

Annual Report 2021



Presented by the
Zero Emission Electric Vehicle Infrastructure Council
(SB 714, Chapter 378, Acts of 2015)
MSAR #12733



Presented to
Governor Lawrence J Hogan, Jr.
and the Maryland General Assembly

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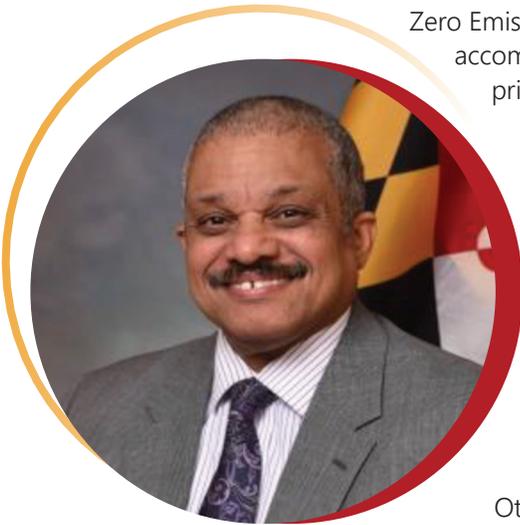
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ACRONYMS

The following acronyms are used in this report:

BEV	Battery Electric Vehicle
CAFE	Corporate Average Fuel Economy Standards
DC	Direct Current
DGS	Maryland Department of General Services
EV	Electric Vehicle
EVIC	Electric Vehicle Infrastructure Council (Previous ZEEVIC name)
EVIP	Electric Vehicle Infrastructure Program
EVSE	Electric Vehicle Supply Equipment
FCEV	Fuel Cell Electric Vehicle
FHWA	Federal Highway Administration
GHG	Greenhouse Gas
HOV	High Occupancy Vehicle
ICE	Internal Combustion Engine
kWh	Kilowatt-Hour
LEV	Low Emission Vehicle
MDE	Maryland Department of Environment
MDOT	Maryland Department of Transportation
MDOT MTA	MDOT Maryland Transit Administration
MDOT MVA	MDOT Motor Vehicle Administration
MDOT TSO	The Secretary's Office of the Maryland Department of Transportation
MDP	Maryland Department of Planning
MEA	Maryland Energy Administration
MOU	Memorandum of Understanding
MUD	Multiunit Dwelling
OEM	Original Equipment Manufacturer
PEV	Plug-In Electric Vehicle - term used collectively for BEVs and PHEVs
PHEV	Plug-In Hybrid Electric Vehicle
PSC	Public Service Commission
TOU	Time of Use Charging Rate
US DOE	United States Department of Energy
ZEEVIC	Zero Emission Electric Vehicle Infrastructure Council (Previously EVIC)
ZEB	Zero Emission Bus
ZEV	Zero Emission Vehicle

A MESSAGE FROM R. EARL LEWIS, JR., ZEEVIC Chair



“As we close out 2021 and finish the 2021 ZEEVIC Annual Report, I am grateful to our many friends and partners who have joined us at ZEEVIC meetings throughout the year. These meetings have provided a lively forum to collaborate and share information on projects advancing us toward our common Zero Emission Vehicle (ZEV) infrastructure goals. This report highlights our accomplishments and the work underway in Maryland by our public and private sector partners. Together we will continue to make progress on expanding ZEV infrastructure to facilitate growing ZEV usage across Maryland.

It has been exciting to see continued growth in the number of Electric Vehicles (EVs) on Maryland’s roadways, especially as we rebound from the economic challenges of 2020 associated with the pandemic. At the end of October, we were nearing 40,000 registered EVs in Maryland, representing an increase of over 10,000 new EVs registered in 2021 alone. Years ago, Maryland set a goal of 60,000 EVs by 2020. At that time, the goal seemed very ambitious, but today reaching this goal is within sight.

Other developments in 2021 are promising, and we look forward to 2022. Commitments by the federal government to expand EV infrastructure and accelerate electrification of fleets will provide new resources and new opportunities. Automakers have made unprecedented commitments to bring ZEVs to the market. Technology continues to develop, and we can expect this to support the electrification of medium- and heavy-duty vehicles.

ZEEVIC’s work has always been part of a larger conversation about our collective response to the threats from climate change, and our collaboration with the Maryland Commission on Climate Change (MCCC) continued this year. I appreciate the collaboration between ZEEVIC Outreach efforts and the MCCC’s Education, Communications, and Outreach Working Group.

Finally, I would like to express my particular thanks to our 25 ZEEVIC Members who have offered their time, insights, and assistance so generously. I am confident our continued collaboration will keep Maryland on the leading edge. We continue to invite everyone to join our ZEEVIC meetings and participate in our work.”



INTRODUCTION

The Maryland Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) was originally established as the Electric Vehicle Infrastructure Council (EVIC) in 2011. In 2015 the Maryland General Assembly extended EVIC through 2020 and established requirements for EVIC. The Clean Cars Act of 2019 expanded the scope of EVIC again to include fuel cell electric vehicles (FCEVs) powered by hydrogen, and the EVIC name was changed to ZEEVIC. For more information on ZEEVIC’s history, legislative mandates, and membership, see Appendix A, Appendix B, and Appendix C.

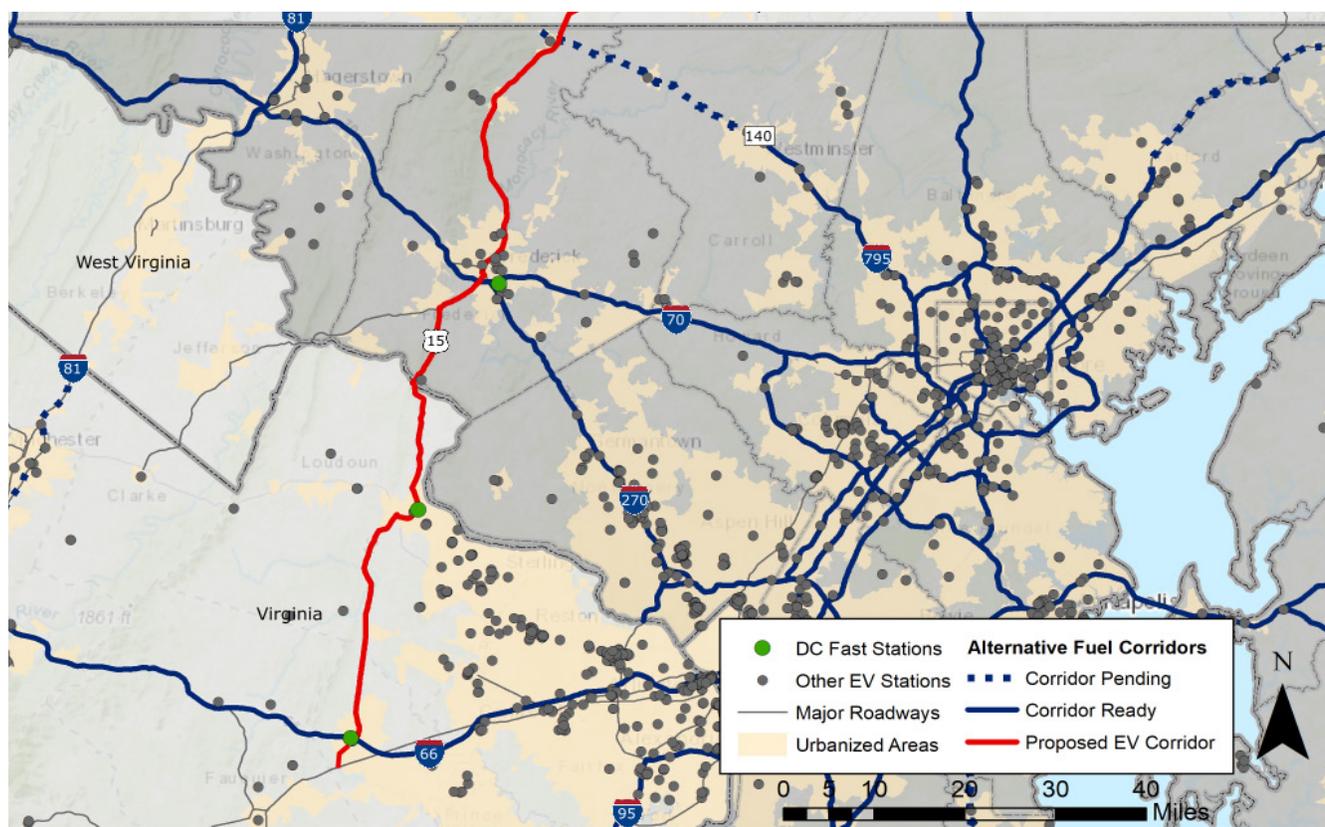
This document fulfills the requirement to submit an annual report of ZEEVIC’s work and recommendations to the Governor and General Assembly under the Maryland Electric Vehicle Infrastructure Council Act.

NOTABLE ACHIEVEMENTS

Since 2011, EVIC has worked to remove barriers to electric vehicle (EV) usage in Maryland through the development of infrastructure action plans, permitting standards, and state incentives for the purchase of EVs and electric vehicle supply equipment (EVSE). ZEEVIC and its participants have worked on various initiatives to advance ZEVs and associated infrastructure in Maryland.

Notable 2021 achievements included:

- The Federal Highway Administration (FHWA) designated US 15 as Corridor-Ready EV Alternative Fuel Corridor (AFC). This corridor connects US 30 (Gettysburg, PA) to US 29 (Gainesville, VA). This was a joint nomination with Pennsylvania and Virginia.



- Maryland Department of Transportation (MDOT), in consultation with ZEEVIC, created the [Maryland EV Journey](#) website. The website is designed to provide Marylanders with an overview of EVs, information on charging and financial incentives, frequently asked questions, and acts as a hub for EV information in Maryland.
- In 2021, Maryland was highly ranked in the following ZEV policy evaluations:
 - AutoInsuranceQuote.com ranked Baltimore as one of the top 10 cities to own an EV.¹
 - Kelley Blue Book ranked Maryland 6th in the United States for EVSE plugs per vehicle, reporting 57.8 plugs per 100,000 vehicles and 311.3 plugs per 1,000 EVs.²
 - American Council for an Energy-Efficient Economy (ACEEE) ranked Maryland 4th in the United States for the progress made on transportation electrification based on policy initiatives.³
 - Plug In America ranked Maryland as the 12th best state supporting EV drivers through policy measures.⁴
- Maryland passed legislation supporting ZEV adoption and infrastructure, providing the following advancements:
 - The Clean Cars Act of 2021 provides funding for the EV Recharging Equipment Rebate Program through Fiscal Year (FY) 2023 and for backlogged vehicle tax credit applications received by MDOT Motor Vehicle Administration (MVA) by July 1, 2020.
 - Condo and homeowners' associations may not unreasonably restrict community members from installing EVSE.
 - Homebuilders and their agents must provide prospective home buyers the option to include EVSE or EVSE pre-wiring in their home and EVSE rebate program information.
 - Beginning in FY 2023, the MDOT Maryland Transit Administration (MDOT MTA) may only enter new bus purchasing contracts to purchase ZEV transit buses.
 - 25% of passenger vehicles purchased for the state fleet must be ZEVs beginning in FY 2022.
- The Maryland Public Service Commission (PSC) EV Pilot Program completed its mid-course review of the five-year program, which concludes at the end of 2023. Program stakeholders proposed adjustments to the Residential, Multi-Unit Dwelling (MUD), Fleet, and Public Charging components of the Pilot Program.
- In FY 2021 and FY 2022, Maryland Energy Administration (MEA) and Maryland Department of Environment (MDE) awarded over \$7 million in funding for EVs and EVSE projects in Maryland.
- Exelon and First Energy joined the Electric Highway Coalition (EHC), which now covers territory in 29 states. EHC aims to expand EV charging networks along major transportation corridors.



Maryland by the Numbers



38,445
Registered EVs



1,072 **2,815**
Stations Outlets



22
Alt. Fuel Corridors

As of September 30, 2021

MARYLAND'S CURRENT ZEV LANDSCAPE

- From January 1, 2021, through September 30, 2021, over 9,100 new EVs were registered. In total, 38,445 EVs were registered in Maryland as of September 30, 2021.
- There are nearly 1,100 charging stations and over 2,800 plugs available in Maryland.
- There are three FCEV models available for purchase, but no hydrogen fueling infrastructure in Maryland.
- Maryland currently has seven financial incentives and two non-financial incentives for EVs, EVSE, and FCEVs.

2021 PRIORITIES

In January 2021, the Council established a set of four priorities to guide ongoing efforts to expand ZEV infrastructure in Maryland.

1. Maximize the use of grant and alternative funding opportunities for EV and EVSE in Maryland.
2. Develop an approach to address the Right-to-Charge and EV Parking.
3. Ensure EV readiness through strategic infrastructure planning that focuses on corridors, workplaces, and communities.
4. Continue education and outreach coordination with a focus on diversity and equity.

MARYLAND ZEV MARKET

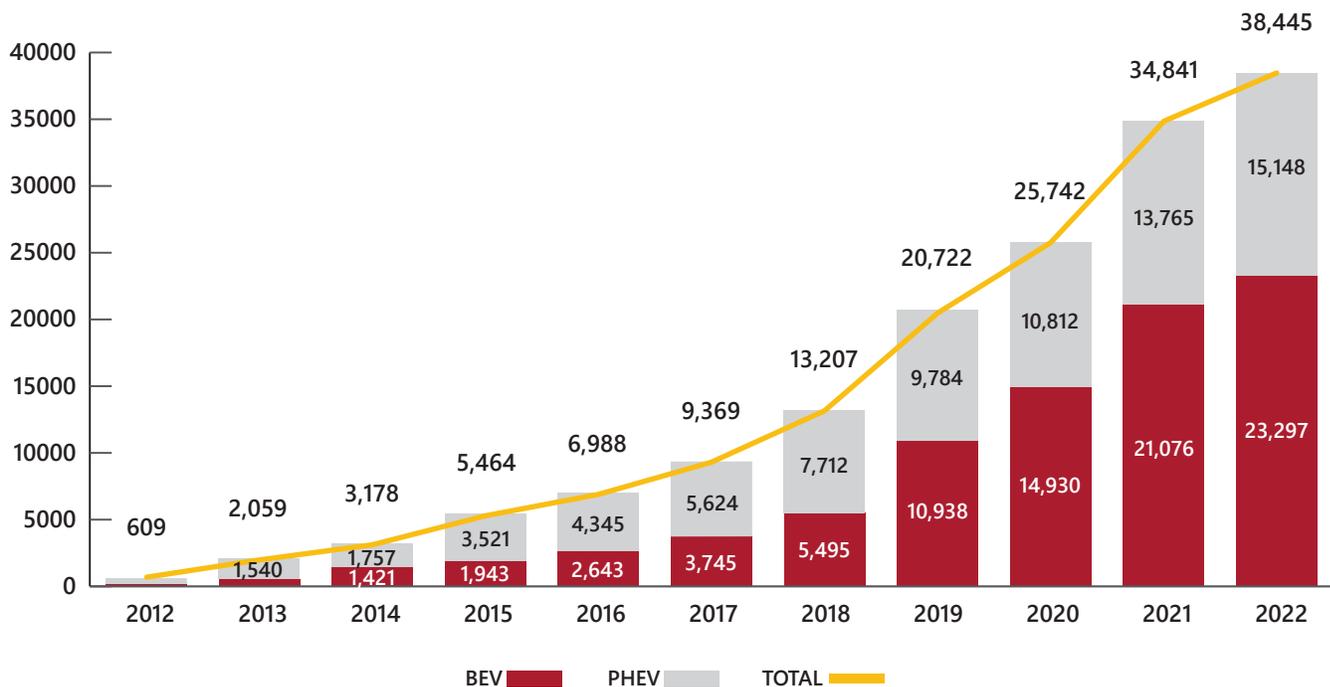
EV REGISTRATION STATUS AND TRENDS

Throughout 2021, Maryland continued to experience significant EV ownership growth. Lower vehicle costs, state and federal incentives, and increasing availability of vehicles and charging infrastructure has supported and accelerated EV registrations across the state.

Currently, over 25 battery electric vehicle (BEV) models are available for purchase in Maryland, and over 35 plug-in hybrid electric vehicle (PHEV) models are available. This represents significant growth since 2012. In 2012, there were two BEV models available in Maryland, the Nissan Leaf and Chevrolet Volt. Appendix D includes a list of all EVs currently available for purchase in Maryland. The MDOT MVA tracks the total number, make, model, and model year (MY) of all EVs registered in Maryland. As illustrated in Figure 1, the total number of EVs registered in Maryland increased from 609 in FY 2012 to 38,445 in September 2021. As of September 30, 2021, 61% (23,297) of EVs registered were BEVs and 39% (15,148) were PHEVs.



Figure 1. Total EVs Registered in Maryland (FY 2012-2022)



Note: FY 2022 numbers are as of September 30, 2021. FY 2022 closes June 30, 2022.

There are 35 makes and more than 80 EV models registered in Maryland. Eleven original equipment manufacturers (OEMs) account for 92% of all EVs registered in Maryland as shown in Figure 2. The remaining 8% is comprised of 24 vehicle OEMs and 17 EVs that have no make listed. Tesla has the largest share of Maryland’s EV market, making up nearly 43% (16,242) of all makes registered in Maryland as shown in Table 1. Toyota has the next largest share with 12% (4,449) followed by Chevrolet with 11% (4,127) of the EV market. There are currently ten models with more than 1,000 EVs registered. These models account for 72% of all models registered, as show in Table 1. Tesla’s Model 3 is the most registered EV in Maryland, accounting for approximately 23% of all registered EV models.

