

Transportation Climate Initiative (TCI) Updates

Chris Hoagland, MDE

January 19, 2021



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Transportation and Climate Initiative (TCI)

Reminder:

TCI is a regional collaboration among Maryland and a dozen other Eastern jurisdictions on regional clean transportation solutions.

Last two years spent developing a potential cap-and-invest program for transportation CO₂ (based on the RGGI model)



Transportation and Climate Initiative (TCI)

Recent Milestones

September: Virtual public meetings on equity and COVID impacts & analysis

December 21: Final MOU and State Collaboration Statement

Final MOU: Massachusetts, Connecticut, Rhode Island, and DC commit to implement the TCI Program (TCI-P)

State Collaboration: Maryland and 7 other states continue working on Model Rule, other TCI-P details, and other regional transportation solutions

Next Steps

Early 2021: Draft Model Rule for public input, followed by Final Model Rule
MOU Signatories implement legislation, rulemaking to stand up the program

2022: CO2 Monitoring and Reporting begins

2023: Cap begins



More TCI Information

MOU Info: <https://www.transportationandclimate.org/final-mou-122020>

Benefits Analysis:

https://www.transportationandclimate.org/sites/default/files/TCI-P_modeling-summary_12-21-2020.pdf

Full Modeling Results (our source for EV assumptions in GGRA):

<https://www.transportationandclimate.org/modeling-methods-and-results>



Maryland Zero Emission Vehicle Updates

Colleen Turner, MDOT

January 19, 2021



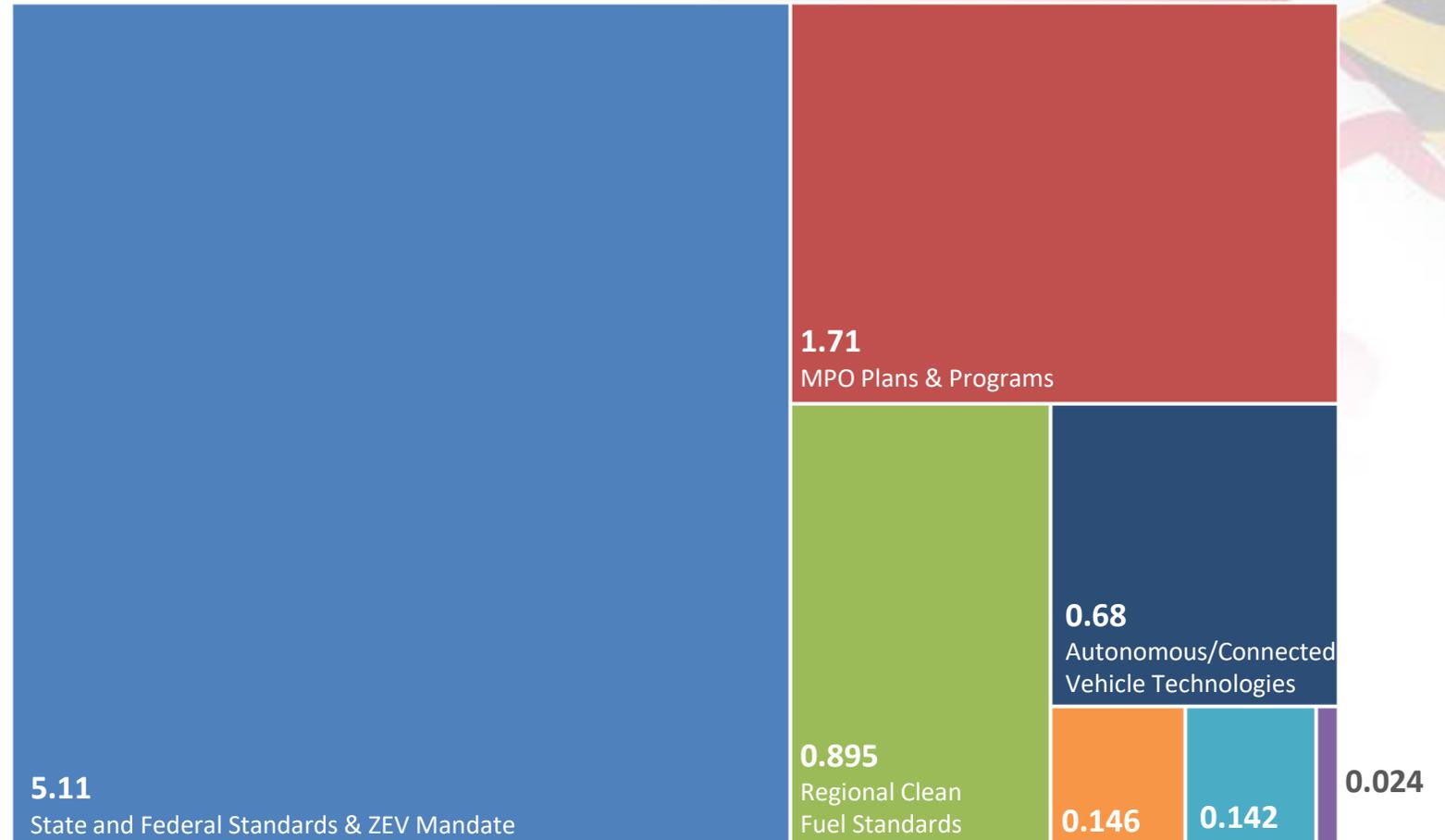
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Where do Reductions Come From?

- In 2017, a reduction of **2.10 billion VMT** is required to reduce GHG emissions by 1 mmt CO₂e
- In 2030, a reduction of **2.82 billion VMT** is required to reduce GHG emissions by 1 mmt CO₂e
- In other words, **2030 VMT would have to be reduced by 4.4 percent to achieve a 1 mmt CO₂e reduction in on-road emissions**



■ Transportation Demand Management ■ On-Road Technology ■ Bicycle and Pedestrian Strategies

Maryland State Agencies Overview



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MSEC/CFIP/CFTA

EV/EVSE
(Incentives/Rebates)

