EVInfoSheet-20210907.pdf
Uploaded by: David Fraser-Hidalgo
Position: FAV

The Electric Vehicle Association of Greater Washington DC

evadc.org

2021

Electric Vehicle Information Sheet

All Electric	Base Price (USD)[1]	Net Price (USD)[2]	Range (mi)[3]	Batt. (kWh)	Power (kW)[4]	0-60 (sec)	QC (kW)[5]	MPG equiv[3]	Fuel / Mo.[6]
Chevy Bolt	$31,000	$31,000	259	66	150	6.5	50	118	$46
Harley LiveWire	$21,999	$19,799	95*	15.5	78	3.0	20^	95*	——
Hyundai Ioniq Elec.	$33,245	$25,745	170	38.3	100	9.5	75	133	$42
Hyundai Ioniq 5 β	$45,000^	$37,500^	258-290^	77	168-239	5.2-7.4	220	——	——
Hyundai Kona Elec.	$34,000	$26,500	258	64	150	6.4	75^	120	$46
Kia EV6 β+	$45,000^	$37,500^	239-300^	58-77	125-430	3.5-5.2	220	——	——
Kia Niro EV	$39,090	$31,590	239	64	150	7.8	77	112	$50
MINI Electric	$29,900	$22,400	114	32.6	135	6.9	50	110	$50
Nissan Ariya β+	$40,000^	$32,500^	225-300^	66-91	160-250	5.0^	130	——	——
Nissan LEAF +	$27,400	$19,900	149s-226	40-62	110-160	6.4-7.4	50-100	104-111	$50
VW ID.4	$39,995	$32,495	250	82	150	7.4	125	97	$58
Zero SR/S +	$19,995	$17,495	109*	14.4	82	3.3	N/A	——	——
Average U.S. Gasoline Car Price		$40,000							
Audi e-tron	$65,900	$58,400	222	95	300	5.5	150	78	$71
BMW i3	$44,450	$36,950	153	42.2	125	7.2	50	113	$50
Ford F-150 Lightning β+	$39,974	$32,474	230-300*	115-150^	318-420	4.5^	150	——	——
Ford Mustang Mach-E +	$42,895	$35,395	211-305	68-88	198-360	3.5-6.1	150	90-101	$54-63
GMC Hummer EV β+	$79,995	$79,995	250-350*	150-200^	745*	3.0-3.5	350	——	——
Jaguar I-Pace	$69,900	$62,400	222	90	294	4.5	50	76	$71
Polestar 2	$45,900	$38,400	249-265	78	300-500	4.5-7.0	150	89-92	$58-63
Porsche Taycan +	$82,700	$75,200	201-227	79-93	300-560	2.6-5.1	270	69-79	$67-79
Rivian R1S +	$70,000	$62,500	316	135	562^	3.0	200^	69	$79
Rivian R1T +	$67,500	$60,000	314	135	562^	3.0	200^	70	$79
Tesla Cybertruck β+^	$39,900	$39,900	250-500	100-200	330-600	2.9-6.5	250	——	——
Tesla Model 3 +	$39,990	$39,990	262-353	54-75	211-335	3.1-5.3	170-250	134-141	$38-42
Tesla Model Y	$53,990	$53,990	303-326	75	211-335	3.5-4.8	250	——	——
Tesla Model S +	$89,990	$89,990	396-405	100	500-760	2.0-3.1	250	110	$50
Tesla Model X	$99,990	$99,990	340-360	100	500-760	2.5-3.8	250	105	$50
Tesla Roadster β	$200,000	$200,000	620	200	——	1.9	350^	——	——
Volvo XC40 Recharge	$53,990	$46,490	208	78*	300	4.7	150	79	$70


Cybertruck


F-150


Hummer


R1T


R1S


Model S
Model X


XC40


VW


MINI


Kona


Ioniq 5


Ioniq


Bolt


Harley


240V Home Charging Station

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

Home Charging

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

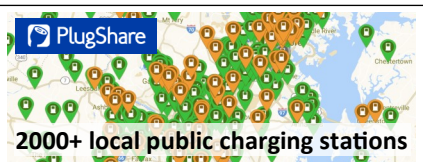
Install a home 240V charging station for faster charging at home. $400-$1000 + installation

Public Charging

Cost varies, free - 49 ¢ / kWh

SemaConnect chargepoint blink eVgo electrify america

240V Public Charging Station




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

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.

1. Base price before tax incentives, destination.
2. Net price after federal tax credit. State credits may still apply. Consult tax advisor.
3. EPA combined city/highway, except as noted
4. Total motor power. 1 kW = 1.34 hp
5. DC Quick / Fast Charge max rate
6. EPA, 15000 miles/year, 12¢ / kWh

* Source: Vehicle Manufacturer
^ Estimate
\+ Multiple battery options available
β Future availability announced

The Electric Vehicle Association of Greater Washington DC

evadc.org

2021

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.	$44,920	$37,420	32+gas	16	7.4	82	$83
Ford Escape Plug-In	$33,075	$25,575	37+gas	14.4	9.0^	102	$67
Honda Clarity PHEV	$33,400	$25,900	48+gas	17	7.7	110	$58
Hyundai Ioniq PHEV	$26,700	$22,157	29+gas	8.9	8.9	119	$54
Hyundai Santa Fe PHEV	$40,535	$33,948	31+gas	13.8*	——	70*	——
Hyundai Tucson PHEV	$35,000^	$28,500^	33+gas	13.8*	8.9	70*	$54
Kia Niro PHEV	$29,590	$25,047	26+gas	8.9	9.0	105	$58
MINI Cooper S E Countr.	$41,500	$36,500	17+gas	10	6.7	73	$108
Mitsubishi Outlander	$36,695	$30,108	24+gas	13.8	9.2	74	$100
Subaru Crosstek Hyb.	$35,345	$30,845	17+gas	8.8	8.3	90	$79
Toyota Prius Prime	$28,220	$23,720	25+gas	8.8	10.5	133	$50
Toyota RAV4 Prime	$38,350	$30,850	42+gas	18.1	5.7	94	$71
Average U.S. Gasoline Car Price		$40,000					
Audi A7 Plug-In	$74,900	$68,188	24+gas	14.1	5.7	68	$113
Audi A8 Plug-In	$95,900	$89,188	18+gas	14.1	4.9	53	$150
Audi Q5 Plug-In	$51,900	$45,188	19+gas	14.1	5.0	50	$129
Bentley Bentayga	$187,600	$180,100	18+gas	17.3	5.2	46	$183
BMW 330e	$44,550	$38,714	22+gas	12	5.6	——	——
BMW 530e	$57,200	$51,364	21+gas	12	5.9	69	$113
BMW 745e xDrive	$95,900	$90,064	16+gas	12	4.9	56	$150
BMW i3 Range Extender	$48,300	$40,800	123+gas	42.2	8.0	100	$58
BMW X3 xDrive30e	$49,600	$43,764	17+gas	12	5.9	——	——
BMW X5 xDrive45e	$65,400	$57,900	30+gas	21.6	5.3	56	$138
Ferrari SF90 Stradale	$625,000	$621,500	9+gas	7.9	2.5	51	$217
Jeep Wrangler 4xe	$51,025	$43,525	21+gas	17	6.0	——	——
Karma GS-6 / Revero β	$83,900	$76,400	61+gas	28	4.5	70	$96
Land Rover Sport P400e	$83,000	$76,705	19+gas	13	6.3	42	$175
Lincoln Aviator	$69,070	$62,536	21+gas	13.6	——	——	——
Lincoln Corsair β	$50,390	$43,547	28+gas	14.4	——	78	$88
Mercedes GLC350e	$51,900	$45,438	22+gas	13.5	5.6	56	$138
Polestar 1	$155,000	$147,500	52+gas	34	4.2	58	$117
Porsche Cayenne	$83,300	$75,800	16+gas	17.9	4.7	47	$154
Porsche Panamera	$103,800	$97,130	15+gas	14.1	4.4	51	$154
Volvo S60 Recharge	$47,650	$42,231	22+gas	11.6	4.3	69	$104
Volvo S90 Recharge	$60,050	$54,631	21+gas	11.6	4.8	60	$113
Volvo V60 Recharge	$67,550	$62,131	22+gas	11.6	4.3	69	$104
Volvo XC60 Recharge	$53,500	$48,081	19+gas	11.6	4.9	57	$125
Volvo XC90 Recharge	$63,450	$58,031	18+gas	11.6	5.9	55	$125

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**

DC:	EV Supply Equipment (EVSE) Tax Credit - 50% of cost up to **$1000** Excise tax exemption. Reduced vehicle registration fee of $36
Maryland:	EV Supply Equipment (EVSE) Tax Credit - 40% of cost, max $700 High Occupancy Vehicle (HOV) Lane Exemption through Oct. 2022
Virginia:	Reduced personal property tax in Arlington and Loudon counties Discounted electricity rates for off-peak residential EV charging

Version 20210907

HB1391 Senate Sponsor Testimony.pdf
Uploaded by: David Fraser-Hidalgo
Position: FAV

DAVID FRASER-HIDALGO
Legislative District 15
Montgomery County

Environment and Transportation Committee

Chair
Motor Vehicle and Transportation Subcommittee

The Maryland House of Delegates
6 Bladen Street, Room 223
Annapolis, Maryland 21401
410-841-3186 · 301-858-3186
800-492-7122 *Ext.* 3186
David.Fraser.Hidalgo@house.state.md.us

THE MARYLAND HOUSE OF DELEGATES
ANNAPOLIS, MARYLAND 21401

Testimony in Support of HB1391
The Clean Cars Act of 2022
Testimony by Delegate David Fraser-Hidalgo
March 31, 2022- The Senate Finance Committee

According to the Inventory of U.S. Greenhouse Gas Emissions and Sinks (1990-2019), the transportation sector accounted for the largest portion (29%) of total U.S. greenhouse gas emissions in 2019. Light-duty vehicles, which includes passenger cars, were by far the largest category, accounting for 58% of greenhouse gas emissions.[1] In Maryland alone, the transportation sector accounted for 36% of greenhouse gas emissions in 2018.[2]

Greenhouse gas emissions have lasting, and often deadly, consequences on our population's health. According to the Maryland Department of Health, in 2018 there were 29,534 asthma-related emergency department visits in Maryland (52.4 per 10,000 residents); among children under five years old, the ER visit rate was 119.4 per 10,000 residents.[3] This cost the State $27.7 billion in healthcare costs.[4] In 2019, the Maryland Department of Health also reported that chronic lower respiratory diseases, which includes asthma, were the fifth leading cause of death in the State, with a mortality rate of 29.2 per 100,000 residents.[5] A study from 2019 of 869 counties in the U.S. found that there is a strong correlation between ozone and fine particulate pollution and respiratory ER visits among all age groups.[6]

1 Fast Facts on Transportation Greenhouse Gas Emissions | US EPA
2 State Carbon Dioxide Emissions Data - U.S. Energy Information Administration (EIA)
3 Pages - Asthma (maryland.gov)
4 Pages - Asthma (maryland.gov)
5 2019Annual.pdf (maryland.gov)
6 Age-Specific Associations of Ozone and Fine Particulate Matter with Respiratory Emergency Department Visits in the United States | American Journal of Respiratory and Critical Care Medicine (atsjournals.org)

This data demonstrates just how deadly our continued reliance on fossil fuels is and will continue to be unless we make serious changes now.

Information from the Maryland Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) shows that Maryland is behind other states when it comes to supporting EV deployment. Currently, we do not have point-of-sale rebates, rebates for new EVs, rebates for used EVs, or a tax credit for EV purchase. We are even behind conservative states when it comes to offering these incentives—including Arizona, Georgia, Indiana, Louisiana, North Carolina, Ohio, South Dakota, Texas, Utah, and Wyoming.[7] [8]

That is why I am reintroducing my electric vehicle tax credit bill again this session. The Clean Cars Act of 2022 provides a tax credit of $1,000 to 3,000[9] for eligible taxpayers who have purchased a plug-in or fuel cell electric vehicle or electric motorcycle/autocycle on or after July 1, 2022 and before July 1, 2027 that costs less than $50,000.

There are two programs in Maryland that lay the groundwork for this tax incentive. In 2007, Maryland adopted the Clean Cars Program in accordance with California's stricter Low Emission Vehicle Standards. The Clean Cars program, run by the Maryland Department of the Environment, incentivizes transportation electrification and greenhouse gas emissions reductions by supporting California's agreements with vehicle manufacturers who have committed to producing cars that emit fewer greenhouse gas emissions. As a result, manufacturers in Maryland have also committed to ensuring the availability of EVs in the State, creating EV-certified dealers, and increasing the availability to purchase EVs through EV-certified dealers.[10]

In addition, in 2013, Maryland and the governors of seven other states signed a Memorandum of Understanding (MOU) committing to coordinated action to ensure the successful implementation of their state's zero-emission vehicle (ZEV) programs. Maryland has a goal of 300,000 ZEVs on the road by 2025 and 600,000 by 2030. I believe that our commitment to this tax credit will be one of the most important components of a successful EV program in Maryland.

