask for input during the planning phase to ensure community-wide support.
- 6. Adopt an EV Charging Policy:** An EV charging policy can include how to accommodate requests to install charging in assigned spaces, who will be permitted to use shared spaces, how electricity costs will be paid, and other topics.

... Continued Process

7. **Permitting:** Apply for commercial electrical and construction permits through the **Department of Permitting Services (DPS)** online portal. Contractors and property owners may request a pre-design consultation with DPS to get guidance early in the process.
8. **Installation:** Licensed electricians will install the EV charging equipment, potentially requiring trenching for electrical connections.
9. **Inspection:** Ensure compliance with regulations through inspections by the DPS. If any digging is done, the project must be inspected before filling holes

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10. **Commissioning:** Set up access privileges and pricing through the charging operator's network.
 11. **Apply for Incentives:** Submit final applications for available incentives and subsidies for your completed project. Check on the status of incentive programs at the beginning of the process to know what you can expect to receive.
 12. **Celebrate and Share Information:** Inform residents about access to EV chargers and promote public availability through charger locators like Google Maps and PlugShare.

Incentives and Financing



Special financing and technical assistance, including low-interest bridge loans for low- and moderate-income properties



EVSE Rebate: 40% of the cost of equipment and installation up to \$4,000 per charger – new funding 7/1/24

US Federal Tax Credits;
NEVI and CFI Grants

Up to 30% tax credit for income-eligible and rural areas (Section 30C)
Up to 80% federal cost share for DC Fast Charging and Community charging






Most utility programs have expired. New programs for workplace charging and multi-unit dwellings may be approved by the Public Service Commission.

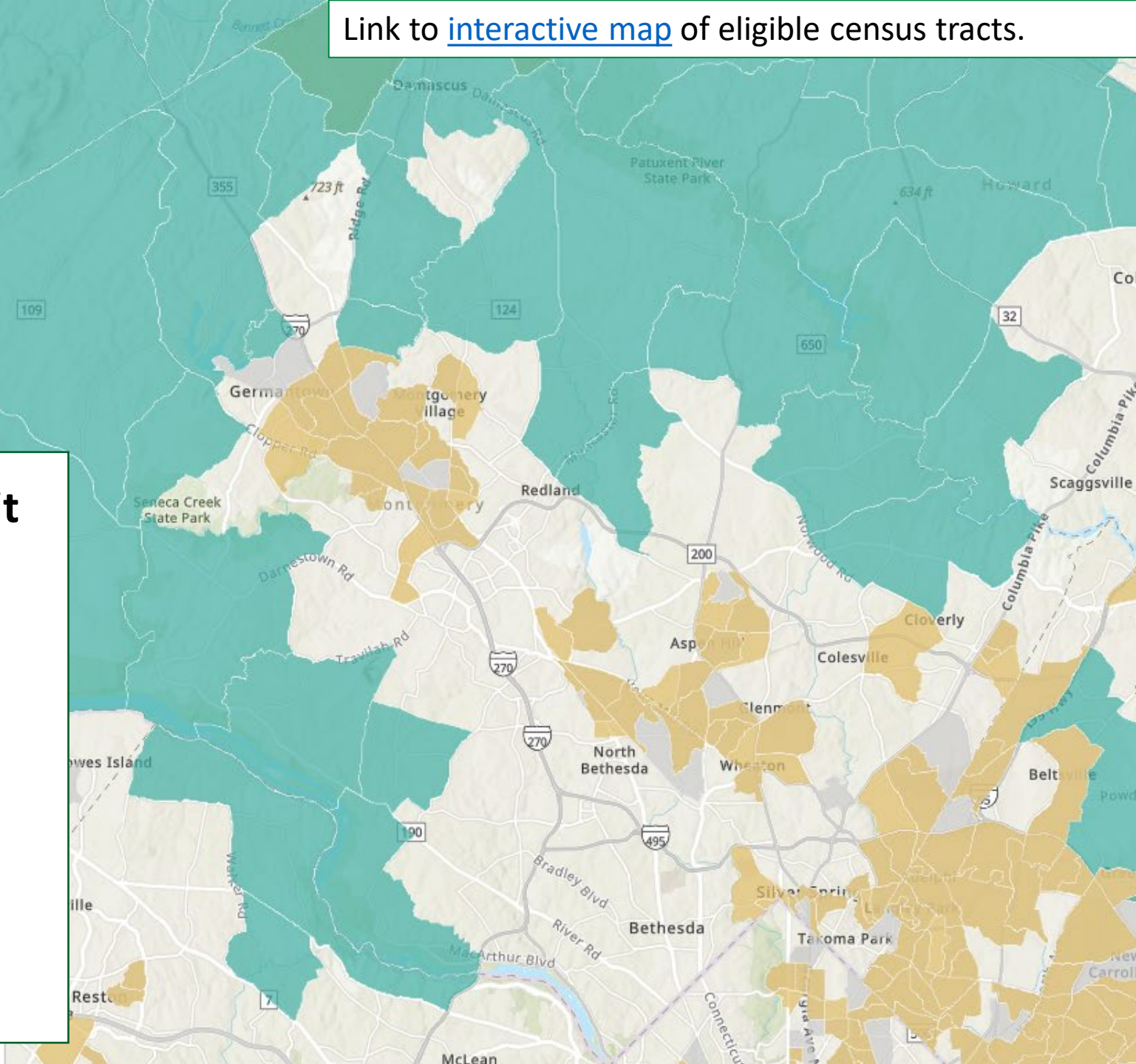
Link to [interactive map](#) of eligible census tracts.



DEPARTMENT OF
**ENVIRONMENTAL
PROTECTION**
MONTGOMERY COUNTY • MARYLAND

Eligible for 30C Tax Credit

-  Eligible through 2030
-  Eligible through 2029
-  Eligible through 2024



Questions?



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