Maryland Clean Cities
Coalition



Install EVSE

Chair/Staff ZEEVIC

Track ZEV Registrations

AFC Corridors



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ZEV MOUs

Maryland Clean Cars
Program

VW Settlement

Chair/Staff MCCC

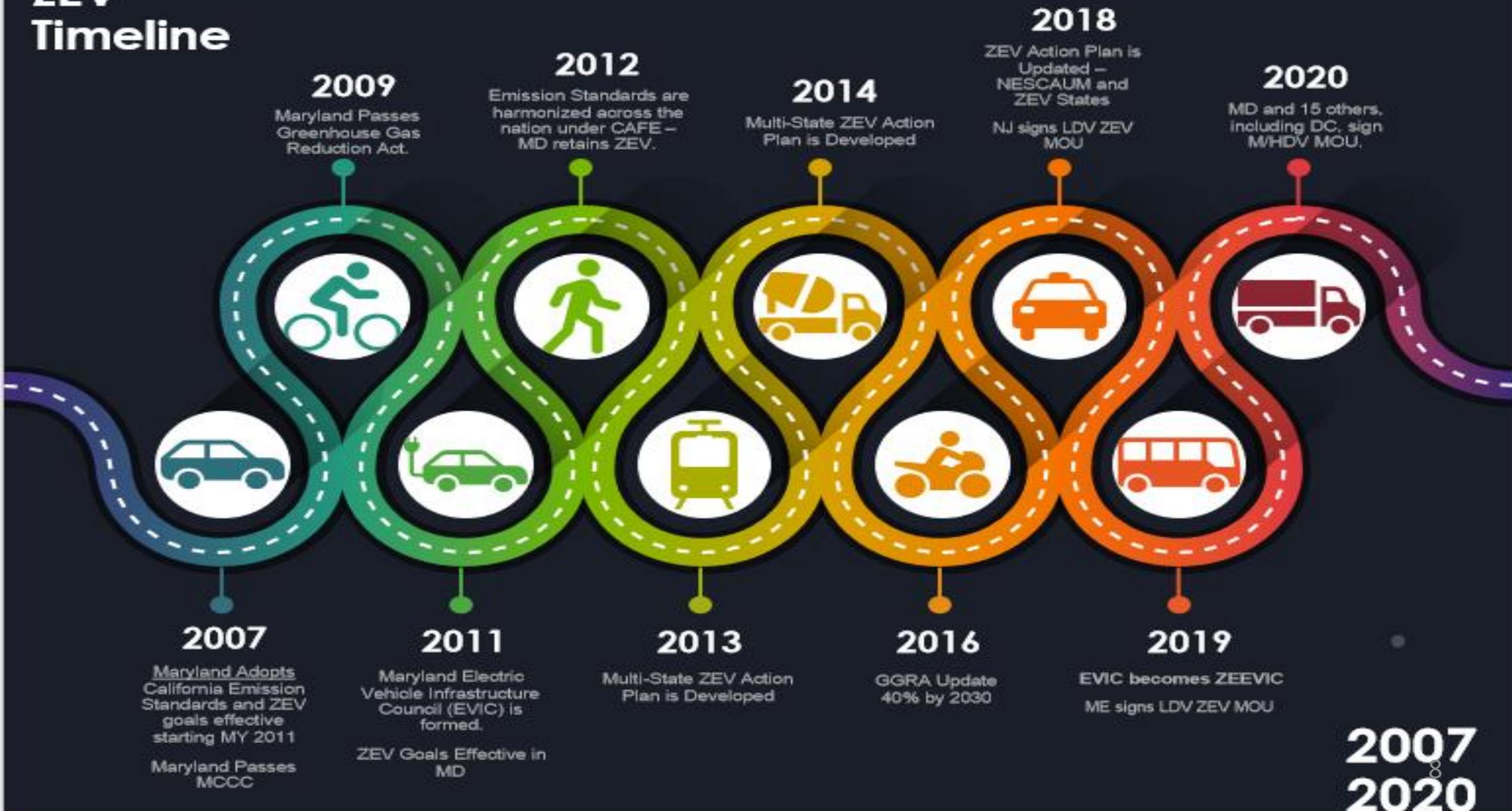


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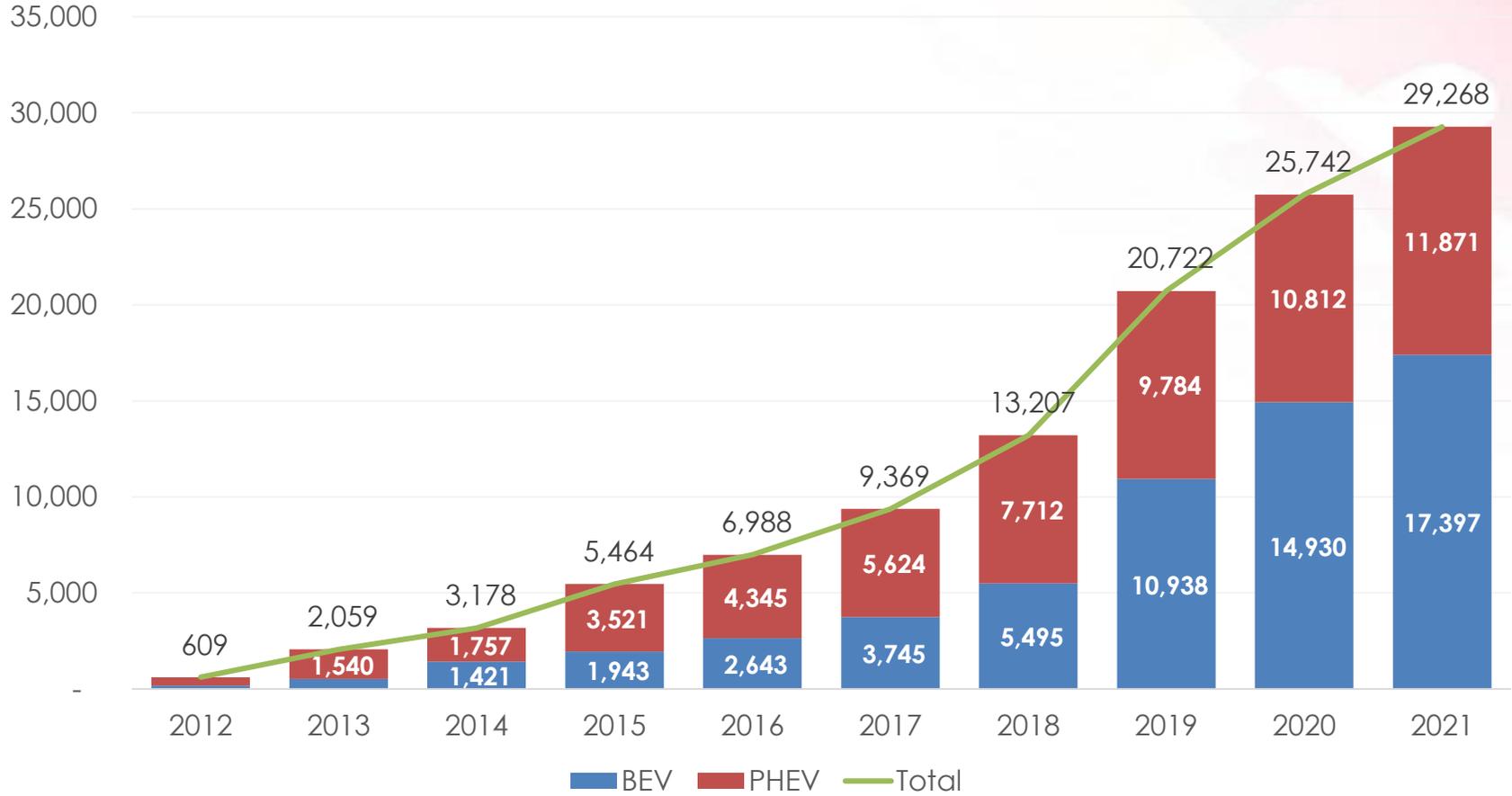


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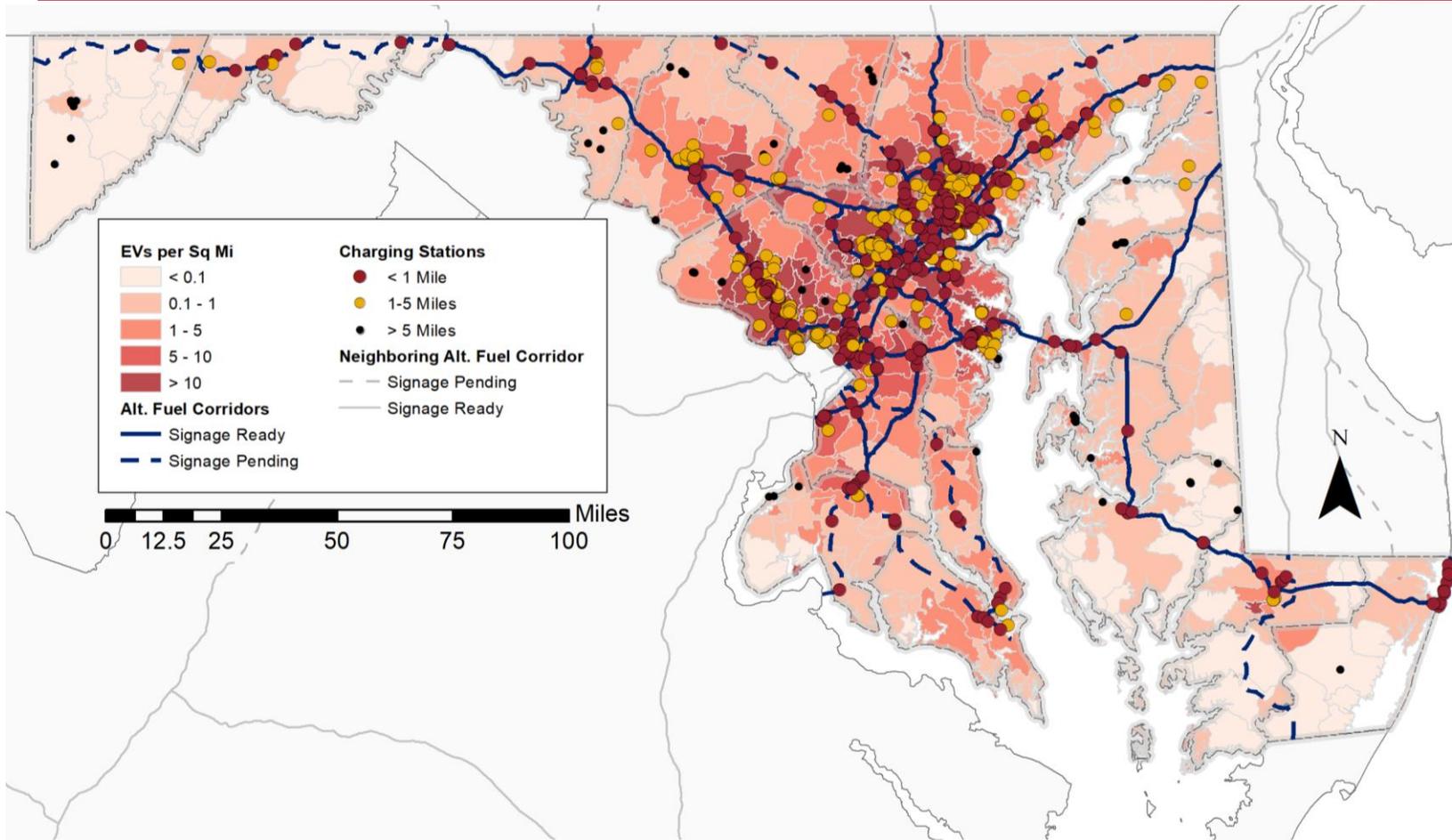
ZEV Timeline