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7 See attached ZEEVIC "Maryland ZEV Policy Scorecard"

8 ZEEVIC-2021 Report_Final.pdf (maryland.gov)

9 Up to $3,000 for each zero-emission plug-in or fuel cell EV purchased; $1,500 for each plug-in hybrid vehicle purchased; $1,000 for each two-wheeled zero-emission electric motorcycle purchased; $2,000 for each three-wheeled zero-emission electric motorcycle purchased

10 Maryland Clean Cars Program

As of December 9, 2021, the Motor Vehicle Administration had 23 applications waiting for additional funding. Currently, there are approximately 39,633 EVs registered in Maryland.[11]

The technology for EVs is evolving at a rapid pace. The battery capacities continue to go up and the costs of the batteries are going down, which is reflected in the sticker prices of new EVs. Mid-priced models are being introduced, which provide an opportunity for people from various income levels to purchase EVs. The network of charging stations is expanding, providing a sense of security and a visible reminder that EVs are a viable option for most. At last count, there are nearly 1,100 charging stations and over 2,800 plugs available in Maryland.[12]

The transportation sector continues to be the single largest contributor of greenhouse gas emissions. I ask you for a favorable report on HB1391 for the best possible chance to meet our ZEV commitments and reduce emissions caused by fossil fuels.

---

[11] According to the Maryland Department of the Environment

[12] ZEEVIC-2021Report_Final.pdf (maryland.gov)

MEA-MDOT Report on HB44_2021.pdf
Uploaded by: David Fraser-Hidalgo
Position: FAV

Maryland Energy Administration

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Mary Beth Tung, Director

RE: Report Required by HB 44/Ch. 670, Sec. 4, 2021 (MSAR # 13248)
December 22, 2021

The Honorable Delores G. Kelly
3 East Miller Senate Office Building
11 Bladen Street
Annapolis, MD 21401

The Honorable Kumar P. Barve
251 Taylor House Office Building
6 Bladen Street
Annapolis, MD 21401

Chairpersons;

Please find attached the Report to the Senate Finance Committee and the House Environment and Transportation Committee in Accordance with House Bill 44, Chapter 670, Section 4 of the Session Laws of Maryland 2021. The report provides the fiscal impact of zero emission vehicles registered in the State on the Transportation Trust Fund, measures to reduce the impact of zero emission vehicles on the Transportation Trust Fund, and a survey of measures enacted by other states or jurisdictions.

As required, five color hard copies will be sent to the DLS Library.

Sincerely,

DocuSigned by:
Mary Beth Tung
8320E614D8504CC...

12/22/2021

Mary Beth Tung, Ph.D., Esq.
Director

cc: President Bill Ferguson
Speaker Adrienne A. Jones
Sarah Albert, Department of Legislative Services (5 copies)

Maryland Energy Administration

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Mary Beth Tung, Director

A Report to the Senate Finance Committee and the House Environment and Transportation Committee in Accordance with House Bill 44, Chapter 670, Section 4 of the Session Laws of Maryland 2021 (MSAR # 13248)
December 22, 2021

Introduction

Maryland has an ambitious target of 300,000 Zero-Emission Vehicles (ZEVs) by 2025. Qualified ZEVs include Battery Electric Vehicles (BEV), Plug-in Hybrid Electric Vehicles (PHEV), and fuel cell electric vehicles (FCEV). This policy is designed to help the state achieve its climate change goal of reducing greenhouse gas emissions by nearly 40% from 2006 levels by 2030.[1] However, the proliferation or adoption of ZEVs could have effects on the Transportation Trust Fund (TTF). The magnitude of this impact is a concern for policymakers as the state relies on fuel tax revenues to fund transportation infrastructure. In this light, state lawmakers have requested through the Clean Cars Act that the Maryland Energy Administration (MEA) submit a report in consultation with the Maryland Department of Transportation (MDOT) that estimates:

I. The fiscal impact of zero-emission vehicles registered in the State on the TTF.

II. Measures to reduce the impact of zero-emission vehicles on the TTF; and A survey of measures enacted by other states or jurisdictions.[2]

Maryland has 32,373 miles of federal, state, county, and municipal, rural, and urban roads. It takes a significant amount of financial resources to build, operate and maintain the state's road network.[3] The TTF is used to meet the state's transportation service and infrastructure needs. It comprises revenue from different sources, including fuel tax revenue, registration fees, operations revenue, titling taxes, and federal aid. In FY20, the revenue collected for the TTF is estimated to be over $5 billion. As of August 2021, there were 37,432 registered BEVs and PHEVs in Maryland, making up less than 1% of the total registered vehicles in the state.[4] Approximately 5.2 million vehicles were registered in Maryland at the end of FY21.[5] Large-scale adoption of electric vehicles (EVs) could adversely affect revenue generation

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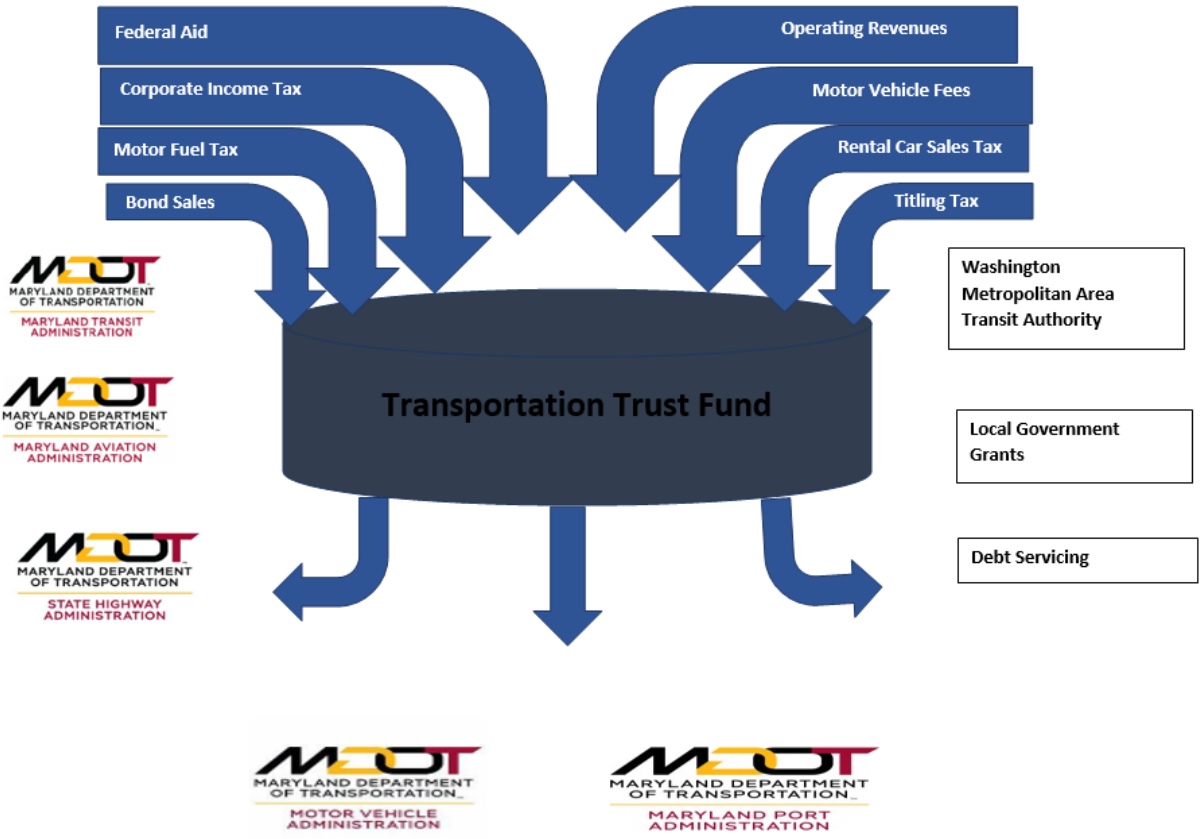
[1] Maryland Greenhouse Gas Emissions Reduction Act SB323 mgaleg.maryland.gov/2016RS/Chapters_noln/CH_11_sb0323t.pdf
[2] Maryland Clean Cars Act HB44 mgaleg.maryland.gov/2021RS/Chapters_noln/CH_670_hb0044e.pdf
[3] U.S. Department of Transportation: Federal Highway Administration. 2020. Highway Statistics 2019: Public Road Length - 2018, Miles By Ownership, Table HM-10. fhwa.dot.gov/policyinformation/statistics/2018/hm10.cfm.
[4]MDOT/ Maryland Motor Vehicle Administration, 2021, MDOT/MVA Electric and Plug-in Hybrid Vehicle Registrations by County as of each month end from July 2020 to August 2021, retrieved from: opendata.maryland.gov/
[5] Motor Vehicle Administration, 2021, MVA VEHICLE REGISTRATION by COUNTY FY 2010 to FY 2021, retrieved from: opendata.maryland.gov/

in the state, as owners of EVs do not pay any motor fuel taxes as owners of internal combustion vehicles do.

This report estimates the fiscal impact of ZEV adoption in the state, reviews measures to reduce the potential effects of ZEV adoption, and surveys measures taken by other states across the country.

Overview of the TTF

The TTF was created in 1971 to support transportation needs in Maryland. Its revenue sources include motor fuel tax, rental car sales tax, titling tax, corporate income tax, federal aid, motor vehicles fees (registrations, licenses, and other fees), operating revenue, and bond sales. The Transportation Infrastructure Investment Act of 2013 increased and expanded the TTF by indexing the motor fuel tax and MDOT Maryland Transportation Authority (MDTA) passenger fares to the consumer price index and placing restrictions on the transfer of the TTF to the general fund.[6] All the activities of MDOT are funded using the TTF, including debt service, maintenance, operations, administration and capital projects. Some capital program funds are paid to the Washington Metropolitan Area Transit Authority and as grants to local jurisdictions. Unexpended funds from the TTF are not remitted to the general fund, but are carried over to the following year. An illustration of what goes into the TTF and its different applications is shown below:



[6] Transportation Infrastructure Investment Act of 2013, HB1515 of 2013, Retrieved from: mgaleg.maryland.gov/2013RS/Chapters_noln/CH_429_hb1515t.pdf

Figure 1: Components and applications of the TTF.

The size of components of the TTF over the last six years is shown in the table below. In FY20, the gross revenue coming into the TTF was approximately $5.5 billion. Motor fuel tax made up about 20% of the TTF in FY20, amounting to about $1.1 billion. Between FY15 and FY20, motor fuel tax made up between 20% and 23% of the TTF.[7] It was the highest source of transportation revenue between FY15 and FY19, only surpassed by federal aid in FY20. A breakdown of the share of each component of the TTF in FY20 is shown in figure 2 below:

GROSS REVENUES ($MM)	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
Titling Tax	796	860	886	869	917	847
Motor Fuel Tax	924	1,018	1,079	1,084	1,140	1,076
Corporate Income Tax	166	187	146	151	190	194
Motor Vehicle Administration (MVA) Fees						
Registrations	376	381	389	390	403	367
Miscellaneous Motor Vehicle Fees	290	296	303	285	296	257
Decals & Rental Car Sales Tax	31	31	32	32	34	32
Total MVA Fees	697	708	724	707	733	656
OPERATING REVENUE						
Maryland Port Administration	50	50	49	52	55	55
Maryland Transit Administration	142	157	149	151	140	108

[7] Information obtained from MDOT

Maryland Aviation Administration	222	230	243	257	258	231
Total Operating Revenues	414	437	441	460	453	394
Other Revenues	100	263	83	141	(34)	266
Federal Aid	832	810	952	982	943	1,474
Bond Sales & Premium	449	325	723	646	689	552
TOTAL SOURCES OF FUNDS	**4,378**	**4,608**	**5,034**	**5,040**	**5,031**	**5,459**

Table 1 TTF FY 2015 to FY 2020 (Data provided by MDOT)

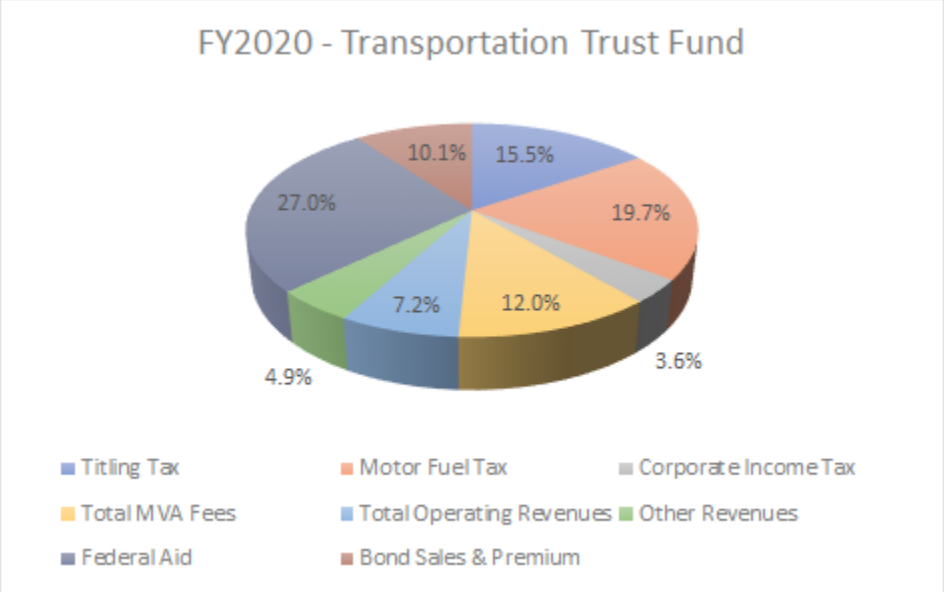


Figure 2: Share of components in TTF

As ZEVs continue to gain market share, it would result in revenue losses from motor fuel tax not collected at the point of sale. The following section reviews the ZEV trend over the last few years and its share in the transportation sector in Maryland.