Figure 2. EV Market Share by Make

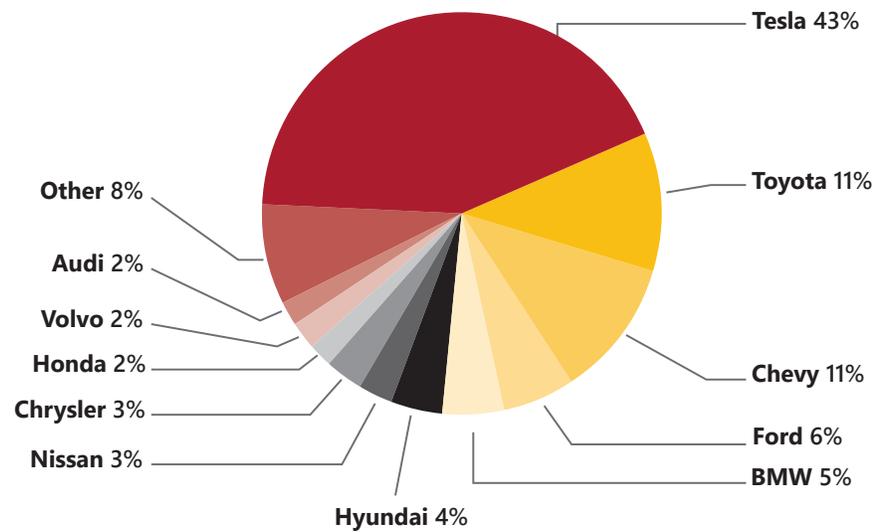
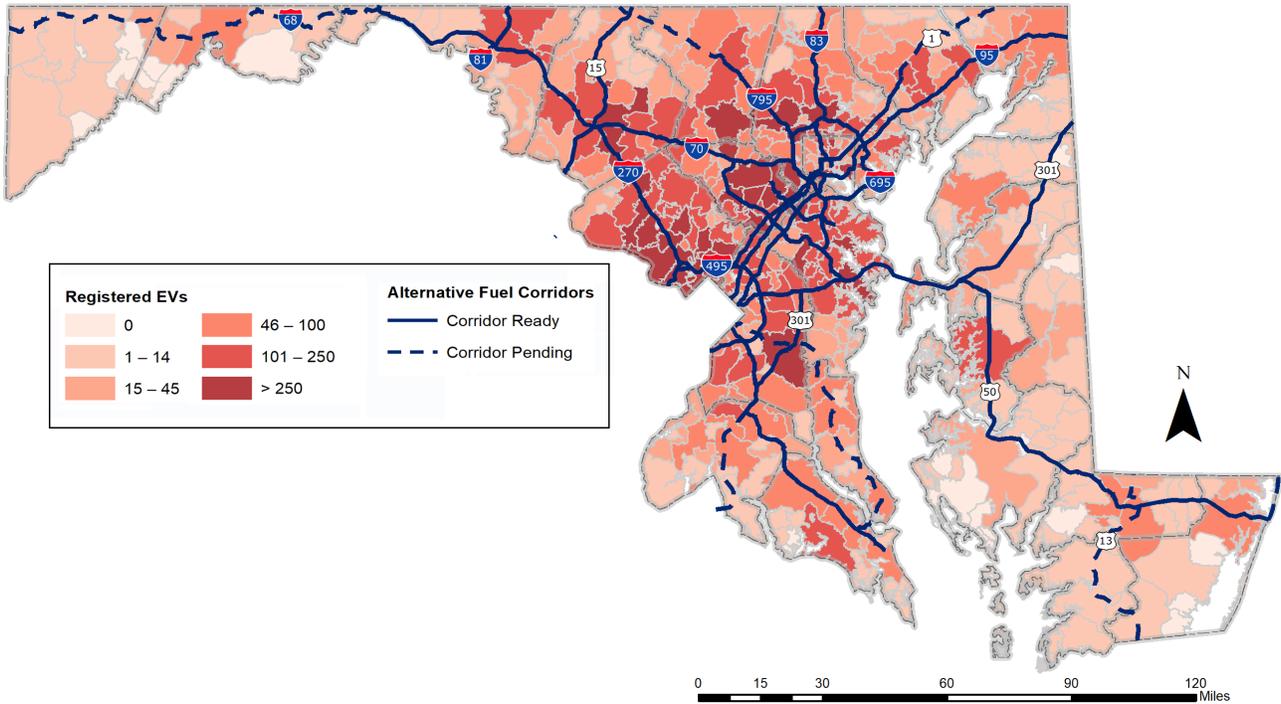


Table 1. Top Ten EV Models Registered in Maryland

Model	Registration Number	Registration Share
Model 3 (Tesla)	8,704	23%
Prius Prime (Toyota)	3,697	10%
Model Y (Tesla)	3,158	8%
Model S (Tesla)	3,017	8%
Volt (Chevy)	2,237	6%
Bolt EV (Chevy)	1,745	5%
Model X (Tesla)	1,533	4%
Leaf (Nissan)	1,385	4%
Fusion (Ford)	1,194	3%
Pacifica (Chrysler)	1,052	3%
Total	27,722	72%

The MDOT MVA also tracks the total number of EVs registered in each of Maryland’s ZIP codes. Since 2016, Maryland has seen significant growth EVs registration by ZIP code, especially in western and southern Maryland, the Eastern Shore, and along Maryland’s EV AFCs. In 2016, only eight ZIP codes in Maryland had more than 100 EVs registered. Of those, two ZIP codes had more than 200 EVs registered with the largest only having 237 registered EVs. As of September 30, 2021, 112 ZIP codes had more than 100 EVs registered. Of those 112, 41 have more than 250 EVs registered and 12 have more than 500 EVs registered. There are currently two ZIP codes with more than 1,000 EVs registered, in the Potomac and Bethesda communities. Figure 3 illustrates the number of EV registered by ZIP code at the end of September 2021.

Figure 3. Maryland EV Registration by ZIP Code, September 2021



EV CHARGING INFRASTRUCTURE

2021 continued to usher in growth of publicly available charging infrastructure in Maryland. The PSC Public Conference 44 (PC44) and incentive programs managed by MEA and MDE continue to support and spur installation of residential, MUD, workplace, and public charging, with more anticipated in 2022.

The establishment of adequate and readily available charging infrastructure, along with technological advancements and consumer education, is helping to alleviate range anxiety—concerns related to finding refueling infrastructure, battery life, and time-intensive charging periods. To address these concerns, ZEEVIC and other entities have been working to facilitate charging at home, workplaces, and in public to ensure EV drivers have many opportunities to charge.

There are three types of chargers that can be installed: Level 1, Level 2, and Direct Current Fast (DC Fast) charging. Level 2 and DC Fast are the most commonly available public charging stations, while Level 1 and Level 2 are most used for home charging. The speed of charging and the power required varies by charger type and is illustrated in Table 2. For drivers who are unable or prefer not to charge at home, the *US Department of Energy's (US DOE) Station Locator* is an online tool that allows users to locate charging stations in Maryland and across the country.

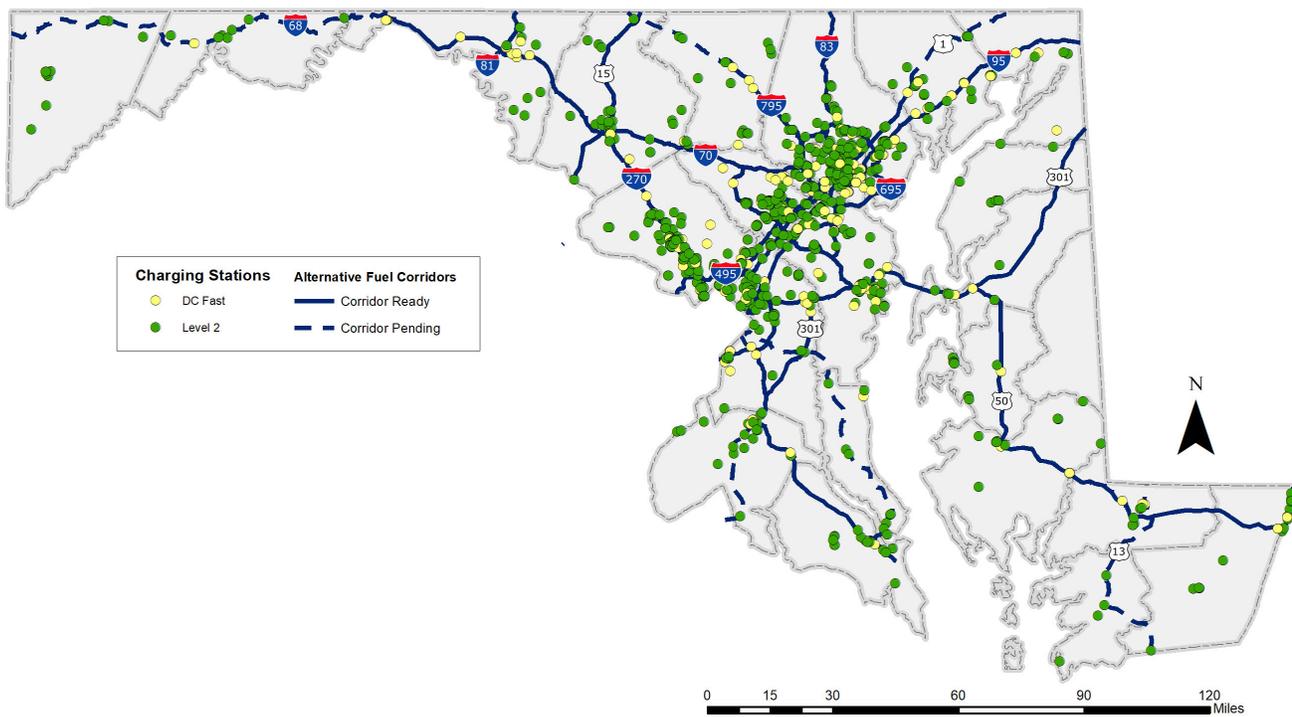
Table 2. EVSE Power Requirements, Charging Speed, and Public Availability in Maryland as of October 1, 2021

EV Charger Type	Speed	Power Required	Total in Plugs MD ⁵	% of Total
Level 1	11-20 hours for Full Charge*	120 volts	21	<1%
Level 2	3-8 hours for Full Charge*	240 volts	2,290	82%
DC Fast Charge	30 minutes for 80% Charge	208-600 volts	504	18%

*Assumes car has 200 mile range and battery starts at 0%

Figure 4 illustrates the locations of over 1,000 EV charging stations and over 2,800 public charging plugs available in Maryland as of October 1, 2021.

Figure 4. DC Fast and Level 2 Charging Station Locations in Maryland

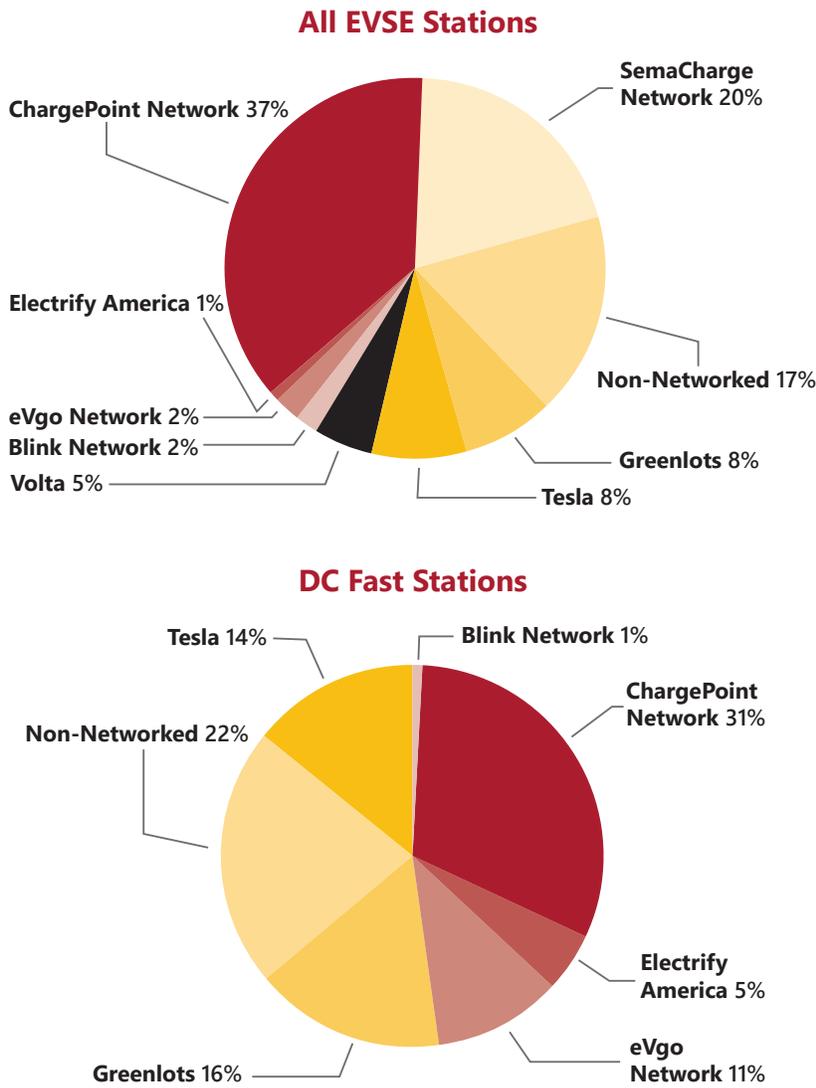


CHARGING NETWORKS

There are now 11 charging networks operating in Maryland that are responsible for 83% of EVSE. While offerings for networked stations vary among EVSE providers, charging networks may include advanced functionalities for site hosts, such as pricing and access controls, data reporting, and charger availability notifications. The two largest networks in the state are ChargePoint and SemaCharge — a Maryland company. These two companies are currently responsible for approximately 57% of the available chargers statewide, as shown in Figure 5. Non-networked chargers comprise 17% of public EVSE. When considering only public DC Fast charging, and excluding Level 2 charging,

ChargePoint and Greenlots are the two largest network companies providing fast charging in Maryland.

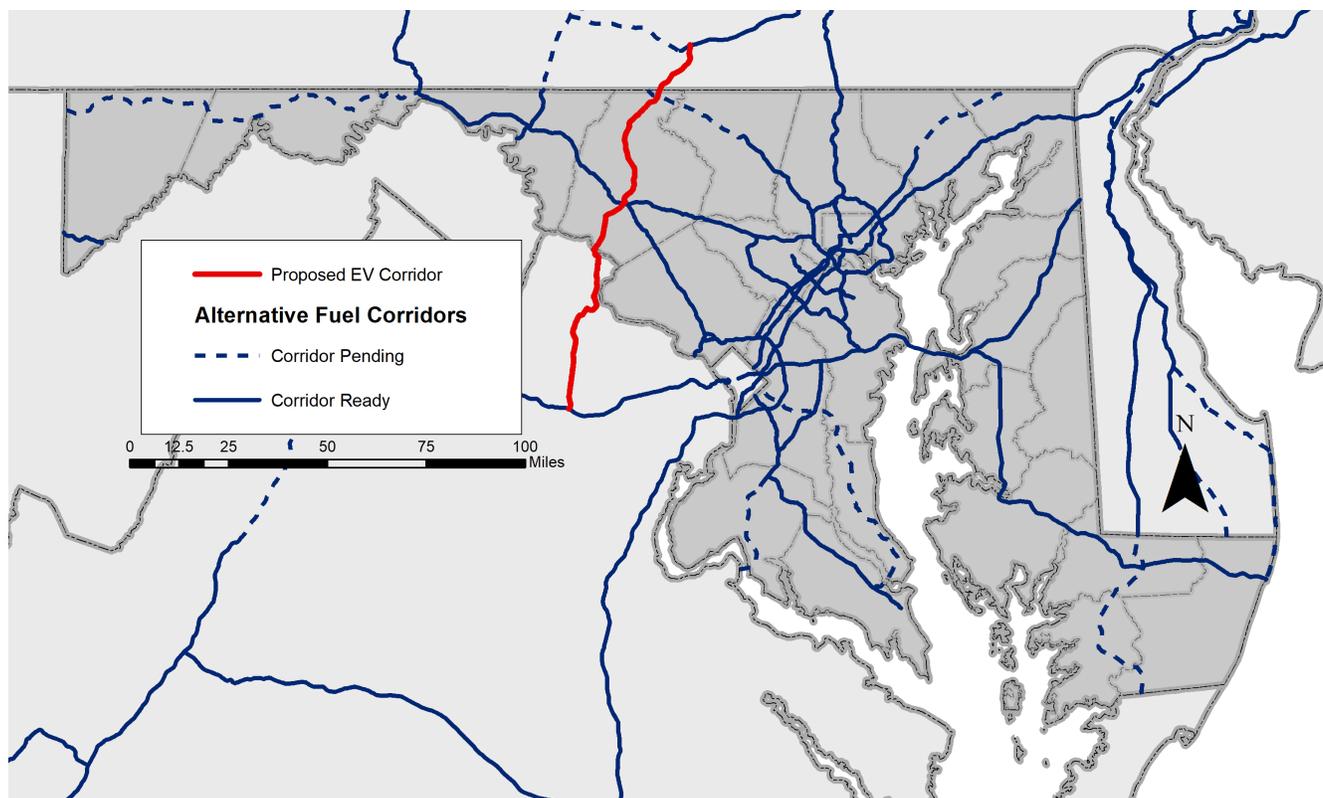
Figure 5. Maryland's Charging Networks



ELECTRIC VEHICLE ALTERNATIVE FUEL CORRIDORS (EV AFCs)

In February 2021, MDOT submitted a successful nomination of US 15 for designation as a Corridor-Ready EV AFC under FHWA's Round 5 solicitation, bringing the total number of EV AFCs in Maryland to 22. MDOT's nomination of US 15 was supported by the Pennsylvania Department of Transportation (PennDOT), Virginia Department of Mine, Minerals and Energy, Virginia Clean Cities, and local planning partners. The US 15 corridor, as shown in Figure 6, runs from US 29 in Gainesville, Virginia to US 30 near Gettysburg, Pennsylvania, and serves as an important connection for residents and visitors to employment centers, colleges, historical sites, and cultural destinations. The corridor intersects with the region's existing EV AFCs and presents an opportunity for greater connectivity between Maryland, Pennsylvania, and Virginia and an opportunity to further enhance tourism and economic development in the region.