EV Growth in Maryland



Current Infrastructure Statewide



- 29,268 Registered EVs
- 21 Alternative Fuel Corridors
- 797 Charging Stations
- 2,438 Charging Outlets

Opportunities

VW Settlement Light Duty Charging Infrastructure (approx. \$11.3 million)

- Three funding rounds
- [Proposals for first round accepted through March 5th](#)
- Focus on workplace charging, state owned properties, and corridor/Hub locations

Maryland Clean Cities Coalition

- Part of [US DOE Clean Cities program](#) to reduce reliance on foreign petroleum in transportation
- National network, expertise and resources available
- Maryland Smart Energy Communities [\(MSEC\) Program](#)
 - Local governments can receive project funding in exchange for adopting sustainability policies including adoption of light-duty EVs and fleet charging infrastructure



Opportunities

Electric Vehicle Supply Equipment [\(EVSE\) Rebate Program](#)

- All charger deployments eligible, but geared at non-fleet L2 (workplace and/or publicly available chargers)

Clean Fuels Technical Assistance (CFTA) Program Pilot

- Local governments can receive TA to develop fleet electrification strategies

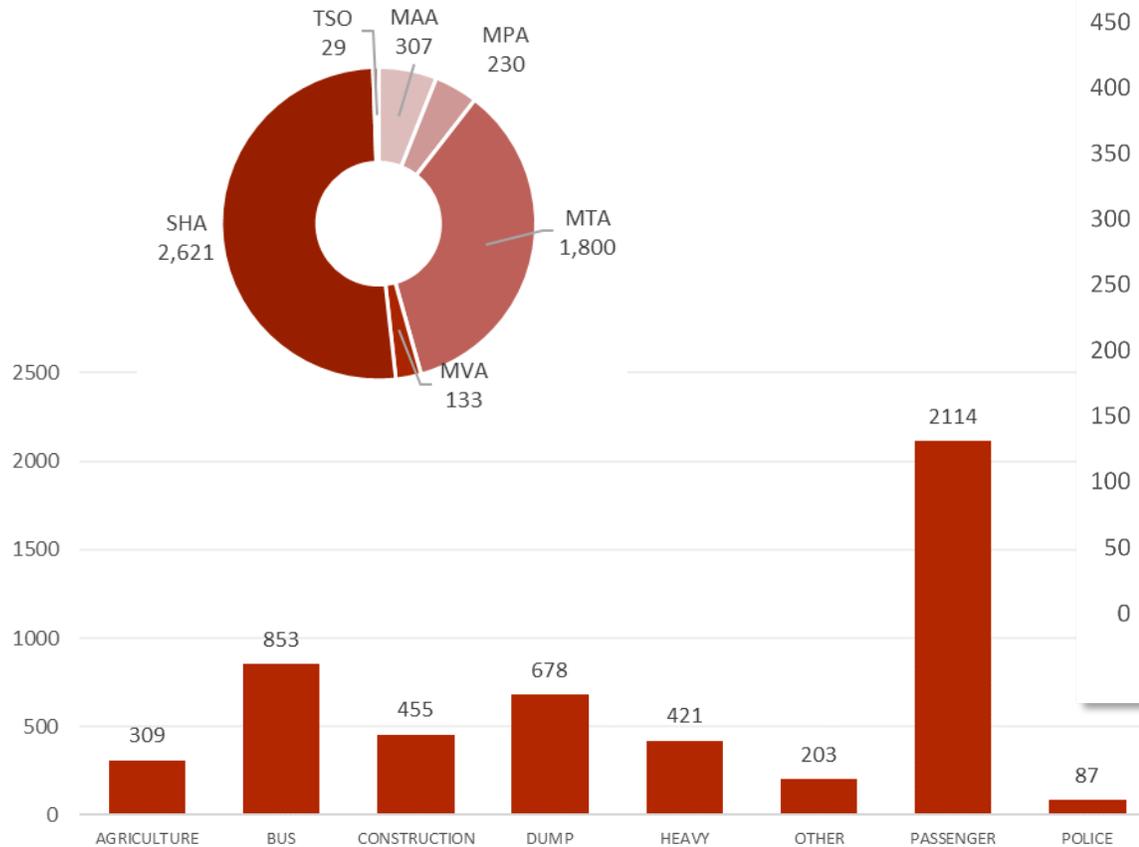
[Clean Fuels Incentive Program \(CFIP\)](#)

Alternative Fuel Type	Vehicle Class	AER (for EV's only)	% of Incremental Cost Eligible for Grant Request	Maximum Grant Award (per new vehicle)
Electric (PHEV/BEV)	Class 3-8	0-99 miles	Up to 100%	\$25,000
		100+ miles	Up to 100%	\$50,000
Hydrogen (FCEV)	Class 1-2		Up to 100%	\$7,500
	Class 3-8		Up to 100%	\$50,000