EV trend

The number of registered EVs in Maryland has experienced significant growth over the last few years, rising from 609 at the end of FY12 to 34,841 by the end of FY21. As of August 2021, the number of EVs registered in Maryland totals 37,432.[8] Figure 4 below shows the growth of EVs since FY12.

Even though ZEVs have experienced significant growth, they still make up a small share of the total number of registered vehicles in Maryland. Figure 5 shows the share of EVs in relation to all registered vehicles in Maryland. Electric vehicles rose from 0.1% of the total registered vehicles in FY12 to 0.69% in FY21. BEVs make up a larger proportion of ZEVs, making up 0.42% of total vehicles compared to 0.27% from PHEVs.

As the share of ZEVs continues to grow, fuel tax receipts will continue to decline. These funds are a major component of the TTF. The next section estimates the loss in revenue from the adoption of ZEVs.

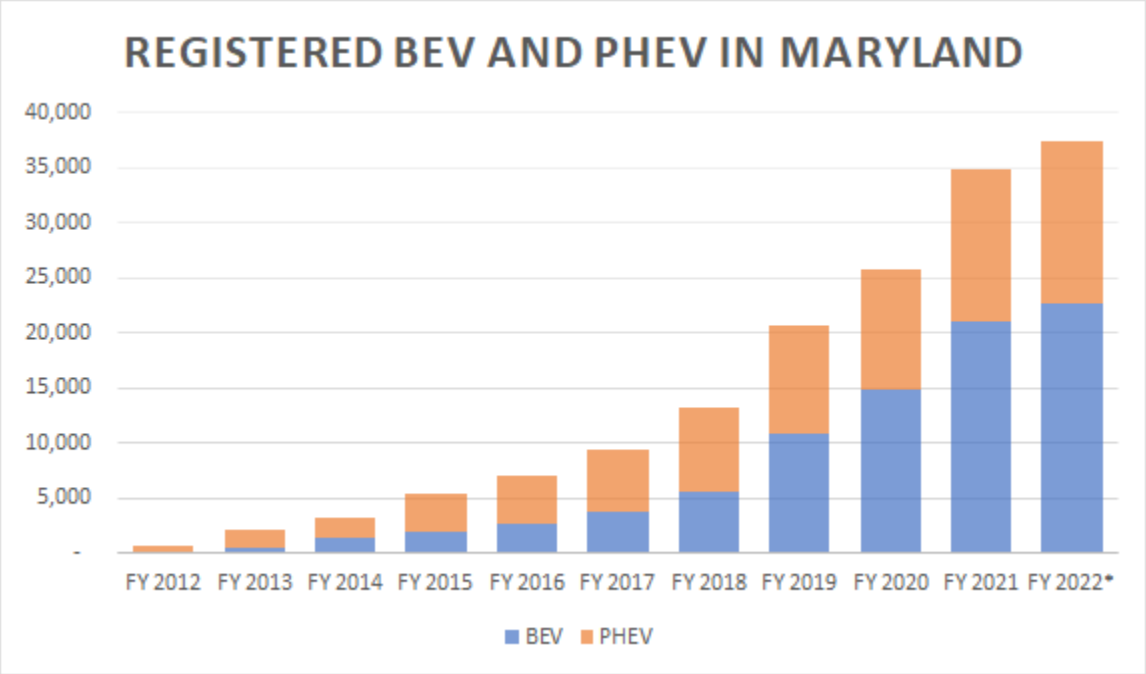


Figure 3 Registered BEV and PHEV in Maryland

[8] Ibid footnote 4

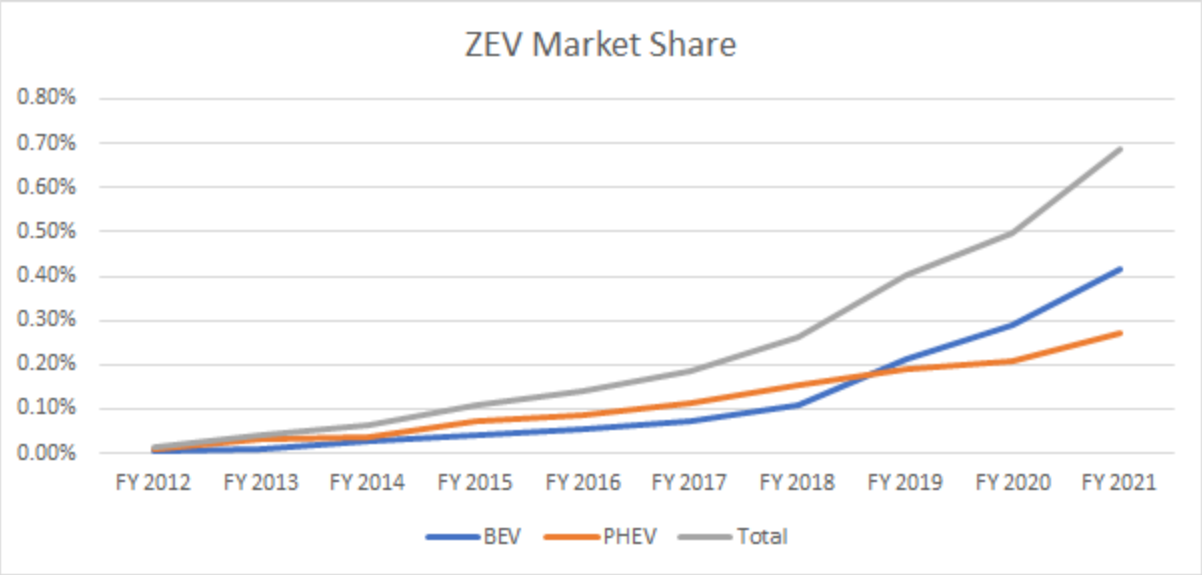


Figure 4 ZEV Market Share

Data Collection

Data collected for this analysis include

- BEV and PHEV registration data,
- State fuel tax per gallon,
- Average fuel economy of vehicles in the US, and
- The average mileage of EVs in Maryland.

Data on the EV registration was obtained from MDOT Motor Vehicle Administration (MVA) information on the Maryland Open Data Portal. At the end of FY21, there were 21,076 BEVs and 13,765 PHEVs in Maryland. State fuel tax for gasoline is 36.1 cents per gallon and for diesel is 36.85 cents per gallon.[9] The Environmental Protection Agency (EPA) estimated the average real-world fuel economy for all new vehicles to be 24.9 miles per gallon (mpg) in 2019, down from 25.1 mpg in 2018. The fuel economy has increased by 29% or 5.6 mpg since 2004, an average annual increase of 0.373 mpg. The real-world fuel economy for sedans is 30.9 mpg. Since most EVs in Maryland are sedans, the fuel economy for sedans is used for this analysis. Using the annual increase, the average fuel economy for 2021 is estimated to be approximately 31.65 mpg.[10] PHEVs use 30- 60% less petroleum than conventional vehicles.[11] For this report, it is assumed that the average fuel economy of a PHEV is twice that of an average gasoline vehicle, which is 63.29 mpg in 2021. The average mileage for EVs is based on the 2017 National Household Travel Survey. The average annual mileage for each EV in Maryland is 12,693.88 miles.[12]

[9] marylandtaxes.gov/forms/compliance_forms/MFT_RatesPerGallon.pdf
[10] epa.gov/automotive-trends/highlights-automotive-trends-report
[11] Plug in fuel economy. fueleconomy.gov/feg/phevtech.shtml
[12] U.S. Department of Transportation, Federal Highway Administration . 2017 National Household Travel Survey. nhts.ornl.gov/

Fiscal Effect of ZEV Adoption

To estimate the revenue losses from the adoption of ZEVs, we assume that all BEVs replaced gasoline vehicles in the state. To estimate the annual loss per EV, the following formula is used:

$$\frac{average\ annual\ miles\ traveled\ per\ EV}{average\ vehicle\ MPG} \times State\ fuel\ tax\ per\ gallon\ of\ gasoline$$

Equation 1

Revenue Losses from ZEVs

Using equation 1, the annual revenue loss from a BEV is (12,693.88/31.65) *0.361 = $144.8. At the end of FY21, the total annual revenue loss from 21,076 BEV results in about $3.05 million. Using the same equation for PHEV results in a total annual loss per vehicle of $72.4, and a total annual revenue loss of approximately $1 million. That gives a total annual revenue loss of about $4 million.

Depending on the assumption made for average gasoline fuel economy, estimated revenue loss could change. The figure below shows the estimated revenue loss at different average mpg. Using an average fuel economy of 20 mpg, the total annual revenue loss for EVs will be $6.4 million and at 35 mpg, the total annual revenue loss for EVs is $3.7 million.

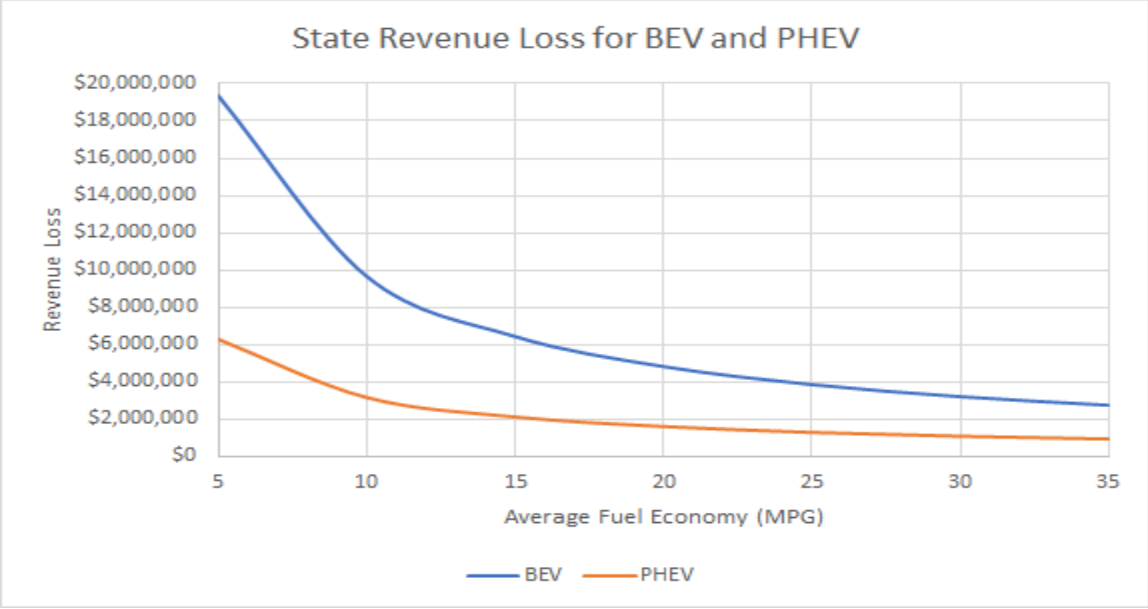


Figure 5 State Revenue Losses from BEV and PHEV

To project possible future fiscal impacts of ZEVs, we compare two scenarios. The first scenario is the baseline scenario, which utilizes the average growth rate of BEV and PHEV between FY16 and FY21. This results in an average annual growth rate of 53% for BEV and 26% for PHEV, resulting in 115,577 BEVs and 34,970 PHEVs by FY25. The second scenario is based on the Maryland ZEV target of 300,000

EVs by 2025, assuming 200,000 BEVs and 100,000 PHEVs. The projected growth in EVs from FY21 to FY25 from each of the scenarios is shown in the figures below:

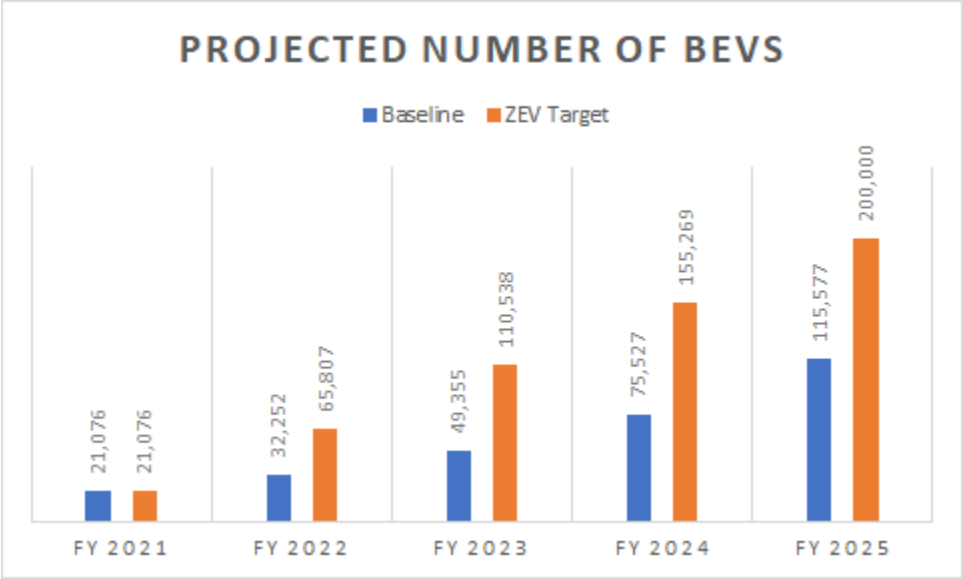


Figure 6 Projected Number of BEVs

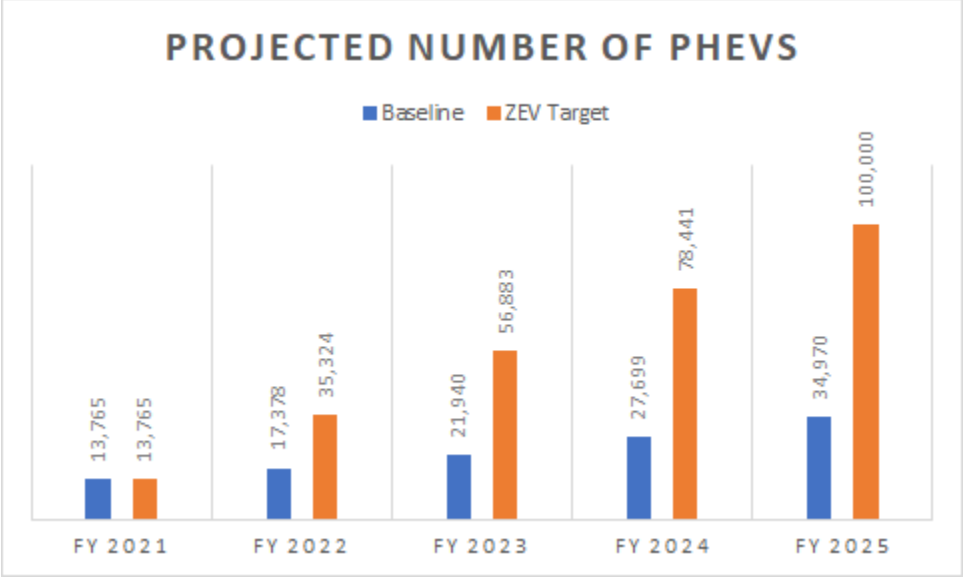


Figure 7 Projected Number of PHEVs

The projected revenue loss between FY21 and FY25 for each scenario is shown in the figure below. The same gas tax rate of 36.1 cents/ gallon is used to make projections since there has been minimal change in the gas tax rate in recent years. In the baseline scenario, total revenue loss from the adoption of EVs rose from $4 million in FY21 to $18.4 million in FY25. However, if Maryland meets its EV goals, total revenue loss will rise from $4 million in FY21 to approximately $41.5 million by FY25.

