Cooperative Automated Transportation (CAT) Coalition Policy, Legislative, and Regulatory Working Group

March 2, 2021 Webinar

Notes and Summary of Discussions

Welcome

Director Jennifer Toth (who serves as a co-chair of the working group together with Director Paul Ajegba) welcomed attendees. A webinar slide deck was used to support the discussions. A copy of the slide deck and presentations presented were circulated prior to the webinar and are being circulated with this summary.

Current Work Plan and Webinar Schedule

Jennifer Toth recapped the status of the overall CAT Coalition, noting that the working groups are progressing to complete their products by November. The working groups are scheduled to stop meeting in November 2021 and a compendium of products will be assembled in 2022.

Director Toth recapped the topics this working group identified as priority, inviting members to volunteer to present on topics as appropriate.

Energy Efficient Mobility Systems (EEMS) Program

David Anderson presented an overview of the U.S. Department of Energy, noting that the Vehicle Technologies Office (VTO) is in the Office of Transportation under the Office of Science and Energy in the U.S. Department of Energy (U.S.D.O.E).

David's slide deck is being circulated with this summary. Key points that David shared include:

- David noted that there are a considerable number of current efforts within the VTO dedicated to researching advances in batteries and electrification.
- David described their view of transportation as a system of systems
- David noted he believes it is important to look at passenger and freight transportation together, and to include all modes, such as: bicycle, walking, etc.
- David described four activity areas in the EEMS program:
    1. *Smart Mobility lab consortium* – lab dedicated to understanding advanced transportation systems of the future.
    2. *Artificial Intelligence, High performance computing, and Big Data (AI HPC-Big Data)* – A series of National Labs consolidating AI and big data.
    3. *Simulation and Evaluation* – Researching areas such as electric vehicle chasis.
    4. *Connected and Automated Technology Development* – with regular partnerships with industry and academia to develop CAT solutions.

- David shared details on activities related to Smart Mobility:
  - Smart Mobility is a National lab effort
  - End to end Smart Mobility Modeling Workflow includes:
    - Agent based transportation system modeling (mesoscopic simulation)
    - Microscopic traffic flow
    - Multi-vehicle control
  - All components of the workflow determine vehicle energy consumption and are used to derive overall metrics.

- David introduced the concept of Mobility Energy Productivity (MEP) and showed examples of MEP Results from Scenario modeling depicting impacts based on varying uses of shared vs. private vehicles (3 use cases included: ridesharing, ridesharing and AVs, and AVs alone). Graphics in the presentation present the MEP estimates.

Comment/Question: In Maryland, planning and local groups are conducting scenario planning. There is an appetite for the types of planning David shared and there is interest in more information. Currently, development of the trips is based on trips today, does not reflect trips of the future, so a stated preference survey might be better way to start so the input to the model is correct. David noted that one thing they have done that is novel, when looking at futures that include shared mobility, is to consider a number of survey sources and references to better understand how travelers may react in the future, while many existing models don't take that into account. All agreed it is a difficult area of study.

Comment/Question: There was a question about whether DOE has investigated implications of these expected changes (e.g., movement to EVs reduce gas tax) on revenue for transportation infrastructure? David noted that DOE is a research organization and tend to stay away from policy discussions. There focus is not on operations or revenue. He agreed that carbon neutral goals are not achievable without significant reductions in fuel use and suggested this would be a good question for USDOT.

Comment/Question. A question was asked about any DOE activities regarding modeling around electric charging stations. David noted that DOE has funded charging station projects in the past. The EEMS program has looked into questions such as: "if you have electric shuttle vehicles, what is the optimal placement for charging stations?". He noted that wireless charging is not yet incorporated into their workflow. Currently, the emphasis is around personal owned vehicles or fleets. David noted that he expects wireless charging to be addressed in next two years.

Comment received in the Chat Box: If you haven't read the capstone studies re the relative impact (VMT, LOS, Energy) of pure automated, vs automated with V2I and/or with V2V, this is probably the current definitive study (given the simulations).

Automotive Innovator's AV Roadmap

Anne Marie Lewis presented the Alliance for Automotive Innovation's Policy Roadmap to Advance Automated Vehicle Innovation that was published in December 2020. Anne Marie noted that the Alliance represents over 35 vehicle manufacturers and equipment manufacturers. The Policy Roadmap is available at: http://autosinnovate.org.

Anne Marie noted that the policy roadmap includes 14 policy recommendations categorized into 3 pillars. These three pillars include:

- Reform regulations to allow for AV deployment at scale;
- Harmonize Federal, State, and International Policies; and
- Lay Foundation to achieve longer term goals.

She noted that these are not intended to be inclusive of all policies for AVs but addresses critical policies for initial barriers for testing vehicles.

Anne Marie proceeded to highlight a few of the 14 policy recommendations that are in the report, including the following:

- *Recommendation 1:* create a new vehicle class for AVs. Currently there is a low speed vehicle class, Anne Marie noted this recommendation is for a new class for AVs and therefore would not require changing class for existing vehicles.
- *Recommendation 3:* Establish National AV Pilot Program. This was initially proposed as a ANPRM, but was not pursued. This recommendation would create a focused pilot program for DOT oversight. Could require participants share data back to NHTSA to help in future rulemaking.
- *Recommendation 8:* Coordinate State AV Policies. Anne Marie noted that a federal grant program could be established to provide funding for states that agree to work together to harmonize policies that govern testing and deployment of AVs.
- *Recommendation 9:* Align State Traffic Laws. Anne Marie noted that even slight changes in traffic laws are complex to integrate into AV programming to allow vehicles to travel through multiple states, and added that updates to traffic laws further complicate the tasks for AVs and real-time updates to traffic laws could also be a factor in this.
- *Recommendation 12:* Build knowledge for a safety Assurance Framework. It is important for DOT to stay informed of the latest advances in AV safety.
- *Recommendation 13:* Prepare Roadway Infrastructure for AVs. Anne Marie noted that AVs performance are based on consistent well maintained roads and supporting infrastructure.