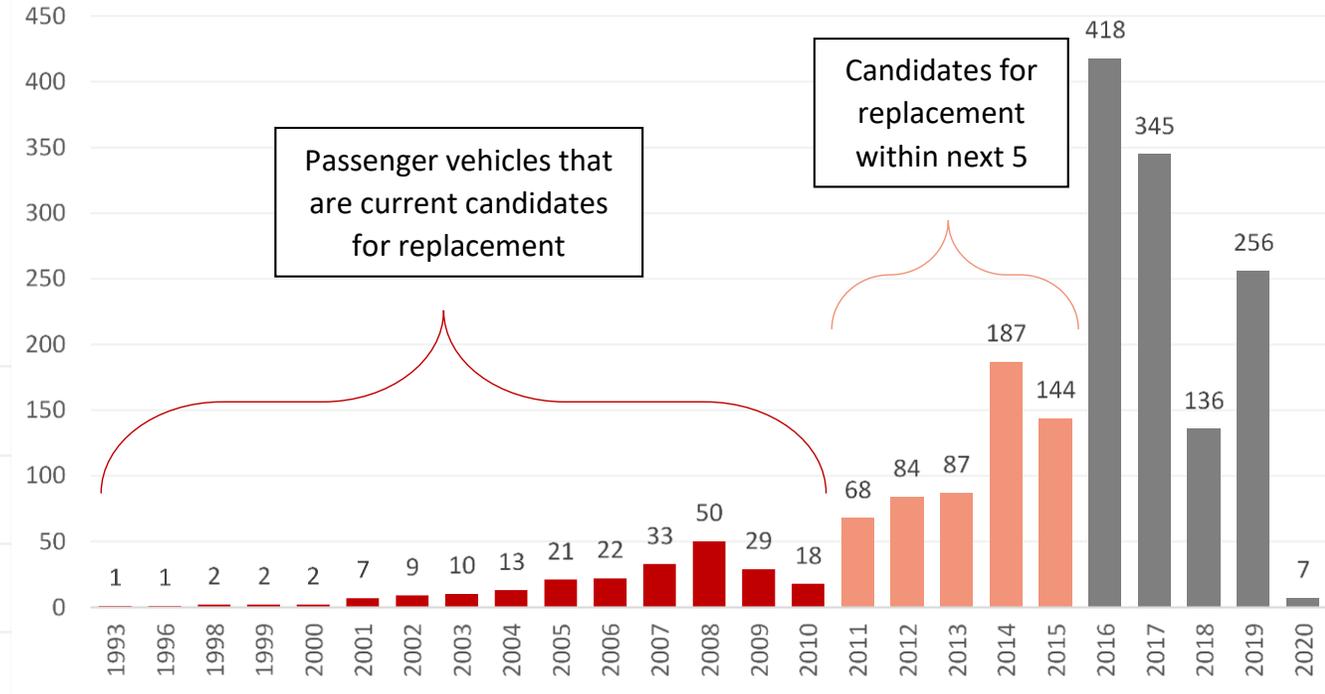


Opportunities: Fleet Innovation

Vehicles by TBU & Use



Passenger Vehicle Candidates for Replacement Based on Age



ZEEVIC

Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC)

- Created in 2011 Through Legislation
- Meets every other month
- Working Groups meet in off-months
- Annual Report Due in December
- [GIS StoryMap](#) Illustrating Goals & Progress

2020 ZEEVIC REPORT

- Goals
- Progress
- Activities
- Annual Priorities
- Recommendations



**MARYLAND
ZERO EMISSION**
Electric Vehicle Infrastructure Council

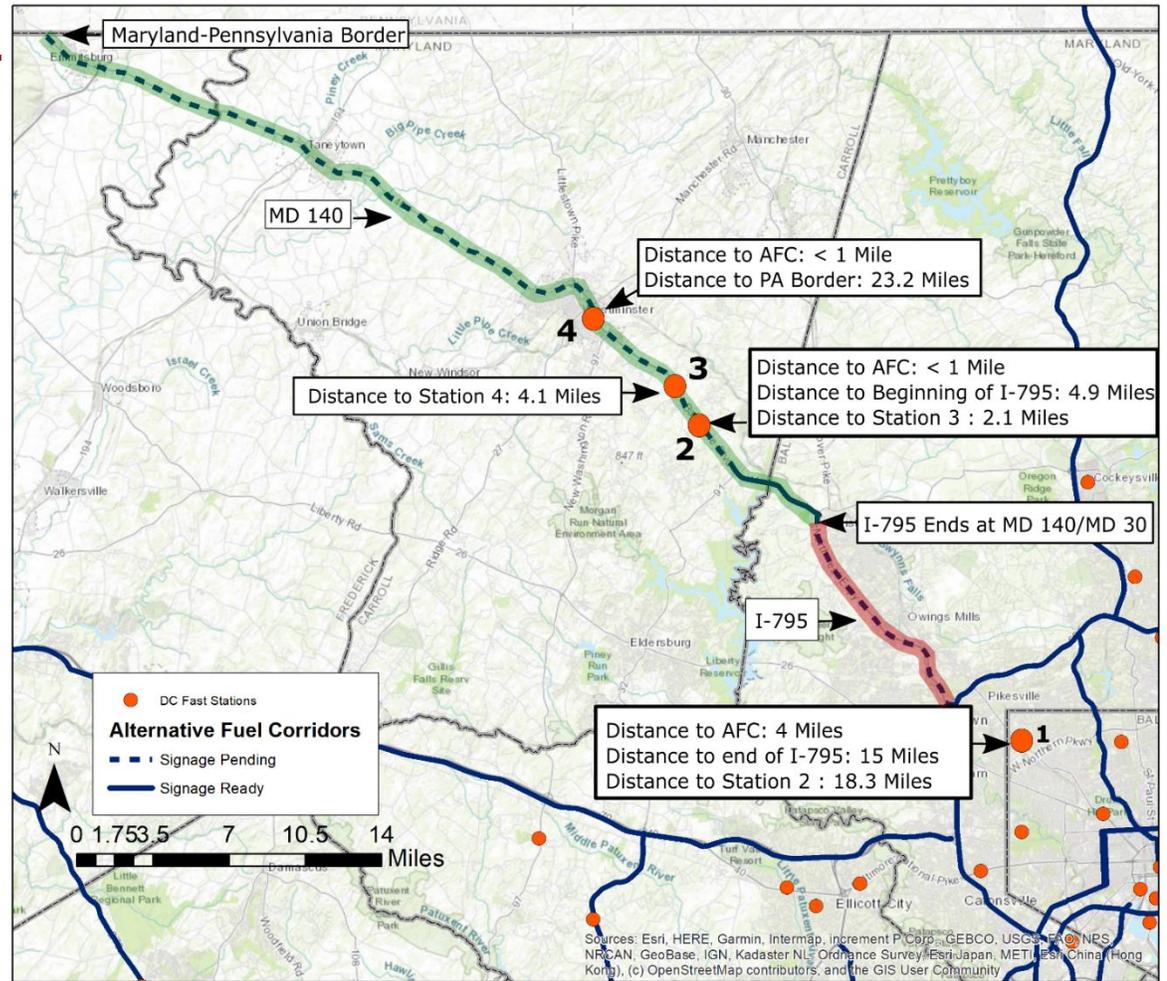
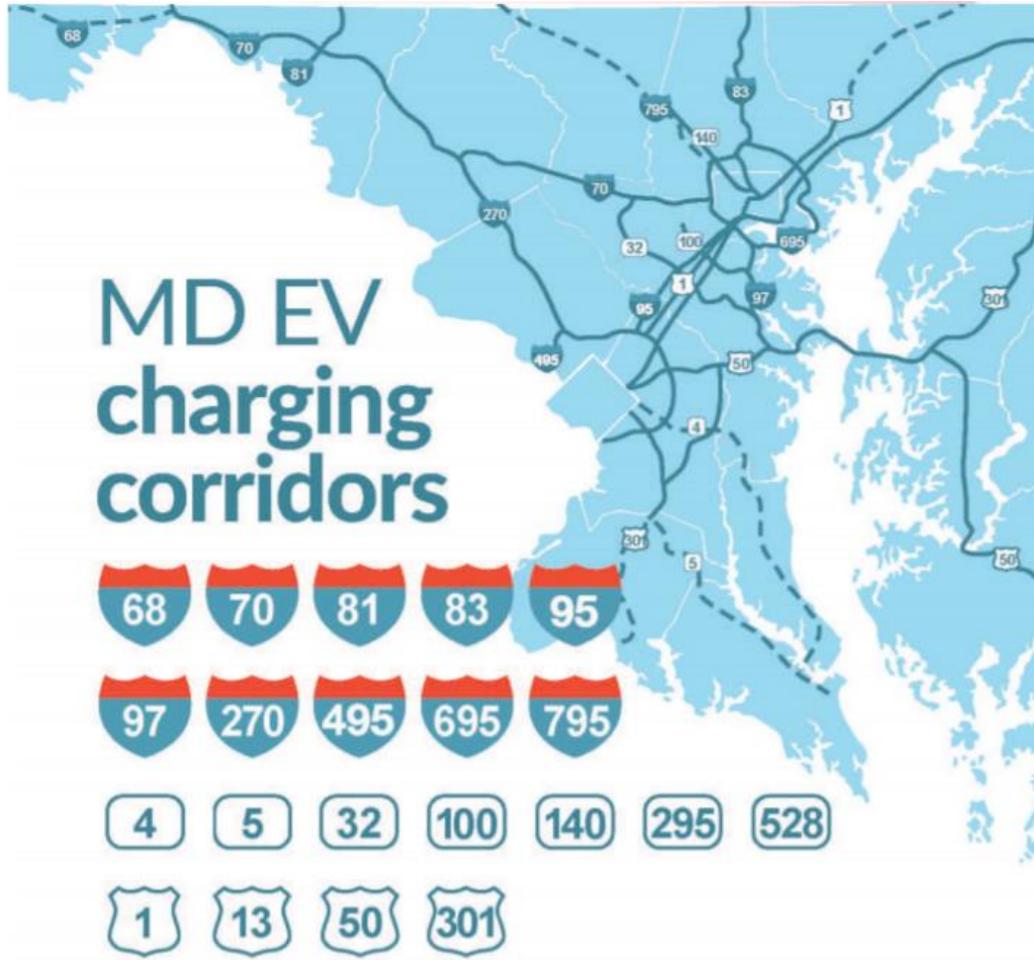
2021 ZEEVIC PRIORITIES