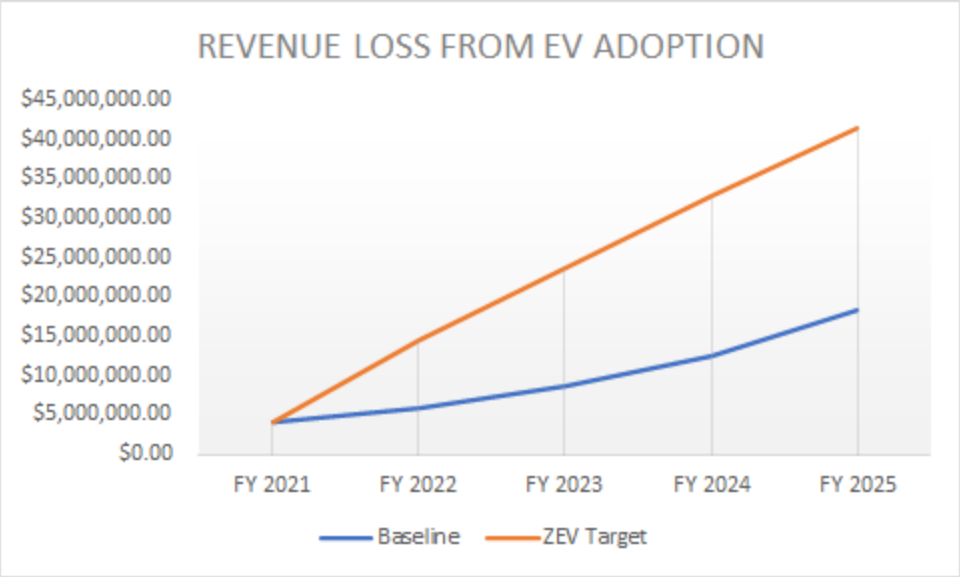


Figure 8 Projected Revenue Losses from EV adoption

Measure to reduce Impact

There are some policy options to increase transportation revenue and minimize the impact of increased proliferation of ZEV. These options include ZEV registration fees, Mileage-Based User Fees (MBUF) or Road Usage Charges (RUC), Motor Fuel Taxes, or Fuel Neutral Fees/charges. Each of these approaches has its pros and cons and is at various levels of development. Some policy options are already being implemented in the U.S., while others are still evolving or in development.

ZEV Registration Fees

All vehicles in the U.S. are required to be registered and titled. Every state has its registration fees levied annually or biennially, and registration fees could vary widely across states. In Maryland, registration fees account for between 8% of highway revenues.[13] As EVs gain market share, one approach to address the potential shortfall in fuel tax revenue is to levy specific registration fees for EVs. EV registration fees do not account for vehicle mileage or usage, and the costs are upfront. This has the potential to conflict with the overall policy goal of the state to encourage EV adoption since EV owners have to pay more upfront to own a ZEV. Some of the revenue from EV registration can be utilized toward incentivizing ZEVs and corresponding infrastructure to mitigate this.

Twenty-eight (28) states have set registration fees specifically for EVs, in addition to the standard vehicle registration fees. These fees range from $50 in Colorado to above $200 per vehicle in Washington State and Georgia. Of the 28 states with EV registration fees, 14 have a special lower rate for PHEVs. This is presumably because PHEVs pay some gas taxes when the vehicle exceeds its electric range. Revenue

[13] Information provided by MDOT

from EV registration fees often goes into the state's transportation fund. In some states, such as Alabama and Colorado, a portion of the EV fees is used to support EV infrastructure. The figure below shows EV registration fees across the U.S. The 14 states with different PHEV fees include Alabama, Arkansas, Idaho, Indiana, Iowa, Kansas, Michigan, Mississippi, Missouri, North Dakota, Ohio, South Carolina, Utah, and Washington State. A few states such as California, Utah, and Michigan have additional EV registration fees that grow over time and are tied to factors such as inflation and the consumer price index. A summary of the EV registration fees for each state and their application is shown in Appendix A.

Based on our analysis above, the average revenue lost per BEV annually between FY21 and FY 25 is $141.50, while an average of $70.75 is lost per year for PHEV in the same period. This means that setting additional registration EV fees in these amounts could be sufficient to overcome revenue loss from EV adoption for one year. However, it is critical to consider the impact of the policy decision on the state's overall EV adoption goals as it could discourage citizen purchases of EVs when the state has an aspirational goal of 300,000 EVs target by FY25. Figure 10 shows the revenue lost per EV each fiscal year.

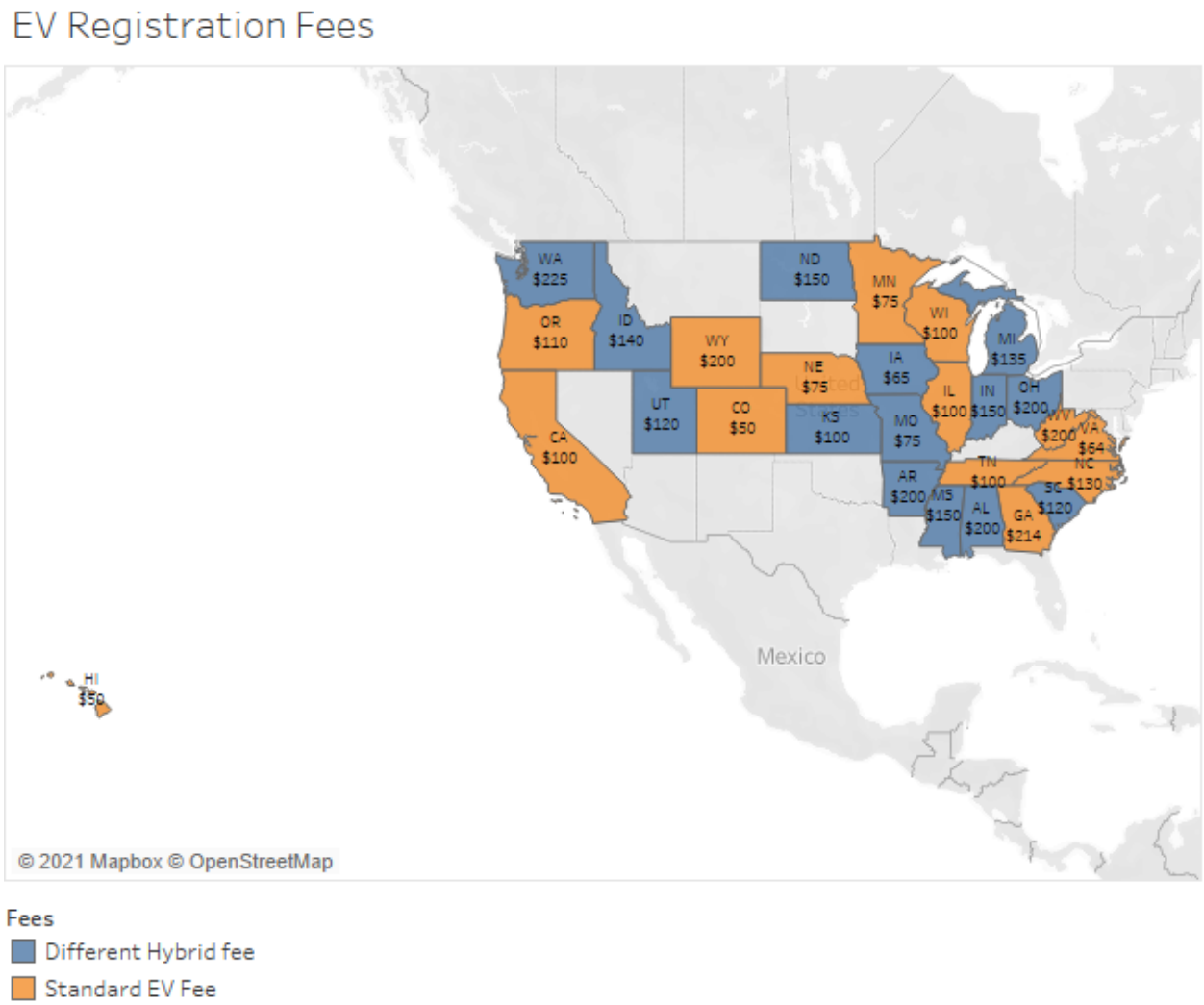


Figure 9 Additional EV registration fees per state

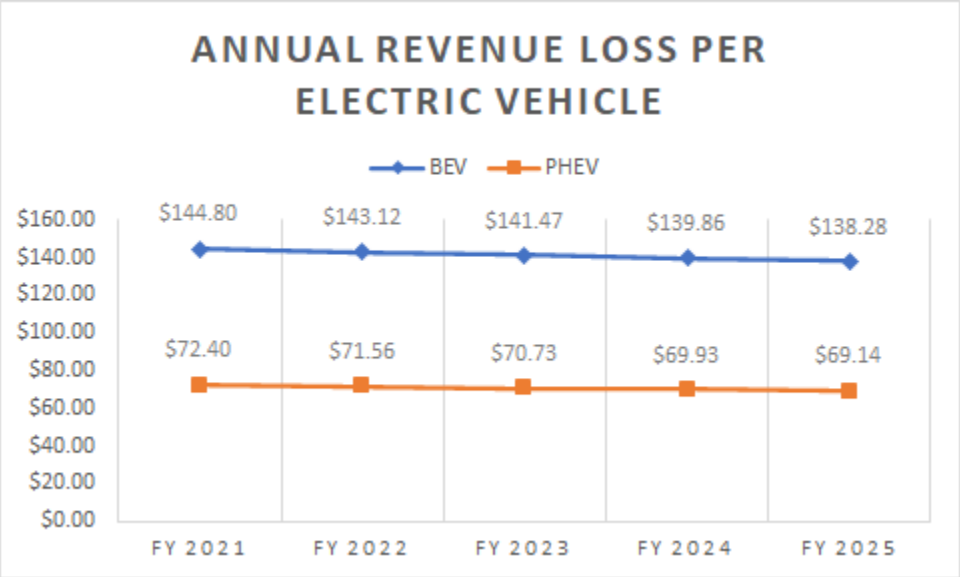


Figure 10 Annual Revenue Loss per Electric Vehicle

Mileage-Based User Fees or Road Usage Charge

Another approach to address dwindling gas tax revenue is the RUC. It is also known as vehicle miles traveled or MBUFs. These fees are based on the actual use of the roadways instead of the gallons of fuel consumed. Several states have considered RUC legislation, with at least seven states, namely Maine, Nevada, New Mexico, Oregon, Utah, Virginia, and Washington State enacting new laws for RUCs.

In addition to this, several states have carried out studies or pilot programs to test and evaluate the feasibility of RUCs. Some of these studies and pilot programs are supported by the federal government's Surface Transportation System Funding Alternatives (STSFA) grant program. So far, at least 11 states have received STSFA awards to study alternative revenue mechanisms, including Missouri, Washington, Oregon, New Hampshire, Minnesota, and Hawaii.

