Welcome and Message from the Chair (Chair Tannenbaum)

Chair Tannenbaum welcomed the Task Force members and urged the group to work together towards recommendations that reflect our common commitment to safety.

Workshop Overview (Jeanne Lawson, JLA Public Involvement)

Jeanne Lawson provided an overview of the workshop, beginning with presentations from ODOT staff and the American Association of Motor Vehicle Administrators (AAMVA), before breaking into four groups reflecting the four subcommittee areas for scoping of the Task Force’s work.

Definitions for a Common Language (Andrew Dick, ODOT)

Andrew Dick provided an overview of the Society of Automotive Engineers’ (SAE) standard J3016, “Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles.” This document establishes technical definitions for a range of topics related to automated vehicles, including system capabilities (SAE Level 0 through Level 5), different classes of user (driver,
passenger, dispatcher), and other related terms. These definitions have become the industry standard for describing AV systems and their users, and relying on the SAE guidance can help ensure that the Task Force uses precise and accurate language that is consistent with what’s used in other jurisdictions and the industry as a whole.

Summary of AAMVA Report (Cathie Curtis, AAMVA)

Cathie Curtis of AAMVA provided an overview of their recent report, *Jurisdictional Guidelines for the Safe Testing and Deployment of Highly Automated Vehicles*. The AAMVA report makes a number of recommendations for jurisdictions in areas of Licensing, Registration, and Law Enforcement that promote a consistent national approach towards state agency functions that relate to HAVs.

Scoping the Subcommittee Work – Small Group Instructions (Jeanne Lawson)

Jeanne Lawson introduced the scoping exercise for the subcommittees. The Task Force was split into four groups, and then each group assigned to a subcommittee, with one group each for Licensing and Registration, Insurance and Liability, Law Enforcement and Crash Reporting, and Cybersecurity and Long-Term Effects.

Each group faced a wall covered with responses from the visioning exercise relating to that subcommittee’s work, and each group had the opportunity to make additional recommendations for issues or questions that each subcommittee should address. Subcommittee leads remained in place, but all other Task Force members rotated to new subcommittees, until after four sessions each group had addressed each subcommittee.

Large Group Report Out (Subcommittee Leads)

Each subcommittee lead reported back on the discussion from their group, identifying goals and values, subject areas, common themes, and other outcomes from the scoping effort. A summary of the responses for each subcommittee can be found on the following pages.

Task Force Discussion (Jeanne Lawson, JLA Public Involvement)

The members of each subcommittee provided their initial thoughts and feedback on the group’s scoping efforts. For Cybersecurity and Long-Term Effects, the members identified cybersecurity, data, and consumer protection as the main themes and highlighted the importance of giving adequate time and consideration to the long-term effects. For Insurance and Liability, Bob Nash noted that many questions around insurance and liability will be answered over time as automated vehicles develop. For Licensing and Registration, Eric Hesse suggested that the groups should focus on policy areas that haven’t already been extensively addressed, such as how to transition from testing to deployment.

The group discussed how the topic areas for the subcommittees overlapped; ODOT staff suggested regular communication between the subcommittee leads to confirm that all topics are addressed and to prevent duplicative work. Representative McLain reiterated the importance of ensuring safety for all road users.
Public Comment (Chair Tannenbaum)

Doug Tiller (BikePAC) expressed concern about the lack of representation of motorcyclists on the Task Force, and whether AV technology would be able to perceive, avoid, and otherwise appropriately respond to vulnerable road users.

Mike Forest echoed Mr Tiller's concerns about the safety of AV technology with respect to vulnerable road users including motorcyclists, and that motorcyclists were not sufficiently represented on the Task Force. Mr Forest urged the Task Force to work with BikePAC to ensure that motorcyclist concerns are addressed in the Task Force recommendations.

Joanie Deutsch delivered joint comments on behalf of TechNet and the Technology Association of Oregon (TAO). Ms Deutsch emphasized that TechNet and TAO offer connections to a number of technology companies involved in the AV space and can help the Task Force find resources in the tech sector.

Recap and Next Steps (Chair Tannenbaum)

Chair Tannenbaum concluded the meeting and adjourned the Task Force until the subcommittee meetings.
Considerations for Licensing and Registration

Goals and Values

- Ensure safe testing and deployment of HAVs in Oregon
- Transparency in data sharing for testing & deployment
- Consistency between jurisdiction processes & requirements for testing & deployment (state/local/national)
- Establish an appropriate level of government oversight with flexibility to adapt quickly when needed
- Existing and proven processes used for vehicle identification wherever feasible
- Make sure that, to the extent possible, vehicle & driver policy re: HAVs apply to all classes of vehicles
- Ensure OEMs adhere to generally accepted minimum safety standards in testing & deployment
- Place an emphasis on driver/user training
- Efficient use of transportation system with "user pays" principle
- Clarify between "planning" data and safety/law enforcement data
- Public right to travel behavior data from commercial use of the public right-of-way
- Seek opportunities to coordinate/collaborate with West Coast corridor states & provinces

