



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

**Advisory Council on Connected and Autonomous Vehicles Meeting
(Executive Order 14)**

Thursday, November 16, 2017
2:00pm – 3:30pm
DelDOT Administration Building, 800 Bay Road, Dover, DE
Farmington/Felton Conference Room

MINUTES

1. Welcome and Introductions

- a. The meeting commenced at 2:02 PM. Secretary Cohan directed Advisory Council members and attendees to introduce themselves.

Present Advisory Council Members

Jennifer Cohan	Delaware Department of Transportation (DelDOT)
Patty Cannon	Division of Small Business, Development and Tourism
Glenn Dixon	Delaware Safety and Homeland Security (DSP)
Elayne Starkey	DTI
Scott Vien	Division of Motor Vehicles (DMV)
Ed Osienski	House of Representatives
Jen Parrish	State Senate (Proxy for Senator Hansen)
Brian Pettyjohn	State Senate
Terri Megee	Delaware Automobile and Truck Dealers' Association
Cathy Rossi	AAA Mid-Atlantic
Renee Gibson	Alliance of Automobile Manufacturers
Lee Derrickson	Delaware Motor Transport Association
Phillip Barnes	University of Delaware (UD) Institute of Public Administration
Jerome Lewis	UD Institute of Public Administration
John Sisson	WILMAPCO
Reed Macmillan	Dover/Kent Metropolitan Planning Organization
William Pfaff	Sussex County
Shari Shapiro	Uber



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Also Present

Brian DePan	Jacobs
Megan Rosica	Jacobs
Ian Grossman	American Assoc. of Motor Vehicle Administrators (AAMVA)
Josh Froler	Global Automakers
Verity Watson	Ruggerio Willson
Lisa Goodman	Hamilton Goodman Partners, LLC
John Sisson	Delaware Transit Corporation
Debbie Pfeil	KCI Technologies
Peter Bourne	KCI Technologies
Matt Buckley	WRA
Peter Korolyk	Delaware OMB-Government Support Services
Mark Luszcz	DelDOT
Anne Brown	DelDOT
Rob McCleary	DelDOT
Nicole Majeski	DelDOT
Mir Wahed	JMT
Barry Benton	GPI
Jim Lardear	AAA Mid-Atlantic

Absent Advisory Council Members

Danielle Brennan	Attorney General's Office
Ruth Briggs King	House of Representatives
Leslie Ledogar	Insurance Commissioner's Office

2. Review the Goals of Executive Order 14 and Participation Expectations

- a. Secretary Cohan reviewed Governor Carney's Executive Order 14 which established this council; referencing Item 5 of the order, the Secretary announced there will be at least four subcommittees under this council to focus on the following subject areas:
 - i. *Promoting economic development*
 - ii. *Technology, security, and privacy*
 - iii. *Transportation network infrastructure*
 - iv. *Impacts on public and highway safety*

3. Current Assessment of the Transportation Network and Connected and Autonomous Vehicles



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- a. Secretary Cohan indicated DelDOT's unique ability to implement such innovative technologies as CAV by noting DelDOT's ownership of 90% of roads and most of the traffic signals in the state. The agency operates the transit system and tolls making it truly multimodal. Innovations in Intelligent Transportation Systems (ITS) are well underway.
- b. Gene Donaldson reported on DelDOT's current transportation network and Connected and Automated Vehicle (CAV) installments.
 - i. Integrated Transportation Management System (ITMS)
 - 1. Intelligent Transportation Technology
 - 2. Incident and Event Management
 - 3. 24-Hour Traffic Management Center (TMC)
 - 4. Transportation Homeland Security
 - ii. Three Critical Functions of ITMS: monitoring, control, information
 - 1. Almost all signals in DE are integrated into the central software system, which increases the agency's ability to implement CAV technologies in accordance with traffic signals.
 - iii. Integration of operations and planning
 - iv. DelDOT ITMS Strategic Plan
 - 1. In the process of being updated; will be available shortly.
 - v. Next phase of ITMS
 - 1. Smart Delaware; DelDOT has built a state-wide telecommunications system to promote connections.
 - 2. Machine learning is at the core of advanced technology: Artificial Intelligence and Automated Vehicles.
 - vi. Ongoing Projects
 - 1. Connected Vehicle Enabled Weather Responsive Traffic Management (CV-WRTM)
 - 2. US 13 Technology Proving Ground
 - 3. Signal Phasing and Timing (SPaT) Challenge
 - 4. Machine Learning/Artificial Intelligence—Automating TMC Operations
 - 5. Dilemma Zone

4. National/Regional Perspective

- a. Scott Vien reviewed the DMV's role in the development of CAV in Delaware.



