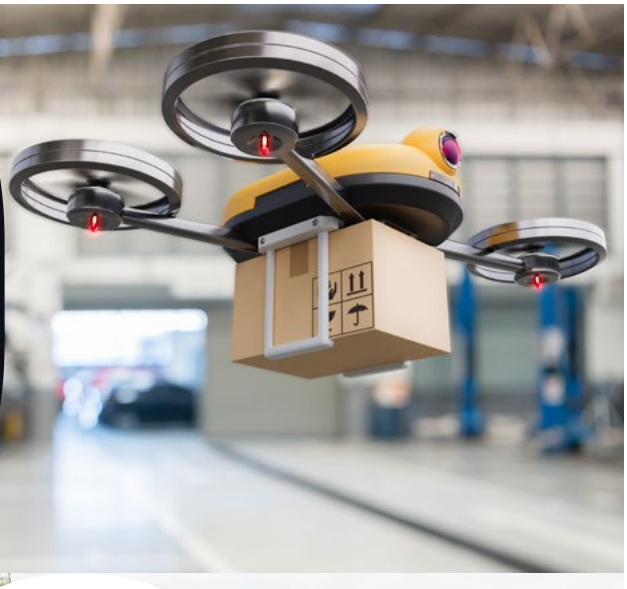
Washington State Transportation Commission

Autonomous Vehicle Work Group

2020



Courtesy: Mayo Clinic

2020 Annual Report

WASHINGTON STATE
AUTONOMOUS VEHICLE
WORK GROUP

Prepared by WSP USA

State of Washington
TRANSPORTATION COMMISSION
PO Box 47308, Olympia WA 98504-7308 • 2404 Chandler Court SW, Suite 270, Olympia WA 98502
(360) 705-7070 • Fax (360) 705-6802 • transc@wstc.wa.gov • https://www.wstc.wa.gov

January 8, 2021

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 2020 led by a 34-member Executive Committee made up of public, private, and non-profit organizations, and seven subcommittees led 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 industry experts driving the research, assessment, and determination of what our state decision makers need to consider in order to prepare for the safe operation of AV's on our public roadways in Washington State.

AV's are present in our state today. Currently, six companies are self-certified with the Department of Licensing to test AV's on our roadways. As private industry continues 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 and partnership. This report sets forth the building blocks to accomplish this.

We look forward to your review and input.

Sincerely,

Jerry Litt, Chair
Washington State Transportation Commission

James A. Restucci, Chair
Autonomous Vehicle Work Group Executive Committee

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Foreword

Hindsight is 20-20, and a look back at the progress made within the Work Group over the year 2020 will undeniably reveal some deviations from what was expected at the end of last year. We would be remiss to recount the year without reflecting on the impact of the COVID-19 pandemic, which has forced a change of pace for the Work Group, and has also motivated a reevaluation of Work Group focus.

Priorities evolved quickly when the first known cases of COVID-19 were identified in Washington State. In the interest of protecting the health and well-being of all those involved in the Work Group, all meetings were swiftly transitioned from in-person to remote formats. As with many others around the world, this shift towards remote working was met with some bumps along the way. Technical challenges had to be overcome to enable virtual meetings, and new tools were adopted to enable digital engagement and collaboration across Executive Committee and subcommittee members. The Work Group sought and received an extension for the Annual Report to the Legislature due date from November 15, 2020 to January 8, 2021. This extension allowed the Work Group to hold an additional Executive Committee meeting this year, giving subcommittees more time to develop and refine recommendations.

Agencies and organizations comprising the subcommittees had incredible challenges to meet due to the pandemic which required significant staff focus, and in some cases left little time for anything other than mission-critical initiatives. For some subcommittees, these stumbling blocks resulted in fewer meetings, and greater difficulty progressing on recommendations. Other subcommittees used this as an opportunity to hold shorter, more frequent meetings, in turn fostering more active collaboration and discussion.

At the same time, the pandemic has also served to highlight the vulnerability that many communities face in meeting fundamental needs. Access to food and basic resources was particularly difficult in the early months of the pandemic, especially as emergency restrictions had to be put in place to slow the spread of the virus, and as public transport services were scaled back according to projected revenue and funding reductions. While developments in the autonomous vehicle (AV) space have similarly experienced short-term disruption, one area of growth has been in the deployment of AVs to support the delivery of goods and resources to those in need. Use cases such as these bring attention to the possibilities that AVs could bring, and highlight the importance of working collaboratively with industry to shape outcomes in ways that best serve the needs of our communities.

In light of these challenges, the Executive Committee sought the opportunity to identify changes to the industry brought about by the pandemic, and to reflect on priorities for the Work Group to tackle in the current environment before its sunset in 2023. The result is a clarified path forward for the Work Group, providing greater detail on potential actions for all subcommittees to undertake to address the most pressing needs for the state of Washington. This will serve as a critical tool to further Work Group progress in the coming years.

Executive Summary

The autonomous vehicle (AV) industry continues to evolve rapidly, with new use cases and technologies being tested and deployed across the country. As of late 2020, six companies are self-certified with the Washington Department of Licensing to test AVs on Washington's public roadways. Short- and long-term implications of AV technologies are continuing to evolve and still widely unknown, presenting the need for Washington State to explore AV regulatory approaches and policy changes to address these potential impacts.

The Washington State Autonomous Vehicle Work Group, convened in 2018, continues to promote a statewide dialogue to explore the potential impacts and benefits AV technologies may bring to the state. Despite the challenges of this year, 2020 has also been an opportunity for the Work Group to refocus and define a clearer path forward for its remaining purview, through 2023.

The Work Group spent 2020 continuing to educate on the AV industry, and develop an understanding of the impacts from the pandemic and other industry shifts. The Work Group also explored several topics that crosscut the interests and purviews of its members – including policy and regulatory changes to address AV testing and operations, AV testing and reporting requirements, and the need for balance between regulation and innovation – which fostered collaborative discussions and work sessions to refine the Washington State AV regulatory approach.

Work Group subcommittees brought forth eight recommendations in 2020, illustrating that even during this challenging year, the Work Group continues to charge forward to meet its objectives and advance the discussion. More information on these recommendations can be found in section 6 of this report.

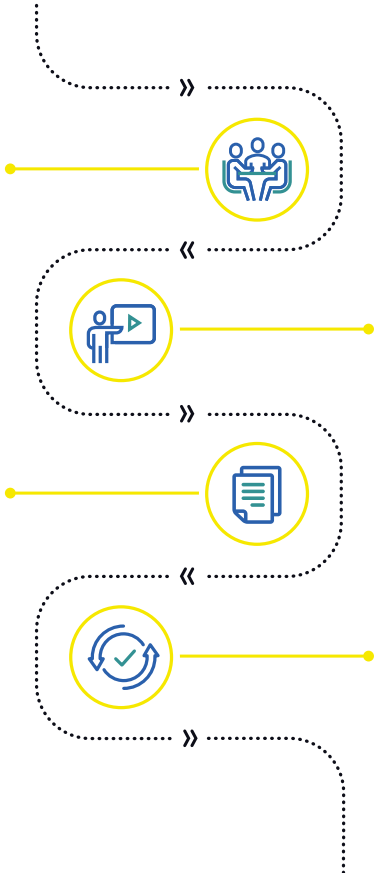
2020 Work Group Accomplishments

Meetings in 2020

- *4 Executive Committee meetings*
- *36 Subcommittee meetings*

Recommendations

- *8 recommendations brought forth by subcommittees (See Table 1)*



Education and Engagement Presentations

- AV Industry panels
- AVs in the COVID-19 era
- Best practices for state AV policy
- Guidance and regulations on safe design and testing of AVs
- National developments in Cooperative Automated Transportation
- Varying state approaches to AV policies and regulatory frameworks

Refocusing Path Forward

- Identified Work Group focus areas and priority actions
- Developed achievable activities for subcommittees to pursue
- Introduced Communications roadmap, milestones, and tools

2020 Recommendations

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

To this end, provided below are all the recommendations brought forth by the Work Group in 2020 for the Legislature and Governor to consider, 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
Safety Subcommittee	Clarify the State's definition for autonomous vehicle (see p.21)	Endorsed	Endorsed
Safety Subcommittee	Requirement for a Law Enforcement/ First Responder Interaction Guide (see p.21)	Endorsed	Endorsed
Safety & Licensing Subcommittees	Repeal Section 1 of RCW 46.37.480 on TV screens for companies conducting driverless testing (see p.21)	Endorsed	Endorsed
Licensing Subcommittee	Amendment of RCW 46.92.010 to enable rulemaking by the Department of Licensing for the Self-Certification Program (see p.22)	Endorsed	Endorsed
Health and Equity Subcommittee	Conduct structured public outreach (see p.23)	Endorsed	Endorsed
Health and Equity Subcommittee	Identification of testing locations (see p.23)	Endorsed	Endorsed
Infrastructure and Systems Subcommittee	Increased investment on enhanced roadway pavement markings (see p.23)	Endorsed	Endorsed
Infrastructure and Systems Subcommittee	Support WSDOT's work zone data initiative (see p.24)	Endorsed	Endorsed

1 Introduction

The autonomous vehicle (AV) industry continues to evolve rapidly, with new use cases and technologies being tested and deployed across the country. As of late 2020, six companies are self-certified with the Washington Department of Licensing to test AVs on Washington's public roadways. Short- and long-term implications of AV technologies are continuing to evolve and still widely unknown, presenting the need for Washington State to explore AV regulatory approaches and policy changes to address these potential impacts.

Substitute House Bill (SHB) 2970—which was signed into law on June 7, 2018—directs the Washington State Transportation Commission (WSTC) to appoint and convene an executive and legislative Work Group to gather information and develop 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:

- Follow developments in AV technology and related policies;
- Explore approaches to modify state policy, rules and laws to further public safety and prepare for the emergence of AV technology;
- Share information on AV technology and policies with interested stakeholders; and 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 15[1] each year.

The Washington State AV Work Group (hereafter referred to as "the Work Group") first convened on June 27, 2018. The legislation is in force through December 31, 2023.

Purpose of the Work Group

The primary purpose of the Work Group is to identify regulatory, policy, and operational changes necessary to enable and ensure the safe operation of AVs on public roadways, and provide recommendations to the WSTC. The WSTC, in consideration of the Work Group's recommendations, is required by law to make recommendations to the Legislature and the Governor each year.

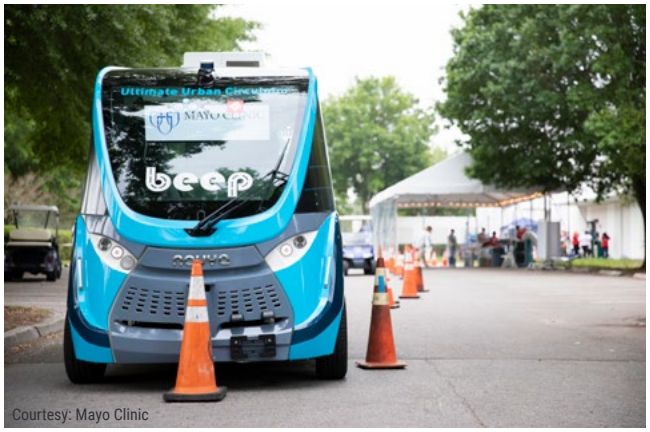
The Work Group will execute its charge through a five-year process of gathering information and making fact-based determinations on actions necessary to support this objective. This collaborative and inclusive process is designed to engage a wide range of public and private sector stakeholders in the discussion to elicit a diverse set of opinions and insights. The process is also meant to be deliberative, recognizing that while this technology is at our doorstep, the state has time to achieve determinations through this process, rather than making premature changes without due consideration.

Purpose of this Document

As required under the enabling legislation, this document represents a summation of the Work Group's efforts during the 2020 calendar year. This annual report discusses shifts in the AV industry during 2020, documents the organization and composition of the Work Group, summarizes the key points of discussion and decisions as part of various Work Group meetings, outlines recommendations brought forth in 2020, and the Work Group's path forward for the remainder of its purview, through 2023.

