

Annual Report 2020



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



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

TABLE OF CONTENTS

Acronyms	ii
A Message from R. Earl Lewis, Jr.	iii
Introduction	4
Notable Achievements	4
Background on Maryland’s ZEEVIC	5
ZEEVIC Composition and Support	5
ZEEVIC Formation and Requirements.....	5
Status of ZEEVIC’s 2012 Recommendations.....	5
2021 ZEEVIC Priorities.....	5
Market Status	7
Plug-In Electric Vehicles	7
EV Trends.....	7
PEV Charging Infrastructure	9
Charging Networks	10
Fuel Cell Electric Vehicles and Hydrogen Fueling.....	10
ZEEVIC Activities	11
ZEEVIC Meeting Agendas	11
2020 ZEEVIC Priorities and Progress	11
Outreach	12
Legislative Support.....	12
Public Service Commission and Utilities	12
Maryland Clean Cars Program and the ZEV Memorandum of Understanding	13
Medium- and Heavy-Duty ZEV MOU/Maryland Clean Truck Planning Framework	14
Mid-Atlantic Electrification Partnership	14
Regional ZEV Webinars.....	14
Local Government EV Survey.....	15
State Workplace Charging Survey.....	16
Alternative Fuel Corridors and Signage.....	16
Maryland Infrastructure Promotion.....	17
Maryland Smart Energy Communities.....	18
Volkswagen Settlement.....	19
Transportation Climate Initiative	20
Greenhouse Gas Reduction Act and Maryland Commission on Climate Change.....	20
Recommendations	21
Policy Recommendations.....	21
Additional Recommendations.....	21
Appendix A. ZEEVIC Membership 2020	22
Appendix B. Status of 2012 Action Plan and Recommendations	23
Appendix C. Available PEVs	31
Appendix D. Related Legislation (Enacted 2011-2020)	33

List of Figures

Figure 1. Total PEVs Registered in Maryland (FY 2012-2021) 7
Figure 2. Maryland EV Registration by Zip Code, 2016 8
Figure 3. Maryland EV Registration by Zip Code, September 2020 8
Figure 4. Publicly Available EV Charging Stations and EV Charging Corridors..... 9
Figure 5. Maryland's Charging Network..... 10
Figure 6. EVSE Challenges Survey Results..... 15
Figure 7. Identified Planned Stations and Optimal EVSE Sites 15
Figure 8. Screen Shot of Online EV Workplace Charging Survey 16
Figure 9. Maryland's 2020 Alternative Fuel Corridor Nomination..... 17

List of Tables

Table 1. ZEEVIC Legislative Requirements and Status 5
Table 2. EVSE Power Requirements, Charging Speed, and Public Availability in Maryland 9
Table 3. 2020 ZEEVIC Meeting Topics..... 11
Table 4. Letters Submitted 12
Table 5. CFIP Grant Amounts 18
Table 6. Volkswagen Settlement Funding in U.S. (billion \$) 19



ACRONYMS

AFIP	Alternative Fuel Infrastructure Program
BEV	Battery Electric Vehicle
BEVI	Baltimore Electric Vehicle Initiative
CAFE	Corporate Average Fuel Economy Standards
CFIP	Clean Fuels Incentive Program
CFTA	Clean Fuels Technical Assistance
DC	Direct Current
DGS	Maryland Department of General Services
EMT	Environmental Mitigation Trust Fund (VW Settlement)
EV	Electric Vehicle
EVI	Electric Vehicle Institute
EVIC	Electric Vehicle Infrastructure Council (Previous ZEEVIC name)
EVIP	Electric Vehicle Infrastructure Program
EVSE	Electric Vehicle Supply Equipment
FAST	Fixing America's Surface Transportation Act
FCEV	Fuel Cell Electric Vehicles
FHWA	Federal Highway Administration
GHG	Greenhouse Gas
HOV	High Occupancy Vehicle
kWh	Kilowatt-hour
MDE	Maryland Department of Environment
MDOT	Maryland Department of Transportation
MEA	Maryland Energy Administration
MHD	Medium- and Heavy-Duty
MOU	Memorandum of Understanding
MVA	MDOT Motor Vehicle Administration
PEV	Plug-In Electric Vehicle — term used collectively for BEVs and PHEVs
PHEV	Plug-In Hybrid Electric Vehicle
PSC	Public Service Commission
USGBC	U.S. Green Building Council
VW	Volkswagen
ZEEVIC	Zero Emission Electric Vehicle Infrastructure Council (Previously EVIC)
ZEV	Zero Emission Vehicle

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

“

As we move forward together on the Maryland Strong Roadmap to Recovery, we are identifying opportunities to collaborate with stakeholders and communities to ensure that we are staying safe while making progress on our zero emission vehicle (ZEV) and infrastructure goals. This report highlights the successes we have achieved over the past year and emphasizes priorities and recommendations for calendar year 2021.



The Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) welcomed several new members to our Council this year and we are pleased to begin working in earnest on our charge to incorporate planning for hydrogen fuel cell electric vehicles and fueling infrastructure into our efforts along with continued planning for battery electric vehicles.

ZEEVIC has continued to coordinate closely with the Maryland Commission on Climate Change (MCCC) on ZEV adoption and infrastructure deployment recommendations, which are critical strategies for achieving greenhouse gas (GHG) reduction goals in Maryland and globally. Together, we see an opportunity to promote increased telework as a bridge to decarbonization as we build out ZEV ownership and infrastructure that will accommodate Maryland, our region, and our nation well into the future.

While we have not been able to attend events in communities, as we would have preferred, we have been successful in pulling together local government representatives and community stakeholders to continue dialogue on identifying barriers and removing obstacles to ZEV ownership and infrastructure installation. This fall, we also began a dialogue on Maryland's Clean Truck Planning Framework and the Medium- and Heavy-Duty (MHD) ZEV Memorandum of Understanding (MOU), which will help us increase ZEV adoption and infrastructure deployment beyond the light-duty vehicle fleet.

Finally, I would like to express my sincere gratitude for the continued efforts of ZEEVIC and the dedication of our members, past and present, their organizations, and the members of the public who take time out of their busy days to share their experiences with us and help us proactively work toward solutions. It is this collaboration that keeps Maryland on the leading edge. We continue to invite anyone to reach out to learn more about ZEEVIC and participate in our work.

”

INTRODUCTION

This document fulfills the requirement to submit an annual report of the work of the Maryland Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC), with recommendations, to the Governor and General Assembly under the Maryland Electric Vehicle Infrastructure Council Act and subsequent legislation.



Notable Achievements

Since 2011, the Electric Vehicle Infrastructure Council (EVIC) has worked to remove barriers to Plug-in Electric Vehicle (PEV) usage in Maryland through the development of infrastructure action plans, permitting standards, and state incentives for the purchase of PEVs and Electric Vehicle Supply Equipment (EVSE). In July 2019, the membership, responsibilities, and requirements of EVIC were expanded to include zero emission vehicles (ZEVs) and fuel cell electric vehicles (FCEVs) and the Council was renamed ZEEVIC. ZEEVIC and its participants worked on several initiatives to advance these interests.

NOTABLE 2020 ACHIEVEMENTS INCLUDED:

- MDOT, in consultation with ZEEVIC, created a handout for outreach to legislators and related audiences, that highlights Maryland's electric vehicle (EV) goals, EV registration data, EVSE infrastructure, and ZEEVIC's four priorities, and created an EV survey postcard that directed local governments to a survey on EVSE infrastructure.
- MDOT, in consultation with ZEEVIC, refurbished the MarylandEV.org website. The website has a new design, updated information, additional resources, and acts as a hub for EV information in Maryland. MarylandEV.org received over 20,000 views through October 2020.
- The [Maryland Electric Vehicle Facebook](https://www.facebook.com/MarylandElectricVehicle) and [Instagram](https://www.instagram.com/MarylandElectricVehicle) accounts, managed by MDOT in consultation with ZEEVIC, reached over 100,000 Marylanders through almost 100 posts.
- The benefits of EV ownership, and the incentives available for the purchase of EVs and installation of EVSE, were shared with over 650 Marylanders at the Baltimore Auto Show to increase awareness through an outreach effort focused on public education.
- In 2020, the Federal Highway Administration (FHWA) designated MD 295 as a Corridor-Ready Electric Vehicle Alternative Fuel Corridor (EV-AFC). In addition, the I-70 EV-AFC between Hagerstown and the Maryland-Pennsylvania border was re-designated from Corridor-Pending to Corridor-Ready. FHWA has also identified I-795, US 1, MD 140, and MD 5/MD 235 for designation changes as part of their Corridor Refresh Program.
- Regional ZEV Webinars were held in October, focusing on ZEV infrastructure and opportunities in Western Maryland, the Eastern Shore and Southern Maryland, and in Maryland's central region. A final webinar shared the findings from each region to facilitate conversations among jurisdictions across the State.
- In July, Maryland signed on to a Medium-and Heavy-Duty (MHD) ZEV Memorandum of Understanding (MOU) with 14 other States and the District of Columbia (DC), signaling the State's intention to support widespread electrification of MHD vehicles.
- 26,672 PEVs were registered in Maryland as of September 30, 2020.

Maryland's ZEEVIC

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. The ZEEVIC membership list is provided in [Appendix A](#). 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 that provide analysis and recommendations to ZEEVIC for consideration: Communications, Legislative, and State Agency.

ZEEVIC FORMATION AND REQUIREMENTS

ZEEVIC was established as the EVIC in 2011. In 2015 the Maryland legislature 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 EVIC requirements, and the EVIC name was changed to the ZEEVIC. In March 2020, the Maryland legislature extended ZEEVIC through 2026. Table 1 gives the updated requirements and the status of ZEEVIC's legislative requirements as of December 2020.

STATUS OF ZEEVIC'S 2012 RECOMMENDATIONS

In addition to the requirements outlined in the previous section, ZEEVIC was also responsible for developing an initial report in 2012, which included a Statewide Charging Infrastructure Plan, an Action Plan, and 32 recommendations for promoting PEV adoption. In March 2016, following advice of the State Agency Working Group, each recommendation from the Council's 2012 report was assigned to a working group for further investigation and comment. The working groups met in the intervening months to address the matters assigned to them. [Appendix B](#) includes an annual status update on each recommendation.

2021 ZEEVIC PRIORITIES

Based on the progress achieved during 2020, ZEEVIC has identified the following priorities for 2021:

- The incorporation and analyses of FCEVs, and corresponding infrastructure, into ZEEVIC's efforts.
- Education through outreach and coordination.
- Diversity and equity.
- Continuing to promote ZEV and infrastructure incentives for light-, medium-, and heavy-duty vehicles.

Table 1. ZEEVIC Legislative Requirements and Status

#	Requirement	Status
1	Develop an action plan to facilitate the successful integration of PEVs and FCEVs into the State's transportation network.	The Action Plan was delivered in 2012 and the 32 recommendations are revisited annually (See Appendix B).
2	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 the Legislative Working Group and ZEEVIC recommendations.

continued



#	Requirement	Status
3	Develop a recommendation for a statewide charging and hydrogen refueling infrastructure plan, including placement opportunities for public charging stations.	Addressed through the State Agency Working Group and currently being developed in conjunction with Volkswagen (VW) Consent Decree efforts.
4	Increase consumer awareness and demand for PEVs and FCEVs through public outreach.	Addressed through the Communications and State Agency Working Groups.
5	Make recommendations regarding monetary and nonmonetary incentives to support PEV and FCEV ownership and maximize private sector investment in ZEVs.	Addressed through the Legislative Working Group and ZEEVIC recommendations.
6	Develop targeted policies to support fleet purchases of PEVs and FCEVs.	Addressed through the State Agency Working Group.
7	Develop charging solutions for existing and future multi-dwelling units.	Addressed through Legislative Working Group and ZEEVIC recommendations. Specifically targeted by PC44.
8	Develop model procurement practices for light-duty vehicles.	Addressed through the State Agency Working Group.
9	Encourage local and regional efforts to promote the use of EVs and attract federal funding for State and local PEV and FCEV programs.	Addressed in conjunction with VW efforts, and through the 2020 local outreach webinars.
10	Recommend policies that support PEV charging and hydrogen refueling from clean energy sources.	Addressed through the State Agency Working Group. MDOT leading by example through solar program.
11	Recommend a method of displaying pricing information at public charging and hydrogen refueling stations.	To be addressed by working group.
12	Establish performance measures for meeting PEV and FCEV-related employment, infrastructure, and regulatory goals.	To be addressed by working group.
13	Pursue other goals and objectives that promote the utilization of PEVs and FCEVs in the State.	To be addressed by working groups.