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

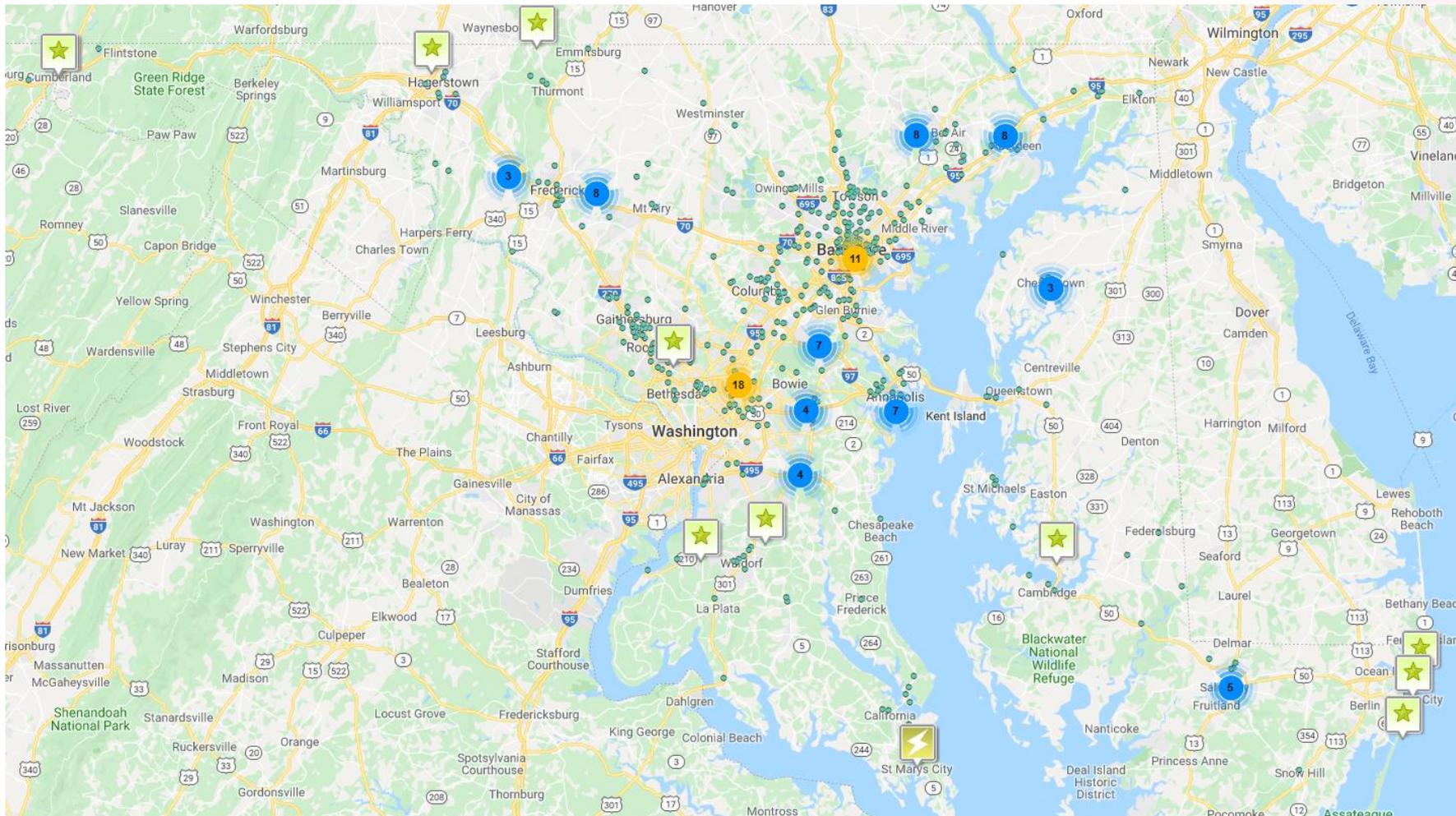
- The incorporation and analyses of FCEVs, and corresponding infrastructure, into ZEEVIC's efforts.
- Education through outreach and coordination.
- Diversity and equity.
- Continuing to promote ZEV and infrastructure incentives for light-, medium-, and heavy-duty vehicles.



Alternative Fuel Corridors



Local Outreach: Where should we install EVSE?



25 Planned Stations

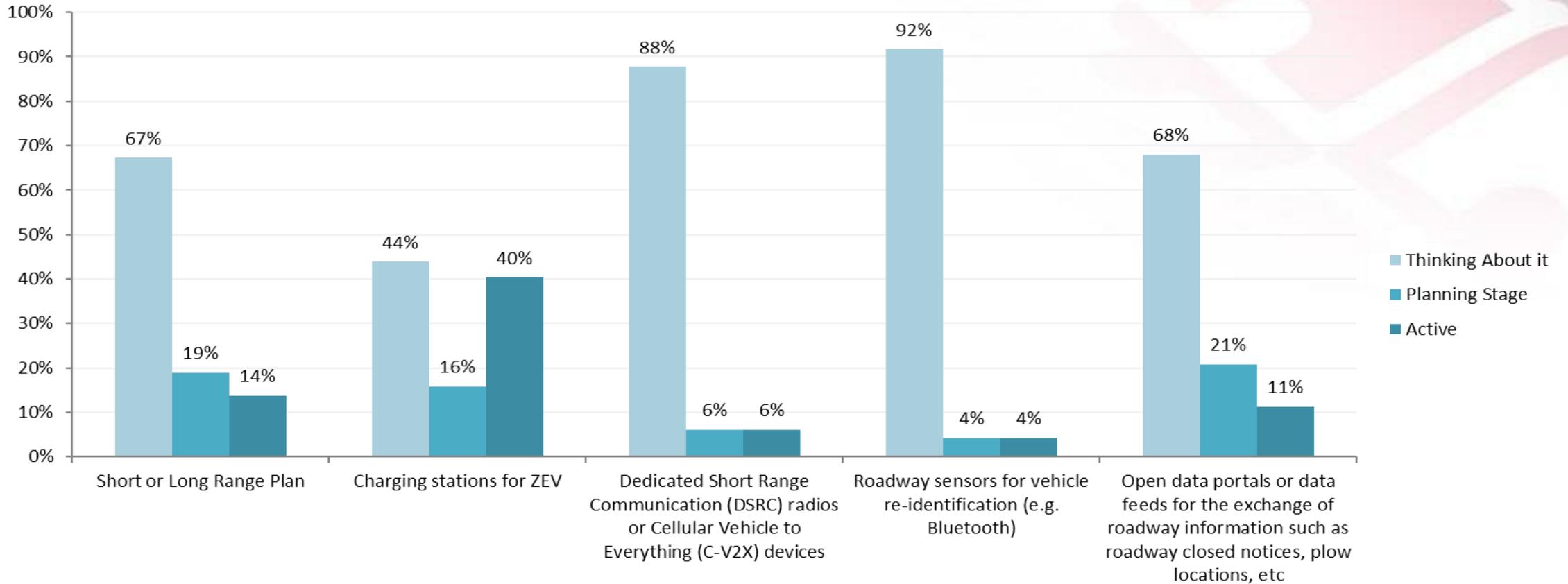
- 20 Govt-Owned Open to Public
- 1 Govt-Owned Closed to Public
- 1 Privately-Owned Open to Public
- 3 No Info Provided

