

Written Statement of Nick Miller
Policy Analyst, Electrification Coalition

Pennsylvania Senate Transportation Committee
“Charging Electric Vehicles”

March 9, 2023

Chairman Langerholc, Chairman Flynn, and distinguished members of the Committee:

Thank you for the opportunity to testify this afternoon. My name is Nick Miller, I am the Pennsylvania state policy lead at the Electrification Coalition, a non-profit, bipartisan organization that is working to accelerate adoption of EVs in order to reduce the economic and national security threats caused by our dependence on oil. Our sibling organization is SAFE, which leads a broader approach focused on the supply side, with the same core mission.

The EC has direct experience working at the local, state, and federal levels that includes acting as the lead implementer for transportation for the USDOT’s Smart City Challenge, working with 25 leadership cities through the American Cities Climate Challenge; working with companies like Pepsi to provide technical support to accelerate freight electrification; and working directly with states around the country to provide technical and policy support.

I am a Pennsylvania native, born in Harrisburg and raised in Mechanicsburg. I spent my academic career studying the transportation sector and the beginning of my professional career right here in PA. Prior to joining the Electrification Coalition, I was an Executive Policy Specialist at PennDOT, where I focused on developing state policies and programs to electrify the Commonwealth, most notably developing the National Electric Vehicle Infrastructure (NEVI) program. I mention this because I am aware of where PA stands in its journey towards mass transportation electrification, and I also understand the need for alternative solutions for transportation funding. Thank you to Chairman Langerholc and members of the Committee for the opportunity to speak on EV impacts, road funding solutions across the nation, and provide policy guidance on these solutions, including equitable EV fees.

Bipartisan Leadership is Needed to Advance Solutions here in PA

The Infrastructure Investment and Jobs Act (IIJA, as known as the Bipartisan Infrastructure Law or BIL) and the Inflation Reduction Act (IRA) laid foundational policies and investments to our electrified future. We applaud the General Assembly, the previous Wolf administration, the current Shapiro administration, the advocacy network, the private sector, and so many others here in Pennsylvania for their hard work to ensure PA is taking advantage of every federal funding opportunity. Your efforts have prepared Pennsylvania for an electrified future.

It is imperative that we electrify our transportation sector as soon as possible, so that Pennsylvanians do not needlessly become victim to bad foreign actors and their impact on the global oil markets – as we saw

last summer with the high gas prices as a result of the war in Ukraine. We need to recognize the scale of what is at stake in terms of our national security, our economic prosperity, American leadership, and our global competitiveness. In short, we need to recognize that our electric transportation future is a matter of national strategic importance.

Without aggressive action, the U.S. risks significant job loss by ceding on advanced technology and auto manufacturing to other countries, like China, which is moving quickly forward to its own electric transportation future.

We need bipartisan policies in Pennsylvania today that will accelerate EV adoption across all modes of transportation, policies that will loosen oil's grip on our national security and our long-term economic prosperity, while simultaneously reducing carbon emissions. Bold policies that support EVs will enable a new era of American mobility, powered by electricity generated from domestic sources that are readily available, cleaner, and stably priced.

EVs bring a myriad of benefits beyond just stable prices – EVs provide fuel and maintenance savings for consumers and businesses, improved air quality and public health, new jobs in the tech and innovation sectors, reduced carbon emissions, and investment into local economies as the fuel source is generated locally. The Commonwealth stands to gain immensely from an electric transportation future.

State of Pennsylvania's Roads & Bridges

For the reasons outlined above, the EC has provided expertise and input to many states on their road funding solutions and where EVs fit in, and we are grateful to be invited here today to share that expertise.

The [Transportation Revenue Options Commission](#), convened under [Governor Wolf's Executive Order 2021-02](#), found that 9,600 miles of pavement and 2,500 bridges are in need of repair. In 2022, the American Society of Civil Engineers gives [Pennsylvania infrastructure a C-](#) on its "A to F" reporting scale. PennDOT estimates that it requires \$9.3 billion in additional funding every year to address these necessary repairs, maintaining the system for the foreseeable future. The IJA provided Pennsylvania with a much needed downpayment for modernizing its roadway network. Pennsylvania will receive at least \$13.2 billion over the next five years, and that is only accounting for formula-based programs. For FY2022, PA received roughly \$2.1 billion in apportionments and expects roughly \$2.2 billion in FY2023.

