

**Governor Walker's Steering Committee
on Autonomous and Connected Vehicle Testing and Deployment**

MINUTES

Meeting #6

March 28, 2018

9:00 am – 12:00 p.m.

Wisconsin State Capitol

Room 412 East

Madison, WI

1. Secretary Ross called the meeting to order at 9:10 a.m. Roll was called by Brad Basten, staff to the committee. List of members in attendance is listed at the end of these minutes.
2. Minutes from February 28, 2018 were approved.

Secretary Ross welcomed FHWA Wisconsin Division Administrator, Michael Davies, who was in attendance.

3. Presentations

Bicycles and autonomous vehicles, coordination with city planning

Dave Cieslewicz

Emeritus Director, Wisconsin Bike Fed

UW Madison's Department of Urban and Regional Planning

Former mayor of Madison, WI

Printed statement to the Governor's AV Steering Committee was handed out to the committee. Mr. Cieslewicz's comments generally followed this statement. A copy will be posted on the committee web site. <http://wisconsindot.gov/Pages/about-wisdot/who-we-are/comm-couns/avcommittee.aspx>

QUESTIONS:

- a. **Neitzel:** What would be helpful for a city if a company came to them and wanted to do testing? **Cieslewicz:** Standards for testing should be set at the federal level instead of mixed regulations in cities and states. Testing process and standards should be in place first before testing in cities on public roads.
- b. **Kuglitsch:** You mentioned that bicycles may be more difficult to identify with current technology. Could you expand on that? **Cieslewicz:** As I understand it, bikes are so variable in shape, plus adding a human with their variety of shapes, sizes and body position makes identification

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difficult. In addition they are maneuverable, quick and it is difficult to predict their path. This problem may not be insurmountable but currently AV is limited in its capabilities. In addition to the fatality in Arizona, there was another Uber, in possibly San Francisco, that turned into the path of a cyclist a year previous.

AV technology changes and adoption

Anne Marie Lewis,
Director of Safety, Technology and Policy
Alliance of Automobile Manufactures

Ms. Lewis' presentation will be posted on the AV steering committee website, <http://wisconsin.gov/Pages/about-wisdot/who-we-are/comm-couns/avcommittee.aspx>

QUESTIONS:

- a. **Neylon:** We are potentially looking at exempting the definition of operator from Level4 and Level5 operation. Does this help clarify laws of operation?
Lewis: Will bring back answer. See below.
- b. **Ross:** In any transit system there is some minimal level of security provided. In cars drivers can lock their own doors. In shared ride systems or with multiple riders, they may have lost that security. In society predators will look for any weakness in others, especially the disabled or blind who could be at risk. Anyone can sign up and get into a shared car, but I never hear that concern addressed. Is there any pre-check done? Security is present in other transit areas but none in this "transit" system. How will we protect riders? **Lewis:** Currently there can be multiple riders in Lyft Line and other shared services. You can select what type of sharing service when you call. Riders don't need to share. **Ross:** Will have vulnerable population using this transit who will be at risk if they are sharing a ride.
Lewis: Some people may need curb to door helpers for disabled or blind to find or access these vehicles. There may be an opportunity for interaction with social services
- c. **Cyra:** Wyamo might be looking at security solutions like transit that do have cameras. This may only be semi useful. **Neylon:** Facial recognition inside the car may be needed. This could be recommended to automakers.
Lewis: There are privacy concerns with different business models but may allow extra safety

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- d. **Lewandowski:** In occupant detection, advances are moving forward external and internal to vehicle. Regarding GM Cruze; where do people want to sit? **Lewis:** unknown.
- e. **Caya:** Is the Auto Alliance pushing for national standards on markings? **Lewis:** We recommend everyone follow the MUTCD (Manual on Uniform Traffic Control Devices). Mapping is happening but not sure about standards for mapping.

Lewis: - continues presentation

Federal recommendations have been issued. Auto Alliance has responded. Please see presentation for links. NHTSA (National Highway Traffic Safety Administration) is active in looking at FMVSS (Federal Motor Vehicle Safety Standards).

Rulemaking can take 9 years start to finish. Recommend near-term and long-term options. Rules are helpful for Auto Alliance manufacturers. Guidance in the 0-5 year timeframe is needed.

QUESTIONS:

- f. **Audience member:** Are AV systems tested with roundabouts and bicycles, pedestrians? **Lewis:** Testing is done in every geometry. Roundabouts may not be circles. **Audience member:** Who assumes liability? How to operate vehicle without pedals. **Lewis:** Could input destination with a cell phone app, similar to rideshare services today. Also, could be operated with voice command for a destination or via the Human Machine Interface (HMI) inside the vehicle.