1 The Work Group sought and received an extension for the 2020 Annual Report to the Legislature due date from November 15, 2020 to January 8, 2021.

2 AV Development in 2020



Courtesy: Mayo Clinic

By some projections, the year 2020 was supposed to be a milestone year for AV development. Some automakers and technology companies had anticipated that 2020 would be the year when AV technology would be functionally ready for driverless mode—by conservative estimates, at least for highway driving, and by more ambitious estimates, as self-driving robotaxis. Neither outcome fully manifested this year, and the economic downturn caused by COVID-19 pandemic has led to lay-offs and financial constraints that have slowed progress across many industries, including the AV field. At the same time, new developments in the AV field over the course of 2020 also signaled progress in different ways, including advancements in testing and new use cases.

This section highlights some of the developments across the AV and broader transportation fields that have come about in 2020. While most occur outside of Washington State, these developments have implications for the future of AVs in the state.

Sweeping cuts across the automotive industry

Economic challenges created by the COVID-19 pandemic has contributed to job cuts and layoffs across many different sectors, and the automotive industry has been similarly impacted. Adding to existing pressures from technological change that had been set to eliminate more than 80,000 jobs[2] across the auto industry over the coming years, weakened sales have led to sweeping cost reductions and job cuts that, by mid-2020, amounted to more than 83,853 jobs.[3] These reductions have extended to the AV development space, as companies made cuts to both development and testing staff. Early on in the pandemic, Zoox laid off about 120 of its backup drivers, and another 10% of its full-time employees[4]; Cruise laid off about 150 employees, or about 8% of its workforce[5]; and BMW cut about 6,000 jobs worldwide and stopped funding its self-driving car program.

Continued advancement despite delays

Reduced staffing and budgets are expected to result in at least near-term delays for AV development, and expectations around when AVs will arrive on the market or the form that it will take continues to evolve. Among the AV developers hindered by the pandemic was the Ford Motor Company, which shared that they would delay the launch of their AV service to 2022 as they work towards understanding the long-term impact of COVID-19 on customer behavior.[6] BMW and Mercedes-Benz went a step further and put their self-driving collaboration on an indefinite hold.[7] While some industry commentators anticipate that these delays will contribute to a shift in focus from full autonomy (SAE Level 5) towards improving more easily attainable levels

2 https://www.bloomberg.com/news/articles/2019-12-03/carmakers-shedding-80-000-jobs-as-electric-era-upends-industry
3 https://www.challengergray.com/press/press-releases/challenger-july-2020-job-cuts-report
4 https://www.bizjournals.com/sanjose/news/2020/04/14/zoox-cuts-100-jobs-a-week-after-letting-go-120.html#:~:text=Autonomous%20vehicle%20unicorn%20Zoox,cutbacks%2C%20according%20to%20The%20Information
5 https://www.theverge.com/2020/5/14/21259001/cruise-gm-layoff-self-driving-unit-recruiting-product-design
6 https://techcrunch.com/2020/04/28/ford-postpones-autonomous-vehicle-service-until-2022/
7 https://techcrunch.com/2020/06/19/bmw-mercedes-benz-end-long-term-automated-driving-alliance-for-now/

of automation (SAE Levels 4 and below), there have also been efforts from AV developers that indicate a continued push towards advancing autonomy. For example, companies such as Waymo and Ford recently released open data sets of information collected during AV testing to challenge developers to come up with faster and smarter self-driving algorithms,[8] Cruise announced in October 2020 that they would advance to driverless road testing in San Francisco by the end of the year,[9] and Tesla forged ahead with pushing out beta software updates to some drivers said to enable further automated driving assistance systems built into existing vehicles.[10] All this suggests that, despite some setbacks, AV development is likely to continue, and regulators will need to be ready for the coming changes.

Resumption of driverless testing

Early COVID-19 restrictions designed to limit in-person interaction and slow the spread of disease put a stop to AV road testing involving human drivers. However, after a brief pause, companies quickly moved on to expanded testing without human back-up drivers on board. Waymo has continued to expand their AV testing program in Phoenix, Arizona, and are set to expand their service more broadly to members of the public. While the company plans to re-introduce human back-up drivers into their vehicles once in-vehicle barriers between the front row and the rear passenger cabin are installed, driverless operation will be in place at least in the near term.[11] Similarly, Cruise announced that it had been granted permission to test up to five of its AVs on the streets of San Francisco with no human operators on board. Cruise will begin in just one neighborhood to familiarize residents with the technology before expanding to other parts of the city. The permit also stipulates that Cruise's five vehicles must travel at speeds under 30 miles an hour, and is prohibited from operating during heavy fog or rain.[12]

Rise in automated goods delivery

Despite the challenges that have emerged, the climate of social distancing created by the pandemic also highlighted some valuable use cases of AV technology, particularly in the area of goods movement. As stay-at-home orders were put in place to slow the spread of COVID-19, challenges emerged around getting people access to basic needs, including food and household supplies. Alongside an increased reliance on delivery services, there has also been a rise in deployment of automated delivery vehicles. This has ranged from small-sized sidewalk delivery robots to self-driving delivery vehicles that are able to operate on public roadways, as well as passenger AVs that have been repurposed to support deliveries. For example, Nuro has deployed their R2 automated on-road vehicle to assist with contactless delivery of medical supplies at temporary healthcare facilities in San Mateo County and Sacramento,[13] Optimus Ride has helped to shuttle food boxes to families in need in Washington, DC,[14,15] and Beep mobility redeployed their vehicles to help deliver food to health-care workers at the Orlando VA Medical Center.[16,17] Amazon also recently acquired Zoox—an AV company—which signals potential advancement towards automation for the company.[18]

Growing public acceptance

The concept of safety in transportation has taken on new meaning in the time of the COVID-19 pandemic, as concerns around the spread of disease have put emphasis on reducing person to person interactions across mobility options. The potential for contactless on-demand mobility through the use of AVs has become an attractive notion, especially as access for some parts of the population has been limited by transit service reductions. While broad-scale adoption of AVs is still expected to be a slow process, there have also been some indications that the public is becoming more comfortable with the idea of AVs. In early 2020, a study published by AAA indicated that

8 https://spectrum.ieee.org/transportation/self-driving/surprise-2020-is-not-the-year-for-selfdriving-cars
9 https://www.wired.com/story/cruise-hit-san-francisco-no-hands-wheel/
10 https://www.theverge.com/2020/10/23/21530411/teslas-full-self-driving-beta-test-nhtsa
11 https://blog.waymo.com/2020/10/waymo-is-opening-its-fully-driverless.html
12 https://www.wired.com/story/cruise-hit-san-francisco-no-hands-wheel/
13 https://medium.com/nuro/helping-the-heroes-during-covid-19-49c189f216a2
14 https://venturebeat.com/2020/05/28/optimus-ride-begins-delivering-food-to-families-in-need-in-washington-d-c/
15 https://www.optimusride.com/press/the-yards-washington-dc
16 https://www.wardsauto.com/autonomous-vehicles/autonomous-people-mover-repurposed-pizza-mover
17 https://www.go-beep.com/post/special-delivery-to-orlando-va-medical-center
18 https://techcrunch.com/2020/06/26/amazon-to-acquire-autonomous-driving-startup-zoox/

only about 12% of drivers would trust riding in a self-driving car.[19] However, a more recent report by Motional—a technology company created by Hyundai and Aptive—suggests that nearly one in five consumers are now more interested in self-driving vehicles now than they were before the pandemic.[20] Though few data points exist to fully understand the shifting sentiment, emerging commentary from the industry reflects enthusiasm for the ways in which AVs for both goods and people movement could be leveraged to overcome gaps in access and mobility.

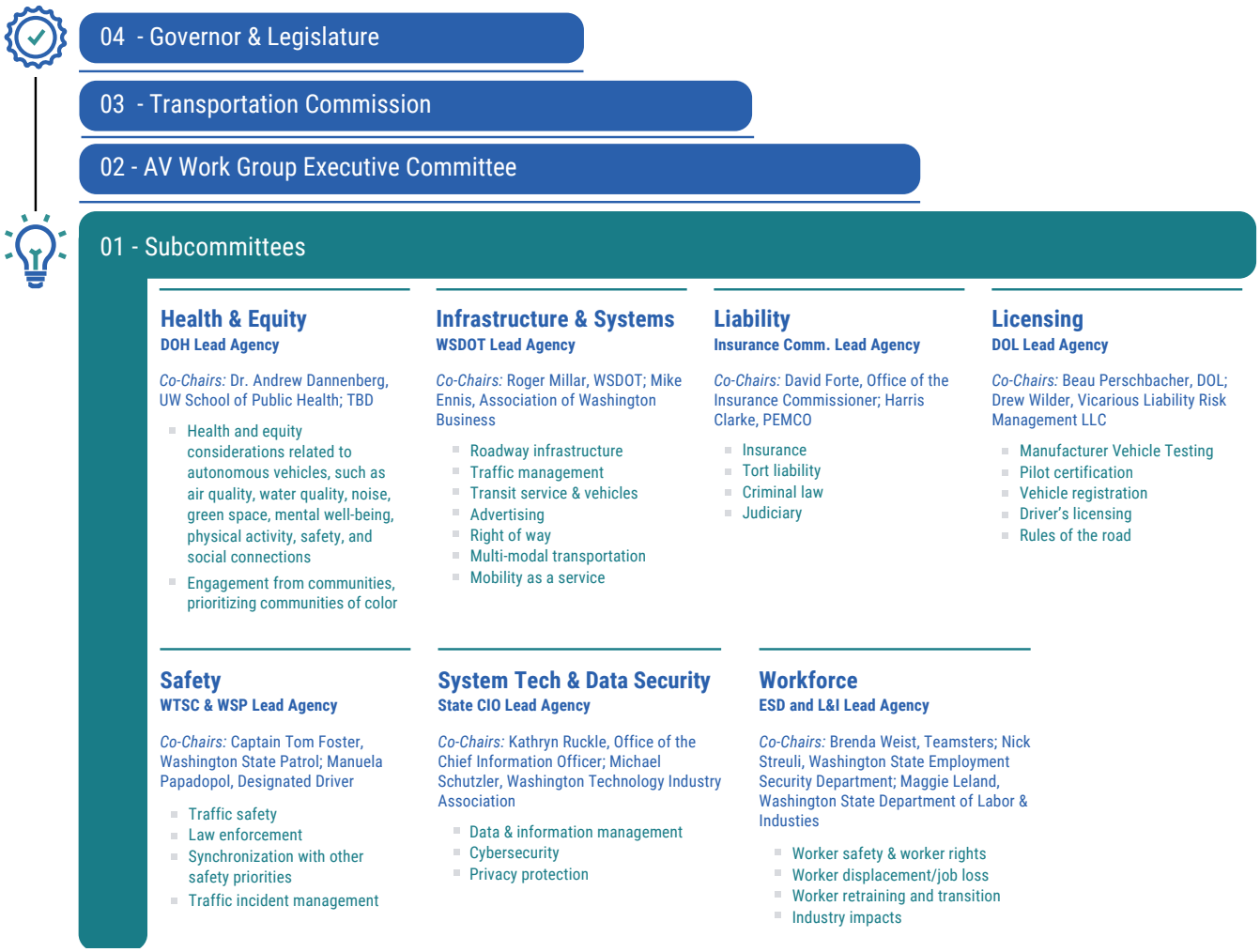
- Each subcommittee is administered and supported by the state agencies who have jurisdiction over the subcommittee topical area (e.g. Dept. of Licensing administers and supports the Licensing Subcommittee).
- Each subcommittee is co-chaired by one public and one private sector representative.
- All meetings are noticed and open to the general public for participation.

