

Autonomous Vehicle Work Group

2019 Annual Report

A YEAR OF LEARNING AND EXPLORATION



WASHINGTON STATE
AUTONOMOUS VEHICLE
WORK GROUP

Prepared by WSP USA





State of Washington

TRANSPORTATION COMMISSION

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November 15, 2019

Dear Governor Inslee, and Members of the Senate & House Transportation Committees:

We are pleased to present to you the annual report for our state's Autonomous Vehicle (AV) Work Group, created in the 2018 legislative session. 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.

This report represents the culmination of extensive research, deliberation, and discussion in 2019 led by a 34 members Executive Committee made up of public, private and non-profit organizations, and seven subcommittees lead by nine different state agencies with the participation of nearly 500 stakeholders. The AV Work Group effort is truly a broad-based, transparent, and inclusive process with stakeholders and experts driving the research, assessment, and determination of what our state decision makers need to consider in order to prepare for the operation of AV's on our public roadways in Washington State.

AV's are present in our state today. To date, twelve companies have self-certified with the Department of Licensing to test AV's on our roadways. As private industry works to bring unprecedented technology to our world of mobility, the efforts of this Work Group help support the achievement of public safety while encouraging innovation. This report sets forth some beginning steps to accomplish this.

We look forward to your review and input.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry Litt".

Jerry Litt, Chair
Washington State Transportation Commission

A handwritten signature in black ink, appearing to read "Darrin J. Grondel".

Darrin Grondel, Chair
Autonomous Vehicle Work Group
Executive Committee

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Executive Summary

2019 in Review

Autonomous vehicles (AVs) and related technologies are rapidly penetrating the market, with lower-level automation becoming mainstream in newer vehicles today, and higher levels of automation being tested and deployed across the country. As of late 2019, twelve companies had self-certified with the Washington State Department of Licensing their ability to safely test and operate AVs on public roads in the state. To prepare for this evolution in transportation, the Washington State Transportation Commission (WSTC) is carrying out requirements in current law (RCW 47.01.510¹), which mandate the convening of an executive and legislative Work Group to gather information and develop AV policy recommendations to address the operation of AVs on public roadways in the State of Washington.

The Work Group hit the ground running in 2019, with subcommittees actively meeting, developing and executing work plans, convening subgroups to explore topics in more detail, and engaging public and private leaders in each subcommittee's respective focus areas to gain a broad understanding of the current landscape and prioritize efforts moving forward.

Several recommendations were cultivated and advanced through the Work Group's process, including policy recommendations

needing legislative action as well as operational changes to make the Work Group itself more effective. These recommendations further demonstrate the momentum gained by the Work Group in 2019. More information on recommendations can be found in Section 5 of this report.

The Work Group further expanded its knowledge of AVs and their far-reaching impacts through discussions and expert presentations. The Disabilities Rights Washington advocacy group and the National Federation of the Blind addressed considerations and potential impacts AVs will have on the disabled communities, pressing the importance of engaging these communities and the concept of equity in AV policy conversations. The Work Group also learned more about advanced driver assistance systems (ADAS), such as blind spot monitoring and rear collision warnings, and how these crash avoidance ADAS technologies are reducing crashes and adjusting driver behavior for safer roadways.

In 2019, 18 additional members were appointed to the Executive Committee, to ensure a broad range of perspectives and opinions are at the table. These new representatives come from state and local government, transportation industry, academia, labor, and underrepresented communities.

Figure 1: Washington State Autonomous Vehicle Work Group Structure



¹ RCW 47.01.510 Autonomous Vehicle Executive and Legislative Work Group <https://app.leg.wa.gov/RCW/default.aspx?cite=47.01.510>

2019 Work Group Accomplishments

Meetings between January and October, 2019

- ▶ 2 Executive Committee meetings
- ▶ 23 Subcommittee meetings
- ▶ 4 additional subcommittee meetings scheduled in November & December

2 New subcommittees established

- ▶ Health & Equity
- ▶ Workforce

Recommendations

- ▶ 4 policy recommendations made it through this year's process (See Table 1)



18 additional members appointed to Executive Committee

- ▶ State and Local Governments
- ▶ Private Sector & Non-profit organizations
- ▶ Academia

Education: 13 expert presentations

- ▶ Industry and technology overviews and current progress
- ▶ National and state level regulations
- ▶ Legal considerations and recommendations
- ▶ Public perception and education opportunities
- ▶ Considerations for safety, insurance and law enforcement

Launched AV Work Group website

- ▶ Information on AV Work Group structure, priorities, Executive Committee and Subcommittees
- ▶ Education on AV-related initiatives happening within the state
- ▶ Progress of AVs across the country in the public and private sectors
- ▶ <https://avworkgroupwa.org/>

2019 Recommendations

All recommendations brought forth by subcommittees and the Executive Committee are advanced to the WSTC. The WSTC, in turn, advances these recommendations to the Legislature and Governor via this annual report, regardless of the Executive Committee's or the WSTC's actions on the recommendations, as a matter of maintaining a complete public record of the process and results.

To this end, provided below are all recommendations brought forth by the Work Group for the Legislature and Governor's consideration, along with the actions taken by the Work Group's Executive Committee and the WSTC.

Table 1: Recommendations Advanced to the Executive Committee and WSTC for Consideration

Source	Recommendation*	Executive Committee Action/ Recommendation	WSTC Action/ Recommendation
POLICY RECOMMENDATIONS			
Liability subcommittee	Enact legislation requiring self-certified (DOL) AV testing companies to maintain umbrella liability insurance no less than \$5 million per occurrence for damages.	Endorsed	Endorsed
Infrastructure & Systems subcommittee	Adopt 8 policy goals to enable the Infrastructure & Systems Subcommittee to continue work on the Washington State Department of Transportation (WSDOT) Cooperative Automated Transportation (CAT) Policy Framework and, as a next step, develop specific strategies.	Endorsed	Endorsed
Infrastructure & Systems subcommittee	Encourage the development of a statewide CAT/AV Policy Framework that would integrate the WSDOT CAT policy goals along with policy goals developed by other subcommittees.	Endorsed	Endorsed
Health & Equity subcommittee	Conduct a Health Impact Assessment of AVs.	No voting action	Endorsed**
OPERATIONAL RECOMMENDATIONS			
Safety subcommittee	Establish new "Health & Equity" Subcommittee.	Endorsed	WSTC Created
Executive Committee	Establish new "Workforce" Subcommittee.	Endorsed	WSTC Created
Executive Committee	Appoint a disabilities rights representative to the Executive Committee.	Endorsed	WSTC Appointed
RECOMMENDATIONS REQUIRING FURTHER WORK			
System Technology & Data Security subcommittee	Adopt "AV Privacy and Data Security Principles" and "Data Standard revision 0.1" developed by the subcommittee.	Request further exploration of best practices and standards	Agreed with Executive Committee action

* Detailed information for each recommendation is included in Section 5 of this report.

** Commission supports conducting this study with expectation that Health & Equity subcommittee will develop a detailed proposal.

1 — Introduction

Industry Overview

Within one generation, autonomous vehicles (AVs) went from futuristic fiction to an approaching reality, with lower-level automation becoming mainstream in newer vehicles today, and higher levels of automation being tested across the country. As of late 2019, twelve companies had self-certified with the Washington Department of Licensing their ability to safely test and operate AVs on public roads in the state.

This rapid market penetration of advancing technology is prompting all levels of government to consider current and potential laws and policies to harness the benefits of these technologies, while avoiding unintended consequences. The State of Washington enacted legislation in 2018 creating the AV Work Group to cultivate a robust discussion on how best to prepare for the operation of AVs on public roadways, ensuring public safety while still encouraging innovation and advancement in mobility.



Legislative Mandate

Current law (RCW [47.01.510](https://app.leg.wa.gov/RCW/default.aspx?cite=47.01.510)¹) directs the Washington State Transportation Commission (WSTC) to appoint and convene an executive and legislative Work Group to gather information and develop AV policy recommendations to address the operation of AVs on public roadways in the State of Washington. The Work Group and the WSTC are charged with the following:

- ▶ Following developments in AV technology and related policies.
- ▶ Exploring approaches to modify state policy, rules and laws to further public safety and prepare for the emergence of AV technology.

- ▶ Sharing information on AV technology and policies with interested stakeholders.
- ▶ The WSTC must develop and provide recommendations based upon the input from the Work Group and submit them along with a progress report to the Governor and Legislature by November 15th each year. This report fulfills the annual reporting requirement.

The Washington State AV Work Group (hereafter referred to as “the Work Group”) first convened on June 27, 2018, and continues to explore opportunities and issues that AVs may present to the health, safety, livability and economic viability to the State and its citizens. The legislation is in force through December 31, 2023.

¹ RCW 47.01.510 Autonomous Vehicle Executive and Legislative Work Group <https://app.leg.wa.gov/RCW/default.aspx?cite=47.01.510>

2—The AV Work Group Curates Future Policy

The Work Group is designed to be a tiered, bottom-up approach where policy ideas are curated organically at the subcommittee level, vetted by a diverse set of stakeholders and interests, in a public forum that enables public participation as well. If advanced, the next stop is the Executive Committee, made up of a diverse set of public, private and non-profit organizations. There, an idea is further vetted and discussed. Then it is on to the WSTC for final review and discussion. When an idea arrives at the Legislature's doorstep in the form of a recommendation, it is the product of a thorough, accessible and expert driven process.

