WASHINGTON STATE AUTONOMOUS VEHICLE WORK GROUP

MEETING SUMMARY

Meeting: Safety Subcommittee

Location: Virtual Meeting - Zoom

Date: November 19, 2020

Attendees:

Name	Organization
Curt Augustine	Alliance for Automotive Innovation
Ted Bailey	Washington Department of Transportation (WSDOT)
Shelly Baldwin	Washington Transportation Safety Commission (WTSC)
Debi Besser	WTSC
Kenton Brine	NW Insurance Council
Brian Chandler	DKS Associates
Lt. Tim Coley	Washington State Patrol
Dan Cooke	Department of Licensing
Dr. Andrew Dannenberg	University of Washington
Mandie Dell	WTSC
Jeff DeVere	Washington Trucking Association
Captain Tom Foster	Washington State Patrol
Samuel Freund	Venable LLP
Francois Larrivee	Hopelink
Mi Ae Lipe	Driving in the Real World
Kyle Miller	WSDOT
Markell Moffett	WSP USA
Sean O'Donnell	King County
Manuela Papadopol	Designated Driver
Abigail Roswell	Venable LLP
Ryan Spiller	Alliance for Automotive Innovation
Brian Ursino	American Association of Motor Vehicle Administrators (AAMVA)
Shannon Walker	City of Seattle
Ian Wesley	WSDOT
Alan Werner	Washington Society of Professional Engineers
Bryce Yadon	Futurewise

WELCOME AND INTRODUCTIONS
Captain Tom Foster

- Introductions
- Walk through agenda

Topic closed.

MEETING SUMMARY

AV Workgroup Executive Committee Meeting Results
Manuela Papadopol

- Safety Subcommittee presented to the AV Executive Committee on November 12th
- All 3 recommendations were endorsed by the Executive Committee
  - Repeal portion of RCW on TV Screens
    - Licensing Subcommittee presented this recommendation as well
    - Executive Committee voted Yes
  - AV Definition
    - Critical when talking about AVs and new technologies to educate
    - SAE automation levels cover levels 1 through 5, but the AVs we are talking about are levels 4 and 5 only
    - Need to have a standard vocabulary
    - Similar recommendation brought forth by Licensing Subcommittee
    - Executive Committee voted Yes
  - Law Enforcement / First Responder Interaction Guide
    - When companies are testing without a safety driver, recommendation to require a Law Enforcement / First Responder Interaction Guide provided by the company *prior* to conducting AV testing
    - Consistent with how Arizona and California are approaching this
      - Important to have consistency among states
    - Executive Committee voted Yes
- Other presentations highlighted the importance of these recommendation topics as well
  - Brian Ursino with AAMVA urged the importance of Chapter 6 Law Enforcement Considerations in the recently published Safe Testing and Deployment of Vehicles Equipped with Automated Driving Systems Guidelines Edition 2[1], which includes recommendation for a law enforcement interaction plan
  - Marc Scribner with the Reason Foundation presented on 10 Best Practices for State Automated Vehicle Policy[2], including the need for standard vocabulary
  - The Licensing Subcommittee brought RCW 46.37.480 for voting as well, and also a recommendation highlighting the importance of standard vocabulary

Topic closed.

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[1] AAMVA Safe Testing and Deployment of Vehicles Equipped with Automated Driving Systems Guidelines Edition 2:
https://www.aamva.org/SafeTestingandDeploymentOfVehiclesEquippedwithADSGuidelines/

[2] 10 Best Practices for State Automated Vehicle Policy Report, September 2020: https://reason.org/policy-brief/10-best-practices-for-state-automated-vehicle-policy/

Meeting Schedule and Cadence for Next Year
Captain Tom Foster

- Safety Subcommittee members were sent a doodle poll to identify the best days/times within a week/month would work best for 2021 meetings, want to pick a standard day each month
- 2nd Wednesday 10am-11:30am works for the most people that filled out the doodle poll
- Switched to monthly this year due to virtual nature, more frequent, shorter meetings
- Recommend switching to a bi-monthly cadence for 2021
- During session, recommend meeting less often, if at all
- When not in session, meeting cadence is driven by the agenda – what the subcommittee wants to accomplish by the next Executive Committee reporting period
- **ACTION ITEM**: Subcommittee staff will send out monthly meeting invites for 2021 (except January and March), will cancel a month in advance if no meeting is needed

Topic closed.