MARKET STATUS

PLUG-IN ELECTRIC VEHICLES

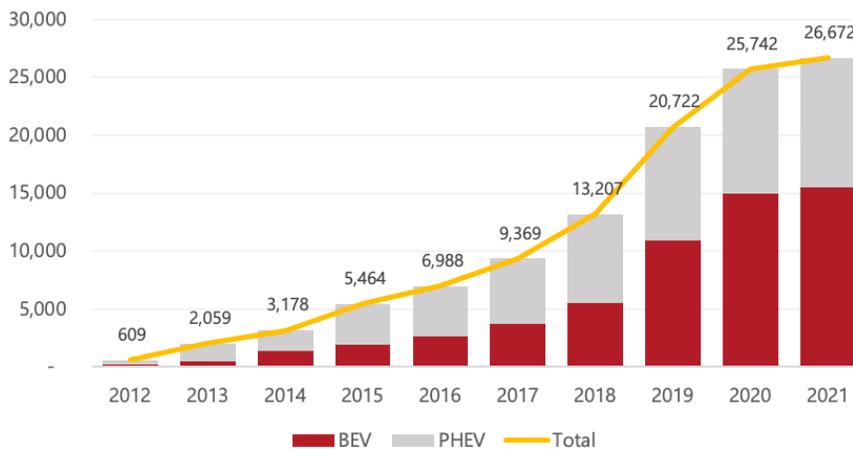
Throughout 2020, PEV ownership continued to experience significant growth in Maryland. Lower vehicle costs, state and federal incentives, and increasing availability of vehicles and charging infrastructure has led to greater numbers of PEVs being registered across the state.

In 2012, there were two battery electric vehicle (BEV) models available in Maryland (the Nissan Leaf and the Chevrolet Volt). Today, there are over 25 BEV models available for purchase in Maryland in addition to over 30 plug-in hybrid vehicles (PHEVs). [Appendix C](#) includes a list of all PEVs currently available for purchase in Maryland.

The total number of PEVs registered in Maryland increased from 609 in fiscal year (FY) 2012 to 26,672 in September 2020. As of September 30, 2020, 58% (15,516) of the vehicles registered were BEVs and 42% (11,156) were PHEVs (see Figure 1).



Figure 1. Total PEVs Registered in Maryland (FY 2012-2021)



NOTE: FY 2021 numbers are as of September 30, 2020. (FY 2021 closes June 30, 2021).

EV TRENDS

The MDOT Motor Vehicle Administration (MVA) tracks zip code information for all registered EVs in the state. The information identifies the total number of EVs registered in each of Maryland's zip codes. Since June 2016, Maryland has seen significant growth in the number of EVs registered. In June 2016, only 8 zip codes in Maryland had more than 100 EVs registered, and only one of those zip codes had more than 210 EVs registered. These zip codes were located in Montgomery, Howard, and Baltimore counties. As of September 30, 2020, 79 zip codes in 8 counties (Anne Arundel, Baltimore, Carroll, Frederick, Howard, Montgomery, Prince George's, and Washington) and Baltimore City have more than 100 EVs registered, and 30 of these zip codes have at least 210 EVs registered. One zip code, in Montgomery County, has more than 1,000 EVs registered.

Although much of the growth is concentrated in central Maryland, there has also been growth in EV ownership in western and southern Maryland and in the Eastern Shore. In 2016, there were 9 zip codes with at least 15 registered EVs. Only 2 of these zip codes had at least 25 EVs registered, and neither had more than 30 registered. In September 2020, there are 37 zip codes in these areas with at least 15 vehicles registered. Ten of the zip codes have at least 50 EVs registered, and 1 zip code had more than 100 EVs registered. A comparison of Figure 2, showing EV registration in 2016, and Figure 3, showing EV registration in 2020, reveals the growth in EV registration in Maryland since 2016.

Figure 2. Maryland EV Registration by Zip Code, July 2016

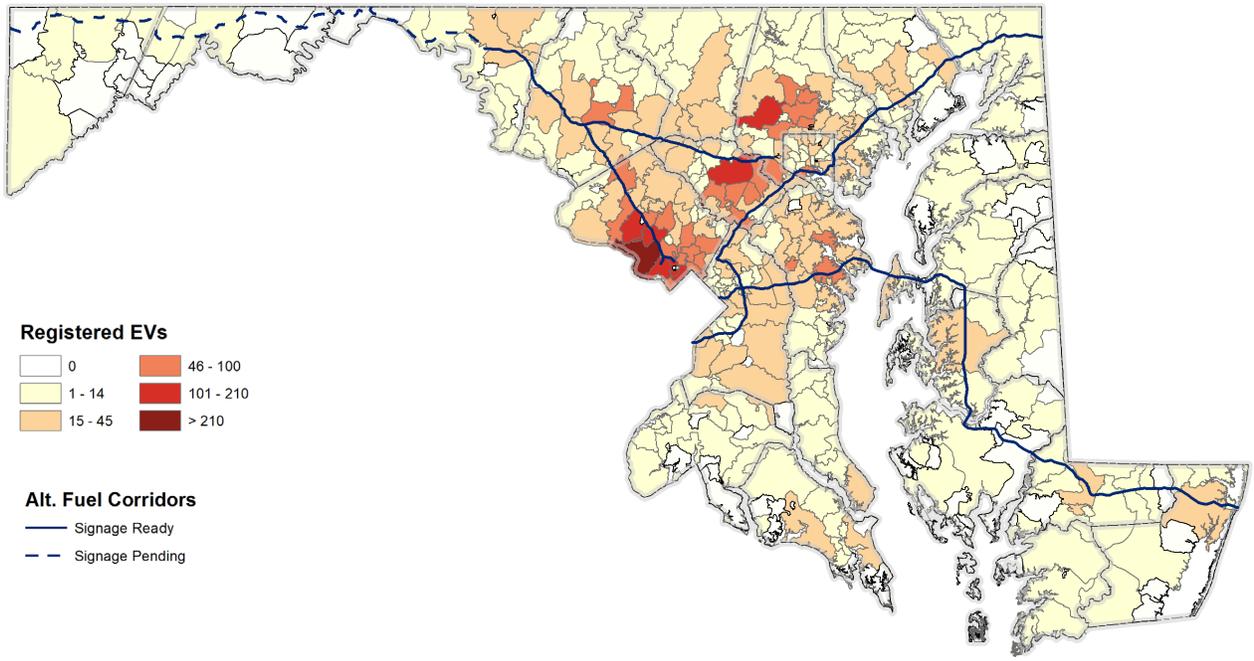
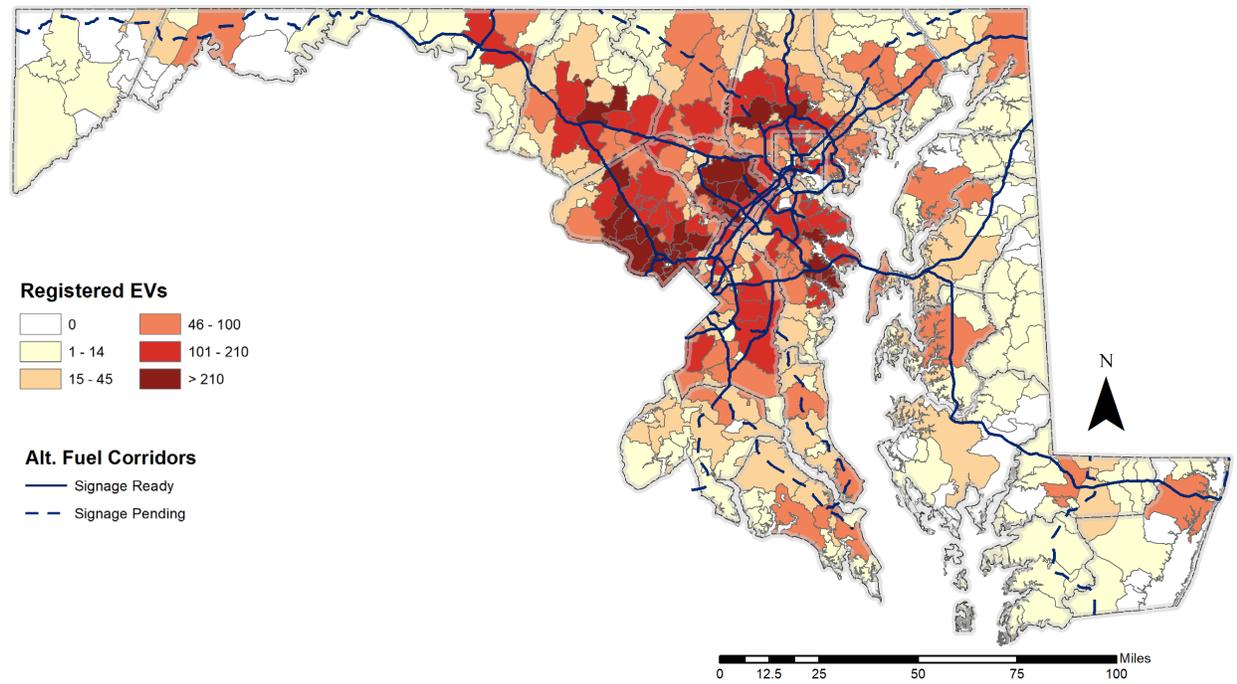


Figure 3. Maryland EV Registration by Zip Code, September 2020





PEV CHARGING INFRASTRUCTURE

2020 was another year of growth in the availability of public charging infrastructure in Maryland. PC44 has spurred installation of residential, multi-family, and public charging, with more anticipated in 2021.

A goal of the 2012 Infrastructure Plan was to facilitate charging at home and the workplace to ensure that EV drivers would have the opportunity to recharge. The establishment of adequate charging infrastructure is necessary to alleviate “range anxiety,” but concerns about short battery life and long charging time are changing quickly. Three types of chargers can be installed: Level 1, Level 2, and DC Fast Charge. The speed of charging and the power required vary by charger type as shown in Table 2.

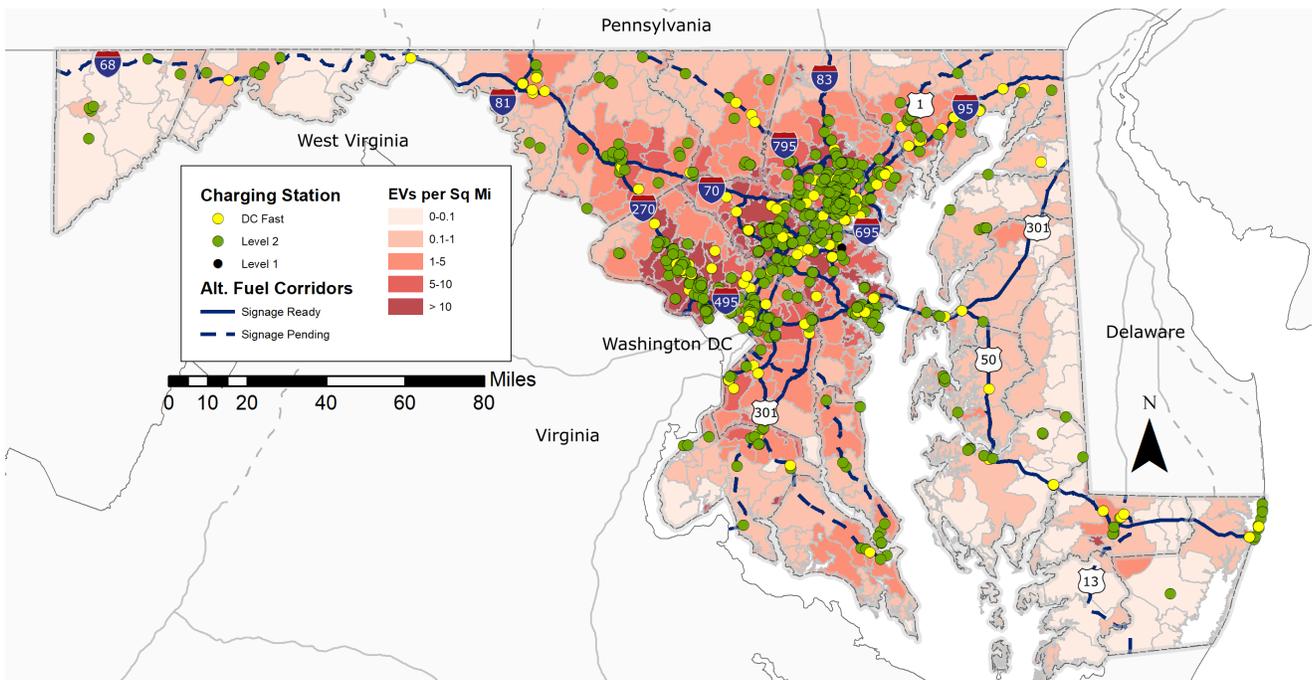
Table 2. EVSE Power Requirements, Charging Speed, and Public Availability in Maryland

EV Charger Type	Speed	Power Required	Total Outlets ¹	% of Total
Level 1	11-20 hours for full charge	120 volts	21	1%
Level 2	3-8 hours for full charge	240 volts	1,866	80%
DC Fast Charge	30 minutes for 80% charge	208-600 volts	438	19%

¹ <http://www.afdc.energy.gov/locator/stations/>

Maryland utilities have installed 88 public EVSE on government property to date, adding to the rapid growth of public charging in Maryland. Figure 4 shows the locations of the 740 EV charging stations in Maryland and the more than 2,300 public outlets.