The roles and purpose of each level of the idea curation process is as follows:

Level 1: Subcommittees

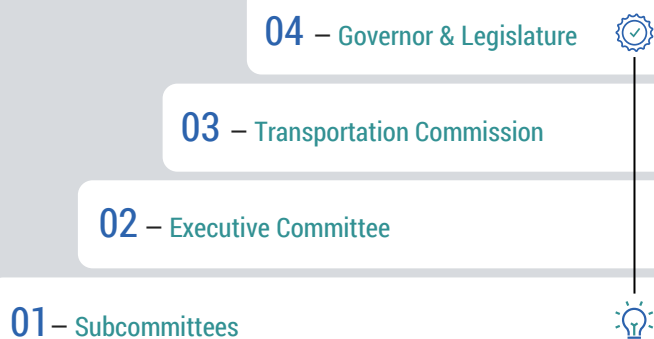
- ▶ Where ideas start and are developed
- ▶ Participation open to all
- ▶ Ideas are vetted - pros and cons identified
- ▶ Supported ideas sent to the Executive Committee
- ▶ Lead agency and stakeholders advocate for recommendations throughout process

Level 2: Executive Committee

- ▶ Comprised of public sector leaders and private sector experts
- ▶ Public forum for education and information sharing
- ▶ Reviews subcommittee recommendations, applying political, public, and private sector perspectives
- ▶ Determines recommendations to endorse via a vote
- ▶ Reports outcome for all recommendations to the WSTC

Level 3: Transportation Commission

- ▶ Considers all recommendations & assesses Subcommittee and Executive Committee vote outcomes



- ▶ Determines recommendations to endorse via a vote
- ▶ Reports outcome for all recommendations to the Governor and Legislature, along with WSTC's position relative to each recommendation
- ▶ Works in partnership with lead state agencies & stakeholders to advocate for recommendations

Level 4: Governor and Legislature

- ▶ Receives report from Transportation Commission & Work Group
- ▶ Schedules hearings for presentation of recommendations from the Commission & Work Group
- ▶ Schedules bills for hearing
- ▶ Considers funding needs via the budget process
- ▶ Enacts laws and funds programs to achieve current law intent

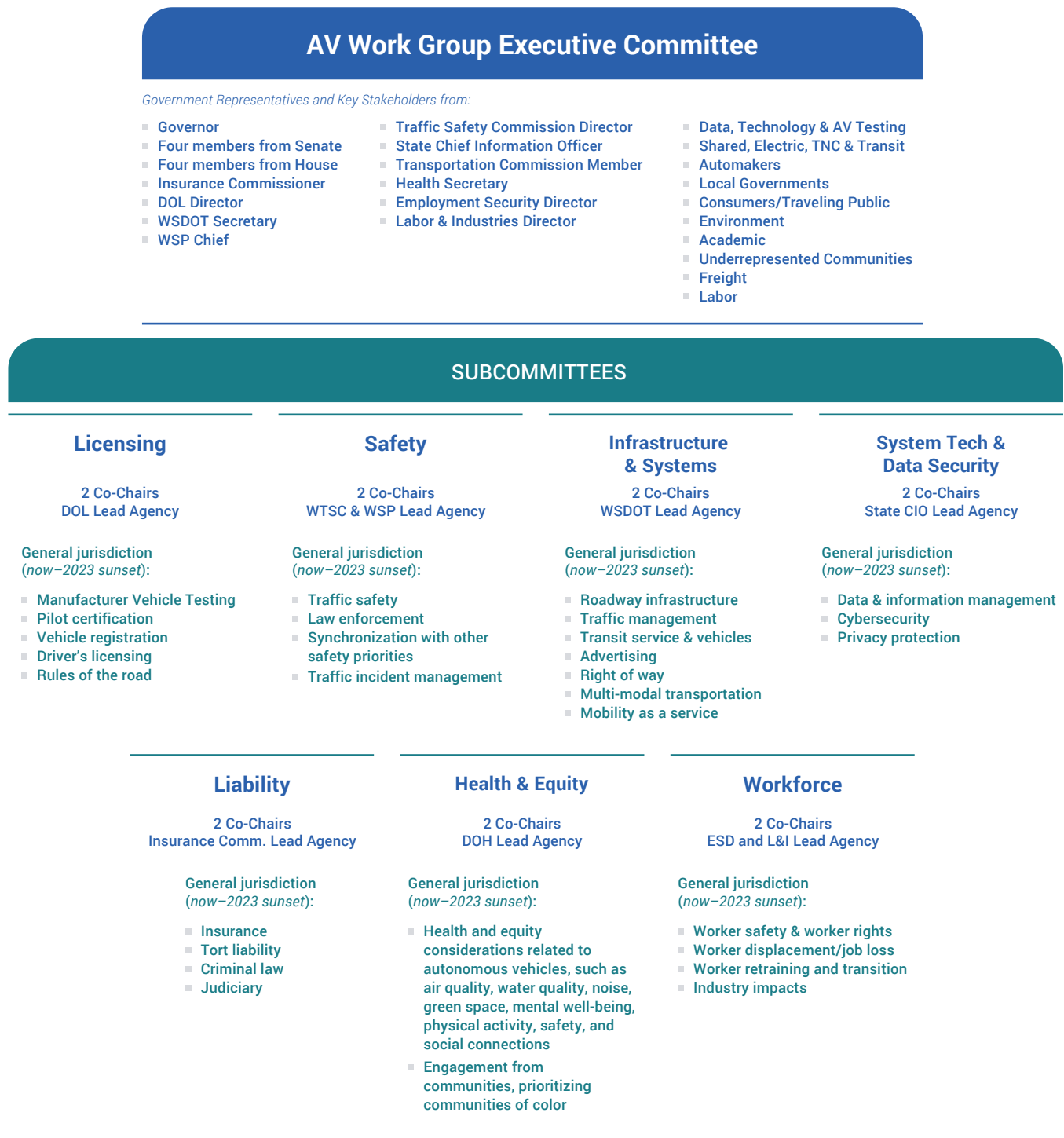
The Work Group is governed by self-created and adopted policies and procedures for the Executive Committee and Subcommittees. They can be found on the [Work Group website](https://avworkgroupwa.org/)²

² Washington State Autonomous Vehicle Work Group website: <https://avworkgroupwa.org/>

Organizational Structure

In order to ensure an inclusive, transparent and collaborative process, the Work Group is made up of an Executive Committee and seven subcommittees, consisting of members from public and private stakeholders. The Executive Committee provides a forum for education and information sharing among public sector leaders and private sector experts. The subcommittees hold publicly open discussions to develop and vet ideas, fostering the ideas through to policy and operational recommendations. The organizational structure of the Work Group is explained in the figure below.

Figure 2: Washington State Autonomous Vehicle Work Group Structure



Executive Committee

The Executive Committee is comprised of thought leaders, applying political, public, non-profit, and private sector perspectives on ideas and recommendations. Current law establishes the Executive Committee membership, allowing additional members to be appointed by the WSTC as needed. The current membership of the Executive Committee is listed below.

Table 2: Executive Committee Membership

Name and Title	Organization
LEGISLATIVELY APPOINTED MEMBERS	
Darrin Grondel, Work Group Chair and Executive Director	Washington Traffic Safety Commission
James A. Restucci, Work Group Vice-Chair and Commissioner	Washington State Transportation Commission
Senator Curtis King	Washington State Legislature
Senator Ann Rivers	Washington State Legislature
Senator Joe Nguyen	Washington State Legislature
Senator Mona Das	Washington State Legislature
Representative Zack Hudgins	Washington State Legislature
Representative Shelley Kloba	Washington State Legislature
Representative Matt Shea	Washington State Legislature
Representative Matt Boehnke	Washington State Legislature
John Batiste, Chief	Washington State Patrol
Mike Kreidler, Insurance Commissioner	Office of the Insurance Commissioner
Teresa Berntsen, Director	Department of Licensing
Roger Millar, Secretary	Department of Transportation
Charles Knutson, Senior Policy Advisor	Governor's Office
MEMBERS ADDED BY WSTC	
Joel Sacks, Director	Department of Labor & Industries
John Wiesman, Secretary	Department of Health
Suzan LeVine, Commissioner	Employment Security Department
Will Saunders, Interim Chief Privacy Officer	Office of the Chief Information Officer
Dr. Yin Hai Wang, Director	University of Washington STAR Lab
Justin Leighton, Executive Director	Washington State Transit Association
Tom Alberg, Co-Chair	ACES Northwest
Sam Zimbabwe, Director	City of Seattle Transportation Department
Josh Fisher, Government Affairs Senior Manager	Association of Global Automakers
Brenda Wiest, Legislative Director	Teamsters Local 117
Todd O'Brien, Public Works Director	Adams County
Jessica Ramirez, Director of Community Engagement	Puget Sound Sage
Bryan Mistele, CEO	INRIX
John Milbrath, VP Member Services	AAA
Bryce Yadon, State Policy Director	Futurewise
Caleb Weaver, Director of West Coast Public Affairs	Uber
Steve Gordon, CEO	Gordon Trucking
Mufaddal Ezzy, Waymo, Head of Public Policy for Western U.S.	Mufaddal Ezzy, Waymo, Head of Public Policy for Western U.S.
Anna Zivarts, Disability Rights Washington, Director of Rooted in Rights	Anna Zivarts, Disability Rights Washington, Director of Rooted in Rights

Subcommittees

Ideas and recommendations emerge from subcommittees, where a diverse set of subject matter experts conduct research, gather information, and discuss challenges and opportunities of AVs and related technologies. Subcommittees provide an opportunity for a broad range of perspectives to be applied to ideas as they are explored and potentially fostered into formal policy or operational recommendations. Key attributes of the subcommittees are:

- ▶ Each subcommittee is administered and supported by the state agencies who have jurisdiction over the subcommittee topical area (e.g. Dept. of Licensing administers and supports the Licensing Subcommittee).
- ▶ Each subcommittee is co-chaired by one public and one private sector representative.
- ▶ All meetings are noticed and open to the general public for participation.
- ▶ Subcommittee meeting agendas, notes and presentations are published on the Work Group website. The subcommittees, co-chairs and administering agency(ies) are listed below.