Figure 6. US 15 AFC



FUEL CELL ELECTRIC VEHICLES (FCEVs) AND HYDROGEN FUELING

Hydrogen-powered FCEVs have the potential to augment BEVs in the transportation market and contribute to decarbonization of all transportation segments. Currently, there are no registered FCEVs or hydrogen fueling stations in Maryland. There are three light-duty FCEV models currently available for sale in the United States: Honda Clarity, Toyota Mirai, and Hyundai Nexo. However, FCEVs are rarely available outside of California.

Similarly, most public hydrogen fueling stations are located in California, but there are planned public stations in New England. Private fleet stations are planned or currently installed in Arizona, Colorado, Connecticut, Delaware, Hawaii, Massachusetts, Michigan, New York, Ohio, Pennsylvania, Rhode Island, Texas, Virginia, and Washington. Table 3 and Figure 7 detail the status of hydrogen fueling stations in the United States.

Table 3. Available and Planned Hydrogen Fueling Infrastructure in the United States

State	Number of Hydrogen Stations
AZ	1
CA	107
CO	1
CT	2
DE	1
HI	4
MA	4
MI	2
NY	4
OH	3
PA	1
RI	1
VA	1
WA	1

Figure 7. Hydrogen Fueling Stations in the United States

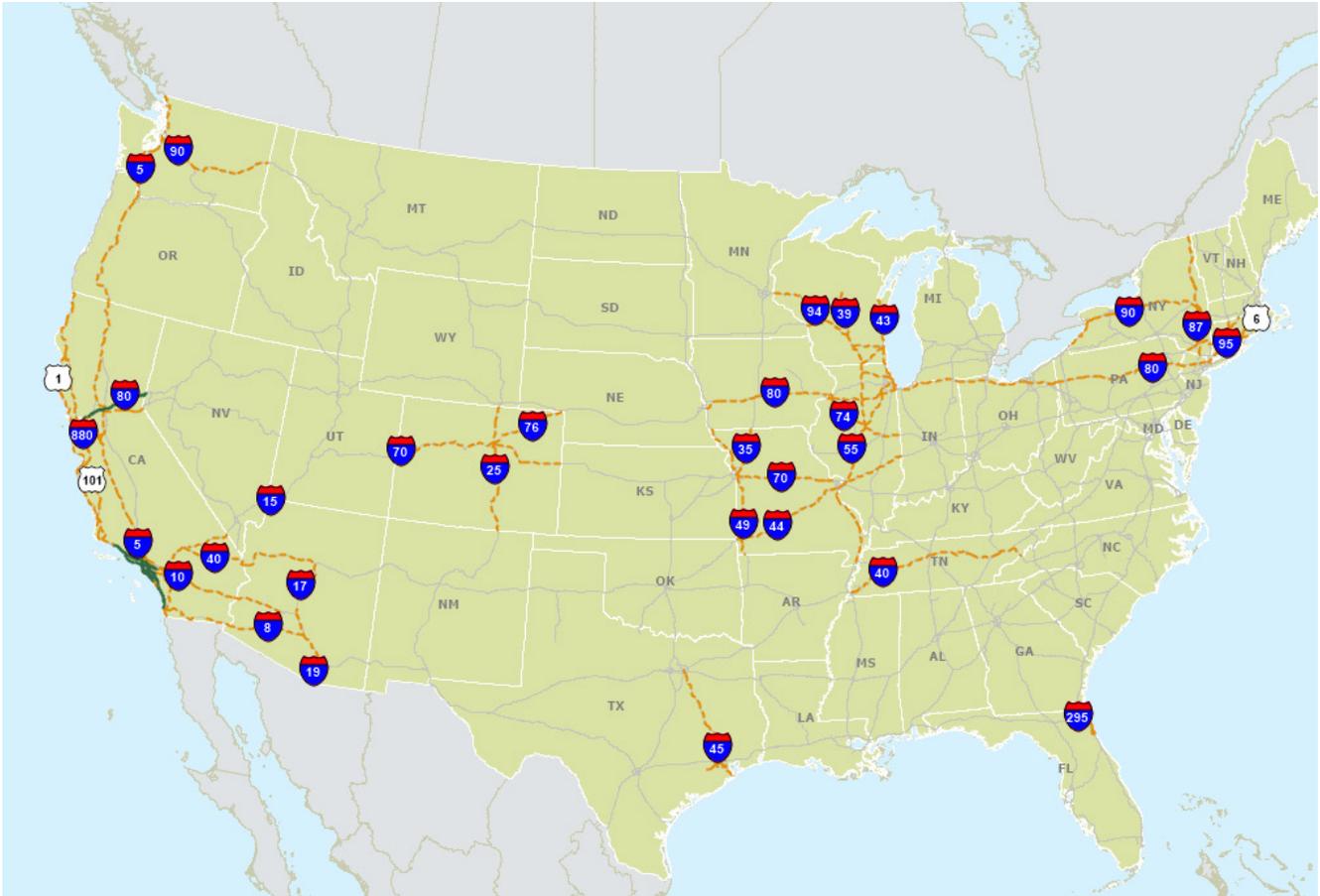


The US DOE is currently addressing several challenges in the areas of fuel-cell integration in the transportation sector. Hydrogen is already an essential component of many current and emerging industries, including the petrochemical and fuel-cell transportation sectors. Efforts are being made to

expand hydrogen infrastructure for several emerging markets, notably the use of hydrogen for marine, rail, datacenter, and heavy-duty vehicle applications. Federal, state, and local governments are developing and recognizing new model technical standards and building codes, which will enable the commercialization of hydrogen in consumer products like FCEVs, as well as many other transportation and non-transportation activities.

ZEEVIC monitors and supports promotion and collaboration on FCEV research and development in Maryland. These efforts are just beginning and will contribute to the achievement of reducing nitrogen oxide emissions by encouraging the adoption of ZEVs, such as FCEVs.

Figure 8. FCEV Corridors in the United States



ZEV POLICY IN MARYLAND

There are over 10 million EVs on the road worldwide⁶ and, despite the COVID-19 pandemic, EV registrations and consumer spending have increased throughout 2021. The global market and Maryland's ZEVs market are expanding. ZEV policy can support a favorable EV market to reach Maryland's greenhouse gas (GHG)⁷ and vehicle registration goals⁸

ZEV policies can take the form of incentives, including financial and non-financial options. State and federal laws frame the policy landscape. Multi-State agreements and coordination further expand opportunities to promote and facilitate ZEV adoption, ZEV infrastructure expansion, and consumer awareness.

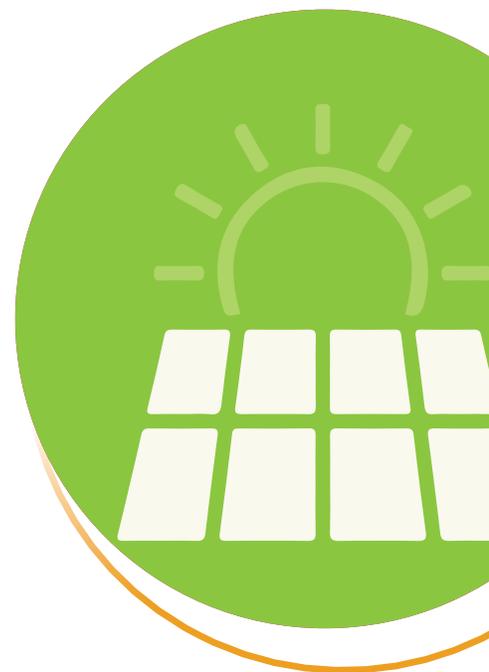
ACTIVE STATE INCENTIVES

As of October 31, 2021, Maryland has several incentives available to residents, governments, schools, non-profits, and private entities.⁹ Maryland offers seven financial incentives and two non-financial incentives administered by the MDE, the MEA, and the MDOT. Active incentives are listed in Table 4.

Table 4. ZEV Incentives in Maryland

Type of Incentive	Incentive	Administering State Agency
Financial ¹⁰	Electric Corridor Grant Program (ECGP) ¹¹	MDE
	Charge Ahead Grant Program (CAGP) ¹²	MDE
	Clean Fuels Incentive Program (CFIP)	MEA
	Maryland Smart Energy Communities (MSEC)	MEA
	Public Facility Solar Grant Program	MEA
	Zero Emission School Bus Transition Grant Program	MDE
	EVSE Rebate Program	MEA
Non-Financial	HOV Lane Exemption for PEVs	MDOT MVA
	Emissions Inspection Exemption for EVs	MDE

Maryland's financial incentives have been extremely popular, with the MDE and the MEA's programs regularly reaching full subscription.





ACTIVE ZEV LAWS IN MARYLAND

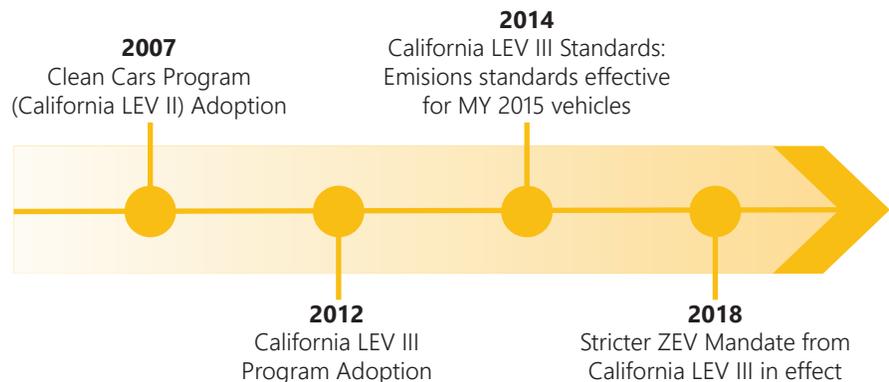
As of October 31, 2021, Maryland has several active laws related to ZEVs, listed in Table 5.

Table 5. Active ZEV Laws in Maryland

Summary	Legislation Reference
ZEV Sales Requirements and (LEV) Standards	Maryland Statutes, Environment Code 2-1101 through 2-1106
Aftermarket Alternative Fuel Vehicle (AFV) Conversion Requirements	Code of Maryland Regulations 26.11.34
ZEEVIC Creation and Authorization	Chapter 378, Acts of 2015; Chapter 213, Acts of 2019; Chapter 118, Acts of 2020
EVSE New Construction Requirement	House Bill 784, 2021
EVSE Policies for Associations	House Bill 0110, 2021, and Senate Bill 0144, 2021
Zero Emission Bus Acquisition Requirement	Senate Bill 137, 2021
ZEV Direct Sales Authorization	House Bill 235, 2015

In 2007, Maryland enacted the Clean Cars Program to adopt California’s vehicle emissions standards. Maryland is one of 14 states that has adopted California’s Clean Cars Standard, Title 13 of the California Code of Regulations, which requires OEMs to meet the California *GHG emissions standard*. The program went into effect for all cars beginning with model year (MY) 2011. Since the adoption of the 2007 Clean Cars Program, Maryland also adopted the California LEV III Standards in 2012. LEV III Standards impacts MY 2015 to MY 2025, requiring vehicles emit less GHG and smog-forming pollutants and increases the ZEV mandate beginning in 2018. Figure 9 provides a timeline of the Clean Cars Program in Maryland.

Figure 9. Maryland Clean Cars Program Timeline



In addition to OEMs being required to meet California’s Clean Cars Program standards, Maryland also requires that all vehicles certified to the California Air Resources Board’s (CARB’s) standards that are converted to operate on alternative fuels must meet applicable CARB standards for aftermarket conversions.¹³

In 2011, the Maryland Legislature created EVIC to help develop and support policies for EVs and EVSE deployment in Maryland, extending EVIC's jurisdiction to FCEVs in 2019, becoming ZEEVIC. This policy marked the beginning of over a decade of legislatively mandated ZEV support. ZEEVIC will continue supporting ZEVs and related infrastructure in Maryland until 2026, barring a sunset extension.

To address right-to-charge issues, Maryland prevents homeowners' associations and condominium associations from prohibiting or restricting a resident from installing or using an EVSE. Similarly, Maryland requires builders to provide home buyers with the option to include Level 2 EVSE¹⁴ or electric pre-wiring to support Level 2 EVSE in all new homes in Maryland.¹⁵ Both laws help guarantee Marylanders have the opportunity to charge at their place of residence.

Maryland has also passed legislation to begin transitioning state-owned fleet vehicles to ZEVs. During the 2021 legislative session, the Maryland legislature passed Senate Bill 137, requiring the MDOT MTA to purchase zero emission buses (ZEBs) for the state transit bus fleet beginning in FY 2023 unless zero emission buses are not able to meet performance requirements. This effort complements the Maryland *Green Purchasing Committee* and Department of General Services' (DGS) statewide *Charging Station Policy* that provides state agencies with tools and resources to reduce their carbon footprint, including ZEV acquisition and infrastructure deployment.¹⁶

On the public side, Maryland is helping consumers acquire EVs by simplifying the purchase process for consumers who wish to purchase an EV from an OEM that does not operate through a dealership. Maryland allows OEMs that only manufacture EVs to sell vehicles directly to consumers without the use of a dealership. This law does not require consumers to purchase EVs, but it does improve access to EV adoption by allowing EVs that cannot be purchased through dealerships to be more readily available.¹⁷

During the 2021 legislative session, legislators passed a bill to gauge the impact the transition from internal combustion engine (ICE) vehicles to ZEVs may have on state transportation funds. The legislation requires MEA and MDOT to submit a report examining the fiscal impact of ZEVs registered in Maryland, and survey policies enacted in other states to minimize impacts on transportation funding.¹⁸

The Greenhouse Gas Reduction Act (GGRA) (2016 Amendment) required Maryland to create a plan to reduce statewide GHG emissions by 40% from 2006 levels by 2030. The state's *2030 GGRA Plan* was completed in February 2021. The MDOT GGRA Plan, a component of the *2030 GGRA Plan*, addresses the transportation sector's contributions to statewide GHG emissions. The MDOT GGRA Plan identified a suite of policies and programs to meet emissions reductions goals. Technology innovations, including the deployment of ZEVs and ZEV infrastructure are among the strategies that are key to reducing emissions and meeting GHG reduction targets. As affirmed by the Maryland Commission on Climate Change (MCCC), ZEEVIC is working to accomplish these actions, through outreach to underserved communities, case studies to support MUD charging installations, and more.

Appendix E describes all active Maryland laws and incentives related to ZEVs, and Appendix F provides an overview of legislation passed in Maryland during the 2021 legislative session.



REGIONAL AGREEMENTS AND COORDINATION

Multi-state agreements and collaborative efforts play an important role in supporting the Maryland policy landscape. Through regional agreements and initiatives, states can advance mutually supportive actions that collectively support ZEV policy goals.

MULTI-STATE ZEV MOU

In 2013, Maryland joined seven other states (California, Connecticut, Massachusetts, New York, Oregon, Rhode Island, and Vermont) in signing a memorandum of understanding (MOU) committing to coordinated action to ensure the successful implementation of their state ZEV programs. The resulting Multi-State ZEV Action Plan in 2014¹⁹ was renewed as a 2018-2021 Action Plan. The 2018-2021 Action Plan²⁰ focused on five priority areas:

- Raising consumer awareness and interest in electric vehicle technology;
- Building out a reliable and convenient residential, workplace and public charging/fueling infrastructure network;
- Continuing and improving access to consumer purchase and non-financial incentives;
- Expanding public and private sector fleet adoption; and
- Supporting dealership efforts to increase ZEV sales.

MEDIUM- AND HEAVY-DUTY (MHD) ZEV MOU

Along with 14 other states and DC, Maryland signed on to an MOU in 2020 to support the deployment of MHD ZEVs through involvement in a Multi-State ZEV Task Force.²¹ The Task Force is developing a multi-state action plan to identify barriers and propose solutions to support electrification of MHD vehicles. The Task Force will consider actions to accomplish the goals of the MOU, including sales targets, financial and non-financial incentives, public fleet purchases, and infrastructure deployment. The signatory states will also seek to accelerate the deployment of MHD ZEVs to benefit disadvantaged communities and explore opportunities to coordinate and partner with key stakeholders.

