HOUSE ENVIRONMENT AND TRANSPORTATION COMMITTEE
Delegate Marc Korman, Chair
Delegate Regina T. Boyce, Vice Chair

and

SENATE EDUCATION, ENERGY, AND ENVIRONMENT COMMITTEE
Senator Brian J. Feldman, Chair
Senator Cheryl C. Kagan, Vice Chair

January 22, 2025
2:00 PM
Department of Legislative Services Building, Joint Hearing Room

Update on the Maryland Zero Emission Vehicle Infrastructure Plan and Maryland Clean Cars Program
BRIEFING AGENDA

I. Introductory Remarks

II. Maryland Zero Emission Vehicle Infrastructure Plan
- Joe McAndrew, Assistant Secretary, Maryland Department of Transportation
- Deron Lovaas, Chief of Environment & Sustainable Transportation, Maryland Department of Transportation

III. Maryland Clean Cars Program
- Serena McIlwain, Secretary, Maryland Department of the Environment

IV. Stakeholder Perspective
- Josh Fisher, Senior Director, State Affairs, Alliance for Automotive Innovation
- Peter Kitzmiller, President, Maryland Automobile Dealers Association
- Louis Campion, President & CEO, Maryland Motor Association
- Kevin Shen, Policy Analyst, Union of Concerned Scientists

V. Overview of the California Waiver
- Craig Segall, Senior Vice President, Evergreen Collaborative and former Deputy Executive Officer, California Air Resources Board (*Virtual Speaker*)

VI. Questions

VII. Concluding Remarks

MARYLAND DEPARTMENT OF TRANSPORTATION

Maryland's Zero Emission Vehicle Infrastructure Plan

January 22, 2025

Agenda

- Background
- What is the ZEVIP?
- ZEVIP Outline
- Multi-Agency Strategy
- Deployment Underway
- Questions

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Introductions

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Background

Climate Executive Order

- Revise and upgrade the Zero-Emission Vehicle Infrastructure Plan to include implementation of the National Electric Vehicle Infrastructure (NEVI) Formula Program
- Develop a new multi-agency strategy to build out Maryland's vehicle charging infrastructure

Vehicle Electrification by the Numbers

As of December 31, 2024...

126,986
Registered EVs

1,601
Charging Stations (Sites)

3,490
Level 2 Ports

1,001
DC Fast Ports

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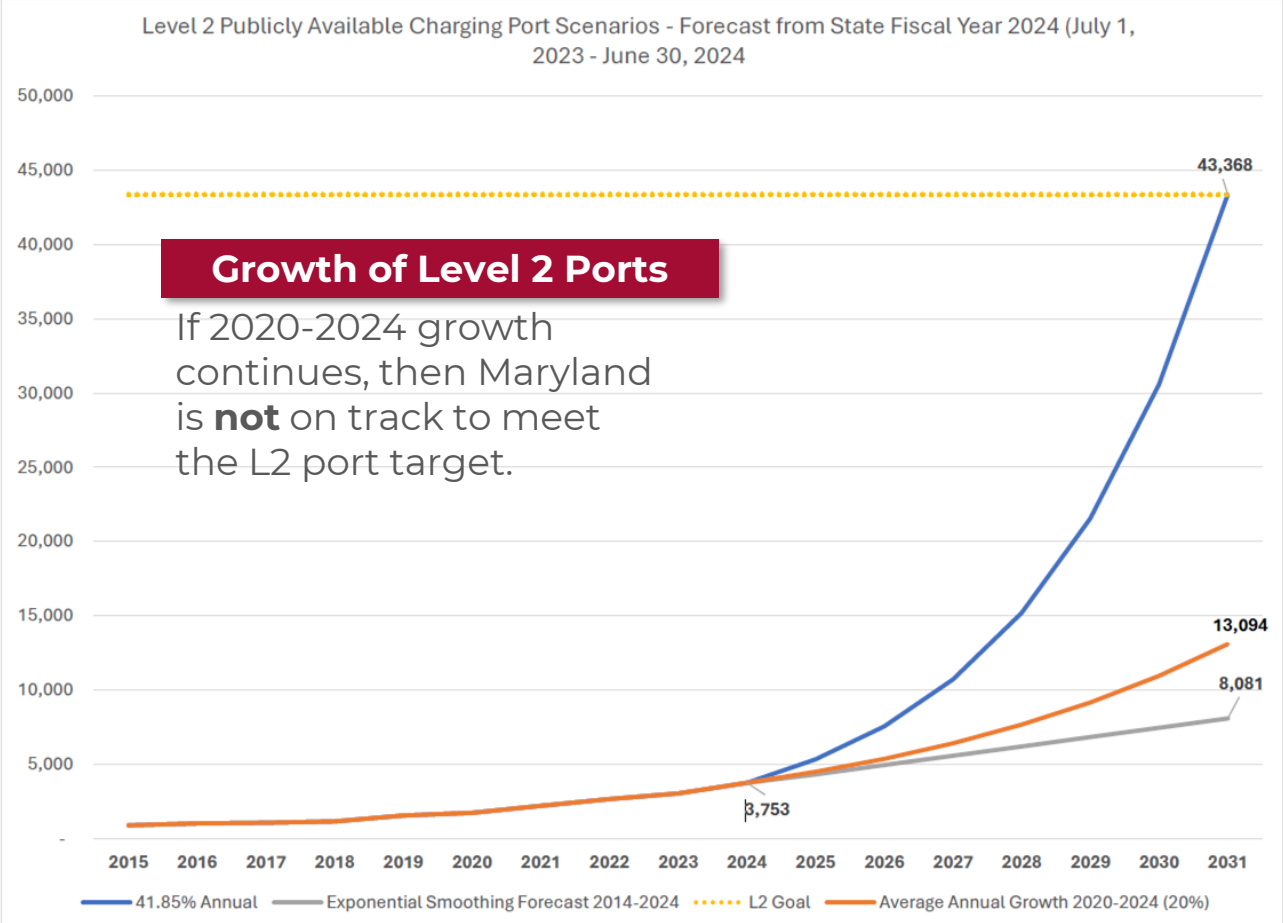
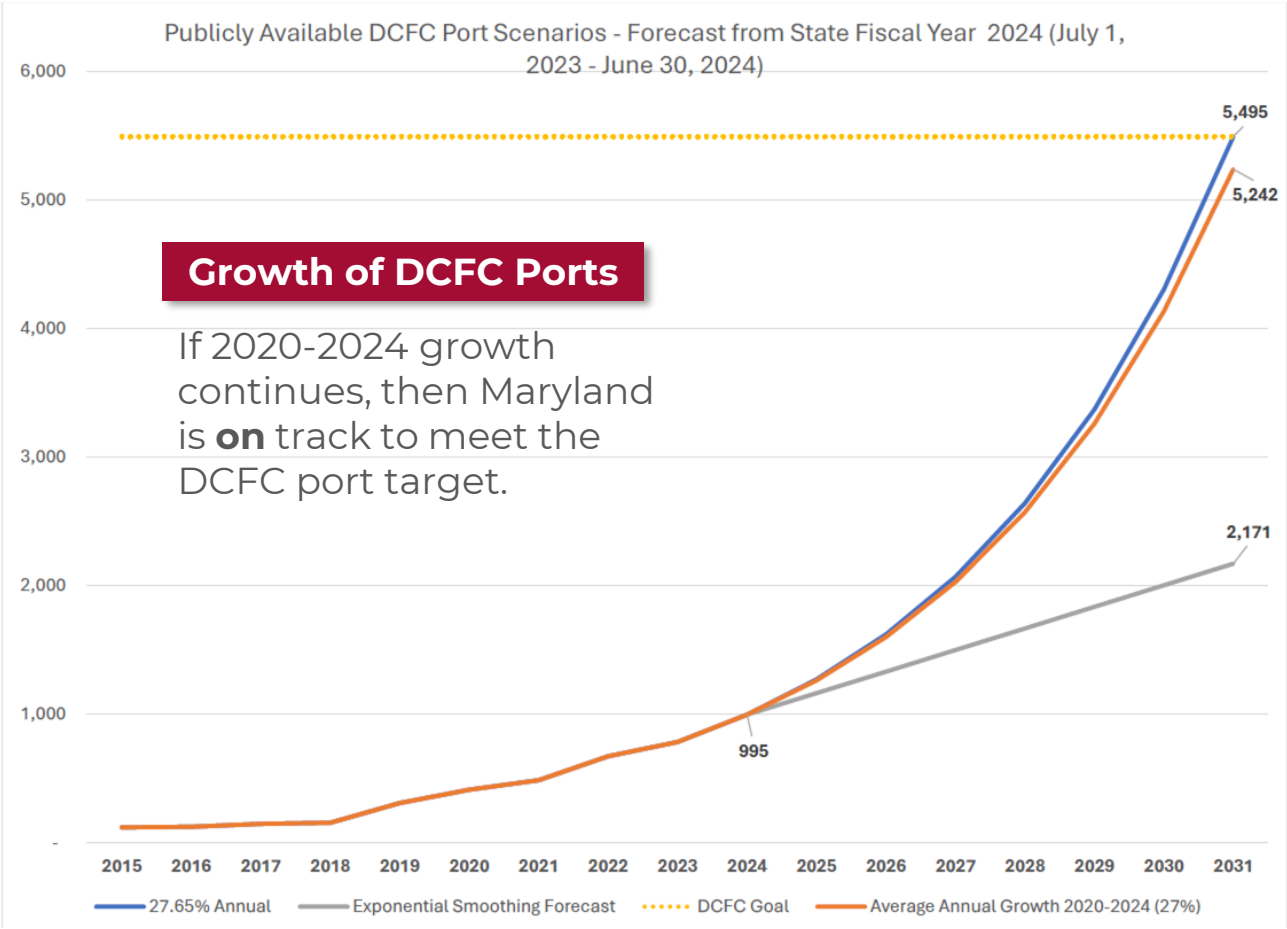


Growth of Level 2 Ports

If 2020-2024 growth continues, then Maryland is **not** on track to meet the L2 port target.

MDOT will refine these projections in the ZEVIP.

MARYLAND DEPARTMENT OF TRANSPORTATION



Growth of DCFC Ports

If 2020-2024 growth continues, then Maryland is **on** track to meet the DCFC port target.

MDOT will refine these projections in the ZEVIP.

What is ZEVIP?

- Statewide Plan that will support the expected growth of light-, medium-, and heavy-duty ZEVs expected under:
  - Climate Solutions Now Act (CSNA)
  - Advanced Clean Cars II (ACC II)
  - Advanced Clean Trucks (ACT)
- It will identify:
  - Priority phases for deploying publicly available infrastructure through 2035
  - Additional state, federal, and private funding to leverage
  - Roles of state and local agencies to accelerate adoption
- Anticipated release in June 2025

ZEVIP Outline

- Maryland ZEV Landscape
  - Policies, Market Trends (By the Numbers)
- Roadmap to the Future
  - LDVs (Needs Assessment & Deployment Priority Phases), MHDVs
- State Agency Roles & Responsibilities
  - Ongoing Activities, Opportunities & Best Practices
- Utility Coordination & Grid Readiness
  - Utility Planning, Programming, & Incentives
- Equity & Public Involvement
  - Ensuring Charging Access to Underserved & Disadvantaged Communities
- Future Updates

Multi-Agency Strategy

Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) Interagency Working Group

MDOT	MDP	MDL (new)
MEA	OPC	DHCD (new)
MDE	DGS	Comptroller (new)
PSC	Commerce	

- Forum for conversations, synergies, and multi-agency coordination
- Convened on December 11 to kickoff ZEVIP
- Future engagement opportunities: public outreach in Spring 2025 (e.g., events, surveys, etc.) and stakeholder meetings

NEVI Program

Round 1 – Conditional Awards

- $12M conditionally awarded for 22 corridor sites in 15 counties
- Currently finalizing contracts
- Projects to be completed by early 2026

Round 2 – Available Now

- Request for Proposals closes March 26
- Up to $30M for 29 Target Areas to finish corridor buildout
- Conditional awards anticipated mid 2025

Round 1 Conditional Awards

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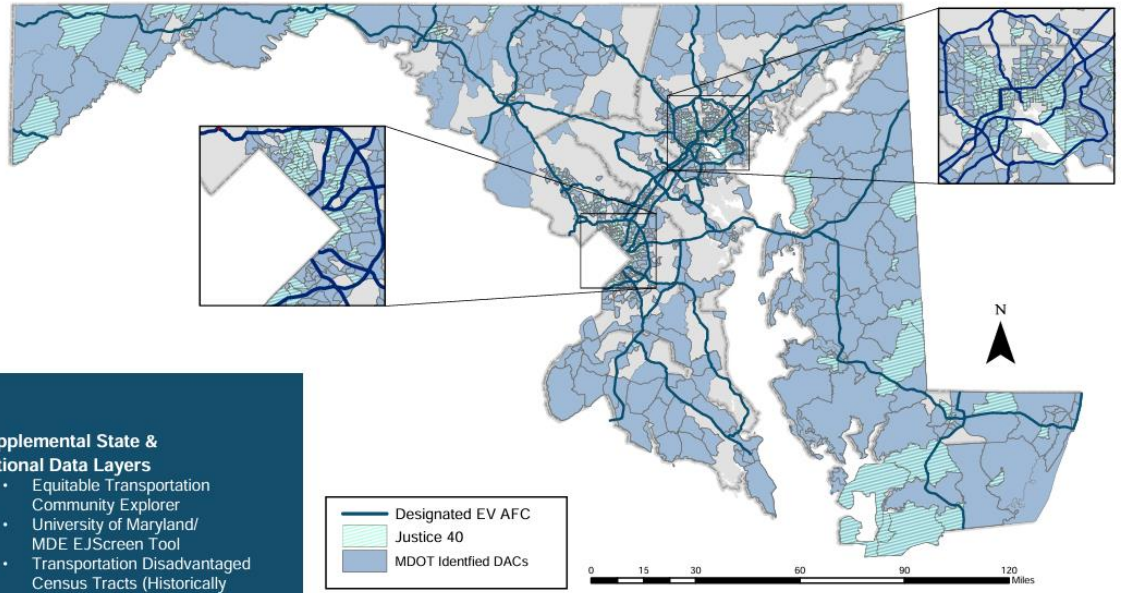
NEVI Program

Next Steps & Future Round

- Certify fully built-out status of Maryland's EV Alternative Fuel Corridors
- Invest in Level 2 community charging with remaining NEVI funds
  - Conservative estimate of over $20M for community
  - Greatest opportunity to increase charging equity



Supplemental State & National Data Layers

- Equitable Transportation Community Explorer
- University of Maryland/ MDE EJScreen Tool
- Transportation Disadvantaged Census Tracts (Historically Disadvantaged Communities)
- Designated Rural Areas
- CDC Social Vulnerability Index

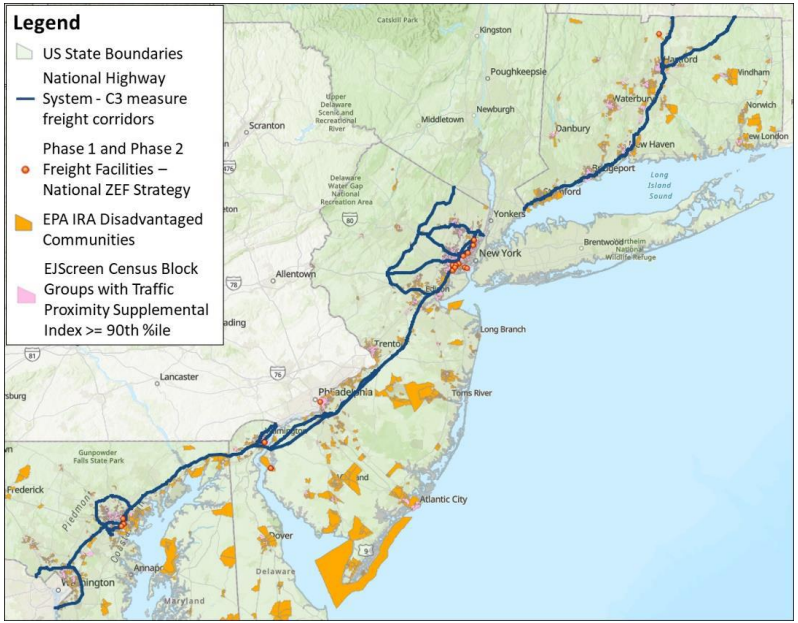
Clean Corridor Coalition

Climate Pollution Reduction Grant (CPRG) – Implementation

- Multi-state effort to deploy medium- and heavy-duty zero-emission vehicle (MHDV) charging infrastructure for freight electrification along the I-95 corridor
- $249M total; $80M for Maryland (no match)

Impact

- 8 MHDV charging depots (~150 ports) in Maryland
- About 459,000 tons of GHG reductions by 2030 and more than 18 million tons by 2050 project-wide