Table 3: Subcommittee Leadership

Subcommittee	Public Sector Co-Chair	Private Sector Co-Chair	Administering Lead Agency(ies)
Health & Equity	Dr. Andrew Dannenberg (University of Washington)	<i>Yet to be Determined</i>	Washington State Department of Health (DOH)
Infrastructure & Systems	Roger Millar (WSDOT)	Mike Ennis (Association of Washington Business)	Washington State Department of Transportation (WSDOT)
Workforce	Nick Streuli (ESD) Maggie Leland (L&I)	Brenda Weist (Teamsters)	Washington State Employment Security (ESD) and Washington State Department of Labor & Industries (L&I)
Liability	Lonnie Johns-Brown (OIC)	Harris Clarke (PEMCO)	Office of the Insurance Commissioner (OIC)
Licensing	Beau Perschbacher (DOL)	Drew Wilder (Vicarious Liability Risk Mgt. LLC)	Department of Licensing (DOL)
Safety	Captain Tom Foster* (WSP)	Kenton Brine** (NW Insurance Council)	Washington Traffic Safety Commission (WTSC) and Washington State Patrol (WSP)
System Technology and Data Security	Will Saunders (OCIO)	Michael Schutzler (Washington Technology Industry Association)	Office of the Chief Information Officer (OCIO)

*Captain Dan Hall (WSP) served as Co-Chair through October 2019

**Outgoing as of October 2019

3—Looking Back at 2018 Recommendations

In 2018, the AV Work Group and the WSTC made three policy recommendations to the Legislature and Governor, via the 2018 Annual AV Work Group Report formally submitted on January 11, 2019. This section summarizes the recommendations and outcome of those recommendations.



AV Work Group Website and Communications Plan

Recommended by:

Executive Committee

Recommendation:

Develop and implement a communications strategy and plan, and launch a stand-alone website for the Work Group. The website will establish a one-stop shop for the public and stakeholders to get information on AVs in the State, as well as Work Group activities. This recommendation included a funding request of \$190,000.

Executive Committee Action:

Advanced recommendation to the WSTC for consideration.

WSTC Action:

Advanced recommendation as proposed to the Legislature for consideration.

Outcome and Current Status:

- ▶ The recommendation was accepted by the Legislature and the WSTC was appropriated \$100,000 to establish an AV Work Group website. The website has now been launched: [AV Work Group website](https://avworkgroupwa.org/)³. (See section 6, p.25 under *Work Group Website Launched* for more information.)
- ▶ The WSTC, in consultation with the Work Group, will be developing a communications plan.



Clarification and Revision of Washington State Statutes

Recommended by:

University of Washington School of Law, presented directly to the Work Group Executive Committee

Recommendation:

Clarify and potentially revise current Washington State statutes and policies and coordinate with federal rules and progress to address legal considerations of AVs.

- ▶ Preempt local regulation: Prevent unnecessary roadblocks to deployment of autonomous vehicles.

³ Washington State Autonomous Vehicle Work Group website: <https://avworkgroupwa.org/>

- ▶ Update definitions: Revise the RCW to accommodate new technologies.
- ▶ Self-Certification: Promote innovation and freedom to develop new technologies.
- ▶ Enhanced Infrastructure: Encourage local, state and federal improvements in road systems and technologies to support AVs.
- ▶ Control Liability: Impose liability on AV systems and manufacturers while autonomous systems are in operation.
- ▶ Update current data security laws: “Lead the pack” in securing driver and user data.

Executive Committee Action:

No formal voting action taken.

WSTC Action:

Requires further evaluation by the Executive Committee and Subcommittees.

Outcome and Current Status:

- ▶ The recommendation language was provided to each subcommittee for further review and refinement.
- ▶ The University of Washington School of Law presented to multiple subcommittees during 2019 to provide information on the recommendations and the school's activities related to the recommendations.
- ▶ The School of Law noted that 2019/20 school year students will be evaluating the recommendation language and revising based on further research on industry progress and best practices, as well as other states’ and federal activity on the subject.
- ▶ The School of Law anticipates a revised set of recommendations will be presented to the Work Group by Spring 2020.



Conduct Public Education Campaign on Autonomous Vehicles

Recommended by:

Safety subcommittee

Recommendation:

Educate the public about the potential safety benefits and risks of safety technology associated with automated vehicles, as well as about automated vehicle testing in Washington State. This education campaign would include:

- ▶ Gather existing information, conduct research and document the current state of public knowledge surrounding automated vehicle technology and beliefs, develop platforms and partnerships;
- ▶ Develop and implement a comprehensive strategic communications plan; and
- ▶ Evaluate the strategic communications plan and provide recommendations for a long-term framework for public education and outreach related to AVs.

Executive Committee Action:

No formal voting action taken.

WSTC Action:

Recommended to delay implementation until further work can be conducted by the Work Group.

Outcome and Current Status:

- ▶ Following legislative session, the Safety subcommittee re-evaluated the public education campaign scope and priorities.
- ▶ The subcommittee developed a subgroup to develop a public education plan with identified audiences, key messages, resources and communication channels.
- ▶ This public education plan is being developed as an effort of the subcommittee with no additional funding or resources required.
- ▶ Upon completion of the plan, the subcommittee anticipates recommending the implementation of the plan (anticipated by end of 2020), which would require potential legislative action and funding.



Conduct Health Impact Assessment (HIA)

Recommended by:

Safety subcommittee

Recommendation:

Conduct a modified Health Impact Assessment, with an emphasis on identifying disproportionate impacts on disadvantaged populations.

Executive Committee Action:

No formal voting action taken.

WSTC Action:

Advanced recommendation as proposed to the Legislature for consideration.

Outcomes and Current Status:

- ▶ No further action was taken on the recommendation by the Legislature.
- ▶ Following the creation of the “Health & Equity” subcommittee in 2019, the newly formed subcommittee brought this study forward for consideration again, and is continuing to refine the scope of this assessment for possible consideration in a future legislative session.

4—2019: A Year of Much Learning and Fact Finding

2018 marked the inaugural year for the Work Group, focusing on establishing the structure of and expectations for the group moving forward. In 2019, the Work Group gained momentum with an expanded membership and ongoing information gathering from industry leaders. Robust public and private sector engagement at the subcommittee level provided the basis for the Executive Committee to continue its growing understanding as it works to address and balance the potential benefits and potential challenges of AVs within the State of Washington.

Executive Committee

The Executive Committee spent 2019 maturing the structure and direction of the Work Group, and continuing to learn about the impact AVs and related technologies may have on various communities, markets and systems. The Executive Committee met twice during 2019, and plans to meet three times in 2020 to continue this momentum.

The following summarizes the work and information gathered by the Executive Committee during 2019.

Impacts of AVs on Disabled and Disadvantaged Communities

The advocacy group Disability Rights Washington and the National Federation of the Blind presented to the Executive Committee on the considerations and potential impacts of AVs on the disabled and disadvantaged community. Everyone needs to get somewhere, which is what transportation networks are for. Disabled communities have additional difficulties accessing transportation. The transportation system needs to be integrated, putting resources in one place to serve everyone equitably. Preparing for AVs presents the opportunity to rectify limited accessibility in the state's transportation network. Policies and laws are being researched now, and can include equity and accessibility now, from the start.

Disability Rights Washington and the National Federation of the Blind emphasized the need for equity considerations in all AV conversations. Accessibility, availability, affordability. The only barriers are the ones we create. Now is the time to reinvent what transportation looks like.

These concepts were further supported by the Work Group through the creation of a "Health & Equity" subcommittee, and the appointment of a Disability Rights Washington representative to the Executive Committee.

AV-related Technologies Improving Traffic Safety

In June 2019, the Insurance Institute for Highway Safety (IIHS) and the Highway Loss Data Institute (HLDI) released a study on the safety effects of advanced driver assistive systems (ADAS), specifically those designed for crash avoidance. The IIHS presented the study's findings to the Executive Committee in September 2019.

IIHS and HLDI conducted studies comparing functionality and crashes of vehicles with and without ADAS, and found that ADAS were effective in preventing crashes they were designed to prevent. The technology has been so effective in preventing crashes, that IIHS has developed rating programs for front, rear and pedestrian crash prevention. The study found that when warning and prevention systems were turned on:

- ▶ Lane departures reduced **by 60%**
- ▶ Headway monitoring reduced **by 40%**
- ▶ Forward collision reduced **by 35%**

IIHS has also found that more advanced systems are challenging for drivers to understand and may negatively impact expectations and behavior. The naming conventions for these advanced features also vary widely between manufacturers, and can sometimes lead to overreliance on and trust of the features – with drivers considering them 'automated' rather than 'assistive' in nature.

IIHS urged that more data are needed to better understand the impact ADAS and higher automation technologies have on driver and traffic safety.

The Safety subcommittee, with support and participation from members of the Executive Committee and other subcommittees, is further exploring these impacts, and is developing a public education plan to provide outreach and education on these technologies to the State's citizens.