19 https://newsroom.aaa.com/2020/03/self-driving-cars-stuck-in-neutral-on-the-road-to-acceptance/
20 https://motional.com/mobilityreport/

3 A Collaboration Towards Future AV Policy

The Work Group serves as a forum for collaboration, education, and information sharing among public sector leaders and private stakeholders. It has been structured to foster a bottom-up approach to AV policy development, where ideas are generated and curated through open discussions across seven subcommittees, and then advanced for discussion and vetting by the Work Group Executive Committee—comprised of representatives from a diverse set of public, private, and non-profit organizations. Vetted recommendations from the Work Group are then handed off to the WSTC for review and discussion prior to being presented to the Governor and Legislature. By the time a recommendation is put before the Governor and Legislature, it has already been thoroughly reviewed and curated by experts who bring a wide range of perspectives. This bottom-up approach, along with the organizational structure of the Work Group, is illustrated in the figure below.

Figure 1: Washington State Autonomous Vehicle Work Group Structure



The Work Group is governed by self-created and adopted policies and procedures for the Executive Committee and Subcommittees. These policies and procedures can be found on the Work Group website.[21] In line with the broader Work Group, the general jurisdiction of the subcommittees extend out to a sunset date of 2023. As shown in the figure above, each subcommittee is led by at least one Washington State agency, and co-chaired by a public and private co-chair.

Executive Committee

Thought leaders on the Executive Committee contribute to the Work Group by applying diverse political, public, non-profit, and private sector perspectives on ideas and recommendations generated by the Subcommittees. Membership in the Executive Committee is established by current law, and allows 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	
James A. Restucci,[22] Work Group Chair and Commissioner	Washington State Transportation Commission
Shiv Batra, Work Group Vice Chair and Commissioner	Washington State Transportation Commission
Senator Joe Nguyen	Washington State Legislature
Senator Mona Das	Washington State Legislature
Senator Curtis King	Washington State Legislature
Senator Ann Rivers	Washington State Legislature
Representative Zack Hudgins	Washington State Legislature
Representative Shelley Kloba	Washington State Legislature
Representative Mary Dye	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
Suzan LeVine, Commissioner	Employment Security Department
Jim Weaver, State Chief Information Officer	Office of the Chief Information Officer
Laura Johnson, Director of Policy and Technology for the Division of Disease Control and Health Statistics	Department of Health
Pam Pannkuk, Acting Director	State Traffic Safety Commission
Dr. Yinhai 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

21 https://avworkgroupwa.org/

22 Jim Restucci served as Acting Chair for the Executive Committee from January 2020 to October 2020, and was officially voted in as Chair on November 12, 2020.

Name and Title	Organization
Curt Augustine, Senior Director of State Affairs	Alliance for Automotive Innovation
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, Principal	Gordon Trucking
Annabel Chang, Head of State Policy & Government Relations	Waymo
Anna Zivarts, Director of Rooted in Rights	Disability Rights Washington

4 2020: A Year Focused on Engagement and Education

Executive Committee

The Executive Committee spent 2020 continuing to educate on the AV industry, impacts from the pandemic and other industry shifts, and the balance between regulation and innovation. The Executive Committee also reevaluated the Work Group's path forward, discussed in more detailed in section 5. A summary of information gathered in 2020 is below:

- **AV Industry Panels:** Industry representatives shared their insights and experience testing in other states, offered input into Washington State's current law on AV's, and provided overviews of their work, products, and future plans.
- **Shifts in the AV Landscape:** The UW School of Law Public Policy Clinic presented on AV policies and initiatives across the U.S., including how different states are acknowledging and/or regulating safety, testing, public education, liability and insurance, data and privacy concerns, local preemption, and health and equity concerns.
- **Balance Between Regulation and Innovation:** Representatives from California and Arizona presented on their respective AV regulatory frameworks, shifting between heavy and light frameworks respectively, which impact how the industry is engaging with each state. The Reason Foundation presented on the 10 Best Practices for State Automated Vehicle Policy[23], which among others, acknowledges the need for a standard vocabulary, an audit of existing motor vehicle codes to identify and remove barriers, and to prepare for an extended period of uncertainty as this is still a new industry and is advancing at a rapid pace. The American Association of Motor Vehicle Administrators (AAMVA) presented on their recently published Safe Testing and Deployment of Vehicles Equipped with Automated Driving Systems Guidelines Edition[24], which provides a set of voluntary recommended guidelines for both jurisdictions and manufacturers and other entities, aimed at balancing current public safety with the advancement of vehicle innovations to reduce crashes, fatalities, injuries, and property damage. A new standard was also introduced to the Executive Committee, the ANSI/UL 4600 Standard for Safety for the Evaluation of Autonomous Products[25], a self-driving car safety case assessment that takes a goal-based approach to determining how safe an automated technology has been designed.

More information on Executive Committee meeting presentations can be found on the AV Work Group website: https://avworkgroupwa.org/resources.

Discussions Converged Across AV Work Group Subcommittees

Several topics crosscut the interests and purviews of multiple subcommittees, fostering collaborative cross-subcommittee discussions and work sessions, and resulted in recommendations supported by multiple subcommittees.

Definition of "Autonomous Vehicle"

The need for standardized terminology in the AV space is an international conversation. Presentations given to the Executive Committee have highlighted this need for consistency among jurisdictions developing AV policy, as well as at the federal level and among the AV industry. The Work Group has explored this topic, with resulting recommendations from both the Licensing and Safety Subcommittees this year to define the term "autonomous vehicle" as it is referenced in both the Governor's Executive Order 17-02 and in House Bill (HB) 2676 which was enacted into law earlier this year. The Licensing Subcommittee recommended the need to define the term "autonomous vehicle" as well as provide other clarifications in the Department of Licensing's AV Self-Certification Pilot Program, through rulemaking authority given to the Department. The Safety Subcommittee also recommended that the term "autonomous vehicle" refer only to the Society of Automotive Engineer (SAE)

23 10 Best Practices for State Automated Vehicle Policy Report, September 2020: https://reason.org/policy-brief/10-best-practices-for-state-automated-vehicle-policy/

24 https://www.aamva.org/SafeTestingandDeploymentOfVehiclesEquippedwithADSGuidelines/

25 ANSI/UL 4600 Standard for Safety for the Evaluation of Autonomous Products: https://edge-case-research.com/ul4600/

J3016 driving automation levels[26] 4 and 5, which refer to automated vehicles that do not require a driver to take over the driving task. Clarity of terminology, as well as what levels of automation Washington AV policy refers to removes ambiguity or incorrect interpretation.

ULC Automated Operation of Vehicles Act / HB 2470 (introduced)

At the end of 2019, the Washington State Transportation Commission requested the subcommittees review what was to become House Bill (HB) 2470[27] (2020 legislative session) and provide feedback. Multiple subcommittees discussed HB 2470, which was modeled after the Uniform Law Commission (ULC) Automated Operation of Vehicles Act, and developed a suite of feedback. The feedback represents the diverse perspectives of subcommittee members across multiple domains, industries, and interests, and is sometimes conflicting. Consolidation of subcommittee feedback on HB 2470 was provided by the Licensing Subcommittee[28] and the Safety Subcommittee[29].

HB 2676, Section 2: Testing and Reporting

Multiple subcommittees discussed the 2020 enacted HB 2676 and potential updates and amendments to further support the safe testing of AVs on Washington public roadways. Subcommittee discussions mainly focused on Section 2 "Testing and Reporting", which does not go into effect until October 2021. Key points of discussion included:

- There is a need for balance between the collection of data and the protection of proprietary information. The public and state agencies benefit from more data, to better understand and evaluate AV technologies, their progress, and potential impacts and effects on safety. The industry, however, needs to safeguard proprietary information to maintain competitiveness; There are also other sources, such as federal voluntary reporting, where this type of information could be obtained so companies do not have to report the same information to multiple entities.
- The annual collision report would provide important data points. The report's intent is to develop a complete dataset to understand potential issues more fully. While an AV testing vehicle may not be at fault according to police reports, if a particular company's vehicles are repeatedly involved in similar types of incidents (such as being rear-ended), this may point to other underlying issues that would be of interest to lawmakers and the public.
- A law enforcement interaction plan is critical to support law enforcement and first responders when they interact with an AV, whether proactively through a traffic stop or reactively because of an incident or crime. Discussions on this need resulted in the Safety Subcommittee recommending this be added as a requirement for companies testing Level 4 and 5 AVs without a safety driver, prior to conducting testing.

Cooperative Automated Transportation (CAT) Policy Framework

In 2019, eight CAT policy goals were adopted by the Work Group and the Transportation Commission, based on recommendation from the Infrastructure & Systems Subcommittee. Following this adoption, the Infrastructure & Systems Subcommittee drafted interim strategies and illustrative actions to further refine a statewide CAT Policy Framework. In April 2020, the Infrastructure & Systems Subcommittee held a workshop that included representatives from the other six subcommittee to informationally rank drafted strategies and actions, and gather additional input and new strategies and actions to include in the framework. The other six subcommittees were then encouraged to evaluate and discuss their relevant policy goal(s), strategies and illustrative actions and provide input and revisions to ensure the statewide CAT Policy Framework reflected the Work Group as a whole, and diverse set of perspectives and priorities. Subcommittees will continue to discuss and identify strategies and actions and additional policy goals as needed.

26 SAE J3016 Levels of Driving Automation Standard: https://www.sae.org/standards/content/j3016_201806/

27 HB 2470 (introduced 2019-20): https://app.leg.wa.gov/billsummary?BillNumber=2470&Year=2019&Initiative=false

28 Licensing Subcommittee June 22, 2020 Meeting Minutes - HB2470 feedback pages 3-11: https://oohwstcavworkgroup.blob.core.windows.net/media/Default/documents/licensing-subcommittee/Meeting_8/WSTC_AVWG_Licensing_Subcommitee_Meeting_8_Minutes.pdf

29 November 12, 2020 Executive Committee Meeting - Safety Subcommittee Discussion Form - HB2470 Feedback: https://oohwstcavworkgroup.blob.core.windows.net/media/Default/documents/executive-committee/Meeting_8/WA-AV-SC-Discussion-Form_Nov2020_Safety_HB2470.pdf

Subcommittees

Infrastructure & Systems Subcommittee

Coming in to 2020, the Infrastructure & Systems Subcommittee continued to execute its work plan, focusing on three key activities:

- **Activity 1: Develop CAT Policy Framework with policy goals, strategies, and illustrative actions based on local, regional, and national "best practice" policy examples.**
  - Draft strategies and illustrative actions were developed in early 2020
  - A workshop was held on April 1, 2020 with members and representatives from many stakeholder and interest groups and the other six subcommittees to gather additional feedback, as well as new strategies and actions
  - Subgroup conducted a fatal flaw review of the resulting strategies and actions, and an updated inventory of strategies and illustrative actions was presented to the subcommittee
- **Activity 2: Develop project selection criteria and discuss potential funding options to enable the selection of near-term pilot deployment proposals and projects.**
  - Incorporating results from Activity 1 efforts, pilot evaluation criteria were compiled and refined, and the feasibility of the criteria were assessed
  - The subcommittee continued to compile an inventory of funding opportunities and requirements and how they could support CAT initiatives
- **Activity 3: Partnership and collaborative discussions with private sector companies certified for testing in WA**
  - Results from collaborative discussions were compiled into open dialogue survey results, and an open dialogue survey template was developed for future discussions
  - This activity was transitioned to the Licensing Subcommittee to lead future conversations as the agency managing the AV self-certification pilot program

Shifting to Education Mode

Mid-2020, the subcommittee identified the need to transition into education mode to better understand the AV landscape, implications, and opportunities for information. Subsequent subcommittee meetings had an educational focus, which proved fruitful as two educational presentations given at the September meeting – improving pavement markings & the WSDOT real-time work zone initiative – led to the subcommittee developing recommendations to support and advance these initiatives.

Liability Subcommittee

The Liability Subcommittee met five times over the course of 2020. Much of the subcommittee's efforts this year were focused on understanding the state of current technology, particularly advanced driver assistance systems (ADAS) already used in commercially available vehicles. Meetings included several presentations and discussions with industry experts who presented on topics such as experiences with current automated driving systems, onboard data collection and diagnostic systems, access to data, and vehicle control. The subcommittee also held a discussion on the Automated Operation of Vehicles Act by the Universal Law Commission (ULC).