Figure 4. Publicly Available EV Charging Stations and EV Charging Corridors





There are now nearly 200 outlets for charging vehicles installed at state-owned or -leased facilities. These charging stations are located at facilities owned or leased by MDOT, Maryland Department of Environment (MDE), Maryland Energy Administration (MEA), Maryland Department of General Services (DGS), and the University System of Maryland (USM). The [U.S. Department of Energy's Station Locator](#) is an online tool that also allows users to find charging stations.

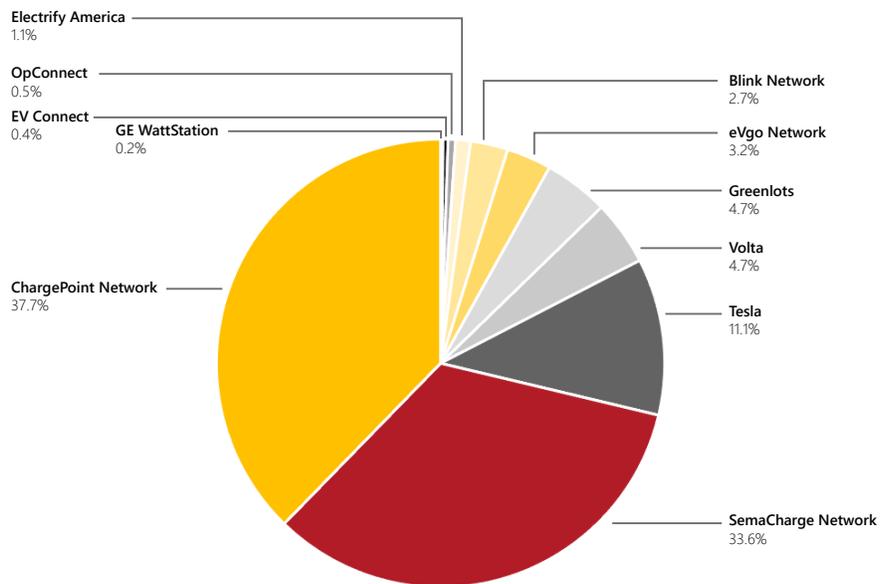
CHARGING NETWORKS

There are several charging networks now operating in Maryland. Though offerings 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 SemaConnect, and these two companies are currently responsible for approximately 71% of the available chargers statewide, as show in Figure 5.

FUEL CELL ELECTRIC VEHICLES AND HYDROGEN FUELING

There are two light-duty FCEV models available for sale in the United States, the Honda Clarity and the Toyota Mirai, although they are rarely available outside California. Most public hydrogen fueling stations are also located in California, although public stations are planned in New England. Private fleet stations are planned or are installed in Arizona, Colorado, Connecticut, Washington, D.C., Delaware, Hawaii, Ohio, New York, Massachusetts, Michigan, Pennsylvania, Texas, and Washington. The number of states with planned or installed hydrogen fueling stations has doubled in the past year. There are currently no FCEVs or hydrogen fueling stations in Maryland.

Figure 5. *Maryland's Charging Network*



ZEEVIC ACTIVITIES

ZEEVIC MEETING AGENDAS

The Council held six meetings in 2020, switching to online meetings beginning in March. Meeting dates and topics that were discussed are listed in Table 3. ZEEVIC typically meets every other month at MDOT’s Secretary’s Office and the working groups meet in the intervening months. All Council meetings are open to the public and the agendas are posted on the [ZEEVIC website](#) in advance of the meetings.

ZEEVIC has three informal working groups: Legislative, Communications, and State Agencies. Working group meetings are generally held on alternating months from full Council meetings. The working groups tackle specific issues and bring their research and recommendations to the full Council.

Table 3. 2020 ZEEVIC Meeting Topics

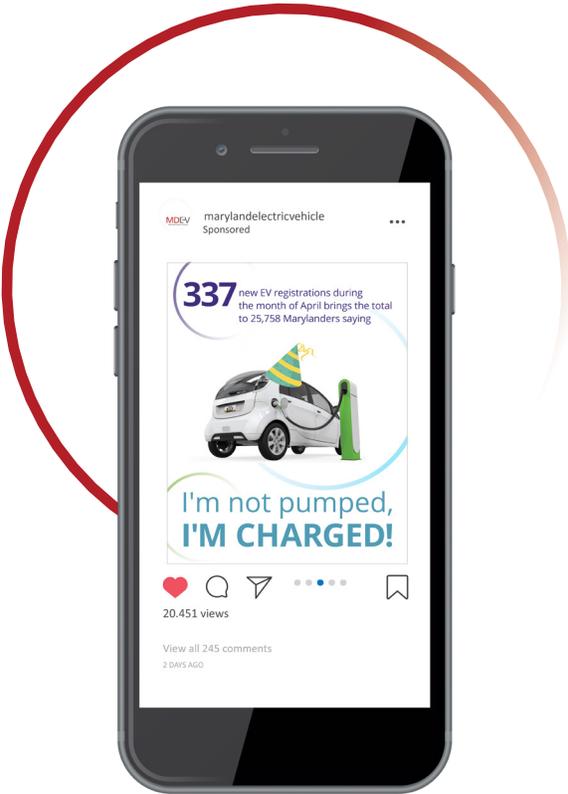
Date	Meeting Topics
01/30/2020	Annual Priorities, Legislative Update (EV Bills and Letters of Support), PSC PC44 Update, MarylandEV.org Outreach, VW Settlement Fund Grant Update, Maryland FHWA Corridor Nominations, MEA EVSE Incentives, BGE EVSE Infrastructure Update
03/19/2020	Legislative Update (Adjournment Sine Die due to COVID-19 and House Bill 231), MarylandEV.org Outreach, Baltimore Auto Show, Remote Outreach Opportunities, PSC PC44 Update, Maryland FHWA Corridor Nominations, MDOT MetroQuest EVSE Siting Tool, MDOT Local Government Emerging Technology Survey, DGS Workplace Charging Survey, Volkswagen Settlement Fund Grant Updates, PSC Utility Semi-Annual Report Updates, MEA EVSE Incentives, Annual Priorities
05/21/2020	Legislative Update (COVID-19 Update), MarylandEV.org Outreach, PSC PC44 Update, VW Mitigation Workplan, MDOT Fleet Innovation and Workplace Charging Survey, MEA EVSE Incentives, Baltimore City EV Initiatives, Utility EVSE Installation Updates
07/16/2020	MarylandEV.org Outreach, IECC EV-Ready Parking Code, Collaboration with the Maryland Commission on Climate Change, Dealership EV Outreach, MDOT Local Outreach Emerging Technologies Survey, MDOT Fleet Innovation Update, MEA EVSE Incentives, VW Settlement Fund Grant Updates, Mid-Atlantic EV Partnership, PSC Demand Charge Credit Petition, Utility EVSE Installations, DGS MetroQuest Workplace Charging Survey
09/17/2020	New ZEEVIC Members, FCEV Market and Trends, Medium- and Heavy-Duty ZEV MOU, 2021 Legislative Session Update, MarylandEV.org Outreach, National Drive Electric Week, MEA EVSE Incentives, VW Settlement, PC44 Update Regional ZEV Webinars, Volkswagen Settlement Fund Grant Update, Utility EVSE Installations, Annual Report
11/19/2020	2021 Priorities and Recommendations, Legislative Update and Handout, MarylandEV.org Outreach, Regional ZEV Webinars, MEA Incentives, VW Settlement Fund Grant Update, Utility EVSE Installations, Annual Report, ZEV MOU and Clean Truck Planning

2020 ZEEVIC PRIORITIES AND PROGRESS

In January 2020, the Council established a set of four priorities. Below are those priorities, and updates on their progress.

- Maximizing the use of grant and alternative funding opportunities for EV / EVSE in MD.
- Developing an approach to address the Right to Charge and EV Parking/ Anti-Icing.
- Ensuring EV readiness through strategic infrastructure planning that focuses on corridors, workplaces, and communities.
- Continuing education and outreach coordination with a focus on diversity and equity.





OUTREACH

MEA, MDE, and MDOT continued their coordination with ZEEVIC to increase EV awareness through an outreach effort focused on public education. The original plan for 2020 included numerous public outreach events, which were canceled due to COVID-19. Public outreach then moved largely online for the rest of the year, and the final 2020 highlights included:

- Generation of over 650 touchpoints during the Baltimore Auto Show from February 7 to February 12 and utilizing geofencing at the convention center, initiated targeted marketing efforts to those that attended the Auto Show, resulting in 62,541 impressions.
- Interaction with Maryland’s General Assembly during the March 2020 ITS Legislative Technology Fair in Annapolis, generating 23 touchpoints.
- Updates to the MarylandEV.org website with case studies and local resources. The website received over 20,000 page views in 2020.
- Deployed a social media presence and campaign on Facebook and Instagram to drive traffic to MarylandEV.org. To track social media content across ZEEVIC membership, the hashtag #MarylandEV is being used in posts. The combined MarylandEV social media campaign reached over 400,000 Marylanders in 2020.
- A number of [National Drive Electric Week](#) online events were held across Maryland in September to share information on EVs, EVSE, and EV benefits. The events included one in-person event in Annapolis with a vehicle display and several webinars.

LEGISLATIVE SUPPORT

The ZEEVIC Legislative Workgroup reviewed 16 bills, writing letters of support for 8 of them. Due to COVID-19, the 2020 Legislative Session adjourned early in 2020. Table 4 provides a summary of the letters completed and submitted.

Table 4. Letters Submitted

Letter Date	Bill #	Bill Title
2/28/20	HB 1223	Clean Cars Act of 2020
2/25/20	HB 1316	Residential Construction — Electric Vehicle Charging
3/11/20	SB 474	Vehicle Laws — Plug-In Electric Drive Vehicles — Reserved Parking Spaces
2/25/20	HB 111/SB 734	Electric Vehicle Recharging Equipment for Multifamily Units Act
2/11/20	HB 359/SB 277	Clean Cars Act of 2020 — Extension, Funding and Reporting
2/5/20	HB 232	Maryland ZEEVIC - Reporting, Membership, and Sunset Extension — PASSED

PUBLIC SERVICE COMMISSION AND UTILITIES

PSC Public Conference 44

The PC44 Electric Vehicle Work Group efforts began in early 2018 with the goal of implementing a coordinated statewide electric vehicle portfolio to address the barriers to the EV deployment, increase the efficiency and reliability of the electric distribution system, and lower electricity use at times of high demand. Order No. 88997 was issued on January 14, 2019, allowing BGE, PHI, and Potomac Edison to create residential, multi-family, and public charging programs for five-years. As of October 31, 2020, all utilities deployed EVSE. In 2020, a total of 453 rebates, totaling \$251,456, were awarded and 73 Level 2 and 15 DC fast EVSE were installed.

BGE and PHI

Discussion of the utility actions under Order No. 88997 has been on the agenda of every 2020 ZEEVIC meeting, and the utilities have been engaging members of the working groups and providing event and outreach coordination.

The [BGE](#), [Pepco](#), and [Delmarva Power](#) launched their incentive programs on July 1, 2019, accepting applications for residential and multi-family chargers. They additionally began accepting requests from potential site-hosts for their utility-owned public charging program.

To advertise the launch of these incentives, BGE and PHI created a new, joint EVsmart campaign which links to the [MarylandEV.org](#) website. Similarly, they attended the DC and Baltimore Auto Shows to promote EVsmart. In 2020, a total of 308 rebates, totaling \$199,856, were awarded and 50 Level 2 and 14 DC fast EVSE were installed by BGE. A total of 117 rebates, totaling \$43,500, were awarded by PHI, who also installed 17 Level 2 and 1 DC fast EVSE.

Potomac Edison

[Potomac Edison](#) launched its pilot program in December 2019 and announced its public charging station efforts as well as rebates and off-peak charging incentives for residential customers and rebates for multi-unit dwelling property owners. In 2020, a total of 27 rebates, totaling \$8,100, were awarded and 5 Level 2 EVSE were installed.

SMECO

[SMECO](#) launched its public charging program in Southern Maryland, installing SMECO-owned chargers over five years on public property and conducting customer EV outreach and education. In 2020, a total 1 Level 2 EVSE was installed.

MARYLAND CLEAN CARS PROGRAM AND THE ZEV MEMORANDUM OF UNDERSTANDING

Under federal law, California is permitted to promulgate vehicle emission standards that are more stringent than the national standards. Other states have the option to choose whether to follow either the national or California standards. In 2007, Maryland elected to follow the California standards and enacted the Clean Cars Program through legislation that officially adopted California's vehicle emissions standards. The program went into effect for all cars beginning with model year 2011.