Autonomous Truck Testing and Deployment



The WSTC coordinated a site visit and tour of the PACCAR Technical Center in Mt. Vernon, WA, in September 2019 for the Executive Committee members and other interested parties. PACCAR presented a briefing on its research and programs, as well as a tour of the technical center and their automated truck test track. This site visit and tour provided Work Group members and other key stakeholders a firsthand look at how autonomous trucks operate, and the potential benefits and setbacks of testing and deploying autonomous trucks (and vehicles) in the State of Washington.

Work Group Identification of Focus Areas

The Executive Committee held a work session to assess the existing process, structure and expectations for each level of the Work Group. With many new members added in 2019, this was an opportunity for the expanded body to assess its approach to policy development and to also identify priorities, goals and desired areas of focus, given the Work Group only has until the end of 2023 to complete its work. The existing process and structure was confirmed as an effective way to achieve policy idea curation and advancement.

The Executive Committee also reviewed the alignment of the Work Group's activities undertaken to date and currently underway, against the current legislative mandate in law (Table 4).

The group discussed areas which may be currently missing from their discussions, as well as areas to prioritize during the Work Group's lifespan. Areas identified as missing were the role of AVs and cooperative automated transportation in pricing and funding; travel demand, congestion and climate impacts; potential impacts on land use; and the need for a holistic transportation

system assessment to create a baseline against which the impact of AVs can be evaluated.

The Executive Committee will continue to work in 2020 on identifying the priority policy areas for exploration by the subcommittees and the Work Group as a whole.

Table 4: Legislatively Directed Areas for Consideration

Legislatively Directed Areas for Consideration
Registration & Titling
Licensing
Tort Liability
Cybersecurity
Roadway Infrastructure
Testing
Criminal Law
Privacy
Traffic Management
Transit
Advertising
Impacts to Social Services
Rules of the Road
Vehicle Insurance
Equity
Impacts to Labor & Small Business

Subcommittees Covered a Lot of Ground

The seven subcommittees met regularly during 2019 to explore issues and opportunities related to AV policy, technology, education, and other related topics. Detailed subcommittee meeting information and reference materials is available on the [Work Group website](https://avworkgroupwa.org/)⁴.

Infrastructure & Systems Subcommittee

The Infrastructure & Systems Subcommittee is charged with exploring transportation system issues as they relate to AVs and Cooperative Automated Transportation (CAT), such as roadway infrastructure, traffic management, transit, right of way, multi-modal transportation and mobility-as-a-service. The Infrastructure & Systems Subcommittee also is focused on how AVs and AV policy fold into the overarching Washington State Transportation System Goals, short- and long-term transportation planning, and a statewide Cooperative Automated

⁴ Washington State Autonomous Vehicle Work Group website: <https://avworkgroupwa.org/>

Transportation (CAT) Policy Framework. This policy framework aims to include automated, connected, electrified, and shared mobility to support a holistic, safe and efficient transportation system, outlining and confirming the need to develop policies for AVs in consideration of the entire transportation ecosystem.

2019 Action Plan

To accomplish this charge, the Infrastructure & Systems Subcommittee developed a 2019 Action Plan to focus on three key areas under the subcommittee's purview:



Activity #1: Develop policy goals, strategies and illustrative actions based on local, regional and national “best practice” policy examples.

- ▶ Using the WSDOT Draft CAT Policy Framework as a starting point, a subgroup reviewed local, state, regional, and federal policy frameworks and related documents to identify what should be incorporated into a Washington State CAT Policy Framework.
- ▶ The subgroup developed and refined 8 policy goal statements to drive the development of subsequent strategies and illustrative actions to address each policy goal.
- ▶ The 8 policy goal statements and the incorporation of the revised policy goals into a statewide CAT policy framework that integrates with other subcommittees' policy goals were recommended to and endorsed by the Executive Committee and WSTC in 2019. (See section 5, p.19, under *Develop Policy Goals as part of a Washington State CAT Policy Framework* for more information).
- ▶ Following adoption of the policy goal statements, the subgroup will develop strategies and illustrative actions to support each policy goal.

Activity #2: Develop project selection criteria and discuss potential funding approaches to enable the selection of near-term pilot deployment proposals and projects.

- ▶ The ultimate goal of this activity is to determine how AV-related projects could be incorporated into existing grant

programs, and whether a CAV/CAT-specific grant program should be established to support testing and deployment projects.

- ▶ A subgroup was created to explore existing federal and state grant programs and other opportunities for AV-related projects.
- ▶ The subgroup developed an inventory of funding and state requirements that identifies how other states are guiding CAV/CAT investments.
- ▶ Requirements and criteria for existing federal and state grant programs, as well as lessons learned from other states, were compared against the policy goal statements and developing strategies identified through Activity 1.

Activity #3: Partnership and collaboration discussions with the private sector companies who are self-certified to test autonomous vehicles in WA State via the Department of Licensing process.

- ▶ To keep an open and collaborative dialogue with private sector companies that are or may test and/or deploy in the state, a subgroup of the subcommittee reached out to companies that were self-certified with the DOL to understand more about testing and deployment activities, potential barriers that the Work Group could help resolve, and opportunities for partnership in the future.
- ▶ Overall feedback from AV companies:
 - “Regulatory light” environment fostered by Washington is appreciated.
 - No company is actively testing or deploying AVs in the state as of September 2019.
 - Regionally and national uniform policies and regulations are desired.
 - Public sector investment towards AV testing and infrastructure improvements is needed.

The subcommittee also explored several other topics, such as national efforts on creating CAT guiding principles, mobility on demand, and AV legal considerations. Details are provided below:

Infrastructure Owner Operator (I.O.O.) Guiding Principles for Connected Infrastructure Supporting Cooperative Automated Transportation

The American Association of State Highway Transportation Officials (AASHTO), Intelligent Transportation Society of America (ITSA) and Institute of Transportation Engineers (ITE) are collaborating to draft guidance and criteria for IOOs to advance connected infrastructure, data, management and operations supporting CAT solutions. The guiding principles document is expected to inform the national surface transportation

reauthorization discussion as it relates to funding infrastructure maintenance and improvements to support CAT.

The subcommittee is utilizing these draft guiding principles as input into the refinement of CAT/CAV policy goals, strategies, and potential grant funding opportunities for CAT/CAV related testing and deployment efforts.

Mobility on Demand (MOD) Alliance

WSDOT is a member of the Mobility on Demand (MOD) Alliance, a national group of public and private sector organizations working together to advance MOD priorities. MOD focuses on an integrated network of safe, reliable, accessible transportation options available to all. The concept and the work of the MOD Alliance highlight the need to consider the AV-related focus of this Work Group in the larger scheme of the transportation network.

The subcommittee continues to align MOD and related initiatives and concepts with AV research through the concept of Cooperative Automated Transportation (CAT) that includes automated, connected, electrified, and shared mobility for a holistic, safe and efficient transportation system.

University of Washington AV Legal Consideration Recommendations

The University of Washington School of Law presented to the subcommittee multiple times during 2019, discussing the AV legal considerations recommendations the University presented to the WSTC in 2018. The University is reevaluating the recommendations as written, evolving the underlying research approach used to arrive at legal considerations for AVs that may be recommended for legislative adoption at a later date. The subcommittee provided suggested infrastructure-related research areas, including engaging with other entities conducting similar research (such as AASHTO, ULC, and MOD Alliance), discussing testing and deployment activities and lessons learned with other states, and exploring how best to handle AV data as it relates to vehicle crashes.



Liability Subcommittee

The Liability subcommittee is exploring AV issues related to insurance, tort liability, judiciary and criminal law. The subcommittee spent 2019 learning about AVs and related technologies, assessing their general penetration in the market, and discussing potential impacts on how liability can, may and should be handled.

AV Self-Certification and Liability Insurance

Current liability insurance requirements assessed on AV companies self-certified to test in the state are no different than existing laws applied to vehicles with drivers. These current liability requirements do not protect the public if harmed in an accident, nor do they protect the companies testing and deploying AVs.

- ▶ AVs are new in the market, and are still in an exploratory state, which may mean higher risk of incident.
- ▶ Liability in an incident involving an AV is expected to be more complex, as there are often multiple components and entities contributing to the overall capabilities and functionality of the vehicle (e.g. vehicle manufacturer, hardware provider, software provider, AV owner, AV operator, etc.)

The subcommittee developed a formal recommendation to consider legislation requiring any company self-certified in Washington to test AVs to maintain a \$5 million umbrella liability insurance policy. This recommendation includes a request for the DOL to verify self-certified companies' proof of insurance. (See section 5, p.18, under *\$5 Million Umbrella Liability Insurance for AV Testing Companies* for more information).

Assigning Liability in a Crash

Access to data in the event of an incident involving an AV would immensely assist in determining liability of the crash. The subcommittee requested that one or more subcommittee members attend System Technology & Data Security subcommittee meetings to further explore crash data access and its relation to assigning liability.

Further discussions on data as it relates to liability will also inform AV insurance rate setting discussions and potential recommendations.

Other Areas of Exploration and Learning

The Liability subcommittee is continuing to explore additional areas of focus, such as the potential treatment differences between commercial and personal AVs, and how truck platooning may differ from existing or proposed liability requirements.