Key issues that emerged from the subcommittee's discussions included considerations around the assignment of liability under various driving conditions and states of autonomy or vehicle control, as well as access to data from the vehicles. In particular, for assisted driving systems that are currently present in vehicles, there are challenges in understanding whether such systems are active at the time of an incident.

Moving forward, the Liability Subcommittee will continue to track progress in other jurisdictions to determine how liability can be determined for AVs, and to understand other implications relevant to liability. The Subcommittee also intends on exploring issues around insurance and criminal liability as it relates to AVs, and will look to develop recommendations around the data requirements for liability termination, and how to define a driver when considering travel by AVs.

Licensing Subcommittee

The Licensing Subcommittee explored several topics related to the licensing and regulation of AVs in Washington, including how it may differ based on type of AV (e.g. with safety driver vs. without, agricultural vehicles, highway use).

HB 2676 Minimum Requirements for the Testing of Autonomous Vehicles

House Bill (HB) 2676 was passed in the 2020 Legislative session, and puts further parameters around the AV Self-Certification Pilot Program administered by the Washington State Department of Licensing (DOL), which also serves as the lead agency for the Licensing Subcommittee. Section 1 focuses on minimum insurance requirements, which was informed by

the Liability Subcommittee's recommendation in 2019. The DOL implemented HB 2676 Section 1 in June 2020, resulting in six companies being self-certified with the appropriate insurance in place to test AVs on Washington public roadways; some previously self-certified companies were removed from the list due to no longer testing in the state, no longer in business, etc. Section 2 of HB 2676 focus on minimum reporting and law enforcement interaction requirements – being implemented in October 2021. The Licensing Subcommittee evaluated the language in HB 2676 and potential future updates as the DOL self-certification program and AV industry continue to evolve. This evaluation resulted in the subcommittee developing a recommendation for the Legislature to grant the DOL rulemaking authority, so the DOL can manage implementation-related aspects of the self-certification program without needing to go through the full legislative process. This allows the program to be flexible as the industry and technology advance at a rapid pace.

Other Jurisdictional Regulatory Frameworks

The Licensing Subcommittee evaluated other jurisdictions' AV regulatory frameworks, such as those in California, Arizona, and the United Kingdom. This evaluation highlighted some key points for further consideration, including how a light versus heavy regulatory approach affects interest from and collaboration with the industry, the need for a clear path to deployment to encourage continued engagement from the industry, and the complexity of how different levels of government should interact with and regulate AVs.

Safety Subcommittee

The Safety Subcommittee leveraged the need for virtual meetings to hold shorter, more frequent meetings in 2020. These meetings were a mix of educational presentations and working sessions. Educational presentations included learning about the latest automated technology developments from the Consumer Electronics Show (CES) 2020, hearing from the California Highway Patrol on their experience with automated vehicle testing, and getting a presentation on the AAA's study on pedestrian detection ADAS and its level of readiness for deployment.

Evaluating Existing and Potential Legislation

The subcommittee held various work sessions to gather subcommittee feedback on a variety of topics, with a focus on current and potential AV-related legislation with safety implications:

- HB 2470: The subcommittee reviewed all sections of HB 2470 and gathered feedback that reflect various, and sometimes conflicting perspectives of subcommittee members, providing a comprehensive catalog of member feedback.[30]
- HB 2676: Implications of the current language on safety as well as the potential for amendments to support or advance safety, such as the Safety Subcommittee's recommendation to require a law enforcement / first responder interaction guide
- Legislation needing reform: Carrying over from discussions in 2019, the subcommittee developed a recommendation to repeal RCW 46.37.480 (1) Television Viewers as it creates unnecessary barriers to AV testing and deployment, and newer RCWs (namely RCW 46.61.672 and 46.61.673) address the distracted driving components

One of the subcommittee's 2019 initiatives, developing an AV Education Plan, was put on hold during 2020 and will be picked back up with the Washington Traffic Safety Commission and supported by the Safety Subcommittee in 2021.

Systems Technology & Data Security Subcommittee

The System Technology & Data Security Subcommittee focused this year on gaining a better understanding of existing cybersecurity, privacy, and data standards and best practices that could be leveraged in the AV space without creating something new.

Cybersecurity Workshop

The subcommittee held a cybersecurity workshop with technology experts to identify AV-specific cybersecurity and data privacy considerations and current best practices. Key takeaways from the workshop included the recommendation to leverage existing standards where possible, to recognize that connectivity introduces higher cybersecurity risk and not all AVs are connected, and that this risk goes beyond the vehicle

30 November 12, 2020 Executive Committee Meeting - Safety Subcommittee Discussion Form - HB2470 Feedback: https://oohwstcavworkgroup.blob.core.windows.net/media/Default/documents/executive-committee/Meeting_8/WA-AV-SC-Discussion-Form_Nov2020_Safety_HB2470.pdf

itself and expands to downstream interfaces and systems. The subcommittee continues to explore near-term steps that can be taken to identify cybersecurity needs relative to AVs and to address gaps for transportation systems and services regarding cybersecurity.

Washington Privacy Act

The subcommittee is also engaged in the development and refinement of the Washington Privacy Act, draft legislation that has been introduced in past legislative sessions, and is planned to be introduced again in the upcoming session. There are some specific considerations in the Act that are unique to AVs, such as the fact that some data collected by the AV is not related to the individual(s) in the vehicle but rather about other vehicles and people within the range of the AV's external cameras and sensors. The subcommittee and its members will continue to track the progress of this Act and engage in discussions with Legislators, consumer protection groups, industry, and other interested and impacted stakeholders.

Leveraging Existing National Standards

The subcommittee identified several standards and frameworks to focus on in future meetings to continue exploring what is already out there that can be applied to AVs without having to invent the wheel.

- ANSI/UL 4600 Standard for Safety for the Evaluation of Autonomous Products ("UL4600"), how the standard is evolving, and at what point state policy should reinforce this type of standard
- International Organization for Standardization (ISO) standards specific to coding that could apply to AVs
- Evaluate the National Highway Traffic Safety Administration (NHTSA) and National Institute of Standards and Technology (NIST) cybersecurity frameworks

Health & Equity Subcommittee

The Health & Equity subcommittee was established by WSTC in July 2019. Originally a part of the Safety subcommittee, the Health & Equity subcommittee was created to ensure that the health benefits of automated mobility are equitably distributed, and that negative impacts are not disproportionately borne by historically marginalized communities. Over the course of 2020, the subcommittee met on a monthly basis, primarily through digital platforms.

Confirmation of Subcommittee Charter and Work Plan

As a new subcommittee, discussions during the early part of 2020 revolved around confirmation of a subcommittee charter, and the development of a workplan. The work plan outlines a set of seven actions for the subcommittee to progress, which included:

- Develop a comprehensive list of terms and overarching operating goal related to AV Health and Equity.
- Establish baseline of existing transportation system inequities through review of existing literature.
- Identify a checklist or tool to evaluate equity in proposed policies through review of existing checklists/tools.
- Review equity policy recommendations from California, Oregon, and other states to identify ones that may be useful in Washington.
- Review equity aspects of policy recommendations from other WSTC AV subcommittees, as they become available.
- Seek guidance and resources for improving community engagement of historically marginalized populations for Health and Equity Subcommittee.
- Select health and equity policy recommendations and test with equity checklist/tool.
- Develop communications strategy to promote Subcommittee's policy recommendations to other Subcommittees and to AV Work Group.
- Continue to pursue resources to support Subcommittee participation and ensure Subcommittee diversity.

Several subgroups were established to help advance the actions of the workplan outside of the regular meetings. Research collected by the subgroups was presented back to the subcommittee, and will be leveraged as background resources as the subcommittee continues to advance its work in the new year.

Understanding Health and Equity in the Context of AVs

The Health & Equity Subcommittee focused part of their efforts this year towards developing a common understanding of the breadth of health and equity issues related to AVs. Meetings of the subcommittee included presentation from industry experts and other subcommittees, as well as internal discussion. Some of the key considerations discussed by the subcommittee include:

- Disparities in burden and access: considering how AV testing and eventual AV services might be distributed across the population, and how this might result in added burden or limitations to certain parts of the population. This may include added risks from testing, or disparate levels of access to future AV services due issues related to service coverage, infrastructure availability and condition,

cost of the services, access to technology and technological proficiency, and discrimination.

- Competing needs and priorities: considering how investment in the advancement of AVs in Washington may impact the ability to address other transportation investments that could benefit disadvantaged communities, and meet more immediate needs and priorities.
- Technological capability: considering how current pedestrian detection systems in AVs function, and how algorithms—depending on how they are structured and trained—may be less able to detect certain populations such as Persons of Color, potentially subjecting them to greater risk of injury as pedestrians.
- Exposure to and understanding of technology: considering the level of exposure that different parts of the population have to information about emerging technologies such as AVs, and their understanding of how such technologies may impact or benefit them. This may relate to needs around education, engagement, and outreach with certain communities.

The discussions of the Health & Equity Subcommittee culminated in the presentation of two recommendations to the AV Work Group. The first recommendation related to the need for funding to conduct structured public outreach. Throughout the year, subcommittee members noted on multiple occasions the need for funding to encourage more meaningful participation in the subcommittee by representatives of historically marginalized communities that would otherwise be unable to participate due to issues such as time and financial constraints. While the recommendation for funding structured public outreach would not accomplish the aim of increasing representation from historically marginalized communities within the subcommittee membership, it is intended to be a first step towards educating communities and understanding community needs. Similarly, the second recommendation, which is focused on identification of testing locations, is intended to provide the State with information to understand where testing is being done, and how it relates to historically marginalized communities.

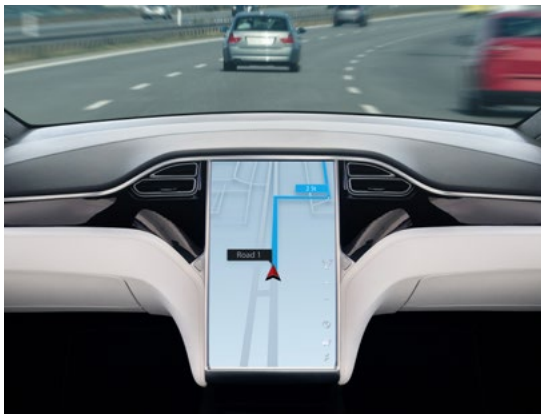
One of the priorities of the Health & Equity Subcommittee in 2021 will be to review recommendations brought forth by other subcommittees from a health and equity perspective.

Workforce Subcommittee

The Workforce Subcommittee held its first meeting in October 2019, and had planned to hold its second meeting in April 2020. In early 2020, the two public agencies supporting this subcommittee – Employment Security Department & Department of Labor and Industries – as well as engaged private sector organizations had to shift focus to COVID-19 response and put subcommittee efforts on pause.

The Workforce Subcommittee co-chairs have continued monitoring other subcommittees' activities and how they interact, considering that much of the Workforce Subcommittee's work will ramp up as other subcommittees' work ramps down – as AVs complete testing and start entering deployments. The subcommittee co-chairs will continue to interact with labor partners offline and work in the background in preparation of the Workforce Subcommittee spinning up in the future.

5 Priorities for the Work Group Going Forward



Despite the challenges this year, 2020 has also been an opportunity for the Work Group to pause, re-focus, and re-evaluate its priorities for the short and long term. On June 24, 2020, the Executive Committee participated in a work session to explore the future path and direction of the Work Group over its remaining three years. During this work session, it was proposed that the adopted CAT policy goals be used as a framework for action. Due to the broad nature of the policy goals, it would require the Executive Committee to identify priorities within them so that immediate needs and actionable items can be identified and subsequently addressed by the subcommittees. With the CAT policy goals as the backdrop, the Executive Committee members provided input on immediate priorities and direction for the Work Group's path moving forward through the sunset date of 2023.