MID-ATLANTIC ELECTRIFICATION PARTNERSHIP

In 2020, the Mid-Atlantic Partnership won a \$6 million grant from the US DOE to develop transportation electrification hubs throughout the Maryland, West Virginia, DC, and Virginia region as part of a broader strategy to facilitate the deployment of EVs and EVSE. Maryland Clean Cities, in concert with the MEA, the MDE, and the Greater Washington Region Clean Cities Coalition, are leading Maryland's efforts. This partnership will continue through 2023. In May 2021, BGE installed four DC Fast EVSE at the BWI Rideshare Lot in partnership with Lyft through this program.²²



MID-ATLANTIC ELECTRIC SCHOOL BUS EXPERIENCE PROJECT (MEEP)

In 2021, Maryland, Virginia, New Jersey, Pennsylvania, and DC began collaborating on MEEP, supported by a grant from the US DOE. MEEP aims to provide schools with an introduction to electric school buses, allowing schools to engage with multiple school bus manufacturers, become familiar with electric bus performance, and provide them with tools they need to make informed decisions related to incorporating electric buses into their fleets. MEA is leading MEEP efforts in Maryland.

TRANSPORTATION CLIMATE INITIATIVE (TCI)

In December 2020, four jurisdictions (Massachusetts, Connecticut, Rhode Island, and DC) signed on to an MOU establishing the Transportation and Climate Initiative Program (TCI-P). The TCI-P is a multi-jurisdictional cap-and-invest program with a goal of reducing greenhouse gas emissions from the transportation sector. Maryland and other Mid-Atlantic and Northeast states remain engaged as collaborating jurisdictions in ongoing discussions relating to the TCI.²³

POLICY SCORECARD

A ZEEVIC Working Group (WG) was formed in 2021 to develop a scorecard for three main policy categories—financial incentives, goals, non-financial incentives, and supporting legislation. Of the 28 policies listed, Maryland has fully enacted 13. ZEEVIC members, legislators, and other stakeholders may use this scorecard to engage in meaningful conversations about how to continue advancing Maryland's efforts. See Appendix G for definitions and descriptions.

Figure 10. ZEV Policy Scorecard²⁴



Maryland ZEV Policy Scorecard

The ZEV market is rapidly advancing in part due to supportive state policy. Maryland has the opportunity to continue being a leader in ZEV market development but does not have the necessary policies in place. This scorecard outlines policy options that have been adopted across the United States to promote ZEV adoption and ZEV recharging and refueling infrastructure.

State Policies to Support Electric Vehicle (EV) Deployment	Active in Maryland?	States with Active Policy
Financial Incentives		
Point-Of-Sale Rebates	No	CA, PA
Rebates for New EVs	No	CA, CO, CT, ME, MN, NJ, NY, OR, VT
Rebates for Used EVs	No	CA, CT, ME, MN, OR
Rebates or Grants for EV Infrastructure	Yes	42 States (including DC, DE, PA, and VA)
Grants for Emissions Reductions Technologies	No	CA, CT, DE, IL, IN, IA, LA, MA, ME, MI, MN, NC, NM, NV, OH, OR, SD, TX, UT, VA, VT, WI, WY
Tax Credit – EV Purchase	No	• Tax credits expired in 2021 CO, DC, LA, MT
Tax Credit – EV Infrastructure	No	DC, GA, LA, NY, OK, UT, WA
Tax Exemption for ZEVs and Infrastructure	No	AZ, CA, DC, MI, NJ, NC, OK, RI, UT, WA
ZEV Registration Fee Exemption	No	AZ, CT, OR
Goals		
State ZEV Adoption Goal	Yes	• 300,000 EVs registered by 2025 • 600,000 EVs registered by 2030 CA, CO, CT, MA, MN, NJ, NY, NC, OR, RI, VT, WA
Greenhouse Gas (GHG) Emission Reduction Target	Yes	• By 2030, 40% emissions reduction from 2006 levels • Greenhouse Gas Reduction Act CA, CO, CT, HI, MA, ME, MN, NV, NJ, NY, OR, RI, VT, VA, WA
State Fleet Procurement Goal	Yes	• Maryland Green Purchasing CA, CT, IL, MN, NC, NH, OR, TN
State Infrastructure Deployment Goal	Yes	• DGS is establishing a Statewide EV infrastructure Strategy CA, CO, CT, ME, MA, NJ, NY, OR, RI, VT
Non-Financial Incentives and Supporting Legislation		
HOV Lane Access	Yes	AZ, CA, GA, HI, NJ, NY, NC, UT, VA
Reserved Parking on Public Property	Varies	CA, MA, OR, WA
ZEV Infrastructure Multi-State Collaboration	Yes	• Medium- and Heavy-Duty ZEV MOU • Light-Duty Vehicle 2014 Multi-State Action Plan • Light-Duty Vehicle 2018-2021 Multi-State ZEV Action Plan AZ, CA, CO, CT, DC, DE, HI, ID, ME, MA, MT, NH, NJ, NM, NC, NV, NY, OK, OR, PA, RI, UT, VA, VT, WA, WY
ZEV Infrastructure Planning and Coordination	Yes	• Zero Emission Electric Vehicle Infrastructure Council CO, DC, NH, RI
ZEV Sales Requirements	Light-Duty Vehicles: Yes Medium- and Heavy-Duty Vehicles: No	• Adopted Title 13 of the California Code of Regulations CA, CO, CT, DC, DE, ME, MA, MN, NJ, NV, NY, OR, PA, RI, VT, VA, WA
EVSE or EVSE-Wiring Building Code Requirements	Partially	• House Bill 784, 2021, requires builders to provide the option for Level 2 EVSE prewiring CA, MA, NJ, OR, VA, WA
Direct-to-Public EV Sales	Yes	AK, AZ, CA, CO, DE, FL, HI, ID, IL, MA, ME, MN, MO, MS, NH, OR, RI, TN, UT, VT, WY
EVSE Electricity Sales Deregulated	Yes	AL, AZ, AK, CA, CO, CT, DE, DC, FL, HI, IA, IL, ID, KS, KY, ME, MA, MN, MO, MT, NV, NH, NJ, NM, NY, NC, ND, OH, OK, OR, PA, RI, SC, TX, UT, VT, WA, WV
Utility EVSE Programs	Yes	• PC44 EV Pilot Program AL, AK, AZ, CA, CO, CT, DC, DE, FL, GA, HI, ID, IN, IA, KS, LA, MA, ME, MI, MN, MS, MO, NE, NV, NH, NJ, NM, NY, NC, OH, OK, OR, RI, TN, TX, UT, VT, VA, WA, WI, WV, WY
Charging Signage Standardization	No	CA, NH, NY, ND, OH, SD, VA, WA
Right-Of-Way Charging	No	• Testing in Montgomery County
Streamline ZEV Infrastructure Permitting	No	CA
Define EVSE Zoning Requirements	No	
Right-To-Charge Requirements	Yes	CA, FL, HI, NJ, NY, VA



tinyurl.com/ZEEVIC2021



marylandev.org

ZEEVIC'S 2021 ACTIVITIES

ZEEVIC MEETING SCHEDULE AND AGENDAS

ZEEVIC held six bi-monthly meetings in 2021. Meetings from January through August were held remotely in a webinar format, and meetings held from September through the remainder of the year were webinar and in-person hybrid meetings at MDOT Headquarters. All ZEEVIC meetings are open to the public and the agendas are posted on the [ZEEVIC website](#) in advance of the meetings. ZEEVIC meetings saw increased public participation, with over 60 meeting participants typically.

ZEEVIC has three informal working groups (WGs): Legislative, Communications, and State Agencies. During September, October, and November, ZEEVIC combined the Legislative and Communications WGs to focus on developing outreach materials for the 2022 legislative session. WG meetings are generally held on alternating months from full ZEEVIC meetings. The WGs tackle specific issues and bring their research and recommendations to the full council.

Table 6. 2021 ZEEVIC Meeting Topics

Date	Meeting Topics
01/20/2021	Legislative Update (EV Bills and Letters of Support), MarylandEV.org Update and Outreach, PSC PC44 Update, VW Settlement Update, MEA EVSE Incentives and Technical Assistance Program Update, Montgomery County Climate Action Plan Overview and EVSE Permitting Guidelines, Utility EVSE Installation Update
03/17/2021	PSC PC44 Pilot Program Updates and Challenges, FCEV Market Update, Maryland FHWA Corridor Nominations, MEA EVSE Incentives, VW Settlement Update, PSC PC44 Semi-Annual Report Petitions, ECO WG Presentation, Legislative Update (EV Bills and Letters of Support)
05/19/2021	MEA Solar Canopy and Public Facility Solar Grant Program, Legislative Update (Session Update), MEA EVSE Incentives and Technical Assistance Program Update, VW Settlement Update, DGS EVSE Grant Award, PSC PC44 Mid-Course Review, FHWA Corridor Nominations, PC44 WG Update, Utility EVSE Installation Updates, Virtual Event Updates
07/29/2021	Legislative Update (Session Recap), PC44 WG Update, PSC PC44 EVSE Pilot Program Design Session Discussion, Utility EVSE Installation Metrics Discussion, PEV Registrations Update, VW Settlement Awards, MEA EVSE Incentives and Technical Assistance Program Update
09/15/2021	Prince George's County TheBus Program Presentation, FCEV Infrastructure and Market Development Update, National Drive Electric Week Events, 2021 Annual Report Planning, PSC PC44 Mid-Course Reports and Program Requests, VW Settlement Funding Announcements, MEA EVSE Incentives and Technical Assistance Program Update, DGS State Agency EVSE Infrastructure Update

continued



Date	Meeting Topics
11/17/2021	Maryland State Fleet Electrification Update, 2022 Legislative Outreach Materials, 2021 Annual Report Update, DGS State Agency EVSE Infrastructure Update, VW Settlement Funding Update, MEA EVSE Incentives and Technical Assistance Program Update, Utility EVSE and TOU Rate Program Updates, 2022 ZEEVIC Meeting Schedule

OUTREACH EFFORTS

ZEEVIC Member organizations continued their coordination to increase EV awareness through outreach efforts focused on consumer and public education. Outreach and events were done virtually this year due to restrictions associated with COVID-19. Final 2021 highlights include:

- Maintaining and updating MarylandEV.org website and deploying new pages such as local resources. The website received over 13,000 page views in 2021.
- Growing a social media presence and campaign on Facebook and Instagram to drive traffic to MarylandEV.org. To track social media content across ZEEVIC members, the hashtag #MarylandEV is being used in posts. The social media referrals became the main source of traffic to the MarylandEV.org website. The number of MarylandEV Facebook page followers doubled for the second straight year in 2021, increasing by 80% to over 1,600 followers.
- The MarylandEV Facebook and Instagram accounts, managed by the MDOT, reached over 128,000 Marylanders through almost 212 posts.
- Developed and embedded a new virtual interactive learning tool entitled The EV Journey on the MarylandEV.org website. The tool includes an introduction by the Secretary of Transportation, interactive learning sections, maps to view existing EV chargers and suggest new locations, EV testimonials from Maryland residents, and a survey to gather feedback about the tool's effectiveness. The new tool will be marketed to Maryland residents through organic and paid social media marketing. It is also designed for use during in person outreach.
- Several [National Drive Electric Week](#) online events were held across Maryland in September to share information on EVs and EVSE. The events included in-person events in Poolesville, Frostburg, Clarksville, and Annapolis.
- The Electric Vehicle Association of Greater Washington DC (EVA DC) hosted [Ask an EV Owner](#), an online webinar, on the first Wednesday of every month.
- Annapolis Green completed a 6-month informational EV campaign, [KickGas!](#), to educate consumers about EVs. This outreach included four in-person events in April, May, August, and September.



ZEEVIC WGs also collaborated on materials for 2022 outreach, available in Appendix H, including:

- A Legislative Handout that highlights Maryland’s EV goals, EV registration data, EVSE infrastructure, and a scorecard of ZEV policy enacted in Maryland and other states;
- An informational handout for the Maryland Legislature that provides an overview of ZEEVIC’s purpose and role in Maryland; and,
- A presentation that details the current and future state of ZEVs in Maryland and outlines the business case for ZEVs in Maryland.

LEGISLATIVE SUPPORT

ZEEVIC reviewed legislative bills affecting EV infrastructure introduced in the Maryland General Assembly’s 2021 Session. Due to the COVID-19 pandemic, the 2021 Legislative Session limited the number of bills that could be introduced. Table 7 provides a summary of relevant legislative proposals.

Table 7. 2021 Legislative Proposals

Bill #	Bill Title	Outcome
HB0110/ SB0144	EV Recharging Equipment for Multifamily Units Act	Passed
HB0044	Clean Cars Act of 2021	Passed
HB0030	Public Utilities – Office of Climate Counsel – Establishment (Climate Counsel Act)	Passed
HB0784	Residential Construction – EV Charging	Passed
HB0480	Plug-In Electric Drive Vehicles – Reserved Parking Spaces	Failed
HB0832	Public Utilities – Electric School Bus Pilot Program	Failed
SB0315	Vehicle Laws – Plug-In Electric Drive Vehicles – Reserved Parking Spaces	Failed



ANCILLARY ZEV AND ZEEVIC MEMBER EFFORTS

UTILITIES AND PSC

Discussion of utility activities as directed by PSC [Order No. 88997](#) has been on the agenda at every 2021 ZEEVIC meeting. The utilities have been actively engaging ZEEVIC and ZEEVIC WGs to collect feedback and recommendations on their EV Pilot Program efforts and to coordinate event and outreach efforts. Maryland utilities and the PSC have spurred the expansion of EVSE infrastructure throughout the state, with thousands of EVSE installations resulting from the pilot program. Table 8 provides a summary of pilot program outcomes as of August 31, 2021.

Table 8. Utility EVSE Program Metrics

	Residential Rebates	Multifamily Rebates	Public EVSE	EV TOU Rate Program
BGE	1,276 applicants; 1,000 rebates issued	65 ports rebated; 40 BGE-owned	422 EVSE Planned; 150 Energized	507 Participants
PHI*	588 rebates issued	8 ports rebated	71; 68 Level 2 EVSE, 3 DC Fast EVSE	154 Participants
Potomac Edison	134 rebates issued	0 ports rebated	16 Level 2 EVSE; 4 DC Fast EVSE	152 Participants
SMECO			9 Level 2 EVSE; 18 plugs total	

*As of November 2021.



BALTIMORE GAS & ELECTRIC (BGE)

In July 2019, BGE launched its pilot program incentives, accepting applications for residential and MUD EVSE. As of August 2021, BGE has rebated over 1,000 residential EVSE and 65 EVSE ports for MUD properties. BGE has also installed 150 public EVSE, totaling over 422 installed or planned plugs.

Throughout the year, BGE has continued to advertise its EVsmart programs and educational tools, including links to MarylandEV.org, and held ribbon cutting events at locations across Maryland, including the Maryland Zoo, BWI Airport, and Maryland DGS.



PEPCO HOLDINGS, INC (PHI)

In July 2019, PHI, both the *Potomac Electric Power Company* and *Delmarva Power & Light*, also launched their EVsmart EV incentive and public charging offerings. As of November 2021, PHI has issued rebates for a total of 588 residential EVSE and 8 EVSE ports for MUDs. PHI has enrolled 154 customers in its TOU rate since launching the program in the end of August 2021. Additionally, PHI has installed a total of 71 public EVSE, including 68 Level 2 EVSE and 3 DC Fast EVSE.

POTOMAC EDISON

In December 2019, *Potomac Edison* launched its pilot program rebates, public EVSE efforts, and TOU rates for residential and MUD customers with EVs. As of August 2021, Potomac Edison has issued 134 rebates, totaling \$40,200, for the installment of 16 Level 2 and 4 DC Fast EVSE.

In 2021, Potomac Edison utilized social media channels to share public EVSE developments and EV-related news, including its *partnership with EnergyHub*. Potomac Edison also presented at webinars, including *Save on EV Charging with Maryland Incentives* with ChargePoint and *MUD EV Charging Webinar with the Maryland Multi-Housing Association*. Potomac Edison also engaged with its customers at the EV Exposition in Frostburg, Maryland in September 2021, and sent over 12,000 direct mail pieces to customers, encouraging residential EVSE rebate applications and enrollment in its TOU rate program.



Potomac Edison's ribbon cutting ceremony at the City of Cumberland's second Electric Car Charging Station, at the Liberty Street Surface Lot.

SOUTHERN MARYLAND ELECTRIC COOPERATIVE (SMECO)

SMECO has installed nine Level 2 EVSE, totaling 18 plugs, as of July 2021, and has 27 more EVSE planned for construction.

In August, SMECO participated in the Saint Mary's and Calvert Library webinar, Charge! Electric Vehicles in Southern Maryland, to help educate consumers on EVs and EVSE. SMECO also held an in-person EV Meet and Greet in October 2021 to engage with consumers about PEVs, answer questions, and clarify misconceptions related to EVs. Along with in-person efforts, SMECO has been utilizing social media to share flyers, bill stuffers, and articles.

PUBLIC SERVICE COMMISSION (PSC)

The PC44 EV WG worked on three initiatives throughout 2021:

- Mid-course EV Pilot Program design review;
- Commercial rate design; and,
- EV benefit-cost analysis (BCA) methodology.

The EV pilot program utilities²⁵ coordinated six meetings with the PC44 WG to examine the progress of the EV Pilot Program at the mid-point of the five-year term. Utility companies and program stakeholders reviewed potential proposals for program adjustments for the PSC's consideration. Utilities and other entities presented on a variety of EV issues over the course of the meeting series. PC44 WG members had the opportunity to ask questions and provide comments at each meeting, via a survey, and through a shared draft of the utilities' proposals. Proposals addressed aspects of the residential, MUD, fleet charging, and public charging program components. The utilities included proposals for the PSC's consideration in their semi-annual reports filed on September 15, 2021,²⁶ which were considered by the PSC at the Mid-Course EV Pilot hearing on October 13, 2021.²⁷

Commercial rate design began in 2020 and continued into 2021. The PC44 WG met to discuss issues and ideas for potential commercial EV rates in Maryland.