However, I recognize that around 74% of PA road funding is from state and federal gas taxes. Pennsylvania, similar to states across the nation, has a reliance on the gas tax for road funding. The problem we face now is gas tax revenue dwindles with each passing year as fuel efficiency increases and alternative fuel technologies become more popular. Therefore, states across the country are searching for alternative funding solutions, including road usage charges (i.e., tolling, congestion pricing, mileage-based fees), increased registration fees, and additional fuel taxes. These solutions are applicable not just to EVs, but to all vehicles on the roads. We find ourselves at a crossroads for the future of infrastructure funding. Many states are discussing EV fees just like we are here in Pennsylvania, including discussions happening at the federal level (see [IJA Sec. 13002: National Motor Vehicle Per-Mile User Fee Pilot](#)).

How EVs Fit into the Equation

I recognize that battery electric vehicles (BEVs) do not pay fuel taxes in Pennsylvania, nor do they pay any additional annual fees, except those that pay the alternative fuels tax – which is a fraction of drivers and has its own set of programmatic challenges. However, all states are grappling with the question of how to pay for the roads in a changing transportation environment with more fuel-efficient vehicles, rideshare programs on the rise, and a future that is electric and perhaps autonomous. In some states, an EV fee has been levied as a band-aid solution while the road funding issue has been studied. For example, in North Carolina and [Nevada](#), extensive road funding conversations and studies took place from 2021-2022 and resulted in policy recommendations to the legislature. Currently, [EV fees range](#) from \$50 to upwards of roughly \$230 a year, with Georgia and Alaska levying the highest on EV drivers. We at the EC recognize EVs and internal combustion engine (ICE) vehicles drive on the same roads, and both should be paying for their use of the roadway.

We also recognize that EVs are not the sole culprit eroding transportation funding. The gas tax has been diminishing in value for two decades as fuel efficiency has increased and cars use less fuel. As of January 2023, there are [roughly 63,000 EVs registered](#) in Pennsylvania (41,000 BEVs & 22,000 PHEVs). If a flat \$0.03 per mile tax or a \$380 annual fee were to be implemented on all EV drivers in the state tomorrow, it would raise roughly \$18 to \$24 million this year. That is not an amount to scoff at but, again, PennDOT estimates it requires \$9.3 billion a year in additional funding for our roadway system. Therefore, EVs are a piece of a much larger puzzle regarding alternative funding sources, not the sole solution. A potential MBUF pilot is well-timed and we welcome the opportunity to discuss how EVs fit into a larger equation.

It is tempting to pass an EV annual fee or an EV-specific MBUF pilot while we are seeing increased EV adoption rates (see Appendix A). However, levying an inequitable, punitive fee on EVs not only burdens current drivers but hurts future EV adoption. By harming EV adoption today, you severely limit the revenue-generating potential of a tax. Plus, we need to recognize that these fees are particularly burdensome for lower-income households, especially if collected annually or in other lump sums.

It is also important to recognize the impact this will have on businesses. Depending on how a proposal is written, there are plenty of smaller fleet vehicles that would be impacted by the fees, including the monetary costs and administrative procedures that come with collecting mileage information. For example, take a rental car fleet. Rental companies have cars registered across the country and their vehicles can be found throughout. Does the company pass the cost onto its customers? Does the company place an additional surcharge on EV rentals in PA to cover the tax? Furthermore, say a rental company has 5,000 EVs registered in Pennsylvania. But, the vehicles are distributed across Pennsylvania, New York, New Jersey, Ohio, Maryland, Delaware, and even Florida. Does the technology exist and does the proposed program allow for vehicles to account for miles driven within Pennsylvania versus other states? Meanwhile, other businesses and fleet managers will have a plethora of additional concerns, especially regarding interstate travel and commerce.

MBUF Solution in the Short- & Long-Term

To reiterate, we agree that all vehicles should pay for their use of the roadway. With the gas tax diminishing in value, mileage-based fees stand as a viable funding alternative for transportation infrastructure. However, if a state chooses to levy a per-mile EV tax, the tax needs to be fair and should be comparable with current ICE fuel taxes.