Focus for 2021

AAMVA's Safe Testing and Deployment of Vehicles Equipped with Automated Driving Systems Vol. 2
Brian Ursino

- Brian Ursino and Bernard Soriano (California DMV) presented AAMVA's recently published Safe Testing and Deployment of Vehicles Equipped with Automated Driving Systems Guidelines Edition 2 to the Executive Committee at November meeting
- AAMVA represents DOL/DMV directors, as well as state police and highway patrol agencies
- This recently released report is voluntary guidance to jurisdictions that choose to regulate the testing of automated driving system (ADS) equipped vehicle technologies
- Published the first report in 2018, with technology advancing rapidly, AAMVA immediately started working on the next edition – Edition 2 published October 2020
- Changed title as prevailing terminology is moving away from autonomous vehicles, going to ADS-equipped vehicles (Levels 4 and 5) and advanced driver assistive systems (ADAS) available in cars today
- Chapter 4 focuses on vehicle considerations – vehicle titling, registration aspects of this technology
  - One question posed was should the VIN be altered or have a digit added to indicate a vehicle's level of autonomy?
    - The challenge is that in some cases the level of technology is not just manufactured, aftermarket products are installed that change the level of autonomy – Would not be able to detect this through the VIN

- o 4.8 is a new section focusing on the jurisdictional approval of the ADS as the "Driver"
- o Definitions – SAE automation levels 0 through 5
  - AAMVA adopted SAE definitions
  - Suggest looking at definitions chapter in AAMVA report, as it goes beyond SAE definitions
  - What is a "driver"? At one point is an actual driver no longer required?
- Chapter 5 focuses on driver licensing considerations
  - o 5.3 is a new section focusing on remote drivers
    - May be alarming to law enforcement who are not aware this is on the horizon
    - Remote drivers are being used in level 4 and 5 vehicles not just in testing mode, but in actual deployments
    - Concern that remote drivers may be operating more than one vehicle at a time – divided attention poses safety concerns
    - If a vehicle is being operated in Washington, but the remote driver is in California (or even in a different country) – What if a violation occurs? What if it is a catastrophic crash? How do you determine if the remote driver was at fault? Under the influence?
  - o New section 5.9 focuses on Training Motor Vehicle Agency Staff on Vehicle Technologies
    - Driver examiners, DOL/DMV test proctors
    - Expand to law enforcement staff and automobile dealership employee training so dealership salespeople can appropriately train the consumer on included ADS/ADAS
    - Governors Highway Safety Association (GHSA) recently put out a request for proposals seeking a consultant to assemble a panel of subject matter experts to research and compile existing literature and research surrounding what is out there for training documents and information applicable to law enforcement/first responders and prepare a gap analysis as a precursor to standardized national curricula for law enforcement/first responders
      - Expect AAMVA will be involved
      - Anticipated timeline – Compilation of current resources, gap analysis, and at least a start on national curricula by the fourth quarter of 2021
- Chapter 6 Law Enforcement Considerations
  - o Several subject matter experts involved in preparing Chapter 6
    - Captain Rick Arnold, Michigan State Police
    - Chief Chris Childs, California Highway Patrol
    - Captain John Emsen, Colorado State Patrol
    - Mr. Kevin Jacobs, Florida Department of Highway Safety and Motor Vehicles
    - Staff Sergeant Terry McDonnell, New York State Police
    - Brian Ursino, Director of Law Enforcement for AAMVA