As a result of discussions, several electric charging companies and the utilities are collaborating on data sharing efforts to assist with rate design development. Conclusions, recommendations, and potential proposals are expected to be presented to the PC44 Work Group in December 2021.

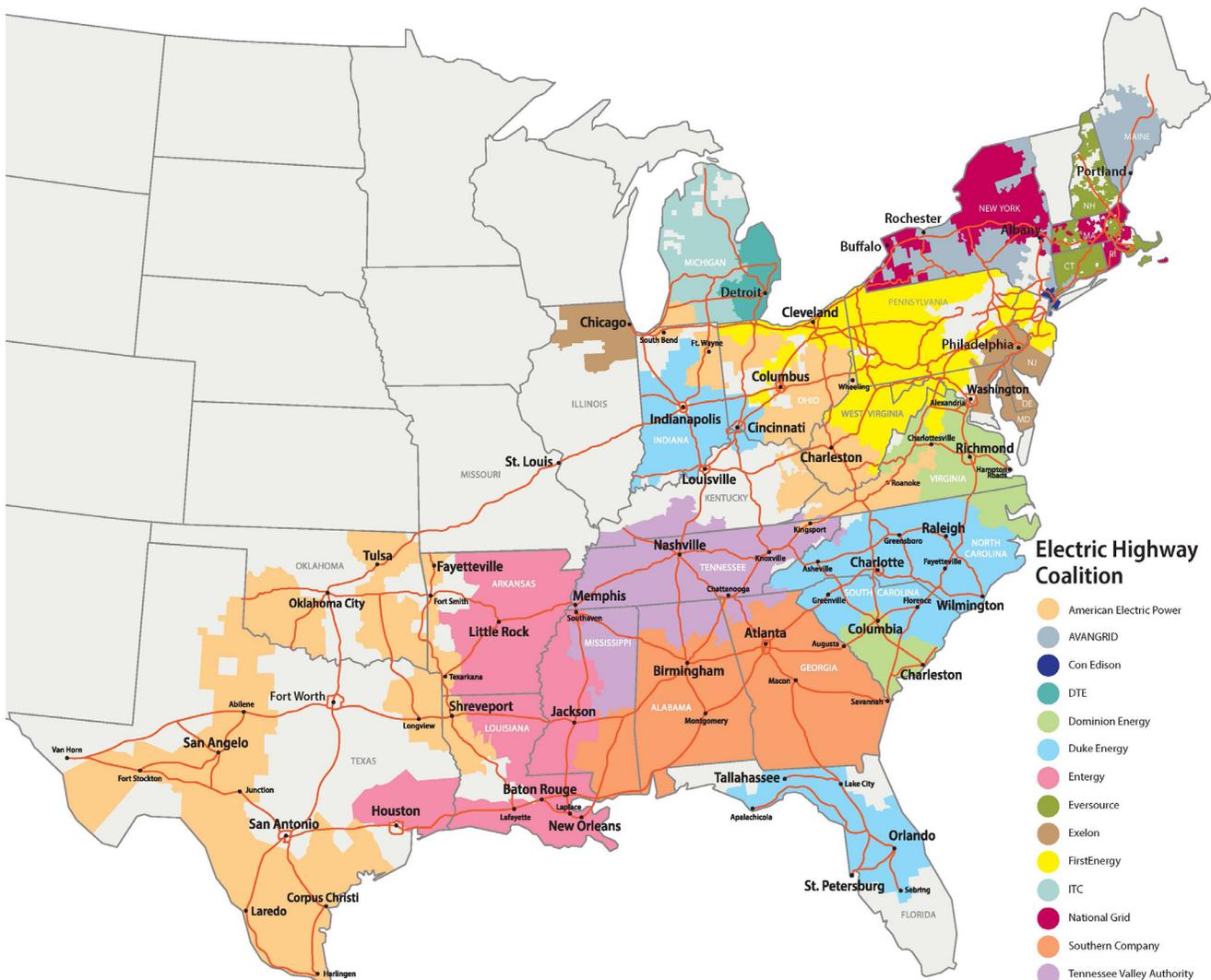
The PSC also directed the PC44 WG to develop and propose a BCA methodology by December 1, 2021, for the utilities to use in support of future pilot program cost recovery.²⁸ To assist with the BCA methodology development, a subgroup was formed within the PC44 WG in January 2021. A draft proposal is under review and a final proposal will be filed by December 1, 2021.

ELECTRIC HIGHWAY COALITION (EHC)

The EHC was formed in March 2021 and is comprised of 14 utility members²⁹ across 29 states and DC. In July 2021, Exelon and First Energy in Maryland joined the EHC. Member utilities are working together to create efficient and effective DC Fast EVSE deployment plans along highways and corridors in their service territories, enabling long distance EV travel. Members are identifying sites that are easily accessible and located less than 100 miles apart and planning to have at least two EVSE at each location with universal vehicle compatibility.



Figure 11. EHC Map



STATE AGENCIES

Maryland state agencies have actively participated and provided updates at every 2021 ZEEVIC meeting. While much of the work state agencies do is complementary to the work of ZEEVIC, their work is not done under ZEEVIC. Their activities, programs, and outreach have been integral to the development of EVSE infrastructure in Maryland and EV adoption, and the support they provide ZEEVIC has been invaluable in assisting with the achievement of ZEEVIC's goals.

MARYLAND ENERGY ADMINISTRATION (MEA)

In 2021, the MEA administered and supported several programs that work to accelerate and encourage EVSE development and transportation electrification efforts, including the EVSE Rebate program, CFIP, Clean Fuels Technical Assistance (CFTA) Program, Mid-Atlantic Electrification Partnership (MAEP), MEEP, MSEC Program, and the Public Facility Solar Grant Program. In total, the MEA has awarded over \$3.4 million dollars in FY 2021 and FY 2022.

EVSE Rebate Program

The MEA's EVSE Rebate Program offers a rebate to individuals, businesses, MUDs, non-profits, workplaces, or state or local government entities for the costs of acquiring and installing EVSE. In FY 2021 and FY 2022, the MEA awarded the following amounts:

Table 9. MEA EVSE Rebate Award Totals

FY	Award Total	Number of EVSE Installed
2021	\$1,800,000	1,880
2022*	\$363,340	347

Note: FY 2022 rebate award amount as of September 30, 2021.

Clean Fuels Incentive Program (CFIP)

The MEA's CFIP provides grants to school districts, nonprofits, commercial entities, corporations, and local and municipal governments for the purchase of new fleet AFVs. In FY 2021, the MEA made the following EV-related awards:

Table 10. MEA CFIP FY 2021 Awards³⁰

Awardee	Amount Awarded	Project
Highlight Electric Transportation	\$817,000	19 Montgomery County Electric School Buses
Peapod Digital Labs	\$100,000	2 Electric Delivery Step Vans
EVgo	\$156,000	4 DC Fast EVSE in Bethesda
EVI	\$109,915	2 DC Fast EVSE in Chestertown

The FY 2022 program launched on September 1, 2021 and closes on December 31, 2021. Funding is still dedicated to fleet vehicles, but maximum funding per vehicle has increased to \$80,000.

Clean Fuels Technical Assistance (CFTA) Program

In 2021, the MEA launched the CFTA Program to assist Maryland fleets looking to transition to AFVs. The MEA produced a total of four electrification analyses for Cumberland, Laurel, Rockville, and Anne Arundel County. Final reports are available on the MEA CFTA website. The MEA is evaluating the results of the CFTA Program and may open a second round of solicitations in late 2021 or early 2022.

Maryland Smart Energy Communities (MSEC) Program

The MEA’s MSEC Program offers local governments grants for transportation-related projects, including the purchase of new EVs or AFVs and the installation of EVSE. In FY 2021, the MEA made the following awards, totaling \$88,750:

Table 11. MEA MSEC FY 2021 Awards

Community	Project	Award Amount
Capitol Heights	2 Code Enforcement EVs	\$15,000
Cottage City	Electric Trike for Police Department	\$3,750
Greenbelt	EV and EVSE	\$13,500
Howard County	5 EVs	\$34,000
Montgomery County	EV for Police	\$7,500
Thurmont	2 EVs	\$15,000

The MEA opened the FY 2022 MSEC Program in October 2021.

MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE)

In 2021, the MDE continued to administer and support programs and grants that work to accelerate and encourage EVSE development and transportation electrification efforts.

Clean Cars Program

The MDE is responsible for managing and implementing *Maryland's Clean Cars Program*. As the Clean Cars Program has developed over the years, the MDE has taken an active role in helping ensure the program continues to be successful across the country and in Maryland. In 2021, the MDE began working with California to develop the *Advanced Clean Cars II Program*. The new program will start with MY 2026 and, like the current Clean Cars program, will require a growing percentage of light-duty vehicles to be ZEVs. The MDE is working to help develop this program in a way that ensures a robust ZEV market and achievable program goals based on Maryland's vehicle market.

Volkswagen (VW) Environmental Mitigation Trust (EMT)

The MDE was designated as the lead agency to administer *VW EMT* funds in Maryland. Maryland has been allocated approximately \$75 million under the EMT and allocates 15% (\$11.3 million) for the installation of EVSE.

The MDE, with the MEA's assistance, developed the framework for the VW light-duty EV infrastructure component, allocating \$11.3 million for these projects. This component will be broken up into three rounds of funding, with approximately \$3.7 million available in funds for each round. Two programs were developed and available in 2021, the Electric Corridor Grant Program (ECGP) and the Charge Ahead Grant Program (CAGP). The ECGP is for DC Fast EVSE open to the public and located along corridors or at charging hubs. The CAGP is for Level 2 EVSE located at either workplaces or open to the public at state-owned properties. The proposal period for the first round of funding was open from December 8, 2020, to March 5, 2021. The MDE received over 50 proposals and made awards to 37. The first round of funding (\$3.7 million) was awarded in August 2021. ECGP and CAGP award amounts are as follows:

Table 12. *VW Settlement EVSE Awards in 2021*

Program	EVSE Plugs Energized	Award Amount
CAGP	145 Level 2 EVSE Plugs at 24 Locations	\$642,942
ECGP	36 DC Fast EVSE at 13 Locations	\$3,037,160

The MDE anticipates accepting proposals for the second round of funding in late 2021.

The MDE and the VW Trustee have approved approximately 40 vehicle replacement projects for funding. Lifetime nitrogen oxide reductions for these projects are expected to exceed 3,000 tons. The MDE expects to have additional funds available and plans to reopen applications in the first quarter of 2022 for electric school buses and electric MHD vehicles. Table 13 lists the projects that have been awarded funding for the purchase of MHD vehicles. Each project must scrap an eligible, diesel-powered truck or piece of equipment and replace it with an all-electric truck or piece of equipment.

Table 13. VW Settlement Vehicle Awards

Awardee	Project	Award Amount
IKEA	2 Electric Yard Trucks	\$455,000
Reston Limo	2 All-Electric Shuttle Buses	\$346,298
Dream Management	1 All-Electric Shuttle Bus	\$173,149
MDOT Maryland Aviation Administration and MDOT MTA	Replace 12 Diesel Transit Buses with All-Electric Transit Buses	\$10,310,256
MDOT Maryland Port Administration	5 All-Electric Port Cargo Handling Pieces of Equipment	\$1,185,600
Prince George's County	8 Electric Transit Buses	\$2,216,984
Ports America	6 Electric Powered Cranes at the Port of Baltimore	\$12,000,000
Baltimore City	2 Electric Powered Load Packers	\$489,600
City of Hyattsville	1 All-Electric Shuttle Bus	\$207,920
Town of Capitol Heights	1 All-Electric School Bus	\$213,520
Montgomery County	1 All-Electric School Bus	\$349,393
Prince George's County	1 All-Electric School Bus	\$340,336
Frederick County	2 All-Electric School Buses	\$755,315
Howard County	2 All-Electric School Buses	\$494,377

MARYLAND DEPARTMENT OF PLANNING (MDP)

The MDP works closely with Maryland's counties and municipalities to promote sustainable growth, including ZEV adoption. Through the *local comprehensive plan review* process, the MDP regularly provides written comments to local jurisdictions as appropriate to encourage the inclusion of planning policies and strategies in their plans to promote environmentally responsible and ZEV deployment and infrastructure building.

Local comprehensive plans establish goals and policies for land use and development, resource protection, and needed infrastructure, and guides subsequent zoning ordinance and development regulation revisions, all of which affect ZEV deployment and infrastructure planning and implementation. Therefore, having ZEV-related policies in a comprehensive plan can help a local jurisdiction strategically address zoning and development regulations to accommodate or promote ZEV as the plan calls for. In 2021, the MDP included suggestions on EVSE preparedness planning in the Garrett County, Sykesville, Washington Grove, and Chesapeake Beach comprehensive plan reviews.

In April 2021, the MDP held a Planning Directors' Roundtable to share ideas on planning, development, and growth. ZEEVIC representatives used the roundtable platform and discussed utility companies' MUD EVSE incentive programs to engage with local planning agencies to promote EVSE installation in MUDs, where installing EVSE has been challenging.

DEPARTMENT OF GENERAL SERVICES (DGS)

In FY 2021, the DGS helped promote the electrification of Maryland state-owned fleet vehicles through the:

- Establishment of state-wide contracts for EV charging infrastructure;
- Procurement of 40 ZEVs, including sedans and sport utility vehicles (to arrive in FY 2022); and,
- Construction and opening of 21 EV charging ports across six sites.

In FY 2021, Maryland ramped up its fleet electrification activities to support the state's GHG reduction goals. To this end, the DGS is helping the state to replace eligible fleet vehicles with BEVs, to eliminate tailpipe emissions, in FY 2022.

As EVs are added to the state's vehicle fleet, state facilities will need adequate charging infrastructure in place to support them. The DGS is leading the establishment of a Statewide EV Infrastructure Strategy and installing EVSE at state-owned facilities. The DGS hosts monthly EV stakeholder update meetings to share information about current and upcoming EV charging projects and other relevant information. The DGS works closely with the Department of Budget and Management (DBM), the MDE, the MDOT, and the MEA to coordinate efforts.³¹

STATE AGENCY WORKPLACE CHARGING SURVEY

The MDOT, in partnership with the DGS, completed the EV Workplace Charging Survey in 2021. The survey was distributed to state agencies, and state employees were invited to identify opportunities for, and interest in charging at state facilities. The survey gathered information on EV ownership and interest, EV use, charging availability at the workplace, cost to charge, and strategies that would encourage EV use. Nearly 1,600 state employees participated and provided information for 171 workplaces.

Figure 12. Do you Own an EV?

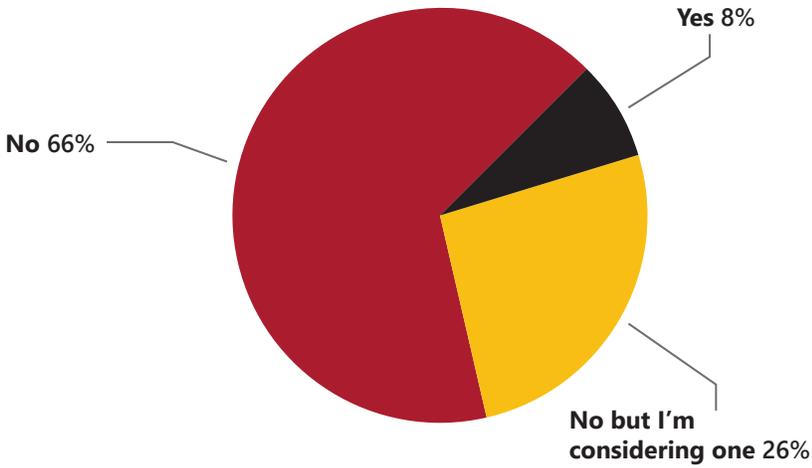
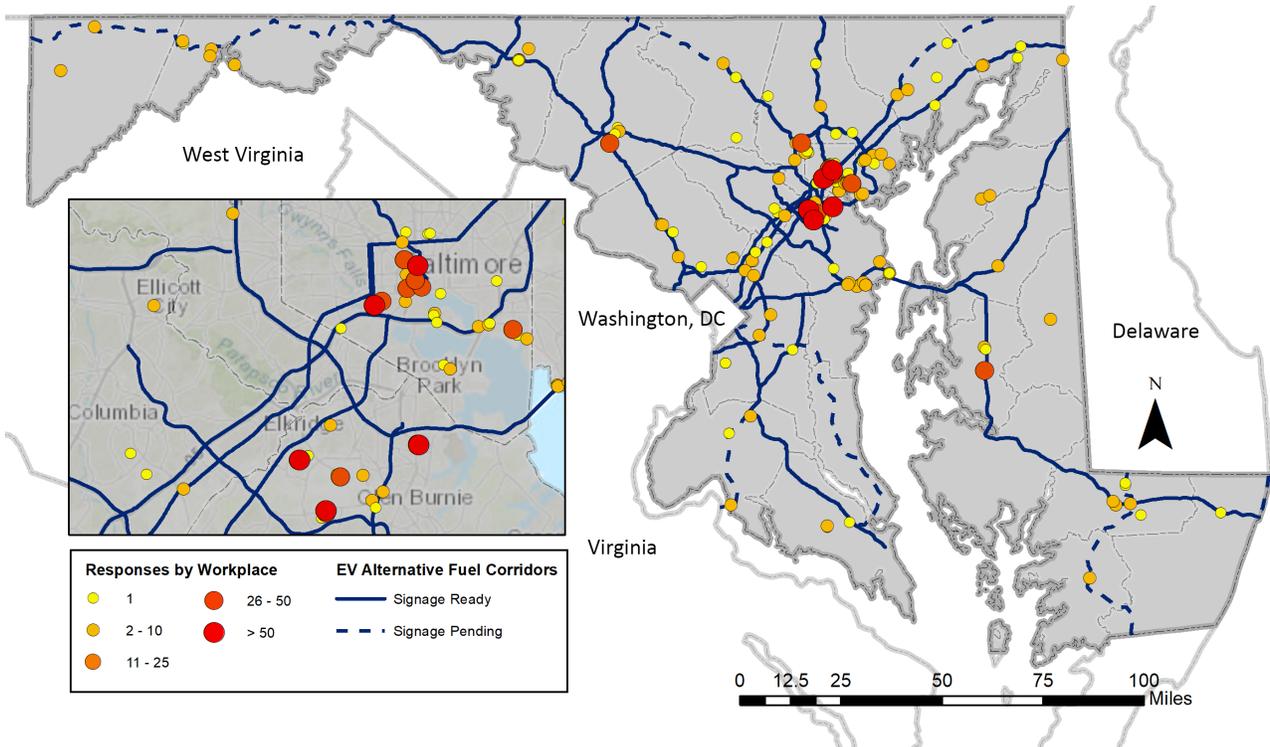


Figure 13. State Workplace Charging Survey Responses



Local Government ZEV Initiatives in Maryland

MONTGOMERY COUNTY

Montgomery County released a draft *Climate Action Plan* in December 2020. The plan includes 90 prioritized actions to meet the County goal of 100% emissions reductions by 2035. The plan focuses heavily on transportation electrification. Montgomery County has also developed a set of *residential EV charging permitting guidelines* and is integrating *solar canopies* in charging infrastructure.

