WASHINGTON STATE
AUTONOMOUS VEHICLE
WORK GROUP

MEETING SUMMARY

Meeting: Licensing Subcommittee

Location: Teleconference - Skype

Date: August 3, 2020

First Name	Last Name	Organization
Ted	Bailey	Washington Department of Transportation (WSDOT)
Jason	Beloso	WSDOT
Debi	Besser	Washington Traffic Safety Commission (WTSC)
Leonard	Byrne	Society for Engineers
Rep. Mary	Dye	Washington House of Representatives
Matthew	Eng	City of Seattle
Julie	Fisher	Washington State Patrol
Steve	Gano	Uber
Reema	Griffith	Washington State Transportation Commission (WSTC)
Jill	Johnson	Washington Department of Licensing (WA DOL)
Tamara	Jones	WSTC
Kim	Mathis	Washington State Patrol
Kyle	Miller	WSDOT
Markell	Moffett	WSP USA
Corey	Paulsen	WA DOL
Beau	Perschbacher	WA DOL
Max	Platts	WSDOT
Tony	Sermonti	Sermonti Public Affairs
Sadeeq	Simmons	WA DOL
Ryan	Spiller	Alliance for Automotive Innovation
Drew	Wilder	Vicarious Liability Risk Mgmt, LLC

WELCOME AND INTRODUCTIONS

Beau Perschbacher & Drew Wilder

- Introductions
- Review agenda

Topic closed.

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REVIEW AND DISCUSS CALIFORNIA'S AND ARIZONA'S REGULATORY MODELS FOR AV TESTING AND DEPLOYMENT

Beau Perschbacher & Drew Wilder

- Overview of vehicle automation levels[1] as defined by SAE J3016 (2016)
- California autonomous vehicle (AV) testing regulations summary
    - $5 million insurance, bond, or self-insurance/certification
    - Excludes commercial vehicles (over 10,000lbs gross vehicle weight) and motorcycles
        - Concern about public perception – An incident involving a large/heavy vehicle could be much worse
        - Vehicles engaged in interstate transport are excluded as well
    - Test permits are valid for 2 years
    - Test drivers must:
        - Have a driving record clear of DUIs and at-fault incidents, and have no more than 1 point
        - Complete test driver training program
        - Be an employee, contractor, or designee of the manufacturer
        - Be seated in the driver seat during test
    - Manufacturers must report collisions within 10 days, and disengagements annually
    - As of April 2020, California has issued 71 testing permits
        - 2 driverless permits
        - 65 active testing permits with drivers
    - Over 3,000 test drivers identified/certified
    - Collisions – As of April 29th2020, 256 accidents have been reported
        - Majority of collisions occurred in San Francisco and Palo Alto
- Walkthrough California AV regulation Title 13, Division 1, Chapter 1, Article 3.7 "Testing of Autonomous Vehicles"
    - Definitions include autonomous vehicle, mode, test drivers, operational design domain, etc.
    - Requirements for testing focuses on the manufacturer
        - Manufacturer has to have in place evidence to respond to damages, etc. - $5M insurance
        - Must apply to the California Department of Motor Vehicles ("DMV") and receive a testing permit prior to testing
        - Evidence of financial responsibility
            - Insurance instruments required can be a surety bond, has to be submitted to DMV
            - Insurance policy has to be issued to the manufacturer, just identify it covers losses required in respects to the AV itself
            - Cannot be a deposit in lieu of a bond

[1] SAE vehicle automation levels J3016 (2016): https://www.sae.org/news/2019/01/sae-updates-j3016-automated-driving-graphic

- Bonds must be submitted to the California Attorney General's office for review and approval
- Self-insurance – The manufacturer may satisfy requirement of finance responsibility by submitting information that demonstrates they have ability to respond to losses in event of an accident
    - Manufacturer themselves are not allowed to submit self-insurance documentation, must be submitted by an outside financial auditor that states the documents are factual
    - Must have history 3 years prior to application of financial ability to pay
- Can submit another opinion of financial condition, rendered by an independent public accountant
- Once approved, DMV can cancel the certificate of self-insurance at any time if not provided additional information as required; No responsibility of the holder to certify statements if fraudulent or incomplete