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- i. Currently the DMV is reviewing regulations and laws in order to make changes where necessary in accordance with developing technologies.
 - ii. Throughout the process it will be important to focus on drivers amidst frequent vehicle-centric discussions.
 - iii. There will be a major transition period before a commonplace is reached regarding CAV operation, interaction, education and training; safety benefits will become prevalent when this commonplace is reached.
 - iv. The DMV is staying engaged at a national level in preparation for when testing can occur; the goal is to have a set of regulatory processes in place in advance of any testing.
- b. S. Vien introduced Ian Grossman who reported on the perspective of the American Association of Motor Vehicle Administrators (AAMVA).
- i. AAMVA is finalizing a report that will include considerations and recommendations regarding CAV from driver, vehicle, and law enforcement perspectives; the report should be completed by February/March 2018.
 1. Administrative Considerations: recommends establishing a group focused on the development of CAV technologies (Advisory Council will serve as this group for Delaware).
 2. Vehicle Considerations: addresses the application and permit processes; discusses license plates for automated vehicles (i.e. identified separately vs. standard for CAV and traditional vehicles).
 3. Driver Licensing Considerations: discusses the testing process and how this will change with future developments; addresses endorsements or restrictions for drivers; considers how the skill set will change for a driver in an automated vehicle vs. a traditional vehicle.
 - a. Secretary Cohan reiterated the benefit of increased mobility in an automated vehicle for users who are unable to drive traditional vehicles.
 4. Enforcement Considerations: considers response and determination of liability if an incident occurs.
 - ii. National Highway Traffic Safety Administration (NHTSA's) Automated Driving Systems voluntary guidance document
 1. AAMVA recommends NHTSA create a central reference point for research being developed under voluntary guidance.



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2. The guidance document is voluntary; however AAMVA strongly recommends manufacturers/industry users follow its policies when developing technologies.
3. Vehicle vs. Driver domain: federal vs. state authority
- iii. Federal legislation
 1. House Bill: SELF DRIVE Act
 2. Senate Bill: AV START Act
- iv. Common themes in CAV development throughout various states
 1. Granting permission vs. limited restrictions (prescriptive vs. silent)
 2. Insurance requirements
 3. Program oversight is varying (DOT Level, DMV)
 4. Regulations varied (statute, agency, executive order)
 5. Incident reporting
 6. Human driver presence
- v. I. Grossman concluded his presentation by emphasizing the need for a balance between promoting consistency and encouraging innovation as progress is made.

5. Advisory Council Discussion

- a. A question about Delaware's progress in autonomous vehicles was asked: How far along is Delaware?
 - i. Secretary Cohan noted that Delaware is at the very beginning stages of implementing CAVs. Different organizations throughout the country are responding differently regarding a timeline for when these technological developments will come in to play. There will be a major transition period before connected and automated vehicles become a common part of the vehicle fleet in Delaware. The purpose of having a council such as this is to be as prepared as possible for development and implementation.
- b. P. Barnes asked about data sharing and availability. Will the State know how a vehicle is operating or where it is traveling?
 - i. I. Grossman responded that data requirements will vary: some regulations will require reporting data on a more regular basis.
 - ii. AAMVA and NHTSA is recommending following Society of Automotive Engineers (SAE) classification terms and definitions for shared vocabulary moving forward- there is a need to standardize Title 21 using SAE vocabulary.