BALTIMORE

In 2021, Baltimore was ranked the 9th best city to own an EV according to AutoInsuranceQuote.com.³² Baltimore City held a ribbon cutting in June 2021 for BGE's EVsmart installation at the Maryland Zoo.

PRINCE GEORGE'S COUNTY

Prince George's County received \$5.15 million for electric buses and charging infrastructure through the FY 2021 US Federal Transit Administration (FTA) Low and No Emission Grant Program and \$2.4 million through the VW Mitigation Fund. With these awards, Prince George's County was able to purchase twelve battery electric buses, three EVSEs, and one pantograph charger. Prince George's County Department of Public Works and Transportation is leasing four batteries from Proterra and will receive replacement batteries every six years of service.

To accommodate the acquisition of electric buses, Prince George's County is building out a charging system with a capacity for fleet electric bus use, including:

- Construction, drainage, and lighting enhancements;
- EVSE installation;
- Multi-dispenser charging system;
- Upgrading the facility transformer to accommodate a larger electricity load; and,
- Future proofing facilities for a growing electric fleet.

Prince George's County has been strategic in its search for funding but notes that the largest operational constraints still include funding. The County is seeking additional funding through Bipartisan Infrastructure Investment and Jobs Act for electric buses, EVSE, and facility retrofitting costs.

CITY OF FROSTBURG

The City of Frostburg hosted an EV expo on September 25, 2021.



APPENDIX A – ZEEVIC BACKGROUND

ZEEVIC COMPOSITION AND SUPPORT

ZEEVIC includes a diverse representation of interests, perspectives, and responsibilities, including utilities, state agencies, private enterprise, non-profit ZEV advocates, and public representation. All ZEEVIC meetings are open to the public and time is allotted at every meeting for the ZEEVIC to hear public comments.

ZEEVIC has three working groups (WGs) that provide analysis and recommendations to ZEEVIC for consideration.

The working groups are:

- Communications
- Legislative
- State Agency

ZEEVIC FORMATION AND REQUIREMENTS

ZEEVIC was originally established as EVIC in 2011. In 2015 the Maryland General Assembly extended EVIC through 2020 and established requirements for the EVIC. The Clean Cars Act of 2019 expanded the scope of EVIC again to include FCEVs, powered by hydrogen. FCEVs were incorporated into all the EVIC requirements, and the EVIC name was changed to the ZEEVIC. In March 2020 the Maryland General Assembly extended ZEEVIC through 2026. The tenure of ZEEVIC is currently authorized through June 2026.

STATUS OF ZEEVIC'S 2012 RECOMMENDATIONS

ZEEVIC was responsible for developing an initial report in 2012, resulting in a Statewide Charging Infrastructure Plan, an Action Plan, and 32 recommendations intended to promote widespread PEV adoption. In March 2016, based on advice from the State Agency WG, each recommendation from the Council's 2012 report was assigned to a working group for further investigation and comment. The working groups meet in intervening months to address the matters assigned to them.

APPENDIX B – LEGISLATIVE MANDATES FOR ZEEVIC

In 2011, Governor O’Malley signed into law Maryland *Senate Bill 176, Chapter 400 Acts of 2011*, which established the Electric Vehicle Infrastructure Council (EVIC). In July 2019, Maryland *House Bill 1246* expanded the membership and responsibilities of EVIC to include ZEVs and fuel cell electric vehicles. To reflect the expanded responsibilities of EVIC, it was renamed the Maryland ZEEVIC. In March 2020, Maryland *House Bill 232* altered the membership of ZEEVIC and reporting requirements. The following checklist outlines activities ZEEVIC has been legislatively mandated to accomplish.

Legislative Mandate	Status
Develop an action plan to facilitate the successful integration of EVs and FCEVs into the state’s transportation network.	The <i>Action Plan</i> was delivered in 2012 and recommendations are updated annually.
Assist in developing and coordinating statewide standards for streamlined permitting and installation of residential and commercial PEV charging stations and hydrogen refueling supply equipment.	Addressed through Legislative WG and ZEEVIC recommendations.
Develop a recommendation for a statewide charging and hydrogen refueling infrastructure plan, including placement opportunities for public charging stations.	Addressed through the State Agency WG and actively developed in conjunction with VW Consent Decree efforts.
Increase consumer awareness and demand for PEVs and FCEVs through public outreach.	Addressed through the Communications and State Agency WGs.
Make recommendations regarding monetary and nonmonetary incentives to support PEV and FCEV ownership and maximize private sector investment in ZEVs.	Addressed through Legislative WG and ZEEVIC recommendations.
Develop targeted policies to support fleet purchases of PEVs and FCEVs.	Addressed through the State Agency WG.
Develop charging solutions for existing and future MUDs.	Addressed through Legislative WG and ZEEVIC recommendations. Specifically targeted by PC44. ZEEVIC reviewed and provided utility recommendations to include in PC44 mid-course reports, including considerations for MUDs.
Develop model procurement practices for light-duty vehicles.	Addressed through the State Agency WG.
Encourage local and regional efforts to promote the use of electric vehicles and attract federal funding for state and local EV and FCEV programs.	Currently being addressed in conjunction with VW efforts and work at Metropolitan Planning Organizations (MPOs).
Recommend policies that support PEV charging and hydrogen refueling from clean energy sources.	Addressed through the State Agency WG. MDOT and MEA are leading by example through solar programs.
Recommend a method of displaying pricing information at public charging and hydrogen refueling stations.	To be addressed by WG.
Establish performance measures for meeting PEV- and FCEV-related employment, infrastructure, and regulatory goals.	Currently being addressed through the development of a policy scorecard in the Legislative and State Agency WGs.

Legislative Mandate	Status
Pursue other goals and objectives that promote the utilization of EVs and FCEVs in the state.	To be addressed by WGs.
Submit reports by certain dates regarding the progress on the above items.	Ongoing.

APPENDIX C – 2021 ZEEVIC MEMBERSHIP

Legislative Mandate	Status
Maryland Department of Transportation	R. Earl Lewis, Jr. , Deputy Secretary (Council Chair)
Academic Community; a Maryland institution of higher education with relevant expertise (1)	Hyeon-Shic Shin, Ph.D. , Morgan State University
Maryland Association of Counties; rural region (1)	Weston Young , Worcester County
Maryland Association of Counties; urban or suburban region (1)	Liam Davis , Baltimore City Department of Transportation
Maryland Municipal League; rural region (1)	Nina Forsythe , City of Frostburg
Maryland Municipal League; urban or suburban region (1)	David Edmondson , City of Frederick
EV Driver Advocacy Organization (1)	Elvia Thompson , Annapolis Green
Electric Companies (3)	Kristy Fleischmann , BGE Robert Stewart , PEPCO Holdings, Inc. Jeff Shaw , SMECO
Electric Vehicle Manufacturer (1)	Jason Tai , Tesla Consultant
Electric Vehicle Charging Station Manufacturer (1)	Kevin Miller , ChargePoint, Inc.
Fuel Cell Electric Vehicle Manufacturer (2)	Robert Wimmer , Toyota
Fuel Cell Electric Vehicle Infrastructure Equipment Manufacturer (1)	Joe Alfred , Ally Power Inc.
Electrical Workers (1)	Michael A. Wall , Clinton Electric Company
Environmental Community (2)	Scott Wilson , Electric Vehicle Association of D.C. (VACANT)
Public, with expertise in energy or transportation policy	Paul Verchinski
Maryland State Senator (1)	Clarence K. Lam, M.D. , District 12 Baltimore & Howard Counties
Maryland House of Delegates (2)	Tony Bridges , District 41, Baltimore City David Fraser-Hidalgo , District 15, Montgomery County
Maryland Department of Planning	Bihui Xu , Transportation Planning
Maryland Department of the Environment	Benjamin Grumbles , Secretary
Maryland Department of Commerce	Kelly Schulz , Secretary
Maryland Public Service Commission	Kevin Mosier , Wholesale Markets Liaison
Office of People’s Council	David Lapp , People’s Counsel
Maryland Energy Administration	Mike Jones , Transportation Program Manager
Fleet Operators (1)	(VACANT)
New vehicle dealer association (1)	(VACANT)

APPENDIX D – PEVS AVAILABLE FOR PURCHASE IN MARYLAND IN 2021



The Electric Vehicle Association
of Greater Washington DC
evadc.org

2021

Electric Vehicle
Information Sheet



All Electric	Base Price (USD) ¹	Net Price (USD) ²	Range (mi) ³	Batt. (kWh)	Power (kW) ⁴	0-60 (sec)	QC (kW) ⁵	MPG equiv ³	Fuel / Mo. ⁶
Chevy Bolt	\$36,500	\$36,500	259	66	150	6.5	50	118	\$46
Harley LiveWire	\$29,799	\$27,299	95*	15.5	78	3.0	20^	95*	---
Hyundai Ioniq Elec.	\$33,245	\$25,745	170	38.3	100	9.5	75	133	\$42
Hyundai Ioniq 5 ^{β+}	\$40,000^	\$32,500^	200-270^	58-77	125-225	5.2-8.5	350	---	---
Hyundai Kona Elec.	\$37,390	\$29,890	258	64	150	6.4	75^	120	\$46
Kia EV6 ^{β+}	\$40,000^	\$32,500^	200-270^	58-77	125-430	3.5	---	---	---
Kia Niro EV	\$39,090	\$31,590	239	64	150	7.8	77	112	\$50
Kia Soul EV ^β	\$35,000^	\$27,500^	243	64	201	7.6	77	114	\$50
MINI Electric	\$29,900	\$22,400	110	32.6	135	6.9	50	---	---
Nissan Ariya ^{β+}	\$40,000^	\$32,500^	225-300^	63-87	160-250	5.0^	130	---	---
Nissan LEAF ⁺	\$31,670	\$24,170	150-226	40-62	110-160	6.4-7.4	50-100	108-112	\$50
VW ID.4	\$39,995	\$32,495	250	82	150	7.4	125	97	\$58
Zero SR/S ⁺	\$19,995	\$17,495	109*	14.4	82	3.3	N/A	---	---
Average U.S. Gasoline Car Price			\$40,000						
Audi e-tron	\$65,900	\$58,400	222	95	300	5.5	150	78	\$71
BMW i3	\$44,450	\$36,950	153	42.2	125	7.2	50	113	\$50
Ford Mustang Mach-E ⁺	\$42,895	\$35,395	230-250	68-88	198-360	3.8-5.8	150	100	\$54
GMC Hummer EV ^{β+}	\$112,595	\$112,595	350*	200	745*	3.0*	350	---	---
Jaguar I-Pace	\$69,850	\$62,350	234	90	294	4.5	50	76	\$71
Polestar 2	\$59,900	\$52,400	233	78	300	4.7	150	92	\$58
Porsche Taycan ⁺	\$79,900	\$72,400	200	79-93	300-500	3.0-5.1	270	69-79	\$67-79
Rivian R1S ⁺	\$70,000	\$62,500	300*	135	562^	3.0	200^	---	---
Rivian R1T ⁺	\$67,500	\$60,000	300*	135	562^	3.0	200^	---	---
Tesla Cybertruck ^{β+}	\$49,900	\$49,900	300-500*	120-200	515-600	2.9-4.5	250^	---	---
Tesla Model 3 ⁺	\$37,990	\$37,990	263-353	54-75	211-335	3.1-5.3	250	134-141	\$38-42
Tesla Model Y	\$49,990	\$49,990	303-326	75	211-335	3.5-4.8	250	---	---
Tesla Model S ⁺	\$79,990	\$79,990	412-520	100-140	499-760	2.0-3.1	250	110	\$50
Tesla Model X	\$89,990	\$89,990	340-360	100	499	2.5-3.8	250	105	\$50
Tesla Roadster ^β	\$200,000	\$200,000	620	200	---	1.9	350^	---	---
Volvo XC40 Recharge	\$53,990	\$46,490	208	78*	300	4.7	150	79	\$70



EVA/DC meets the 3rd Wednesday of every month. See evadc.org/meeting.

Home Charging

Typically costs 4 ¢ / mile. (3 mi / kWh, 12 ¢ / kWh)

240V Home
Charging Station

Charge using an ordinary 120V outlet.
Dedicated circuit recommended.



Install a home 240V charging station for faster
charging at home. \$400-\$1000 + installation



Public Charging

Cost varies, free - 49 ¢ / kWh



240V Public
Charging Station



Level 1: 120V AC (regular outlet)
Reclaim 5 miles per hour charging

Level 2: 240V AC (J1772 / dryer plug)
Reclaim 15-60 miles per hour charging

Fast Charge: 480V DC
Reclaim 50-200 miles in 30 minutes

EVA/DC is providing the following for informational purposes only. We do not endorse or recommend any specific vehicle manufacturer or distributor. Information subject to change.
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1. Base price before tax incentives, destination.
2. Net price after federal tax credit. State credits may still apply. Consult tax advisor.
3. EPA combined city/highway, except as noted
4. Total motor power. 1 kW = 1.34 hp

5. DC Quick / Fast Charge max rate
 6. EPA, 15000 miles/year, 12 ¢ / kWh
- * Source: Vehicle Manufacturer
^ Estimate
+ Multiple battery options available
β Future availability announced



Model	Category	Base Price (USD) ¹	Net Price (USD) ²	Range (mi) ³	Batt. (kWh)	0-60 (sec)	MPG equiv ³	Fuel / Mo. ⁶	
Fusion	PHEV—Plug-in Hybrid Electric Vehicle (Electric & Gas) - All these hybrids have a plug.								
MINI									
Chrysler Pacifica hyb.		\$39,995	\$32,495	32+gas	16	7.4	82	\$83	
Ford Escape Plug-In		\$32,650	\$25,807	37+gas	14.4	^	102	\$67	
Ford Fusion Plug-In		\$35,000	\$30,391	26+gas	9	8.0	103	\$63	
Honda Clarity PHEV		\$33,400	\$25,900	48+gas	17	7.7	110	\$58	
Hyundai Ioniq PHEV		\$26,700	\$22,157	29+gas	8.9	8.9	119	\$54	
Hyundai Tucson PHEV		\$35,000 [^]	\$28,500 [^]	32+gas	13.8 [*]	8.9	70 [*]	\$54	
Kia Niro PHEV		\$29,590	\$25,047	26+gas	8.9	9.0	105	\$58	
MINI Cooper S E Countr.		\$41,500	\$36,500	17+gas	10	6.7	73	\$108	
Mitsubishi Outlander		\$36,295	\$29,708	24+gas	13.8	9.2	74	\$100	
Subaru Crosstek Hyb.		\$35,345	\$30,845	17+gas	8.8	8.3	90	\$79	
Toyota Prius Prime		\$28,220	\$23,720	25+gas	8.8	10.5	133	\$50	
Toyota RAV4 Prime		\$38,100	\$30,600	42+gas	18.1	5.7	94	\$71	
Average U.S. Gasoline Car Price		\$40,000							
Audi A7 Plug-In		\$74,900	\$68,188	24+gas	14.1	5.7	68	\$113	
Audi A8 Plug-In		\$95,900	\$89,188	18+gas	14.1	4.9	53	\$150	
Audi Q5 Plug-In		\$51,900	\$45,188	19+gas	14.1	5.0	50	\$129	
Bentley Bentayga		\$183,000 [^]	\$175,500 [^]	18+gas	17.3	5.2	46	\$183	
BMW 330e		\$44,550	\$38,714	22+gas	12	5.6	—	—	
BMW 530e	\$57,200	\$51,364	21+gas	12	5.9	69	\$113		
BMW 745e xDrive	\$95,900	\$90,064	16+gas	12	4.9	56	\$150		
BMW i3 Range Extender	\$48,300	\$40,800	123+gas	42.2	8.0	100	\$58		
BMW X3 xDrive30e	\$49,600	\$43,764	17+gas	12	5.9	—	—		
BMW X5 xDrive45e	\$65,400	\$57,900	30+gas	21.6	5.3	56	\$138		
Ferrari SF90 Stradale	\$625,000	\$621,500	9+gas	7.9	2.5	51	\$217		
Jeep Wrangler 4xe	\$47,995	\$40,495	21+gas	17	6.0	—	—		
Karma GS-6 / Revero ^β	\$83,900	\$76,400	61+gas	28	4.5	70	\$96		
Land Rover Sport P400e	\$83,000	\$76,705	19+gas	13	6.3	42	\$175		
Lincoln Aviator	\$69,070	\$62,536	21+gas	13.6	—	—	—		
Lincoln Corsair ^β	\$53,000 [^]	\$46,000 [^]	28+gas	14.4	—	78	\$88		
Mercedes GLC350e	\$51,900	\$45,438	22+gas	13.5	5.6	56	\$138		
Polestar 1	\$155,000	\$147,500	52+gas	34	4.2	58	\$117		
Porsche Cayenne	\$81,800	\$74,300	16+gas	17.9	4.7	47	\$154		
Porsche Panamera	\$103,800	\$97,130	15+gas	14.1	4.4	51	\$154		
Volvo S60 Recharge	\$47,650	\$42,231	22+gas	11.6	4.3	69	\$104		
Volvo S90 Recharge	\$60,050	\$54,631	21+gas	11.6	4.8	60	\$113		
Volvo V60 Recharge	\$67,300	\$61,881	22+gas	11.6	4.3	69	\$104		
Volvo XC60 Recharge	\$53,500	\$48,081	19+gas	11.6	4.9	57	\$125		
Volvo XC90 Recharge	\$63,450	\$58,031	18+gas	11.6	5.9	55	\$125		
Audi A7									
Audi A8									
Audi Q5									
Bentley									
BMW i3									
BMW X3									
BMW X5									
Jeep									
Karma									
Aviator									
Corsair									
Mercedes GLC350e									
Polestar 1									

Incentives

Federal Tax Credits
Vehicle: up to \$7500
EVSE: up to \$1000

Version 20210331

DC: EV Supply Equipment (EVSE) Tax Credit - 50% of cost up to \$1000
Excise tax exemption. Reduced vehicle registration fee of \$36

Maryland: EV Supply Equipment (EVSE) Tax Credit - 40% of cost, max \$700
High Occupancy Vehicle (HOV) Lane Exemption through Oct. 2022

Virginia: Reduced personal property tax in Arlington and Loudon counties
Discounted electricity rates for off-peak residential EV charging

APPENDIX E – ACTIVE ZEV-RELATED POLICIES IN MARYLAND

Maryland incentive and regulation summaries are sourced from the US DOE Alternative Fuels Data Center’s Laws and Incentives Database.