- - 36 recommendations – some specific to jurisdiction members (DMV/law enforcement), some addressed to manufacturers and other entities (MOEs)
  - Interacting and engaging with industry through development of content
  - Note that law enforcement/first response Interaction Plans and Law Enforcement Protocols are not interchangeable
    - Interaction Plans are developed by the testing/deploying company and provided to law enforcement / first responders on how to interact with their vehicles/technology
    - Law Enforcement Protocols are written by law enforcement, for law enforcement
      - First state to develop Law Enforcement Protocols was Arizona
        - Arizona Department of Public Safety (highway patrol resides within) wrote a protocol document outlined policies and guidelines in terms of general awareness and training
          - What different levels of technologies are
          - What law enforcement officers should expect when coming into contact today versus tomorrow
          - If you do come in to contact, the differences between proactive (traffic stop) and reactive (crash or crime response)
          - Guidance on what to expect, how to interact, is there 24/7/365 contact available, etc.
        - Once AZ wrote these law enforcement protocols, it went through Arizona's sheriffs and the Arizona Chiefs of Police Association so every police agency in Arizona got a copy
    - AAMVA recommends a law enforcement interaction plan be required for AV testing
      - Recommend there be one lead law enforcement agency designated for the MOEs to provide the interaction plan to and coordinate with
        - Typically would be the state police or highway patrol agency
        - In WA, this would be WSP, the responsibility of disseminating to other law enforcement and first responder entities would be on WSP
      - Recommend having a central repository for MOEs rather than relying on MOEs to distribute appropriately
  - Section 6.8 on training is critically important
    - Need standardized training so a state trooper in WA gets the same training as a city police officer in Virginia
    - Fire service is ahead of law enforcement for nationally recognized, certified, accredited training for employees, law enforcement needs to catch up
    - States and jurisdictions can customize standardized training for specific nuisances, but the basics of training should be nationally standardized
- Chapter 7 focuses on other considerations

- o 7.1 Cybersecurity
  - Can these vehicles be hacked?
  - If hacked, what are appropriate countermeasures?
  - Are there countermeasures to prevent hacking/breach from happening in the first place?
  - Includes four key references resources, including federal documents (e.g. FBI)
- o 7.2 Data Collection
  - What type of data is being collected with this new technology?
  - Electronic Data Recorders (EDR), similar to a black box
    - With the fast development of AV technologies, there is a lot data being collected outside the EDR, such as the vehicle's computer processing unit embedded directly in the vehicle, or data stored in the key fob
  - Data collection and availability considerations beyond the black box
  - At what point should law enforcement have access to the data?
    - Following a crash that involves a fatality or felony level of injury/damage
    - How and when should that occur?
    - At what point should a court ordered search warrant be required and authorized?
- Chapter 8 Next Steps
  - o Just published Edition 2 last month, already starting to think about Edition 3
  - o Law Enforcement Subcommittee still exists and will be working on Edition 3 – Subcommittee membership:
    - Captain Rick Arnold, Michigan State Police
    - Chief Jeff Dixon, Florida Highway Patrol
    - Lieutenant Christopher Kinn, Ohio State Highway Patrol
    - Assistant Chief David Jenkins, California Highway Patrol
    - Brian Ursino, Director of Law Enforcement, AAMVA
  - o There were two key topics that AAMVA did not want to wait for Edition 3 to publish, developing white papers
    - Automated Delivery Vehicles
      - Some operate on publicly maintained roadways, others on sidewalks
      - At what point do they fall under the rules of the road?
      - What are requirements for registration and licensing?
    - Impacts to Distracted Driving Laws
      - Likely will be published February/March 2021
      - If a vehicle is fully automated, this becomes a non-issue – this focuses on levels 1, 2, and 3 mainly

- o Tesla is an example that would fall under this – A vehicle that 'drives itself only under certain conditions with the auto pilot feature
  - There are several documented crash cases where the drive had auto pilot engaged and did not stay cognitively engaged in the driving task – drivers become reliant on the technology when auto pilot is engaged
    - Something may happen that triggers the auto pilot feature to warn the driver visually, audibly, or through other sensory technology to reengage and the driver takes too long to reengage, or does not reengage at all and a crash occurs
  - A fatal crash occurred in Florida, a vehicle struck a semi tractor trailer broadside and the vehicle's driver was killed
  - Crash in California where a firetruck was blocking an HOV lane at the scene of a crash – Another vehicle did not reengage and rear-ended the firetruck
  - AAMVA is working with jurisdictions to strengthen distracted driving laws to take ADAS into account
  - WA has one of the most rigorous hands-free distracted driving laws in the country
- Important to continue to have CA involved – CA is regulating this technology, has more going on than any other state. California Highway Patrol and the CA Department of Motor Vehicles are in lockstep and have more permits issued for AV testing this technology by far more than any other state
- Discussion:
  - o Chapter 7 Other Considerations also includes sections on connected vehicles and truck platooning which may be of interest for this subcommittee
  - o Section 5.3 Remote driving – Training is needed for remote operators, driver needs to be able to remotely operate all types of vehicles
    - Teleoperations includes more than just remote driving, also includes remote monitoring of fleets, remote assistance and navigation of AVs
    - **ACTION ITEM**: Manuela Papadopol to provide information on the difference between teleoperations and remote operation to Brian Ursino to highlight in Edition 3
  - o Remote operation and which jurisdiction prevails in the case of an incident is a great topic for the Liability Subcommittee to explore
    - Will likely be faired out by courts, case law will drive the policy

