

Comments to The Massachusetts Automated Vehicle Working Group

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Thank You

On behalf of MassRobotics and the New England Automated Vehicle Consortium, let me express my thanks to the Working Group for this opportunity.

Introduction

My name is Paul Schmitt, and I am a volunteer at MassRobotics where I am the Director of Automated Vehicles. I volunteer my time at MassRobotics because I am passionate about automated vehicle technology and its potential to benefit society. I have worked in the automotive industry for 17 years at Volvo and Ford where I researched and developed safety and intelligent vehicle systems.

MassRobotics

For those of you that have not heard of MassRobotics, we bring robotics to life. We are a non-profit organization serving as the innovation hub for robotics. Our innovation center is located in the Boston Seaport.



AV Consortium

Another way MassRobotics brings robotics to life is the **New England Automated Vehicle Consortium**. The Consortium is a community of 30 leaders in the local AV community within academia, industry, and public policy (at the local, state, and federal levels).

We feel that the **potential** for AVs to deliver a safe and mobile society is bigger than us, as individuals. And we feel that we must work together, as a society, to realize the potential. We see Massachusetts and the New England area as the one of the few AV technology hubs in the world to lead this effort.

We meet regularly to share perspectives and brainstorm on the most challenging topics.

And I have to say how happy we were to hear of the creation of the AV Working Group. Given the overlap between our charters, we think that there are numerous synergies between our teams.

The Consortium Perspectives

With this as the backdrop, I'd now like to share with you the general perspective and recommendations of the consortium on public policy concepts and proposals.

Policy Environment Fostering AV Development

First, we'd like to comment on the general AV policy **image** for the Commonwealth and its impacts on investment, research, and industry. As we are seeing, the speed of the AV industry and research is moving fast--but it is also competitive. Many companies today are vying for investment dollars and many in academia are vying for research funding. Decision makers behind these investment dollars are attracted to locations and states where "getting the tech on the road" can happen quickly.

A key input into these investment decisions are current AV policies...and future policies. Indeed even "hints" of future regulation, are factored into the overall "mood" and innovation attitude of a state.

The Consortium would like to highlight a few opportunities other states have enacted that could have significant potential for the Commonwealth.

- **Educational grants.** Grants supporting AV tech development sends a strong signal that a state is serious about growing its talent base and supporting academic AV research.
- **Educating the public.** Introduction of AVs represents a significant change to our society. Some studies of public opinion hint that there is confusion and concerns surrounding AVs. To us, this represents an opportunity for transparency and public education on AVs.
- **Support Testing in the Commonwealth.** The Consortium encourages to keep in mind that testing is necessary to develop vehicles that can be deployed safely and responsibly. We encourage your support of industry and academia to test the technology in real-world environments, including public roads.
- **Encourage public investment in test facilities.** Current test spaces such as Devens and the Boston Seaport are rare and limited in the Commonwealth. And yet even these facilities lack basic amenities necessary for AV tech development such as storage, garage facilities, and even bathrooms. This is a clear pain point for just about everyone in the Consortium, so I can't honestly highlight this point enough.
- Along these lines, the Consortium recommends the **establishment of localities and corridors for AV testing.** Other states have established test zones and are attracting attention.
- **Clear path towards permit.** The Consortium encourages the development of a simple and clear process for academia and industry to secure permits for AV testing on public roads.

I hope you agree with the Consortium in that these initiatives have the potential to mark the Commonwealth as the top area to research, develop, test, and deploy AVs.

Job Gains

Next, we'd like to comment on the job gains expected from automated vehicles. We expect the job gains from AV development will be concentrated in the areas where AVs are designed, tested, and first deployed. The Consortium supports policies that supports the growth of this fledgling industry and academic research.

There are very few locations in the world that have the combination of technical talent, an attractive consumer market, favorable regulations, and access to capital that is necessary for AV development and deployment. We want Massachusetts to remain one of them!

Data Collection

Next, we'd like to comment on the topic of field data collection. We agree that the collection of data from automated vehicles has tremendous societal benefits. However, we encourage that the discussion be balanced with the realities involved with data collection. Collecting huge quantities of data comes with substantial overhead. This overhead puts start-ups and mid-sized companies at a disadvantage, so we recommend that this be factored into policy consideration.

Vehicle Miles Traveled Tax

Looking at the proposals implementing a VMT, the Consortium does not recommend singling out automated vehicles for Vehicle Miles Traveled Tax. We appreciate that there are concerns that automated technology may result in increased miles traveled. We believe that any VMT fee should be applied equally to human-piloted vehicles and AVs. AVs will create positive benefits for society and other road users by reducing the frequency and severity of collisions, so, if anything, they should be subsidized rather than taxed.

- A VMT applied only to AVs would cause marginal consumers to choose a less safe, more socially costly means of travel.
- Additionally, we expect a VMT targeted specifically at AVs to reduce investment in research and development in the state. As you would expect, research and development requires millions of vehicle miles and a VMT would essentially translate to a research tax. Thus, we expect testing and jobs would migrate to other states.
- Also, due to the unique nature of each state and city, deployment of AVs in the ridesharing, public transit augmentation business models in the foreseeable future will be geographically specific. (This is why we are seeing AV developers establishing test areas and routes scattered away from their R&D headquarters.) As a result, we expect deployment of some popular AV business models in Massachusetts would be delayed.

The Consortium recommends that a VMT apply to all vehicles, with a reduction applied to automated vehicles to encourage investment, research, development, and eventual adoption.

Electric Vehicle Stipulation

Lastly, looking at the proposals linking AV technology with electric vehicles (EVs), the Consortium does not recommend this coupling. We appreciate the desire and motivation to eliminate tailpipe carbon emissions throughout the state. However, the Consortium recognizes that both EV and AV technology are evolving and advancing at an incredible pace. Handcuffing them together will limit options and creativity. ~~Here are a couple tangible examples:~~

- Disproportionate impact to start-ups. It is important to note that tech companies, especially start-ups, are constrained in their vehicle options by the decisions of vehicle

providers. Since many OEMs do not produce EVs or do not produce EV models that are well-suited to AV testing, tech start-ups will have less leverage in negotiations over vehicles for testing and early deployment if those vehicles must be EVs. Yes, it is true that two of today's AV research companies in Boston are fortunate to be able to use all-electric vehicles. But EVs may not always be a commercially reasonable option.

- Additionally, it can't be understated that EV development requires significant infrastructure deployment. If a geographic area does not have it already created, the scope of locating, building, running, and maintaining charging facilities is something that favors larger companies in specific regions and adversely stifles start-ups.

In short, this seems to benefit some, but not all, especially the small.

Conclusion

Thank you for your attention today, and my sincere thanks for this opportunity to share our perspectives with you. We appreciate opportunities like this to help the Commonwealth advance society and become the leader in Automated Vehicles!