STATE INCENTIVES

Incentive Type		Program Name	Policy Details and References
Financial	Grant	ECGP	MDE offers grants for EVSE installations in high travel corridors. Grants may cover up to 80% of the cost for the installation of DC Fast stations along <i>Federal Highway Administration</i> designated alternative fuel corridors through the ECGP. ECPG funding is available for up to \$150,000 per DC fast EVSE for \$600,000 per total applicant. Eligible entities include non-profits and private businesses. Grant awards vary based on total kilowatts per charging port. The program is funded by Maryland’s portion of the <i>VW EMT</i> . For more information, including program guidance and application, see the MDE’s <i>VW Settlement</i> website.
Financial	Grant	CAGP	MDE offers grants for EVSE installations at workplaces. Grants may cover up to \$4,500 per charger, \$600,000 total per applicant through the CAGP. The program is funded by Maryland’s portion of the <i>VW EMT</i> . For more information, including program guidance and application, see the MDE’s <i>VW Settlement</i> website.
Financial	Grant	CFIP	CFIP, administered by MEA, provides grants to purchase new fleet AFVs. Grant award amounts vary and may cover up to 100% of the incremental AFV cost. Grants for EVs are available up to \$80,000, and for FCEVs up to \$50,000. Eligible fleet applicants include school districts, nonprofits, commercial entities, corporations, and local and municipal governments. AFVs purchased for individual or personal use are ineligible. Vehicles receiving funding from other state programs are ineligible. Grants will be awarded on a competitive basis, with equity and environmental justice considerations as part of the evaluation criteria. For more information, including additional eligibility criteria, see MEA’s <i>CFIP Program</i> website.

Incentive Type		Program Name	Policy Details and References
Financial	Grant	MSEC	The MSEC program, administered by MEA, offers local governments grants for transportation-related projects, including the purchase of new EVs or alternative fuel vehicles and the installation of EVSE. Grants for EVs are available up to \$7,500, and up to \$6,000 for EVSE rebates. Communities already participating in the MSEC program may receive a maximum award of \$55,000 per project and new communities may receive up to \$75,000. Additional requirements may apply. For more information, including requirements and application deadline, see the MEA MSEC website.
Financial	Grant	Public Facility Solar Grant Program	MEA offers grants of up to \$125,000 for the planning and installation of solar arrays on existing public facilities and infrastructure. Eligible projects include solar canopies that support EVSE. For more information, see the MEA Public Facility Solar Grant Program website.
Financial	Grant	Zero Emission School Bus Transition Grant Program	MDE administers a Zero Emission School Bus Transition Grant Program to purchase zero emission school buses, install charging infrastructure, and transition to zero emission school bus fleets. MDE and MDOT also provide technical assistance to county boards of education transitioning school buses to ZEVs throughout the state. (Reference Maryland Statutes , Environmental Code 2-1501 and 2-1503)
Financial	Rebate	EVSE Rebate Program	MEA offers a rebate to individuals, businesses, or state or local government entities for the costs of acquiring and installing qualified EVSE. Between July 1, 2021, and June 30, 2022, the rebate may cover 40% of the costs of acquiring and installing qualified EVSE, or up to \$700 for residential applicants and \$4,000 for businesses, nonprofits, workplaces, MUDs, or government entities. Applicants must demonstrate compliance with state, local, and/or federal law that applies to the installation or operation of qualified EVSE. Other requirements may apply. MEA may award up to \$1,800,000 total with commercial projects receiving up to 20% of total funds. Rebates will be awarded on a first-come, first-served basis. For more information, see MEA's EVSE Rebate Program website. (Reference Maryland Statutes , Business Regulation Code 10-101, and State Government Code 9-2009)

Incentive Type		Program Name	Policy Details and References
Non-Financial	Exemption	High Occupancy Vehicle (HOV) Lane Exemption for EVs	Permitted PEVs may operate in any Maryland HOV lanes regardless of the number of occupants. Qualified PEVs must have a maximum speed capability of at least 65 miles per hour. To operate in HOV lanes, EV owners must obtain a permit from the MDOT MVA. Each year the MDOT MVA and the State Highway Administration must report PEV use in HOV lanes to the governor. This exemption expires September 30, 2022. For more information, see the HOV Permit Issuance for PEVs website. (Reference Maryland Statutes , Transportation Code 25-108 and 21-314)
Non-Financial	Exemption	Emissions Inspection Exemption for EVs	Vehicles powered exclusively by electricity are exempt from state emissions inspections. For more information, see the Maryland Vehicle Emissions Inspection Program (VEIP) website. (Reference Maryland Statutes , Transportation Code 23-206 and 23-206.4)

STATE LAWS AND REGULATIONS

Law Type	Policy Title	Policy Details and References
ZEV Sales Requirements	ZEV Sales Requirements and LEV Standards	Maryland has adopted the California motor vehicle emissions standards and compliance requirements specified in Title 13 of the California Code of Regulations . Manufacturers must meet the greenhouse gas emissions standard and the ZEV production and sales requirements . MDE may adopt regulations to exempt certain vehicles from the program, including motor vehicles sold for registration outside of Maryland and motor vehicles that would be exempt from the LEV program established under California law. For more information, see the Maryland Clean Cars Program website. (Reference Maryland Statutes , Environment Code 2-1101 through 2-1106)
Vehicle Conversion Requirements	Aftermarket AFV Conversion Requirements	Conventional original equipment manufacturer vehicles altered to operate on propane, natural gas, methane, ethanol, or electricity are classified as aftermarket AFV conversions. All vehicle conversions for vehicles certified only to CARB standards must meet current applicable CARB standards for aftermarket conversions. However, US Environmental Protection Agency (EPA) certified conversion kits may be used on EPA 50-state certified vehicles and vehicles with dual-certification that are 14,000 pounds or less. (Reference Code of Maryland Regulations 26.11.34)
Infrastructure Promotions	ZEEVIC Creation and Authorization	ZEEVIC promotes the use of ZEVs in the state. MDOT must provide staff support to ZEEVIC with the assistance of MEA and the PSC. For more information, including interim reports, see the ZEEVIC website. (Reference Chapter 378, Acts of 2015(PDF) ; Chapter 213, Acts of 2019(PDF) ; Chapter 118, Acts of 2020(PDF))

Law Type	Policy Title	Policy Details and References
Building Code	EVSE New Construction Requirement	Builders must provide buyers the option to include a Level 2 EVSE or electric pre-wiring to support a Level 2 EVSE in all new homes which include a garage, carport, or driveway. The builder must provide buyers with notice of EVSE make-ready options and information about all available rebate programs for EVSE purchase and installation. (Reference House Bill 784 , 2021)
Right-to-Charge	EVSE Policies for Associations	Homeowner associations or condominium associations may not prohibit or restrict the installation or use of EVSE in a homeowner's designated parking space. Associations may put reasonable restrictions on EVSE, but the association must treat EVSE installation in the same manner as any unit architectural modification. Residents are required to comply with all relevant building codes and safety standards and engage a licensed EVSE contractor. The residential EVSE owner is responsible for the cost of the installation, operation, maintenance, repair, insurance, removal, or replacement of the station, as well as any resulting damage to the EVSE or surrounding area. (Reference House Bill 0110 , 2021, and Senate Bill 0144 , 2021)
Public Utility Definition	EVSE Regulation Exemption	Owners and operators of EVSE are not subject to state regulation as electricity suppliers or public service companies. For this regulation, owners and operators of EVSE are considered retail electric customers. (Reference Maryland Statutes , Public Utility Code 1-101(j))
Electricity Grid Resilience	EV Information Disclosure	MDOT MVA may provide the address of a registered PEV owner and information about the vehicle to electric companies for their use. Electric companies may only use this information in planning for the electric power supply and may not use it for marketing or solicitation. (Reference Maryland Statutes , General Provisions 4-320)
Vehicle Acquisition	ZEB Acquisition Requirement	Beginning in FY 2023, MDOT MTA may only purchase ZEBs for the state transit bus fleet unless the MDOT MTA determines that there are no ZEBs that meet performance requirements. MDOT MTA must also deploy EVSE for ZEBs throughout the state and submit an annual report to the legislature beginning on January 1, 2022. (Reference Senate Bill 137 , 2021)
Direct-to-Public Sales	ZEV Direct Sales Authorization	OEMs may sell vehicles directly to consumers without the use of a dealership. (Reference House Bill 235 , 2015)
Studies	ZEV Financial Impact Analysis	MEA and the MDOT must submit reports to the legislature that examine the fiscal impact of ZEVs registered in Maryland and a survey of measures enacted by other states or jurisdictions to minimize the impacts of ZEVs on state transportation funds. (Reference House Bill 44 , 2021)

APPENDIX F – 2021 LEGISLATION

In the 2021 Legislative Session, the General Assembly enacted the following:

- HB 0110/SB 0144 – Electric Vehicle Recharging Equipment for Multifamily Units Act
This bill prevents homeowner associations or condominium associations from prohibiting or restricting the installation or use of EVSE in a homeowner’s designated parking space.
- HB 0044 – Clean Cars Act of 2021
This bill extends the Electric Vehicle Recharging Equipment Rebate Program through FY 2023 and increases the total amount of rebates awarded to \$1,800,000. This bill also requires that MEA and MDOT submit a report that examines the fiscal impact of ZEVs registered in Maryland and survey measures enacted by other states or jurisdictions to minimize the impacts of ZEVs on state transportation funds.
- HB 0784 – Residential Construction – Electric Vehicle Charging
This bill requires that builders provide the option to install a Level 2 EVSE or electric pre-wiring to support a Level 2 EVSE in all new homes. Builders must also provide buyers with notice of EVSE make-ready options and information about available rebate programs for EVSE.
- HB 0334/SB 0137 – ZEB Transition Act
This bill requires that, beginning in January 2023, MDOT MTA only purchase zero emission buses for the state transit bus fleet, unless zero emission buses are not able to meet performance requirements.

During the 2021 Legislative Session, the ZEEVIC Legislative WG wrote letters of support the following bills:

Letter Date	Bill #	Bill Title	Outcome
1/22/2021	HB0110/SB0144	Electric Vehicle Recharging Equipment for Multifamily Units Act	Passed
1/26/2021	HB0044	Clean Cars Act of 2021	Passed
2/2/2021	HB0030	Public Utilities – Office of Climate Counsel – Establishment (Climate Counsel Act)	Passed
2/12/2021	HB0784	Residential Construction - Electric Vehicle Charging	Passed
1/22/2021	HB0480	Plug-In Electric Drive Vehicles – Reserved Parking Spaces	Failed
2/15/2021	HB0832	Public Utilities – Electric School Bus Pilot Program	Failed
1/22/2021	SB0315	Vehicle Laws - Plug-In Electric Drive Vehicles - Reserved Parking Spaces	Failed

APPENDIX G – ZEV POLICY SCORECARD: DESCRIPTIONS

Policy Type	Policy Description
Financial Incentives	
Point-Of-Sale Rebates	Applies the rebate amount directly to the sale price of a ZEV, allowing consumers to realize savings immediately.
Rebates for New EVs	Rebates for the purchase of a new EV.
Rebates for Used EVs	Rebates for the purchase of a used EV.
Rebates or Grants for EV Infrastructure	Financial award for the cost of equipment, installation, construction, and/or operation costs of EVSE.
Grants for Emissions Reductions Technologies	Financial award for technology that reduces the GHG emissions from ICE vehicles (e.g., idle reduction technology).
Tax Credit – EV Purchase or Conversion	Provides the buyer of an EV with a tax credit for the vehicle purchase.
Tax Credit – EV Infrastructure	Provides the buyer of EVSE or hydrogen refueling infrastructure with a tax credit.
Tax Exemption for ZEVs and Infrastructure	Costs associated with ZEVs, EVSE, and hydrogen refueling infrastructure are exempt from state taxes.
ZEV Registration Fee Exemption	ZEVs do not pay state DMV registration fees.
Goals	
State ZEV Adoption Goal	A state aims to have a certain number of ZEVs registered by a certain year (e.g., 300,000 ZEVs by 2025).
Greenhouse Gas (GHG) Emission Reduction Target	A state aims to reduce GHG emissions by a certain amount (percent, metric tons, etc.) by a certain year compared to a baseline year level (e.g., By 2030, Maryland must reduce GHG emissions by 50% of 2006 levels).
State Fleet Procurement Goal	Requires the state fleet to procure a certain number of ZEVs when purchasing and/or replacing vehicles.
State Infrastructure Deployment Goal	A state aims to have a certain number of EVSE or hydrogen refueling stations installed by a certain year (e.g., 5,000 EVSE by 2025).
Non-Financial Incentives and Supporting Legislation	
HOV Lane Access	This allows ZEVs to access HOV lanes at any time or specific times for a reduced or no price, while ICE vehicles are always limited in their access to HOV lanes.
Reserved Parking on Public Property	Parking spaces are reserved for ZEV use only. This can be particularly useful for EVSE installed in parking lots or garages, preventing ICE vehicles from using those spaces.
ZEV Infrastructure Multi-State Collaboration	Plans, councils, task forces, commitments, or agreements between states that promote the construction of ZEV infrastructure.
ZEV Infrastructure Planning and Coordination	State-wide approaches to promoting ZEVs and Infrastructure.