In 2015, Oregon launched an RUC pilot program named OreGo. Since then, the program has been expanded to remove the cap on the number of participating vehicles and increase the minimum mpg of the vehicles that can participate to 20 mpg. Under OreGo, eligible vehicles pay the base registration fee of $43, and an RUC charge of 1.8 cents per mile. Vehicle owners can opt out of EV registration fees and pay an RUC instead.[14] An RUC of 1.5 cents per mile is set in Utah until the total matches the EV registration fee ($120 in 2021).[15]

[14] ROAD USER FEE TASK FORCE Report to the Oregon Legislative Assembly, 2021, oregon.gov/odot/About/GR/RUFTF_REPORT_2021.pdf
[15] roadusagecharge.utah.gov/

In 2019, Maine enacted a law that established a commission to study alternative funding mechanisms for state transportation infrastructure.[16] Nevada passed a law that required the state's Department of Motor Vehicles to conduct a pilot program to gather data on the vehicle miles traveled annually for vehicles registered in this state. This pilot program seeks to provide information to further understanding of basing revenue collection on the annual vehicle miles traveled by each vehicle.[17] New Mexico enacted a law requesting the Department of Transportation to actively participate in the western road usage consortium regional system definition and pilot planning project and propose legislation to implement a mileage-based user fee.[18] Virginia enacted a law requiring the Joint Legislative Audit and Review Commission to study the adequacy of fees and taxes used for highway funding and identify the feasibility of alternative funding sources such as the use of mileage-based user fees.[19] In Washington State, a bill designed to establish road use charges failed to pass.[20] Washington State enacted a law, which states that once a road use charge is established in the state and 75% of registered vehicles are participating, then a goal is established for the state that all vehicles of the model year 2030 or later, sold, purchased, or registered in Washington State be EVs.[21] On a national level, the infrastructure law directs the U.S. Department of Transportation (DOT) Secretary, in coordination with the U.S. Secretary of the Treasury, to establish a pilot program to demonstrate a national motor vehicle per-mile user fee.

Fuel Neutral Fees or Taxes

Another alternative approach to revenue generation is collecting revenue based on the fuel consumption of the ZEV vehicles. In the case of EVs, this is based on the electricity consumed by the vehicle. In this approach, rates are set for charging vehicles similar to the gas tax rate for gasoline vehicles.

This approach is still in its infancy, but a few states have presented legislation to include an electric fuel tax. A bill proposed in the Minnesota assembly calls for an electric fuel tax of 5.1 cents per kWh. The bill is still pending and has been carried over to the next legislative session. More studies are still required to measure usage and prevent evasion accurately. Also, since most charging occurs at home, additional technologies for submetering may need to be obtained to measure electricity consumption by EVs. This could mean additional costs to ZEV owners. It is also important to consider whether such fees should be indexed to the consumer price index, as with gas taxes in Maryland.

Policy Considerations/Conclusion

As the share of ZEVs increases in Maryland, supported by state incentives and policies, it is critical to understand the impacts on transportation revenue that fund the construction, maintenance, and repair of

[16] State of Maine Senate 129TH Legislature, HP0700 LD 945 legislature.maine.gov/legis/bills/getPDF.asp?paper=HP0700&item=4&snum=129&PID=
[17] Nevada 2019 AB483 leg.state.nv.us/App/NELIS/REL/80th2019/Bill/6933/Overview
[18] New Mexico 2019 HM077 nmlegis.gov/Sessions/19%20Regular/final/HM077.pdf
[19] Virginia 2019 HJ 581 lis.virginia.gov/cgi-bin/legp604.exe?191+sum+HJ581
[20] Washington State SB 6586 - 2019-20 apps.leg.wa.gov/billsummary/?BillNumber=6586&Year=2020&Initiative=false
[21] Washington State HB 1287 - 2021-22 app.leg.wa.gov/billsummary?BillNumber=1287&Year=2021&Initiative=false

infrastructure. Several states have implemented registration fees, road use charges, and other similar policies to compensate for lost gasoline tax revenue from the ZEV adoption.

In choosing the appropriate policy for addressing this challenge, it is important to consider the implications for each policy choice. Registration fees are upfront, could serve as a disincentive for EV adoption, and act in contradiction to the state's ZEV targets, especially if set at amounts higher than what average gasoline vehicles pay for fuel tax. Some states utilize some of the revenues from EV fees to support EV infrastructure development. Registration fees also do not consider road usage and mileage, but they are administratively easy to apply. RUC/MBUF costs are spread over time and are based on road usage, but studies will be required to understand how Maryland can implement this. Electric charging fees are also relatively new, and studies will be needed to understand how they can be implemented.

Decisions on any policy approach should consider fairness, usage and the effects on the TTF.

Appendix A

Alabama
Additional EV fees (Ala. Code § 40-12-242 /HB 2 (2019))

a. An annual license tax and registration fee of $200.00 on each BEV
b. An annual license tax and registration fee of S100.00 on each plug-in PHEV
c. Fees will increase by three dollars ($3) every four years starting July 2023.
d. Annual BEV and PHEV fees shall be reduced by the amount of any future additional annual federal surcharge or registration fee placed, but the BEV fees should not be reduced to less than $150 and PHEV fees less than $75.

EV fee Use

a. The first $150 collected from annual BEV fees and the first $75 collected from the annual license tax and registration fee on each plug-in hybrid EV shall be distributed as follows:
   I. 66.67% to the state
   Ii. 25% to counties,
   Iii. 8.33% to cities.
b. The remainder will be deposited in the Rebuild Alabama Fund and used to fund EV transportation charging infrastructure until EVs make up 4% of all motor vehicles registered excluding trailers and semi-trailers.

Arkansas (AR)
Additional EV fees (Ark. Stat. Ann. § 27-14-614 /SB 336 (2019))

a. Two hundred dollars ($200) for each EV registered
b. One hundred dollars ($100) for each hybrid vehicle registered.

EV fee Use

a. The revenues collected are special revenues and distributed to the State Highway and Transportation Department Fund.

California (CA)
Additional EV fees (Cal. Veh. Code § 9250.6/SB 1 (2017))

a. One hundred dollars ($100) annual vehicle registration fee for Zero-Emission Vehicles (ZEV)
b. The EV fee will increase by an amount equal to the increase in the consumer price index, effective January 1, 2021, and every year thereafter.

EV fee Use

a. Revenues are deposited in the Road Maintenance and Rehabilitation Account after deductions of the DMV administrative costs.

Colorado
Additional EV fees (Colo. Rev. Stat. §42-3-304(25)(a)/HB 1110 (2013).

a. Fifty dollars ($50) annual vehicle registration fee for every plug-in electric motor Vehicle.

EV fee Use

a. Thirty dollars ($30) of each fee goes towards the Highway Users Tax Fund and twenty dollars ($20) of each fee goes to the Electric Vehicle Grant Fund.

Georgia
Additional EV Fees (Ga. Code Ann. §40-2-151(19)(A)(i)/HB 170 (2015)).

a. Alternative Fuel Vehicles registration fees are adjusted each year according to a statutory formula based on the percentage increase or decrease in average motor vehicle fuel efficiency as measured by the United States Department of Energy.
b. Effective July 1, 2021, Non-commercial alternative vehicles pay an annual registration fee of $213.70 and Commercial alternative vehicles pay an annual registration fee of $320.65. ($200 base fee for non-commercial, $300 base fee for commercial vehicles)

EV fee Use

a. Revenue from EV fees will be used for ‘transportation purposes’ including roads, bridges, public transit, rails, airports, buses, seaports, and all accompanying infrastructure and services necessary to provide access to these transportation facilities, including general obligation debt and other multi-year financial obligations.

Hawaii
Additional EV Fees (Hawaii Rev. Stat. §249-31/SB 409 (2019)).

a. An annual EV registration surcharge fee of $50

EV fee Use

a. Revenue is deposited into the state highway fund

Idaho
Additional EV Fees (Idaho Code §49-457/HB 312 (2015)/ HB 20 (2017))

a. Annual registration fee of $140 for all EVs.
b. Annual registration fee of $75 for plug-in hybrid vehicles.

EV fee use

a. All fees are deposited to the highway distribution account and are distributed as follows:
   I. Forty percent (40%) is given to local units of government for the construction and maintenance of highways.
   II. Sixty percent (60%) is given to the state highway account for the construction and maintenance of state highways.

Illinois
Additional EV Fees (625 ILCS 5 3-805/SB 1939 (2019)

a. One hundred dollars ($100) EV annual fee in lieu of payment of motor fuel taxes.

EV fee use

a. $1 of the additional fees shall be deposited into the Secretary of State Special Services Fund and the remainder of the additional fees shall be deposited into the Road Fund.

Indiana
Additional EV Fees (Ind. Code Ann. § 9-18.1-5-12/HB 1002 (2017))

a. Annual fee of $150 for all-EVs.
b. Annual fee of $50 for hybrid vehicles.
c. Subject to increase every 5 years based on the same inflation index used for motor fuel tax.

EV fee use

a. Revenues deposited into the Local Road and Bridge Matching Grant Fund for road construction and maintenance.

Iowa
Additional EV Fees (SF 767 (2019))

a. Annual fee of $97 for BEVs and $48.75 for PHEVs in 2021.
b. Annual fee increases to $130 for BEVs and $65 for PHEVs in 2022.

EV fee use

a. Revenues deposited into the Road Use Tax Fund.

Kansas
Additional EV Fees (Kan. Rev. Stat. § 8-143; HB 2214 (2019))

a. An annual registration fee of $100 for all-EVs.
b. An annual registration fee of $50 for electric hybrid and plug-in electric hybrid vehicles.

EV fee use

a. Revenues are deposited into the State Highway Fund.

Michigan
Additional EV Fees (Mich. Comp. Laws Ann. §257.801(7)/ HB 4736 (2015))

a. An additional registration fee of $135.00 for EVs weighing 8,000 pounds or less, and $235.00 for a vehicle weighing more than 8,000 pounds.
b. An additional registration fee of $47.00 for hybrid EVs weighing 8,000 pounds or less, and $117.00 for a vehicle weighing more than 8,000 pounds.

EV fee use

a. Revenues are deposited into the Michigan Transportation Fund for road maintenance and the Scrap Tire Regulation Fund.

Minnesota
Additional EV Fees (Minn. Stat. Ann. §168.013/HF 3 (2017))

a. An additional annual registration fee of $75 for nonhybrid, “all-electric” vehicles.

EV fee use

a. Revenues deposited into the Highway User Tax Distribution Fund.

Mississippi
Additional EV Fees (Miss. Code Ann. §§27-19-21; 23/HB 1 (2018 First Extraordinary Session)

a. An annual fee of $150 for EVs.
b. An annual fee of $75 for hybrid vehicles.
c. Beginning July 1, 2021, fees shall be adjusted every year by increasing the tax by a percentage equal to the United States inflation rate in the preceding year.

EV fee use

a. Funds are utilized in the same way as motor fuel tax, solely for the maintenance of roads and bridges.

Missouri
Additional EV Fees (Mo. Ann. Stat. §142.869/SB 619 (1998))

a. An annual fuel decal fee of $75 for alternative-fueled passenger motor vehicles up to 18,000 lbs.
b. An annual fee of $37.50 for plug-in electric hybrid vehicles.

EV fee use

a. Revenues deposited into the State Highway Fund

Nebraska
Additional EV Fees (Neb. Rev. Stat. §60-3,191/LB 289 (2011))

a. An annual fee of $75 for alternative-fueled vehicles.

EV fee use

a. Revenues deposited into the Highway Trust Fund.

North Carolina
Additional EV Fees (N.C. Gen. Stat. §20-87(13)/SB 402 (2013)/ HB 97 (2015))

a. An annual fee of $130 for alternative-fueled vehicles.

EV fee use

a. Revenues deposited into the Highway Trust Fund.

North Dakota
Additional EV Fees (N.D. Cent. Code § 39-04-19.2/SB 2061 (2019)).

a. A road use fee of $120 for each EV registered.
b. A road use fee of $50 for each plug-in hybrid vehicle registered.
c. A road use fee of $20 for each electric motorcycle registered.

EV fee use

a. Revenues deposited into the highway tax distribution fund

Ohio
Additional EV Fees (Ohio Rev. Code § 4503.10/HB 62 (2019))

a. Registration and renewal fee of $ 200 for each EV registered.
b. Registration and renewal fee of $100 for each plug-in hybrid vehicle registered.

EV fee use

a. Fifty-five percent (55%) of that revenue to the highway operating fund for distribution.
b. Forty-five percent (45%) of that revenue to the gasoline excise tax fund and shared tpo municipalities, counties, and townships.

Oregon
Additional EV Fees (Or. Rev. Stat. § 803.422/Or. Rev. Stat. § 319.885; 890/HB 2017 (2017)

a. EV owners have the option of enrolling in the State's RUC program known as OreGo.
b. EV not registered in OreGo pay an additional registration fee of $110 while EV registered in OreGo pay only the base registration fee.

EV fee use

a. Revenue is used to build, operate and maintain transportation systems.

South Carolina
Additional EV Fees (S.C. Code Ann. §56-3-645/HB 3516 (2017))

a. EVs and hydrogen vehicles pay a biennial road use fee of $120
b. Hybrid vehicles pay a biennial road use fee of $60

EV fee use

a. All of the fees collected are credited to the Infrastructure Maintenance Trust Fund, and used for the maintenance and repair of the transportation systems.

Tennessee
Additional EV Fees (Tenn. Code Ann. §55-4-116/HB 534 (2017).

a. One hundred dollars ($100) annual registration fee for EVs

EV fee use

a. Revenue deposited into the highway fund.

Utah
Additional EV Fees (Utah Code §41-1a-1206/SB 136 (2018))

a. One hundred and twenty dollars ($120) registration fee for each EV and other alternative fuel vehicles.
b. Fifty-two dollars ($52) for plug-in hybrid motor vehicles.
c. Twenty dollars ($20) for hybrid electric motor vehicles.
d. Fees will be indexed to the consumer price index, starting January 1, 2022

e. EV owners can opt for the state's road use charge program instead of the annual registration fee.

EV fee use

a. Revenues are deposited in the Transportation Fund.