The subcommittee also hosted expert presentations on:

- ▶ Review of and feedback to the Uniform Law Commission's [Automated Operations of Vehicles Act](#)⁵
- ▶ Presentation from the National Association of Mutual Insurance Companies (NAMIC) on standards for assisted/automated vehicles
- ▶ Presentation from the University of Washington School of Law updates to legal considerations and policy recommendations related to liability
- ▶ Presentation from Peloton and PACCAR on the truck platooning project being conducted in Washington State

Licensing Subcommittee

The Licensing subcommittee is charged with exploring manufacturer vehicle testing, pilot certification, vehicle registration, drivers' licensing, and rules of the roads for AVs and related technologies.

The subcommittee discussed several potential topics for further exploration and discussion, continuing to identify and prioritize subcommittee focus areas into 2020:

- ▶ *Vehicle registration*: What may be specific to AVs that would change registration requirements.
- ▶ *Driver licensing*: At each level of AV, what are the licensing requirements for the vehicle owner and/or operator, including knowledge and skill criteria.
- ▶ *Rules of the road*: Updates to driver laws and guides to address AVs on public roads.

AV Licensing Data Needs

The Licensing Subcommittee and System Technology & Data Security Subcommittee held a joint work session to discuss the intersection point of data and licensing. The subcommittee discussed:

- ▶ What data is needed
- ▶ Why the data is needed
- ▶ How one accesses the data
- ▶ How the data is protected
- ▶ What data is available now

The subcommittees discussed not only data coming from AV testing and deployment companies, but also what data the public sector could disseminate to AV companies to enhance overall transportation system performance. The subcommittees

also discussed potential methods for identifying AV levels through the vehicle identifier, either systematically or through self-declaration.

University of Washington AV Legal Consideration Recommendations

The University of Washington School of Law presented to the subcommittee the AV legal considerations recommendations the University presented to the WSTC in 2018, and requested feedback from the subcommittee on the current recommendation language to aid in refinement over the next year. Subcommittee feedback on the current recommendations included:

- ▶ Some local jurisdictions have special needs, and a blanket local regulation preemption law may prevent necessary local regulation.
- ▶ Although testing requirements and expectations make sense at a state level, vehicle design and testing parameters should be set at a national level.
- ▶ The Uniform Law Commission (ULC) Automated Operations of Vehicles Act should be considered when developing AV definitions.
- ▶ The Washington State AV testing self-certification process needs refinement.

The subcommittee also explored a recommendation to revise or repeal RCW 46.37.480 prohibiting a person from operating a motor vehicle equipped with a television screen, except for live video of the motor vehicle backing up. The recommendation was referred to the Safety subcommittee in April 2019 for further consideration.



Safety Subcommittee

The Safety subcommittee is generally focused on exploring the education of drivers on current and future ADAS and AV technologies, vulnerable users and hazards, how law enforcement will investigate and report on crashes, and other safety-related issues.

⁵ Automated Operations of Vehicles Act: <https://www.uniformlaws.org/committees/community-home?communitykey=43730d6f-013d-4883-b2b7-98e66bda3239&tab=groupdetails>



Subcommittee Charter and Work Plan

In Spring 2019, the subcommittee formally adopted a charter and drafted a work plan to drive subcommittee efforts. The charter defines the objectives, structure, membership and voting procedures for the subcommittee. The work plan defines the guiding principles used in developing subcommittee recommendations, as well as the subcommittee's primary focus areas as of 2019, which include:

- ▶ **Health & Equity:** Assess the health and equity impacts of AVs.
 - The subcommittee reexamined the 2018 recommendation to conduct a modified Health Impact Assessment (HIA).
 - Although some health and equity impacts overlap with safety, it is a broader concept.
 - The Safety subcommittee recommended to the Executive Committee that a Health & Equity Impacts subcommittee be established to focus specifically on the health and equity impacts of AVs. (See section 5, p.21, under *Operational Recommendations* for more information).
- ▶ **AV Education:** Increase stakeholder and general public knowledge of AVs and related technologies, promoting safe AV operation and potential benefits.
 - Through research and expert presentations, the subcommittee determined that the current knowledge and understanding of AVs and related technologies is less than desired.
 - The subcommittee is drafting an education plan that aims to increase education and outreach efforts, with

a near-term focus on ADAS technologies already in the market today.

- Following completion of the plan, the subcommittee anticipates recommending the implementation of the plan (anticipated by end of 2020), which would require potential legislative action and funding.
- ▶ **Crash Data Access:** Consider how law enforcement could access appropriate non-proprietary vehicle data following a crash for investigation.
 - The subcommittee is exploring leveraging the concept of implied consent, as it currently applies to blood alcohol level testing in the State of Washington, for use in C/AV policy for crash investigations and data access.
 - This is similar to the “black box” concept used on airplanes.
 - Data from cameras, monitoring features, etc. could provide pertinent information on how, when and why a crash occurred during an investigation.
- ▶ **Crash Data Analysis Project:** Explore what data would be needed in crash investigations and safety analyses to understand the impacts of ADAS and AVs.
 - The Washington Traffic Safety Commission (WTSC) is funding a data project to evaluate performance measures for ADAS and AVs, calculate safety impacts on crashes, injuries and fatalities, identifying the data needed, and exploring possible methods to obtain the needed data.
 - The WTSC is coordinating this effort with the Safety subcommittee, as well as other agencies and interested parties to determine what is needed and how to get there.
- ▶ **RCW 46.37.480 Television Viewers:** Evaluate the current RCW language to evaluate its potential conflict with newer distracted driving laws, and restrictions on ADAS and AV safety features.
 - The subcommittee anticipates a formal recommendation for the revision or removal of this RCW in 2020.

The subcommittee work plan also addresses the subcommittee's support to other subcommittees, providing a safety lens to other topics, as well as other areas of interest that may be explored in future subcommittee discussions.

The subcommittee also explored industry research and resources to explore additional safety-related AV topics, expanding the subcommittee's knowledge base and building a foundation for future work plan development.

AV and ADAS Traffic Safety and Public Perception

The Insurance Institute for Highway Safety (IIHS) presented on how ADAS is shaping driver and traffic safety, similar to the presentation provided to the Executive Committee. (See section 4, p.9, under *AV-related Technologies Improving Traffic Safety* for more information).

The IIHS presentation addressed the safety benefits of ADAS crash prevention features, when used and functioning as intended. One key takeaway from this presentation was that ADAS technologies and alerts are often misunderstood by drivers, which may result in misuse (or non-use) of these safety features.

The idea that drivers, and other road users, misunderstand and sometimes misuse ADAS and AV technologies was echoed in a panel hosted by the subcommittee on public perception of AVs. Perception of AVs and related technologies vary widely, and based on one's perception, the technology may ultimately be misused and create unsafe conditions.

This furthers the need for public and stakeholder education on AVs and ADAS to ensure that as these technologies continue to penetrate the market at a rapid pace, the technology is understood, correctly used, and ultimately creates a safer transportation environment.

University of Washington AV Legal Consideration Recommendations

The University of Washington School of Law presented to the subcommittee the AV legal considerations recommendations the University presented to the WSTC in 2018. The University is reevaluating the recommendations as written, evolving the

underlying research approach used to arrive at legal considerations for AVs that may be recommended for legislative adoption at a later date. The subcommittee suggested that the University include questions on crash investigation data and public education related to AVs when contacting other states to gain a better understanding of what AV policy work is being researched and developed around the country.

Other Areas of Exploration and Learning

The subcommittee is reviewing the [SAE International Vehicle Automation Matrix](#)⁶, and potential ways to simplify the information for use in an education campaign. The subcommittee has also reviewed the ULC Automated Operations of Vehicles Act and is gathering feedback from subcommittee members to disseminate to the Executive Committee.

In June 2019, the Safety subcommittee presented a recommendation to the Executive Committee for the creation of a Health & Equity Impacts subcommittee. (See section 5, p.21, under *Operational Recommendations* for more information).

Systems Technology & Data Security Subcommittee

The Systems Technology & Data Security Subcommittee focuses generally on the impacts AVs may have on data & information management, cybersecurity and privacy protection. How current system technology, data security and privacy laws, practices and best practices could be applied to AV testing and deployment is an ongoing conversation among the subcommittee, with the open question of "when do AVs depart from standard expectations of data security and privacy and require AV-specific policies?"

Data Principles and Standards

To guide the safe and secure handling of AV testing and deployment data, the subcommittee researched and developed a set of principles for AV privacy and data security. The subcommittee also developed an initial data standard for companies testing AVs in the state to be transparent about testing activities and report a subset of data to assist state agencies understand the testing that is occurring on public roadways in the state.

The subcommittee formally recommended adoption of the AV Privacy and Data Security Principles and initial data standard to the Executive Committee and WSTC in 2019 – both bodies requested further research be conducted on what federal standards and industry best practices may already exist that could be leveraged in Washington, rather than inventing new principles and data standards that may conflict with federal or industry initiatives. (See section 5, p.22, under *Recommendations Requiring Further Work* for more information).



⁶ SAE International Vehicle Automation Matrix: <https://www.sae.org/news/2019/01/sae-updates-j3016-automated-driving-graphic>

The subcommittee is currently exploring federal and other states' data, privacy and security standards and reporting requirements related to AVs. Initial findings of federal reporting requirements show reporting is voluntary, and not sufficient to meet the needs of Washington, as data may be intermittently and/or inaccurately reported. Other states' regulations related to AV data privacy and security vary greatly, and federal regulations and standards have not yet been established or agreed on. The subcommittee will continue to research and discuss data privacy and security needs, standards, principles and reporting requirements.