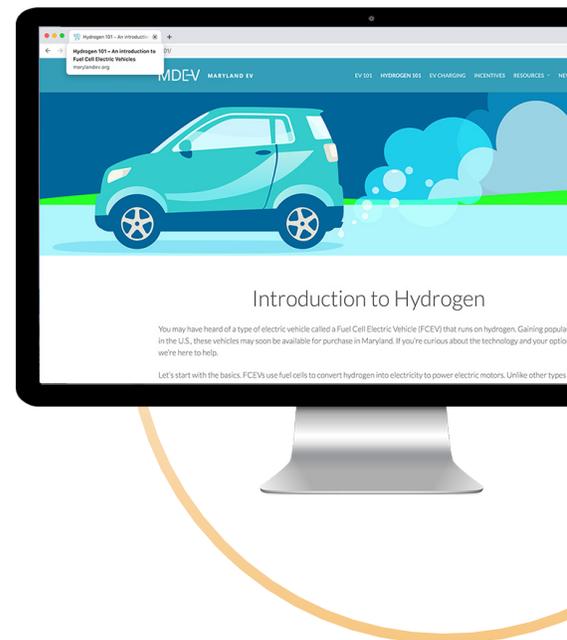
On October 24, 2013, Maryland joined seven other states (California, Connecticut, Massachusetts, New York, Oregon, Rhode Island, and Vermont) in signing a MOU committing to coordinated action to ensure the successful implementation of their state ZEV programs. As part of this effort, a Multi-State ZEV Action Plan was developed and released in 2014. This plan detailed the efforts outlined in the ZEV MOU.

To reflect the changes that have occurred since the Action Plan was released in 2014, the ZEV MOU released the 2018-2021 Multi-State ZEV Action Plan. The Northeast States for Coordinated Air Use Management (NESCAUM), released the following description of the 2018-2021 Action Plan:

The Action Plan, which builds on the successes and lessons learned from implementation of an earlier 2014 ZEV Action Plan, presents 80 market-enabling action recommendations for states, automakers, dealers, utilities, charging and fueling companies and other key partners to rapidly accelerate mainstream consumer adoption of ZEVs, PHEV, BEV, and FCEV.

Many of the 2014 Action Plan recommendations have been successfully implemented or are under way. For example, Task Force states have:

- Enacted ZEV purchase and infrastructure incentive programs;
- Launched a first-ever jointly funded state/industry brand-neutral consumer outreach and education campaign;





- Established a state/dealership work group to foster collaboration with dealers;
- Opened public utility commission proceedings to consider utility and other transportation electrification programs; and
- Partnered with automakers on a “Collaboration for ZEV Success” to accelerate ZEV adoption.

While many of the recommendations in the 2014 Action Plan remain valid today, the new Action Plan represents a redoubling of state efforts to accelerate electrification of the light-duty vehicle market, and recognition of the important role that public-private partnerships involving the automakers, dealers, utilities, and others play in the effort. Recommendations for states and other key partners in the updated Action Plan are 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 ZEV MOU/MARYLAND CLEAN TRUCK PLANNING FRAMEWORK

Along with 14 other States and DC, Maryland signed on to a MOU to support the deployment of MHD ZEVs through the involvement in a Multi-State ZEV Task Force. By mid-2021, the Task Force will develop 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. In November 2020, MDE, MDOT, and MEA began conducting outreach to engage Maryland stakeholders in the Clean Truck Planning Framework and inform the Multi-State ZEV Task Force Action Plan.

MID-ATLANTIC ELECTRIFICATION PARTNERSHIP

The Mid-Atlantic Partnership won a \$6 million grant for the development of 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 Greater Washington Region Clean Cities Coalition, is leading Maryland’s efforts. Partnership work began in October 2020 and will continue for 3 years.

REGIONAL ZEV WEBINARS

MDOT, MEA, and MDE hosted four Maryland ZEV Collaboration Webinars in October 2020. The first three webinars focused on ZEV infrastructure and opportunities in the regions of Western Maryland, Eastern Shore and Southern Maryland, and the Central region. The final webinar focused on sharing findings from the three regions and facilitating a statewide conversation about next steps for ZEV adoption. Approximately 160 individuals participated in one of the regional webinars or in the final statewide webinar.

LOCAL GOVERNMENT EV SURVEY

In October 2019, MDOT, in coordination with ZEEVIC, launched the Maryland Local Government EV Survey using MetroQuest. The survey, completed by 51 participants, gathered input from MPOs, counties, and local municipalities on their experience with EVs, EVSE, and EV Chargers. Participants identified challenges in installing ZEV infrastructure, their knowledge of EVs and EV infrastructure, and future plans and opportunities in their region. The MPOs, counties, and local municipalities identified 79 optimal sites for ZEV infrastructure as well as 35 planned stations. MDOT will use the information to fill in gaps in the infrastructure network and support the growth of EV and EV infrastructure in Maryland. Figure 6 shows survey results, and Figure 7 shows recommended sites.

Figure 6. EVSE Challenges Survey Results

Below: Each ranking item, showing how often each item was ranked in each position, ordered by average. Note that 1 is the highest rank.

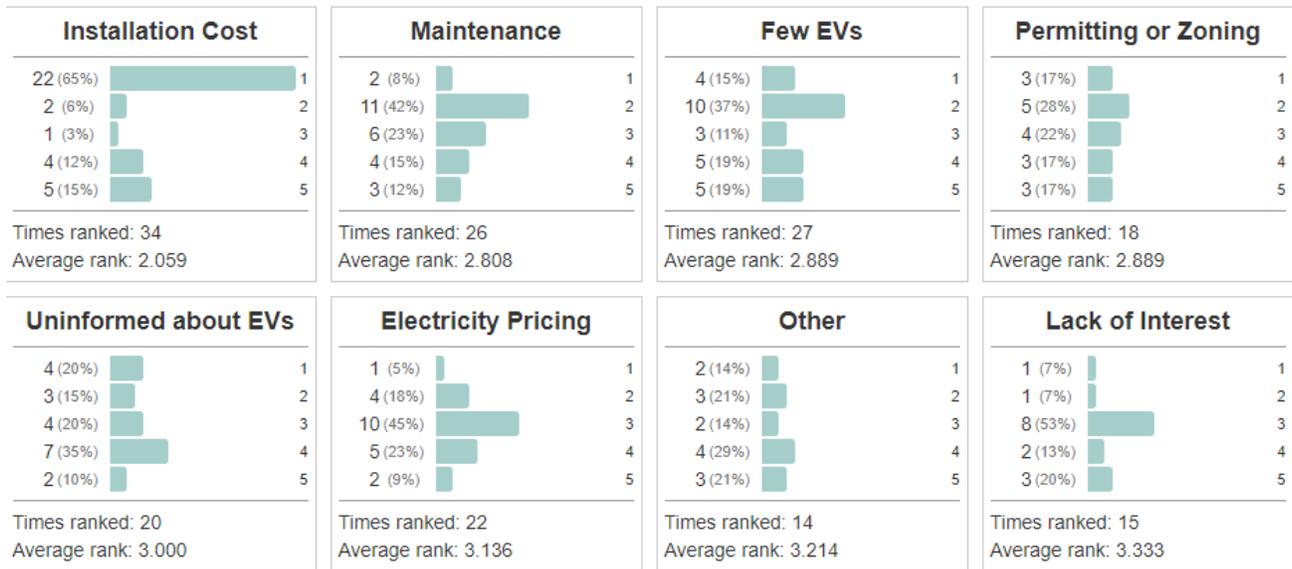
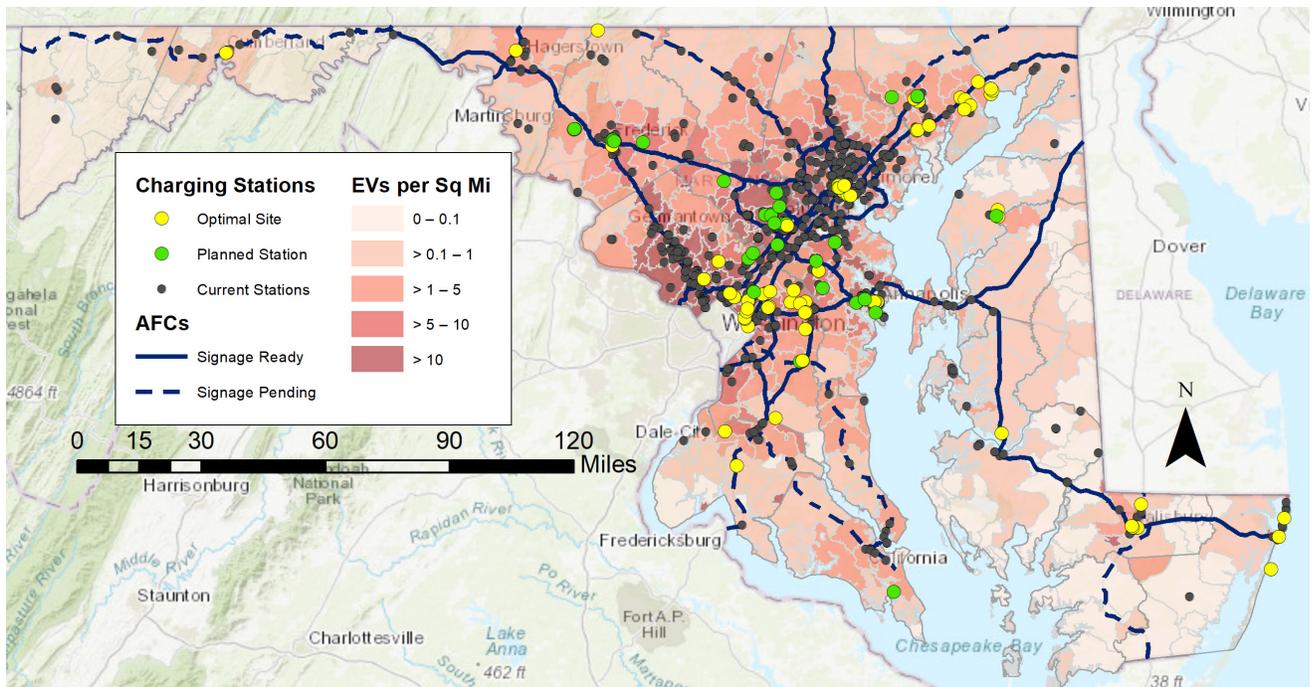


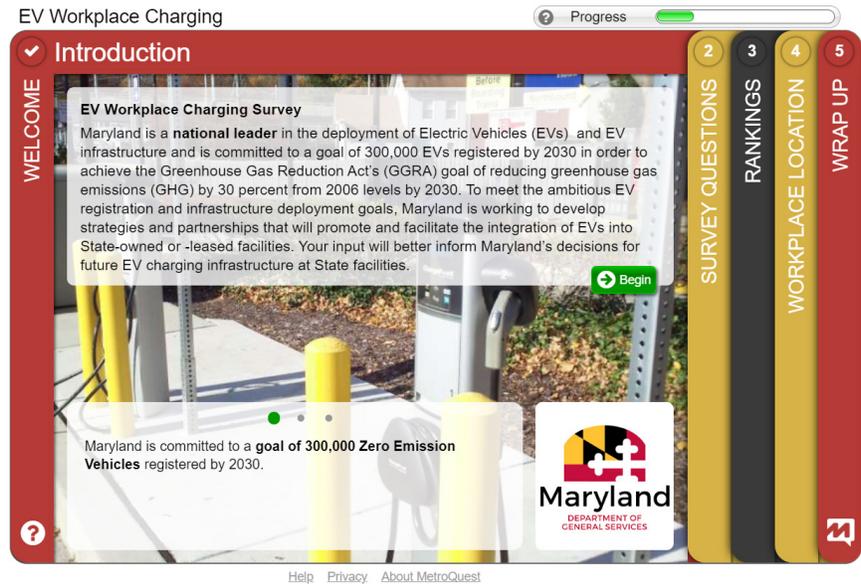
Figure 7. Identified Planned Stations and Optimal EVSE Sites



STATE WORKPLACE CHARGING SURVEY

In March 2020, the DGS, in partnership with MDOT, launched the EV Workplace Charging Survey. The survey targets state employees and seeks to identify opportunities for and interest in charging at state-leased and -owned facilities. The survey gathers information on EV ownership, EV use, charging availability at the workplace, cost to charge, and potential strategies to encourage EV use. The survey will also identify current workplace location and whether charging is available. Thus far, 482 state employees have participated.