A need to simultaneously tackle both near and long-term objectives

During the work session, Executive Committee members engaged in a live-polling exercise. When asked to rank broad focus areas for the Work Group, which included focusing on near-term testing of AVs, near-and long-term deployment needs of AVs, and achievement of CAT objectives and mitigating potential impacts of AVs, members were split on which should be prioritized first. All three focus areas emerged with similar ranking, which represents a balance of differing perspectives from across Executive Committee members, and collectively signals that all three focus areas are important for the Work Group to address. While most AV technologies remain in the testing stage, these results emphasize the need to go beyond testing programs to continue progress in action areas that prepare Washington for future deployment of AV's.

Executive Committee members were then asked to rank actions within each focus area for the Work Group to prioritize:

Table 3: Executive Committee ranking results of actions by focus area

Focus Area	Rank	Potential Action	Result
NEAR-TERM TESTING ACTIVITIES	1st	Conduct open discussions with companies with DOL self-certification to understand what motivates testing decisions	**Results showed clear interest in having open discussions with companies undergoing testing and better understanding testing motivations to help inform policy decisions.**
	2nd	Implementation of and/or revisions to ESHB 2676 section 2: Autonomous Vehicle Testing & Reporting	
	3rd	Identify and pursue funding to support pilot and testing activities	

Focus Area	Rank	Potential Action	Result
DEPLOYMENT-ORIENTED ACTIVITIES	1st	Prioritize a list of near-term infrastructure investments to pursue (signing/striping, broad-band, etc.)	**Results signal particular interest in actions that help lay the groundwork for deployment, including near-term infrastructure investments, legislative reform topics, and developing AV data guiding principles.**
	2nd	Develop a prioritized list of topics needing legislative reform (e.g. video screens, public records act, etc.)	
	3rd	Identify and adopt AV data guiding principles	
	4th	Review and recommend revisions to the draft Uniform Law Commission AV Model Bill language & HB 2470	
	5th	Develop an Education Plan to communicate the benefits and limitations of ADAS and AV	
CAT-ORIENTED ACTIONS	1st	Conduct scenario planning to explore alternative AV futures and potential impacts and policy implications	**Results suggest continued interest in conducting scenario planning to explore alternative AV futures, indicating a potential interest for better understanding of impacts and policy implications.**
	2nd	Based on policy goals, prioritize a list of deployment scenarios to enable focused policy and strategy discussion	
	3rd	Develop engagement opportunities for disadvan-taged communities for Work Group discussions	
	4th	Develop AV health and equity guiding principles to apply across all subcommittees	

Making progress across the broad focus areas

To ensure that progress continues to be made across all focus areas, a list of potential actions was developed. Many of the actions identified are already being advanced by the subcommittees. Other actions include those that have been discussed by the Work Group, subcommittees and WSTC, but have yet to gain traction. The following table highlights the actions identified for each of the focus areas, and provides indication of where work has been done to progress those actions.

Table 4: Potential actions for subcommittee advancement by focus area

Potential Action	Progress Made	
NEAR-TERM TESTING ACTIVITIES		
Conduct open discussions with companies with DOL self-certification to understand what motivates testing decisions	Continued Progress	The Infrastructure & Systems Subcommittee developed an open dialogue survey template to be used when holding open discussions with DOL self-certified companies. The Licensing Subcommittee is lead on these discussions, inviting other subcommittees to participate.

Potential Action	Progress Made	
Implementation of and/or revisions to ESHB 2676 section 2: Autonomous Vehicle Testing & Reporting	Some Progress	Multiple subcommittees discussed ESHB 2676 this year and have put forth recommendations for revisions to section 2.
Identify and pursue funding to support pilot and testing activities	Some Progress	The Infrastructure & Systems Subcommittee has compiled a list of potential funding sources for interested entities to pursue, including for future pilot and testing activities.
DEPLOYMENT-ORIENTED ACTIVITIES		
Prioritize a list of near-term infrastructure investments to pursue (signing/striping, broad-band, etc.)	Some Progress	While a prioritized list has yet to be developed, the Infrastructure & Systems Subcommittee did consider priorities and put forth a recommendation for investment in improved pavement markings.
Develop a prioritized list of topics needing legislative reform (e.g. video screens, public records act, etc.)	Not Started	While a prioritized list has yet to be developed, subcommittees have independently put forward topics needing legislative reform.
Identify and adopt AV data guiding principles	Not Started	In 2019, the System Technology & Data Security Subcommittee put forth a recommendation for a set of AV data guiding principles; The Executive Committee and WSTC asked the subcommittee to evaluate existing national standards and best practices for potential adoption, rather than creating something new. No further progress has been made.
Review and recommend revisions to the draft Uniform Law Commission AV Model Bill language & HB 2470	Some Progress	Subcommittees have made progress on reviewing the draft Uniform Law Commission AV Model Bill language & HB 2470.
Develop an Education Plan to communicate the benefits and limitations of ADAS and AV	Some Progress	The Safety Subcommittee started exploring this in 2019, putting a hold on the effort during 2020. The Washington Traffic Safety Commission recently received a grant to start this effort up again, supported by the Safety Subcommittee.
CAT-ORIENTED ACTIONS		
Conduct scenario planning to explore alternative AV futures and potential impacts and policy implications	Not Started	No progress has been made to date.
CAT-ORIENTED ACTIONS		
Based on policy goals, prioritize a list of deployment scenarios to enable focused policy and strategy discussion	Not Started	No progress has been made to date.
Develop engagement opportunities for disadvan-taged communities for Work Group discussions	Not Started	The Work Group endorsed a recommendation in late 2020 from the Health & Equity Subcommittee to develop a structured public outreach campaign.

Potential Action	Progress Made	
Develop AV health and equity guiding principles to apply across all subcommittees	Not Started	No progress has been made to date.

The AV Work Group Future Path Work Session Report and Actions Recommendations Matrix for Subcommittees can be found in Appendix A: AV Work Group Future Path Work Session Report and Actions Recommendations Matrix for Subcommittees.

6 WSTC Recommendations

Recommendations from the various subcommittees were brought forward to the Executive Committee for review and discussion. Applying the lens of both public and private sector perspectives, the Executive Committee is able to provide a holistic evaluation of the recommendations. All recommendations reviewed by the Executive Committee, regardless of the Committee's actions or recommendations, are advanced to the Transportation Commission (WSTC) for consideration. The recommendations are then forwarded to the Legislature and Governor via this report, regardless of the actions or recommendations made by the Executive Committee or WSTC, to serve as a transparent and complete record of the process and results.

The table below outlines the recommendations brought forth by the Work Group in 2020, the actions taken by the Executive Committee, and the WSTC recommendation to the Legislature and Governor. Further detail is provided on each recommendation following the table.

Table 5: 2020 Recommendations advanced to the Executive Committee and Transportation Commission for consideration

Source	Recommendation	Executive Committee Action/ Recommendation	WSTC Action/ Recommendation
Safety Subcommittee	Clarify the State's definition for autonomous vehicle	Endorsed	Endorsed
Safety Subcommittee	Requirement for a Law Enforcement/ First Responder Interaction Guide	Endorsed	Endorsed
Safety & Licensing Subcommittees	Repeal Section 1 of RCW 46.37.480 on TV screens for companies conducting driverless testing	Endorsed	Endorsed
Licensing Subcommittee	Amendment of RCW 46.92.010 to enable rulemaking by the Department of Licensing for the Self-Certification Program	Endorsed	Endorsed
Health and Equity Subcommittee	Conduct structured public outreach	Endorsed	Endorsed
Health and Equity Subcommittee	Identification of testing locations	Endorsed	Endorsed
Infrastructure and Systems Subcommittee	Increased investment on enhanced roadway pavement markings	Endorsed	Endorsed
Infrastructure and Systems Subcommittee	Support WSDOT's work zone data initiative	Endorsed	Endorsed

Recommendations

Clarify the State's definition for Autonomous Vehicle

Recommended by:
Safety Subcommittee

Recommendation:
Clarify the definition of "autonomous vehicle" to consider only SAE levels 4 and 5. This would differentiate "autonomous vehicles" from "automated vehicles", which covers SAE levels 0 to 5, and includes commercially available vehicles that operate with a human driver on roads today.

The term "autonomous vehicle" is not currently defined in either the Governor's Executive Order (EO) 17-02 or HB 2676. The lack of clear definition and differentiation of "autonomous vehicles" from "automated vehicles" hampers discussions of how best to support the safe testing and deployment of "autonomous vehicles", and presents potential legal implications in applying laws that impact EO 17-02 and HB 2676, and the safety measures afforded in these documents. Clear definition of "autonomous vehicles" to refer only to vehicles with levels 4 and 5 automation would enable the Work Group to focus discussions on the legal framework for vehicle systems that do not require that a human driver is present in the vehicle.

Executive Committee Action:
Presented to the Executive Committee at the November 12th meeting

With the exception of absent and abstained votes, the Executive Committee reviewed and unanimously endorsed the recommendation. While no further discussion was held on the recommendation, the Executive Committee requested that this recommendation be harmonized and reconciled with the related recommendation brought forward by the Licensing Subcommittee.

WSTC Action:
Presented to the WSTC at the December 15th meeting

With the exception of absent votes, the WSTC reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

Requirement for a Law Enforcement/ First Responder Interaction Guide

Recommended by:
Safety Subcommittee

Recommendation:
Establish a requirement for AV testing entities to provide a Law Enforcement / First Responder Interaction Guide to equip law enforcement and first responders with information on how to safely and effectively interact with AVs without a safety driver onboard the vehicle. Testing entities would be required to provide a Law Enforcement / First Responder Interaction Guide prior to conducting driverless testing in Washington.

While it is currently legal to test AVs in Washington without a safety driver onboard, law enforcement and first responders do not have access to information on how to respond if they were to encounter a driverless vehicle. Consistent with requirements set out in other states, including California and Arizona, the Law Enforcement / First Responder Interaction Guide would be provided by each testing entity, and include information such as:

- How to communicate with a remote driver
- Where to find the contact telephone number, owner information, vehicle registration and proof of insurance
- How to safely move the vehicle out of the flow of traffic and how to immobilize and tow a driverless vehicle

Executive Committee Action:
Presented to the Executive Committee at the November 12th meeting

With the exception of absent and abstained votes, the Executive Committee reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

WSTC Action:
Presented to the WSTC at the December 15th meeting

With the exception of absent votes, the WSTC reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

Repeal Section 1 of RCW 46.37.480 on TV Screens

Recommended by:
Safety & Licensing Subcommittees

Recommendation:
Repeal of RCW 46.37.480[31] Section (1), which prohibits the use of motor vehicles equipped with any television viewer, screen, or other means of visually receiving a broadcast that is visible to the driver while.

> *RCW 46.37.480 Television viewers—Earphones.*
>
> *(1) No person shall drive any motor vehicle equipped with any television viewer, screen, or other means of visually receiving a television broadcast when the moving images are visible to the driver while operating the motor vehicle on a public road, except for live video of the motor vehicle backing up. This subsection does not apply to law enforcement vehicles communicating with mobile computer networks.*

This language is considered to be outdated as many commercially available vehicles feature screens that provide information to drivers and passengers. This citation is not widely used in the enforcement of distracted driving, as the use of electronic devices in vehicles and dangerously distracted driving is addressed in RCW 46.61.672[32] and RCW 46.61.673[33], respectively. It is anticipated that future AVs will rely on screens as a key interface for users, and that repeal of this citation would eliminate potential barriers to advancing AV technology.

Executive Committee Action:
Presented to the Executive Committee at the November 12th meeting

With the exception of absent and abstained votes, the Executive Committee reviewed and unanimously endorsed the recommendation. The Executive Committee discussed the potential to reword RCW 46.37.480 Section (1) rather than repeal it in its entirety, acknowledging the potential needs for this section, such as to prevent drivers from viewing streaming services on mobile devices. To this point, it was clarified by the subcommittees that newer legislation, including RCW 46.61.672 and RCW 46.61.673 specifically address the use of electronic devices in vehicles, which would adequately address concerns around distracted driving rather than rewording the RCW.