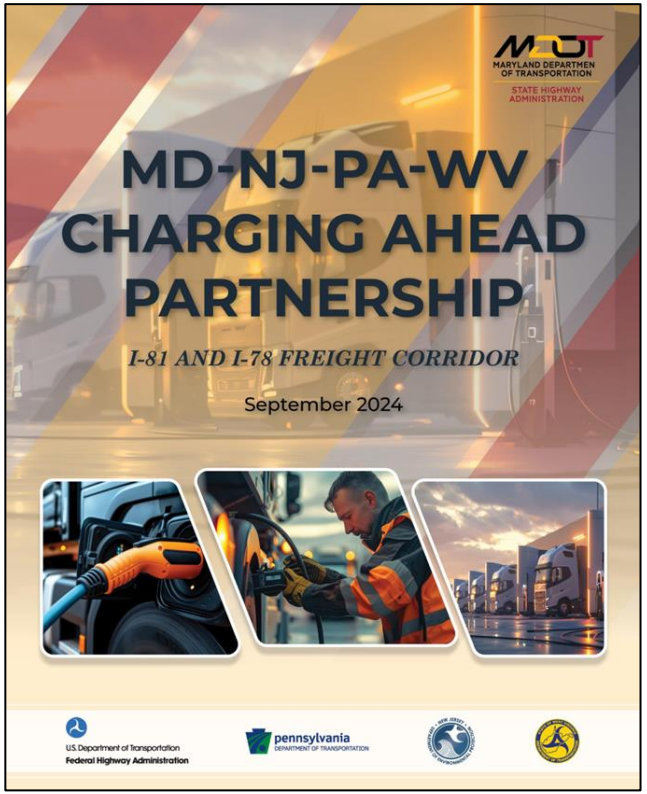
MD-NJ-PA-WV Charging Ahead Partnership

Charging & Fueling Infrastructure (CFI) Discretionary Grant Program

- MDOT (lead), NJDEP, PennDOT, and WVDOT
- Support freight ZEVs traveling along I-81/I-78
- First Phase: Visioning Plan for near-term charging and long-term hydrogen infrastructure opportunities
- Second Phase: Deploy charging infrastructure
- Awarded $18.6M
  - Requested $19.5M total; $4.3M for MD
  - Will reconcile lower award amount than requested with partners and confirm details with FHWA
  - 20% state and private sector match

Impact

- 1 MHDV charging depot on I-81 in Maryland
- Min. 547 short tons of GHG reductions annually



Carbon Reduction Program

Round 1

- Over $5.4M in awards for EV charging infrastructure
- 164 Level 2 and 17 DC Fast chargers
- Award recipients: Howard County Parks, Baltimore City, Carroll County, Montgomery County, and City of Rockville

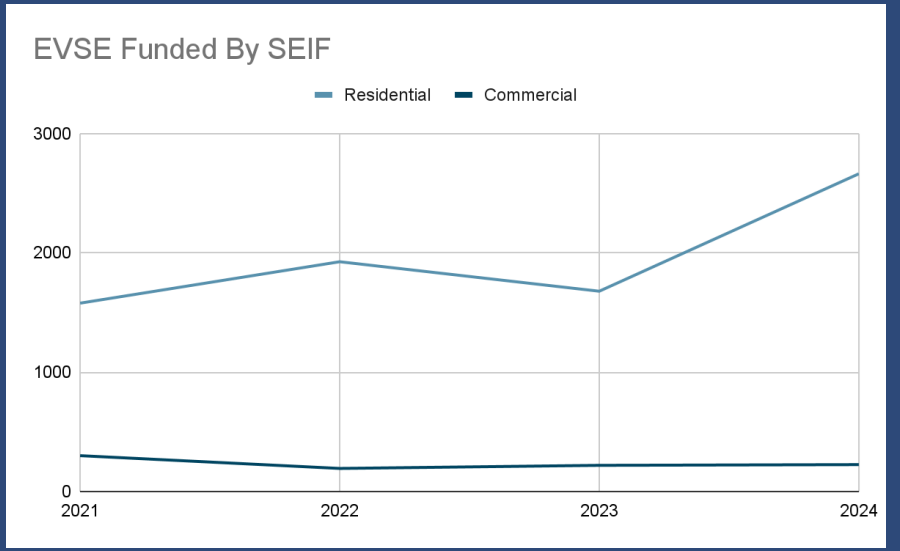
- Over $3.1M in awards for 114 fleet EVs
- Award recipients: Baltimore City, Maryland Port Administration, and Carroll County

Round 2

Opens - January 29, 2025

SEIF Funded EVSE Projects

Fiscal Year (FY)	Residential	Commercial	
	Level 2	Level 2	Level 3
2021	1578	297	3
2022	1925	188	5
2023	1678	211	8
2024	2662	193	32



Questions

MARYLAND DEPARTMENT OF TRANSPORTATION

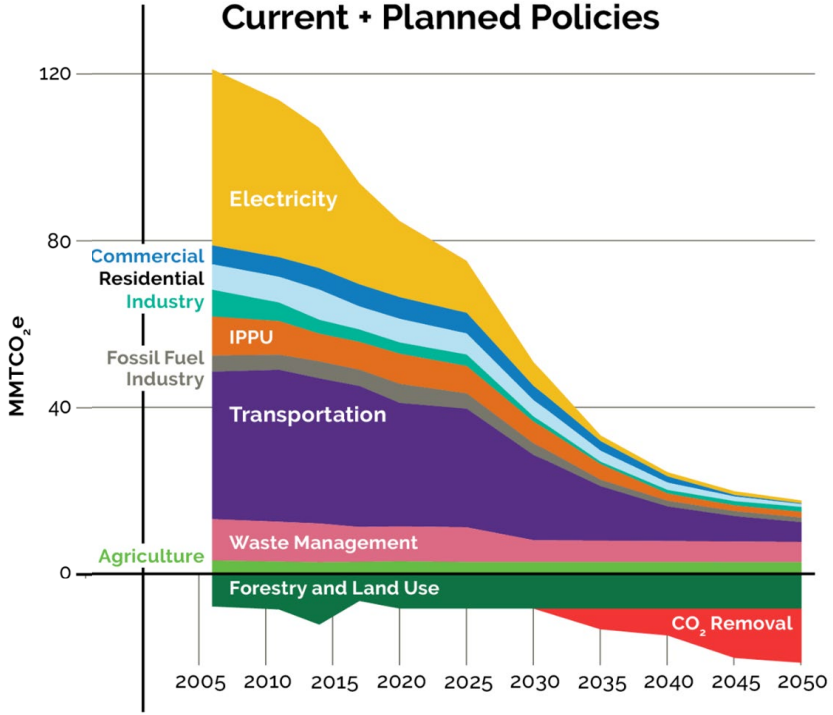
Advanced Clean Cars II & Advanced Clean Trucks

Senate Education, Energy, and Environment Committee and House Environment & Transportation Committee

January 22, 2025
Serena McIlwain
Secretary of the Environment

Maryland's Climate Goals

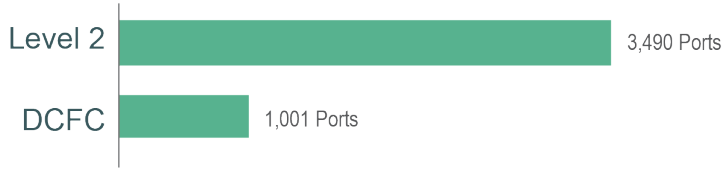
- Transportation is the largest source of climate pollution in Maryland.
- Electric vehicles are the largest opportunity to achieve reductions.
- Advanced Clean Cars II is our single largest existing climate pollution reduction strategy over the long term.



Poised for Growth

Charging Infrastructure*

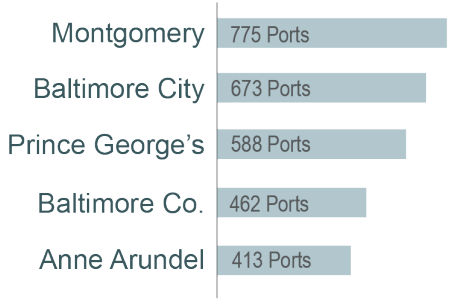
1,601
Public Charging Stations



4,491
Public Charging Ports

Data as of December 31, 2024

Top 5 Counties



0.73
Ports per 1,000
People in Maryland

18
Charging Network
Providers Active in Maryland

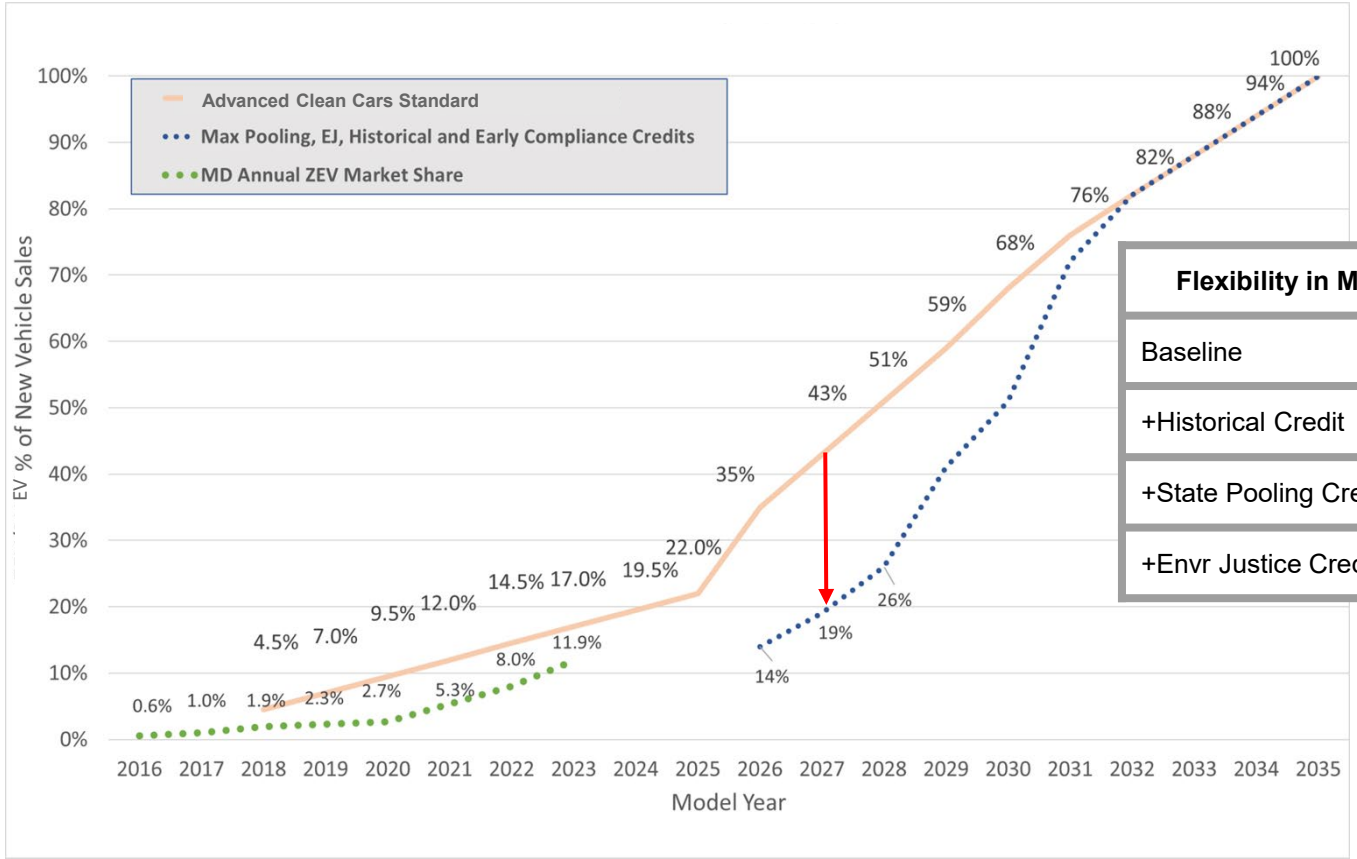
Grid Updates

The Climate Solutions Now Act required the Maryland Public Service Commission (PSC) to study effects on the grid.

Electrification of vehicles will occur slowly and require modest investments below historic levels.

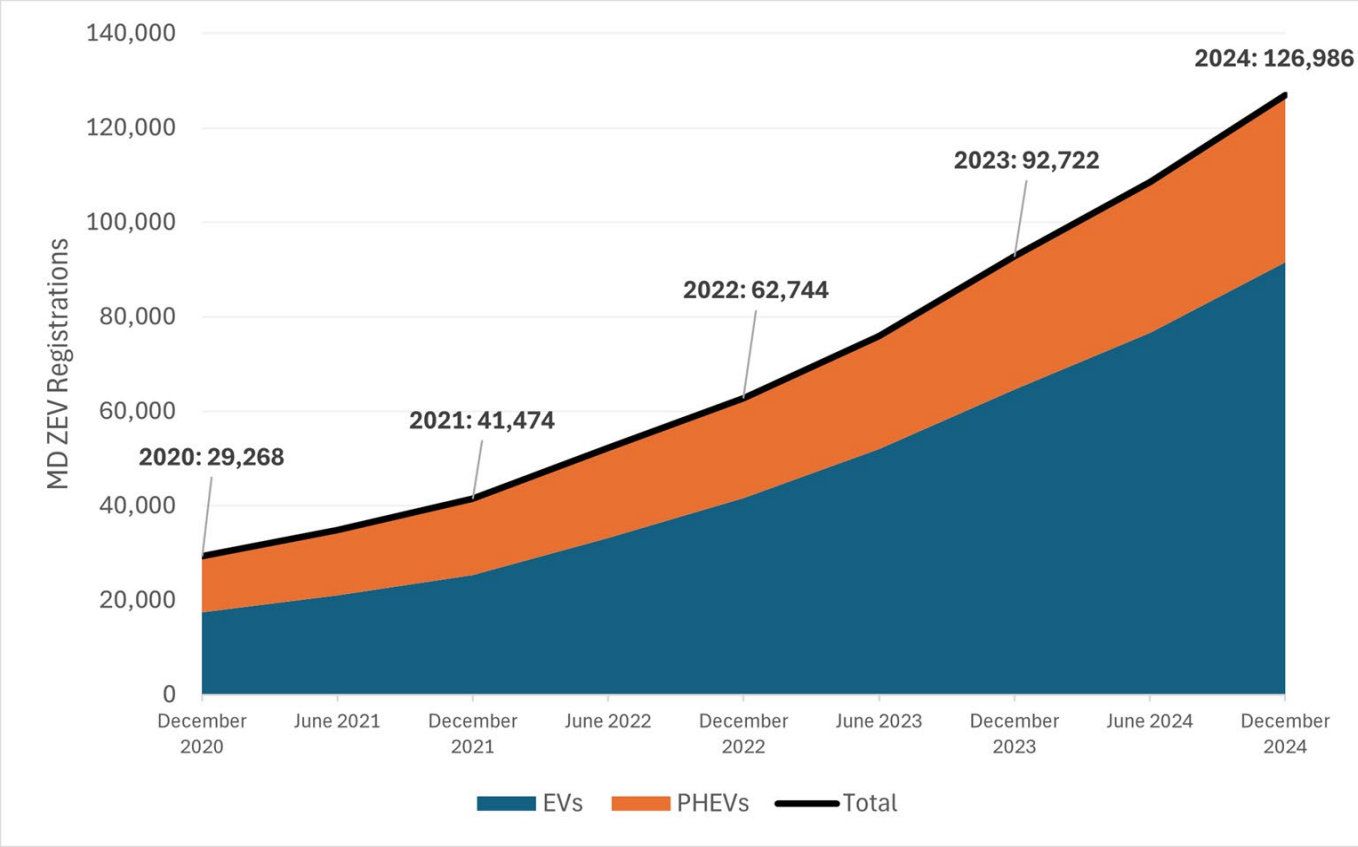
Advanced Clean Cars II

Flexibility in Standards

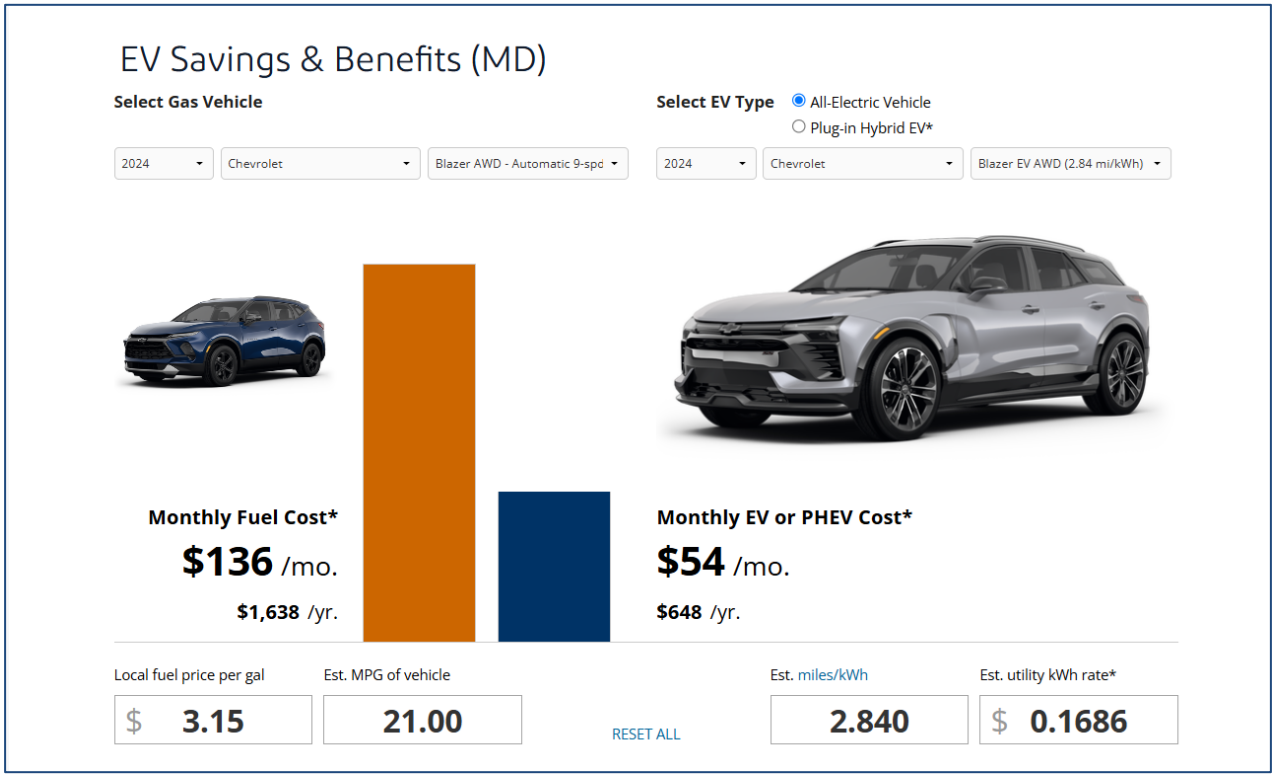


Flexibility in Model Year 27	
Baseline	43%
+Historical Credit	30%
+State Pooling Credit	22%
+Envr Justice Credit	19%