74 Optimal Sites

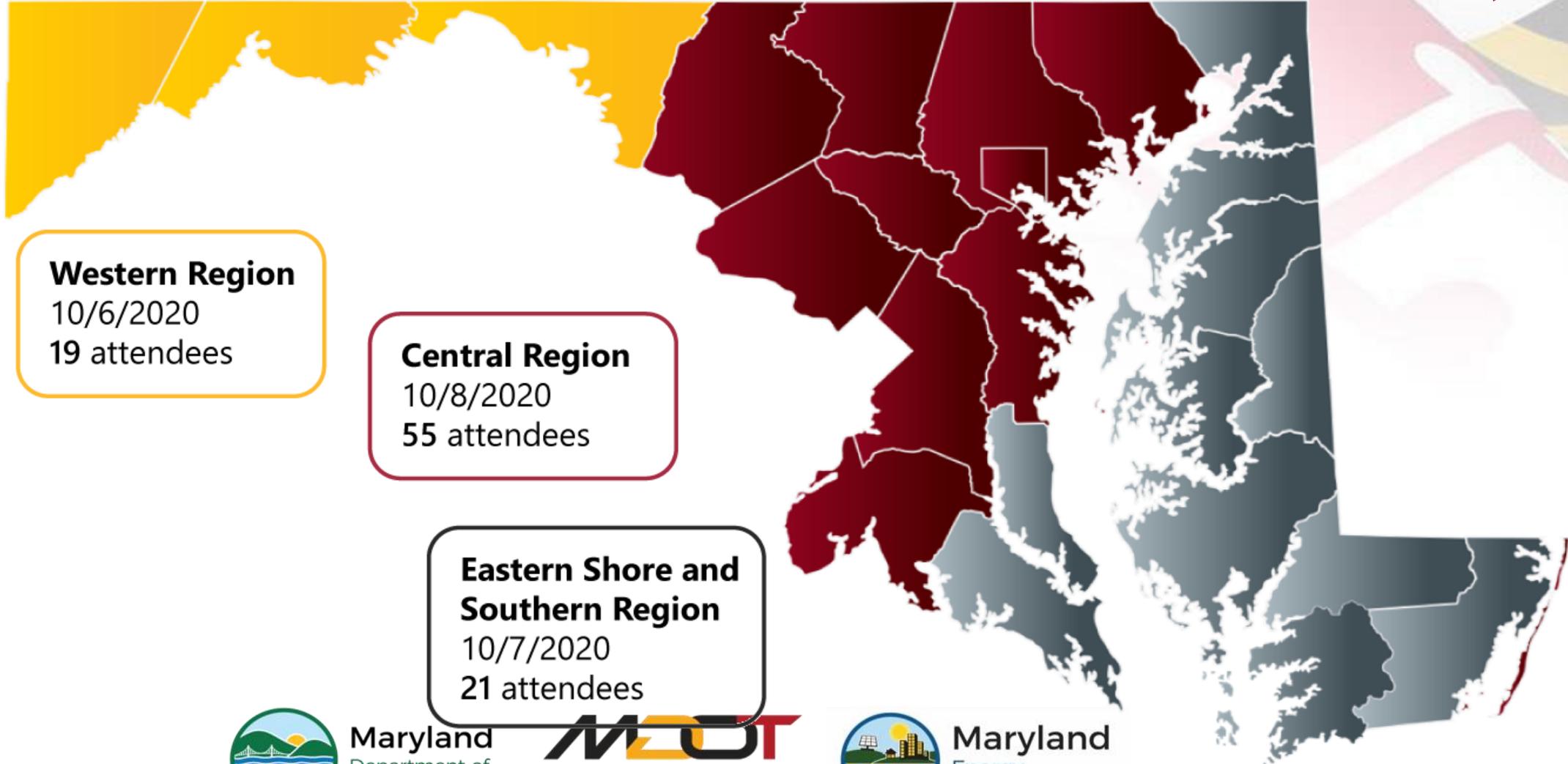
- 45 Govt-Owned Open to Public
- 14 Privately-Owned Open to Public
- 2 Govt-Owned Closed to Public
- 2 Unsure
- 11 No Info Provided

Local Outreach: Planned & Deployed Tech.

Has your jurisdiction planned and/or deployed emerging transportation technologies



Statewide Webinar | 10/28/2020 | 64 attendees



Western Region
10/6/2020
19 attendees

Central Region
10/8/2020
55 attendees

Eastern Shore and Southern Region
10/7/2020
21 attendees



Communication

Table 4: 2019 Public Outreach

Date	Outreach Event	Individuals/ Touchpoints	Outreach Languages
07/20/2019	World Heritage Festival	141	English
08/05/2019	Festival Latino de Maryland	251	English, Spanish
08/11/2019	Latin Heritage Festival	754	English, Spanish
09/07/2019	Caribbean Food and Wine Festival	351	English
09/15/2019	Hagerstown Hispanic 13 th Annual Festival	375	English, Spanish
09/21/2019	42 nd Annual Korean Festival	1,027	English, Korean
10/20/2019	Howard County Diwali Festival	201	English



Statewide
25 Events
7,370
Touchpoints

2020
1 Event
655
Touchpoints



MDOT – #MarylandEV



MHD ZEV MOU Background

States still need to meet Air Quality Standards/Goals

- Federal Heavy-Duty Standards stalled
- Unable to set individual State standards (Can only adopt Federal or California)
- Monitoring actions in California
- States moved ahead with exploring Voluntary Measures
 - December 12, 2019 nine states and D.C. sign letter of intent to develop MOU to accelerate ZEVs in heavy-duty sector
 - Work continues on MOU thru winter and spring 2020
 - July 14, 2020 fifteen states and D.C. sign MOU