Virginia
Additional EV Fees (Va. Code §58.1-2249(b)/SB 127 (2014).

a. An annual license tax of $64 per EV/alternative fuel vehicle registered in Virginia.

EV fee use

a. Revenues deposited into the Highway Maintenance and Operating Fund.

Washington
Additional EV Fees (Wash. Rev. Code §46.17.323/HB 2042 (2019))

a. An annual registration fee of $150 per EV.
b. Seventy-five dollars ($75) transportation electrification fee for Hybrid Vehicles.

EV fee use

a. The EV registration fee is divided as follows:
   I. 70% to the motor vehicle fund
   II. 15% goes to the transportation improvement account
   III. 15% goes to the rural arterial trust account.
b. The Hybrid Vehicle Transportation Electrification fee is used for electric vehicle charging stations.

West Virginia
Additional EV Fees (W. Va. Code §17A-10-3c/SB 1006 (2017))

a. Two hundred dollars ($200) annual fee on EVs.
b. One hundred dollars ($100) annual fee on hybrid EVs.

EV fee use

a. Revenues from EV fees are deposited into the state's Transportation Fund.
b. Revenues from other alternative fuels and hybrid EVs are deposited into the State Road Fund to cover the cost of construction, maintenance, and repair of roads as well as the administrative fees incurred.

Wisconsin
Additional EV Fees (Wis. Stat. Ann. §341.25/Act 59 §1895M (2017); Act 9 § 1987 (2019))

a. One hundred dollars ($100) annual fee on EVs.
b. Seventy-five dollars ($75) annual fee on hybrid EVs.

EV fee use

a. Revenues from fees are deposited into the state's Transportation Fund.

Wyoming
Additional EV Fees (Wyo. Stat. §31-3-102(a)(xxiii)/HB 9 (2015)/ HB 2 (2016)/HB 166 (2019).

a. Two hundred dollars ($200) annual fee on plug-in EVs.

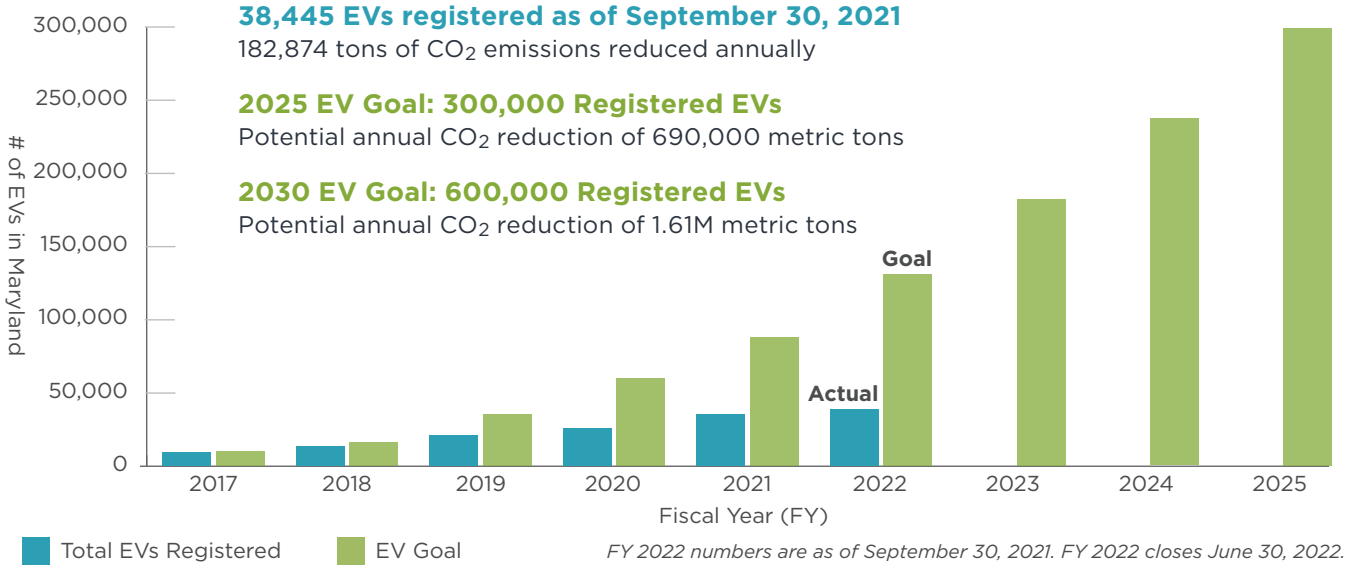
EV fee use

a. Revenues from fees are deposited into the state's highway fund.

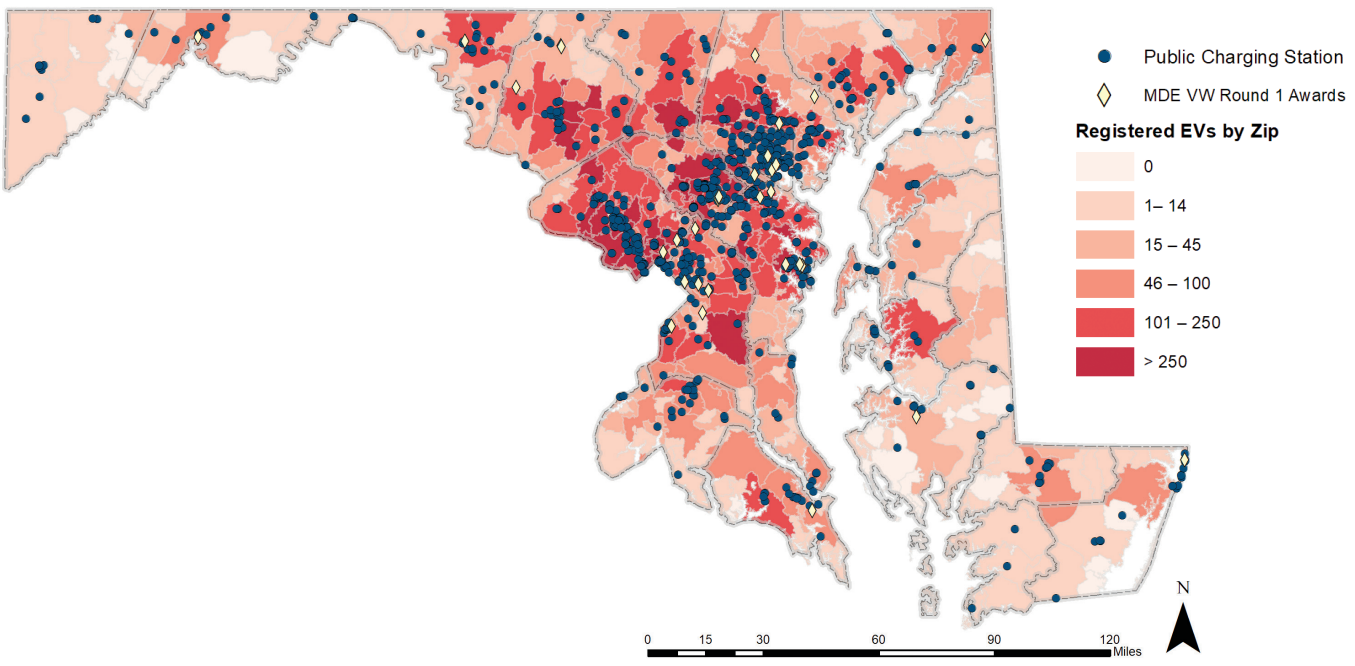
ZEEVIC_2022_Legislative_Flyer_Final.pdf
Uploaded by: David Fraser-Hidalgo
Position: FAV

Zero Emission Vehicles (ZEVs) in Maryland

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



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



MARYLAND ZERO EMISSION
Electric Vehicle Infrastructure Council

tinyurl.com/ZEEVIC2021

MDEV
MARYLAND EV

marylandev.org

Maryland ZEV Policy Scorecard

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

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

MARYLAND ZERO EMISSION
Electric Vehicle Infrastructure Council

tinyurl.com/ZEEVIC2021

MDEV
MARYLAND EV

marylandev.org

ZEV Mandate.pdf
Uploaded by: David Fraser-Hidalgo
Position: FAV

State Zero-Emission Vehicle Programs

Memorandum of Understanding

WHEREAS, the Signatory States have adopted regulations requiring increasing sales of zero-emission vehicles (ZEVs), or are considering doing so; and

WHEREAS, accelerating the ZEV market is a critical strategy for achieving our goals to reduce transportation-related air pollution, including criteria air pollutants, mobile source air toxics and greenhouse gas emissions (GHGs), enhance energy diversity, save consumers money, and promote economic growth; and

WHEREAS, our states are committed to reducing air pollution, including the emission of GHGs and other air pollutants from the mobile source sector; and

WHEREAS, many of our states have obligations or otherwise seek to reduce GHGs consistent with science-based targets by 2050; and

WHEREAS, motor vehicles are among the largest sources of GHGs and criteria air pollutants that adversely affect the health and well-being of our citizens in all of our states; and

WHEREAS, providing transportation alternatives such as ZEVs will help improve air quality, reduce the use of petroleum-based fuels in the transportation sector, protect consumers against volatile energy prices, and support the growth of jobs, businesses and services in a clean energy economy; and

WHEREAS, an increasing variety of vehicles that operate on hydrogen and low-cost electricity are commercially available and have the potential to significantly reduce emissions of criteria pollutants and GHGs, enhance consumer choice, and allow for home fueling; and

WHEREAS, states with ZEV programs collectively constitute 27 percent[1] of the U.S. automobile market and together can help create consumer demand that will further lower ZEV costs through economies of scale and expand the range of product lines available to consumers throughout the U.S.; and

WHEREAS, our states have a long history of leadership and innovation in promoting clean cars and collaborating on environmental issues.

NOW THEREFORE, as Governors of the Signatory States we express our mutual understanding and cooperative relationship as follows:

1. OVERALL COMMITMENT

The Signatory States agree to coordinate actions to support and ensure the successful implementation of our Zero-Emission Vehicle programs. The Signatory States agree to create and participate in a multi-state ZEV Program Implementation Task Force to serve as a forum for coordination and collaboration on the full range of program support and implementation issues to promote effective and efficient implementation of ZEV regulations. The Task Force will prepare, within six months of the date of this agreement, a plan of action to accomplish the goals identified in this MOU.

2. MEASURABLE GOALS

Consistent with program requirements, the initial Signatory States agree to a collective target of having at least 3.3 million zero emission vehicles on the road in our states by 2025 and to work together to establish a fueling infrastructure that will adequately support this number of vehicles. On an annual basis, each Signatory State will report, within available capabilities, on the number of ZEVs registered in its jurisdiction, the number of electric/hydrogen fueling stations open to the public and available information regarding workplace fueling for ZEVs.

3. INTER-AGENCY COORDINATION WITHIN STATES

As appropriate in each State, the Signatory States will seek to support and facilitate the successful commercialization of ZEVs and efforts to maximize the electric miles driven by these vehicles through actions such as promoting electric vehicle readiness through consistent statewide building codes and standards for installing charging infrastructure, developing streamlined metering options for homes equipped with electric vehicle chargers, evaluating opportunities to reduce vehicle operating costs and increasing electric system efficiency through time-of-use electricity rates and net metering for electric vehicles, and strengthening the connection between ZEVs and renewable energy.

[1]Source: R.L. Polk & Co. for new vehicle registrations in 2011.

4. PUBLIC FLEET PURCHASES AND FUELING STATIONS

To lead by example, each Signatory State will seek to establish ZEV purchase targets for government and quasi-governmental agency fleets and report annually on ZEV acquisitions. We will explore opportunities for coordinated vehicle and fueling station equipment procurement within and across our states. We will endeavor to provide public access to government fleet fueling stations. State contracts with auto dealers and car rental companies will, to the extent possible, include commitments to the use of ZEVs where appropriate.

5. INCENTIVES FOR ZEVS

The Signatory States agree to evaluate the need for, and effectiveness of, monetary incentives to reduce the upfront purchase price of ZEVs and non-monetary incentives, such as HOV lane access, reduced tolls and preferential parking, and to pursue such incentives as appropriate.

6. SHARED STANDARDS

The Signatory States agree, subject to their respective legislative requirements, to work to develop uniform standards to promote ZEV consumer acceptance and awareness, industry compliance, and economies of scale. Such standards may include, but are not limited to, adopting universal signage, common methods of payment and interoperability of electric vehicle charging networks, and reciprocity among states for ZEV incentives, such as preferential parking and HOV lane access.

7. PUBLIC – PRIVATE PARTNERSHIPS

The Signatory States will cooperate with automobile manufacturers, electricity and hydrogen providers, the fueling infrastructure component industry, corporate fleet owners, financial institutions and others to encourage ZEV market growth.

8. RESEARCH, EDUCATION AND OUTREACH

The Signatory States agree to share research and a coordinated education and outreach campaign to highlight the benefits of ZEVs and advance their utilization. We will collaborate with initiatives, including Clean Cities programs, the Northeast/Mid-Atlantic States Transportation Climate Initiative and the West Coast Electric Highway that are already working to raise consumer awareness and demonstrate the viability and benefits of ZEVs.

9. HYDROGEN-POWERED VEHICLES AND INFRASTRUCTURE STUDY

The Signatory States agree to pursue the assessment and development of potential deployment strategies and infrastructure requirements for the commercialization of hydrogen fuel cell vehicles.