An easy way to ensure an equitable fee structure is to index the fee to the state gas tax. Pennsylvania has one of the highest state gas taxes in the nation, rivaled only by California. Therefore, it is understandable PA would have one of the highest fees for EVs. At the current \$0.61/gallon, PennDOT finds that PA drivers contribute roughly \$290/year in state gas taxes or roughly \$0.024/mile. Not considering the health and environmental benefits, this could be the target for a flat-fee structure. However, the [American Lung Association found](#) that zero-emission transportation implementation would provide Pennsylvania \$86.8 billion in public health benefits from 2020-2050. An EV fee should reflect these savings and I strongly recommend further research into constructing a fee structure that takes this into account. At the end of the day, any road usage charge program should be kept simple and easy to understand. Distance and vehicle weight are two critical factors that contribute to road wear. Therefore, distance by fuel type and vehicle type (i.e., light-duty versus medium-/heavy-duty vehicles) should be the criteria for determining an annual fee.

By utilizing these criteria, the final formula for an MBUF would take into account the clean air quality benefits from EVs – both BEV and PHEVs – and factor them in accordingly. Additional options for the fee structure could include vehicle class or weight within the light-duty sector. For example, taxing a Chevrolet Bolt and a GMC Hummer EV at different rates would make a fee more comparable to the gas tax by accounting for variations in vehicle weight – as we know weight results in different amounts of gasoline consumption for ICE vehicles. However, including weight as a criterion would likely raise considerable concern from the freight and shipping sector and could cause higher prices on product and goods delivery if the fees are passed back to consumers.

PHEVs also raise some unique questions in this discussion, as they run on both electricity and gasoline. Some have estimated that PHEVs drivers travel 80% of their miles in electric mode. However, that is assuming the driver starts each trip with a fully charged battery – which is rarely the case. While the industry continues to study PHEVs electric versus gas usage, [data collected by Electrek](#) shows that “PHEVs spend 26-56% less time in all-electric drive mode... and therefore consume 42-67% more fuel than EPA labeling suggests.” It is imperative that more research is done on PHEVs prior to levying a fee or we run the risk of double taxation.

Other Solutions

Outside of flat annual fees and suggested mileage-based programs, some states are looking to tax drivers per kWh at charging stations. The benefits of this proposal are it's easier to implement at public charging stations; generates continuous revenue based on road usage; and has a relatively simple collection process compared to an MBUF. However, drawbacks include whether the program would tax residential charging, as it would require separate meters or submeters – adding significant costs on the individual to

install. Costs for a separate meter can range anywhere from \$1,800 to \$2,500. Submetering, while cheaper, is currently only available in California after the CA Public Utility Commission authorized EV owners to use submeters to measure an EV's energy usage independent from the owner's main utility meter. I recommend any suggested per kWh tax should be done in consultation with the Pennsylvania Public Utility Commission, the investor-owned utilities, rural electric cooperatives, municipal utilities, EV supply equipment manufacturers, and other members of the General Assembly as it pertains to additional industries outside of transportation.

States have also considered taking a phased approach to EV fee implementation. Given the national security, economic, and health benefits outlined, our biggest concern is disincentivizing drivers from making the transition to electric. By implementing a fee that increases with EV market penetration, you can diminish the impact these fees will have on short-term adoption. For example, start the fee at a lesser amount. When EVs reach 25% of adoption, increase the fee by \$X. Do so repeatedly until the fee reaches parity with ICE fees.