Figure 8. Screen Shot of Online EV Workplace Charging Survey

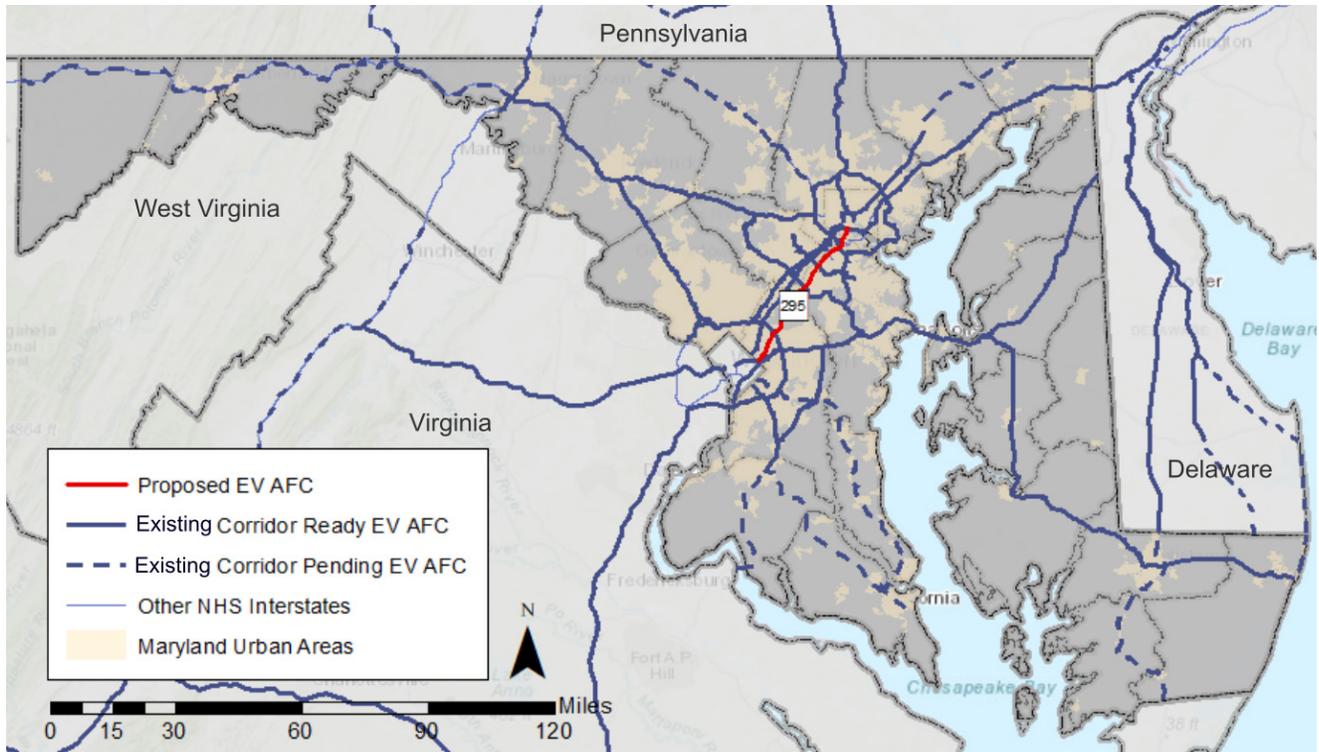


ALTERNATIVE FUEL CORRIDORS AND SIGNAGE

In February 2020, MDOT, supported by the Baltimore City Department of Transportation, the National Park Service, and other local and regional planning partners, submitted a nomination to the FHWA to designate MD 295 as an EV-AFC. The MD 295 corridor, as shown in Figure 9, builds on the existing network of EV-AFCs in Maryland and provides an important link in the regional AFC network by extending the current I-295 EV Corridor, designation in Washington D.C., into Maryland. The corridor also serves as a major north-south route, linking Baltimore and Washington, D.C. centers of employment and intermodal facilities. FHWA accepted MDOT's nomination, bringing Maryland's total number of designated AFCs to 21.



Figure 9. Maryland's 2020 Alternative Fuel Corridor Nomination



In March 2020, MDOT requested a designation change for I-70 from Hagerstown to the Maryland-Pennsylvania border from Corridor-Pending to Corridor-Ready. The AFC now meets the criteria established by FHWA to be considered Corridor-Ready. FHWA accepted MDOT's request. In addition, portions of I-795, US 1, MD 140 and MD 5/MD 235 have been identified as part of FHWA's Corridor Refresh Program for a change in designation from Corridor-Pending to Corridor-Ready. The change still needs to be finalized.

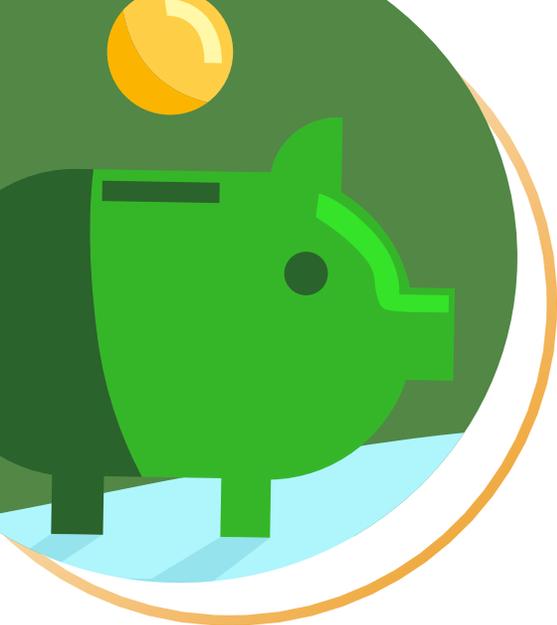
MDOT is working to finalize the Maryland Electric Vehicle Service Equipment Signage Plan. The plan will be one of the first EV signage plans completed in the country and will provide guidance on the acquisition, installation, placement, and maintenance of EV signs. The plan will also identify stations that currently have signage, stations without signage as well outline MDOT's prioritization process for the installation of signage in the future.

MARYLAND INFRASTRUCTURE PROMOTION

In accordance with the Council's Statewide Infrastructure Plan recommendations, MEA administers several transportation incentive programs designed to accelerate the adoption of PEVs and the installation of EVSE.

Alternative Fuel Infrastructure Program

The Alternative Fuel Infrastructure Program (AFIP) was created to increase the availability of alternative refueling infrastructure, including EVSE and hydrogen. The DC Fast Charging stations require a minimum 50% match and are eligible for a maximum award of \$55,000 per station. Hydrogen fueling equipment also requires a 50% match and are eligible for a maximum award of \$300,000 per station. In FY 2020, MEA awarded approximately \$313,000 for 6 fast chargers at 73 locations. Charger installations took place throughout 2019 and 2020. The FY 2020 AFIP application opened July 1, 2019 and closed December 31, 2019. In February 2020, the first fully converted gasoline-to-electric fueling station opened that was funded by a FY 2018 AFIP award.



MEA and Maryland Clean Cities helped support three EV projects responding to DOE funding opportunity announcements. All three EV projects were awarded funding. The projects being supported are Multi-Unit Dwelling EV Charging Innovation Pilots led by Center for Sustainable Energy, an EV data collection project led by Energetics, and a Mid-Atlantic Electric School Bus Experience Project led by Virginia Clean Cities.

Clean Fuels Incentive Program

The [Clean Fuels Incentive Program](#) (CFIP) was created to reduce consumption of imported petroleum through the use of alternative fuels. CFIP provides funding for DC Fast Charger and hydrogen stations and zero-emission fleet vehicles. The FY 2020 AFIP application opened September 15, 2020 and will close December 15, 2020. Grants are available in the following amounts shown in Table 5.

Table 5. CFIP Grant Amounts

AFV Technology	Vehicle Class	Maximum Grant Award per Vehicle
Battery- and plug-in hybrid electric vehicles	Class 1-2	\$5,000
	Class 3-8	\$50,000
Natural Gas, Propane, Biodiesel, Hydrogen	Class 1-2	\$7,500
	Class 3-8	\$50,000

MARYLAND SMART ENERGY COMMUNITIES

The Maryland Smart Energy Communities (MSEC) program provides local governments funding for light-duty fleet EVs and fleet EVSE. In FY 2020 \$200,000 was awarded to 8 communities. The MSEC application closed on November 13, 2020.

Electric Vehicle Excise Tax and EVSE Rebate Incentives

Maryland provides a rebate program for the installation of charging infrastructure. Rebates are available for up to 40% of the purchase and installation price of the EVSE and are capped at the following amounts:

- Residential: 40% up to \$700
- Commercial: 40% up to \$4,000
- Retail Service Station: 40% up to \$5,000

There is a total of \$1.8 million available for FY 2021. As of November 2020, 665 rebates totaling \$594,600 have been issued. Since 2015, over \$4 million in rebates have been distributed across the state. This incentive was extended through 2020. The legislation adjusting and extending the credits is listed in [Appendix D](#).

Maryland previously offered an excise tax credit of the lesser of the vehicle excise tax or \$3,000 for PEVs or FCEVs with a purchase price below \$63,000. This incentive expired in June 2020.

Local Fleet Support

MEA opened a [Clean Fuels Technical Assistance \(CFTA\) Program](#) in 2020, a new pilot, test-of-concept program which aims to provide eligible local government and municipal fleets with technical assistance as they consider alternative transportation fuel options for their on-road fleet. Through CFTA, a technical assistance contractor worked directly with eligible fleets for the purpose of developing potential alternative fuel fleet strategies for on-road vehicles. These possible strategies will be identified in a summary report for each participating fleet in 2021.

VOLKSWAGEN SETTLEMENT

In the fall of 2016, VW settled a case filed by the Environmental Protection Agency (EPA) alleging that VW violated the Clean Air Act with regards to approximately 580,000 vehicles, model years 2009 to 2016 with 2.0 and 3.0-liter diesel engines, agreeing to pay \$14.7 billion. The VW vehicle computers contained algorithms that caused the emission control system of those vehicles to perform differently during normal operations than during emission testing. The vehicles were emitting NOx emissions under normal operating conditions significantly in excess of EPA compliance levels.

The settlement is divided into three pools of money, the Environmental Mitigation Trust (EMT), the ZEV Investment, and Consumer Vehicle Buyback and Modification. The breakdown of funding is illustrated in Figure 10.

Table 6. Volkswagen Settlement Funding in U.S. (billion \$)

Sources	Billion \$
Vehicle buyback and modification (consumers)	10.0
ZEV investment (national and CA)	2.0
Environmental Mitigation Trust	2.7

Environmental Mitigation Trust

MDE was designated as the Lead Agency to administer these funds in Maryland. In 2018, MDE worked with MEA and MDOT and released a draft work plan for use of the EMT funds as defined in Appendix D-2 of the settlement. The EMT funds are primarily designed to offset the excess emissions caused by the VW vehicles equipped with defeat devices. MDE estimates that these vehicles emitted between 575 and 1,730 tons of excess NOx emissions in the State. The primary method for achieving these goals is by reducing emissions from heavy-duty diesel vehicles and accelerating the introduction of EVs in this segment. Up to 15% of the allotted funds may be used for the installation of light-duty, public EVSE. Maryland has been allocated approximately \$75.7 million under the EMT, and in the draft plan, allocates the full 15% (\$11.3 million) for the installation of EVSE.

Proposals for eligible mitigation projects under the diesel vehicle replacement portion of the EMT were due May 6, 2019. MDE received over 40 proposals. Currently, MDE and the VW Trustee have approved approximately 40 projects for funding. MDE is working on finalizing contracts for each project. The lifetime NOx reductions for these projects are expected to exceed 3,000 tons, far exceeding the excess lifetime NOx emissions for the VW vehicles installed with defeat devices. MDE expects to have additional funds available for certain categories and plans to reopen these categories for proposals in the spring of 2021. Concurrently, MDE and MEA are developing the framework for the light-duty EV infrastructure component.

As noted above, \$11.3 million has been allocated for these projects. The focus of this funding will be on workplace charging, state-owned properties, and corridor/hub sites. The draft framework documents were released for a 30-day comment period on September 10, 2020. MDE and MEA are in the final stages of evaluating the comments and revising the framework documents and expect to start accepting proposals in December 2020.

