

Maryland Workplace Electric Vehicle Charging Suitability Tool

Last Updated: November 2025

Background

The Maryland Workplace Electric Vehicle (EV) Charging Suitability Tool was developed by the Maryland Department of Transportation (MDOT) as part of the [Zero Emission Vehicle Infrastructure Plan \(ZEVIP\)](#) to support to support the deployment of publicly available light-duty EV charging infrastructure throughout the State. The tool is designed to:

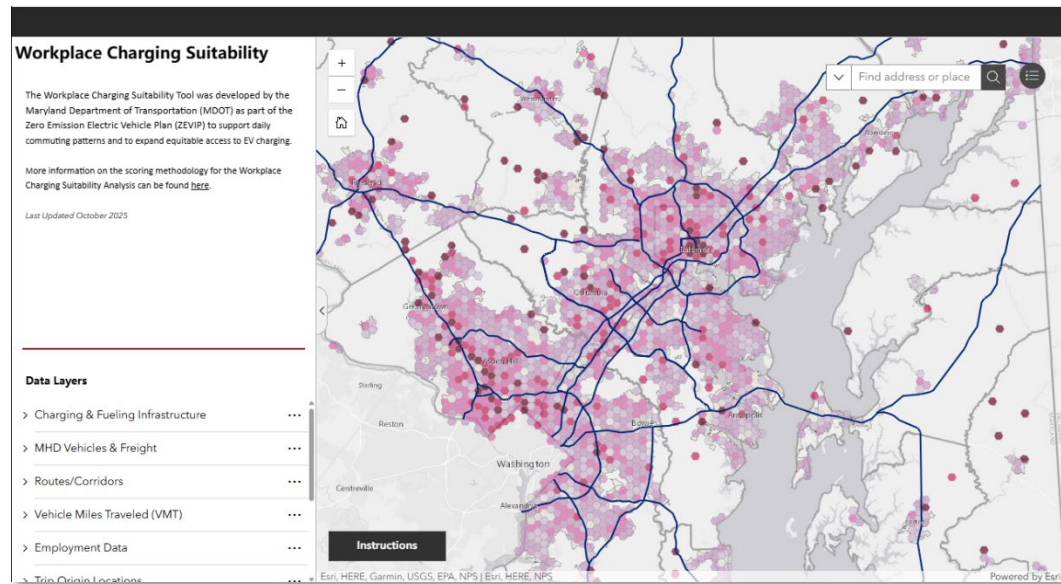
- Facilitate convenient charging access for employees at dedicated work locations.
- Provide charging for drivers with limited or no access to at-home charging and long commutes.
- Align with U.S. Bureau of Labor Statistics findings that approximately 70 percent of employees work at least 35 hours per week.

Where to find the Tool

You can follow this link to view and use the tool:

<https://experience.arcgis.com/experience/d8d908d9e62f4054b14ec8f6cbb5392b/page/Suitability-Tool?views=Workplace-EV-Charging>

Your Insights Help Us Improve



If you have any feedback or questions related to the tool, please visit our [Maryland Electric Vehicle Charging Suitability Tool Feedback and Questions Form](#).

Target Audience

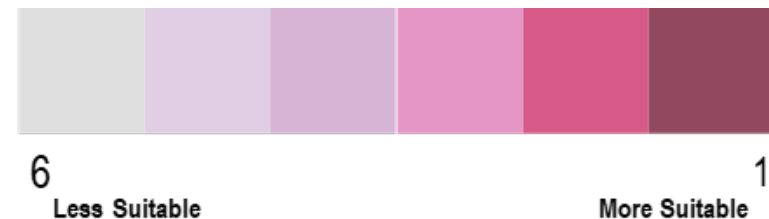
Stakeholders and communities interested in EV charger siting such as:

- Local governments
- Local businesses and non-profits
- EV charging industry
- Property developers
- Electric utilities

Workplace Charging Suitability Analysis

This tool utilizes hexagonal binning ('hexbins') to divide Maryland into 12,773, 1-square mile units, allowing for consistent and equitable area comparisons, regardless of the disparities found in census tracts or zip codes. By ranking these hexbins based on weighted scores, the tool produces a clear visualization of the most suitable locations for installing workplace charging infrastructure. This approach enables stakeholders to prioritize investments in areas with the greatest potential impact, ensuring that Maryland's workforce has broad and equitable access to EV charging as part of the state's broader zero-emission transportation goals.