Comment/Question: Pat asked Anne Marie to elaborate on how "harmonizing policies" will advance AV. Anne Marie noted that the differences in the levels of automation/capabilities lead to challenges. She described some examples of where state traffic laws may vary. For example: stopping distance behind school buses can vary. Procedures for a four-way stop can differ. Even slight differences create challenges for AVs to have all the traffic laws encoded to access the

specific state's traffic law information. Then, as updates are made, these need to be monitored as well.

Partner Reports

John Harding provided an update from USDOT and noted that the Highway Automation ConOps project just had a recent meetings, asking participants how they will use the ConOps. There was agreement that the HA ConOps is on track to provide an overall definition of the mixed use of AVs and human driven vehicles in 2035. Early fall is the target for the draft ConOps that will be circulated.

John added that FHWA has a project to develop a prototype data framework looking at all the traffic regulations. There are a lot of challenges with it. Many things are done for human consumption and interpreting them is a challenge. A first step is conducted a proof of concept with the automated driving simulation. This is a discussion started and can eventually get to understand how ADS can work with them.

AASHTO –

Pat Zelinski updated members that last week was the AASHTO Washington Briefing. The meeting was good and included congressional updates. It was virtual this year but believe there was good discussion. Electrification and automated vehicles remain hot topics in all of it. Almost every session was recorded and is available on YouTube for free. The sessions with congressional staff presenting were not recorded.

1. Transportation Policy Forum: https://youtu.be/277dfyMoieE
2. Committee on Funding and Finance: https://youtu.be/JvnTBN17t0E
3. Council on Rail Transportation: https://attendee.gotowebinar.com/recording/17257248228727553
4. Welcome to the AASHTO Washington Briefing/Congressional Leadership: https://attendee.gotowebinar.com/recording/2212425616015610883
5. KP1 with Bentley (Innovation and Technology to Support the DOT Mission): https://attendee.gotowebinar.com/recording/233295889926853635
6. KP2 with Jacobs (Leveraging Policy and Funding to Improve Infrastructure Resilience): https://attendee.gotowebinar.com/recording/8605563463511668495
7. KP3 with HNTB (Inclusive Virtual Public Involvement Solutions): https://attendee.gotowebinar.com/recording/4601195991222008332
8. Joint Keynote Address with Cedric Richmond: https://attendee.gotowebinar.com/recording/6409495695216667407
9. Keynote Address with Pete Buttigieg and Modal Admin Roundtable: https://attendee.gotowebinar.com/recording/7953915907097952015
10. KP4 with AECOM (Traffic Management Center of the Future): https://attendee.gotowebinar.com/recording/6750369588614572047
11. KP5 with WSP (Transportation Pricing and Equity): https://attendee.gotowebinar.com/recording/8504466667894744843

ITS America –

Carlos Alban updated that ITS America held the first meeting of the FAST Act Reauthorization Task Force was conducted on March 1, 2021. In June 2019, ITS America approved this. ITS America published a document on the threat of the 5.9 GHz change. Carlos provided the following link: https://itsa.org/advocacy-material/v2x-in-danger-how-the-fccs-5-9-ghz-proposal-threatens-transportation-safety

AAMVA

Research related to small sized delivery vehicles, will share the publication with the group.

Other Member Updates

Meeting Close and Next Meeting

The next webinar of the PLR Working Group will be:

- April 28, 2021, (2:00-3:30 PM ET).

Policy, Legislative, and Regulatory WG December 14, 2020 Webinar Participants

Attendees

Name	User Email
Pat Zelinski	pzelinski@aashto.org
Dean Deeter	deeter@acconsultants.org
Janet Frenkil	jfrenkil@mdot.maryland.gov
Liana Mortazavi	liana.mortazavi@gmail.com
Jennifer Toth	jennifer.toth@maricopa.gov
Nanette Schieke	nschieke@mdot.maryland.gov
John Harding	john.harding@dot.gov
Shawn Wilcockson	shawn.wilcockson@illinois.gov
AnneMarie Lewis (Anne Lewis)	alewis@autosinnovate.org
David Anderson	david.anderson@ee.doe.gov
Mike Cammisa	mcammisa@cammisaconsulting.com
Carole Delion	cdelion@mdot.maryland.gov
Carlos Alban	calban@itsa.org
Edward Straub	edward.straub@sae.org
Edward Thai	ethai@hatci.com
Monika Darwish	monika@embarktrucks.com
Cian Cashin	ccashin@aamva.org
Mark Peters	markpete@qti.qualcomm.com
Susan Catlett - DOT	susan.catlett@dot.nj.gov
Kevin Viita	kviita@itsa.org
Megumi Suzuki	msu1@subaru.com

Thomas Kern	tkern@transportationops.org
John Corbin	john.corbin@dot.gov
Stephen Lockwood	lockwood@slockwood.com
gummada murthy	gmurthy@aashto.org
Liana Mortazavi	liana.mortazavi@us.panasonic.com
Paul Ajegba	ajegbap@michigan.gov
Daniel Fedderly	hwype@wwt.net
Scott Belcher	scottfbelcher@gmail.com
Strat Cavros	scavros@aashto.org
Joseph Brady	jbrady@asce.org
Daniela Bremmer	bremmed@wsdot.wa.gov