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- iii. Secretary Cohan mentioned from a public policy standpoint, data sharing is a huge concern, as it becomes a privacy issue. These concerns will be further investigated as a part of the *Technology, Security, and Privacy* subcommittee.
 - iv. Data will be a critical part of CAV technology development as a learning platform.
- c. P. Cannon mentioned that the permitting process for tractor trailers blends federal and state authorization; attention was then directed toward the trucking industry and the use of automation/platooning.
- i. Platooning was compared to pilot operation of an airplane by I. Grossman: plane operation is automated for most of the flight, with exception during takeoff and landing.
 - ii. The first automated delivery was completed in Colorado (route had been mapped many times; once the truck reached the interstate the system went into automation).
- d. R. Gibson asked I. Grossman to further explain his statement about balancing standardization and innovation.
- i. I. Grossman indicated that uniformity is important but developing standards too soon may take certain options off the table that have the potential to be helpful.
 - ii. Definitions may change, overall vehicle design will not.
 - iii. Representative Ed Osienski: there will be difficulty during the major transition period, because there is no common standard yet, especially in regard to vehicle design; dashboard messages, make, model, symbols will all be different, perhaps some federal standards should be in place when vehicles are manufactured.
- e. Representative Ed Osienski: When does the focus move to vehicle-to-vehicle communication from infrastructure concerns?
- i. Secretary Cohan noted that there will be more progress more quickly on vehicle-to-vehicle developments-infrastructure projects simply take longer.
 - ii. S. Shapiro responded by noting the importance of understanding the difference between connected and autonomous vehicles.
 - iii. Secretary Cohan made the point that with these vehicle/infrastructure changes, land use will also change: vehicle density is expected to change with the



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development of autonomous vehicles so coordinating with land use agencies will be imperative throughout the process of developing CAV in Delaware.

- f. P. Cannon asked G. Donaldson if the technology regarding Dilemma Zone detection and warning will link to in-vehicle technologies such as OnStar.
 - i. G. Donaldson responded by indicating that if a vehicle/device has connection capability, the TMC will be able to communicate.
 - ii. Technology development is based on the willingness of users to share data and personal information: the more information available, the more helpful the system can become and the more accurately it will respond to incidents.
 - iii. Senator Cohan related this discussion to DelDOT's partnership with Waze.

6. Future Meetings and Topics for Discussion

- a. Secretary Cohan indicated the need to form subcommittees based on the subject areas specified in Executive Order 14. The following subcommittee chairs/members were established:
 - i. *Subcommittee on Promoting Economic Development:*
 - 1. Chair: Patty Cannon (Division of Small Business, Development and Tourism)
 - 2. Members: Sussex County (William Pfaff), Representative Ed Osienski, DMV (Scott Vien)
 - ii. *Subcommittee on Technology, Security, and Privacy:*
 - 1. Chair: Elayne Starkey (DTI)
 - 2. Members: DOJ (Annie Cordo), Uber (Shari Shapiro), Insurance Commissioner's Office, Senator Brian Pettyjohn, Alliance of Automobile Manufacturers (Renee Gibson), UD IPA (Phillip Barnes), DMV (Scott Vien)
 - iii. *Subcommittee on Transportation Network Infrastructure:*
 - 1. Chair: Secretary Jennifer Cohan
 - 2. Members: DelDOT (Gene Donaldson), DelDOT's traffic group, Representative Ed Osienski, Senator Brian Pettyjohn, Senator Stephanie Hansen, Representative Ruth Briggs King, Dover/Kent MPO (Reed Macmillan), DMV (Scott Vien)
 - iv. *Subcommittee on Impacts on Public and Highway Safety:*
 - 1. Chair: Glenn Dixon (Delaware Safety and Homeland Security)



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2. Members: Senator Brian Pettyjohn, Delaware Office of Highway Safety, Delaware Motor Transport Association (Lee Derrickson), AAA Mid Atlantic (Cathy Rossi), DMV (Scott Vien)

b. Future Meetings:

- i. Future discussions will include standardizing Title 21 using SAE vocabulary to ensure uniformity moving forward
- ii. Advisory Council will meet monthly
 1. Meetings will occur on the third Thursday of every month from 11:00AM-12:30PM.
 2. Subcommittee chairs will report back to the Advisory Council.
 3. It is expected that initial meetings will involve frequent expert presentations in order to better establish where agencies stand with CAV developments (entire council will learn what is going on to better establish what the next steps are).
 4. A. Cordo (DOJ) will follow up with administrative information regarding FOIA and meeting details.

7. Public Comment

- a. There were no additional comments from the public.

8. Secretary Cohan called the meeting to adjourn at 3:21 PM.