

October 11, 2022

Dr. Suzanne Dorsey
Chair, Maryland Climate Commission

Dear Chair Dorsey:

The Alliance for Automotive Innovation¹ is writing to provide the auto industry's perspective on transportation electrification policy as the Commission works on to develop its Annual Report. Automakers expressed our industry's commitment to this electrified future [in a letter to President Biden](#).³ By 2030, the auto industry will have invested more than \$500 billion in electrification, and IHS Markit predicts there will be 130 electric vehicle (EV) models (PHEV - plug-in hybrid EV, BEV - battery EV and FCEV - fuel cell EV) available in the U.S. by 2026. Although consumer interest continues to grow, and over 80 EV models are currently available, EVs comprised just over four percent, or roughly 651,000 of the nation's 14.9 million new vehicle sales in 2021.

Auto Innovators and our members are committed to working with all sectors and policymakers to achieve the goals of electrification, but for the state to accomplish its stated goal, it will need a detailed plan, robust funding, and strong leadership from the Governor, legislature, and state agencies. State actions to implement programs and policies that support and encourage EV buyers are critically important, and Maryland's commitment is needed to do its part in providing the necessary conditions to help support an expanded EV market.

Given that Maryland currently follows California's original Advanced Clean Car rules, the Commission is likely weighing the merits of recommending adoption of the soon to be finalized Advanced Clean Cars II (ACC II) rule. ACC II will require 100% of new vehicle sales to be electric by 2035,² with standards increasing dramatically year over year until the 100% requirement in 2035. Understanding Maryland's role, and funding needs, is an important first step in creating the right policy mechanisms that will support businesses and consumers as these groups will carry the cost of this program.

Since 2010, California has allocated more than \$1.84 billion to a variety of consumer purchase incentive programs for EVs. To date, approximately 1.15 million EVs were sold in California with this incentive spending. This provides a cost per EV of \$1,603. Using Maryland's 2021 new vehicle sales of 280,476, the cost to provide incentives at the California level would approach \$500 million, even providing a \$1,603 incentive for 35 percent of the vehicles (the ACC II 2026 requirement) would cost about \$157 million.

Maryland previously set a goal of 60,000 EVs on the road by 2020 and 300,000 EVs by 2025. The state failed to meet the 2020 goal and is not on pace to meet the 2025 goal. This raises serious questions about how Maryland can expect to achieve the requirements under ACC II.

Clearly, there is much work to be done to significantly increase EV adoption across the nation, let alone achieve California's requirements for 2035. Our shared objectives require collaboration and a sustained commitment to fund and execute supportive programs and policies.

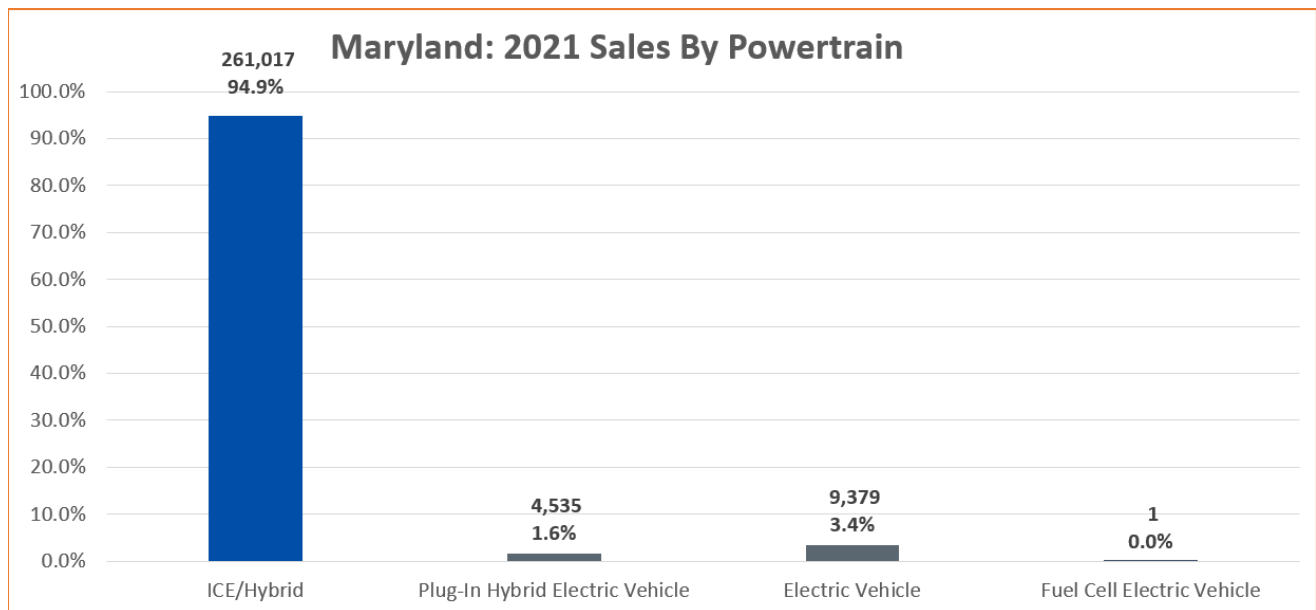
The challenge of reaching a 100 percent EV market by 2035 requires Maryland addressing several hurdles to consumer acceptance. There are many important complementary measures needed for success. For example, but not limited to:

