



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION

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Mark Kopko  
Director for Transformational Technology  
PennDOT

Good afternoon. My name is Mark Kopko, and I am the Director of Transformational Technology at the Pennsylvania Department of Transportation (PennDOT). On behalf of Secretary of Transportation Yassmin Gramian, thank you for the opportunity to speak to you today about the proposed automated vehicle (AV) legislation.

Although there may be debate to what extent, almost all experts believe automated vehicle technology holds tremendous potential for improving safety, increasing mobility, and enhancing accessibility in Pennsylvania. PennDOT understands that some individuals may feel uneasy about this technology and its use. However, hearings such as this are an example of the critical outreach needed to develop an understanding of the technology, its potential benefits for the future, and our mutually shared commitment to public safety.

PennDOT applauds both the House and the Senate for making automated vehicle legislation a priority and we are committed to working with the general assembly and stakeholders to advance and, if needed, make recommendations to modify the proposed legislation. Pennsylvania is home to a robust automated vehicle industry that has been testing on public roadways for a decade. What started with Carnegie Mellon University has expanded to multiple automated vehicle developers and an extensive industry cluster that has resulted in Pennsylvania being recognized as a global leader in automation.

Throughout this time, PennDOT has had the opportunity to not only see the industry expand, but also experience firsthand the progression of the technology. I, along with several other members of PennDOT, first rode in an automated vehicle on public roads in early 2013. Several months later, then PennDOT Secretary Barry Schoch, joined U.S. Representative Bill Shuster in CMU's vehicle for a 33-mile ride from Cranberry Township to the Pittsburgh International Airport. Since then, every PennDOT Secretary has had an opportunity to experience what it is like to ride in an automated vehicle.

Although testing and development is occurring in Pennsylvania, there are limitations. It is PennDOT's interpretation of the PA Vehicle Code that the driver of any vehicle is a natural person who drives or is in actual physical control of a vehicle. As a result, automated vehicles with safety operators are permitted, but unoccupied and remote operations on trafficways is prohibited. PennDOT recognizes this limitation will eventually hinder the advancement of this technology including preventing Pennsylvania from experiencing benefits from deployment.



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It is also worth mentioning that in 2018, PennDOT published our initial Automated Vehicle Testing Guidance. The guidance took a unique approach to evaluating safety through the required submission of a Safety and Risk Mitigation Plan. As a result, the guidance has been recognized by multiple organizations, including the National Transportation Safety Board (NTSB), as a national best practice and even serves as a prerequisite for the City of Pittsburgh's evaluation established by former mayor Bill Peduto's administration. However, our guidance is voluntary since there is no legal requirement for a tester to complete it. We have been very fortunate, to the best of our knowledge, that all active testers/developers in Pennsylvania have complied with the guidance, but we recognize that may not always be the case as the automated vehicle industry continues to expand and new companies emerge. Ultimately, automated vehicles are a grey area in the law that need to be addressed.

PennDOT recognizes that the development of automated vehicle legislation is not an easy undertaking. That is why last year the Highly Automated Vehicle (HAV) Advisory Committee, created through Act 117 of 2018, developed Automated Vehicle Guiding Principles. Knowing the difficulty of getting every stakeholder to agree, the principles can be used by elected officials as a foundation for developing automated vehicle legislation. The principles are broken into six categories – Safety; Promote Growth; Workforce Impacts; Equity, Accessibility, and Quality of Life; Government Responsibilities; and Collaboration and Engagement.

PennDOT is pleased to see that HB 2398 either directly addresses or provides the ability for PennDOT to address most recommendations through regulations and guidelines. We believe it is worthwhile to highlight some recommendations.

**AV operators should self-certify to PennDOT that the automated driving system complies with federal standards, aligns with best practices and/or standards, including those related to cybersecurity, and meets criteria established by the Commonwealth.** In the proposed legislation, PennDOT has the authority to develop the review process for automated vehicles. Based on a 2021 public survey conducted by the HAV Advisory Committee, this aligns with public sentiments where over 75% of respondents said the state should be involved or very involved with evaluating the safety of automated vehicle testing and deployment.

**Any statute or policy should be flexible and agile enough to address industry advancements and/or new best practices.** As important as safety is, we need to have flexibility to ensure it. This technology is rapidly evolving and allowing PennDOT the flexibility to establish the details of authorization outside of what is prescribed in legislation is critical. For example, referencing national standards in statute would require the law to be amended every time those standards are updated. In addition, having the ability to create guidelines in place of regulations, allows even more flexibility until there is clear direction and we can begin the regulatory process.

**Pennsylvania should enact technology neutral and platform agnostic policies to promote both a diverse set of AV use cases and a level playing field across the industry.** Unfortunately, due to unbalanced media emphasis, most citizens only consider highly automated passenger



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vehicles, such as those being developed by Argo AI, Cruise, Motional, or Waymo, when discussing automated vehicles. It is important not to lose sight of other use cases, such as automated delivery vehicles and automated shuttles. PennDOT supports the neutral approach the proposed legislation takes.

**Steps should be taken to ensure consistency and interoperability throughout Pennsylvania and neighboring states.** Anyone involved with automated vehicle policy has heard the concern of a patchwork of 50 different states. What is worse is a patchwork of 2,560 municipalities. In the public survey conducted by the HAV Advisory Committee, 76% of respondents said state government should be involved or very involved with ensuring consistency and interoperability between local jurisdictions. After all, consistency and interoperability are critical to the successful deployment of this technology. In addition, there should be consistency on how an automated vehicle is treated. PennDOT supports local governments to maintain their existing roles and responsibilities such as parking and curb space management. However, an automated delivery vehicle should have the same access and limitation as vehicles utilized by companies such as UPS and FedEx.

**A pipeline should be created to make connections between workforce development, industry, and education institutions including K-12, career and technical institutions, and undergraduate institutions.** PennDOT is pleased to see a requirement in the proposed legislation to evaluate the benefits and implications to the commonwealth's workforce. Automation will impact the workforce both positively and negatively; that is a certainty. However, based on the state of current deployments in other states and countries, it will take some time. The Advisory Committee will be able to pull practical information from advanced deployments enabled through the proposed legislation and use that information to make recommendations on what that means for Pennsylvania.

PennDOT recognizes that automated technology is under continued development. However, the oversight authority awarded to PennDOT in the proposed legislation will allow the department to ensure every effort is made to address public safety and operational concerns, while being flexible enough to adjust for changes and advancements in the technology.

The commonwealth is poised to continue to be a hub of automated vehicle innovation, and when you consider the potential that automated vehicle technology holds, we can't afford to be complacent. Pennsylvania needs to address gaps in our vehicle code and allow for continued advancement and eventual deployment. We believe it is better to be proactive now and have a mechanism for deployment in place versus rushing in the future and potentially missing out on some initial benefits.

We at PennDOT appreciate the legislature's proactive approach to innovation and technology, while ensuring public safety as a top priority. We look forward to continued coordination with the general assembly and I am happy to answer any questions.