Mobility-as-a-Service

Mobility-as-a-Service (MaaS) is when transportation services are on-demand, accessed via technological methods. MaaS is rich with data, for both private sector companies offering MaaS services and public sector entities actively managing their transportation networks. The opportunity for public and private sectors to send and receive MaaS data provides a lot of potential benefits, but also presents the need for better data management. The City of Los Angeles developed the Mobility Data Standard (MDS) as a way to streamline and standardized MaaS-related data desired by both the public and private sector.

The subcommittee explored the concept of MaaS and the MDS to better understand how emerging transportation trends are handling data, and how public and private sectors worked together to develop a cohesive data standard to meet the needs of all.

The subcommittee also supports other subcommittee efforts by providing the data privacy and security lens on topics such as crash data needs and access, and data needs for AV licensing.

Health & Equity Subcommittee

The goal of the subcommittee is to ensure the health benefits of automated mobility are equitably distributed and that negative impacts are not disproportionately borne by traditionally marginalized communities. One aspect of the subcommittee is to

provide tools and resources to other subcommittees, to ensure health and equity impacts are considered by other subcommittees when exploring issues and recommendations.

The Health & Equity subcommittee was formed in June 2019, and will meet on November 19, following the submission of this report.

At the inaugural meeting, the subcommittee will discuss the refinement of a recommendation to conduct an assessment of health impacts, similar to the recommendation put forth by the Safety subcommittee in 2018.

Workforce Subcommittee

The goal of the Workforce Subcommittee is to explore workforce and labor issues that may arise from the deployment of autonomous vehicles

The Workforce subcommittee was formed in June 2019, and has met once during the 2019 calendar year.

Interested parties being invited to become subcommittee members include labor, auto manufacturers, commercial vehicle manufacturers, transportation network companies, for-hire transportation/drivers, transit operators and agencies, cities and counties (urban and rural), freight drivers, ports, business and community and technical colleges.

5—Work Group Recommendations & Actions

Subcommittees brought forth several recommendations to the Executive Committee. The Executive Committee discussed each recommendation, applying the lens of various public and private sector perspectives to holistically evaluate the recommendation. All recommendations brought forth are advanced to the WSTC, regardless of Executive Committee action. The WSTC, in turn, reviews and advances these recommendations to the Legislature and Governor via this annual report, regardless of the Executive Committee's or the WSTC's actions on the recommendations, as a matter of maintaining a complete public record of the process and results.

Recommendations brought forth by the Work Group, actions taken by the Executive Committee, and the WSTC recommendation to the Legislature and Governor are indicated in the table below. Each recommendation is detailed following the table.

Table 5: Recommendations Advanced to the Executive Committee and WSTC for Consideration

Source	Recommendation	Executive Committee Action/ Recommendation	WSTC Action/ Recommendation
POLICY RECOMMENDATIONS			
Liability subcommittee	Enact legislation requiring self-certified (DOL) AV testing companies to maintain umbrella liability insurance no less than \$5 million per occurrence for damages.	Endorsed	Endorsed
Infrastructure & Systems subcommittee	Adopt 8 policy goals to enable the Infrastructure & Systems Subcommittee to continue work on the Washington State Department of Transportation (WSDOT) Cooperative Automated Transportation (CAT) Policy Framework and, as a next step, develop specific strategies.	Endorsed	Endorsed
Infrastructure & Systems subcommittee	Encourage the development of a statewide CAT/AV Policy Framework that would integrate the WSDOT CAT policy goals along with policy goals developed by other subcommittees.	Endorsed	Endorsed
Health & Equity subcommittee	Conduct a Health Impact Assessment of AVs.	No voting action	Endorsed*
OPERATIONAL RECOMMENDATIONS			
Safety subcommittee	Establish new "Health & Equity" Subcommittee.	Endorsed	WSTC Created
Executive Committee	Establish new "Workforce" Subcommittee.	Endorsed	WSTC Created

Source	Recommendation	Executive Committee Action/ Recommendation	WSTC Action/ Recommendation
Executive Committee	Appoint a disabilities rights representative to the Executive Committee.	Endorsed	WSTC Appointed
RECOMMENDATIONS REQUIRING FURTHER WORK			
System Technology & Data Security subcommittee	Adopt "AV Privacy and Data Security Principles" and "Data Standard revision 0.1" developed by the subcommittee.	Request further exploration of best practices and standards	Agreed with Executive Committee action

* Commission supports conducting this study with expectation that Health & Equity subcommittee will develop a detailed proposal.

Policy Recommendations

Recommendations in this section require agency and/or legislative action to implement.

\$5 Million Umbrella Liability Insurance for AV Testing Companies

Recommended by:

Liability Subcommittee

Recommendation:

Enact legislation that requires persons or entities self-certified with DOL for testing AVs or AV technology equipment maintain proof of an umbrella liability insurance policy no less than \$5 million per occurrence for damages by reason of bodily injury, death, or property damage in addition to the financial responsibility requirements in accordance with [RCW 46.30.020](https://app.leg.wa.gov/rcw/default.aspx?cite=46.30.020)⁷.

Executive Committee Action:

Presented to the Executive Committee at the September 26th meeting

The Executive Committee reviewed and voted to endorse the recommendation. Discussion held on the recommendation included:

- ▶ How the amount (\$5 million) of the umbrella insurance compares to other states' requirements. Multiple states have amounts higher than the \$5 million, and several states are consistent with the \$5 million amount.
- ▶ Not all companies that have self-certified with DOL are specifically testing and deploying AVs. Instead, they are

using the self-certification process to make it known they offer components or software to support AV testing and deployment. This disparity in what self-certified companies are offering may cause concern over what might be considered a high umbrella insurance amount for companies not directly testing AVs.

- Umbrella insurance protects both consumers and the company; holding this amount of insurance protects all types of AV-related companies from potential liability issues.
- This would not require \$5 million to be paid to obtain and maintain the insurance, pay out would only occur in the case of an applicable incident.
- The experimental nature of AV testing and deployment at this stage helps justify a higher umbrella liability insurance requirement. The amount can be changed at a later date when AVs matures.

Justification for Executive Committee member votes against endorsing the recommendation included:

- ▶ Recommendation does not delineate between companies self-certified with DOL for active testing and deployment of AVs on public roads in Washington, and companies self-certified with DOL that only offer supplemental products and services for AV testing and deployment, and would not conduct actual testing and deployment on public roads in the state.
- ▶ The \$5 million minimum umbrella insurance amount may restrict smaller companies from self-certifying based on the inability to afford the insurance required. Member cited that commercial truck liability insurance is currently between \$750,000 and \$1 million. An increase to \$5 million is severe.

⁷ RCW 46.30.020: <https://app.leg.wa.gov/rcw/default.aspx?cite=46.30.020>

- ▶ Suggestion to postpone creation and enforcement of an umbrella insurance requirement specific to Washington State, and instead track progress at the federal level for a nationwide insurance requirement on AV testing and deployment companies.

WSTC Action:

Presented to the WSTC at the October 17th meeting

The WSTC reviewed and unanimously voted to endorse the recommendation. Discussion held on the recommendation included:

- ▶ How the amount (\$5 million) of the umbrella insurance compares to other states' requirements. Multiple states have amounts higher than the \$5 million, and several states are consistent with the \$5 million amount.
- ▶ Not all companies self-certified with DOL are specifically testing and deploying AVs, but rather, may be providing components or software to support AV testing and deployment. This disparity in what self-certified companies are offering may cause concern over what might be considered a high umbrella insurance amount for companies not directly testing AVs.
- ▶ The cost of an umbrella policy was questioned, and while the insurance industry has not indicated a specific estimate, an informal estimate was under \$600 per year to carry.

Develop Policy Goals as part of a Washington State CAT Policy Framework

Recommended by:

Infrastructure & Systems Subcommittee

Recommendation:

Adopt 8 policy goal statements developed by members of the subcommittee, which built upon the Washington State Department of Transportation (WSDOT) Cooperative Automated Transportation (CAT) Draft Policy Framework. Development of these policy goals is the first step in a multi-step approach, which will subsequently include developing strategies and illustrative actions based on local, regional and national "best practice" policy examples.

The 8 policy goal statements are as follows:

1. *Organize for Innovation:* Enable organizational change that empowers officials to be flexible, accelerate decision-making, and adapt to changing technology.
2. *Shared Mobility:* Encourage and incentivize shared mobility, including an emphasis on high occupancy and shared modes for moving people and goods.
3. *Economic Vitality and Livability:* Create resilient and efficient regional networks and empower local agencies to create resilient, multimodal local networks.
4. *Infrastructure and Context Sensitive Street Design:* Promote durable, physical and digital networks that accommodate the movement of people and goods in ways that are appropriate for the context.
5. *Land Use:* Encourage land use development patterns that support multimodal connectivity to efficient local and regional networks.
6. *Equity:* Work with marginalized communities to increase access to desirable mobility options.
7. *Safety:* Increase the safety of transportation systems and infrastructure to support the safe movement of people and goods.
8. *Environment:* Reduce the local and cumulative environmental impacts of mobility to improve air and water quality, energy conservation and mitigate climate change.

Executive Committee Action:

Presented to the Executive Committee at the September 26th meeting

The Executive Committee reviewed and unanimously voted to endorse the recommendation. No discussion was held on the recommendation.

WSTC Action:

Presented to the WSTC at the October 17th meeting

The WSTC reviewed and voted to endorse the recommendation. Discussion held on the recommendation included:

- ▶ Request for information on the subcommittee members that voted against the policy goal statements: What organizations, what were the objections, and have their positions changed.
 - The City of Bellevue and the Discovery Institute indicated general support for the direction of the policy goals, but requested refinement of specific goal statement wording to better meet the goal's intent.
 - The Washington Policy Center did not support many of the policy goals and shared concerns about the process used by the subcommittee to develop the policy goal statements. Major revisions were requested of almost all policy goal statements.