- State fleet adoption – we appreciate Maryland’s ongoing efforts to increase the number of EVs in its state fleet;
- Convenient and affordable access to EV charging and hydrogen refueling stations;
- Building codes addressing new construction and retrofit requirements for EV-ready residential and commercial parking;
- Ensuring the low-moderate income (LMI) community has enhanced access to EVs and charging infrastructure in these areas;
- Grid resiliency and utility electric rates that provide low-cost EV charging;
- Sustained and well-funded state-level point-of-sale EV rebates – we appreciate Maryland’s ongoing efforts to fund and offer EV rebates;
- State action on low carbon fuel standard (LCFS);

To facilitate your review of the feasibility of Maryland meeting the sales requirements under ACC II, the following includes relevant EV data points for your state. As you will notice, without immediate and substantial action toward these critical measures, Maryland is unlikely to reach its goal.

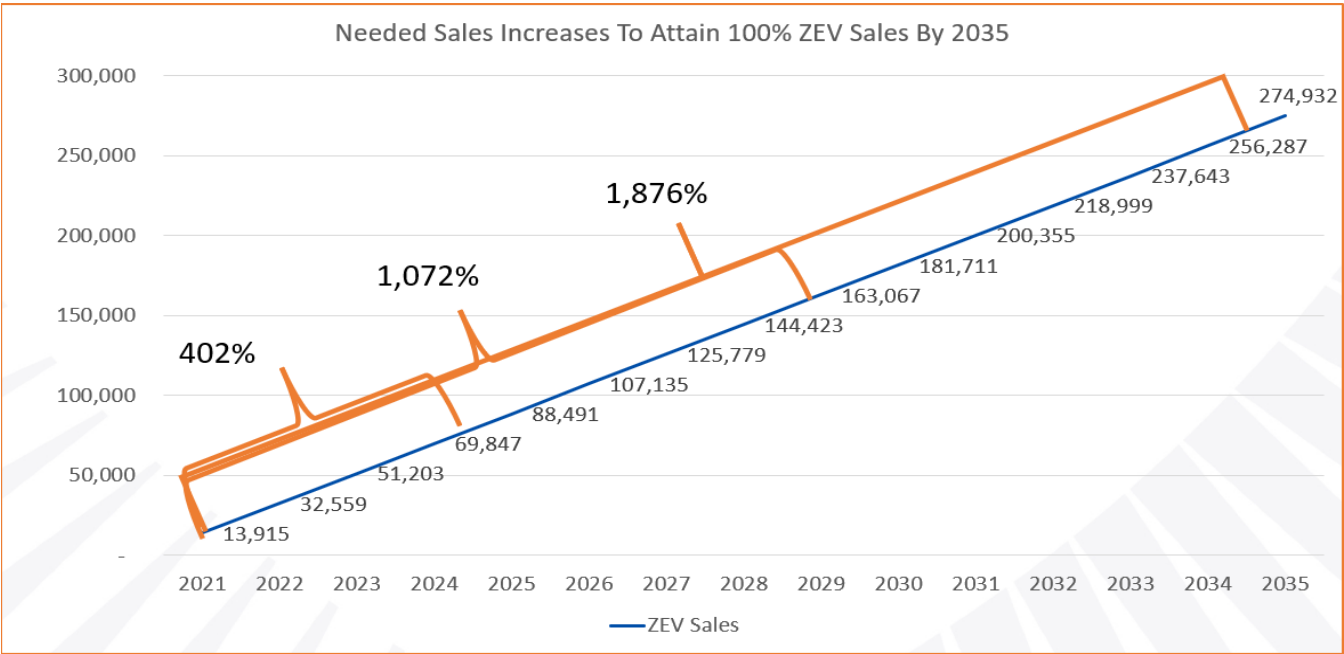
Current State-of-Play

In Maryland, EVs comprised 5.1% of new vehicle sales in 2021.⁵

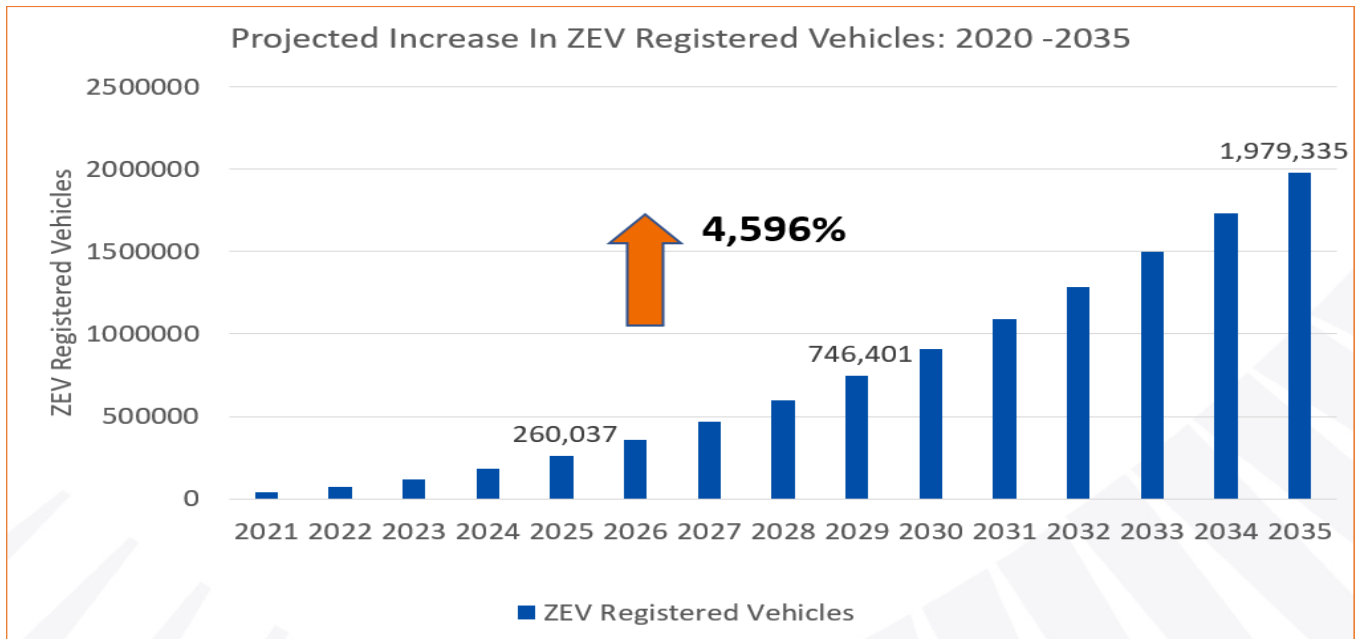


EV Sales Needed to Meet 2035 100% EVs

Based on Maryland’s current new vehicles sales per vehicle type and powertrain, below is an analysis of what year-over-year in EV sales increases would be needed for the state to reach 100 percent EV sales by 2035.⁶



When an increasing number of EV sales are combined with existing EV registrations, and assuming ten percent of all EVs are removed from the fleet each year, Maryland’s registered EVs will need to climb to 1,979,335 in 2035, a 4,596% increase.⁷



State and Local Fleet Increase.