WSTC Action:
Presented to the WSTC at the December 15th meeting

With the exception of absent votes, the WSTC reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

Amendment of RCW 46.92.010 to enable rulemaking by the Department of Licensing

Recommended by:
Licensing Subcommittee

Recommendation:
Amendment of RCW 46.92.010[34] Testing—Self-certification pilot program to grant the Department of Licensing general rulemaking authority over the self-certification program.

The amendment is intended to provide the Department of Licensing greater flexibility in addressing future items that require clarification as part of the self-certification process. For example, there is currently a lack of clarity in the level of autonomy (SAE Levels 1 through 5) which the self-certification process is intended to apply to. Rule-making authority granted to the Department of Licensing would enable the department to provide clarification according to the most recent information, without having to undertake a full legislative review process.

Executive Committee Action:
Presented to the Executive Committee at the November 12th meeting

The Executive Committee endorsed the motion with a majority vote. Notwithstanding absent and abstained votes, there were two votes in opposition to the motion from the Executive Committee. Discussion on the recommendation highlighted concerns around the vagueness of the scope and scale of rulemaking authority that would be granted to the DOL through the proposed amendment of RCW 46.92.010. As there are no clear guidelines as to what decisions would be appropriate for rulemaking under the granted authority versus what should go through the full legislative process, members of the Executive Committee suggest that the Legislature consider more specific parameters around the rulemaking authority that is granted to the DOL.

WSTC Action:
Presented to the WSTC at the December 15th meeting

With the exception of absent votes, the WSTC reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

31 RCW 46.37.480: https://app.leg.wa.gov/rcw/default.aspx?cite=46.37.480
32 RCW 46.61.672: https://app.leg.wa.gov/rcw/default.aspx?cite=46.61.672
33 RCW 46.61.673: https://app.leg.wa.gov/rcw/default.aspx?cite=46.61.673
34 RCW 46.92.010: https://app.leg.wa.gov/RCW/default.aspx?cite=46.92.010

Conduct Structured Public Outreach

Recommended by:
Health and Equity Subcommittee

Recommendation:
Conduct a structured engagement process to improve understanding of the health, equity, and access needs of historically marginalized communities as it relates to AVs. Outreach to communities would include education about AVs, presentation of different scenarios of AV use, and involve collection of feedback from community participants.

Historically marginalized communities, which include people of color and people in disinvested areas, are not well represented among decision makers who set AV policies, and may be inequitably impacted when AVs are tested and implemented in Washington. Public engagement would uncover insights that can help Washington State prevent or reduce inequitable consequences associated with the testing and deployment of AVs. Outcomes of this engagement process would be provided to policymakers and industry to assist them in meeting the mobility and access needs of historically marginalized communities.

Executive Committee Action:
Presented to the Executive Committee at the November 12th meeting

With the exception of absent and abstained votes, the Executive Committee reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

WSTC Action:
Presented to the WSTC at the December 15th meeting

With the exception of absent votes, the WSTC reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

Identification of Testing Locations

Recommended by:
Health and Equity Subcommittee

Recommendation:
Amendment of RCW 46.30[35] to require that planned testing locations, at the zip code or census tract level, be reported to the State prior to pilot testing AVs on Washington roads. Reporting of this information would enable the State to examine the demographics and equity considerations of areas where testing is planned.

RCW 46.30 currently requires only provision of information such as company contact information, the name of the city or county in which testing is planned, vehicle identification numbers, and proof of insurance. A requirement to report the location of testing at the zip code or census tract level would provide more granular information that can better inform analysis of demographic and equity impacts. The results would be used to inform future decision making. It is not intended to regulate where AV testing should or should not be done.

Executive Committee Action:
Presented to the Executive Committee at the November 12th meeting

The Executive Committee endorsed the motion with a majority vote. Notwithstanding absent and abstained votes, there were six votes in opposition to the motion from the Executive Committee. Discussion on the recommendation highlighted concern from industry on the impact that information related to testing locations would have on market competition. It was also noted that some information on testing locations is already required of testing entities for the purposes of law enforcement, albeit with less granularity. Members in favor of the motion pointed to the need for a certain level of information to be available to the public, and recommended that such requirements be made to limit the disparities between the requirements imposed for public and private companies that similarly provide mobility services, including public transit.

WSTC Action:
Presented to the WSTC at the December 15th meeting

With the exception of absent votes, the WSTC reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

Increased investment on enhanced roadway pavement markings

Recommended by:
Infrastructure & Systems Subcommittee

Recommendation:
Consideration during new revenue discussions for increase of ongoing investments in enhanced roadway pavement markings to improve traveler safety and support Advanced Driver Assistance Systems deployed on Washington roads today (SAE Levels 0-2) and Automated Driving Systems (SAE Levels 3-5) currently being tested on public roads. Enhanced markings have the potential to support significant incident reductions, and an overall reduction in societal costs.

35 RCW 46.30: https://app.leg.wa.gov/RCW/default.aspx?cite=46.30

Executive Committee Action:
Presented to the Executive Committee at the November 12th meeting

With the exception of absent and abstained votes, the Executive Committee reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

WSTC Action:
Presented to the WSTC at the December 15th meeting

With the exception of absent votes, the WSTC reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

Support WSDOT's work zone data initiative

Recommended by:
Infrastructure & Systems Subcommittee

Recommendation:
Support for WSDOT's work zone data initiative, including increase in ongoing investments when considering new revenues to enhance WSDOT's capacity to develop a comprehensive, real-time work zone database. This database would provide real-time communication to vehicles on the road to enhance both traveler and work zone worker safety.

Executive Committee Action:
Presented to the Executive Committee at the November 12th meeting

With the exception of absent and abstained votes, the Executive Committee reviewed and unanimously endorsed the recommendation. Discussion by Executive Committee members noted that real-time work zone data should be freely available, though matters related to data privacy protection need to be considered.

WSTC Action:
Presented to the WSTC at the December 15th meeting

With the exception of absent votes, the WSTC reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

A Look Back At 2019

Several policy and operational recommendations were brought forth by the Work Group in 2019. The table below outlines the recommendations, and how each recommendation was addressed in 2020 by the Executive Committee and WSTC, and the Legislature.

Table 6: 2019 Recommendations advanced to the Executive Committee and Transportation Commission for consideration

Source	Recommendation	Executive Committee Action	WSTC Action	Outcome and Current Status
POLICY RECOMMENDATIONS				
Liability subcommittee	Consideration to 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	This recommendation was incorporated into House Bill (HB) 2676, introduced and passed in the 2020 legislative session. Section 1 Minimum Insurance Requirements went into effect on June 11, 2020. Prior to implementation, 17 companies self-certified with the DOL to conduct AV testing on public roads. Following implementation, 6 companies remain self-certified. Companies removed from the list were removed for various reasons, such as no longer testing in Washington or no longer in business.

Source	Recommendation	Executive Committee Action	WSTC Action	Outcome and Current Status
Infrastructure & Systems subcommittee	Adopt 8 policy goal statements revised by the subcommittee from the Washington State Department of Transportation (WSDOT) Cooperative Automated Transportation (CAT) Policy Framework	Endorsed	Endorsed	The eight policy goals were incorporated into a draft statewide CAT Policy Framework, which continues to be developed among the subcommittees, including drafting and refining strategies and illustrative actions to support the policy goals.
Infrastructure & Systems subcommittee	Develop statewide CAT/AV Policy Framework that would integrate the WSDOT CAT policy goals along with policy goals developed by other subcommittees	Endorsed	Endorsed	The Infrastructure & Systems Subcommittee developed a draft statewide CAT Policy Framework that incorporates the adopted policy goals, and is coordinating with other subcommittees to evaluate and refine the policy goals and supporting draft strategies and illustrative actions.
Health & Equity subcommittee	Conduct Health Impact Assessment of AVs	No voting action	Endorsed*	The Health & Equity Subcommittee reevaluated this recommendation in 2020, refocusing towards a structured public outreach campaign and collection of testing location data, which the subcommittee recommended at the end of 2020.
OPERATIONAL RECOMMENDATIONS				
Safety subcommittee	Establish new "Health & Equity" Subcommittee	Endorsed	WSTC Created	Health & Equity Subcommittee established and operating.
Executive Committee	Establish new "Labor & Workforce" Subcommittee	Endorsed	WSTC Created	Workforce Subcommittee established and operating.
Executive Committee	Appointment of a disabilities rights representative entity to the Executive Committee	Endorsed	WSTC Appointed	Disabilities' Rights representative was appointed to the Executive Committee and began attending at the September 2019 meeting. No further action taken.
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	No further action taken.

7 Roadmap to 2023

Although 2020 presented several roadblocks, the Work Group continued to charge forward with its roadmap milestones to develop an initial policy framework and refine priorities against the framework throughout the year. The Infrastructure & Systems Subcommittee drafted a statewide CAT Policy Framework that the Work Group continues to review and refine to support and guide Work Group efforts. And, through the Executive Committee's prioritization exercise and identification of actions to advance, the Work Group and its subcommittees have a clearer path forward to hone in on tangible and achievable actions to conduct over the remaining time the Work Group has through 2023.

Figure 2: Washington State Autonomous Vehicle Work Group Roadmap to 2023

Communications Plan

The operation of AVs in Washington has broad implications for a wide variety of people ranging from policymakers to those who will be affected by potential policies. Therefore, readily available public information and clear communications on this topic is vital to enabling a long-term transition to more automation on our roadways and transportation system.

A Communications Plan was developed to provide milestone-driven recommendations for the Work Group to communicate with stakeholders and the general public in a comprehensive, transparent and equitable way. The plan includes the Work Group's policy goals and objectives, communication-specific goals and objectives, an overview of potential stakeholders to communicate with, a communications toolkit, and next steps.

The plan also includes a communications toolkit, focusing on recommended milestones and tools for how to best engage with and communicate to stakeholders. These milestones describe ways to engage the public to inform developing recommendations before they are brought to the Legislature, as well as how to keep stakeholders informed on AV Work Group activities and developing recommendations before, during, and following legislative sessions each year. The following table outlines the major milestones, and the associated communication tools available in the toolkit.

Table 7: Work Group Annual Communications Milestones and Tools

Annual Milestones	Communication Tools for Today & Tomorrow
March - September Work Group and stakeholder engagement prior to legislative session ▪ Development of public policy recommendations ▪ Progress of Work Group	▪ Stakeholder interviews ▪ Survey research and polling ▪ Public workshops ▪ Work group workshops* ▪ Q1 and Q3 newsletters
December Prior to legislative session	▪ Annual report* ▪ Updated website* ▪ Share Q4 newsletter
January Start of legislative session	▪ Earned media engagement
January – March/May Legislative session ▪ Policy evaluation and adoption	▪ Fact sheets/folios for legislators*

March/May
End of legislative session
▪ Policy implementation
	▪ Share results of policy recommendations and next steps through:
	  ▪ Website updates*
	  ▪ Q2 newsletter
	  ▪ Earned media
	  ▪ Digital/online engagement
	  ▪ Factsheet/folio development

* Communications Tools already being implemented

Work Group Support & Facilitation

In 2018, the Legislature approved the WSTC receiving $300,000 per biennium through 2023, to support its charge under the legislation. The WSTC will continue to provide facilitation services for the Work Group through its sunset at the end of 2023, including:

- Maintain and update the Work Group five-year roadmap, charting major milestones the Work Group wants to accomplish to achieve its goals.
- Prepare for and administer Work Group meetings to facilitate discussion and enable guidance.
- Secure speakers / presenters on a range of AV topics from Washington State and nationwide.
- Conduct policy and legal research as needed to support the Work Group's exploration and information gathering.
- Document subcommittee discussion and decisions.
- Host and maintain the Work Group website.
- Develop and maintain communications strategy and materials.
- Annual reporting support.