- The Infrastructure & Systems subcommittee made revisions to the policy goal statements based on this feedback and to address the direction of the majority of voting respondents. These revisions were made prior to the formal recommendation presented to the Executive Committee on September 26th.

- ▶ Request to clarify what Policy Goal Statement #1 “Organizing for Innovation” means in this context.

- Presenters provided clarification: This policy goal statement looks to how an individual entity and the State as a whole can organize, structure, operate and collaborate to better prepare for AVs and evolving policy.

Development of a Statewide CAT Policy Framework

Recommended by:

Infrastructure & Systems Subcommittee

Recommendation:

Adopt the 8 policy goal statements endorsed by the Executive Committee and encourage the development of a statewide CAT/ AV Policy Framework that would integrate with policy goals developed by other subcommittees.

Executive Committee Action:

Presented to the Executive Committee at the September 26th meeting

The Executive Committee reviewed and unanimously voted to endorse the recommendation. No discussion was held on the recommendation.

WSTC Action:

Presented to the WSTC at the October 17th meeting

The WSTC reviewed and voted to endorse the recommendation. No discussion was held on the recommendation.

Conduct Assessment of Health Impacts

Recommended by:

Health & Equity Subcommittee

Recommendation:

Fund and conduct an assessment of potential health impacts of AVs, with emphasis on identifying disproportionate impacts on disadvantaged populations. The assessment would outline the likely public health impacts of various scenarios so that policy

makers can understand the implications of an approach before decisions are made, would provide strategies to maximize the positive impacts, and develop mitigation strategies for negative impacts.

Executive Committee Action:

Presented to the Executive Committee at the September 26th meeting

The Executive Committee considered the recommendation and ultimately did not take formal voting action. Discussion held on the recommendation included:

- ▶ Noted that this recommendation is similar to the recommendation brought forth by the Safety subcommittee in 2018, which was endorsed by the WSTC.
- ▶ Anticipated resources needed for the assessment is approximately \$750,000 in funding for Department of Health staff resources and an independent consultant contract to conduct the assessment.
- ▶ Expected timeframe to complete the assessment is 1 to 2 years.
- ▶ Suggestion made to conduct a larger health impact assessment of transportation at a holistic level to develop a baseline against which this assessment can be compared.
- ▶ It may be difficult to assess the impacts of technology that is not yet mature in the industry, is still experimental in nature. There are little to no practical applications in the state to assess.

WSTC Action:

Presented to the WSTC at the October 17th meeting

The Health & Equity subcommittee presented the recommendation, with refined funding estimates in two scenarios:

- ▶ \$800,000 – includes urban and rural impact considerations, assessment consultant contract costs, and an extensive communications and outreach effort.
- ▶ \$550,000 – includes urban impact consideration only (assuming additional assessments will be conducted in the future to address rural impacts), assessment consultant contract costs, and a moderate communications and outreach effort focusing on urban communities.

Preference was indicated for the smaller scale \$550,000 study but indicated further work and discussion of the subcommittee was needed before a detailed proposal could go forward.

The WSTC reviewed and unanimously voted to endorse a health impact assessment be conducted, subject to further details on a study proposal from the subcommittee and Department of Health.

Discussion held on the recommendation included:

- ▶ The lower cost proposal is desirable, however rural impacts are critical and need to be included in an assessment.
- ▶ Some concern that the subcommittee has not met yet to discuss this recommendation.
- ▶ This recommendation is similar to the recommendation made by the Safety Subcommittee in 2018 for a modified Health Impact Assessment (HIA).

Operational Recommendations

Recommendations in this section relate to operational process, procedures and/or structure of the Work Group, and do not require legislative action.

Establish new “Health & Equity” Subcommittee

Recommended by:

Safety Subcommittee

Recommendation:

Establish a new Work Group subcommittee to focus on Health and Equity Impacts. The scope of the new subcommittee would include researching health and equity impacts such as air quality, accessibility, physical access, green space, urban design impacts, and other topics that have health and equity impacts. One of the goals of the subcommittee would be to ensure that negative impacts of AVs are not disproportionately borne by disadvantaged populations. The Washington State Department of Health agreed to be the lead agency.

Executive Committee Action:

Presented to the Executive Committee at the June 28th meeting

The Executive Committee reviewed and voted to endorse the recommendation. Discussion held on the recommendation included:

- ▶ Establishing health and equity impacts as a discrete subcommittee/topic, other subcommittees may not consider health and equity impacts in their research and recommendations. Health and equity impacts should be a lens that all subcommittees use.

- ▶ It is anticipated that the Department of Health can absorb subcommittee support costs in current budget, no additional funding is needed now to create subcommittee. Efforts resulting from subcommittee work may require funding, which will be addressed in any recommendations put forth by the subcommittee.
- ▶ Request made that the subcommittee develop a process for engaging with other subcommittees to promote collaboration.
- ▶ Concern that adding another subcommittee may open the door to the Work Group being “too big.”

Justification for Executive Committee member votes against endorsing the recommendation included:

- ▶ Health and equity impacts should be represented and considered in every subcommittee. Concern that if subcommittee created just for this topic, other subcommittees will not focus on health and equity impacts as they relate to the respective subcommittee working area.

WSTC Action:

Presented to the WSTC at the July 16th meeting

The WSTC reviewed and unanimously voted to endorse the recommendation.

The Washington State Department of Health, in coordination with the Transportation Commission, formed the new “Health & Equity” subcommittee in the second half of 2019. As of the October 16th/17th WSTC meeting, the Secretary of Health was appointed to the Executive Committee.

Establish new “Workforce” Subcommittee

Recommended by:

Executive Committee member

Recommendation:

Establish a new Work Group subcommittee to focus on workforce and labor issues that may arise from the deployment of autonomous vehicles, consulting with applicable state agencies and the Washington State Labor Council in order to determine scope of work and designate an agency lead.

Executive Committee Action:

Presented to the Executive Committee at the June 28th meeting

The Executive Committee reviewed and unanimously voted to endorse the recommendation. Discussion held on the recommendation included:

- ▶ Subcommittee to focus on the future of work, replacement of jobs, and the impact that AVs will have on people and the work force.
- ▶ Conversations on this topic already underway with Labor & Industries and Teamsters.
- ▶ Initial research suggestion for subcommittee – How AVs will affect those currently working, and those who are underworked/unemployed.

WSTC Action:

Presented to the WSTC at the July 16th meeting

The WSTC reviewed and unanimously voted to endorse the recommendation.

The Washington State Department of Labor & Industries and the Washington State Employment Security Department, in coordination with the Transportation Commission, formed the new "Workforce" subcommittee in the second half of 2019. As of the October 16th/17th WSTC meeting, the Director of the Department of Labor & Industries and Employment Security Department Commissioner were appointed to the Executive Committee.

Appoint disabilities rights representation to Executive Committee

Recommended by:

Executive Committee member

Recommendation:

Appoint a representative from an entity advocating for disabilities rights to the Executive Committee.

Executive Committee Action:

Presented to the Executive Committee at the June 28th meeting

The Executive Committee reviewed and unanimously voted to endorse the recommendation. Discussion held on the recommendation included:

- ▶ The organization selected to be an Executive Committee member must represent multiple disabilities groups to ensure inclusive representation.

WSTC Action:

Presented to the WSTC at the July 16th meeting

The WSTC reviewed and unanimously voted to endorse the recommendation.

A representative from the Disability Rights Washington advocacy group was appointed to the Executive Committee in July 2019 and attended the September 26th Executive Committee meeting.

Recommendations Requiring Further Work

Recommendations in this section have been reviewed by the Executive Committee /or the WSTC, and both bodies have advised the recommending entity conduct further research and work to refine the idea for potential recommendation at a later date.

AV Privacy and Data Security Principles and Data Standard

Recommended by:

System Technology & Data Security Subcommittee

Recommendation:

Presented to the Executive Committee at the June 28th meeting

Adopt AV Privacy & Data Security Principles and a Data Standard developed by the subcommittee.

AV Privacy and Data Security Principles:

- ▶ *Transparency* – Testing and deployment of AVs should be conducted in a transparent manner, with a standard set of information provided to state and local agencies for licensing and an ongoing reporting data standard.
- ▶ *Data Ownership* – AV testing and deployment data is the property of the AV developers and manufacturers, with exceptions for personally-identifiable information (PII).
- ▶ *Consent and Use* – AV data containing PII should be purged unless informed consent is obtained, and only used for the purpose indicated at time of collection.
- ▶ *Collection* – Collected data should be standardized, portable and interoperable.
- ▶ *Sharing* – Data sharing is encouraged across this industry, with the exception of PII which should be anonymized prior to sharing.
- ▶ *Retention and Disposal* – Data should only be retained for time periods reusable as they relate to processing and analysis.
- ▶ *Access* – Access to AV data should be limited, PII exempt from public records disclosure, and data access rights should be established.

- ▶ **Security, Authentication and Encryption** – AV data should be tested and certified against industry standards and best practices for security, authentication and encryption. A library of acceptable cyber security standards should be established (if not already at a federal level). Data should be encrypted at rest and in transit, and should include the identity and authority of the sender and receiver of data being transmitted.
- ▶ **Enforcement** – Service providers should be held to monitoring and reporting requirements to confirm compliance with contractual obligations regarding the safe operation and secure data practices established for operation.
- ▶ **Harmonization** – Washington should seek to promote harmonization of regulation across cities, states and provinces.