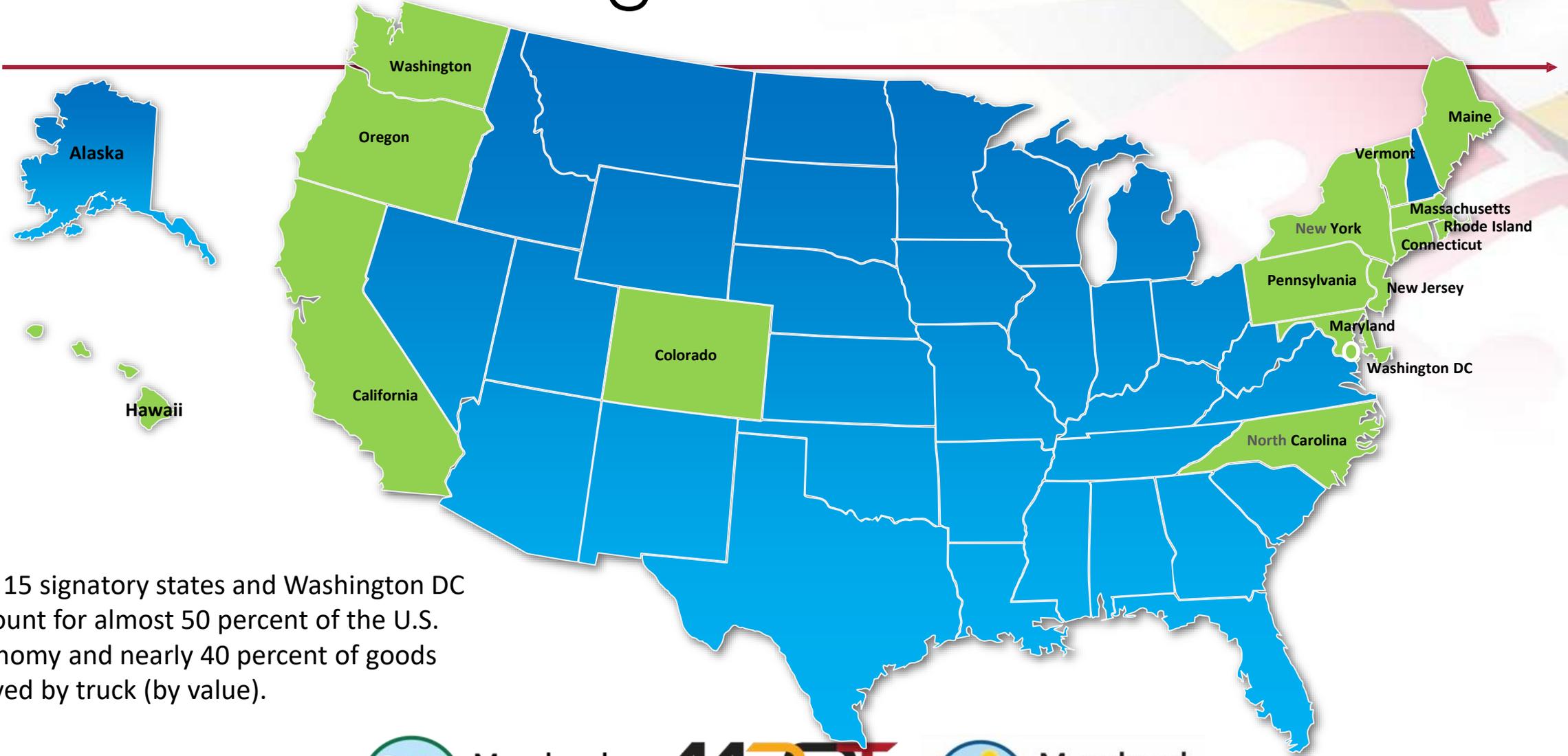
MHD ZEV MOU Background

Medium and Heavy-Duty ZEV MOU

- Builds off success of 2013 governors MOU and subsequent Action Plans for light-duty vehicles.
- Commits signatories to work together to foster a self-sustaining market for zero emission medium- and heavy-duty vehicles.
- Calls for 30% of new truck and bus sales to be zero-emission by 2030 and 100% by 2050.
- Emphasizes need to accelerate deployment of zero-emission trucks and buses in disadvantaged communities.
- Directs development and implementation of a MHD ZEV Action Plan.



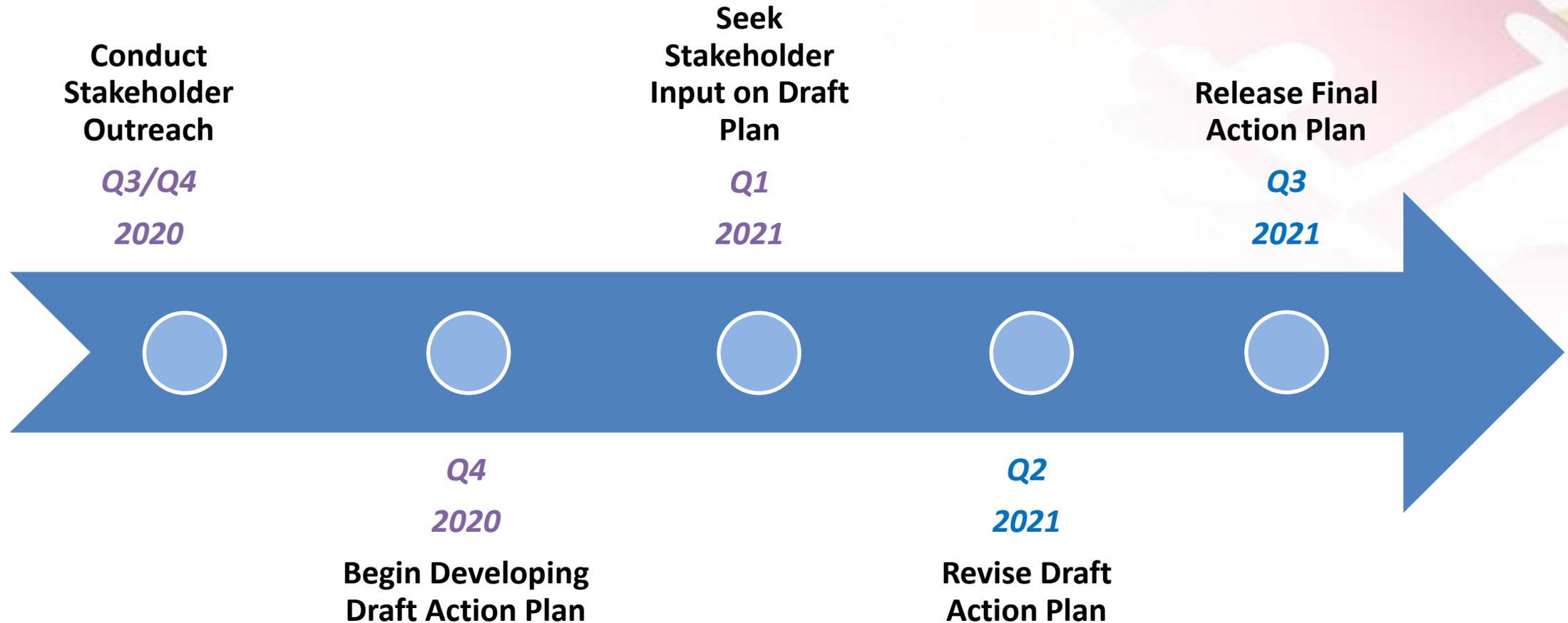
MHD ZEV MOU Signatories



The 15 signatory states and Washington DC account for almost 50 percent of the U.S. economy and nearly 40 percent of goods moved by truck (by value).