More information on the draft plan and proposals can be found at <http://www.mde.state.md.us/programs/Air/MobileSources/Pages/MarylandVolkswagenMitigationPlan.aspx>



ZEV Investment

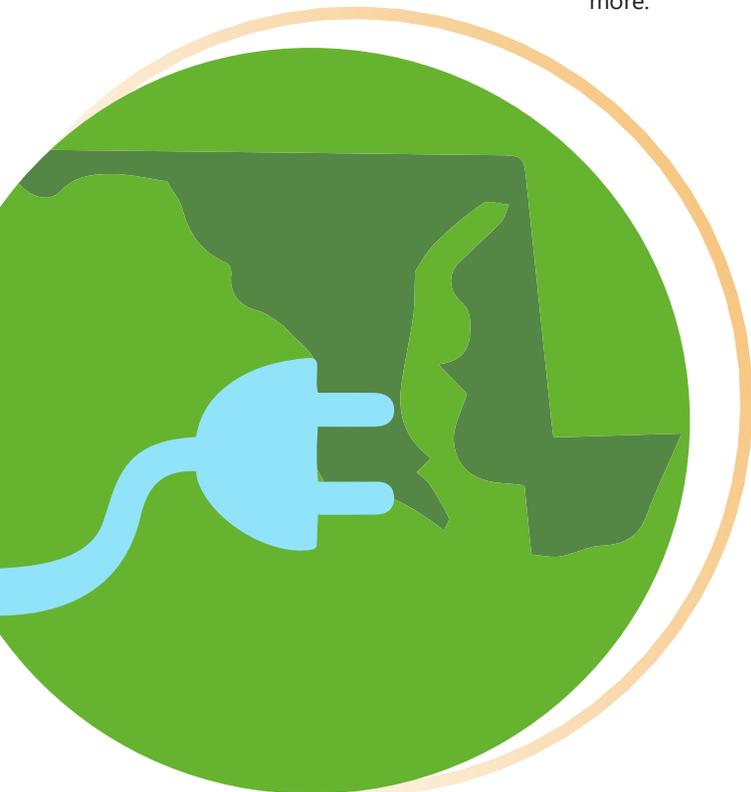
Appendix C of the settlement established Electrify America, a nationwide ZEV investment program which provides a total of \$2 billion to install EVSE and conduct brand-neutral outreach efforts. The program specifies that \$800 million will be dedicated to California projects and \$1.2 billion will be available for the rest of the Country. The funding will be implemented in 30-month increments of \$300 million per period, and in 2020 launched its third cycle. Funds must be fully spent within 10 years. In 2016 , VW launched their website, www.electrifyamerica.com, for management of this program.

TRANSPORTATION CLIMATE INITIATIVE

The Transportation and Climate Initiative (TCI) is a collaboration of the transportation, energy, and environment agencies of the 11 Northeast and Mid-Atlantic states and DC. Through its Clean Vehicles and Fuels Work Group, state agency participants have shared best practices and coordinated multi-state initiatives to facilitate the deployment of EV charging infrastructure and other alternative fueling stations. Maryland continues to be an active participant in the work group which supports the mass-market deployment of clean vehicles, and to maximize the economic opportunities that these vehicles can bring to our region. Maryland is also actively participating in the ongoing development of a regional policy for low-carbon transportation.

GREENHOUSE GAS REDUCTION ACT AND MARYLAND COMMISSION ON CLIMATE CHANGE

The Greenhouse Gas Reduction Act (2016 Amendment) requires the state to develop plans, adopt regulations, and implement programs to reduce greenhouse gas (GHG) emissions by 40% from 2006 levels by 2030. Innovative and widespread vehicle technology improvements, including the proliferation of PEVs, will be vital to reducing transportation sector emissions and meeting Maryland's GHG reduction goals. The Maryland Commission on Climate Change (MCCC) reaffirmed this importance in its [2020 Annual Report](#), which recommends specific actions related to meeting the State's ZEV goals and projections. ZEEVIC is already working to accomplish these actions, through outreach to underserved communities, case studies to support multi-family charging installations, and more.



RECOMMENDATIONS

POLICY RECOMMENDATIONS

ZEEVIC supports three policy recommendations, (1) the right to charge, (2) ZEV parking, and (3) ZEV-ready building codes. ZEEVIC has been working diligently in these areas and, as illustrated in this report, has made progress. ZEEVIC will continue to pursue these recommendations in 2021. ZEEVIC will update educational materials on these three issues for policy makers.

ADDITIONAL RECOMMENDATIONS

Future Development and Research

ZEEVIC recommends continuing to harmonize efforts with the PSC. Utility education and marketing campaigns, authorized under Order No. 88997, are five-year programs, so coordination, and not duplication, of efforts will remain crucial. There are several recommendations for areas that warrant further research and analysis:

- Developing a better understanding of the environmental and economic opportunities that can be realized through the growth of BEV ownership and EVSE installation in Maryland.
- Ensuring EV readiness by finding an appropriate balance between home/workplace/public charging infrastructure.
- Developing a better understanding of the needs of underserved communities within the context of EV deployment, particularly the needs of charging at multi-family units.

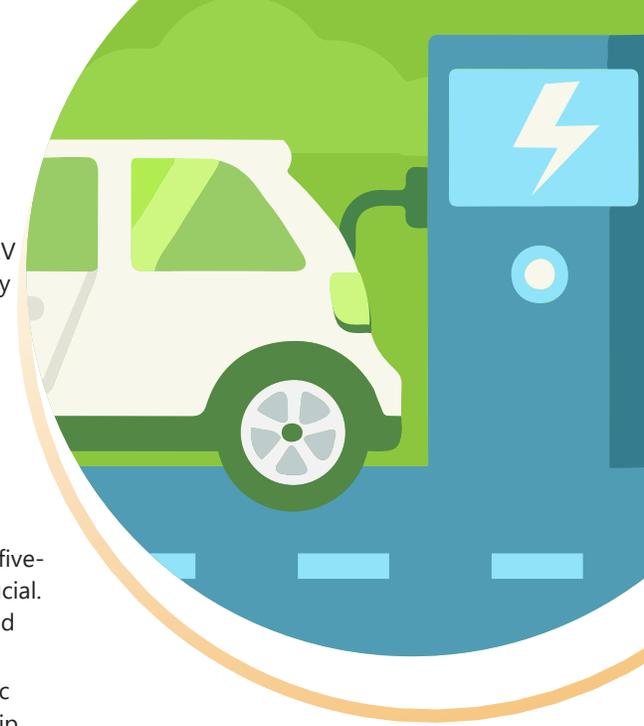
Affiliated ZEV Efforts

ZEEVIC will continue to explore and make recommendations on ZEV affiliated issues, such as connected and autonomous vehicles (CAVs), low-speed vehicle access, and electric scooter and electric bike programs.

Communications

ZEEVIC has provided guidance and support for several important communications working group efforts, including: the launch of a social media campaign, new content on the MarylandEV.org website, new languages for materials, and the continued dedication to direct public outreach. To maintain the momentum generated by this year's accomplishments:

- Broaden our scope to incorporate more local and regional partnerships, particularly with respect to public outreach and online digital materials.
- Develop a dashboard for tracking EV and EVSE related data on the ZEEVIC and/or MarylandEV.org websites.
- Coordinate with the MCCC Education, Communication, and Outreach (ECO) Work Group to develop messaging and outreach materials drawing on both groups' efforts.



APPENDIX A.

ZEEVIC MEMBERSHIP 2020

Group Represented	Name
Secretary of Transportation (MDOT)	R. Earl Lewis, Jr. , Deputy Secretary (Council Chair)
Academic Community; a Maryland institution of higher education with expertise in energy, transportation, or the environment (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 (1)	Robert Wimmer , Director, Toyota
FCEV Infrastructure Equipment Manufacturer (1)	Joe Alfred , Ally Power Inc.
Fleet Operators (1)	(VACANT)
Electrical Workers (1)	Michael A. Wall , Clinton Electric Company
Environmental Community (2)	Scott Wilson , Electric Vehicle Association of Washington D.C.
	(VACANT)
Public, with expertise in energy or transportation policy	Paul Verchinski
New vehicle dealer association (1)	(VACANT)
Senator (1)	Clarence K. Lam, M.D. , District 12 Baltimore and Howard Counties
Delegates (2)	William Wivell , District 2A, Washington County
	David Fraser-Hidalgo , District 15, Montgomery County
Maryland Department of Planning	Bihui Xu , Transportation Planning
Secretary of the Environment	Benjamin Grumbles
Secretary of Commerce	Kelly Schulz
Technical Staff of the Maryland Public Service Commission	Kevin Mosier , Wholesale Markets Liaison
Maryland Energy Administration	Mike Jones , Transportation Program Manager

APPENDIX B. STATUS OF 2012 ACTION PLAN AND RECOMMENDATIONS

The status of each of the 32 recommendations in the 2012 EVIC report is given below. The recommendations are grouped by theme and include the following details:

- The initial (2012) phase of the recommendation:
- Phase I: results in little to no immediate fiscal impact and could be undertaken swiftly pending shifts in policy;
- Phase II: requires substantial new funding and may have to be implemented over several years as funding becomes available;
- Phase III: exhibits potential for significant benefits but requires additional study and/or resources.
- Whether or not any legislation is required to implement the recommendation.
- The working group that the recommendation has been referred to.
- Details on any future action(s) required.

Coordinated Action	
	A coordinated effort to promote PEV adoption will require continued oversight and management. It is recommended that EVIC be continued beyond its current sunset date of 6/2013.
1	Phase I
	Legislation Required Y HB232 extended EVIC until June 2026
	Refer to Workgroup Not at this time.
	Future Action Required SB714 requires interim reports on December 1st of each year and a final report of EVIC's work and recommendations by June 30, 2026.
	Creation of an Urban/ Workplace Charging Task Force to study the issues and opportunities presented by workplace and urban charging and develop solutions and best practices.
2	Phase I
	Legislation Required N
	Refer to Workgroup Workplace / Urban Charging Workgroup Existing Workplace Charging Committee will now include efforts related to urban charging.
	Future Action To be determined through workgroup.
	Creation of a State Agency Task Force to develop policies for PEV charging at State facilities by State employees, including the use of existing electrical outlets where feasible.
3	Phase I
	Legislation Required N
	Refer to Workgroup State Agency Workgroup
	Future Action State Agency Workgroup meeting regularly to implement recommendation.
	Dedicated staff should be identified to implement the recommendations of EVIC.
4	Phase I
	Legislation Required N
	Refer to Workgroup State Agency Workgroup
	Future Action To be determined through workgroup.

Policy Changes

5	The State should place increased emphasis on the electrification of transportation, and its accompanying potential for energy storage and peak load management, as a specific component of the State's overall energy goals. Several aspects of current state policy are technically in conflict with the goal of expanded PEV adoption. The mandates of State programs and funding sources directed toward petroleum use reduction, GHG emissions reduction, and/or support for renewable energy, including the programs of instrumentalities such as the Maryland Clean Energy Center, should be realigned where necessary to ensure support for the advancement of Electric Vehicles.	
	Phase	I
	Legislation Required	TBD
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	To be determined through workgroup. Informal discussions on this have taken place w/ DGS.
6	Institute goal for state agencies that the state vehicle fleet increase the number of its zero-emission vehicles through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles be zero-emission by 2020 and at least 25 percent of fleet purchases of light-duty vehicles be zero-emission by 2025. This directive shall not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare. DBM should be directed to investigate:	
	<ul style="list-style-type: none"> • Potential for leasing PEVs • Bulk purchase agreements, with local government • Bulk purchase or lease agreements with the NE corridor states. 	
	Phase	I
	Legislation Required	TBD
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	To be determined through workgroup. Informal discussions on this have taken place w/ DGS and MDE drafted an executive order.
7	Integration of EVs into State and regional plans and policies: State government should promote EVs through engaging all levels of government in a collaborative approach to EV-friendly plans and policy development consistent with State and Local Smart Growth goals. Policy should include integration of EVs and infrastructure planning into existing regional and local planning processes, such as regional transportation plans, regional (nonattainment area) action plans, local comprehensive plans, zoning, building and other related ordinances and regulations.	
	Phase	I
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	Workshops have been held at Baltimore and Washington, DC MPOs. Future actions to be determined through workgroup.
8	The PEV Excise Tax Credit expires July 1, 2013. EVIC recommends:	
	<ol style="list-style-type: none"> The legislature extended the statute expiration date to July 1, 2016 Remove the 10-vehicle limit placed on businesses Consider turning the credit into a point of purchase rebate to reduce the consumer's cash outlay Consider expanding beyond the 8,500-pound weight limit 	
	Phase	I - II Recommendation a. is Phase I. Recommendations b.-d. are Phase II.
	Legislation Required	Y Excise tax credit was extended to 2020
	Refer to Workgroup	Legislative Workgroup
	Future Action Required	TBD – Tax credit extended.

continued

Policy Changes

9	Regarding the PEV Charging Station Income Tax Credit, EVIC recommends: a. Extend the program for an additional 3 years b. Remove the 30-tax credit limit imposed in the statute (per year cap on stations)	
	Phase	I - II Recommendation a. is Phase I. Recommendations b. is Phase II.
	Legislation Required	Y PEV charging station tax credit was changed to a rebate and extended to 2020. Legislation required to remove the cap under item b.
	Refer to Workgroup	Legislative Workgroup
	Future Action Required	To be determined through workgroup.
10	Support extension of the Federal Section 30C tax credit for alternative fuel infrastructure. The IRS Code Sec 30C alternative fuel vehicle refueling property credit (commonly referred to as the infrastructure or 30C credit) originally provided 30 percent of the cost of any property for storing (at the point of dispensing) or dispensing alternative fuel placed in service after 2005 and before the end of 2009. These credits were extended through 2011.	
	Phase	I Was extended through the end of 2016.
	Legislation Required	Y
	Refer to Workgroup	Legislative Workgroup
	Future Action Required	To be determined through workgroup.
11	Extend the HOV lane Use Permits to 2020, continuing the caveat to consult with SHA on potential congestion management	
	Phase	I Was extended to 2022.
	Legislation Required	Y
	Refer to Workgroup	Legislative Workgroup
	Future Action Required	TBD – exemption extended to 2022.
12	Multi-dwelling Unit Charging Grant Program: Establish a grant program to assist in the funding of EVSE equipment, installation & initial procurement of transaction management software for Multi-Unit Dwellings	
	Phase	II Was addressed.
	Legislation Required	Y
	Refer to Workgroup	Legislative Workgroup
	Future Action Required	To be determined through workgroup.