Ms. Lewis noted that a request had been sent out to Alliance members regarding policy barriers that they were aware of and would provide that feedback after the meeting when comments had been received. Those comments are inserted here:

As promised, here is the Alliance's specific feedback on potential barriers to ADS-equipped vehicle deployment in Wisconsin. Please let me know if you or the Committee Members have any questions.

- Licensing. Wis. Stat. 343.05 provides that *no person* may operate a motor vehicle unless the person has a valid driver license. Under Wis. Stat. 343.16 and 343.06, to obtain a driver's license, a person generally must be at least 16 years old and must pass an eyesight test (as well as other examinations designed for completion by human beings). We recommend changes to the statute that clarify that a driver's license is not required to operate a Driverless Capable Vehicle (see definitions below).

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- Accident Scene Requirements. Under Wis. Stat. 346.67, the “operator” of the vehicle that strikes an attended/occupied vehicle must, among other things, provide “his or her” name and driver’s license information to others involved in the incident. Similarly, upon striking an unattended vehicle, the “operator” must locate the struck vehicle’s owner or leave a physical note on the vehicle (Wis. Stat. 346.68). Under Wis. Stat. 346.70, the vehicle operator or an occupant must quickly notify law enforcement of certain crashes. When the operator of a vehicle is its Automated Driving System and vehicle occupants may not own or control the vehicle (or the vehicle may not have any occupants at the time of the incident), it is not clear how these provisions apply. We recommend changes to the statutes to clarify that a driverless ADS-equipped vehicle's owner, or someone on behalf of the owner, may fulfill these obligations.
- Driver Restrained by Seatbelt. Wis. Stat. 347.48 provides that “no person may operate a vehicle” unless “the person” is properly restrained in a safety belt. An ADS operating a vehicle cannot wear a seatbelt, and of course, this provision makes no sense in that context. We recommend changes to the statute to clarify that this provision does not apply to an ADS-equipped vehicle operating without a conventional human driver.
- Unattended Vehicle. Under Wis. Stat. 342.40, no person may leave a vehicle “unattended...for such time and under such circumstances as to cause the vehicle to reasonably appear to have been abandoned.” This provision could be clarified to ensure that it would not preclude operation of a driverless vehicle between trips and not carrying human occupants.

Definitions:

CONVENTIONAL HUMAN DRIVER. A human [natural] person who manually exercises in-vehicle braking, accelerating, steering, and transmission gear selection input devices in order to operate a vehicle. [reference state statute]

DRIVERLESS CAPABLE VEHICLE. A vehicle equipped with an ADS (Automated Driving System) capable of performing all aspects of the dynamic driving task within its operational design domain, if any, including achieving a minimal risk condition, without any intervention or supervision by a *Conventional Human Driver*.

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MAASTO states preparation for autonomous trucks and platooning.

Dr. Ernie Perry

Administrator and Facilitator of MAFC and Associate Researcher

UW-Madison's CFIRE, Center for Freight Infrastructure, Research and Education,

MAASTO (Mid-America Association of State Transportation Officials) consists of 10 mid-American states looking to lead in guidelines and regulations to foster consistency between neighboring states.

Platooning will likely work best for 2 trucks together and on multi-lane highways.

Dr. Perry's presentation can be found at: <http://wisconsindot.gov/Pages/about-wisdot/who-we-are/comm-couns/avcommittee.aspx>

A handout report on truck platooning from the MAASTO working group and Mid-America Freight Coalition can be found here- <http://midamericafreight.org/wp-content/uploads/Truck-Platooning-Brochure.pdf>

QUESTIONS:

- a. **Neylon:** What do you see as the future of platooning technology? **Perry:** Dedicated truck lanes would change a lot of traffic models. Need equipment to be adopted and to be able to run in the right geographic areas. **Neylon:** On the horizon, is this a place that might start the transition to AV's? or follow other industries? **Perry:** Yes, AV in trucking, with all of the current practices, implementation could be pushed by efficiencies and safety. **Neylon:** Replication like the airline autopilot model where humans take over in similar situations in the immediate future? **Perry:** Yes.
- b. **Ross:** Critics from the railroad industry say that trucks want to be railroads with long truck trains but use highways. Why not use rail? **Perry:** There is so much freight, too much for trains to handle right now. Politics are involved and should be able to address these issues. **Ross:** MASSTO is the only group doing this study? Are any other transportation groups working on this topic? **Perry:** Not on this, no.
- c. **Lewandowski:** Please note the corridor map and the large hub in Chicago near us. Important issue.
- d. **Drager:** Licensing needed for use of technology, changes recommended? Offshoot of CDL exemption? **Perry:** We didn't get that far but is something listed as an issue to look at.