MHD ZEV Action Plan Tentative Timeline



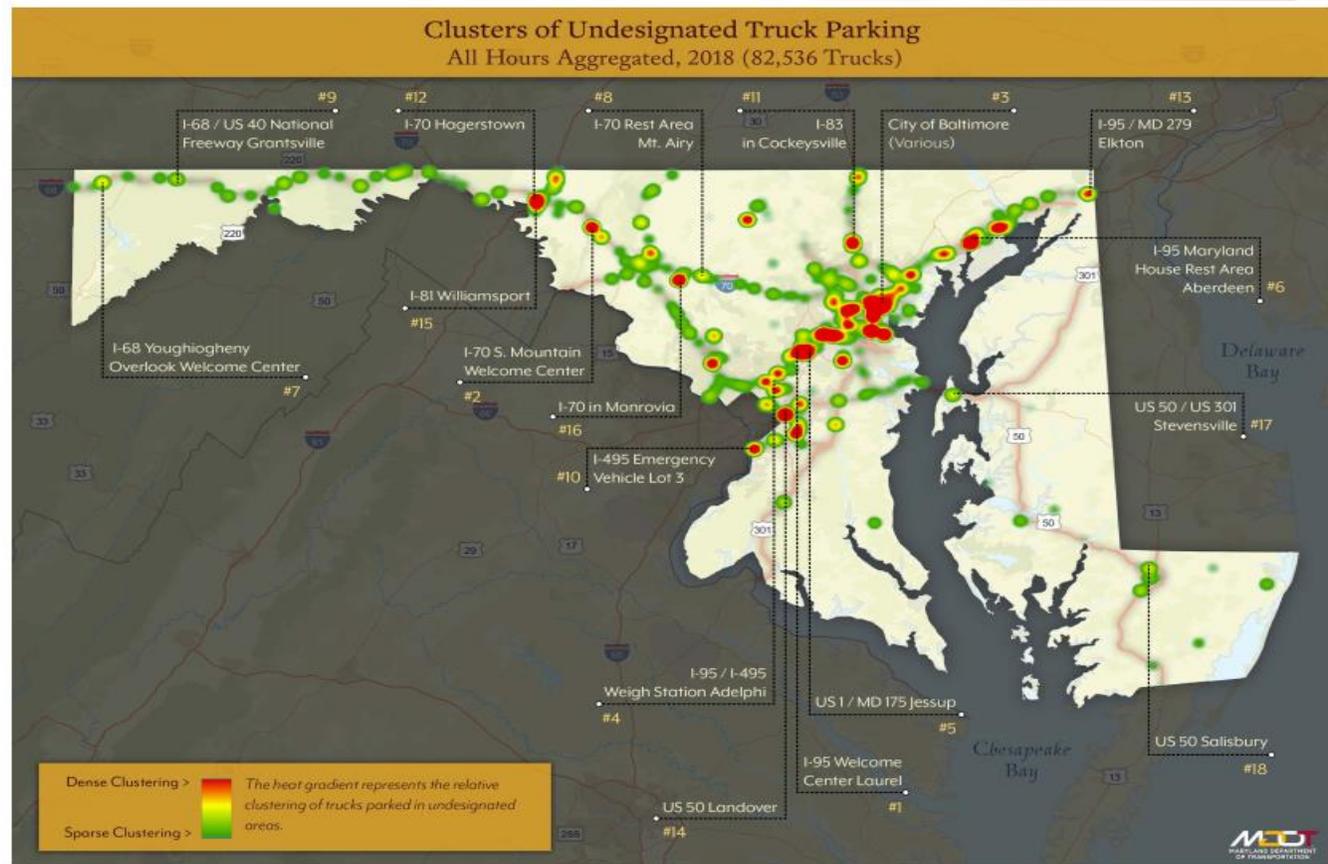
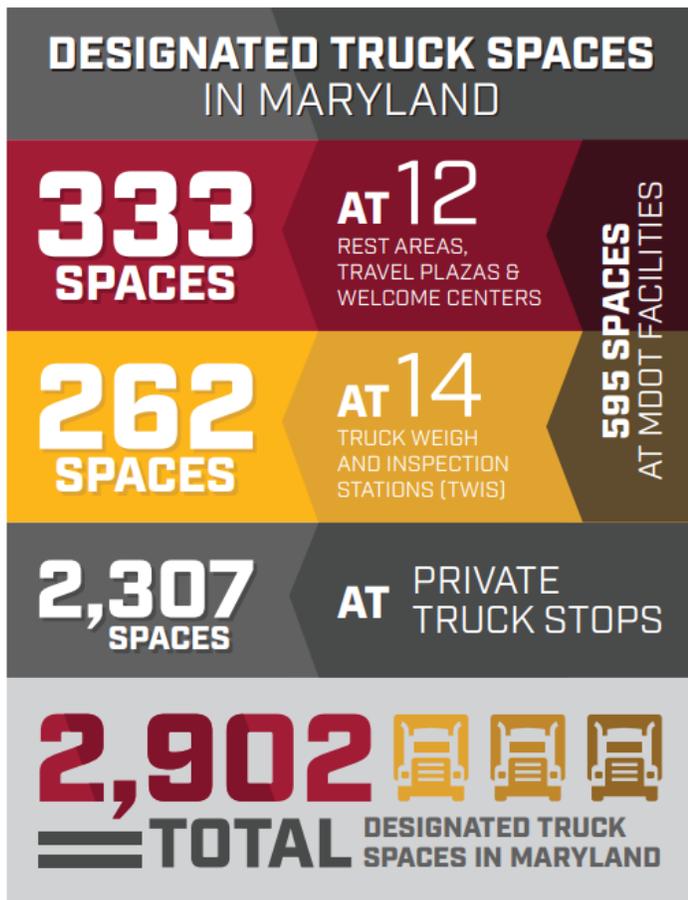
Potential Incentives & Funding

- Many potential options all on the table, both existing and new
- All-of-the-above strategy, need for identification/establishment of sustainable, multi-year/long-term funding sources
 - Federal/regional/state/utilities/local/other
- DERA- US EPA-MDE
- CMAQ- US DOT-MDOT
- RGGI/Strategic Energy Investment Fund (SEIF)/MEA programs
- Utility programs (make-ready infrastructure)



Early MHDV Analyses

Statewide Truck Parking Study - 2020



* Priority Clusters were selected from the top 15 locations in Central Maryland with the highest prioritization score and also three additional clusters were added to include locations in both Western Maryland and along the Eastern Shore.



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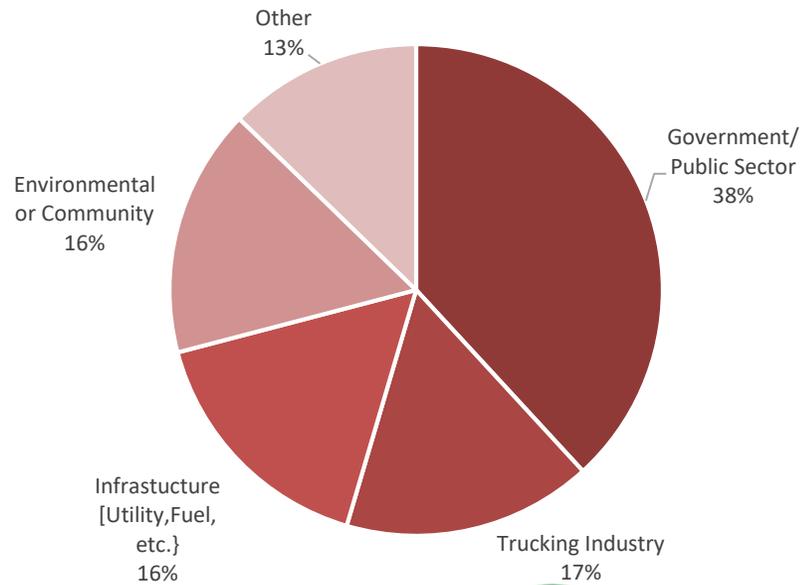


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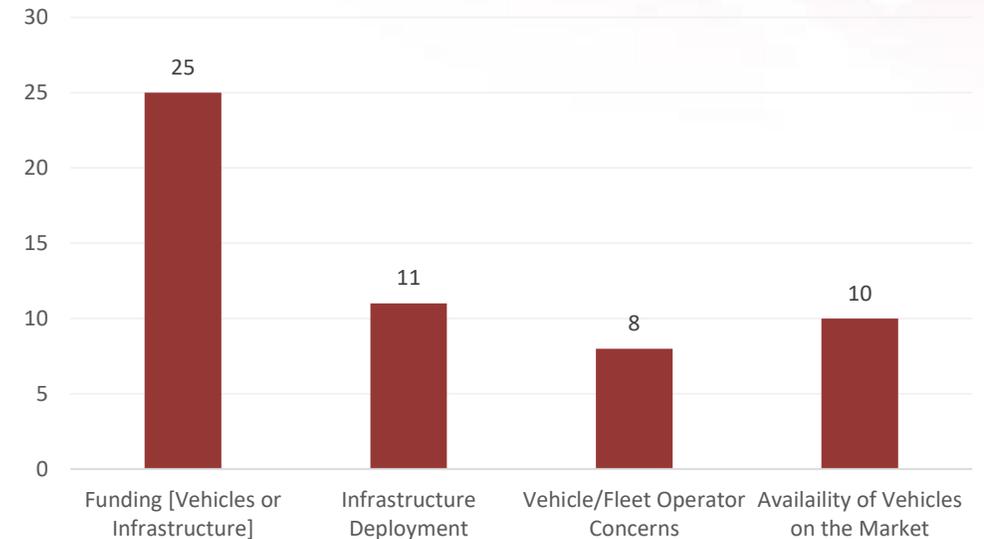
MHD ZEV MOU & Clean Truck Planning Framework Webinar

- Two webinars: Friday 11/13 and Tuesday 11/17
- 86 Total Attendees
- 8 Poll Questions
 - Results are not statistically significant and only reflect those who attended the Webinar

What type of Organization are you affiliated with?



What do you perceive as the greatest challenge to be addressed in the MHD ZEV Action Plan?



Resources

- MDE VW Information: mde.vw@maryland.gov
- Maryland EV: <https://marylandev.org/>
- ZERO Emission Electric Vehicle Council (ZEEVIC):
 - <https://www.mdot.maryland.gov/tso/Pages/Index.aspx?PageId=81>
- MDE EV Incentives:
 - https://mde.maryland.gov/MarylandGreen/Documents/EV_dealershipflyer_online.pdf
- US DOE Alternative Fuels Data Center: <https://afdc.energy.gov/>
- IEA Global EV Outlook: <https://www.iea.org/reports/global-ev-outlook-2020>



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