- Manufacturer has to, at all times, maintain copies of insurance documents in each vehicle and at place of business
- Cannot operate unless permit currently in full force and effect
- DMV shall review AV tester program application for permit and notify the manufacturer within 10 days if valid or insufficient
    - If valid – Notification serves as authorization to test
    - If insufficient – Notification includes notice of deficiencies, and an opportunity for the manufacturer to fix and respond
- Permit valid for 2 years only
- Renewals – $3,600 renewal fee, submitted 60 days prior to expiration date for each permit granted
- Enrollment of employees – Employer pull notice program
    - Manufacturer must provide list of drivers/employees that can be pulled for test driver pool
- Prohibitions on operation on public roads
    - Manufacturer must not permit any of its AVs to operate on public CA roads:
        - By a person other than one of its employees, contractors, or designees identified by the manufacturer to do so
        - By someone who does not meet the requirements of section 227.34 (AV test driver qualifications)
        - When the driver is not seated in vehicle driver seat and able to take over
        - When members of the public are charged a fee to ride or the manufacturer receives compensation for providing a ride

        - When members of the public are charged a fee for transporting property in motor trucks
    - Vehicles excluded from testing and deployments – Trailers, motorcycles, vehicles with interstate operating authority, and vehicles with a gross vehicle weight rating of over 10,000 lbs
    - Testing permit application
        - $3,600 fee for processing, permits up to 10 AVs and 20 drivers
    - Requirements of AV test drivers
        - Must be either in immediate physical control or actively monitoring vehicle operation and capable of taking immediately over
        - Knows limitations of the vehicle's autonomous technology and capable of safely operating vehicle under all conditions under which vehicle is being tested
    - Qualifications
        - Identified as a driver to DMV
        - Licensed to drive a motor vehicle for at least 3 years
        - Does not have more than 1 violation point counted against them
        - Not involved or being at fault of motor vehicle involved accident resulting in death or injury a person
        - For 10 years prior, not convicted of or had license suspension or revocation due to driving under the influence
    - Training program
        - Manufacturer shall maintain training program for drivers and provide DMV a course outline and descriptions
        - Must include instructions on automated driving system technology
        - Must include behind the wheel instructions
        - Defensive driver training required, including practical experience recovering from hazardous driving scenarios
        - Instructions that match level of autonomous test vehicle drivers' experience operating specific type of AV technology with level of maturity of the automated system
    - Permit to test AVs that do not require a driver (driverless permits)
        - *Note the driverless permit applies to Levels 4 and 5 automation*
        - Manufacturers must notify local authorities where vehicle will be tested with:
            - Operational design domain
            - List of public roads in jurisdiction where vehicle(s) will be tested
            - Date testing will begin
            - Days and times testing will be conducted
            - Number of vehicles being tested and types
            - Contact information for manufacturer conducting testing

- Manufacturer must certify that there is a communications link between the AV and a remote operator to provide information on the vehicle's location and status
    - Must allow two-way communication
    - Must continually monitor the status of the vehicle and two-way communications link
    - Must include a process to display communications information in event of a collision
- Manufacturer must certify the vehicle is capable of operating without a driver, and meets the SAE definition of an automated driving system
- Manufacturer must provide a copy of a law enforcement interaction plan to law enforcement agencies and other first responders in the vicinity of the operational design domains of the AV, and it must include:
    - How to communicate with the remote operator
    - Where in the vehicle to find owner information, registration, proof of insurance
    - How to safely remove the vehicle from the roadway
    - How to recognize if the vehicle is in automated mode or not
    - How to detect and ensure automated mode is actually disengaged
- Law enforcement interaction plan shall be reviewed on a regular basis and update as changes are needed, no less than on an annual basis
- Manufacturer shall submit the law enforcement interaction plan to California Highway Patrol within 10 days of driverless test permit
- Manufacturer must maintain a training program for remote operators, certify remote operators have completed training sufficient to oversee vehicle
    - Instructions on automated driving system technology being testing
    - How to respond to emergency situations and hazardous driving scenarios
    - Disclose to all passengers what personally identifiable information (PII) may be collected about the passenger and how it will be used
- $3,600 fee for processing driverless testing permit application