Appendix A: AV Work Group Future Path Work Session Report and Actions Recommendations Matrix for Subcommittees

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Future Path Work Session

Executive Committee Meeting – June 24, 2020

The WA AV Work Group Executive Committee participated in a work session at the June 24, 2020 meeting to explore the future path of the work group, considering it sunsets at the end of 2023. The following overarching question was posed:

> *Given the legal purview of this Autonomous Vehicle Work Group and the sunset date of 2023, what does the Executive Committee (EC) wish to focus on for the duration of the group, and what role do the Cooperative Automated Transportation (CAT) policy goals adopted by the EC play in guiding that direction?*

BACKGROUND

The WA AV Work Group was legislatively created in 2018 with a charge to follow developments in AV technology and related policies, explore approaches to modify policy to further public safety and prepare for the emergence of AV technology, and share information on AV technology and policies with interested stakeholders.

In 2019, the Work Group's Infrastructure & Systems Subcommittee explored Cooperative Automated Transportation (CAT) and its intersection with AV and the Work Group's charge. CAT broadly represents the confluence of automated, connected, electrified, and shared mobility in a way which contributes toward a safe and efficient transportation that emphasizes public transit and active transportation, and promotes livable (walkable/bikeable), economically vibrant communities with affordable housing and convenient access to jobs and other activity centers. CAT is about more than just vehicles; it includes:

- Modes: Automobile, truck, plane, van, bus, rail, ferry, bicycle, scooter, pedestrian, etc.
- Systems: Vehicles, infrastructure, information, communications, etc.
- Applications: Traffic management, fare collection, mobility services, trip planning, etc.

The Work Group's Executive Committee, and subsequently the Washington State Transportation Commission, voted to endorse the recommendation to adopt eight Cooperative Automated Transportation (CAT) policy goals recommended by the Infrastructure & Systems Subcommittee at the end of 2019. The adopted policy goals are as follows:

- ***Organize for Innovation***: Enable organizational change that empowers officials to be flexible, accelerate decision-making, and adapt to changing technology.
- ***Shared Mobility***: Encourage and incentivize shared mobility, including an emphasis on high occupancy and shared modes for moving people and goods.
- ***Economic Vitality and Livability***: Create resilient and efficient regional networks and empower local agencies to create resilient, multimodal local networks.

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- ***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.
- ***Land Use***: Encourage land use development patterns that support multimodal connectivity to efficient local and regional networks.
- ***Equity***: Work with marginalized communities to increase access to desirable mobility options.
- ***Safety***: Increase the safety of transportation systems and infrastructure to support the safe movement of people and goods.
- ***Environment***: Reduce the local and cumulative environmental impacts of mobility to improve air and water quality, energy conservation and mitigate climate change.

At the June 24th Executive Committee meeting, it was proposed that the adopted CAT policy goals be used as a framework for action. Due to the broad nature of the policy goals, it would require the Executive Committee identify priorities within them so that near-term needs and actionable items can be identified and subsequently addressed by the subcommittees.

With this as the backdrop, the Executive Committee members participated in a live polling exercise to identify priorities and direction for the Work Group's path moving forward. The polling exercise first asked members to rank broad focus areas, then rank actions within each focus area for the Work Group to prioritize. Finally, members were asked to provide insights and thoughts on additional actions to pursue and what the ultimate outcome is most critical to the success of the Work Group. The following report synthesizes the results of the polling exercise.

SYNTHESIZED POLLING EXERCISE RESULTS

RANKING QUESTION #1: Broad Work Group Focus Areas *(rank in order of priority)*

- **Focus on needs for near-term testing of highly automated vehicles**
- **Focus on near- and long-term deployment needs of highly automated vehicles**
- **Focus on achievement of CAT objectives and mitigating potential negative impacts of AV technologies**

RESULTS

Collectively, participants did not indicate a strong preference on how to prioritize broad work group focus areas.

26 Executive Committee member responses

The results of this poll showed almost equal preference across all three focus areas, noting that "Focus on achievement of CAT objectives and mitigating potential negative impacts of AV technologies" ranked at a slightly higher priority over the other two. Though there is little information to provide further context and explanation as to why participants voted in this way, these outcomes may represent the

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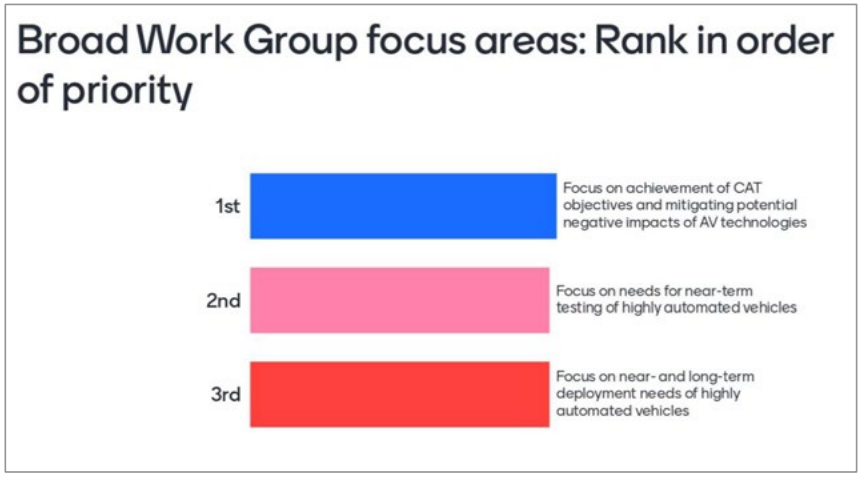
balance of differing perspectives across the participants, and signal that participants as a collective, feel that all three focus areas are important for the Work Group to address in the near term.



RANKING QUESTION #2: Near-Term Testing Activities *(rank in order of priority)*

- **Implementation of and/or revisions to ESHB 2676 section 2: Autonomous Vehicle Testing & Reporting**
- **Conduct open discussions with companies with DOL self-certification to understand what motivates testing decisions**
- **Identify and pursue funding to support pilot and testing activities**

RESULTS

Participants showed clear interest in open discussions with companies undergoing testing to understand motivations for testing decisions, which may help to inform further policy revisions and implementation.

26 Executive Committee member responses

When asked to rank in order of priority, the above three different near-term testing priorities, participants showed clear preference for conducting "open discussions with companies with Department of Licensing (DOL) self-certification to understand what motivates testing decisions". Second in priority was the "Implementation of and/or revisions to ESHB 2676 Section 2: Autonomous Vehicle Testing & Reporting". This ordering indicates a desire for clear understanding of what motivates testing decisions, which could help inform implementation and revisions to ESHB 2676.

Ranked third was to "Identify and pursue funding to support pilot and testing activities". While this activity ranked as a lower priority, responses from the free-form portion of the poll (covered later in this

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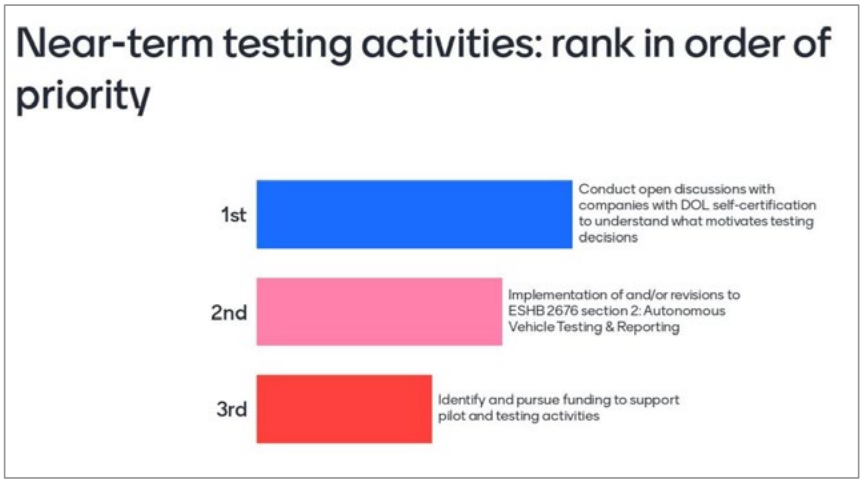
report) did include several responses related to additional testing needed to strategically position Washington at the leading edge of AV development. Its lower ranking among the other two near-term testing activities may signal that participants perceive the other actions to be more pressing in the immediate term, or that funding to support pilot and testing activities is less of a need at this time.



RANKING QUESTION #3: Deployment-Oriented Activities *(rank in order of priority)*

- **Review and recommend revisions to the draft Uniform Law Commission AV Model Bill language & HB 2470**
- **Identify and adopt AV data guiding principles**
- **Develop a prioritized list of topics needing legislative reform (e.g. video screens, public records act, etc.)**
- **Prioritize a list of near-term infrastructure investments to pursue (signing/striping, broadband, etc.)**
- **Develop an Education Plan to communicate the benefits and limitations of ADAS and AV**

RESULTS

Prioritization of near-term infrastructure investments, topics requiring legislative reform, and the need for AV data guiding principles signals interest in laying the groundwork for deployment.

27 Executive Committee member responses

Regarding deployment-oriented activities, participants ranked “Prioritize a list of near-term infrastructure investments to pursue (signing/striping, broadband, etc.)” as highest priority. This was followed by “Develop a prioritized list of topics needing legislative reform (e.g. video screens, public

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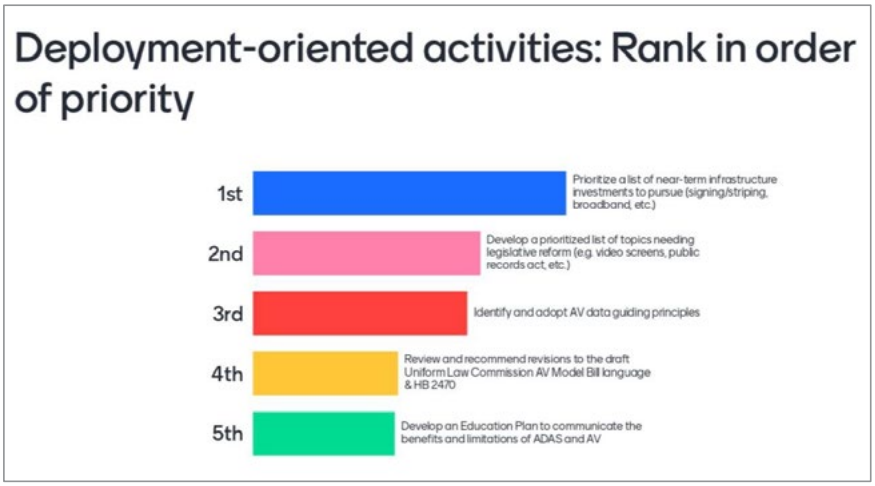
records act, etc.)", and then "Identify and adopt AV data guiding principles" ranked closely behind. Though the prioritization of infrastructure investments was ranked higher by a relatively large margin, all three of these activities relate to laying the groundwork for AV deployment.

Ranked lower were the activities "Review and recommend revisions to the draft Uniform Law Commission AV Model Bill language and HB 2470" and "Develop an Education Plan to communicate the benefits and limitations of ADAS and AV" tied at fourth and fifth. Regarding the Uniform Law Commission AV Model Bill language and HB 2470, the low ranking may be in part due to the fact many subcommittees have already been engaged in ongoing work to review the language, and have been asked to report back on their reviews by the end of 2020.

While the activity for developing an Education Plan for communicating the benefits and limitations of ADAS and AV was ranked the lowest, subsequent free-form responses suggest that it remains a priority for at least some participants. However, the development of an education plan requires a certain level of baseline understanding around the benefits and limitations of ADAS and AVs, and the free-form responses suggest this is an interest of some that has yet to be filled.



RANKING QUESTION #4: CAT-Oriented Activities *(rank in order of priority)*

- **Conduct scenario planning to explore alternative AV futures and potential impacts and policy implications**
- **Develop AV health and equity guiding principles to apply across all subcommittees**
- **Develop engagement opportunities for disadvantaged communities for Work Group discussions**
- **Based on policy goals, prioritize a list of deployment scenarios to enable focused policy and strategy discussion**

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RESULTS

Interest in conducting scenario planning to explore alternative AV futures from participants may point to an interest or need for better understanding of potential impacts and policy implications.