As part of the Zero Emission Vehicle Infrastructure Plan (ZEVIP), MDOT, in coordination with other State agencies, identified a variety of federal and state data layers that would be key in the deployment of workplace charging infrastructure. The list of data layers incorporated into the Workplace EV Charging Suitability Tool were further refined based on Maryland's charging priorities as well as changes to federal policies and priorities. These layers were aggregated and weighted based on Maryland's priorities for increasing equitable access to workplace charging. The weighted scores were then combined to give an overall weighted score for each hexbin. Hexbins were then ranked on a scale from 1 to 6, 1 being the most suitable for EV charging infrastructure and 6 being the least suitable based on the overall weighted score.



To learn more about the benefits of workplace charging, please visit the [Alternative Fuels Data Center: Workplace Charging for Electric Vehicles](#) website.

The layers included in the Workplace Charging Suitability Analysis are identified in the table below. To view information on supplemental data layers that are incorporated in the Maryland Suitability Analyses, please visit:

<https://evplan.mdot.maryland.gov/wp-content/uploads/2025/10/Additional-Suitability-Layers-User-Guide.pdf>

Layer Name	Definition	Methodology & Scoring	Weighting	Source
OnTheMap (OTM) Employment: Retail and Service	Employment Density by Census Block Residence Area Characteristic (RAC) data	❖ Calculate the number of jobs within North American Industry Classification System (NAICS) categories: Longitudinal Employer-Household Dynamics (LEHD) employment categories: Total: Retail and Service	5	U.S. Census- LEHD Origin-Destination Employment Statistics (LODES)- 2022 https://onthemap.ces.census.gov/
Replica O/D Work and School Trips	Trip count by hexbin work or school	❖ Density of people working or attending school in hexbin	4	Replica
Replica O/D Electric Vehicle (EV) Trips	Trip count by hexbin EVs only	❖ Density of trip origin and trip destination	3	Replica
Replica O/D All Vehicle Trips	Trip count by hexbin all vehicles	❖ Density of trip origin and trip destination	2	Replica
Existing Direct Current (DC) Fast Stations	Proximity to existing DC Fast charging	❖ Calculate the number of existing EV charging ports that fall within a hexbin.	1	Michael Baker International, compiled from U.S. Department of Energy - National Renewable Energy Laboratory (NREL) / ArcGIS Living Atlas
Existing Level 2 Stations	Density of L2 Charging	❖ Calculate hexbins that are within 0.5 miles of existing charging stations. If within 0.5 mile = 0 and outside of 0.5 mile = 1.	1	Michael Baker International, compiled from U.S. Department of Energy - National Renewable Energy Laboratory (NREL) / ArcGIS Living Atlas

The methodology and data layers will be updated as necessary, based on the needs and priorities of Maryland.

Additional Suitability Tools

In addition to workplace charging suitability, Maryland has developed other suitability tools that address publicly available [high-density residential](#), [corridor](#), and [neighborhood and amenity](#) charging for light-duty EVs. The following graphics illustrate the purpose and use of the Maryland Light-Duty EV Charging Suitability Suite of Tools.

The Suitability Tools are Designed to:

- Help inform local/state-wide decisions for public light-duty EV charging siting.
- Consider different use cases for light-duty EV charging; corridor, workplace, high-density housing; and neighborhood.
- Identify EV charging gaps at a high level and areas for light-duty EV charger siting.

The Suitability Tools Are Not Designed To:

- Act as an economic or a cost/benefit analysis tool.
- Provide exact locations for light-duty EV charging.
- Calculate GHG reductions or savings.
- Indicate the role of private vs. public investments.
- Inform siting based on electric utility hosting capacity.