- Discussion
    - Alliance for Automotive Innovation feedback – Agree with law enforcement interaction plan – It provides opportunity to walkthrough the information
        - CA model – Work with California Highway Patrol as facilitator for other law enforcement agencies
            - Still have to notify each jurisdiction individually during testing, but overarching review with Highway Patrol helps
        - WA model – Work with each law enforcement agency individually

        - Suggest a process where one agency is notified, disseminates that information to the appropriate entities/agencies in impacted jurisdictions
- Law enforcement interaction plan stuck out –Explains what to do if you come across the vehicle, how you might need to disengage, lays the process out, provides contact information, etc.
    - Would be helpful for law enforcement in WA
    - Crossover topic between Licensing and Safety subcommittees
    - Previous Licensing subcommittee meeting walked through HB 2470, concern there was no rulemaking authority for defining protocols to identify what to do in certain situations
- Question on providing law enforcement instructions on how to interact with/operate vehicle – what purpose does that serve?
    - If law enforcement comes across a vehicle in an incident, there is not necessarily time to wait for manufacturer, needs to know what to do with the vehicle (e.g. how to tow a disabled AV)
    - Potentially similar to the information needed for electric vehicles, provided to law enforcement and first responders now (e.g. Cutting power to the battery if electric vehicle is on fire)
    - Potential for collecting data for the sake of collecting, need to understand the level of detail truly required for law enforcement / public safety
        - Concern about private companies' proprietary information getting into the hands of a competitor, especially with Washington's public records act
    - Note from Washington State Patrol – We don't want all the manufacturer's documentation on the vehicle, don't want 30 different manuals specific to each AV
        - Need to know who to contact in the event of an incident
        - Need to know who to issue a citation to
        - Assume tow truck operators will have some type of education on how to shut off and tow AVs
        - Need to have enough information to properly advise dispatch (e.g. If an AV, an EV, etc. how to handle something like a vehicle fire)
        - Need to be able to explain to other citizens/parties involved – Not just AV manufacturer
            - Example: If an AV is observed driving erratically, law enforcement needs to know the protocol for how to handle that situation, where the AV is not disabled
        - Even with a test driver in the vehicle, they may not know everything, or may be incapacitated and unable to coordinate with law enforcement
- Preference for WA self-certification process or CA process for applying and DMV reviewing the materials/providing approval?

- CA model provides a closed loop – DMV responds back, positive confirmation of approved testing permit
- With addition of insurance requirements, WA self-certification process now includes more application review
- Suggest continuing to consider different states' models for allowing/permitting/approving testing of AVs on state roadways

- Would it be helpful for WA to define in law or rule/RCW what constitutes an AV, referencing automation levels?
  - CA regulation references SAE definitions for automation levels – Those definitions could change at any time
  - Referring to other organizations, industry standards, and other levels of government is common
    - WA currently has references like that
      - Vehicle WACs references SAE standards
      - Commercial motor vehicles reference Code of Federal Regulations (CFR)
- Agree with CA inclusion of levels 4 and 5, interested in why level 3 was included
  - Difficult to recognize a level 3 vehicle on the road
  - Difficult to police a level 3 – switching between driver and automated operation of vehicle often
- Are attendees interested in developing a recommendation to establish law enforcement protocols as part of the WA AV regulatory regime?
  - Request for more time to explore this topic more before developing a recommendation
- WSDOT, DOL, and WSP had a conversation with PACCAR recently on level 1 testing they are planning
  - This type of conversation could be a good near-term model for the beginning stages of AV testing
  - WA does not "approve" AV testing protocols
  - WA is working to establish a cultural precedence that if a company wants to test different levels of automation, bring relevant parties together to discuss what testing is planned, develop a just-in-time plan, exchange information, and document understanding of what testing is anticipated
    - Easier to talk through something tangible (defined test) than abstracts
    - May be a good way to talk with companies closer to when they actually plan to test, rather than when they self-certify
- How much pushback did CA get from manufacturers on the test driver/remote operator training program requirements?
  - Similar to ensuring someone has a driver's license before registering the vehicle