Registration Growth



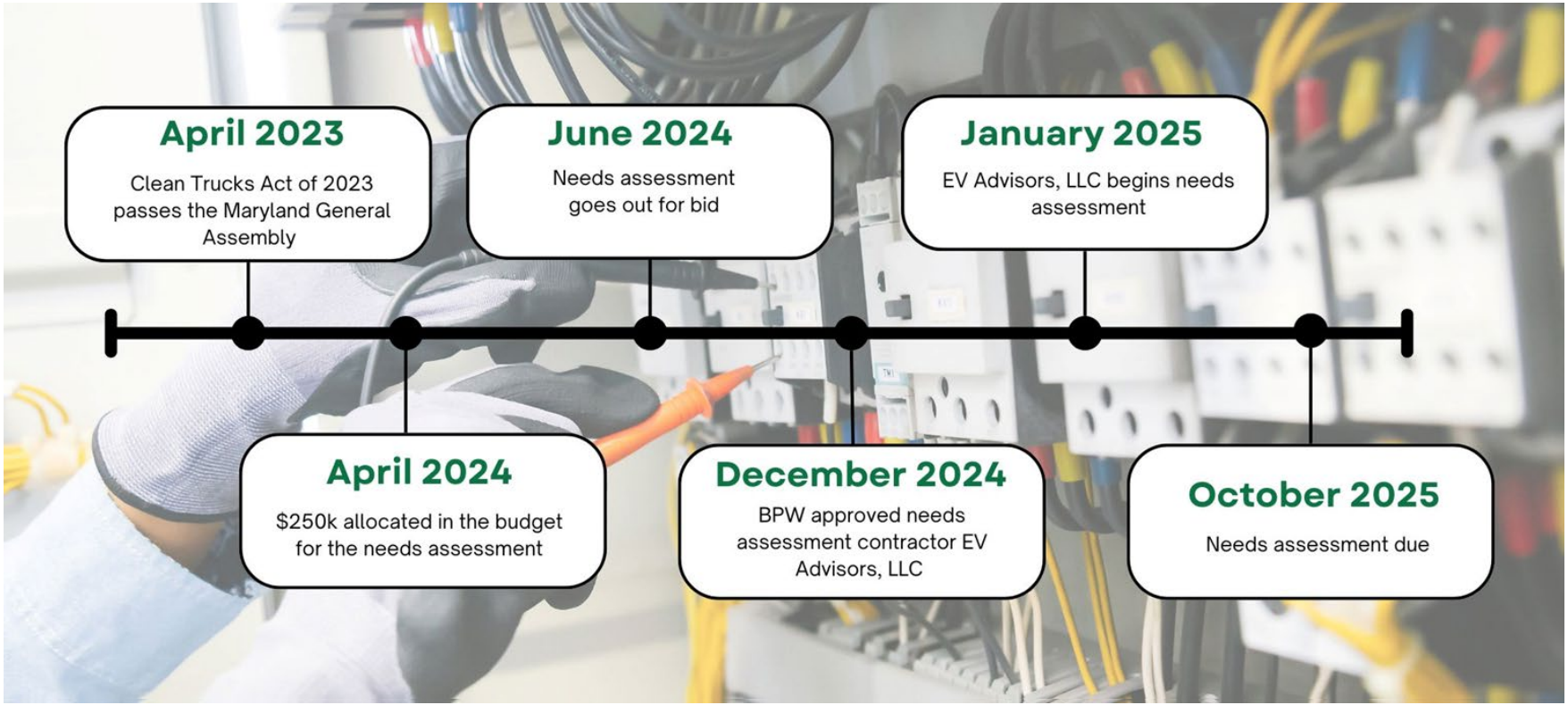
Benefits



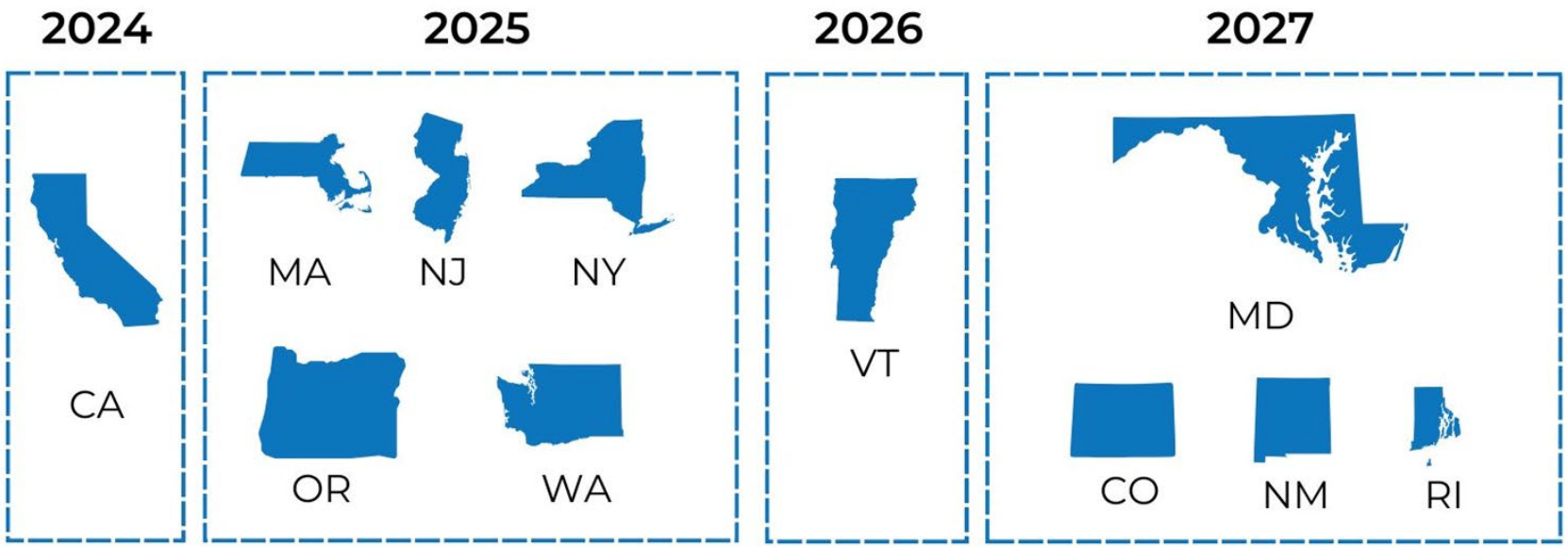
Source: PEPCO EV Savings & Benefits Calculator

Advanced Clean Trucks

Clean Trucks Needs Assessment



ACT States by Model Year



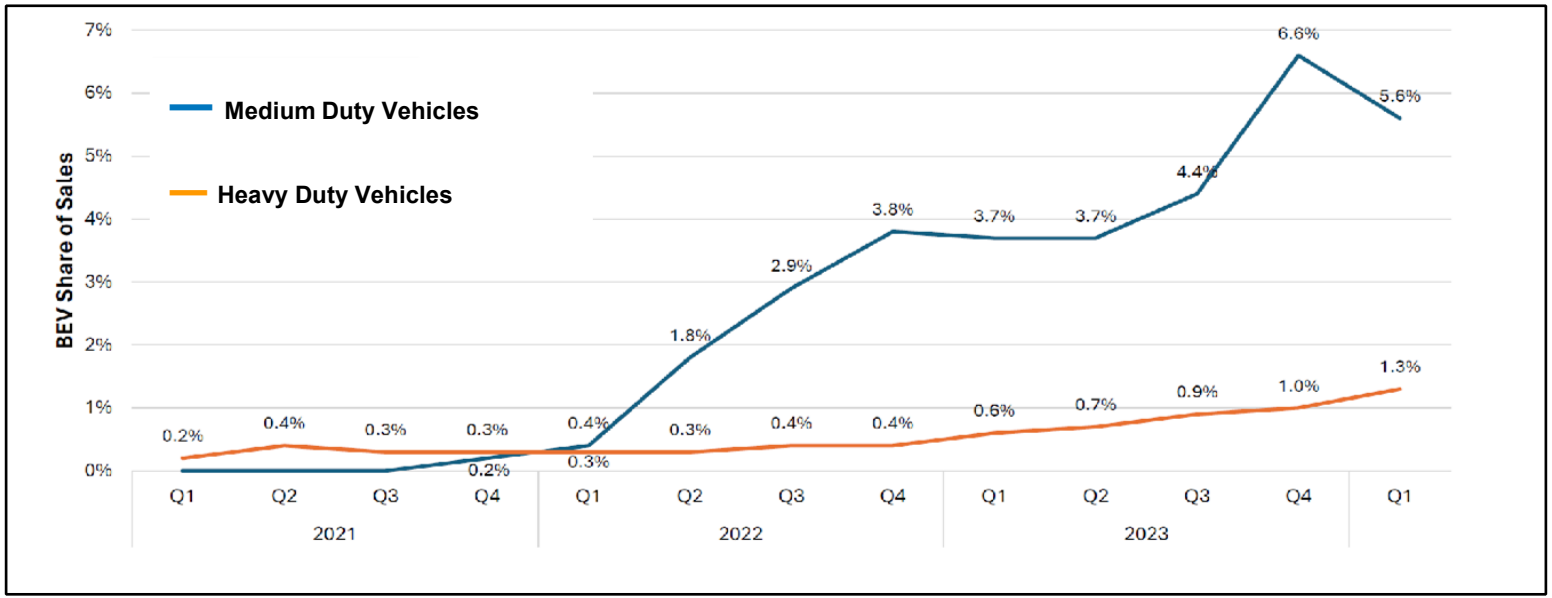
Truck Classifications by Weight

FIGURE 1: MHD VEHICLE CLASSIFICATION
BY GROSS VEHICLE WEIGHT RATING (GVWR)

WT CLASS	CLASS 2B	CLASS 3	CLASS 4	CLASS 5	CLASS 6	CLASS 7	CLASS 8
GVWR	8,501-10,000 LB 3,856-4,536 KG	10,001-14,000 LB 4,537-6,350 KG	14,001-16,000 LB 6,351-7,257 KG	16,001-19,500 LB 7,258-8,845 KG	19,501-26,000 LB 8,846-11,793 KG	26,001-33,000 LB 11,794-14,969 KG	>33,000 LB >14,969 KG
EXAMPLE VEHICLES	Crew Size Pickup Work Truck Utility Van Walk-In Van		City Delivery Large Walk-in Bucket Truck Box Truck		School Bus Single Axle Rack Truck Refuse Truck		Coach Bus Semi Tractor Dump Truck Fire Truck

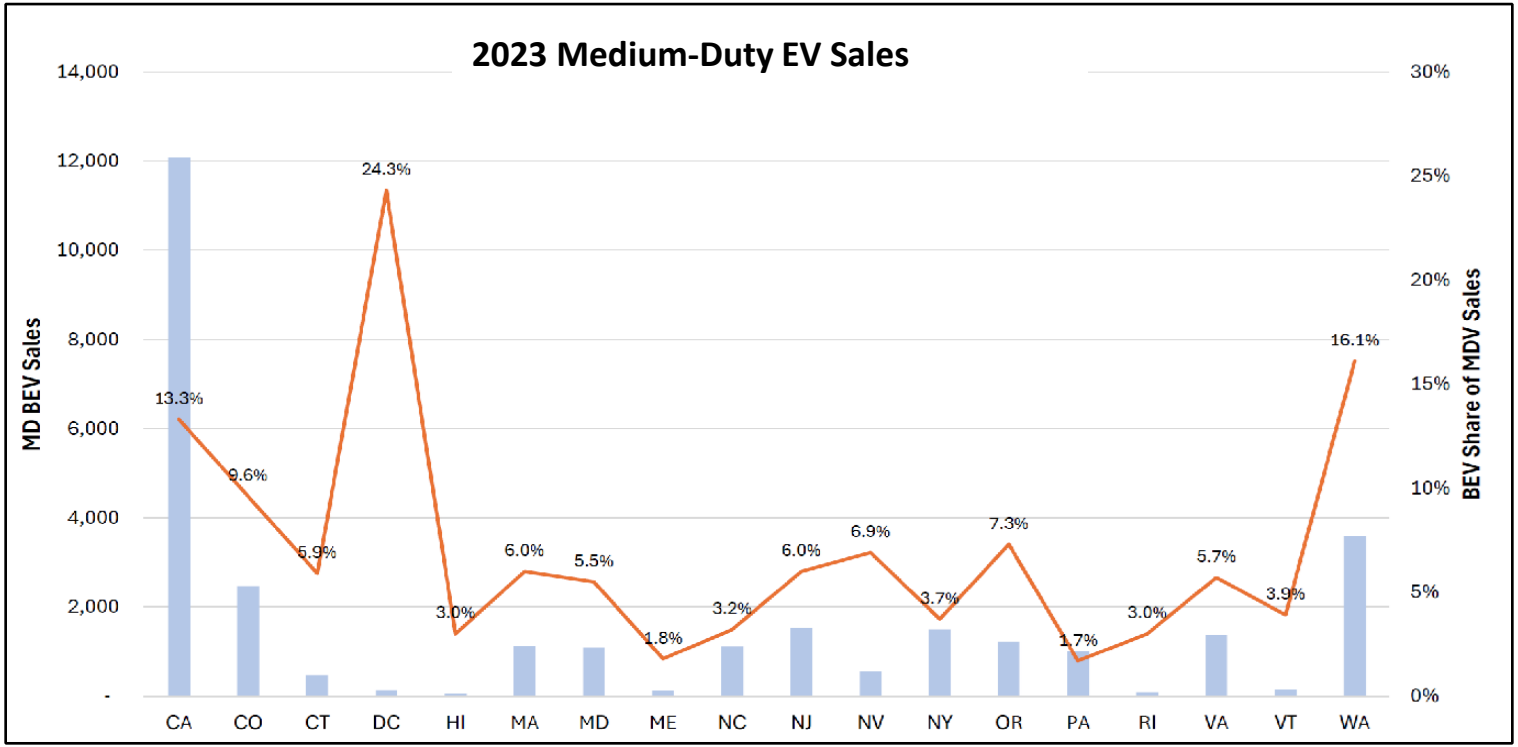
Progress Across the Country

National EV Sales as a Share of Total Sales

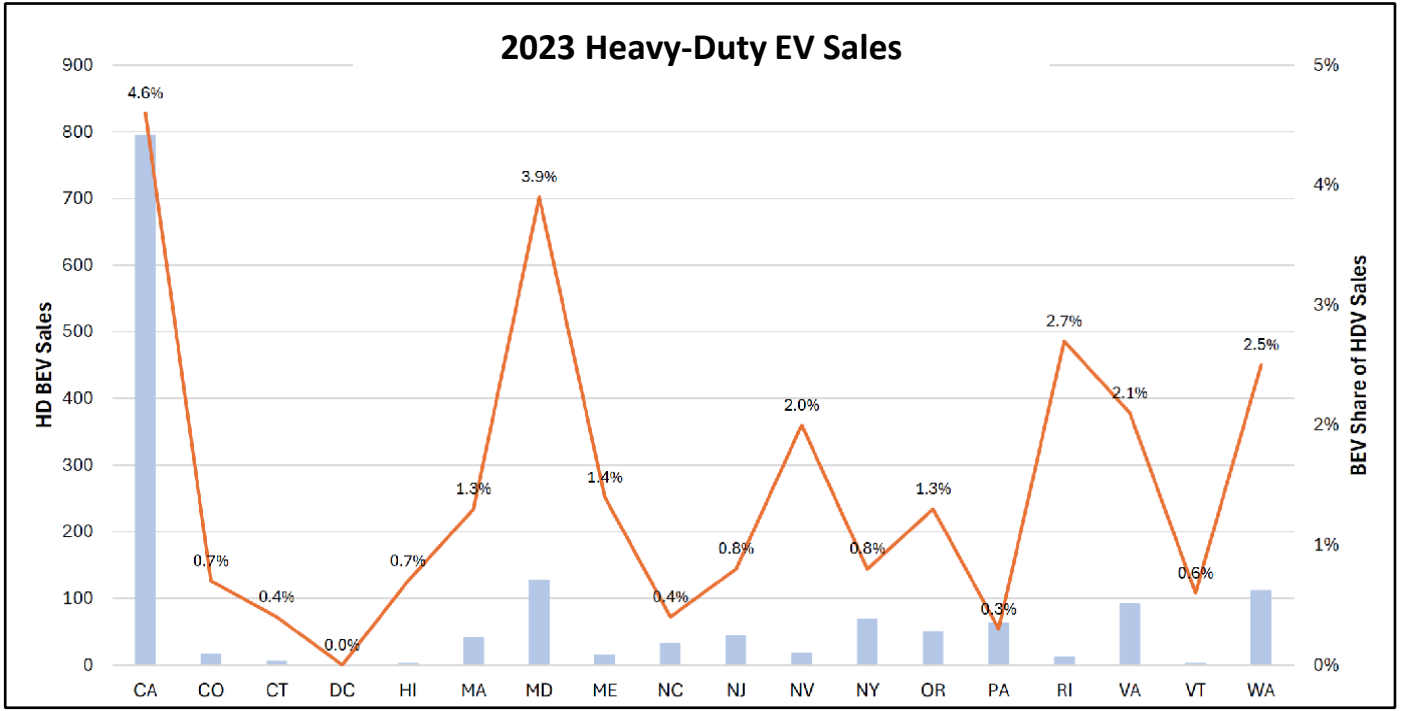


Source: https://www.atlasevhub.com/market-data/ev-market-dashboard/

Progress Across the Country



Progress Across the Country



Looking Ahead: 2025

Looking Ahead: 2025

Clean Cars:

- Industry is ***significantly exceeding standards*** in final years of ACCI and has already accrued enough extra credits to maximize relevant flexibility through **Model Year 31**

Clean Trucks:

- Accruing early action credit for 2024-2026 deployments
- State planning & securing funding

More Information

Website

mde.maryland.gov

Call

410-537-3100

Social Media

@md_environment

ALLIANCE FOR AUTOMOTIVE INNOVATION

Advanced Clean Cars II

Presented by Josh Fisher, Senior Director, State Affairs

January 22, 2025

Automotive Industry: Investing in the Future

EV Model Availability

125 Types of Vehicle Models Sold in Q3 2024

71 Battery Electric Vehicles
51 Plug-in Hybrid Vehicles
3 Fuel Cell Electric Vehicles

Key Facts

- **$129 billion** total investments in electrification to date
- Project up to **$1 trillion** invested by the end of the decade
- Automakers invested in Port of Baltimore
  - **$49.05 Billion** Total Exports and **$156.94 Billion** Total Imports over past decade

Maryland's EV Market - We Need a Miracle

2024 Key Facts – Q3 only

- **13.2%** of all light-duty sales were EVs
- **0.43 pp** increase from Q3 2023

2024 Key Facts – YTD Q3

- **11.98%** of all light-duty sales were EVs
- **0.91 pp** increase from Q3 2023

2024 Key Facts – Q3 Only

Excluding EV-only Manufacturers

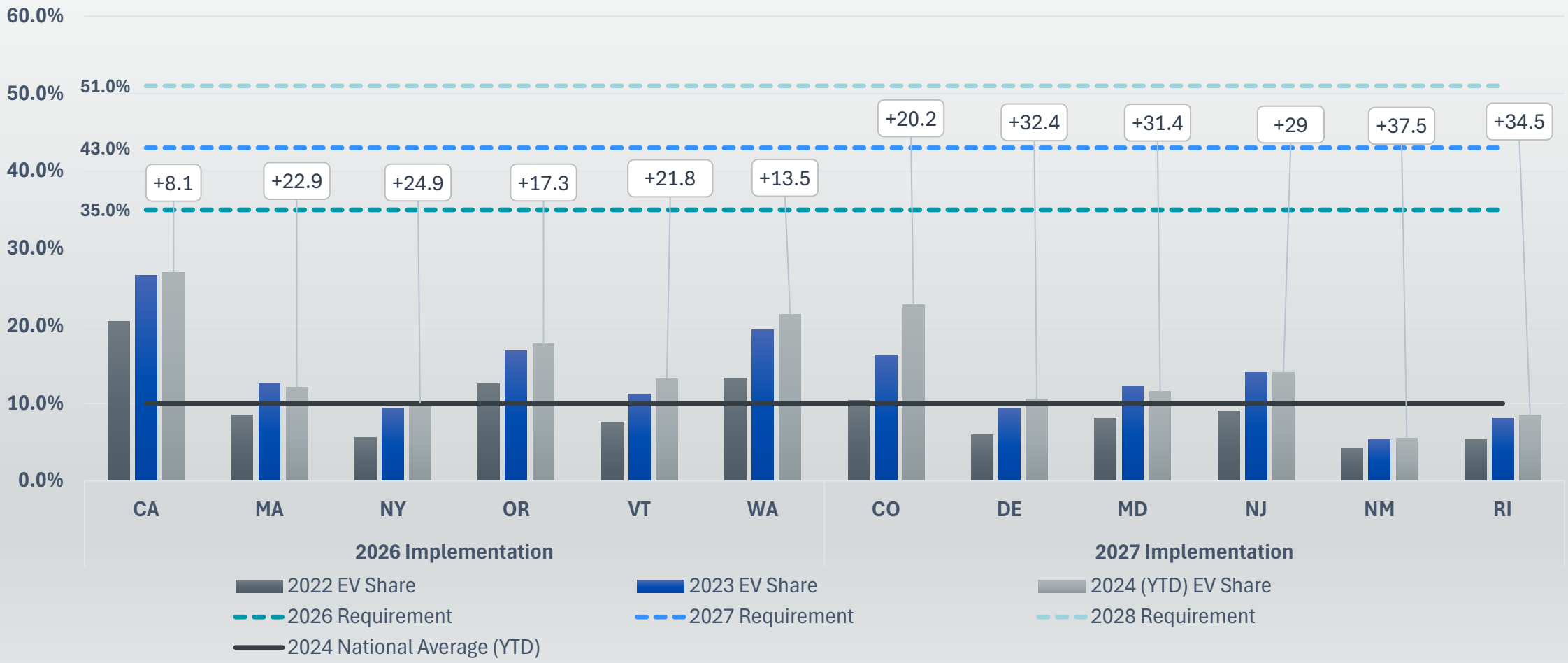
- **7.6%** of all light-duty sales were EVs

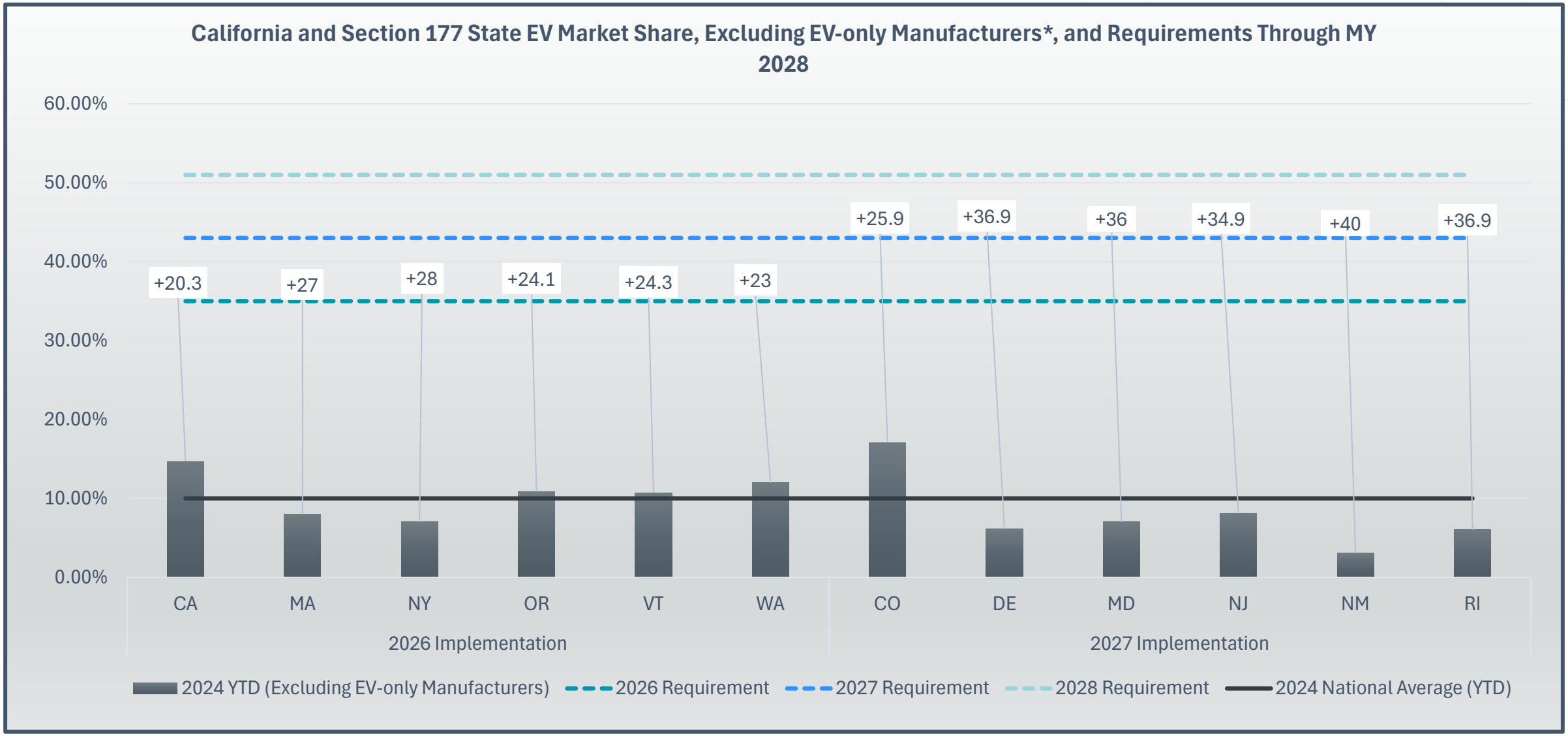
2024 Key Facts – YTD Q3

Excluding EV-only Manufacturers

- **7.03%** of all light-duty sales were EVs

California and Section 177 State EV Market Share, Growth Needed for First Year Implementation, and Requirements Through MY 2028

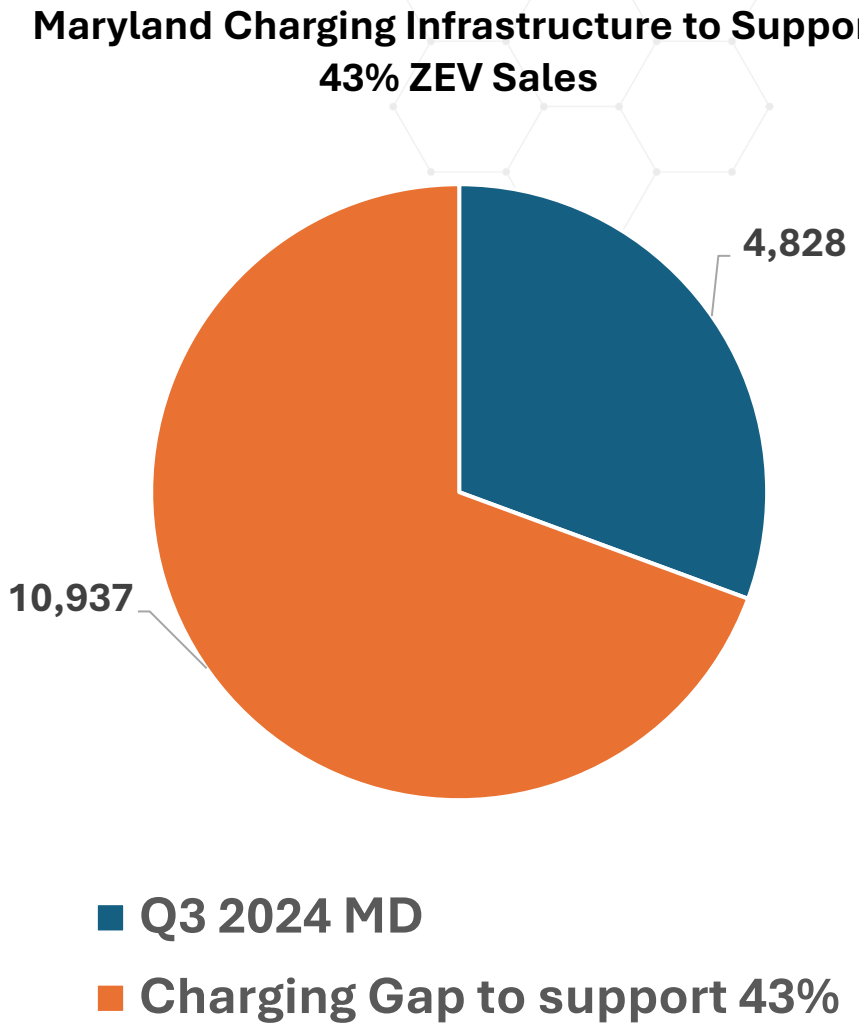



California and Section 177 State EV Market Share, Excluding EV-only Manufacturers*, and Requirements Through MY 2028
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
+20.3
+27
+28
+24.1
+24.3
+23
+25.9
+36.9
+36
+34.9
+40
+36.9
CA
MA
NY
OR
VT
WA
CO
DE
MD
NJ
NM
RI
2026 Implementation
2027 Implementation
2024 YTD (Excluding EV-only Manufacturers)
2026 Requirement
2027 Requirement
2028 Requirement
2024 National Average (YTD)

Not Enough Charging in Maryland

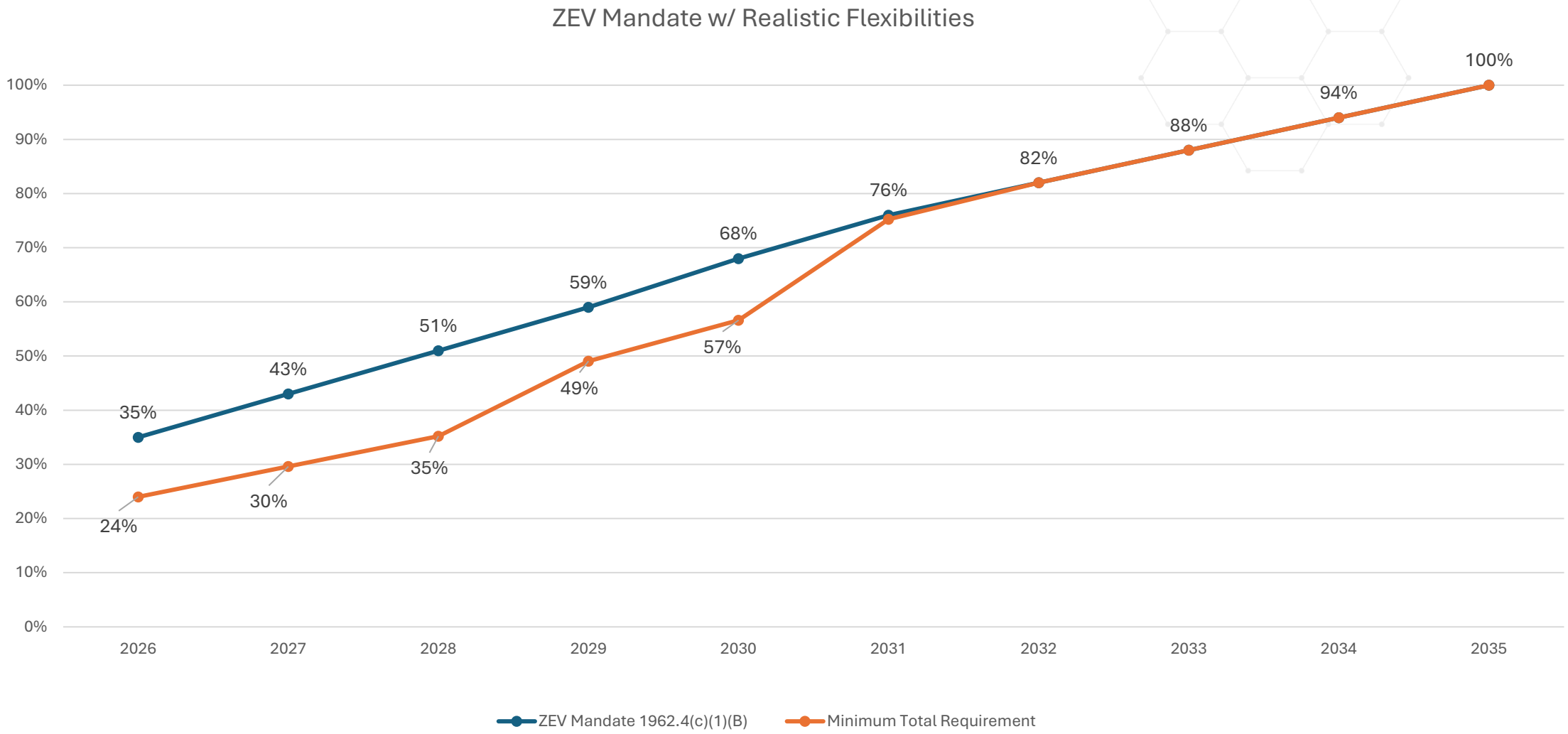
U.S. Dept. of Energy - National Renewable Energy Laboratory EV Charging Analysis

- **In Maryland: 15,765 publicly available EV charging stations needed to support 43% EV mandate**



Source: https://www.nrel.gov/docs/fy23osti/85654.pdf

“Flexibilities” - Not a Viable Pathway



“Flexibilities” - Not a Viable Pathway

	Model Year									
Req/Flexibility*	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
ZEV Mandate 1962.4(c)(1)(B)	NA	43%	51%	59%	68%	76%	82%	88%	94%	100%
- EJ Values (e)(2) - 5% Cap**	NA	0.00%	0.00%	0.59%	0.68%	0.76%	NA	NA	NA	NA
- Early Compliance Values (e)(3) - 15% Cap**	NA	-6.45%	7.65%	8.85%	NA	NA	NA	NA	NA	NA
- Pooled Credits (g)(1)(D) - Declining cap (20/15/10/5%)	NA	0.00%	0.00%	0.00%	0.00%	NA	NA	NA	NA	NA
- Converted Credits (g)(2)(A) - 15% Cap**	NA	-6.45%	7.65%	8.85%	10.20%	NA	NA	NA	NA	NA
- Proportional FCEV (g)(4) - ***	NA	-0.50%	0.50%	0.50%	0.50%	NA	NA	NA	NA	NA
Minimum Total Requirement	**NA**	**-29.60%**	**35.20%**	**40.21%**	**56.62%**	**75.24%**	**82.00%**	**88.00%**	**94.00%**	**100.00%**

*ACC II ZEV Regulations 13 CCR §1962.4 see: https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/2acciifro1962.4.pdf

** Percent cap is the maximum percent of the requirement (e.g., 5% cap in 2026 = 5% * 35%; 1.75% of the 35% requirement can be met with EJ credits)

*** The cap for FCEV proportional credits = the lesser of either (% of the manufacturers ZEV requirement met with FCEVs) or 10% of the requirement. Only 2 companies sell FCEVs - Toyota and Hyundai. In 2021, Toyota sold 2,597 FCEVs in CA. If Toyota FCEV sales increased 15% annually 2022-2030 and their total sales increased 5% annually, the maximum credit would be 2.8% * ZEV Requirement. However, this is only for Toyota, industry-wide conservative estimate is 1% * ZEV requirement 2027-2030. (See chart to the right.)