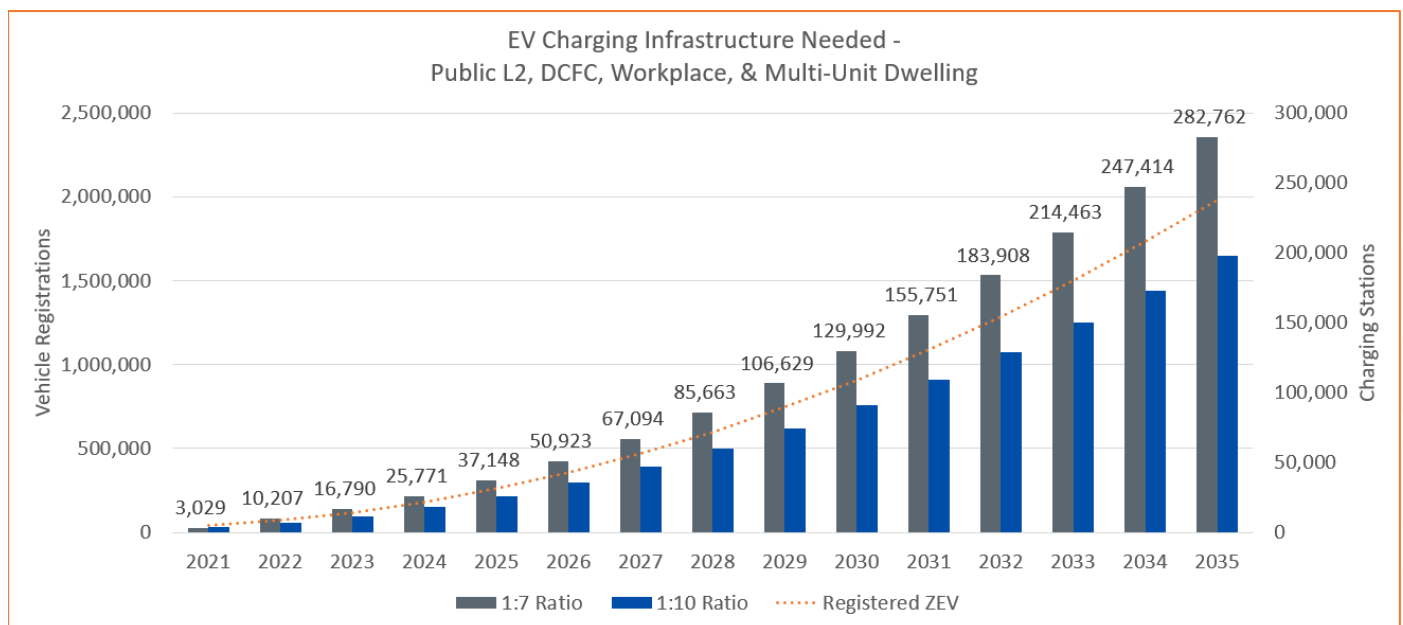
State and local governments can lead by example by prioritizing EVs (e.g., PHEVs, BEVs, and/or FCEVs) when making fleet purchases. This is truly an example of executive leadership and serves to bolster consumer interest in EV purchases. Maryland enacted legislation this year that established the intent of the General Assembly that 100% of passenger cars in the State vehicle fleet be EVs by 2031 and that other light-duty vehicles in the State vehicle fleet be EVs by 2036. This is a positive step, but it will be critical that the state live up to its commitment and follow through on its stated intent.

Charging and Hydrogen Refueling Infrastructure.

Reliable and convenient access to charging and hydrogen refueling stations support Maryland customers that buy or lease EVs. Publicly available charging stations not only ease perceived "range anxiety" concerns but also substantially increase consumer awareness of the technology. Here is a snapshot of Maryland’s current EV charging/refueling infrastructure:⁸

- Number of non-proprietary L2 public charging outlets: 2,557
- Non-proprietary DC fast charger outlets: 356
- Hydrogen stations: 0

To support the prospect of 100 percent EV-only sales in 2035, our analysis suggests that Maryland’s charging capabilities will need to increase dramatically within the next 13 years to be in line with the Maryland infrastructure assessment ratio of 7 EVs to charger port. Even at a one-to-ten ratio, charging outlets will need to increase exponentially⁹



Residential and Commercial Building Codes - Retrofit and New Construction Updates Needed.

According to the U.S. Department of Energy, roughly 80 percent of EV charging occurs at home, making access to home charging a top priority for customers considering an EV. Lack of access to home charging is a major barrier to EV adoption. As a first, and most cost-effective step, Maryland should immediately adopt residential building codes to require EV-ready charging capabilities in 100 percent of parking spots in new MUDs and single-family homes. Maryland should also adopt non-residential building codes that require installation of EV-ready charging capabilities in a significant portion of all new parking at workplace and public locations. Numerous studies have shown retrofitting residential and non-residential parking is five to six times more expensive than

installing it during new construction. Moreover, the building codes should also include requirements to install the same infrastructure during any significant renovations, such as parking lot paving, electrical panel upgrades, etc.