Full text of the AV Privacy and Data Security Principles can be found via link in the [June 28th Executive Committee meeting presentation](#)⁸.

Data Standard: The subcommittee developed an initial proposed data standard that defines data fields and formats that AV companies testing or deploying in the State of Washington must follow and publish to state and local agencies responsible for licensing, prior to the test or deployment.

Executive Committee Action:

The Executive Committee did not endorse the recommendation and requested the subcommittee explore existing principles, standards and available data at the national level to better align with industry best practices and federal standards. Discussion held on the recommendation included:

- ▶ Principles recommended may not align with industry best practices or federal standards, such as:
 - [Consumer Privacy Protection Principles](#)⁹, established 2014
 - [USDOT Automated Vehicle Guidance](#)¹⁰, v2.0 established 2017; v3.0 established 2018
- ▶ Data requested in Data Standard rev. 0.1 may already be available from and reported by AV companies at the federal level.
- ▶ Concern the data standards proposed may present barriers to smaller/new companies in the AV space unable to meet the requirements.

- ▶ Much of the privacy and data security issues related to AVs are not specific to AVs, and can be encompassed by existing laws, policies and standards. Best use of the subcommittee's efforts is to dig into AV-specific privacy and data security issues such as standards for documenting and reporting AV testing in the state.
- ▶ Justification for Executive Committee member votes to endorse the recommendation were not discussed.

WSTC Action:

Presented to the WSTC at the July 16th and October 17th meetings

The WSTC agreed with the Executive Committee request for further exploration of best practices and standards.

Discussion held on the recommendation included:

- ▶ Subcommittee representatives noted that the principles and data standard recommended are under review, per feedback from the Work Group Executive Committee.
- ▶ State and federal legislation should not preclude necessary data provisions.
- ▶ Data gathered needs to tie to objectives and needs of the Work Group (e.g. safety, equity, etc.)

⁸ June 28th Executive Committee meeting presentation: https://oohwstcavworkgroup.blob.core.windows.net/media/Default/documents/executive-committee/Meeting_3/WSTC_AV_Exec_Committee_Meeting_3_Presentation.pdf

⁹ Consumer Privacy Protection Principles: https://autoalliance.org/wp-content/uploads/2017/01/Consumer_Privacy_Principlesfor_VehicleTechnologies_Services-03-21-19.pdf

¹⁰ USDOT Automated Vehicle Guidance: <https://www.transportation.gov/av/3>

6—The Work Continues

Work Group Roadmap to 2023

The Executive Committee is working on aligning the Work Group activities undertaken to date and currently underway, with the legislative mandate to ensure by the end of the five-year period of existence, policymakers will have a sense of where we have been on this exploration, and where we are headed.

To this end, the Executive Committee is discussing the possibility of establishing goals and charting major milestones the Work Group wants to accomplish, as well as establishing guiding principles surrounding AV use in Washington State to assist in shaping AV legislation. Direction and expectations defined by the Executive Committee will be established in collaboration with subcommittees to align expectations and available resources.



Work Group Website Launched

The emergence of AVs will carry impacts for the general public, numerous industries, government entities, and various organizations. Therefore, providing an opportunity for all to learn and shape future policy together is an important aspect of our state's preparations for the emergence of this type of mobility option. Research is happening at all levels across the country. Given the vast amounts of information and efforts in play, there is a strong need to centralize information to ensure an organized approach to preparing for AVs on public roadways in Washington State.

To this end, an [AV Work Group website](https://avworkgroupwa.org/)¹¹ has been established that will serve as a central clearinghouse for general AV information, as well as serve as the central point where those interested can learn more about the AV Work Group and things happening in Washington State. All Work Group meeting schedules and materials are posted on the website so that anyone can keep track and participate.

Washington State
AUTONOMOUS VEHICLE
WORK GROUP

HOME AV 101 WORK GROUP RESOURCES CONTACT

Washington State Autonomous Vehicle Work Group

The Washington State Legislature and the Washington State Transportation Commission (WSTC) are preparing for the arrival of autonomous vehicles (AVs). Through 2023, a diverse executive Work Group and seven subcommittees will develop recommendations to prepare for this advancing technology. These recommendations include possible policies, laws, and rules to support the safe operation of AVs on public roadways in the state.

AV 101 Work Group Resources Sign up for updates

Washington is Preparing for Autonomous Vehicles

In 2018, the Washington State Legislature took steps to prepare our state for the operation of AVs on public roadways in the state by directing the Washington State Transportation Commission (WSTC) to establish and convene a Work Group which consists of diverse stakeholders representing the public and private sectors related to AVs.

The Work Group is led by the [Executive Committee](#) and has [seven different subcommittees](#), with each of the subcommittees focusing on a specific topic.

As of 2019, [12 companies](#) have self-certified their ability to safely operate in the state with the Washington Department of Licensing. Please visit ["AV 101"](#) to learn more about AVs in Washington and around the country.

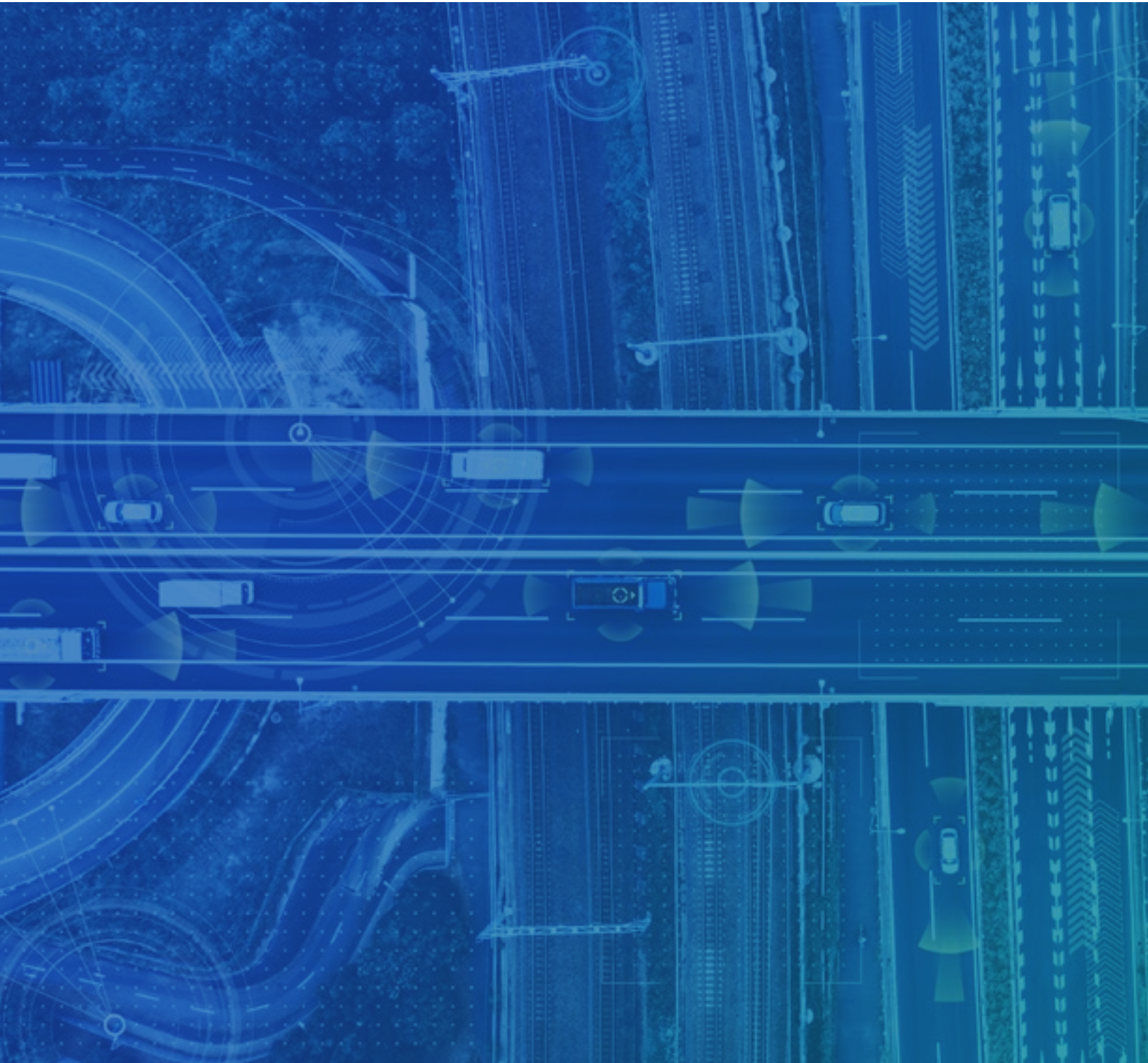
Latest News

WSTC Releases Annual AV Work Group Report for 2020 Legislative Session

On November 15, the WSTC submitted their Autonomous Vehicle Work Group 2019 Annual Report to the Governor and State Legislature. The report includes a summary of the work completed in 2019 by the Executive Committee and subcommittees, and provides recommendations for legislative consideration. Please visit our [public library](#) to view the full annual report.

The first step to moving towards autonomous vehicles is having cars that are better connected with each other. Your car may already use some of these connectivity features like lane assist or adaptive cruise control.

¹¹ AV Work Group Website: <https://avworkgroupwa.org/>



Washington State
Transportation Commission