Outreach & Education

13	Adopt a specific symbol or logo to identify State funded or supported EV equipment, technology or materials, i.e., a State EV website, posters, newsletters, materials etc. This logo would be prominently displayed on State Fleet Vehicles that are EV, as well as on any EV License Plate or decal that may be developed for any state use.	
	Phase	I
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	Continue use of MDEV logo at outreach events.
14	A state website should be developed for Maryland-specific EV info on any incentives, regulations, programs, plus links to other EV sites. Website can be used to promote any related state priority, such as choosing renewable energy for consumers' electricity generation.	
	Phase	I
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	Revised MDEV website in development.

continued

Outreach & Education

15	It is recommended that educational workshops or webinars be conducted for developers, property managers and homeowner associations about the benefits of providing charging. These should provide information about best practices and implementation of charging programs, cover applicable regulations, incentives, real world costs of installation, most cost-effective options, possibilities for using renewable energy in support of charging, and the types of chargers and management services available. Workshops should provide models for dealing with allocation of electricity and maintenance costs, reservation of parking spaces, installation issues, and policies for visitor use. Workshops should also provide a showcase for charging and management service businesses active in Maryland. Workshops/webinars could be provided through partnership with EV non-profits.	
	Phase	II
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup to follow-up with Education & Outreach Workgroup
	Future Action Required	To be determined through workgroup(s).
16	It is recommended that a series of documents be developed to provide guidance on charger installation, management and regulation. The Transportation and Climate Initiative (TCI) and others have produced guidance documents that could be the basis of MD documents, along with the findings of EVIC. EV Infrastructure Planning Guide for Local Governments: to include model documents for permitting, siting and design, building codes, and zoning, including historic district overlays, and parking ordinances. Guidance Document for Local Governments on the issues and complexities of providing urban charging and potential solutions. Document on Charging in the Urban & Multi-unit Setting: To include best practices in the implementation of charging programs. Cover applicable regulations and incentives, real world costs, most cost-effective options, possibilities for using renewable energy in support of charging, charger types and management services available. Provide models for allocation of electricity and maintenance costs, reservation of parking spaces, and policies for visitor use. Should include templates or "sample policy" documents that homeowner and condo associations, apartment complexes, etc. can use in adopting their own policies.	
	Phase	I
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	To be determined through workgroup. TCI and other applicable guidance documents have been posted to EVIC resources website.
17	Outreach Materials should be developed, i.e. brochures, presentations, e-newsletter, and webinars on sub-topics.	
	Phase	II
	Legislation Required	N
	Refer to Workgroup	Education & Outreach Workgroup
	Future Action Required	To be determined through workgroup. Include State efforts / coordinate with State Agency Workgroup.

Promotion of Infrastructure: State Charging Stations

18	The State should promote, through new and existing programs, and incentives, and in conformance with the State's goals for Smart Growth, the establishment of adequate EV charging infrastructure to support a goal of 60,000 EVs on the road by 2020.	
	Phase	I
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	To be determined through workgroup. Include target of 300,000 EVs by 2025.

continued

Promotion of Infrastructure: State Charging Stations

	There are currently seventy-three charging stations accessible by the public installed at state facilities. The Council recommends that the State monitor the installation of private sector charging facilities across the state and continue to add charging infrastructure at state facilities in areas that are underserved.	
19	Phase	I
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	Workgroup is coordinating with DBM and other State agencies to monitor the total of state and private sector charging installations.
	The Council recommends that the State retain the data collection software and continue to allow public access to these charging stations, free of charge until June 30, 2014. In the interim, host agencies shall collect data on the usage of the stations and the amount of electricity used in order to facilitate planning for future installations, electrical infrastructure and cost recovery. Utilization data will be available to the public.	
20	Phase	I
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	To be determined through workgroup.

Promotion of Infrastructure: Urban Charging Infrastructure

	In urban areas state and local officials, along with utilities, business organizations and property managers should discuss options for wiring existing garages for charging. Garage managers could then incorporate that service into long-term parking agreements with urban area employers.	
21	Phase	I
	Legislation Required	N
	Refer to Workgroup	Workplace / Urban Charging Workgroup
	Future Action Required	To be determined through workgroup.
	Urban Demonstration Projects: a.) Work with a local county or municipality to install and make available charging stations in government parking garages for urban resident charging. b.) Work with county or municipality to identify off-street outdoor parking locations where local resident PEV charging can be provided (Level 1 and Level 2). c.) Work with a business or institution to make Level 1 and/or Level 2 PEV charging available to nearby residents. d.) Work with a multi-unit dwelling owner or property manager to make Level 1 and Level 2 charging available for one or more spaces in a shared parking facility and arrange for tracking and billing for electricity usage by residents.	
22	Phase	II
	Legislation Required	N
	Refer to Workgroup	Workplace / Urban Charging Workgroup
	Future Action Required	To be determined through workgroup. Several local governments have charges in municipal garages.

Charging Solutions

	Revision of Zoning and Planning Codes: Municipal zoning and planning codes should be amended to permit and regulate on-street PEV charging, require PEV parking spaces in new developments and re-development initiatives and include siting and design guidelines for PEV charging stations, Level 1 outlets and parking spaces.	
23	Phase	NA
	Legislation Required	Y
	Refer to Workgroup	Legislative and Education & Outreach Workgroups
	Future Action Required	To be determined through workgroup(s). Potential example from Montgomery County.
	Historic District Restrictions: State and local zoning and historic district codes should be reviewed for the existence of provisions that could effectively prohibit the installation of PEV charging stations and outlets in historic districts or in close proximity to historic properties. The adoption of code amendments that prohibit unreasonable restrictions on the installation of charging equipment in historic districts while conforming to the federal requirements may be necessary to ensure the location of an adequate number of charging stations and outlets in these communities. Reasonable alternatives, such as siting charging in adjacent public and/or business parking areas should be considered and encouraged.	
24	Phase	NA
	Legislation Required	Y
	Refer to Workgroup	Legislative and State Agency Workgroups
	Future Action Required	To be determined through workgroup(s).
	On-Street Parking: Building on the municipal parking permit model for residential on-street parking, local government-owned and maintained PEV charging stations (Level 2 charging) and 120V outlets (Level 1 charging) can be installed and made available in designated on-street spaces for use by residents who purchase a PEV upgrade to their on-street parking permit.	
25	Phase	NA
	Legislation Required	N
	Refer to Workgroup	Legislative and Workplace / Urban Charging Workgroups
	Future Action Required	To be determined through workgroup(s).
	Measures to Discourage Overstaying: There are a number of possible measures that, if adopted, can discourage overstaying. Limiting the number of hours a car can occupy the parking space, with associated fines, is one option. Rate structures can also be an effective disincentive. Usage of a pricing mechanism that is based on hourly rates and charges progressively higher rates once the vehicle is fully charged, alone or in combination with the automatic assessment of additional "inconvenience fees," is another option that could encourage drivers to move their vehicles once they are fully charged.	
26	Phase	NA
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	Suggested this measure be tabled for the time being.
	Charging and Metering Configurations: To address challenging parking and metering configurations at multi-dwelling unit properties property owners and managers should consider the addition of Level 2 chargers at unassigned shared parking spaces in configurations that maximize the number of spaces that the charging cord can reach.	
27	Phase	NA
	Legislation Required	N
	Refer to Workgroup	None
	Future Action Required	Recommendation to be removed as it is no longer relevant

continued

Charging Solutions

	Clustering Level 1 Charging: Assigned parking spaces can be reassigned to locate parking for PEV drivers in clusters close to 120V outlets.
28	Phase NA
	Legislation Required N
	Refer to Workgroup None
	Future Action Required Suggested this measure be tabled for the time being due to technology.
29	Allocation of Costs and Responsibility for Installation and Maintenance of Charging Stations: Installing necessary panel and wiring upgrades and maintaining the PEV equipment in good repair, and tracking and paying for the electricity usage is a threshold issue for all multi-dwelling unit residents and property owners. The following strategies should be considered: Use of a business model in which a charging station provider, at its own expense, installs, maintains and owns the charging station and rebates the cost of electricity usage back to the property owner. The PEV owner pays for access to charging in the network through a monthly membership fee. (www.PEVgonetwork.com) Installation of charging stations by the property owner who recovers the cost of the station and electricity usage through add-ons to leases or, in condominiums or cooperatives, through a special assessment for PEV drivers. Future State and/or local government programs to support the installation of PEV charging in these more challenging environments and reduce the cost to the property manager/owner.
	Phase NA
	Legislation Required N
	Refer to Workgroup None
	Future Action Required Suggested this measure be tabled for the time being.
30	Technical Workshops: Recommend that the PSC hold Technical Workshops to gather information on innovations in the interface between PEVs and the electrical grid, including both technical feasibility and cost/benefit. Workshop topics should include: • Vehicle –to-Grid (V2G) • Vehicle to Home • Potential for use of down-cycled batteries for power storage.
	Phase NA
	Legislation Required N
	Refer to Workgroup None
	Future Action Required The Chair of EVIC did send a letter to the PSC requesting workshops in 2013. The State Agency Workgroup determined this was not within the State's role.
31	Investment: Foster emerging PEV technologies and their potential for a role in electrical grid management through existing financing vehicles, such as InvestMaryland.
	Phase NA
	Legislation Required N
	Refer to Workgroup TBD
	Future Action Required The State Agency Workgroup determined this was not within the State's role.
32	Financing: The State should explore opportunities to reduce the upfront costs of PEVs and charging infrastructure installation through public/private financing to allow for the provision and underwriting of low-interest, low-risk loans to energy projects that further the State's energy goals, and to link EV charging to renewable energy and grid management.
	Phase NA
	Legislation Required N
	Refer to Workgroup State Agency Workgroup
	Future Action Required Many incentives currently exist.

Charging Solutions (Unnumbered Recommendations)

	Permit Streamlining: Based on the Council's review and outreach to the community they found no significant existing barriers to the permitting of EVCS, and therefore make no recommendation for action at this time.	
33	Phase	NA
	Legislation Required	N
	Refer to Workgroup	NA
	Future Action Required	None.
	Pricing Displays: The Council recommends that no action be taken to fix a pricing display model for Maryland until after the national standard has been developed and adopted by the National Institute of Standards and Technology (NIST), as those standards are anticipated in July 2013.	
34	Phase	NA
	Legislation Required	N
	Refer to Workgroup	State Agency Workgroup
	Future Action Required	To be determined by workgroup.