Maryland's Advance Clean Trucks Rule

Louis Campion
President & CEO
Maryland Motor Truck Association

Maryland Motor Truck Association (MMTA)

- Founded in 1935
- 900+ members
- Vision: To empower Maryland's trucking industry to deliver life's essentials
- Mission: Support, advocate and educate for a safe, efficient and profitable trucking industry in Maryland

Advance Clean Trucks Rule

- Originated in California
- What is it?
  - ZEV sales mandate on OEMs – over 8,500 lbs. GVWR
  - Percentages increase over time
  - Fines for failure to meet sales targets
- What states have adopted it?
  - CA, CO, **MD**, MA, NJ, NM, NY, OR, RI, VT, WA
- MMTA supported with needs assessment by 12/1/24

Maryland Sales Targets

Maryland ZEV Sales Percentage Schedule Under the CA Advance Clean Trucks Rule			
Model Year	Class 2b-3 Group 8,501 – 14,000 lbs.	Class 4-8 Group Straight Trucks 14k+	Class 7-8 Tractors Over 26,000 lbs.
2027	15%	20%	15%
2028	20%	30%	20%
2029	25%	40%	25%
2030	30%	50%	30%
2031	35%	55%	35%
2032	40%	60%	40%
2033	45%	65%	40%
2034	50%	70%	40%
2035 & beyond	**55%**	**75%**	**40%**

Class Variations

- ZEV sales primarily in Class 2b – 3
- Not freight trucks
- Passenger vehicles (75% of sales)
  - Tesla Cybertruck, Rivian R1S, GMC Sierra, Cadillac Escalade
  - Added weight
- Credits are NOT transferrable
- Manufacturers have to meet % in each category

Sales Impacts in Early Adopters

- CA truck sales down 79% through August
- Uncertainties
  - Daimler
  - Mack
- OEMs regulating truck sales
- Dealers not getting equipment
- Less than 1% of ZEV MHD truck sales are tractor group
  - MD will need to be at 15% by MY2027

Where's the Infrastructure?

- I-95 Clean Corridor Coalition Grant
  - NJ, MD, CT, DE - $250M total (MD = $80M)
  - No sites in MD until 2029/2030
  - Zero public charging infrastructure
  - MY2027 = CY2026
- 2023 Roland Berger study ZEV truck infrastructure
  - MD = $8 billion
  - Nationally = $1 trillion

Real World

- 3 – 4 years acquisition, infrastructure, etc.
- Company A
  - Limit trips to 60 – 80 miles daily
  - Safety equipment challenges with low battery
- Company B
  - Using 1 ZEV and 1 diesel for round trip drops
- MDOT budget efforts on transit bus acquisitions
  - ACT will cost state $950M for fleet replacement alone
  - Delay purchase requirement from 2027 to 2032

Time to Act Now

- MY2027 is CY2026
- Needs assessment
- Infrastructure first
- Supply chain impacts

Questions?

Louis Campion

President & CEO

Maryland Motor Truck Association

410-644-4600

louis@mdtrucking.org

Advanced Clean Cars II and Advanced Clean Trucks rules

Kevin X. Shen
Policy Analyst
Union of Concerned Scientists

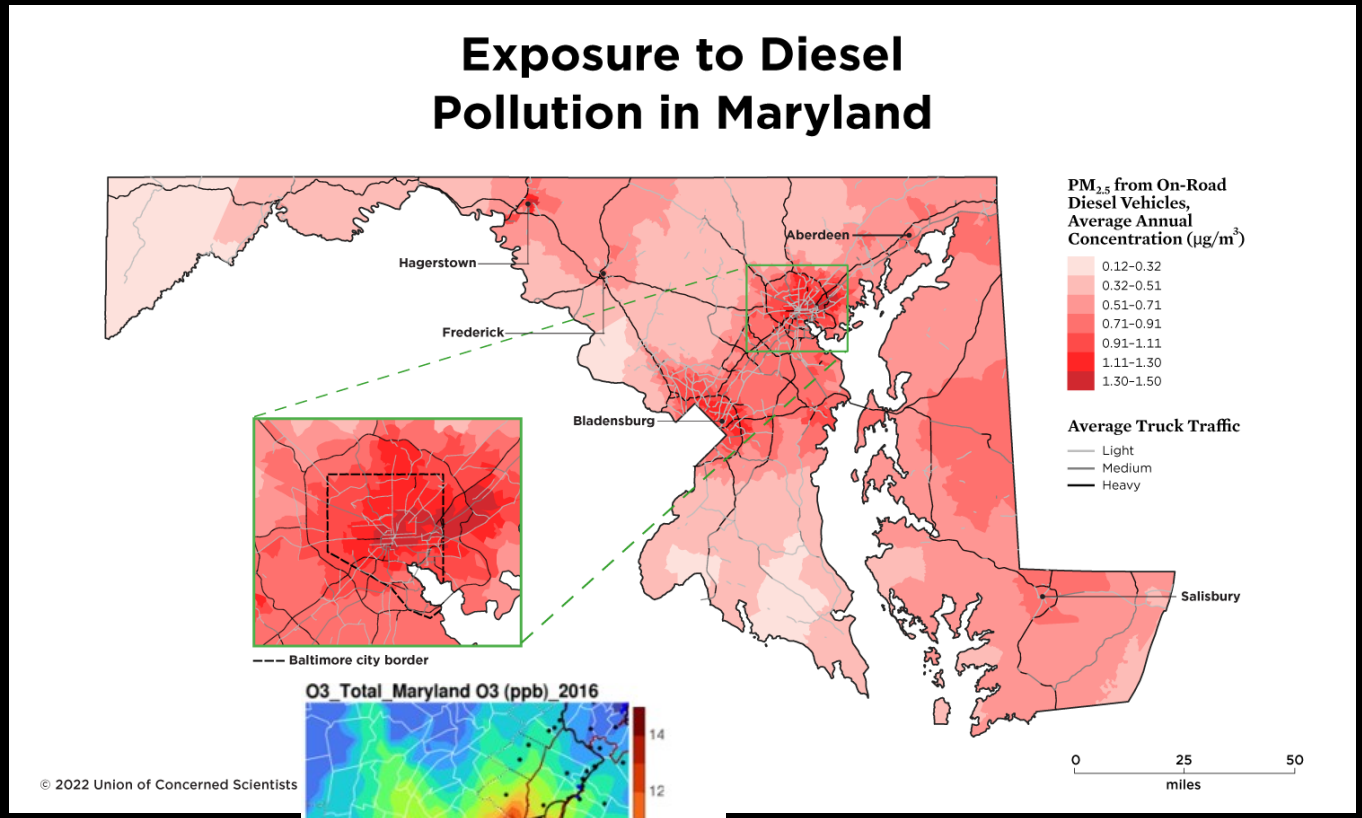
E&T/EEE Joint Hearing
January 22, 2024, 2pm

Union of Concerned Scientists

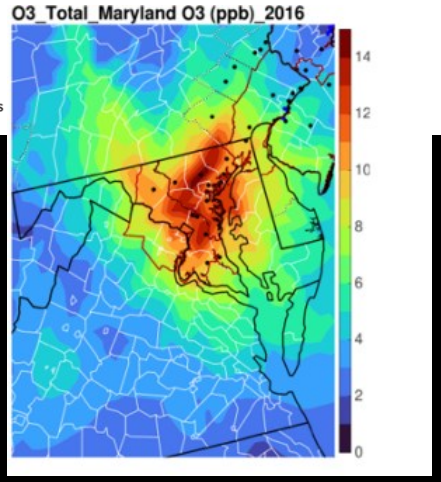
Transportation Pollution Seriously Harms Public Health

- Over 80% of Marylanders live in areas designated as being in nonattainment of the National Ambient Air Quality Standards for ozone, with the Baltimore region and Cecil County being in serious nonattainment.

- Emergency department visits for asthma are nearly five times higher for Black Marylanders than White Marylanders.



Source: [UCS]



Source: [Sierra Club MD]

ACCII and ACT Include Significant Compliance Flexibilities

- Plug-in hybrids
  - Up to 20% of ACCII sales can be met with plug-in hybrids through 2035
  - Up to 50% of ACT sales can be met with plug-in hybrids through 2035

- Robust credit, banking, and trading program
  - Focus on vehicles most suited for electrification first
  - Maryland in Dec adopted amendment to increase early credit lead time to MY2025

- In California, manufacturers have already generated more than twice the credits to meet 2024 ACT obligations in 2021-2023, not even counting MY2024 sales.

- Additional flexibilities agreed upon in the CARB-Manufacturer Clean Truck Partnership

Truck Maker Actions Have Burdened Dealers and Consumer Choice

- Manufacturer “ratio-ing” contributing to product shortages
  - *“[CARB] Staff believes that attributing the driving factor to the ACT regulation could be a sales strategy to continue ramping up ZEV sales… despite the current surplus of ACT credits”*
- Contradictory communication with CARB vs. with dealers
- Refusing to engage in credit market flexibilities

CALIFORNIA
AIR RESOURCES BOARD

Gavin Newsom, Governor
Yana Garcia, CalEPA Secretary
Liane M. Randolph, Chair

To: **Liane M. Randolph**, Chair, California Air Resources Board
Honorable Board Members, California Air Resources Board

From: Steven S. Cliff, Ph.D., Executive Officer, California Air Resources Board

Date: September 25, 2024

Subject: California Truck Availability Analysis

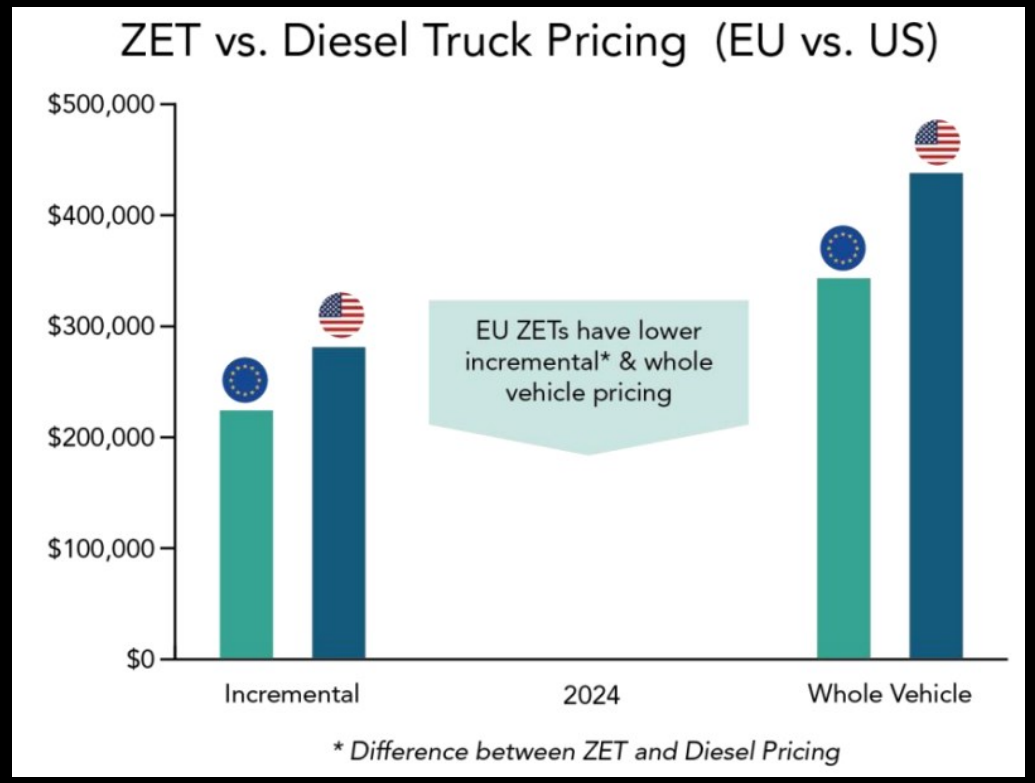
Trucking Industry Disinformation Will Cost Lives

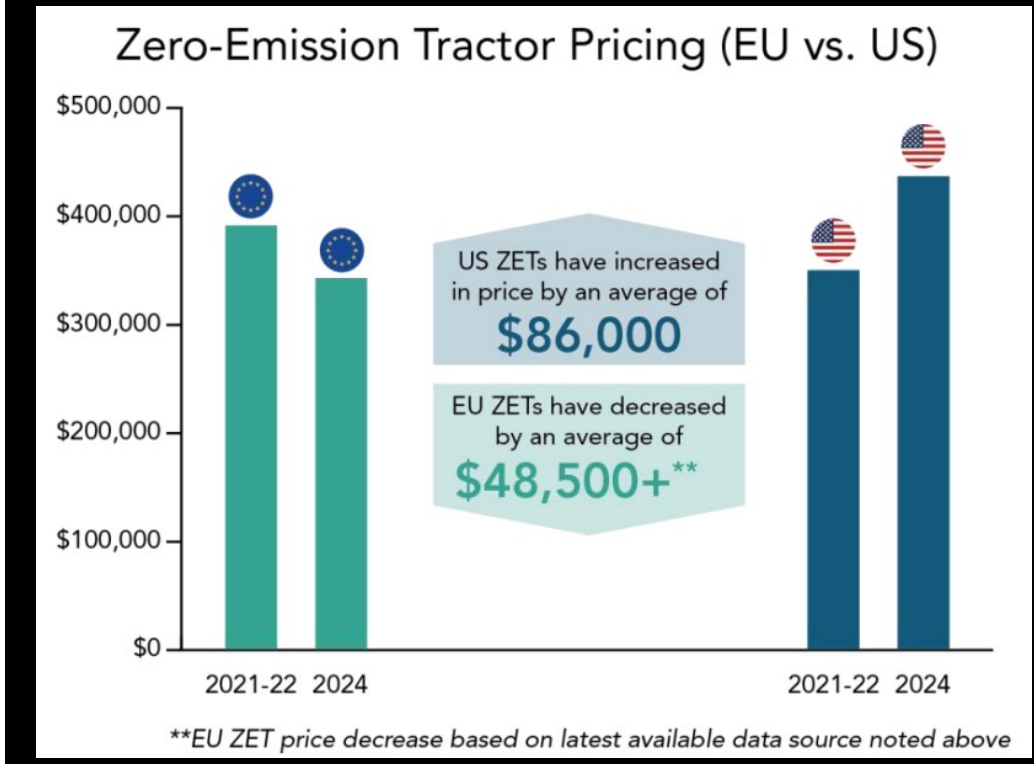
October 30, 2024 | 10:00 am

Recently, the states of Oregon and Massachusetts have proposed delaying enforcement of state truck engine emissions standards originally put in place

Dave Cooke
Senior Vehicles Analyst

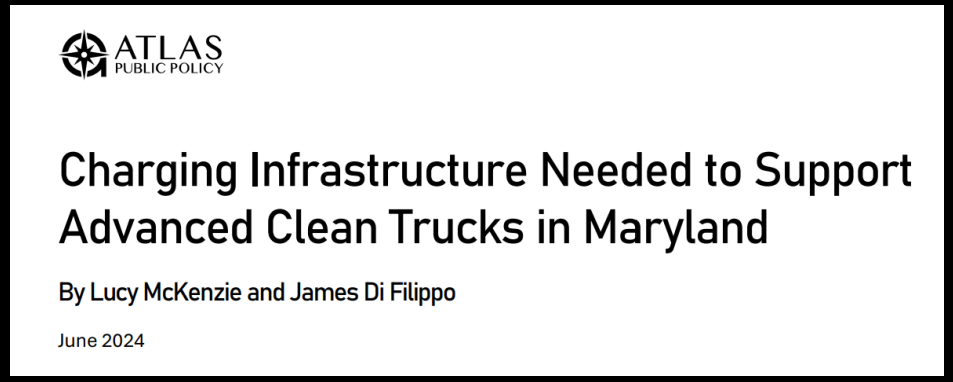
Truck Maker Actions Have Burdened Dealers and Consumer Choice