Handout on project was provided. To be scanned and made available on committee website.

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- e. **Caya:** The map shown also looks a lot like the map Cadillac SuperCruze is best suited for, on freeway without bikes, pedestrians and obstructions. We have the testing facility in Burlington and at the proving grounds. Do you want to see more testing here? **Perry:** It would be good. We have suitable highways here. The cutting edge technology can be more efficient and enhance Wisconsin's reputation as a technology leader.
- f. **Kuglitsch:** For platooning, what else is needed? **Perry:** Insurance, need to know what second driver activity is allowed, and different types of controls should be harmonized.
- g. **Kuglitsch:** Does the second driver need AV if sleeping? Platooning is strictly connected vehicles electronically. What else is needed? **Perry:** License review and insurance liability. Who is responsible for the second truck? Trucking employment could be a threatened in the future.
- h. **Kuglitsch:** You had a slide showing industry savings of billions of dollars. Was this extrapolated using 2 trucks? **Perry:** Yes. **Kuglitsch:** Why limit to 2 trucks? **Perry:** You do get an increase with more trucks, but needs to be proven to be safe. Only planned for 2 trucks right now. **Cyra:** To help answer, additional elements may be needed, like on board electronics and V2I. Peloton is more cloud based service with an operations center as support.
- i. **Kuglitsch:** Any status update on what is happening in Europe or other states? **Perry:** UT, FL, MI, Europe, China, Japan being tested and finding positives results. **Cyra:** Being tested, but not full deployment. Just had a workshop to explore smart corridors in I94 north south.
- j. **Neylon:** Regarding CV, how important for wireless tech, need 5g, rural areas? How important is that infrastructure? **Perry:** Very important and needed. Can have wifi in truck. Not needed to be installed in the infrastructure.
- k. **Drager:** How are states who are testing, dealing with close vehicles in road sensors for Weigh In Motion? **Perry:** Imagine they could check reader capabilities to see if it has too many axles and reads as one vehicle.
Drager: Currently with a passenger car too close, the system can't recognize separate vehicles and pulls in the truck for individual weighing.
Perry: That has not been addressed yet.
- l. **Tolleson:** This is a benefit to manufactures who ships products. Also looking at as a motorcyclist, how do they interact with platoons? Public awareness is an issue. Motorcycle with truck vortex is a concern and other drivers following too close.
- m. **Neitzel:** Designated corridors; Is IL or MN designating? **Perry:** All are looking at corridors. Opportunities to collaborate with other states especially Chicago area.

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REACTIONS:

Lewandowski: In light of the Uber fatality last week. I provided a handout showing dummy pedestrian models used at MGA. 50% male adult and 7 year old models. They are sensitive to radar and cameras and infrared. Shown to be good for testing sensors.

MGA has pedestrian impact tools. Can fire leg form and head form into vehicle to assess the impact forces and areas that pedestrians typically hit. Detection and impact testing continuing.

UBER data points- 10 pedestrian fatalities in Phoenix metro area in one week. AZ has one of the highest rates in nation. WI is one of lowest.

Handout available at <http://wisconsindot.gov/Pages/about-wisdot/who-we-are/comm-couns/avcommittee.aspx>

Neylon: The reason we are doing this is it will save lives with AV. There will be accidents and media attention because this is new technology. We are doing this the right way with many voices at the table and will save lives. Don't lose sight that we will save lives in WI

Lewandowski: Echo the Representative's sentiments. Every day there are 15,000 traffic accidents/day in US, cost of \$2 billion, 100 fatal, and 6,000 injured.

Anne: Timeline for report schedule? **Ross:** Legislators are leading report effort. Please provide input. **Neylon:** Report will be provided to committee for comments.

Kuglitsch: You should have received an email template for comments. We need feedback. Please do not delay as we want the committee members' feedback.

ADJOURNED

Secretary Ross adjourned the meeting at 10:49 a.m.

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Members present

Steven Caya

Steven Cyra

Trooper Tracy Drager

Representative Jason Fields

Kathy Heady for Mark Hogan, ex officio

Representative Mike Kuglitsch

Jeff Lewandowski

Anne Marie Lewis

Sheriff Steven Michek

Will Neitzel

Representative Adam Neylon

Elizabeth Hizmi for Commissioner Ted Nickel, ex officio

Secretary Dave Ross, Chair, ex officio

Tom Still

Jason Tolleson

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