APPENDIX C. AVAILABLE PEVS

PEVs Available for Purchase in Maryland in 2020

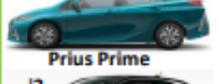


**The Electric Vehicle Association
of Greater Washington DC**
evadc.org



**Electric Vehicle
Information Sheet**



	Plug-in Hybrid Electric	Base Price (USD) ¹	Net Price (USD) ²	Range (mi) ³	Batt. (kWh)	0-60 (sec)	MPG equiv ³	Fuel/ Mo. ⁶		
	Chrysler Pacifica hyb.	\$39,995	\$32,495	32+gas	16	7.4	82	\$83		
	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	\$26,500	\$21,957	29+gas	8.9	8.9	119	\$54		
	Hyundai Sonata PHEV	\$31,400	\$26,481	28+gas	9.8	7.6	99	\$67		
	Kia Niro PHEV	\$28,500	\$23,957	26+gas	8.9	9.0	105	\$58		
	Kia Optima Plug-In	\$36,090	\$31,171	28+gas	9.8	9.1	101	\$67		
	MINI Cooper S E Countr.	\$36,900	\$32,900	17+gas	10	6.7	73	\$108		
	MINI Outlander	\$36,295	\$30,459	22+gas	12	9.2	74	\$100		
	Subaru Crosstek Hyb.	\$35,145	\$30,645	17+gas	8.8	8.3	90	\$79		
	Toyota Prius Prime	\$27,750	\$23,250	25+gas	8.8	10.5	133	\$50		
	Toyota RAV4 Prime	\$36,500 ^a	\$29,000 ^a	39 ⁺ +gas	16 ^a	5.8 ⁺	90 ⁺	---		
	Average U.S. Gasoline Car Price	\$35,000								
	BMW 330e	\$45,000 ^a	\$39,164 ^a	30 ⁺ +gas	12 ^a	5.6	---	---		
	BMW 530e	\$53,900	\$48,064	21+gas	12	5.9	69	\$113		
	BMW 745e xDrive	\$95,550	\$89,714	16+gas	12	4.9	56	\$150		
	BMW i3 Range Extender	\$48,300	\$40,800	126+gas	42.2	8.0	100	\$58		
	BMW i8	\$147,500	\$141,831	17+gas	11.6	4.2	69	\$121		
	BMW X3 xDrive30e	\$48,550 ^a	\$42,714 ^a	20 ⁺ +gas	12 ^a	6.3	---	---		
	BMW X5 xDrive45e	\$70,000 ^a	\$62,500	40 ⁺ +gas	24	5.5 ^a	56	\$138		
	Karma Revero GT	\$135,000	\$127,500	61+gas	28	4.5	70	\$92		
	Land Rover Sport P400e	\$79,000	\$71,913	19+gas	13	6.3	42	\$175		
	Mercedes C350e	\$48,895	\$45,394	8+gas	6.2	5.8	51	\$121		
	Mercedes GLC350e	\$50,650	\$46,190	10+gas	8.7	6.2	56	\$138		
	Mercedes GLE550e	\$66,700	\$62,240	8+gas	8.8	5.3	43	\$163		
	Mercedes S560e	\$109,750	\$103,750	20+gas	13.5 ^a	4.7	65 ^a	\$125 ^a		
	Porsche Cayenne	\$81,100	\$74,430	14+gas	14.1	4.7	47	\$154		
	Porsche Panamera	\$103,800	\$97,130	14+gas	14.1	4.4	51	\$154		
	Volvo S60 T8	\$56,045	\$51,043	22+gas	10.4	4.3	69	\$104		
	Volvo S90 T8	\$63,845	\$58,843	21+gas	10.4	4.8	60	\$113		
	Volvo V60 T8	\$67,300	\$62,298	22+gas	10.4	4.3	69	\$104		
	Volvo XC60 T8	\$54,595	\$49,593	19+gas	10.4	4.9	57	\$125		
	Volvo XC90 T8	\$67,000	\$61,998	18+gas	10.4	5.9	55	\$125		

PHEV — Plug-in Hybrid Electric Vehicle (Electric & Gas) - All these hybrids have a plug.

Incentives

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

Version 20200121

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

Maryland: Excise Tax Credit, \$100/kWh Battery, max \$3000 on EVs priced ≤\$60K
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 C. Continued

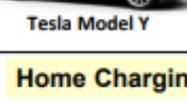
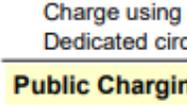
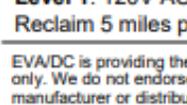
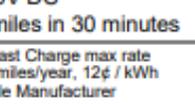


**The Electric Vehicle Association
of Greater Washington DC**
evadc.org



**Electric Vehicle
Information Sheet**



		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	
Zero SR/F	All Electric										Harley
	Chevy Bolt	\$36,620	\$34,745	259	66	150	6.5	50	118	\$46	
	Fiat 500e	\$33,460	\$25,960	84	24	83	8.9	N/A	112	\$50	
	Harley LiveWire	\$29,799	\$27,299	95*	15.5	78	3.0*	20*	95*	---	
	Honda Clarity Elec.	\$36,620	(lease only)	89	25.5	120	---	25*	114	\$50	
	Hyundai Ioniq Elec.	\$32,000*	\$24,500*	170	38.3	100	9.5	75	133	\$42	
	Hyundai Kona Elec.	\$37,190	\$29,690	258	64	150	6.4	75*	120	\$46	
	Kia Niro EV	\$38,500	\$31,000	239	64	150	7.8	77	112	\$50	
	Kia Soul EV	\$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 LEAF S	\$31,600	\$24,100	150	40	110	7.4	50	112	\$50	
	Nissan LEAF S Plus	\$38,200	\$30,700	226	62	160	6.4	100	108	\$50	
	VW e-Golf	\$31,895	\$24,395	123	35.8	100	8.5	50	113	\$50	
	Zero SR/F	\$19,495	\$17,545	109*	14.4	82	3.3*	N/A	---	---	
Average U.S. Gasoline Car Price		\$35,000									
	Audi e-tron	\$74,800	\$67,300	204	95	265	5.5	150	74	75	
	BMW i3	\$44,450	\$36,950	153	42.2	125	7.2	50	113	\$50	
	Ford Mustang Mach-E	\$50,600	\$43,100	230*	76	142	6.1	150	---	---	
	Jaguar I-Pace	\$69,850	\$62,350	234	90	294	4.5	50	76	\$71	
	Polestar 2	\$63,000	\$55,500	275	78	300	4.7	150	---	---	
	Porsche Taycan 4S	\$103,800	\$96,300	170*	79.2	390	3.8	270	70*	---	
	Porsche Taycan Turbo	\$150,900	\$143,400	201	93.4	500	3.0	270	69	\$79	
	Rivian R1S 135	\$82,500*	\$75,000*	310*	135	562*	3.0*	160*	---	---	
	Rivian R1T 135	\$79,000*	\$71,500*	300*	135	562*	3.0*	160*	---	---	
	Tesla Cybertruck Dual	\$49,900	\$49,900	300*	120*	515*	4.5*	250*	---	---	
	Tesla Model 3 Std.	\$35,000	\$35,000	220	50	211	5.6	100	131	\$42	
	Tesla Model 3 Std. Plus	\$39,990	\$39,990	250	54	211	5.3	100	141	\$38	
	Tesla Model 3 Long Range AWD	\$48,990	\$48,990	322	75	335	4.4	250	121	\$46	
	Tesla Model Y Long	\$48,000	\$48,000	300*	75*	211*	5.5	---	---	---	
	Polestar 2	\$79,990	\$79,990	373	100	398	3.7	200	111	\$50	
	Porsche Taycan	\$84,990	\$84,990	328	100	398	4.4	200	96	\$58	
	Tesla Roadster	\$200,000	\$200,000	620	200*	---	1.9	350*	---	---	
	Volvo XC40 Recharge	\$55,000*	\$47,500*	200*	78*	300	4.7	150	---	---	
	Tesla Model 3										
	Tesla Model Y										
	Roadster										
	Cybertruck										
	Rivian R1T										
	Rivian R1S										

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

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

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

240V Home Charging Station

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

1000+ local public charging stations

480V DC Fast Charger

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. © 2020 EVA/DC

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

APPENDIX D. RELATED LEGISLATION (ENACTED 2011-2020)

In the 2020 Legislative Session, the General Assembly enacted the following:

- HB 232 – Maryland Zero Emission Electric Vehicle Infrastructure Council – Reporting, Membership, and Sunset Extension
- This bill extended ZEEVIC through June 30, 2026, added two member positions, and updated technical language.

In the 2019 legislative session, the General Assembly enacted the following:

- HB 1246, Chapter 679, Acts of 2018 – Vehicle Laws – Licensing and Registration–Clean Cars Act of 2019
 - This bill changed EVIC to ZEEVIC and extended the purview to include hydrogen fueling and FCEVs. The bill also changed the excise tax credit to include FCEVs and updated the excise tax credit award calculations.
- HB 1255, Chapter 492 School Bus Transition – Zero-Emission Vehicles – Grant Program and Fund
 - This bill requires the Department of the Environment and the Department of Transportation to jointly provide technical assistance establishing Zero-Emission Vehicle School Bus Transition Grant Program, install charging infrastructure, and develop plans to transition to the use of ZEVs.

In the 2018 Legislative Session, the General Assembly enacted the following:

- HB 714, Chapter 679, Acts of 2018 – Vehicle Laws – HOV Lanes – Plug-In Electric Drive and Hybrid Vehicles
 - This bill extended the termination date to September 30, 2022, for certain provisions of law authorizing certain hybrid vehicles to use a certain high occupancy vehicle (HOV) lane regardless of the number of passengers for plug-in electric drive vehicles and qualified hybrid vehicles

In the 2017 Legislative Session, the General Assembly enacted the following:

- SB 393/HB 406, Chapter 362, Acts of 2017 – Vehicle Laws – Licensing and Registration– Clean Cars Act of 2017
- This bill extended through fiscal year 2020 the Electric Vehicle Recharging Equipment Rebate Program and authorization to issue motor vehicle excise tax credits for qualified PEV vehicles. The bill:
 - Increased the total amount of rebates from up to \$600,000 to a maximum of \$1,200,000, increasing the amount required to be transferred from the Strategic Energy Investment Fund to the Transportation Trust Fund.
 - Increased the amount of EV excise tax credits that may be issued during a fiscal year. The credit value was reduced to \$100 kWh of battery capacity of the vehicle up to \$3,000.
 - The bill also added additional eligibility requirements, capping qualifying vehicle purchase prices at \$60,000, and requiring a minimum battery capacity of 5 kWh.

In the 2016 Legislative Session, the General Assembly enacted the following:

- HB 1179, Chapter 734, Acts of 2016 – Vehicle Laws – HOV Lanes – Plug-In Electric Drive and Hybrid Vehicles
 - This bill extended the authorization of BEVs to use HOV lanes regardless of the number of passengers through September 30, 2018. It also allows for qualified hybrid vehicles to use HOV lanes (effective from October 1, 2016 through September 30, 2018). The hybrid HOV lane use is restricted to the portion of US 50 designated as an HOV lane, between I-95 / I-495 and US 301. All PEVs must obtain a permit to use HOV lanes.
- SB 998/HB 1279, Chapters 334 and 335, Acts of 2012: Motor Vehicle Administration – Plug-In Vehicles – Disclosure of Personal Information
 - This bill addressed concerns expressed by the utility companies and other stakeholders over the potential for PEV clustering and the maintenance of local grid reliability. This legislation helped to alleviate that concern by requiring the MDOT MVA to share PEV registration information necessary for grid planning purposes with the appropriate utility, specifically (1) the street address and (2) type of PEV purchased. When a PEV is registered with the MDOT MVA, the MDOT MVA can provide the residential address of the owner to the electric utility to ensure that the utility can make any necessary upgrades to the transformers and maintain safe and efficient load distribution.
- SB 997/HB 1280, Chapters 631 and 632, Acts of 2012: Electric Vehicle Users and Charging Stations – Exclusions
 - This bill provided regulatory clarification for owners and operators of PEV charging stations and PEV charging station service companies or providers by excluding them from the definition of an “electricity supplier” or a “public service company” as defined in law and regulated by the Maryland PSC. The bill also made it clear that these entities continue to remain within the definition of “retail electric customer.” The elimination of regulatory uncertainty removed a potential barrier preventing PEV investors and industry participants from entering the market in Maryland. With this new level of regulatory certainty, Maryland’s PEV market will be better poised to grow beyond its existing infrastructure and is a signal of Maryland’s commitment to the development of a vibrant PEV market.

In the 2015 Legislative Session, the General Assembly enacted the following:

- SB 714, Chapter 378, Acts of 2015 – Maryland Electric Vehicle Infrastructure Council – Reporting and Sunset Extension
 - This bill extended the tenure of the Council until 2020 and set out annual reporting requirements.

In the 2014 Legislative Session, the General Assembly enacted the following:

- SB908/HB1345, Chapters 359 and 360, Acts of 2014 - Electric Vehicles and Recharging Equipment - Rebates and Tax Credits
 - This bill extended the excise tax incentive for three (3) years until June 30, 2017 and amended the credit to relate the amount credited to the battery capacity of the vehicle. An electric vehicle would receive a credit of \$125 per kWh of capacity up to a cap of \$3,000. It also converted the Income Tax Credit for EVSE to a rebate program that includes installation costs in the incentive calculation, remove the provision limiting businesses to a maximum of 30 chargers, and increases the residential and commercial caps.

In the 2013 Legislative Session, the General Assembly enacted the following:

- SB 600/HB836, Chapter 64, Acts of 2013: Vehicle Laws – Electric Vehicles
 - This bill, in addition to harmonizing variations in the definition of “plug-in electric drive vehicle” that appeared in various sections of the Maryland Code, extended the termination date for the exemption allowing the use of Maryland’s High Occupancy Vehicle (HOV) lanes by PEVs, regardless of the number of passengers, to September 30, 2017. It also extended the tenure of the Council to June 30, 2015.
- HB 791/SB728, Chapter 389, Acts of 2013: Tax Credits – Electric Vehicles – Extensions
 - This bill extended the existing tax credits that incentivize the purchase of PEVs and their charging equipment. The credit against the State income tax for PEV charging equipment was extended through tax year 2016. The credit against the motor vehicle excise tax was extended to July 1, 2014 and tied the amount of the credit allowed to the size of the vehicle’s battery capacity.

