Washington State Transportation Commission

AV Work Group
2021 Activities
Annual Report Overview

October 20, 2021
RCW 47.01.510 requires the Transportation Commission to submit an annual report to the Governor and Legislature describing the progress of the AV Work Group and the Commission’s recommendations.

Report due to the Legislature November 15, 2021
2021 Annual Report

OUTLINE

1. Introduction
2. Work Group Overview
3. 2021 Work Group Activities
4. Recommendations
5. Roadmap to the Future
2. WORK GROUP OVERVIEW

35-member Executive Committee & 7 Subcommittees comprised of representatives from a diverse set of public, private, and non-profit organizations
AV Work Group Executive Committee

Government Representatives and Key Stakeholders from:

- Governor
- Four members from Senate
- Four members from House
- Insurance Commissioner
- DOL Director
- WSDOT Secretary
- WSP Chief
- Traffic Safety Commission Director
- State Chief Information Officer
- Transportation Commission Member
- Health Secretary
- Employment Security Director
- Labor & Industries Director
- Data, Technology & AV Testing
- Shared, Electric, TNC & Transit
- Automakers
- Local Governments
- Consumers/Traveling Public
- Environment
- Academia
- Underrepresented Communities
- Freight
- Labor

Subcommittees

<table>
<thead>
<tr>
<th>Licensing</th>
<th>Safety</th>
<th>Infrastructure &amp; Systems</th>
<th>System Tech &amp; Data Security</th>
<th>Liability</th>
<th>Health &amp; Equity</th>
<th>Workforce</th>
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<td>DOL Lead Agency</td>
<td>WTSC &amp; WSP Lead</td>
<td>WSDOT Lead Agency</td>
<td>State CIO Lead Agency</td>
<td>Insurance Comm. Lead</td>
<td>TBD Support Lead</td>
<td>ESD and L&amp;I Lead</td>
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2021 Annual Report: Work Group Overview

5
Executive Committee met 3 times in 2021

• AV Industry Panels
• Focused Panels on Safety and Freight
• Research and Publications
• Pilot/Program Approaches
• NHTSA National Update
Substitute Senate Bill (SSB) 5460 pass the Legislature and signed by Governor Inslee on May 3, 2021.

- Creates definition of “autonomous vehicle” to include SAE levels 4 and 5 for DOL Self-Certification Program
- Repeals RCW 46.37.480(1) prohibiting television viewers in vehicles
- Moves effective date of House Bill 2676 section 2 on Reporting back one year, to October 1, 2022
2021 Annual Report: Work Group Activities

ANSI / UL 4600: Standard for Safety for the Evaluation

- Initially Presented to Work Group in 2020
- System Technology & Data Security Subcommittee discussed applicability in WA during 2021

- May 24: AV Industry Coalition submitted UL4600 stakeholder feedback letter
- May 26: WSTC provided response to Industry Coalition
- July 2: Principal Technical Author of UL4600 provided response and corrections to misleading information
SUBCOMMITTEES

- 5 of 7 Subcommittees met in 2021
- Some subcommittees going into “reactive / review” mode

Subcommittees will be presenting updates following this presentation
Recommendations

No recommendations were brought forth by the WA AV Executive Committee or its Subcommittees in 2021

*Potential opportunity for WSTC recommendation to the legislature*
Polling Exercise at May 25th AV Executive Committee meeting to evaluate Work Group’s key areas of focus moving forward

In your view, what should be the principal objective of the Work Group? (rank in order)

- 1st: Prepare for long term technology deployment
- 2nd: Advance public awareness, communication and understanding of technology
- 3rd: Prepare for near term technology deployment
- 4th: Encourage and attract testing of the technology
- 5th: Direct organizational changes needed to prepare for a CAT future
- 6th: Other
Key Takeaways from May 25 Polling Results:

• Public awareness is a key area of focus
• Interest in bringing AV testing, and state investment to attract it
• Focus on long term – looking towards the future
2021 Annual Report: Roadmap to the Future

First Two Years
(June 2018 – Dec 2020)

• Develop AV Work Group and Structure
• Conduct initial research and build knowledge base
• Identify immediate opportunities / recommendations

Remaining Three Years
(2021 - 2023)

• Shift focus towards long-term preparations & planning
• Develop the “Roadmap to the Future” for use after the Work Group sunsets in 2023
The “Roadmap to the Future” will serve as the Work Group’s Legacy Deliverable and be a foundational resource for law makers.

» Deliver at the end of 2023 *(when the Work Group sunsets)*

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<th>key components of the “Roadmap”</th>
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<tr>
<td>Agency Readiness</td>
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<td>Testing / Pilots</td>
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<td>Public Outreach</td>
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<td>Safety</td>
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<td>Path to Deployment</td>
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2021 Annual Report: Roadmap to the Future

Structure *Roadmap* around Use Cases to provide context
Discussion Questions

- In determining the specific use cases for exploration, should the Work Group focus on near-term use cases (closer to commercial readiness) or longer-term use cases?
  - **Near-term**: more actionable by the group today/soon, but potential for the roadmap to be short-lived
  - **Long-term**: more difficult to define actions soon, but more likely to have longer-term relevance
• Should the Work Group be considering implications of the full range of automation, or only highly automated vehicles (Levels 4 and 5)?
## Shift in Work Group Structure