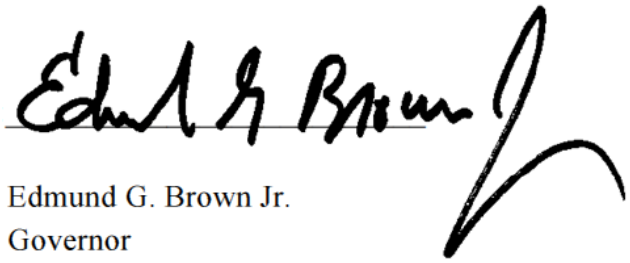
10. SUPPLEMENTARY PROVISIONS

a. A Signatory State may terminate its participation in the MOU with a written statement to other Signatory States.
b. Other states that commit to the conditions of this agreement may sign on to this MOU.
c. This MOU may be amended in writing upon the collective agreement of the authorized representatives of the Signatory States.

[Signatures on following pages]

This Memorandum of Understanding on State Zero-Emission Vehicle Programs signed as of the 24th day of October 2013.

THE STATE OF CALIFORNIA

By: 

Edmund G. Brown Jr.
Governor

This Memorandum of Understanding on State Zero-Emission Vehicle Programs signed as of the 24th day of October 2013.

THE STATE OF CONNECTICUT

By:_____

Dannel P. Malloy
Governor

This Memorandum of Understanding on State Zero-Emission Vehicle Programs signed as of the 24th day of October 2013.

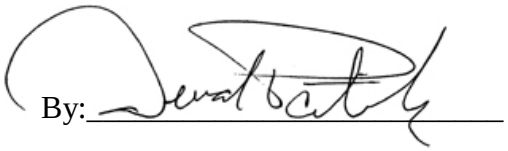
THE STATE OF MARYLAND

By: 

Martin O'Malley
Governor

This Memorandum of Understanding on State Zero-Emission Vehicle Programs signed as of the 24th day of October 2013.

THE COMMONWEALTH OF MASSACHUSETTS

By: 

Deval L. Patrick
Governor

This Memorandum of Understanding on State Zero-Emission Vehicle Programs signed as of the 24th day of October 2013.

THE STATE OF NEW YORK

By: 

Andrew M. Cuomo
Governor

This Memorandum of Understanding on State Zero-Emission Vehicle Programs signed as of the 24th day of October 2013.

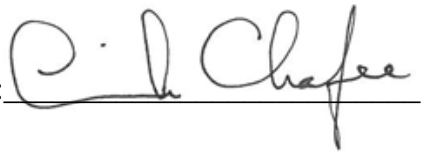
THE STATE OF OREGON

By:_____

John Kitzhaber
Governor

This Memorandum of Understanding on State Zero-Emission Vehicle Programs signed as of the 24th day of October 2013.

THE STATE OF RHODE ISLAND &
PROVIDENCE PLANTATIONS

By: 

Lincoln D. Chafee
Governor

This Memorandum of Understanding on State Zero-Emission Vehicle Programs signed as of the 24th day of October 2013.

THE STATE OF VERMONT

By: 

Peter Shumlin
Governor

HB1391-Clean Cars Act of 2022-Finance-CJW-fav.docx
Uploaded by: Diana Younts
Position: FAV

Committee: Finance
Testimony on: HB1391 - Clean Cars Act of 2022
Organization: Climate Justice Wing of the Maryland Legislative Coalition
Submitting: Diana Younts, Co-Chair
Position: Favorable
Hearing Date: March 31, 2022

Dear Mr. Chairman and Committee Members:

Thank you for allowing our testimony today in support of HB1391. The Maryland Legislative Coalition (MLC) Climate Justice Wing, a statewide coalition of over 50 grassroots and professional organizations, urges you to vote favorably on HB1391.

Vehicles are the biggest contributor to Maryland's greenhouse gas emissions and they pollute the surrounding communities with noxious and unhealthy tailpipe exhaust. Switching to electric vehicles is critically important to reaching our climate goals.

This bill helps Marylanders transition to electric vehicles by allowing them to get a break on the excise tax of as much as $3,000 - depending on vehicle type and tax amount - and covers electric vehicles, plug-in hybrids, motorcycles and 3-wheel vehicles.

As such, it is a straightforward necessary incentive.

We urge the Committee to recommend a **FAVORABLE** report.

MLC Climate Justice Wing:

Assateague Coastal Trust
Maryland Legislative Coalition
MD Campaign for Environmental Human Rights
Chesapeake Climate Action Network
WISE
Frack Free Frostburg
Mountain Maryland Movement
Howard County Indivisible
Howard County Sierra Club
Columbia Association Climate Change and Sustainability Advisory Committee
HoCo Climate Action
CHEER
Climate XChange - Maryland
Mid-Atlantic Field Representative/ National Parks Conservation Association
350 Montgomery County
Glen Echo Heights Mobilization
The Climate Mobilization Montgomery County
Montgomery County Faith Alliance for

Climate Solutions
Montgomery Countryside Alliance
Takoma Park Mobilization Environment Committee
Audubon Naturalist Society
Cedar Lane Unitarian Universalist Church Environmental Justice Ministry
Coalition For Smarter Growth
DoTheMostGood Montgomery County
MCPS Clean Energy Campaign
MoCo DCC
Potomac Conservancy
Casa de Maryland
Nuclear Information & Resource Service
Clean Air Prince Georges
Laurel Resist
Greenbelt Climate Action Network
Maryland League of Conservation Voters
Unitarian Universalist Legislative Ministry of Maryland
Concerned Citizens Against Industrial CAFOs
Wicomico NAACP
Chesapeake Physicians for Social Responsibility
Chispa MD
Climate Law & Policy Project
Maryland Poor People's Campaign
Labor Network for Sustainability
The Nature Conservancy
Clean Air Prince Georges
350 Baltimore
Maryland Environmental Health Network
Climate Stewards of Greater Annapolis
Talbot Rising
Adat Shalom Climate Action
Chesapeake Earth Holders
Climate Parents of Prince Georges
Echotopia
Maryland NAACP State Conference, Environmental Justice Committee

Arcimoto supports HB1391 Senate Finance 3.30.22.pd
Uploaded by: Joel Sheltrown
Position: FAV

March 30, 2022

Honorable Chair Kelley, Vice-Chair Feldman, and Members of the Senate Finance Committee,

My name is Joel Sheltrown and I am a former State Representative from Michigan.

I am writing in support of HB 1391.

I have been working in the Three Wheel transportation sector nationally since 2012, and I worked with Maryland delegates on HB 805 in 2016, creating Maryland's original Autocycle definition. I was working with Elio Motors at the time, but now I am working with Arcimoto, who is manufacturing ultra-efficient three-wheeled electric vehicles in Eugene, Oregon. Arcimoto's mission is to make the most efficient all-electric vehicles possible.

Arcimoto enthusiastically supports tax incentives to support the purchase of electric vehicles, especially two-and-three-wheeled ones. These tax credits are important for accelerating the transition to a low-carbon or no-carbon transportation system, and they can make a huge impact on purchases of our vehicles. We applaud and thank Representative Fraser-Hidalgo for his work on this bill and we urge you to advance it.

In addition to the tax credits for electric vehicle purchases, Arcimoto also enthusiastically supports an element in HB1391 that updates the definition of "autocycle."

When we passed the original autocycle definitions in Maryland and elsewhere around the country, electric vehicles were not very widespread yet, and we tried describe what made something drive more like a car than a motorcycle. The definitions varied around the country; and there is not a consistent definition of "autocycle." Many state definitions included steering wheels, but it turns out that steering wheels are not always the best steering option for ultra- efficient electric vehicles. Arcimoto vehicles use handlebars instead, to save weight and save space. And because there are handlebars, the best way to accelerate is with a hand throttle rather than foot pedal. That actually makes It safer than a steering wheel and pedals, because you can't take your hands off the steering mechanism and keep going.

The Tesla Model S is now being shipped with a steering "yoke" and General Motors just petitioned the National Highway Traffic Safety Administration for an exemption to car rules concerning "steering wheels." Other manufacturers are testing cars with joysticks. It does not make sense to tie an "autocycle" definition to steering wheels as something that "drives more like a car" when even cars may stop using them.

Please vote yes on HB 1391 as written and amended. This bill will help decarbonize transportation in Maryland and will also help make Arcimoto's American-made, ultra-efficient, three-wheeled electric vehicles available to the people of Maryland.

Respectfully Submitted,

Joel Sheltrown
Arcimoto Governmental Affairs
joel@arcimoto.com 989-387-7551

These are pictures of the Arcimoto Fun Utility Vehicle (FUV), which will qualify as an autocycle under HB 1391 as amended. All passengers sit on non-straddle seats, and wear double-harness seatbelts. The vehicle is incredibly stable, and does not tilt/lean at all.

Please see www.arcimoto.com for more information

Ext. Comm. - Testimony - 2022 - Maryland HB 1391 -
Uploaded by: Joshua Fisher
Position: FAV

March 30, 2022

The Honorable Dolores Kelley
Chair, Senate Finance Committee
Miller Senate Office Building
Annapolis, Maryland 21401

HB 1391: Clean Cars Act of 2022
Position: Favorable

Dear Chair Kelley:

The Alliance for Automotive Innovation[1] (Auto Innovators) is writing in support of HB 1391. It is critical for states and automakers to work together with the spirit that **"More is Better"** to develop policies that will encourage electric vehicle (EV) adoption. That is why we support consumer focused incentives, and we applaud the state's previous efforts to ensure funding for electric vehicles.

Industry Commitment to ZEVs

Automakers shared our industry's commitment to an electric future in a letter to President Biden. Nearly 70 models of plug-in hybrid (PHEV), fully electric (BEV), and fuel cell electric vehicles (FCEV) are available now to consumers — and more are on the way. Automakers are providing our customers with record-breaking choice in energy-efficient models, while also providing even safer, more environmentally friendly, affordable vehicles. The automotive industry is investing more than $330 billion by 2025 in its commitment to vehicle electrification. EVs are an important part of our mission, both in the U.S. and around the world. The auto industry has shown its commitment to EVs, but supportive state policies, like consumer incentives, are critical to increasing EV deployment.

Consumer Focused Policies are Critical to Maryland's Goals

Maryland previously set a goal of 60,000 EVs on the road by 2020 and 300,000 EVs by 2025. To date, approximately 42,000 EVs have been sold in Maryland, well short of its goals.[2] Long ago, Maryland also chose to follow the California Advanced Clean Car rules which are expected to be updated later this year to include a requirement for 100% of all new vehicle sales to be

[1] Focused on creating a safe and transformative path for sustainable industry growth, the Alliance for Automotive Innovation represents the manufacturers producing nearly 99 percent of cars and light trucks sold in the U.S. Members include motor vehicle manufacturers, original equipment suppliers, technology and other automotive-related companies and trade associations. For more information, visit our website http://www.autosinnovate.org.

[2] https://www.autosinnovate.org/resources/electric-vehicle-sales-dashboard

1050 K Street, NW
Suite 650
Washington, DC 20001

AutosInnovate.org

electric in 2035. That same program will likely require sales requirements of approximately 36% in 2026 with the requirements increasing each year until the 100% EV requirement in 2035.

However, the Clean Car Standard does not encourage consumer demand or support Maryland's car dealerships during the transition. More work needs to be done to accomplish these goals, and it is on this point that HB 1391 can help advance the acceptance of EVs. The higher upfront cost of EVs continues to be a barrier to adoption, even as technology and battery costs are dropping. Until EVs reach cost parity with gas-powered vehicles and become widely accepted in the marketplace, targeted incentives are needed to help increase uptake and expand access to the life-cycle financial benefits of owning an EV.

We believe that Maryland can be an electrification leader – and to do so, it must make real and necessary investments in both EV incentives and EV infrastructure. Auto Innovators and our members are committed to working with Maryland to achieve the shared goals of reducing GHG emissions and increasing EV sales and believe we should do so in a smart and effective manner that provides the right signals to the consumer to choose to buy EVs.

Thank you in advance for your consideration of our views. For more information, please contact our local representative, Bill Kress, at (410) 375-8548.

Sincerely,

Josh Fisher
Director, State Affairs
Alliance for Automotive Innovation

Forth supports HB1391 Senate Finance 3.30.22.pdf
Uploaded by: Kasandra Griffin
Position: FAV

FORTH
Empowering Mobility

From: Kasandra Griffin, Forth
Date: March 30, 2022
To: Senaete Finance Committee
Regarding: Supporting HB 1391, as amended
Contact: 503-238-1799; KasandraG@forthmobility.org

Honorable Chair Kelley, Vice-Chair Feldman, and Members of the Committee,

Forth is national nonprofit association that advances clean and equitable transportation throughout the United States and internationally through transportation electrification innovation, advocacy, engagement, and demonstration projects.

I am writing in enthusiastic support of HB 1391, which will support Maryland's ambitious 2030 Greenhouse Gas Reduction Act (GGRA) Plan. Tax incentives for electric vehicle purchases are absolutely necessary for widespread adoption of electric vehicles *at this time,* and it is urgent to make the transition as quickly as possible. We are especially excited to see the inclusion of incentives for two and three-wheeled vehicles in this bill, because smaller vehicles improve efficiency, reduce wear and tear on roads, and use fewer resources to manufacture.

We are also enthusiastic about amendments adopted in the House to add "autocycles" explicitly to the potential beneficiaries and to revise Maryland's definition of "autocycle" to be more inclusive of innovative electric vehicle technology.

States across the country passed laws defining "autocycles" several years ago, including HB 805 in Maryland in 2016, sponsored by Del. Fraser-Hidalgo. These bills exempted users of certain three-wheeled vehicles from needing motorcycle endorsement or motorcycle helmets, where those apply, *because the vehicles do not behave or steer like motorcycles.*

Now, states are revising their "autocycle" definitions to be more flexible. Many of the original bills included "steering wheel" in the definition of "autocycle," but electric vehicle manufacturers are experimenting with other steering technology to save weight and improve other design elements.