While building codes that address new construction is a common-sense and lowest cost first step, it is not nearly enough to support Maryland's goal to adopt regulations that require 100 percent EVs by 2035. For example, new residential construction typically accounts for about one percent of all residential units each year. Thus, new building codes would only provide residential charging in about 15 percent of the residential units in 2035 – the year Maryland will require 100 percent EVs. Consequently, Maryland must adopt public and private programs to support retrofitting of existing homes and multi-unit dwellings (MUDs), such as apartments, condos, and townhouses. As noted, retrofits are far more expensive, but they must be completed to support increasing customer adoption of EVs.

In addition, special attention should be given to the infrastructure needs in Maryland's underserved communities to ensure that access to affordable and convenient charging and hydrogen refueling options are made available on an equally aggressive timeline. MUD residents, however, often face the greatest, most costly, and burdensome obstacles to installing residential EV charging. For MUD residents, the additional costs to upgrade the electrical panel, install conduit between the electrical panel and their parking space, and the logistical challenges of securing building owner approval, coordinating the billing with the building owner, and persuading an owner to make a long-term investment on a rental property, make it near impossible to be an EV driver in a MUD.

Grid Resiliency/Utility Rate Setting Alignment.

A thorough review of Maryland's electric grid to determine the viability of expanded access in both the near and long-term makes strong practical sense. Public confidence in the resiliency of the grid will only help spur faster EV adoption. Failure to provide consistent service, particularly when the majority of EV charging is done at home, could be devastating for increased EV adoption, both for the light- and heavy-duty vehicle sectors.

Included in that review, Auto Innovators suggests the state commit to a transparent dialogue with the utility commission and energy companies about making home and public charging affordable and convenient. In addition, an education campaign about the different types of charging systems (L1, L2, DCFC) and suggestions about prime charging times to lessen the load on the grid should be addressed.

Sustained Consumer EV Purchase Incentive.

Purchase incentives can be a persuasive and effective way to address vehicle affordability and interest customers in purchasing an EV. EVs continue to cost substantially more than a comparable gasoline-fueled vehicle, and so the compounded effect of the federal and state incentives is necessary to equalize purchase costs. We applaud the governor and General Assembly for approving new funding this year for consumer purchases of EVs. However, funding for consumer purchase incentives will need to be significantly increased to meet the requirements of ACC II.

As you are aware, the recently enacted Inflation Reduction Act (IRA) establishes new clean vehicle credits, which replace the prior "plug-in electric drive vehicle" credit. Eligible battery-powered electric vehicles must meet critical mineral and battery component content and other requirements to qualify for credits of up to \$7,500 per vehicle. Unfortunately, with these new requirements about 70% of electric vehicles do not meet that standard and are immediately disqualified from the tax credit. In January 2023, when the provisions in the IRA become fully effective, the number of zero electric vehicles that will qualify for the credit are expected to drop further. This means Maryland's state-funded consumer purchase incentives will become all the more critical to the state's goals of greater consumer EV adoption.

Additionally, Maryland's current consumer incentive is limited in application by an MSRP cap on qualifying vehicles. The mantra should be: all EV sales are good sales, regardless of price-point. We strongly urge the repeal of the MSRP limitation. With the ambition of 100% EV sales in 2035 looming, maintaining an MSRP cap is unnecessarily limiting the options available to would-be EV purchasers.

Establishment of a Low Carbon Fuel Standard to Clean the Air and Create a New Revenue Stream for Transportation-Related Investments.

A low carbon fuel standard (LCFS) not only supports EVs but can also further reduce emissions from every vehicle already on the road. In the context of climate change, market-based mechanisms are widely understood to encourage emissions reductions in the most efficient way, especially when broadly applied. We believe that a LCFS is an important part of any strategy to reduce transportation-related carbon emissions, providing an approach that better aligns improved fuel economy with lower emission fuels.

Properly structured, a LCFS reduces the carbon intensity (CI) of gasoline and diesel fuel either directly or by funding low CI alternatives, such as PHEVs, BEVs, and FCEVs, and the required infrastructure to support the use of these vehicles. For example, Auto Innovators worked closely with the California Air Resources Board, utilities, and a broad stakeholder group to develop California's first point-of-purchase, statewide Clean Fuel Reward program, which utilizes revenue generated by the LCFS to create a sustainable, long-term funding source for consumer purchase incentives. Similarly, California's LCFS revenues are also being used to support fast-charging stations and hydrogen refueling stations.