"Path Forward" Document from the AV Workgroup Executive Committee

- At the June 24th Executive Committee meeting, a work session was held to identify focus areas and priorities for the Work Group moving forward
- The results of the work session were synthesized into a report that highlights prioritized actions within broader focus areas for subcommittees and the Work Group as a whole to focus on for the duration of the Work Group (sunsets in 2023)

- A recommendations matrix was also developed to provide context on how each subcommittee can support or lead each of the prioritized actions
- The Safety Subcommittee is already pursuing some of these recommended activities, such as developing an education plan to communicate the benefits and limitations of ADAS and AVs

Revised CAT Policy Goals

- WA Autonomous Vehicle Work Group website – resource page[3] has many resources, including Infrastructure & Systems Subcommittee outputs such as the revised draft WA statewide Cooperative Automated Transportation (CAT) Policy Framework[4]
- Purpose of the draft WA statewide CAT Policy Framework is to capture CAT policy goals and related strategies and actions to achieve the goals
- Infrastructure & Systems Subcommittee worked to refine the specific policy goals, strategies and actions
  - o 8 policy goals were endorsed by the Executive Committee in 2019
- Framework includes a Safety goal with draft illustrative strategies and actions, and how they align to Washington's transportation goals
  - o Developed by Infrastructure & Systems Subcommittee members, collective knowledge of those in the room during meetings and at an April workshop
    - ▪ Note the Infrastructure & Systems Subcommittee never voted on these draft strategies and actions, asked by the Executive Committee to hold that process until after the upcoming legislative session – the subcommittee intends to further develop these in 2021
  - o Safety Subcommittee should review these strategies and actions with the lens of what makes sense at this point in time, given what we have learned over the course of the year
    - ▪ Automated enforcement may not be a recommendation to dig into right now, longer term action
    - ▪ Implementing Vision Zero is a draft strategy – 2019 Target Zero Plan[5] / WA State Strategic Highway Safety Plan has a chapter on CAT which includes a matrix on near term strategies and actions
      - Highway Safety Plan was heavily reviewed by many subject matter experts, including the Governor's office
      - As the Safety Subcommittee considers what to focus on, recommend using Target Zero Plan's CAT chapter strategy and actions matrix, as well as the recommended activities list provided by the Executive Committee
        - o Then compare to the CAT Policy Framework Safety goal and related strategies and actions to see if it is on the right path, if there are additional

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ideas to consider/add – how it can all be weaved into the Safety Subcommittee's work plan
- Additional resources:
  - https://transportationops.org/CATCoalition/clearinghouse-cat-policy-frameworks
  - https://oohwstcavworkgroup.blob.core.windows.net/media/Default/documents/infrastructure-systems/Meeting_8/2020_0511_Revised_StrategiesAndActions_Document.pdf
- Infrastructure & Systems Subcommittee's biggest challenge on this has been figuring out how to get and vet ideas, gain collective agreement and move forward – Does the subcommittee take a formal vote? Majority agreement through something like mentimeter? Subcommittee staff work on it and present to the subcommittee?
- If the Safety Subcommittee has feedback on updates to the Safety goal and related strategies and actions, Infrastructure & Systems Subcommittee staff can revise the policy framework document with the revisions
- **ACTION ITEM**: Safety Subcommittee members review the CAT Policy Framework Safety goal section, 2019 Target Zero Plan's CAT chapter strategy and actions matrix, and the recommended activities list provided by the Executive Committee and be prepared to discuss at the December subcommittee meeting

Topic closed.

Public Comment and Open Discussion
Captain Tom Foster
- No public comment
- Upcoming meeting December 17th @ 10 am
  - Looking at charter and how the subcommittee conducts voting
    - As of now, only voting members named in charter can vote
    - Many voting members are unable to attend every meeting, have had to collect votes by email which is not ideal – voting members were not part of the discussion
    - Look at changing voting so that anyone in attendance can vote
  - Looking at what we're doing in 2021 in more depth
  - **ACTION ITEM**: Subcommittee staff will send links to documents shared during this meeting

Upcoming AV Safety Subcommittee meeting: Thursday, December 17, 2020 @ 10 am

Topic closed.

MEETING ADJOURNED.