Closing

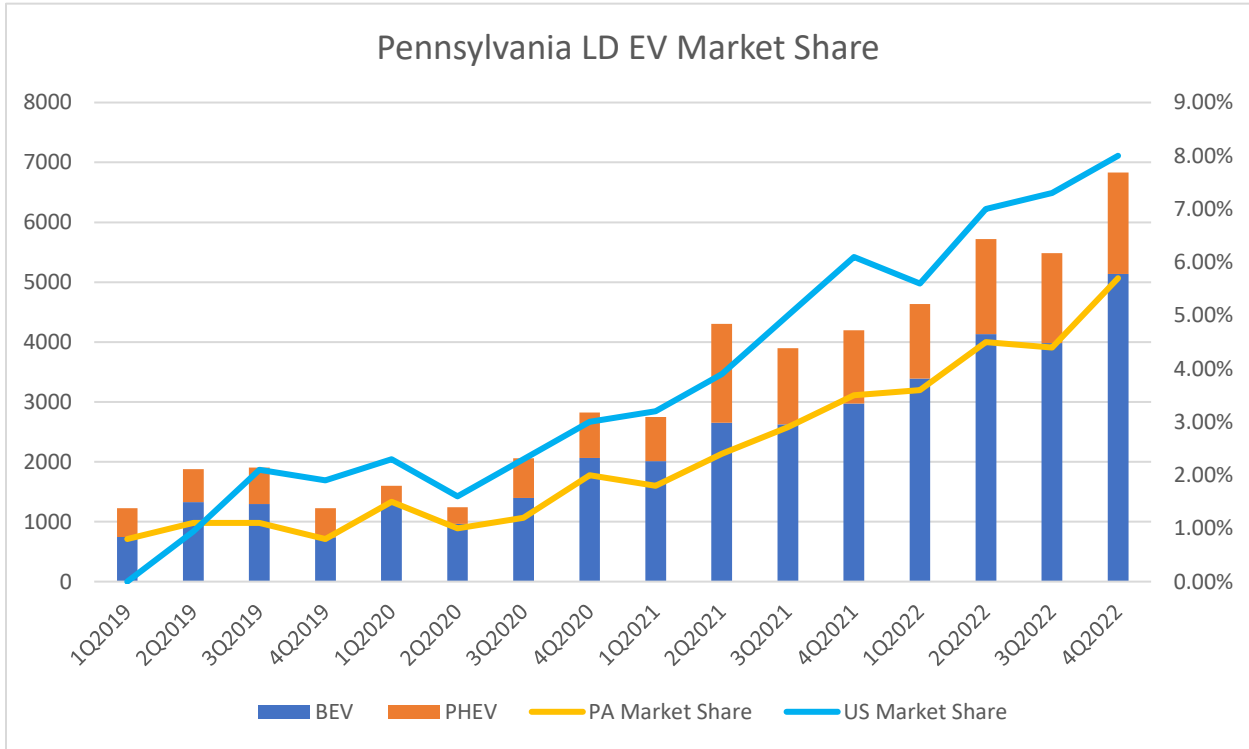
With new, increased federal funding coming to PA from the IIJA and IRA to address infrastructure needs across the state, the issue of finding a sustainable and equitable funding solution is not a fire, and also not a matchstick. We are at the kindling stage of a wider discussion, leaving ample time to identify and implement the right solution.

Pennsylvania has a unique opportunity to identify a viable solution to road funding in an electrified future, setting the stage for the rest of the country. It is paramount that we evaluate how best to approach taxing the EV driver at the state level, whether via a flat annual fee, an MBUF pilot, a fuels tax, or a combination of policies.

Ultimately, we need a system that best serves Pennsylvanians and provides a more sustainable and equitable funding solution for our infrastructure. Thank you for your leadership in hosting this hearing today, and for the opportunity to provide testimony. Should you ever have any questions, please contact me at nmiller@electrificationcoalition.org. I hope the Senate Transportation Committee continues to see the Electrification Coalition as a resource and I look forward to working with you this session.

Appendix A

Pennsylvania Light-Duty EV Market Snapshot Q1 2019 – Q4 2022



Appendix B

Additional Resources

1. [Plug In America: Paying for the Roads: Electric Vehicles Road Usage and Registration Fees](#)
2. [Plug In America: Transportation Funding and EV Fees white paper](#)
3. [Consumer Reports: Rising Trend of Punitive Fees on Electric Vehicles Won't Dent State Highway Funding Shortfalls but Will Hurt Consumers](#)
4. [WRAL News: North Carolina Lawmakers turn to sales taxes to boost road funding](#)
5. [Max Baumhefner, National Resource Defense Council: A Simple Way to Fix the Gas Tax Forever](#)
6. [National Conference of State Legislatures: Special Fees on Plug-In Hybrid and Electric Vehicles](#)
7. [National Conference of State Legislatures: State Policies Promoting Hybrid and Electric Vehicles](#)
8. [Electrification Coalition, Plug In America, FORTH: AchiEVe: Model Policies to Accelerate Electric Vehicle Adoption](#)
9. [Electrification Coalition: Dashboard for Rapid Vehicle Electrification \(DRVE\) Tool \(Total-Cost of Ownership resource\)](#)
10. [Electrification Coalition: All resources webpage](#)