Consumer Awareness Programs.

Consumer awareness, understanding, and trust of the technology is essential as we move from 5.1 percent Maryland EV sales to 100 percent in the next 13 years. Raising awareness can happen in many ways, and we encourage the state to explore a variety of options. For example, we've mentioned above that public and workplace chargers and hydrogen stations provide an excellent means of raising consumer awareness. State and local fleet purchases of EVs also substantially raise awareness – particularly if these vehicles are used in high visibility areas such as Department of Transportation (DOT) road crews, police, and fire.

Expected Federal Activity

While the Commission considers a range of state policies, it should be aware of activity at the federal level which will likely overlap with state considerations. Section 1 of President Biden's EO 14037, set a nationwide goal that "50 percent of all new passenger cars and light trucks sold in 2030 be zero-emission vehicles, including battery electric, plug-in hybrid electric, or fuel cell electric vehicles."

Just a few months ago, US EPA adopted the most aggressive GHG emission reduction standards in history for 2023-26 model years. In fact, those standards are even more stringent than the California standards in 2026. Auto Innovators and our members supported EPA's proposed GHG standards and the appropriate and necessary flexibilities that encourage a higher production of EVs. We noted that policy actions are needed today to help grow electric vehicle sales significantly through model year 2026 and beyond. When litigation was brought against this rule, we intervened in support of EPA and its final rule.

In April, the National Highway Traffic Safety Administration (NHTSA) followed EPA in adopting the most aggressive increase in fuel economy standards in history for 2024-2026.

However, to fulfill President Biden's EO of 50 percent ZEVs by 2030, both U.S. EPA and NHTSA are currently working on regulations for 2027 model year and beyond. We expect draft regulations from both agencies within the next 6 to 8 months and final regulations by March of 2024. We continue to work cooperatively and

constructively with EPA, NHTSA, California, Maryland, and other stakeholders to reach our common goal of electrified transportation.

Thank you for the opportunity to provide the auto industry’s perspective on a range of policies that Maryland must adopt to meet its climate goals. Many of the actions necessary for success must start now, and we stand ready to work with the state and key stakeholders.

Sincerely,



Josh Fisher
Director, State Affairs

¹ The Alliance for Automotive Innovation (“Auto Innovators”) represents automakers that produce and sell approximately 98% of all the new light-duty cars and trucks sold in the U.S. Auto Innovators is the authoritative and respected voice of the automotive industry. Auto Innovators is focused on creating a safe and transformative path for sustainable industry growth by engaging directly in regulatory and policy matters impacting the light-duty vehicle market across the country. Auto Innovators’ members include motor vehicle manufacturers, original equipment suppliers, technology, mobility, and other automotive-related companies and trade associations

² See California Code of Regulations, Section 1962.4 Draft, December 2021, <https://ww2.arb.ca.gov/sites/default/files/2021-12/draft%20zero%20emission%20vehicle%20regulation%201962.4%20posted.pdf>.

³ See <https://www.autosinnovate.org/posts/press-release/ev-policy-letter-to-president-biden>.

⁴ See www.driveelectricus.com.

⁵ Compiled by Alliance for Automotive Innovation with data provided by IHS Markit, sales figures represent new vehicle registrations between January 1, 2021 – December 31, 2021.

⁶ Compiled by Alliance for Automotive Innovation with data provided by IHS Markit, projected ZEV sales are based on 2020 sales figures extended out to 2035 to reach 100% ZEV sales.

⁷ Compiled by Alliance for Automotive Innovation with data provided by IHS Markit, ZEV registered vehicle projections includes 2020 ZEV sales + 2019 ZEV Registrations, climbing to 100% ZEV sales by 2035 and assuming a 10% scrappage rate of annual registered vehicles.

⁸ Charging information from U.S. Department of Energy Alternative Fuels Data Center, as of 6/30/2022.

⁹ Compiled by Alliance for Automotive Innovation with data provided by IHS Markit, sales figures represent new vehicle registrations between January 1, 2020 - December 31, 2020; registration figures represent vehicles in operation as of December 31, 2019. ZEV registered vehicle projections includes 2020 ZEV sales + 2019 ZEV Registrations, climbing to 100% ZEV sales by 2035 and assuming a 10% scrappage rate of annual registered vehicles.