Source: CARB

Charging Infrastructure is Indeed Feasible, but Requires Planning


ATLAS PUBLIC POLICY

Charging Infrastructure Needed to Support Advanced Clean Trucks in Maryland

By Lucy McKenzie and James Di Filippo

June 2024

Source: Atlas Public Policy

Key takeaways from this work:

- ACT requirements ramp over time, enabling fleets and utilities to plan ahead and build charging infrastructure gradually.
- The majority of zero-emission MHD vehicles in Maryland under ACT compliance will be class 2b/3 trucks. Electric vehicles of this type are expected to charge with Level 2 charging ports.
- We expect vehicles with access to long-dwell-time parking, such as private or publicly-accessible depots, to electrify first. We therefore model limited need for en-route charging buildout between now and 2032.
- For heavy-duty (class 4 – 8) vehicles, the majority of the charging ports that will be needed at depots are Level 2.[8]

Most charging in MD can be satisfied by L2 depot charging

Figure 2. Cumulative projected number of charging ports needed for ACT-compliant adoption of Class 2b and 3 fleet vehicles in Maryland, by charger type

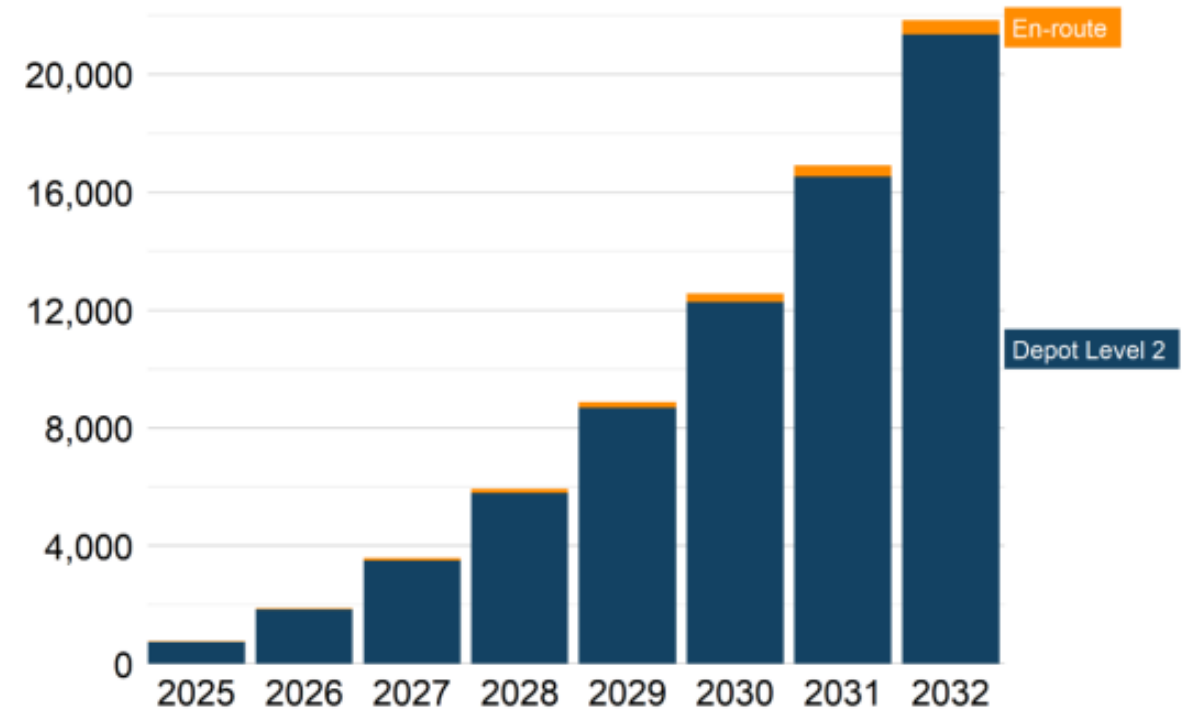
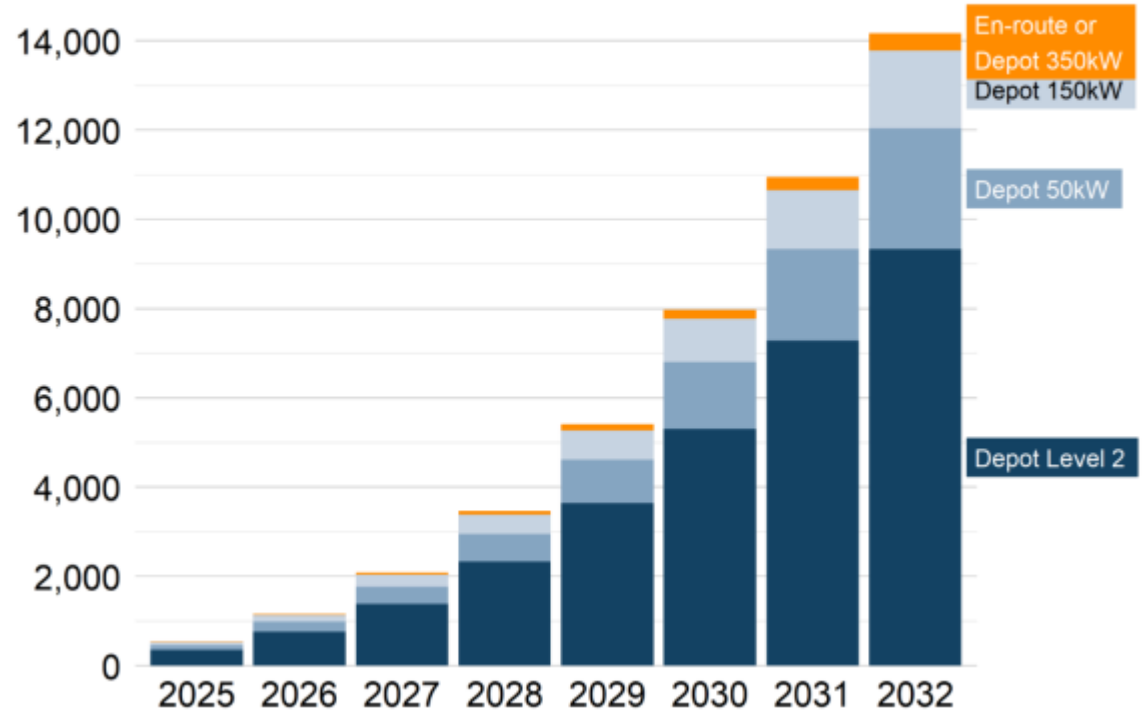


Figure 3. Cumulative projected number of charging ports needed for ACT-compliant adoption of Class 4-8 vehicles in Maryland, by charger type



Source: Atlas Public Policy

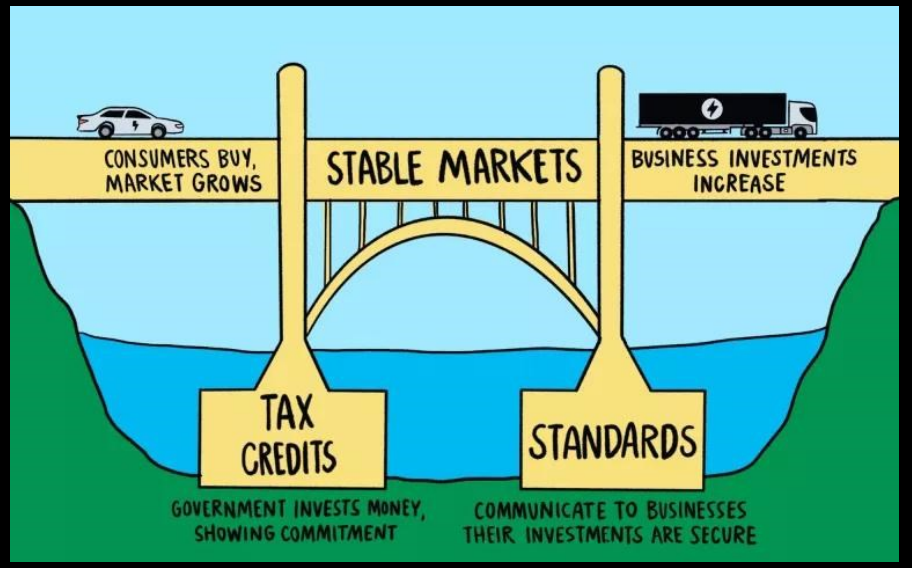
Key Grant Programs are Supporting the Transition

Federal Grants

- July 2024: Volvo group awarded **$208 million** in federal funding to increase production of medium and heavy duty trucks in three domestic manufacturing facilities –including its Hagerstown plant.
- July 2024: Maryland received over **$80 million** to support strategic planning investments in zero-emission charging infrastructure for medium- and heavy-duty vehicles on the Interstate 95 corridor through a Clean Corridor Coalition Grant.
- October 2024: Maryland received more than **$147 million** through EPA's Clean Ports Program for the deployment of zero-emission port equipment and infrastructure.
- December 2024: MDOT in partnership with the Pennsylvania Department of Transportation, the New Jersey Department of Environmental Protection, and the West Virginia Department of Transportation will receive **$18.6 million** to support zero-emission medium and heavy duty charging along the I-81 and I-78 corridors.
- Other programs: Clean Vehicle Tax Credit and Used Clean Vehicle Credit, NEVI

State and Other Grants

- **$10 million annual** for MEA's Zero-Emission Medium and Heavy Duty Vehicle Grant program
- **$1.5 million annual** for MEA Clean Energy for Local Governments Grants
- **$2.5 million annual** for MEA Electric Vehicle Supply Equipment Rebate, $700 per residential charger, $5000 for other entities
- **$8.25 million annual** for EV Excise Tax Credit, $3,000 per vehicle
- **$55 million total** from utilities for charging programs



Source: Jessica Russo

Thank you

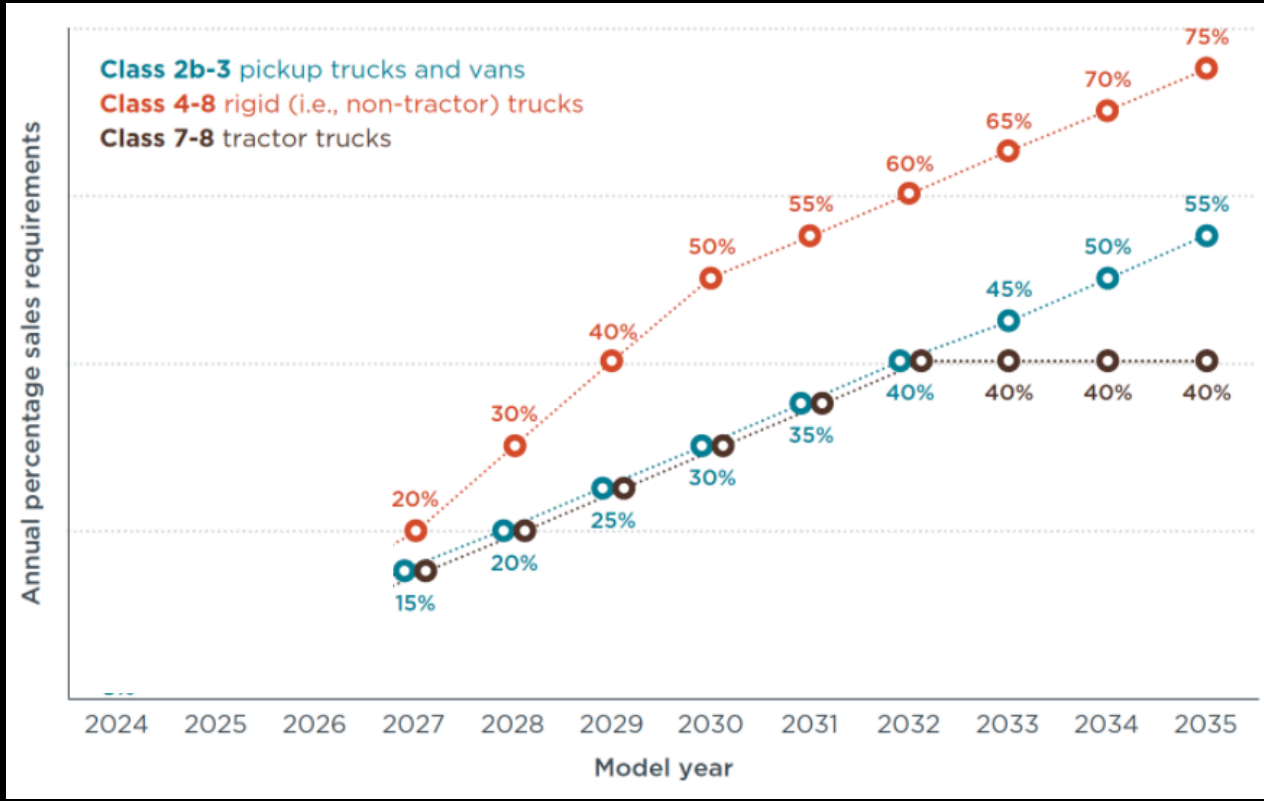
Questions?

kshen@ucsusa.org

Union of Concerned Scientists

Extra Slides

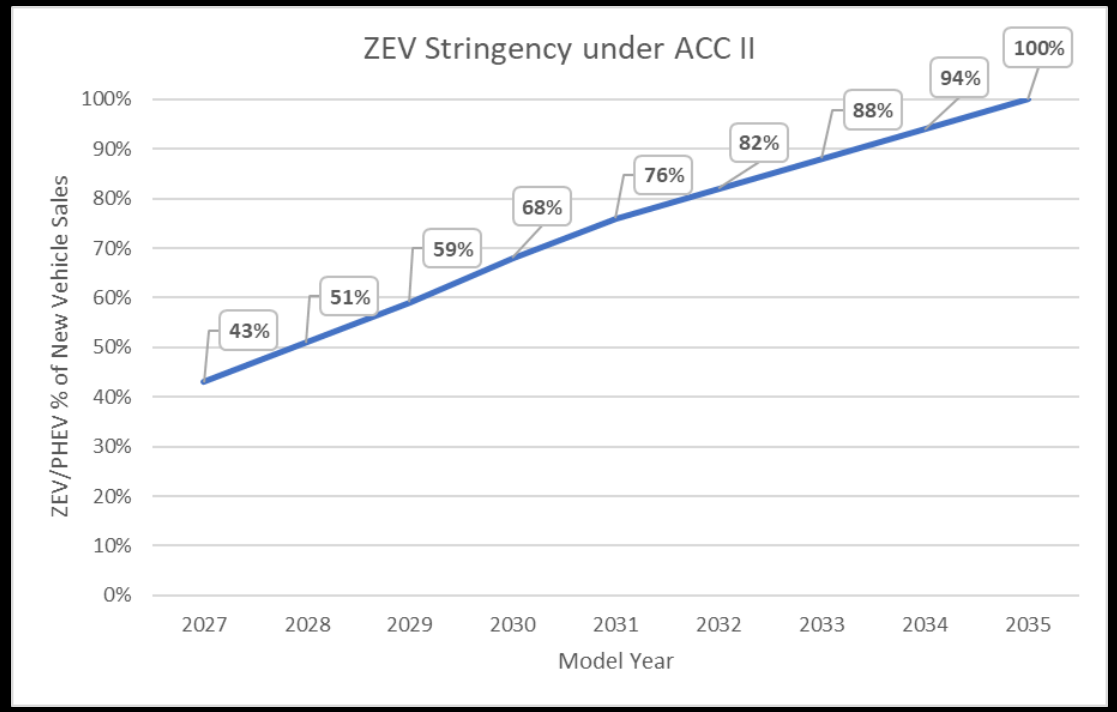
Advanced Clean Trucks (ACT)



Source: ICCT

- Requires manufacturers to sell increasing percentages of zero-emission trucks
- Credit system for flexible compliance