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<th>Agency Staff Working Group</th>
<th>Subcommittee Co-Chairs</th>
<th>Subcommittees</th>
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| • Made up of staff from each of the lead agencies  
• Foster and grow ideas  
• Meet regularly  
• WSTC support for research and development | • Join the Agency Staff Working Group  
• Keeps private sector voice engaged | • Agencies regularly engage membership electronically  
• Convene when there is an idea on the table  
• Look at idea through subcommittee’s lens |
Shift in Work Group Structure

**WSTC**
- Issue proposed approaches and ideas related to developing the five Roadmap components, for exploration by Agency Staff Work Group
- Executive Committee review developed concepts

**Executive Committee**
- Meet 2 times per year to vet matured recommendations & and continue information gathering
- Keeps private sector and stakeholder interests at the table and engaged

**Legislature**
- Implement components of the Roadmap to the Future as AV developments advance
- Respond to annual report recommendations
- Enact laws & provide funding when appropriate
Possible Recommendation from Transportation Commission

Legislature consider funding a state-sponsored AV pilot effort/program

» Hybrid approach

» A small grant program as well as exploring a state-sponsored, focused pilot

» Direct the WSTC and WSDOT to further flush out what this pilot program could be and report back to Legislature by the 2023 session
Possible AV Pilot Recommendation

Executive Committee May 25, 2021 polling exercise

17 of the 22 respondents voting “Yes”, indicating a strong interest in bringing AV testing to the state.

“informing policy-making” as primary objective of testing in WA, with “improving public awareness and exposure” a close second.
There is a wide range of approaches that vary many aspects of an AV pilot:

- Public vs. Private ownership and control
- Cost and risk sharing
- Level of scope definition
- Procurement mechanism / contracting approach
- How objectives are approached and achieved
Possible AV Pilot Recommendation

**DEFINED PILOT**

- Request for proposals (RFP) for a specific pilot
- RFP defines exactly what is desired of the pilot with a pre-defined approach and specific work scope for the contractor
- A single entity (company or team) is selected and contracted to deliver the pre-defined service

**Example:** Utah DOT/Utah Transit Authority AV Pilot
http://www.avshuttleutah.com/

**PROS:**
- Total control over the project scope and design
- More traditional contracting approach for most agencies

**CONS:**
- Requires the owner to fully define the pilot – less room for industry creativity
- Owner (public sector) will most likely pay the full cost of the pilot, with less potential for private partnership share
- Owner may hold more project risk without “skin in the game” from private partner

Source: UDOT/UTA
http://www.avshuttleutah.com/
Possible AV Pilot Recommendation

- Solicitation of interest issued, outlines objectives of pilot program and solicits grant applications for pilot concepts which can meet some or all objectives
- Proposals evaluated on how well they meet objectives, requested amount, etc.
- Multiple grant applications could be accepted (depending on funding requested), or all could be rejected
- Could be a one-time award round or an ongoing program

Example: Minnesota DOT CAV Challenge Program
http://www.dot.state.mn.us/automated/cavchallenge.html

PROS:
- Industry defines how to achieve objectives – more opportunity for creativity and new approaches not considered by owner
- Public-Private Partnership (P3) approach that would more likely yield cost and risk sharing
- Ability to split available funding across multiple worthy pilots

CONS:
- Less control over pilot design and outcomes
- More complex to contract and make selection determinations
PILOT GOALS

Establishing goals for a potential pilot can guide:

• Type of pilot to pursue
• Pilot approach
• Expectations for both public and private sector
• Align with other related or competing goals (e.g. Environmental, Vision Zero)
If Washington pursued and funded an AV pilot, what are the priorities in terms of the pilot *Informing Policy-Making Goals?* (rank in order)

1st: Better understand infrastructure needs to support deployment
2nd: Validate/identify gaps in existing regulatory framework (H.B. 2676 and S.B. 462, law enforcement notifications and crash reporting)
3rd: Test out/design policy for identification of testing locations
4th: Test out/design policy for work zone data
5th: Test out/design law enforcement interaction plan
If Washington pursued and funded an AV pilot, what are the priorities in terms of the pilot *Public Awareness and Exposure Goals*? (rank in order)

1st: Increase public understanding of AV technology capabilities
2nd: Educate the public on safe use of AV technology
3rd: Conduct human factors research around interactions with AVs
4th: Measure public opinion towards AV technology
If Washington pursued and funded an AV pilot, what are the priorities in terms of the pilot *Organizational Knowledge Goals?* (rank in order)

1st: Better understand agency roles and responsibilities for AV deployment and operation

2nd: Better understand necessary inter-agency and private sector partnership needs

3rd: Identify agency funding gaps to support AV deployment/regulation

4th: Identify workforce skill gaps
Possible AV Pilot Recommendation

If Washington State pursued and funded a pilot program, what is the Preferred Pilot Approach?

- Prescribed type of approach (UDOT): 2
- Open approach/grants program (MnDOT): 5
- Hybrid approach: 11
Legislature consider funding a state-sponsored AV pilot effort/program

» hybrid approach

» A small grant program as well as exploring a state-sponsored, focused pilot

» Direct the WSTC and WSDOT to further flush out what this pilot program could be and report back to Legislature by the 2023 session
Thank You!