Topics

Testing Framework
• Permits for Testing - Issuance of AV testing permits for operation on public roadways
• Safety or backup driver requirements
• Rules for testing of autonomous vehicles without a human in the driver’s seat
• What operating environment needs to exist for testing / deployment?
• Vehicle identification
• Scope of permit (safety assertion/limits)
• Identify data that OEMs will be required to share with state & public during testing
• Who reports what and with whom is that data shared? What is the cost?

Licensing Requirements

• Driver’s license requirements for various levels of automation
• Roles and responsibilities for various users of automated vehicles
• Minimum age requirements for various users of automated vehicles
• Permit and license requirements different for SAE automation levels? (both driver & vehicle)
• Requirements/standards for DMV testing & training of DMV examiners
• Consider classes of users for all types of vehicles, not just passenger vehicles
• Licensing standards for CDLs that consider the full range of use cases for AVs
• Clarify federal v. state role in regulating commercial driver licenses

Registration and Titling Requirements:

• Registration process
• Rules for deployment of autonomous vehicles without a human in the driver’s seat
• Vehicle Registration - Vehicle identified physically and on electronic record as approved for level 3-5 functionality for testing and deployment
• Titling & Branding - Recording of vehicle ownership and establish HAV brand for vehicle record
• Grounds for suspending or revoking registration
• Fleet registration vs. individual registration considerations
• Plates - Establishment of unique vehicle identifiers (e.g., plates, stickers, etc.)
• Periodic recertification - capture system upgrades, protect against diminished performance, security patches
• Registration fees
• Lower registration fees for electric/high-efficiency vehicles
• How will use of these resources (fees?) be restricted by the highway trust fund?
• Ensure that AVs are part of road user fee discussions and policies

TNC/Commercial AV Issues:

• Consider a range of TNC use cases in an HAV environment - what policy/regulations will we need?
• Registration of all associated technology for function of AV TNC, freight, transit, etc.
• Who reports what and with whom is that data shared? What is the cost?

Vehicle/System Design:

• Means to intervene if the automated vehicle technology malfunctions
Considerations for Insurance and Liability

Goals and Values

- Preservation of existing consumer protections
- Equity issues between AV and non-AV drivers
- Premium underwriting and increases should reflect risk
- Non-discrimination in insurance
- Insurance standards should be uniform among states + develop organically
- Safety – Prioritize crash prevention before the point of an insurance claim
- Recognize early point in AV development and that insurance/liability framework will continue to evolve

Topics

Insurance:

- Minimum insurance requirements for various kinds of automated vehicles/best possible coverage
- How do autonomous vehicles affect limits of coverage
- Roles and responsibilities for various users of automated vehicles
- Should insurance follow the person or the vehicle? Follow the manufacturer?
- Insurance requirements specific to testing
- Relationship between technology costs and insurance rates
- Software/hardware maintenance + impacts on insurance/liability
- Self-insured (fleet) insurance standards – currently motor carriers self-insure at point of registration. Will this process change?

Liability:

- Product liability and ownership liability
- Assigning fault in incidents
  - Contributory negligence?
- How to determine liability for a crash that occurs while the vehicle is operating in automated mode
- Responsibilities of manufacturers, upfitters, and testing entities to ensure safety of automated vehicles
- Liability implications for non-standard road design?
- Is state liable if it doesn’t install/maintain certain infrastructure?
- Relationship between system decisions (e.g., who to protect in a crash) and liability
- Who is liable when an AV is used for illegal purposes?
- Relationship between driver training + liability -> training now v. future (If manufacturer provides training and a crash still happens, does that affect liability? If state provides training and a crash happens, is state liable for insufficient training?)
- Phase-out of liability insurance

Additional Issues:

- Liability and insurance for cybersecurity breaches
- Relationship between jurisdictions, consistency, infrastructure and liability/insurance
- Sliding scale of insurance coverage/liability on SAE levels
Considerations for Law Enforcement and Crash Reporting

Goals and Values

- Ensure the safety of all road users, including pedestrians, bicyclists, and motorcyclists
- Ensure safety for law enforcement officers and first responders
- Promote law enforcement and first responder understanding of legal, technical, and administrative requirements/limitations of automated technology
- Promote social equity

Topics

Reporting Requirements

- Reporting number of disengagements and miles traveled
- Reporting system reliability/errors

Safety Requirements

- Internal safety systems (e.g., OnStar)