- Similar to commercial driver's licensing process – must be trained on equipment, accident free, etc.
- Assume manufacturers would want to make sure their drivers qualify
- Agree this is an important step to occur, but how much needs to be in regulation?
- Potentially crossing the line between having awareness and granting approval
    - When granting approval, agencies must have subject matter experts to do so
        - Must be prepared to administer the approval process well and appropriately assess liability

- Note that the California DMV Autonomous Vehicle Testing Program website[2] is very comprehensive, contains information on the history and evolution of AV regulation in CA, can provide context on how they got to where they are now
- Reporting collisions and disengagements from autonomous mode
    - Overview from CA regulation
        - Manufacturers must report within 10 days after collision occurs
        - Upon receipt of permit, manufacturer shall commence retaining data related to disengagement of AV mode, prepare and submit annually the information compiled
            - Must report anytime automated mode is disengaged, regardless of reason
            - Report must include:
                - Location of vehicle
                - Whether vehicle was operating with or without a driver at time of disengagement
                - Facts causing the disengagement, such as weather conditions, road surface, traffic, construction, emergencies, accidents, etc.
                - Party that initiated the disengagement – The AV technology, driver, remote operator, or passenger
    - What is the value of reporting *every* disengagement?
        - If an AV is not engaged in automated mode, then it is just a regular vehicle and follows that process/those rules
        - Testing program is for when the vehicle is *in* automated mode
        - Disengagements made be for safety-related situations, such as disengaging from AV mode to move around a stalled vehicle
        - Potentially causing manufacturers a lot of work for a data point that is not all that helpful

[2] California DMV Autonomous Vehicle Testing Program: https://www.dmv.ca.gov/portal/vehicle-industry-services/autonomous-vehicles/

- If WA includes language like this in WA regulation, possible companies just won't come to test in WA
    - DOL appreciates that, as DOL does not want to collect and manage unnecessary information
- Testing AVs is not only about testing the technology, but also ways people interact with the technology
    - Need to understand how safe people will be while riding in/operating these vehicles, how they engage/disengage AV mode
        - If someone is in an accident, helpful to understand if the vehicle was in AV or not, who initiated a disengagement, and how soon before the accident the disengagement was initiated
        - Helpful to know if AV mode was not disengaged early enough to allow a human to take over driving controls and prevent a collision
        - It is possible the AV is doing exactly what it should be doing by disengaging, may cloud the data
        - Suggestion to ask manufacturers to keep that data, not send to the State all the time, but have it available in the event of investigation
    - Concern about privacy – Competitors getting a manufacturer's data
- Arizona autonomous vehicle testing and operating Executive Order and law enforcement protocols
    - Much of Arizona's regulation mirrors CA
    - Arizona allows operation, picking up riders, not just testing
    - Arizona has a lighter touch approach, but still important pieces such as the law enforcement protocols and engagement plan
- Nevada has a lot of AV testing – Only has a $50,000 liability limit
    - WA has unlimited liability, companies may not have the same public exposure to risk from a monetary standpoint in other states
    - Liability subcommittee has discussed this, September subcommittee meeting will include discussion with various stakeholders and law firms to talk about how these losses will be responded to from a liability perspective
- Discussion Takeaways
    - Explore recommendation for rulemaking authority to define automation levels for self-certifying companies in WA
    - Explore law enforcement protocols – Whether we want to establish, when it should occur (during self-cert or just before testing)
    - Explore oversight aspects – How to confirm manufacturer application contents (e.g. Qualifications) and compliance

Topic closed.

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WRAP UP AND NEXT STEPS

Beau Perschbacher & Drew Wilder

- Potential topics for future meeting discussions:
  - International models – Drew Wilder has been researching UK's model
  - Agricultural AVs
  - Rulemaking for definition of autonomous vehicle as it relates to the self-certification program (requested by Safety subcommittee)
    - Currently no definition somewhere, bills/rules should point to something
    - Would need to coordinate with many agencies
    - Needs to be uniform at the national level – don't want all 50 states to have different definitions
  - Explore differentiating at 10,000lb gross vehicle weight – Different rules for larger vehicles

Topic Closed.

MEETING ADJOURNED.