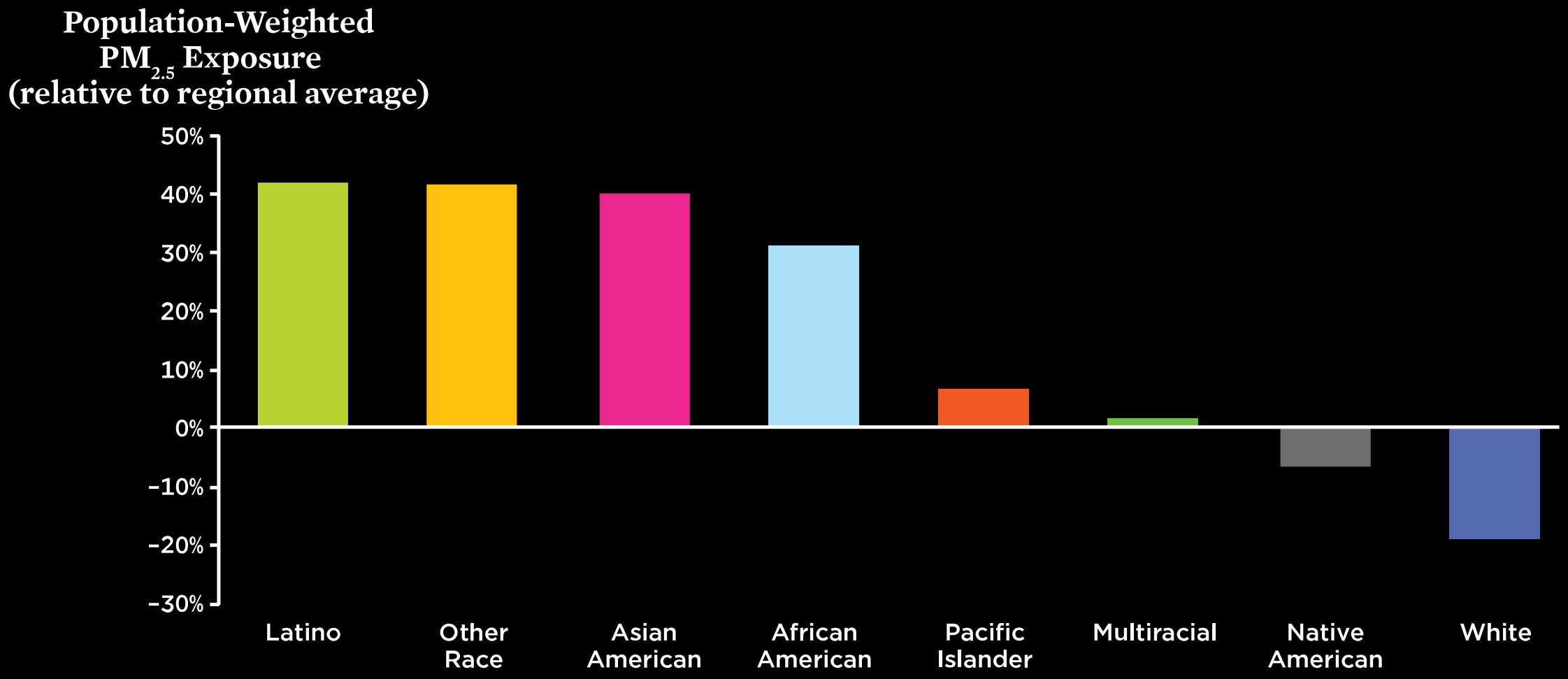
Advanced Clean Cars II (ACCII)



Source: MDE

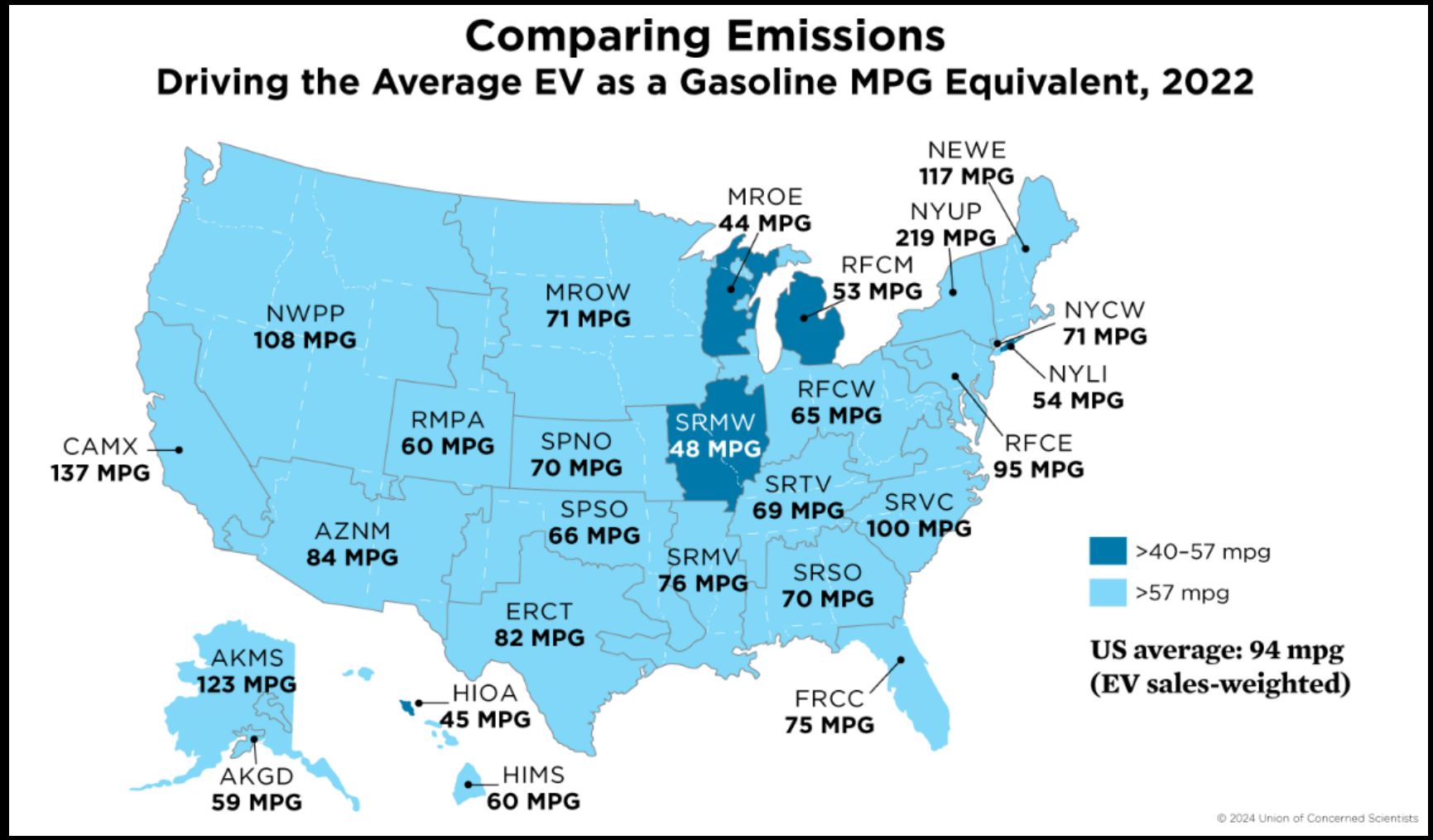
- Requires manufacturers to sell increasing percentages of zero-emission cars and passenger trucks
- Strengthens pollution standards for gas-powered cars and passenger trucks, to continue to reduce toxic tailpipe emissions
- Provisions for equity and the quality and durability of electric vehicles and their batteries.

Residents of Color across the Northeast/Mid-Atlantic are on average exposed to ***66% more*** PM2.5 than White residents



Source: https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles

The average light duty EV is better than the most efficient gas vehicle, and getting even better



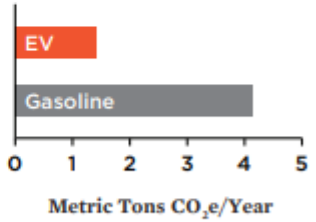
Source: UCS

1. Interest in EVs is growing quickly.

EV sales for new cars grew 68% in Maryland from model year 2022 to model year 2023.

2. EVs cut global warming emissions.

Driving the average EV in Maryland produces 2.7 fewer metric tons of emissions per year compared to driving a gasoline-powered car getting 30 miles per gallon.



3. Charging infrastructure is increasing.

From 2021 to 2023, the number of DC fast-charging ports in Maryland increased by 59%, making charging more accessible to drivers.

4. Drivers save on fuel.

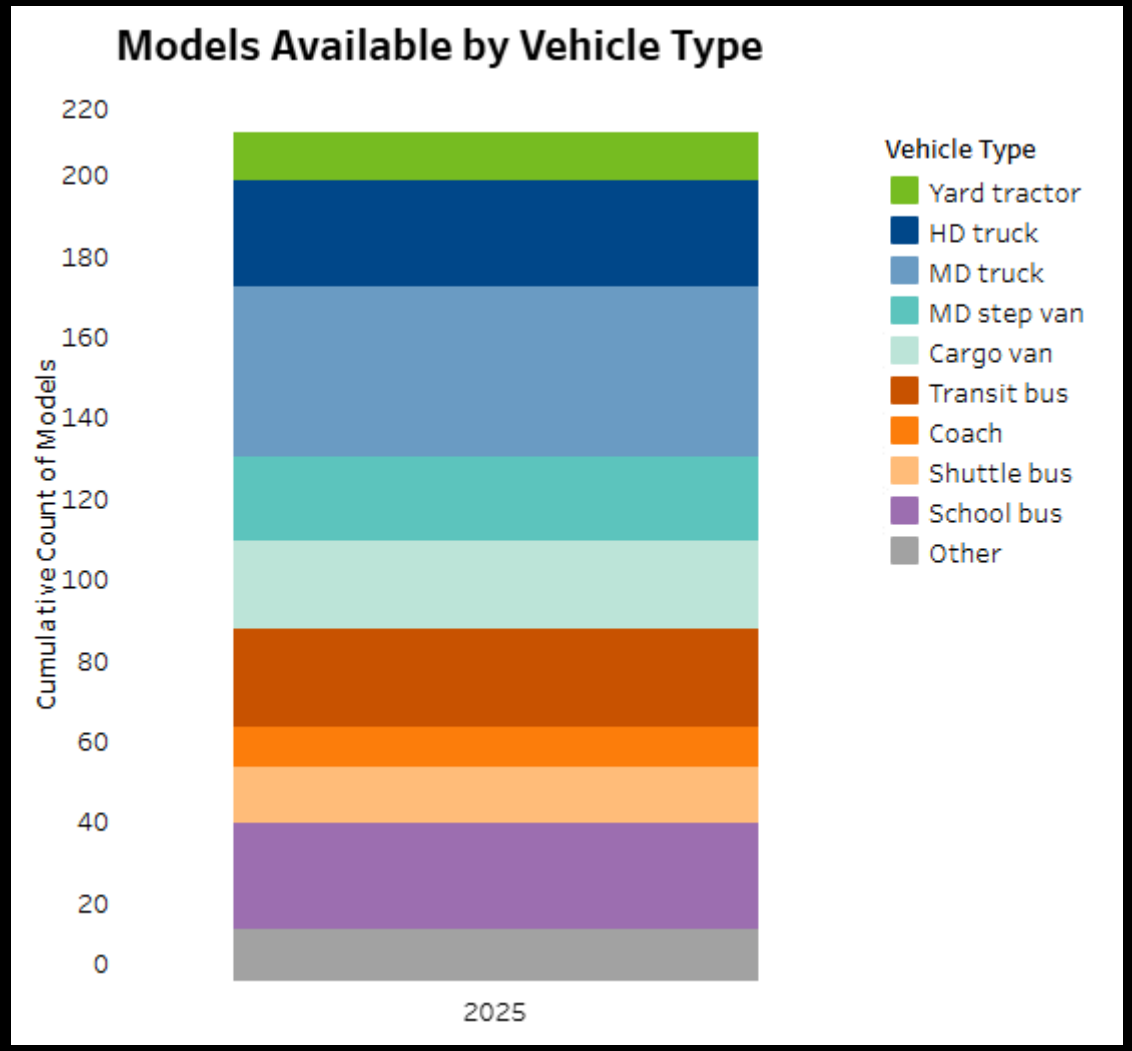
$1.24
Average price per gallon equivalent July 10, 2024

$3.62
Average price per gallon July 10, 2024

By switching to an electric car, the average driver in Annapolis could save $920 a year on fuel costs.

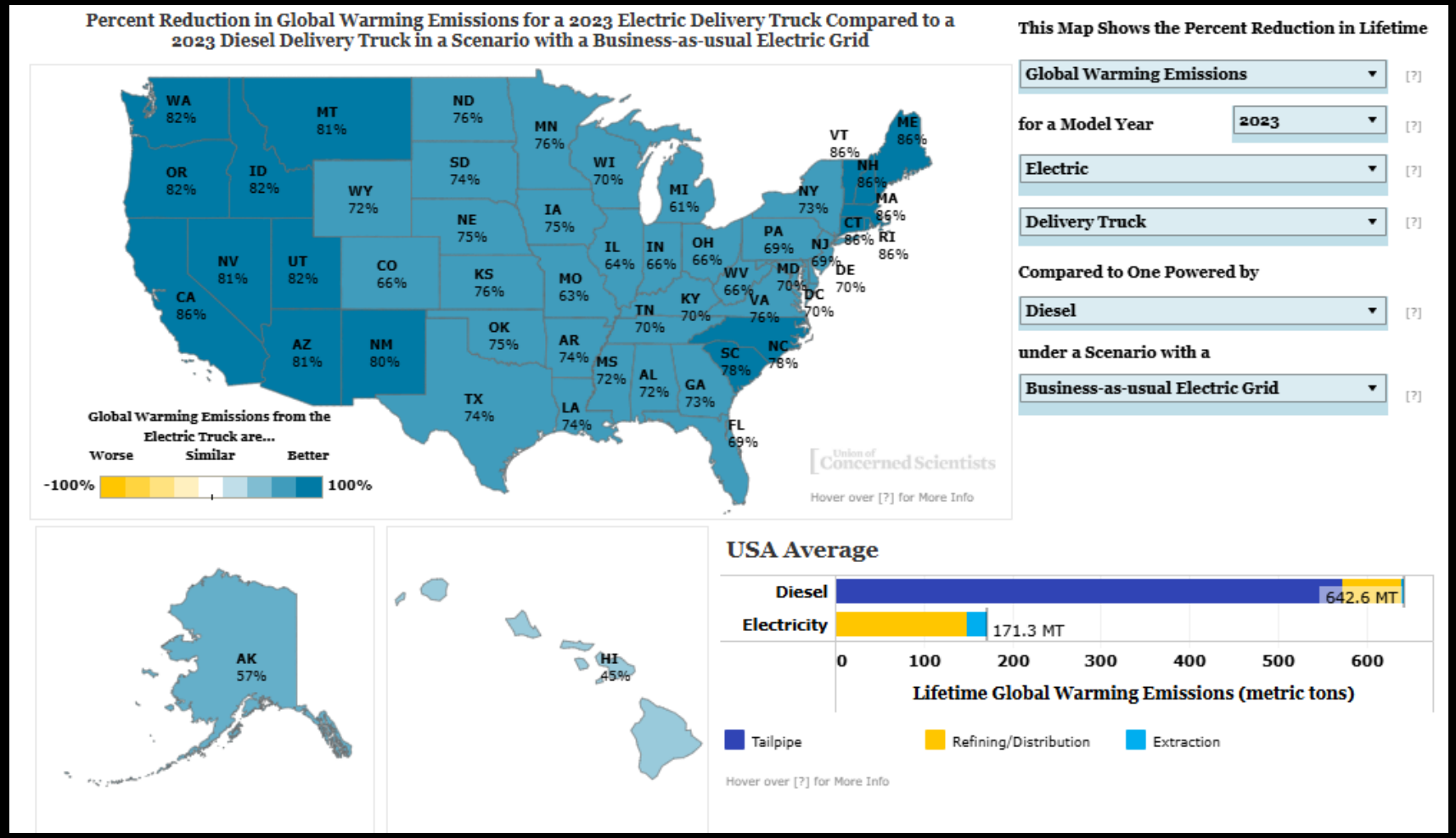
Source: UCS

More Than 200 MHDV Models from 74 OEM's



Source: CALSTART

EV trucks and buses are also much cleaner and contribute far less to public health impacts



Source: UCS

CA ACT Early Credits (as of May 2024)

Manufacturer	Autocar	Battle Motors	Blue Bird	BYD	Daimler	Ford	GM	GreenPower	Hyundai	Isuzu	Lightning eMotors	Lion Electric	Mercedes Benz
Total Credit Balance at the End of 2023	4	2	720	338.5	422	4,572.00	657.6	158	87.5	-	184.4	79.5	-
Tractor Credit Balance at the End of 2023	-	-	-	230	287.5	-	-	-	87.5	-	-	-	-

Micro Bird	Navistar	Nikola Motor	Nissan	Orange EV	Paccar	Rivian	Sea Electric	Stellantis	Tesla	Volvo	XOS Trucks	Total Early Credits 2021-2023	Needed (2024 estimate)
76	623	120	-	420	597	8,225.60	32	-	145	571	478.5	18,513.60	8100
-	-	120	-	-	242.5	-	-	-	145	562.5	-	1,675.00	1675

Source: CARB

CARB and Manufacturers Already Agreed to Increase Flexibilities, and Manufacturers Committed to Comply

CARB and truck and engine manufacturers announce unprecedented partnership to meet clean air goals

The new Clean Truck Partnership agreement offers flexibility to address public health of Californians and the needs of fleet manufacturers that build the technology required for the transition to zero-emissions