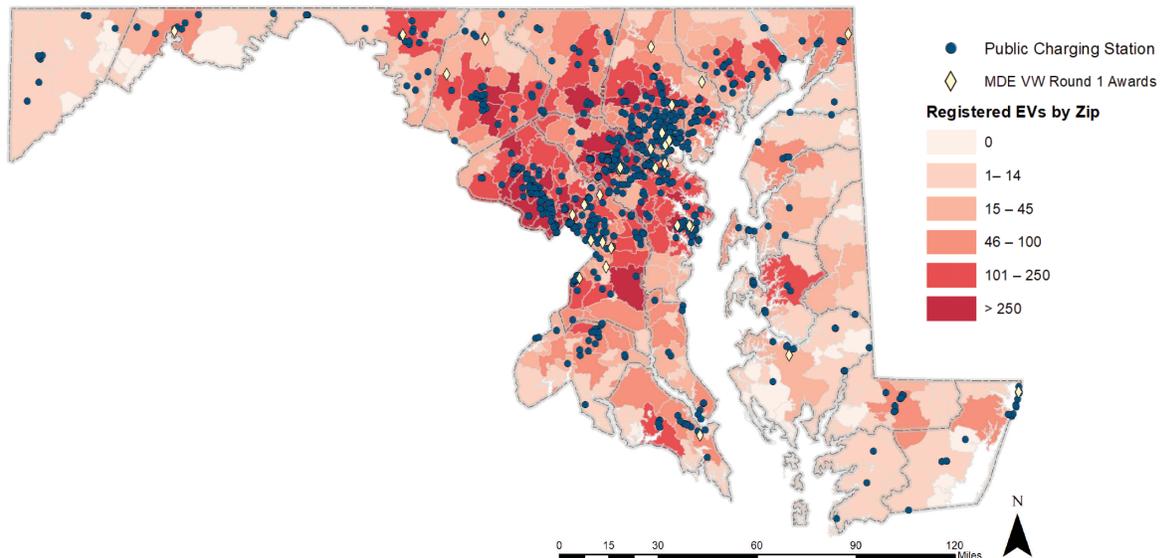
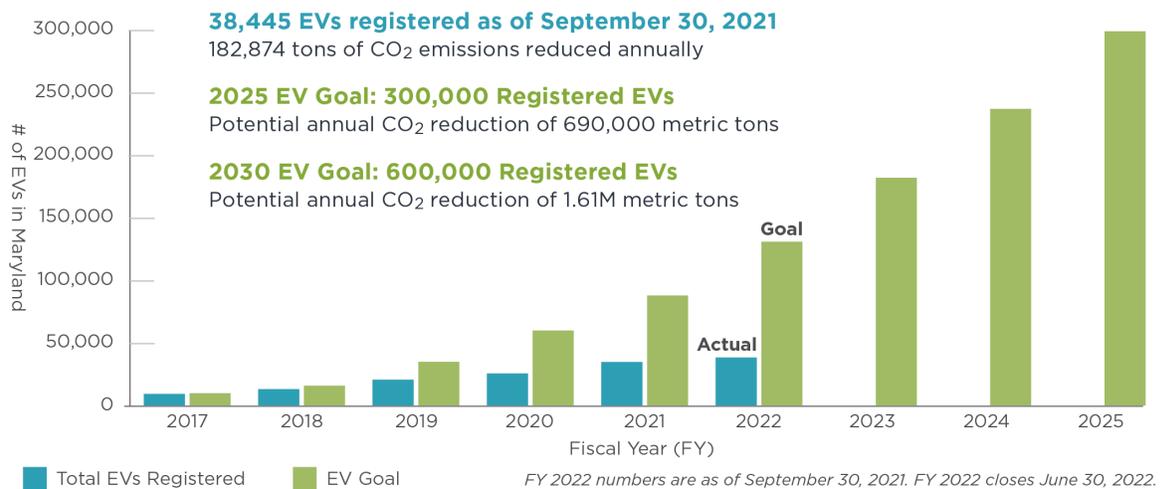
ZE Sales Requirements	Light-Duty Vehicles	The adoption of Title 13 of the California Code of Regulations in whole or in part.
	Medium- and Heavy-Duty Vehicles	The adoption of the Advanced Clean Trucks rule in whole or in part.
EVSE or EVSE-Wiring Building Code Requirements		The requirement that buildings have a certain number of EVSE installed or a certain number of plugs pre-wired to support future EVSE installation.
Direct-to-Public EV Sales		Allows the public to purchase a vehicle directly from an OEM instead of through a dealership.
EVSE Electricity Sales Deregulated		Excludes EVSE from the definition of "public utility".
Utility EVSE Programs		Utility companies required to take actions in support of EVSE deployment. This legislation may be directed at the utility or at the PSC.
Charging Signage Standardization		Creates uniform design, placement, and content for signage indicating EVSE availability or access.
Right-Of-Way Charging		Allows EVSE to be installed along streets (e.g., curbside, light posts, etc.)
Streamline ZEV Infrastructure Permitting		Removes barriers for permitting the development of EVSE and hydrogen refueling infrastructure. Ideally, this would provide for a unique, easier permitting process for this type of infrastructure and construction.
Define ZEV Zoning Requirements		Clarifies code related to ZEV zoning and landuse.
Right-To-Charge Requirements		Prevents HOAs, condominiums, MUDs, and other community-style residences from prohibiting the installation of EVSE.

APPENDIX H – CONSOLIDATED WG OUTREACH MATERIALS DEVELOPED FOR THE 2022 LEGISLATIVE SESSION

Zero Emission Vehicles (ZEVs) in Maryland



The Maryland Greenhouse Gas Emissions Reduction Act sets a goal of 40% greenhouse gas (GHG) emissions reductions by 2030. Transportation is the single largest GHG emissions generator in Maryland, representing 36% of total GHG emissions. ZEVs play an integral role in helping Maryland meet its emission reduction goal.



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Maryland ZEV Policy Scorecard

The ZEV market is rapidly advancing in part due to supportive state policy. Maryland has the opportunity to continue being a leader in ZEV market development but does not have the necessary policies in place. This scorecard outlines policy options that have been adopted across the United States to promote ZEV adoption and ZEV recharging and refueling infrastructure.

State Policies to Support Electric Vehicle (EV) Deployment	Active in Maryland?	States with Active Policy
Financial Incentives		
Point-Of-Sale Rebates	No	CA, PA
Rebates for New EVs	No	CA, CO, CT, ME, MN, NJ, NY, OR, VT
Rebates for Used EVs	No	CA, CT, ME, MN, OR
Rebates or Grants for EV Infrastructure	Yes	42 States (including DC, DE, PA, and VA)
Grants for Emissions Reductions Technologies	No	CA, CT, DE, IL, IN, IA, LA, MA, ME, MI, MN, NC, NM, NV, OH, OR, SD, TX, UT, VA, VT, WI, WY
Tax Credit – EV Purchase	No	CO, DC, LA, MT
Tax Credit – EV Infrastructure	No	DC, GA, LA, NY, OK, UT, WA
Tax Exemption for ZEVs and Infrastructure	No	AZ, CA, DC, MI, NJ, NC, OK, RI, UT, WA
ZEV Registration Fee Exemption	No	AZ, CT, OR
Goals		
State ZEV Adoption Goal	Yes	<ul style="list-style-type: none"> 300,000 EVs registered by 2025 600,000 EVs registered by 2030 CA, CO, CT, MA, MN, NJ, NY, NC, OR, RI, VT, WA
Greenhouse Gas (GHG) Emission Reduction Target	Yes	<ul style="list-style-type: none"> By 2030, 40% emissions reduction from 2006 levels Greenhouse Gas Reduction Act CA, CO, CT, HI, MA, ME, MN, NV, NJ, NY, OR, RI, VT, VA, WA
State Fleet Procurement Goal	Yes	<ul style="list-style-type: none"> Maryland Green Purchasing CA, CT, IL, MN, NC, NH, OR, TN
State Infrastructure Deployment Goal	Yes	<ul style="list-style-type: none"> DGS is establishing a Statewide EV infrastructure Strategy CA, CO, CT, ME, MA, NJ, NY, OR, RI, VT
Non-Financial Incentives and Supporting Legislation		
HOV Lane Access	Yes	AZ, CA, GA, HI, NJ, NY, NC, UT, VA
Reserved Parking on Public Property	Varies	CA, MA, OR, WA
ZEV Infrastructure Multi-State Collaboration	Yes	<ul style="list-style-type: none"> Medium- and Heavy-Duty ZEV MOU Light-Duty Vehicle 2014 Multi-State Action Plan Light-Duty Vehicle 2018-2021 Multi-State ZEV Action Plan AZ, CA, CO, CT, DC, DE, HI, ID, ME, MA, MT, NH, NJ, NM, NC, NV, NY, OK, OR, PA, RI, UT, VA, VT, WA, WY
ZEV Infrastructure Planning and Coordination	Yes	<ul style="list-style-type: none"> Zero Emission Electric Vehicle Infrastructure Council CO, DC, NH, RI
ZEV Sales Requirements	Light-Duty Vehicles: Yes Medium- and Heavy-Duty Vehicles: No	<ul style="list-style-type: none"> Adopted Title 13 of the California Code of Regulations CA, CO, CT, DC, DE, ME, MA, MN, NJ, NV, NY, OR, PA, RI, VT, VA, WA CA
EVSE or EVSE-Wiring Building Code Requirements	Partially	<ul style="list-style-type: none"> House Bill 784, 2021, requires builders to provide the option for Level 2 EVSE prewiring CA, MA, NJ, OR, VA, WA
Direct-to-Public EV Sales	Yes	AK, AZ, CA, CO, DE, FL, HI, ID, IL, MA, ME, MN, MO, MS, NH, OR, RI, TN, UT, VT, WY
EVSE Electricity Sales Deregulated	Yes	AL, AZ, AK, CA, CO, CT, DE, DC, FL, HI, IA, IL, ID, KS, KY, ME, MA, MN, MO, MT, NV, NH, NJ, NM, NY, NC, ND, OH, OK, OR, PA, RI, SC, TX, UT, VT, WA, WV
Utility EVSE Programs	Yes	<ul style="list-style-type: none"> PC44 EV Pilot Program AL, AK, AZ, CA, CO, CT, DC, DE, FL, GA, HI, ID, IN, IA, KS, LA, MA, ME, MI, MN, MS, MO, NE, NV, NH, NJ, NM, NY, NC, OH, OK, OR, RI, TN, TX, UT, VT, VA, WA, WI, WV, WY
Charging Signage Standardization	No	CA, NH, NY, ND, OH, SD, VA, WA
Right-Of-Way Charging	No	<ul style="list-style-type: none"> Testing in Montgomery County
Streamline ZEV Infrastructure Permitting	No	CA
Define EVSE Zoning Requirements	No	
Right-To-Charge Requirements	Yes	CA, FL, HI, NJ, NY, VA



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ZEEVIC Purpose and Role



What is ZEEVIC?

ZEEVIC is the Zero Emission Electric Vehicle Infrastructure Council.

Who created ZEEVIC?

The Maryland Legislature created the Electric Vehicle Infrastructure Council (EVIC) in 2011 to address and remove barriers related to plug-in electric vehicle (PEV) adoption in Maryland. In 2019, the membership, responsibilities, and reporting requirements of EVIC were expanded to include zero emission vehicles (ZEVs) and fuel cell electric vehicles (FCEVs). To reflect the expanded responsibilities of the council, EVIC was renamed the Maryland Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC).¹ In 2020, the membership of ZEEVIC was expanded further and the Council's termination date was extended to 2026.²

What does ZEEVIC do?

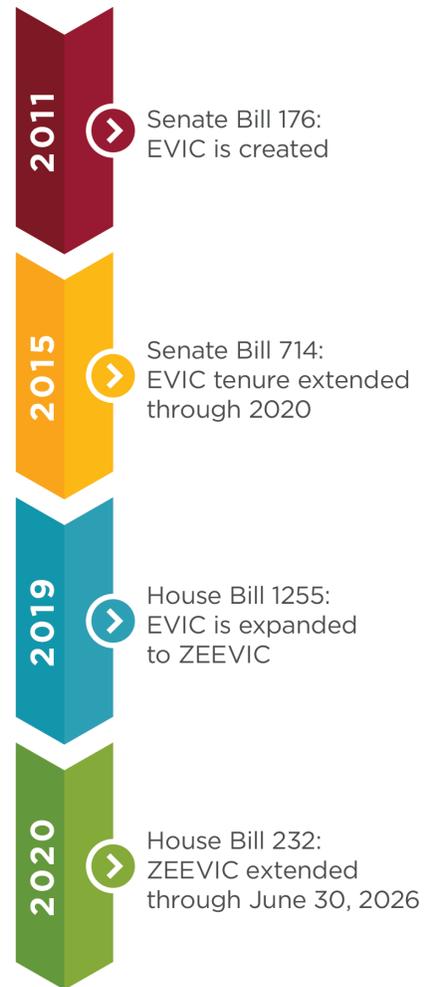
The ZEEVIC is charged with the supporting the development of:

- Policies, recommendations, and incentives that increase awareness of ZEVs, support the ownership of ZEVs, and promote investment by the private sector in ZEVs;
- Recommendations for a statewide EV charging and hydrogen refueling infrastructure plan; and,
- Other potential policies to promote and facilitate the successful integration of ZEVs into Maryland's transportation network.

ZEEVIC's responsibilities are directly related to helping Maryland meet the greenhouse gas (GHG) emissions reductions goals outlined in the Greenhouse Gas Emissions Reduction Act (GGRA). The GGRA sets a goal of

40% GHG emissions reductions by 2030.

Because transportation is the single largest GHG emissions generator in Maryland, representing 36% of total GHG emissions, ZEVs play an integral role in helping Maryland meet the GGRA emissions reduction goal.



¹Chapter 213, Acts of 2019

²House Bill 232, 2020



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ZERO EMISSION**
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Who is part of ZEEVIC?

Name	Representing
R. Earl Lewis, Jr , Deputy Secretary	Maryland Department of Transportation (Council Chair)
Hyeon-Shic Shin, PhD. , Morgan State University	Member from a Maryland Institution of Higher Education
Weston Young , Worcester County	Maryland Association of Counties—Rural Region
Liam Davis , Baltimore City Department of Transportation	Maryland Association of Counties—Urban or Suburban Region
Nina Forsythe , City of Frostburg	Maryland Municipal League—Rural Region
David Edmondson , City of Frederick	Maryland Municipal League—Urban or Suburban Region
Elvia Thompson , Annapolis Green	EV Driver Advocacy Organization
Kristy Fleischmann-Groncki , BGE	Electric Companies
Robert Stewart , PEPCO Holdings, Inc.	
Jeff Shaw , SMECO	
Jason Tai , Tesla Consultant	Electric Vehicle Manufacturer
Kevin Miller , ChargePoint, Inc.	Electric Vehicle Charging Station Manufacturer
Robert Wimmer , Toyota	Fuel Cell Electric Vehicle Manufacturer
Joe Alfred , Ally Power Inc.	Fuel Cell Electric Vehicle Infrastructure Equipment Manufacturer
Michael A. Wall , Clinton Electric Company	Electrical Workers
Paul Verchinski	Public with Expertise in Energy or Transportation Policy
Senator Clarence K. Lam, M.D. , District 12 Baltimore and Howard Counties	State Senate
Delegate Tony Bridges , District 41 Baltimore City	House of Delegates
Delegate David Fraser-Hidalgo , District 15 Montgomery County	
Bihui Xu , Transportation Planning	Maryland Department of Planning
Benjamin Grumbles	Maryland Department of the Environment
Kelly Schulz	Maryland Department of Commerce
Kevin Mosier , Wholesales Markets Liaison	Staff of the Maryland Public Service Commission
Mike Jones , Transportation Program Manager	Maryland Energy Administration
Vacant	
Scott Wilson , Electric Vehicle Association of Washington D.C.	Environmental Community
Vacant	Fleet Operators
Vacant	New Vehicle Dealer Association

Where can you learn more?

ZEEVIC: tinyurl.com/ZEEVIC2021

MDEV: MarylandEV.org

ZEEVIC AFDC: <https://afdc.energy.gov/laws/9303>



END NOTES

1. <https://www.4autoinsurancequote.com/best-cities-electric-vehicles/>
2. <https://www.kbb.com/car-news/report-ranks-states-by-ev-charging-outlets/>
3. <https://www.aceee.org/sites/default/files/pdfs/t2101.pdf>
4. <https://pluginamerica.org/wp-content/uploads/2021/02/25-States-Supporting-the-EV-Driver.pdf>
5. <http://www.afdc.energy.gov/locator/stations/>
6. <https://iea.blob.core.windows.net/assets/ed5f4484-f556-4110-8c5c-4ede8bcb637/GlobalEVOutlook2021.pdf>
7. GGRA requires that Maryland reduce GHG emissions by 50% from 2006 levels by 2030.
8. Maryland has a goal of reaching 300,000 registered EVs by 225 and 600,000 registered EVs by 2030.
9. https://afdc.energy.gov/laws/state_summary?state=MD
10. Maryland previously offered tax credits for the purchase of a new PEV or FCEV that expired in July 2020 and the purchase of EVSE that expired in July 2016.
11. The program is funded by Maryland's portion of the Volkswagen Environmental Mitigation Trust.
12. Ibid.
13. Code of Maryland Regulations 26.11.34, a summary is available at: <https://afdc.energy.gov/laws/11243>
14. House Bill 0110, 2021, a summary is available at: <https://afdc.energy.gov/laws/12624>
15. House Bill 784, 2021, a summary is available at: <https://afdc.energy.gov/laws/12622>
16. Senate Bill 137, 2021, a summary is available at: <https://afdc.energy.gov/laws/12623>
17. House Bill 235, 2015
18. House Bill 44, 2021, a summary is available at: <https://afdc.energy.gov/laws/12625>
19. <https://www.nescaum.org/documents/multi-state-zev-action-plan.pdf>
20. <https://www.nescaum.org/documents/2018-zev-action-plan.pdf>
21. <https://www.nescaum.org/documents/multistate-truck-zev-governors-mou-20200714.pdf>
22. https://www.bge.com/News/Pages/Press_Releases/Fastest-EV-Chargers-on-BGE%E2%80%99s-EVsmart-Network-Now-Live-at-BWI.aspx
23. <https://www.transportationandclimate.org/>
24. Policy scorecard research sourced from the US Department of Energy National Renewable Energy Laboratory's Alternative Fuels Data Center, <https://afdc.energy.gov/laws>
25. The pilot utilities include Potomac Edison, BGE, PHI, and SMECO.
26. The filings can be found under Case Number 9478. <https://www.psc.state.md.us/search-results/?q=9478&x.x=0&x.y=0&search=all&search=case>
27. Notice of Virtual Mid-Course EV Pilot Hearing and Comment Period. Case No. 9478. Mail Log Number 236675.
28. PSC Order No. 89678 at page 113.
29. AVANGRID, Consolidated Edison, DTE Energy, Eversource Energy, Exelon, FirstEnergy Corp., ITC Holdings Corp., and National Grid, American Electric Power, Dominion Energy, Duke Energy, Entergy Corporation, Southern Co., and the Tennessee Valley Authority.
30. More information is available at Maryland Energy Administration.
31. More information about EVs is available on the Green Purchasing website.
32. <https://www.4autoinsurancequote.com/best-cities-electric-vehicles/>