Traffic Laws and Driver Responsibilities
• Ensuring that automated vehicles can obey laws across various jurisdictions
• Establishing safe following distances
• Enforcing automated ride-hailing fleets use of pick-up and drop-off zones
• Roles and responsibilities of various users of automated vehicles
• Minimum age requirements for various users of automated vehicles
• Other driver responsibilities (e.g., ensuring passengers wear seatbelts)
• Impaired driving
• Distracted driving

Law Enforcement and First Responder Engagement

• Vehicle response to an automated incident or direction from law enforcement (e.g., alerting emergency responders, displaying insurance and registration information, etc.), both with and without a human in the vehicle
• Clear direction to law enforcement on how to interact with automated vehicles
• Autonomous mode identification and understanding of how to engage and disengage autonomous mode during or after an incident
• Ability of law enforcement to override vehicles
• First responder safety
• ‘At fault’ assignment

Crash and Incident Reporting

• Event data recorders to record information shortly before and after an incident
• Vehicle data recording duration (i.e., how much should be recorded)
• What data or events should be recorded
• What data or events inside the vehicle should be recorded? (e.g. in a ride-hailing fleet vehicle)
• Consistency in format of vehicle data
• Retention and access to incident or vehicle data
• Retention and access to app data for automated ride-hailing services
• Distinction between public and private data, e.g. intellectual property
Scope of Considerations for Cybersecurity

Values

- Build on existing structure and system (i.e. “don’t reinvent the wheel”)
- Maintain adaptability and be able to adjust as industry changes

Goals

- Protection of consumer privacy
- Protection of intellectual property
- Sharing information needed for public sector responsibilities

Topics

Roles and responsibilities

- Determine federal and state roles in establishing cybersecurity requirements and enforcement
- Determine responsibilities of governments, manufacturers, and the public in preventing cyberattacks
- Determine responsibility for ensuring software and security are up to date
Responding to cyberattacks

- Ensure transparency and accountability in the event of a breach of security

Preventing cyberattacks

- Leverage existing cybersecurity systems, e.g. ISAC
- Assess potential security risks
- Address cybersecurity concerns regarding all AV technology
  - Vehicles, including heavy equipment vehicles such as tractors
  - Infrastructure
  - OEM equipment
  - Third party devices
  - Apps
- Ensure data integrity after a crash or incident, i.e. prevent evidence tampering
- Require manufacturers to provide reasonable security updates for the useful life of an automated vehicle

Protection of consumer privacy

- Prevent the misuse or dissemination of consumer information and vehicle data
- During testing, require testers to disclose what type of data they are collecting and with whom they are sharing that data

Data management

- Protection of intellectual property
- Sharing of anonymized data for policy, planning, and development
- Require data accuracy and ability to audit
- Transparency of guidance algorithms and prioritization of choices
- Transparency of reporting algorithms

**Scope of Considerations for Long-Term Policy**

**Values**

- Focus on long-term considerations
- Support and be consistent with Oregon's long-term policies, goals, and plans
- Meet goals for safety and for the transportation of goods and people
- Mitigate negative consequences of AVs and embrace opportunities created by AVs, e.g. improving safety, relieving congestion, expanding transportation options, addressing climate changes
- Meet sustainability goals
• Promote equity

**Topics**

**Roles and responsibilities**
• Maintain regulatory consistency across jurisdictions for ease of travel
• Avoid preempting local governments’ ability to advance local goals
• Align with other west coast/I-5 collaboration efforts

**Sustainability**
• To meet state’s climate pollution reduction goals, create AV policies that incentivize electric and low-emission vehicles

**Land use and urban design**
• Curbside management
• Transitional and long-term design

**Road and infrastructure design**
• Study cost of rebuilding infrastructure to accommodate AVs
• Determine ownership of smart tech and responsibility for ensuring cybersecurity
• Install AV-compatible infrastructure when roads are built or repaired

**Road use management**
• Participation of AVs in a road usage charge program
• Prioritize FAVES (Fully Autonomous Vehicles that are Electric)
• Support public transit and multimodal transportation
• Prioritize high capacity transit, then commerce, then single occupancy vehicles
• Research prioritizing off-peak freight movement
• Consider public interest and maintain public investment in public transportation and services

**Pricing**
• Gas tax and road usage charge programs
• Registration fees
• Impacts to local and state budgets
Equity

- ADA considerations
- Non-discriminatory programming, services, and data collection
- Ensure access to all Oregonians, e.g. providing good internet access in rural areas

Workforce changes

- Study impacts to workforce and rural communities
- Facilitate transitions through worker assistance and retraining
- Ensure new jobs created by AV industry meet High Roads standards
- Work with unions up front early in the process

Cybersecurity and data management

- State responsibilities regarding cybersecurity and privacy
- Data collection for planning purposes
- Licensing and resale data