The adopted amendment to HB 1391 supports this flexibility in vehicle design. Autocycles should be defined based on safety features and/or handling, and not on specific technology. There is nothing about steering wheels that are safer or easier to use than handlebars. The ultimate goal is to keep people safe while making ultra-efficient vehicles easy to afford, buy and use, and this bill does that.

Please support this good bill, and thank you for your service.

Sincerely,

Kasandra Griffin

Kasandra Griffin
Kasandrag@forthmobility.org
503-238-1799

About Forth
Forth has over 150 members from across the transportation electrification ecosystem. Our members include auto manufacturers (such as Ford, GM and BMW) and charging equipment providers (such as EVgo) as well as utilities, local governments, consulting firms, nonprofits, and environmental organizations. More information is available at forthmobility.org.

Relevant Laws in Other States

States that have recently changed "autocycle" definitions to be agnostic about steering technology:
Arizona (2019)
Florida (2021)
Hawaii (2021)
Louisiana (2021)
Maine (2019)
Michigan (2018)
New York (2022)
Oregon (2021)
Utah (2022)

States that exempt certain three-wheeled vehicles from motorcycle endorsement requirements independent of steering technology
California
Colorado
North Dakota
Ohio
South Carolina
Wyoming

Other states with "Autocycle" definition revisions under consideration this year
Alabama – Passed House, scheduled for Senate vote
Connecticut – Incorporated into major transportation bill and moving forward
Georgia – Passed second chamber 3/30/22 but versions need reconciled
Massachusetts – Had one hearing, now assigned to a study committee
New Jersey – Legislator drafting language now (year-round session)
North Carolina – Passed House, awaiting movement in Senate

HB1391- Maryland Motor Truck Association - Support

Uploaded by: Louis Campion

Position: FAV

Maryland Motor Truck Association

9256 Bendix Road, Suite 203, Columbia, MD 21045
Phone: 410-644-4600 Fax: 410-644-2537

HEARING DATE: **March 31, 2022**

BILL NO/TITLE: **House Bill 1391 – Clean Cars Act of 2022**

COMMITTEE: **Senate Finance Committee**

POSITION: **Support**

Maryland Motor Truck Association recognizes the continued need to lower greenhouse gas emissions from the transportation sector. Among the most significant barriers to adoption of zero emission trucks are the high costs of the vehicles and the non-existing charging infrastructure in the state. Included in House Bill 1391 is $1 million to establish a grant program for medium-and heavy-duty vehicles powered by battery electricity or a hydrogen fuel cell, including the development of infrastructure. Although substantially greater funds will be needed to assist with this conversion in the future, MMTA appreciates the recognition that we must have funding assistance before we can have large scale adoption of these vehicles.

For the reasons noted above, Maryland Motor Truck Association asks for a favorable report.

About Maryland Motor Truck Association: Maryland Motor Truck Association is a non-profit trade association representing the trucking industry since 1935. In service to its 1,000 members, MMTA is committed to supporting and advocating for a safe, efficient, and profitable trucking industry across all sectors and industry types, regardless of size, domicile, or type of operation.

For further information, contact: Louis Campion, (c) 443-623-4223

GM - Sen Kelley Support HB1391 2022 Clean Cars Act

Uploaded by: Paul Tiburzi

Position: FAV

March 22, 2022

Honorable Delores G. Kelley, Chair
Senate Finance Committee
3 East Miller Senate Building
Annapolis, Maryland 21401

Dear Madam Chair:

General Motors supports House Bill 1391, Clean Cars Act of 2022, and the proposal to extend an excise tax credit for the prospective purchase of all-electric, zero tailpipe emission vehicles (EVs). We commend the committee's continued focus on incentives to address EV cost, a primary adoption barrier. Furthermore, GM is pleased that the committee recognizes the importance of complementary policies that spur EV demand. Importantly, the proposed $10 million of incentives each fiscal year is essential for supporting Maryland's electrification goals by accelerating the market and reaching new customer segments.

GM is a global company focused on advancing an all-electric future that is inclusive and accessible to all. GM plans to invest $35 billion in all-electric vehicles and launch more than 30 new EVs globally through 2025. These investments will give us more than 1 million units of EV capacity in North America by the end of 2025, including pickup trucks, SUVs, crossovers, and cargo vans. The efficiencies created by our Ultium Platform are a key reason why we will be able to deliver truly affordable EVs like the Chevrolet Equinox, Silverado and Blazer. Affordable EVs are key to driving mass adoption, which is a national and global priority.

GM supports incentive programs that are adequately funded over time. Stable incentive programs are important for both our customers and our dealers. Providing higher incentives for EVs allows the state to steer limited funds toward those tailpipe-free vehicles that deliver the greatest emission reductions. GM supports incentive programs that are simple for customers to utilize and that advance equitable deployment of EVs.

Maryland's ambitious goals can only be achieved through the concerted efforts of all stakeholders and with a continued focus on supportive policies. The Clean Cars Act of 2022 will help GM accelerate the transition to an all-electric, zero emission future that leaves no one behind. GM is pleased to support this legislation.

Sincerely,

Chris Grimaldi

Christopher F. Grimaldi
General Motors State Government Relations

cc: Honorable David Fraser-Hidalgo
Paul A. Tiburzi, Esq.

518 533-9856 / christopher.grimaldi@gm.com / www.gm.com

HB 1391- TAM_favwamend.pdf
Uploaded by: John Duklewski
Position: FWA

TRANSPORTATION
ASSOCIATION of MARYLAND

e: tam@taminc.org
p: 410-553-4245
w: www.taminc.org

Bill: House Bill 1391- Clean Cars Act of 2022

Position: SUPPORT W/ AMENDMENTS

Dear Chair, Vice-Chair, and Members of the Committee:

The Transportation Association of Maryland is a 501(c)(3) organization representing 104+ member organizations consisting of locally operated transit agencies (LOTS), non-profit transit providers, transportation vendor and transportation supporters with 20,000+ individual members. TAM is the legislative voice and vigilant eyes and ears of the transportation industry in Maryland. TAM's mission is to strengthen community transportation in Maryland through advocacy and professional development.

This bill establishes the Medium-Duty and Heavy-Duty Zero-Emission Vehicle Grant Program within the Maryland Energy Administration (MEA) and requires, in specified fiscal years, certain transfers and appropriations from the Strategic Energy Investment Fund (SEIF) and mandated appropriations.

Our members are locally operated transit providers throughout the state, Some, especially those operating in rural jurisdictions, are unable to find no emission electric buses that meet the demands of their county or municipality. While we hope and expect that electric battery technologies will become more advanced with each year, given the current technology, we respectfully request that the bill be amended so that the medium-duty and heavy-duty grants also apply to the purchase of low emission vehicles.

Please feel free to contact our office if you have any other questions or want to discuss more fully.

Sincerely,

John Duklewski
Executive Director, Transportation Association of Maryland

HB1391_MDSierraClub_fwa - 31March2022.pdf
Uploaded by: Josh Tulkin
Position: FWA

P.O. Box 278
Riverdale, MD 20738

Committee: **Finance**
Testimony on: **HB 1391 – "Clean Cars Act of 2022"**
Position: **Favorable with amendments**
Hearing Date: **March 31, 2022**

The Maryland Chapter of the Sierra Club supports HB 1391 as amended and passed by the House, and believes the bill would be further improved with two more amendments. The bill would extend and alter the vehicle excise tax credit for the purchase of zero-emission vehicles; establish a medium and heavy-duty zero-emission vehicle grant program; place a lower maximum total purchase price on a zero-emission vehicle that would make it be eligible for an excise tax credit; and transfer from the Strategic Energy Investment Fund (SEIF) the amount needed to offset a reduction in revenue from the vehicle excise tax credit for qualified zero emission vehicles and zero-emission heavy equipment property. In addition, grants would be available for zero-emission medium or heavy-duty vehicle recharging or refueling equipment, as well as for zero-emission mobile heavy construction, earthmoving or industrial equipment.

Providing an excise tax credit or grant to encourage the purchase of zero-emission plug-in electric drive vehicles, including zero-emission medium and heavy-duty trucks and mobile heavy construction equipment, makes sense because the vehicles would emit no greenhouse gas or toxic pollution from their tailpipes and have much lower fuel and maintenance costs. This is important because transportation is now the largest contributor to climate-damaging greenhouse gas emissions. Toxic emissions from vehicle tailpipes, especially from trucks, are linked to various cancers, heart disease, asthma, emphysema, and premature death. Vehicle tailpipe emissions also contribute to ozone, smog, and acid rain. More than 85% of Marylanders live in counties that do not meet federal clean air standards for ozone.

One amendment we propose would remove fuel cell electric vehicles from being eligible to receive an excise tax credit. Fuel cells are powered by hydrogen, which today is produced in ways that generate greenhouse gases -- when hydrogen is removed from methane, through leaks of methane (which is far more damaging to the environment than carbon dioxide), or when fossil-fuels are used to power the hydrogen production process. So, until most hydrogen is produced using renewable energy, fuel cell electric vehicles cannot be considered zero-emission and should not be eligible for an excise tax credit.

The second amendment we propose would specify that the reimbursement of vehicle excise tax credits to the Transportation Trust Fund not be paid from the SEIF and instead be funded elsewhere in the budget. The SEIF is a critically important program in responding to the climate crisis. The state is moving away from fossil-fuel generated electricity to clean, renewable wind and solar energy. As this occurs, it is important to provide support for workers and communities affected by this transition. We strongly request the SEIF be used to fund a fossil fuel workforce and community transition account to support workers and communities facing the closure of fossil fuel power generators, and not for excise tax credits.

In summary, passage of HB 1391 as amended and passed by the House, especially if it includes the two amendments described above, would be good for public health, the environment, and workers and communities affected by the transition to renewable energy. We urge a favorable report on the House-passed bill with the amendments we propose.

Brian Ditzler
Transportation Chair
Brian.Ditzler@MDSierra.org

Josh Tulkin
Chapter Director
Josh.Tulkin@MDSierra.org

Clean Cars Senate Amds - Greenland.pdf
Uploaded by: Matthew Bohle
Position: FWA

BY: Greenland Technologies Corporation

AMENDMENT TO HOUSE BILL 1391

(HOUSE THIRD READER FILE BILL)

Amendment No. 1

On page 3 line 28 insert “ZERO-EMISSION” in front of “HEAVY”.

Amendment No. 2

On pages 4 and 5 strike lines 19 through line 3 of page 5.

Amendment No. 3

On page 6 line 11 strike “, OR ZERO-EMISSION HEAVY EQUIPMENT PROPERTY.”

On page 6 line 23 strike “$5,000 FOR EACH ZERO-EMISSION HEAVY EQUIPMENT PROPERTY THAT IS PURCHASED OR LEASED.”

Amendment No. 4

On page 7, line 10-11 strike “, AND ZERO-EMISSION HEAVY EQUIPMENT PROPERTY UNDER THIS SECTION.”

On page 7, line 21 strike, “and zero-emission heavy equipment property”.

Greenland HB 1391 - FWA.pdf
Uploaded by: Matthew Bohle
Position: FWA

TO: Chair Delores Kelley, Maryland Senate Finance Committee

FROM: Raymond Wang, CEO of Greenland Technologies Corp

DATE: March 31, 2022

RE: FWA on HB 1391 – Clean Cars Act of 2022

Chair Kelley and members of the Committee,

I am pleased to **write in support of HB 1391 with amendments**. Our attached technical amendments clarify that zero-emission heavy equipment property are not a part of the excise tax credit rebate program – instead we are included in the MEA Grant Program that is created for Zero Emission – Heavy Equipment Property.

Greenland Technologies Corp is a manufacturing leader of zero-emission heavy equipment, including forklifts, loaders, excavators, and similar equipment. ***Additionally, we recently announced that our first American assembly facility will be located in Maryland.*** [1]

We are very pleased to be locating in Maryland and expect our facility to be operational by the **end of the year**. We are **investing +$10M and creating over four dozen (48) direct jobs in Maryland over the next five years** and hope to continue to grow our footprint and investment in Maryland in the coming years.

Maryland has an opportunity to be a leader in this sector and enact what we believe to be a first in the nation credit for this equipment. These credits will help bolster the adoption of this technology. While our equipment is cost competitive, particularly when accounting for reduced maintenance and energy costs over the life of the machine, these credits would provide a strong spark in this sector and affirm Maryland's commitment to reducing emissions in most affected areas.

Heavy equipment has long negatively impacted the communities that border their use with over 40% of Americans living in places with unhealthy levels of carbon emission or particle pollution per the American Lung Association[2]. This new equipment is an opportunity to reduce emissions and noise in areas that have been significantly impacted by pollution and are priority areas for renewed environmental justice.

With that noted, I ask this committee to adopt our amendments and issue a favorable report for House Bill 1391.

Sincerely,

Raymond Wang, CEO of Greenland Technologies Corp

For questions or more information contact Matt Bohle at RWL Law, mbohle@rwllaw.com or 410.269.5066

[1] https://open.maryland.gov/blog/greenland-technologies-chooses-maryland-manufacturing-project/?utm_source=Maryland+Department+of+Commerce+%28MAIN+LIST%29&utm_campaign=87ab4ae8a5-Business_Pulse_08_27_20_COPY_01&utm_medium=email&utm_term=0_f78deb20ad-87ab4ae8a5-202859033

[2] https://www.lung.org/research/sota