PRINT

For immediate release

DATE

July 6, 2023

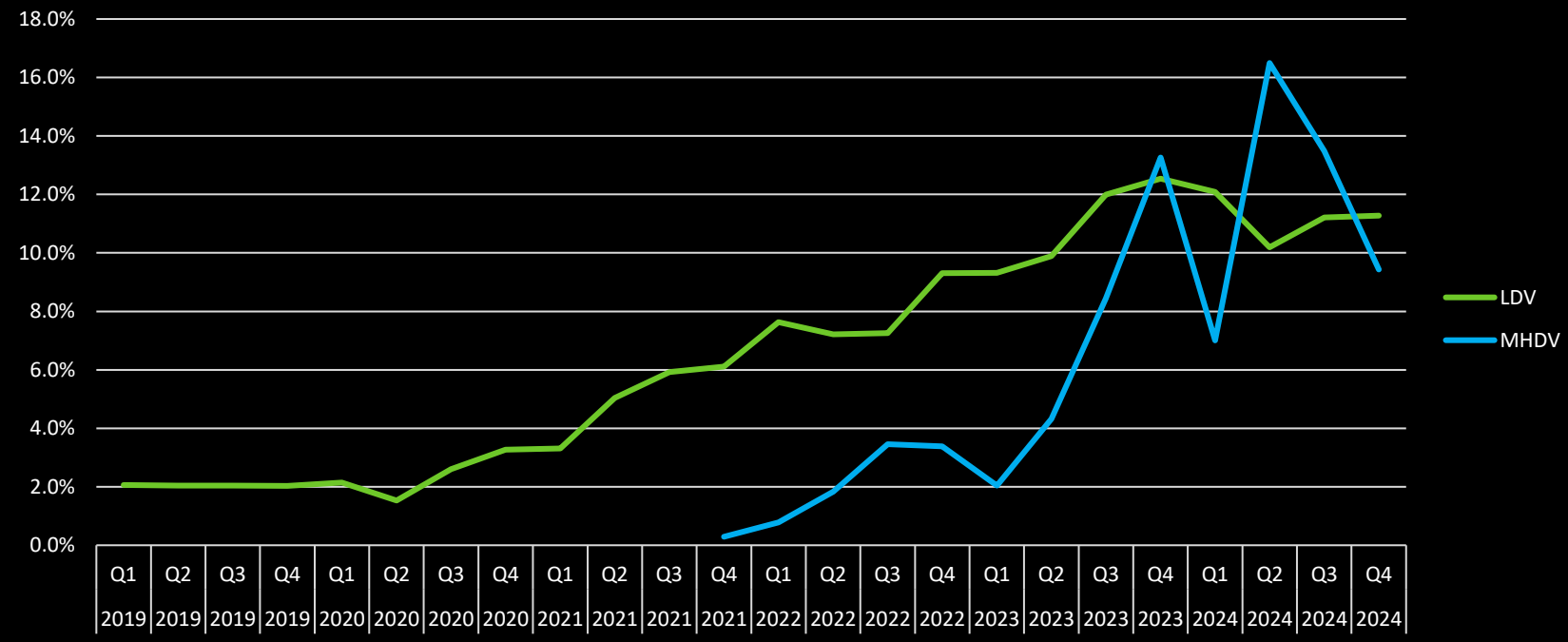
RELEASE NUMBER

23-18

SACRAMENTO – The California Air Resources Board announced a Clean Truck Partnership today with the nation's leading truck manufacturers and the Truck and Engine Manufacturers Association that advances the development of zero-emission vehicles (ZEVs) for the commercial trucking industry, which includes flexibility for manufacturers to meet emissions requirements while still reaching the state's climate and emission reduction goals.

The Clean Truck Partnership, which includes Cummins, Inc., Daimler Truck North America, Ford Motor Company, General Motors Company, Hino Motors Limited, Inc., Isuzu Technical Center of America, Inc., Navistar, Inc., PACCAR Inc., Stellantis N.V., Truck and Engine Manufacturers Association, and Volvo Group North America, marks a commitment from the companies to meet California's vehicle standards that will require the sale and adoption of zero-emissions technology in the state, regardless of whether any other entity challenges California's authority to set more stringent emissions standards under the

The Maryland ZEV market is picking up quickly to meet these sales targets



Source: Atlas EV Hub

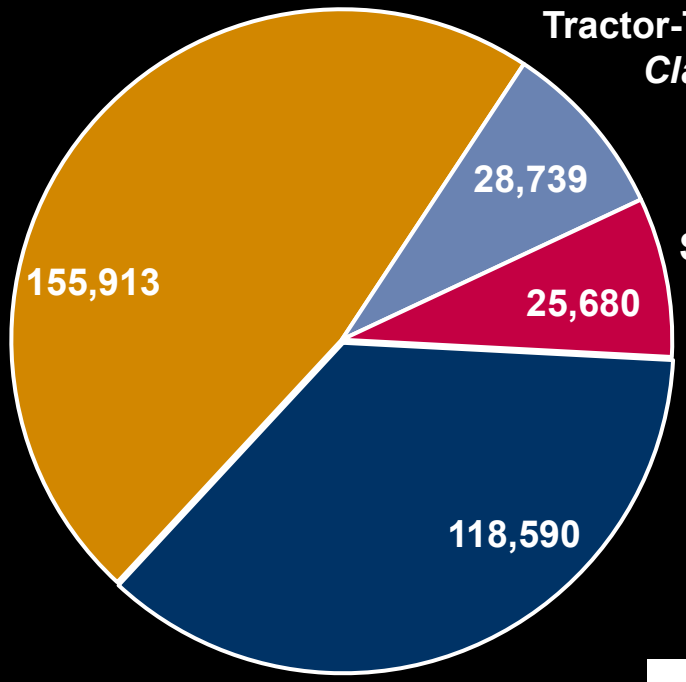
Maryland's Heavy-Duty Vehicle Fleet







Freight & Vocational Trucks
Class 4 - 8



2022 vehicles

Tractor-Trailer Trucks
Class 7 - 8

School, Shuttle, Coach, & Transit Buses
Class 3 - 8

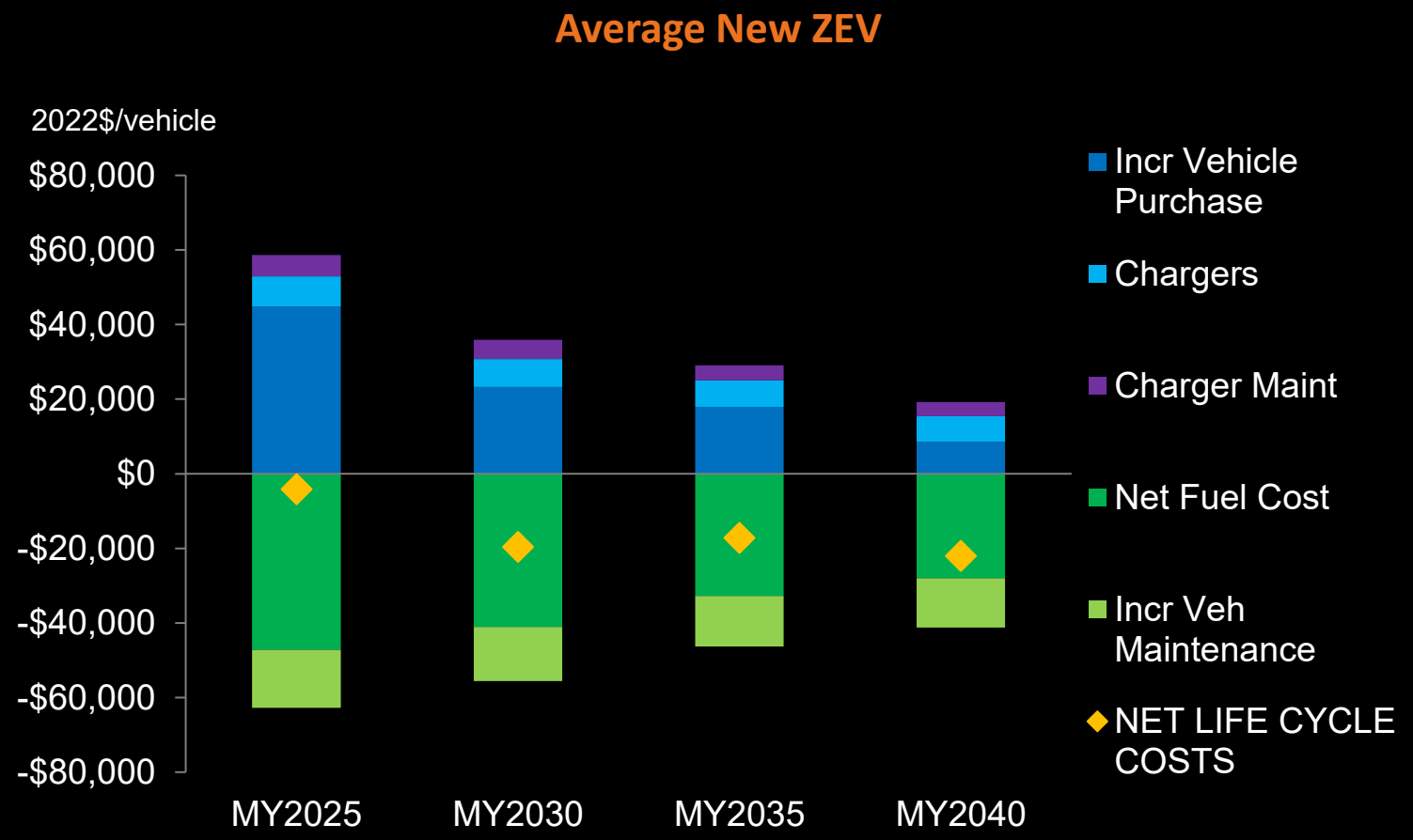


Heavy-duty Pickups & Vans
Class 2b-3


Source: UCS/NRDC/ERM

Maryland Results: MHDV ZEV-ICE Cost Parity

- A Maryland "average" ZEV reaches life-cycle cost parity with diesel and gasoline vehicles by model year (MY) 2025
- After MY2030, the average ZEV will save its owner $17,000 to $22,000 over its life
- For this calculation, fuel and maintenance cost savings are discounted at 4 percent over 21-years



Source: UCS/NRDC/ERM

Maryland Motor Truck Association

January 21, 2025

The Honorable Brian Feldman
Chair, Senate Education, Energy, and the Environment Committee
2 West Miller Senate Office Building
Annapolis, Maryland 21401

The Honorable Marc Korman
Chair, House Environment and Transportation Committee
250 Taylor House Office Building
Annapolis, Maryland 21401

Dear Chair Feldman and Chair Korman,

On behalf of the Maryland Motor Truck Association (MMTA) I am writing to provide you with updated information for your January 22, 2025, briefing on zero emission vehicles and any discussion of the Advanced Clean Trucks (ACT) rule in Maryland. Our members are deeply committed to supporting clean energy and emissions reductions. In 2023, MMTA supported passage of the ACT with the expectation that the Maryland General Assembly's mandatory needs assessment from various state agencies to evaluate grid capacity, charging infrastructure, cost, availability, and other essential components would be completed by December 1, 2024. In the absence of a completed assessment, the ACT mandates for Model Year 2027 and beyond are set to proceed without a realistic understanding of Maryland's preparedness.

Based on the experiences of other earlier adopter states, MMTA believes the timeline and structure of the ACT rule pose significant economic and logistical challenges for the reasons noted below.

Variability Among Classes.
The ACT rule requires manufacturers to sell an increasing number of zero-emission medium and heavy-duty trucks in Maryland, potentially imposing substantial fines for non-compliance. When assessing any data it is important to understand the difference between the various classes of vehicles because manufacturers are required to meet the sales targets in each class where they sell vehicles and credits are NOT transferrable across the various classes or between ACT states. The below chart identifies the classes and compliance percentages.

Maryland ZEV Sales Percentage Schedule Under the Advance Clean Trucks Rule			
Model Year	Class 2b-3 Group 8,501 to 14,000 lbs.	Class 4-8 Group Straight Trucks over 14,000 lbs.	Class 7-8 Tractors Group Tractors over 26,000 lbs.
2027	15%	20%	15%
2028	20%	30%	20%
2029	25%	40%	25%
2030	30%	50%	30%
2031	35%	55%	35%
2032	40%	60%	40%
2033	45%	65%	40%
2034	50%	70%	40%
2035	55%	75%	40%

Overwhelmingly ZEV sales growth is in the medium duty (Class 2b-3) segment. Nationally nearly 75% of MHD ZEV sales are pick-up trucks and SUVs, such as the Rivian R1S, Tesla Cybertruck, GMC Sierra, and Cadillac Escalade. These vehicles are passenger vehicles that are included in ACT because the added weight of their batteries moves them into the Class 2B category even though they do not transport freight.

Sales In Early Adopter States.
Sales data highlights the growing challenges in ACT states. There is a growing disparity between California and other states nationally with Class 8 truck sales. Across the country, from August 2023 to August 2024,

Class 8 truck sales were down 3%. However, in California the state experienced a 79% drop in sales during that time period.

Recently Daimler Trucks, which manufactures the number top selling heavy duty truck brand in the country (Freightliner) announced it would halt sales of their diesel trucks in Oregon, where it is headquartered. The company then rescinded that position less than two weeks later. Similarly, Mack Trucks announced that the sale of diesel vehicles in Oregon is "restricted due to the low level of EV sales, the extremely limited number of available credits, and the lack of a credit pooling framework among the opt-in states."

The complexities of the ACT program – including uncertainties around penalties, credits, vehicle counts and more – have turned forced truck dealers to become gatekeepers on behalf of the manufacturers as the manufacturers are unwilling to provide them with trucks unless they certify the vehicle is not for sale, registration or primary use in an ACT state. Should a dealer need a diesel vehicle for its customer, it must first sell a ZEV before it will be provided with a vehicle for sale with an internal combustion engine.

The national data indicates that less than 1% of the MHD ZEV sales are Class 7-8 tractors. This category will need to be at 15% of Maryland sales in less than two years. As of September 2024, there were only three of these vehicles currently registered in Maryland. Maryland's trucking companies and dealers need flexibility to avoid economically damaging outcomes as dealers in other ACT states who cannot sell ZEV trucks are losing their allocation of diesel trucks entirely—a situation that is leaving motor carriers unable to refresh aging fleets with modern, cleaner, and safer diesel vehicles.

Lack of Infrastructure.

The slow pace of ZEV truck sales is not surprising given the lack of charging infrastructure. Maryland currently has zero public charging infrastructure for medium- and heavy-duty trucks and it will take years for Maryland to build an adequate network of charging hubs. While the Clean Corridor Coalition Grant will support ZEV infrastructure along the I-95 corridor in Maryland, Delaware, Connecticut and New Jersey, **no chargers are anticipated before 2029, with half projected to come online then and half in 2030. Without this essential infrastructure in place BEFORE Maryland's ACT rules begin in MY27, meeting the sales mandate is simply not feasible.**

A 2023 study by Roland Berger for the Clean Freight Coalition estimates Maryland will need nearly $8 billion in grid and charging infrastructure investment to fully electrify the MHD fleet and that $1 trillion is needed for nationwide implementation.

Commercial vehicle purchases require a long planning cycle—often 12 to 18 months or more. For ZEV trucks the timeline is even longer due to additional requirements for electric infrastructure development, which can extend two to three years, and requires extensive coordination with utilities. When looking at California, the leader in these electrification efforts, delays of almost three years for circuits exist, four years for substation upgrades, and nearly nine years for new substations. These extended timelines underscore the significant delays that could impact Maryland.

Real World Experiences.

In spite of the challenges, some MMTA members are testing electric trucks on an extremely limited basis. MMTA is aware of two companies that are each testing a single ZEV truck in our state. In both instances it took over three years to obtain the vehicles. The experiences of those companies highlight the operational limitations of these trucks.

- Company A – Is limiting its daily mileage for the truck to between 60 and 80 miles. When the battery is low, certain safety functions such as the defroster and the efficacy of the power steering are greatly diminished.
- Company B – Makes a roundtrip delivery from a terminal in Baltimore to one in southern Pennsylvania. The vehicle cannot complete a roundtrip on a single charge, requiring it to substitute a diesel truck for one segment of the trip, effectively needing two trucks to complete the workload normally handled by a single vehicle.

These challenges are further illustrated when one looks at the state fleet. In a 2023 letter to the General Assembly, the Maryland Department of Transportation estimated it would cost $950 million just to convert its own fleet to electric, excluding the substantial cost of installing any necessary charging infrastructure. In the Governor's FY2026 budget he recognizes this, proposing to move the timeline for the state's conversion to purchase electric transit buses from 2027 to 2032 – a mandate that was originally slated to begin in 2023.

Action is Needed Now.

Although it may seem prudent for the General Assembly to wait on the delayed needs assessment to take action on the Advance Clean Trucks Rule, the long lead time means action is needed now. Model Year 2027 will begin in Calendar Year 2026 – only one year from now. By all objective accounts from early adopter states, the goals and timelines of the ACT are simply not realistic or feasible.

Maryland's transportation system is the backbone of its commercial activity. Trucks are the hub of our distribution wheel, playing a vital role in the state's economic development as they safely and efficiently support the state's manufacturing, agricultural, and retail industries. **As such, MMTA believes the ACT should be delayed until the infrastructure investments and essential support systems are firmly in place.** We urge you to take an approach that considers the c**ritical nature of Maryland's supply chain and the logistical challenges the ACT rule imposes.** The trucking industry is committed to working alongside the state's leaders to develop a realistic timeline and strategy that achieves emissions reductions while maintaining the stability and reliability of our state's transportation network.

Sincerely,

Louis Campion

Louis Campion
President & CEO

About Maryland Motor Truck Association: Maryland Motor Truck Association is a non-profit trade association that has represented the trucking industry since 1935. In service to its 1,000 members, MMTA is committed to support, advocate and educate for a safe, efficient and profitable trucking industry in Maryland.