

Maryland Light-Duty Electric Vehicle Charging Suitability Tool

Supplemental Data Layers

Last Updated: October 2025

Data Layers

To supplement the Maryland Suitability Tools, the Maryland Department of Transportation (MDOT) has incorporated the original data layers included in the Maryland Suitability layers without the aggregation and weighting, along with other layers that may be useful for future siting of charging infrastructure. These additional layers are identified in the table below.

Charging Infrastructure		
Layer Name	Definition	Source
NEVI Round 1 Awards	Location of the 22 project sites awarded contracts under Maryland's National Electric Vehicle Infrastructure (NEVI) Program Round 1.	Michael Baker International, compiled from Maryland Department of Transportation
DC Fast Stations with Less than 4 150kW CCS Ports	Location of all Direct Current (DC) Fast Charging stations that have less than 4, 150 kilowatt (kW) Combined Charging System (CCS) Ports in Maryland.	Michael Baker International, compiled from U.S. Department of Energy - National Renewable Energy Laboratory (NREL) / ArcGIS Living Atlas
DC Fast Stations with Less than 4 DC Ports	Location of all DC Fast charging stations that have less than 4 Ports in Maryland.	Michael Baker International, compiled from U.S. Department of Energy - National Renewable Energy Laboratory (NREL) / ArcGIS Living Atlas
DC Fast Stations with at least 4 150kW CCS Ports	Location of all DC Fast Charging stations that have more than 3 150kW CCS Ports in Maryland.	Michael Baker International, compiled from U.S. Department of Energy - National Renewable Energy Laboratory (NREL) / ArcGIS Living Atlas

Charging Infrastructure		
Layer Name	Definition	Source
Charging stations with at least 4 more DC Fast Ports	Location of all DC Fast Charging stations that have more than 3 Ports in Maryland.	Michael Baker International, compiled from U.S. Department of Energy - National Renewable Energy Laboratory (NREL) / ArcGIS Living Atlas
Charging Stations with DC Fast Ports	Location of all DC Fast Charging stations that have DC Fast Ports in Maryland.	Michael Baker International, compiled from U.S. Department of Energy - National Renewable Energy Laboratory (NREL) / ArcGIS Living Atlas

Medium- and Heavy-Duty (MHD) Vehicles/Freight		
Layer Name	Definition	Source
Intermodal Freight Facilities Marine Roll on Roll off	Port-based terminals where wheeled cargo—such as cars, trucks, or trailers—can be driven directly on and off ships, enabling seamless transfer between marine and land transport modes.	U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS)
Intermodal Freight Facilities Air-to-Truck	Facilities are located at or near major airports and enable the direct transfer of freight from aircraft to trucks for further ground distribution.	U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS)
Intermodal Freight Facilities Rail TOFC/COFC	Rail terminals designed for transferring truck trailers (TOFC: Trailer on Flatcar) or shipping containers (COFC: Container on Flatcar) between rail and truck modes	U.S. Department of Transportation (USDOT)/Bureau of Transportation Statistics (BTS) National Transportation Atlas Database (NTAD)
NHS Truck Stop Parking	Locations of Truck Stop Parking facilities in Maryland.	U.S. Department of Transportation (USDOT)/Bureau of Transportation Statistics (BTS) National Transportation Atlas Database (NTAD), Federal Highway Administration (FHWA)

Routes/Corridors		
Layer Name	Definition	Source
EV Freight Corridors- National Highway Freight Network (NHFN)	The National Highway Freight Network (NHFN) designated as EV Freight Corridor to support the build-out of charging infrastructure for Medium- and heavy-duty vehicles.	Federal Highway Administration (FHWA) and Bureau of Transportation Statistics (BTS)
Designated EV AFC	Maryland's designated 23 EV alternative fuel corridors.	National Renewable Energy Laboratory, Council on Environmental Quality / ArcGIS Living Atlas
NHS Interstate- US Routes	Maryland Interstates and US Routes on the National Highway System (NHS).	U.S. Department of Transportation (USDOT)/Bureau of Transportation Statistics (BTS) National Transportation Atlas Database (NTAD)
Evacuation Routes	Designated routes that would be utilized during an evacuation event.	Homeland Infrastructure Foundation-Level Data (HIFLD)

Employment Data		
Layer Name	Definition	Source
Service Employment	Service employment density by Census Block- North American Industry Classification System (NAICS) Codes.	OnTheMap (OTM) Employment (Census LODES): Retail and Service (LEHD)
Retail Employment	Retail employment density by Census Block- NAICS Codes.	U.S. Census- LEHD Origin-Destination Employment Statistics (LODES)- 2022 https://onthemap.ces.census.gov/
Total Employment	Total employment density by Census Block.	U.S. Census- LEHD Origin-Destination Employment Statistics (LODES)- 2022 https://onthemap.ces.census.gov/

Trip Origin Locations		
Layer Name	Definition	Source
Trip Origin Locations (EVs Only)	Origin locations for all EV trips in Maryland.	U.S. Census- LEHD Origin-Destination Employment Statistics (LODES)- 2022 https://onthemap.ces.census.gov/
Trip Origin Locations (All Vehicles)	Origin locations of all vehicle trips in Maryland.	U.S. Census- LEHD Origin-Destination Employment Statistics (LODES)- 2022 https://onthemap.ces.census.gov/

Boundary Layers		
Layer Name	Definition	Source
County Boundary	Maryland's 23 counties and Baltimore City	United States Census Bureau Cartographic Boundary Files
Urbanized Area	Areas within Maryland classified by the U.S. Census Bureau as 'urban.'	United States Census Bureau 2024 TIGER/Line® Shapefiles: Urban Areas

Other Layers		
Layer Name	Definition	Source
MDE MDEnviroScreen	Identifies an area's environmental justice concern.	MDE MDEnviroScreen Tool https://mde.maryland.gov/Environmental_Justice/Pages/MDEnviroScreen.aspx
Maryland Power Plants	Locations of power plants in Maryland.	United States Energy Atlas, U.S. Energy Information Administration
EV Registration by ZIP Code	Number of Electric or Plug-in Hybrid Vehicles Registered by ZIP Code.	MDOT/MVA Electric and Plug-in Hybrid Vehicle Registrations by County as of each month end from July 2020 to January 2025 Open Data opendata.maryland.gov
Effective FEMA Floodplain	Locations with a greater than 1 percent or greater chance of receiving flood damage over any given year.	Federal Emergency Management Agency (FEMA) Mapping and Analysis Center FEMA GIS
Top Commercial Gas Stations	Location of existing gas stations.	All the Places, compiled by Michael Baker International