26 Executive Committee member responses

Relating to CAT-oriented actions, participants demonstrated clear preference for the activity to "Conduct scenario planning to explore alternative AV futures and potential impacts and policy implications." This was followed by the activities "Based on policy goals, prioritize a list of deployment scenarios to enable focused policy and strategy discussion" and "Development engagement opportunities for disadvantaged communities for Work Group Discussions." This ranking would appear to suggest participants perceive the need for better understanding of possible impacts from alternative AV futures, which would help to inform subsequent opportunities such as prioritizing deployment scenarios to enable policy and strategy discussions, and to develop more targeted engagement opportunities for disadvantaged communities within Work Group discussions. Without thorough understanding of the different ways AV futures could evolve, and the policy implications each brings, it would be difficult to have a fruitful discussion on policy and strategy within the Work Group, as well as with the broader community.

Ranked fourth and last in this question was the activity to "Develop AV health and equity guiding principles to apply across all subcommittees". Though ranked last in priority, free-form responses suggest this does not mean participants do not see this activity as important. On the contrary, health and equity were common considerations highlighted in the free-form responses. This may signal that while participants are concerned about health and equity, there lacks clarity on how guiding principles could be developed and applied across subcommittees without activities, such as scenario planning, to help them understand the various alternative futures. This further highlights the importance of prioritizing actions that contribute to building the collective understanding around the implications of ADAS and AVs.

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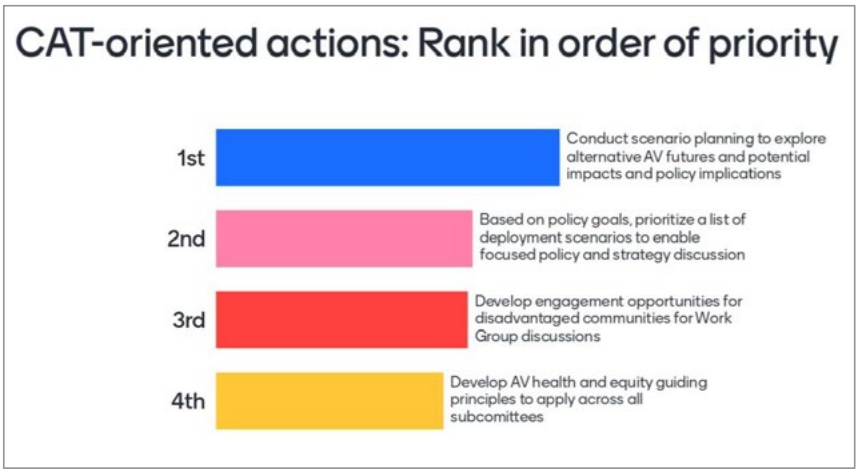

Following the focus area rankings, Executive Committee members were asked to provide free-form responses to two questions:

- **"What Action or Focus Area Did You Not See That You Feel Should Be Prioritized?"**
- **"In a Few Words, What Single Outcome Do You See as the Most Critical to the Success of this Group?"**

Responses to these two free-form questions resulted in some key points coming to the surface that highlight the complexity of the Work Group's charge, purview, and ability to achieve the desired objectives within its remaining 3 years. The following section synthesizes these key points. The full list of free-form responses can be found in Appendix A at the end of this document.

- **Interest from participants in prioritizing achieving desired outcomes while also being at the leading edge of technology development poses a potential dichotomy the Work Group may need to contend with.**

  Clear from the freeform responses were two key priorities. On the one hand, participants highlighted the need for the Work Group to provide guidance to ensure desirable outcomes for people across Washington, particularly from the perspectives of safety, mobility, and equity. However, on the other hand, there were also participants who emphasized the need to strategically position Washington at the leading edge of ADAS and AV testing and development, and the need for a light-touch regulatory environment to make Washington the nation's place to innovate in the AV industry. In some ways, these are competing priorities, and pose a potential dichotomy the Work Group and Transportation Commission may need to contend with. In addition to considering the prioritization of actions, there may be a need to consider how the needs of different constituents and stakeholders are prioritized in this space.

- **Participants highlighted a need for better assessment and understanding of impacts from AVs to inform the development of policies and the implementation and deployment of potential use cases.**

  In alignment with the outcomes of the rank order questions, participants indicated a clear interest in pursuing opportunities to gain a better understanding of expected impacts from AVs. Participants specifically highlighted needs around understanding the risks of testing on public roads, the broader transportation system, and the specific needs of people from disadvantaged communities who are already mobility constrained.

- **Better intergovernmental coordination and information sharing, both with other levels of government and other states was suggested as a key priority.**

  Many participants highlighted the need for Washington to conduct better intergovernmental coordination and information sharing with other levels of government, as well as with other states. The responses emphasized that policies in this state need to align with federal policies, while also providing effective guidance to local governments. Participants also highlighted the need to collaborate with other states to ensure Washington does not function in a vacuum, and that the State is able to learn from the emerging state-of-practice being developed elsewhere.

RECOMMENDATIONS

Recommendations have been developed for how the Work Group can approach each action prioritized under the three broad focus areas, with suggestions for how each subcommittee can support the action going forward. These recommendations are meant to serve as a starting point for the Work Group and its subcommittees, providing an overview of each action, their benefits and implications, and how they may impact each subcommittee's purview.

The recommendations are documented in Appendix B (separate document) *WA AV Work Group Future Path Prioritization Recommendations Matrix*.

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APPENDIX A: FREE-FORM QUESTION RESPONSES

FREE-FORM QUESTION #1: What Action or Focus Area Did You Not See That You Feel Should Be Prioritized?

EXECUTIVE COMMITTEE MEMBER RESPONSE	PRIMARY THEME
Anticipated impact of COVID-19 and state and local responses on AV deployments and use cases in Washington	Exploration of use cases
Risk assessment for testing on public roads	Assessment of impacts
Data privacy; Interoperability; legacy issues	System operations
We do need some focus on making testing and deployment happen in Washington	Washington based tech development
What kinds of applications are more implementable given the current AV technologies' maturity level?	Exploration of use cases
Identify potential for dedicated autonomous road corridors to facilitate freight shipping lanes	Guidance towards implementation and deployment
Develop a new 21st Century Transportation Plan that integrates AVs into all aspects of the plan, such as last mile, serving disadvantaged, etc.	Guidance towards implementation and deployment
Additional industry panels to education work group on what's really happening on AV	Raise local industry awareness
Comparative regulatory analysis - what are other states across the country doing?	Raise local industry awareness
Status of highway infrastructure - what do we need to change as a state?	Guidance towards implementation and deployment
I would suggest a high-level reference point - from the point of policy that needs to be changed. From the point of people who will use or be affected by AV tech. Companies will do fine innovating - this work group should focus on impacts of tech	Assessment of impacts
Funding to support broader participation in this work, focused on BIPOC participation	Assessment of impacts
Multi state collaboration to standardize regulations/ approach	Raise local industry awareness
Federal guidance and efforts they are taking at that level	Raise local industry awareness
Federal and other state cooperation. We should not operate in a WA only vacuum	Raise local industry awareness

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EXECUTIVE COMMITTEE MEMBER RESPONSE	PRIMARY THEME
Learning from other industries who are doing autonomous technology that is more widespread in adoption than AV is, such as aviation, and marine shipping.	Raise local industry awareness
Understanding who is currently left out/ negatively impacted by our transportation system and whether AVs will increase those disparities or create new ones	Assessment of impacts
Preparing and transitioning the workforce for changes in freight and supply chain work.	Assessment of impacts
Re: objective of the group: How do we continue to cultivate and nurture AV technology to improve mobility for all, reduce carbon emissions and help save lives, especially in the time of COVID-19? -- Charles	Guidance towards implementation and deployment

FREE-FORM QUESTION #2: In a Few Words, What Single Outcome Do You See as the Most Critical to the Success of this Group?

EXECUTIVE COMMITTEE MEMBER RESPONSE	PRIMARY THEME
Policy guidance for state agencies	Policy guidance for state agencies and local governments
WA is prepared for AVs and on the leading edge of deployment	Strategic positioning of WA at leading edge
Specific policy changes that keep people safe while expanding use of AV Tech	Guidance to ensure desired outcomes for people
Diversity and scale of AV deployment and testing in the state	Strategic positioning of WA at leading edge
Clear laws that enable and support AV deployment in the future	Strategic positioning of WA at leading edge
Clear, concise guidance that aligns with Federal for near term AV testing	Intergovernmental policy alignment
Accomplish several key milestones (policy, law, and applications) people would care	Guidance to ensure desired outcomes for people
The state is prepared to allow/receive AVs on our roadways	Strategic positioning of WA at leading edge
ADAS and vehicle automation systems improve the safety and mobility for all people traveling in Washington State	Guidance to ensure desired outcomes for people

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EXECUTIVE COMMITTEE MEMBER RESPONSE	PRIMARY THEME
Establish a foundation for safe and equitable deployment of AV technology	Guidance to ensure desired outcomes for people
Create a vision for how we want CAT to look/operate for Washington future	Guidance to ensure desired outcomes for people
An ecosystem that encourages AV development and implementation. We need more action in this space or the system will develop without us	Strategic positioning of WA at leading edge
Informing a legal and regulatory framework that encourages testing/ use of AV's	Strategic positioning of WA at leading edge
Policy guidance for the safe deployment of AV	Guidance to ensure desired outcomes for people
Policy recommendations on how to maximize benefits of AV's to our transportation system.	Leverage benefits of AVs for transportation system
Support for local government to prepare for deployment and infrastructure development and clear guidelines for data collection to inform future decisions	Policy guidance for state agencies and local governments
Education for all those impacted	Public education and awareness of impacts
Desired outcome: WA continues to be a leader in cultivating and nurturing AV technology innovation.	Strategic positioning of WA at leading edge
Policy direction to steer the industry toward positive impacts for the environment and to leverage current mass transit system options for those who would choose not to drive for whatever reason	Guidance to ensure desired outcomes for people
Policies that produce safe and equitable deployment of AV technology	Guidance to ensure desired outcomes for people
Definitive policies that align with the AV technology AND user-based needs for safe and cost-efficient implementation within the state	Guidance to ensure desired outcomes for people
Thoughtful planning that considered health, safety, mobility and equity	Guidance to ensure desired outcomes for people
Comprehensive study of equity issues of our current transportation system which allows us to develop a strategic approach to deploy AVs so that this technology bridges gaps/ reduce disparities	Guidance to ensure desired outcomes for people
A robust competitive innovative group of companies investing in Washington State. A light touch regulatory environment that makes Washington the nation's place to innovate in AV industry	Strategic positioning of WA at leading edge

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APPENDIX B: WA AV Work Group Future Path Prioritization Recommendations Matrix

Appendix B is documented in a separate document.

Highlighted cells in columns F through M indicate a suggested lead entity for the action

			Description	Workgroup Roles	Executive Committee	Health and Equity Subcommittee	Infrastructure & Systems Subcommittee	Liability Subcommittee	Licensing Subcommittee	Safety Subcommittee	System Technology & Data Security Subcommittee	Workforce Subcommittee
Broad Focus Area	**Rank**	**Action**			contributing action	contributing action	contributing action	contributing action	contributing action	contributing action	contributing action	contributing action
Near-Term Testing Activities	1st	**Conduct open discussions with companies with DOL self-certification to understand what motivates testing decisions**	Companies that self-certify to test their technologies in Washington State do so for varying reasons and in varying ways. Improved understanding of what motivates testing decisions (such as where, when, and how companies choose to operate in Washington State) is be better prepared to address emerging needs, remove obstacles to testing as appropriate, find alignment with State priorities, and help inform the development of policy frameworks that guide testing and future deployment towards more desirable outcomes.	As the companies with self-certification are currently registered through the DOL, the DOL and the 'Licensing' Subcommittee are best placed to engage these companies in discussion on the motivations of their testing decisions. The remainder of the Work Group could contribute to the discussion either through direct participation or through guidance pertaining to their respective topics.	Contribute to the discussion and ensure that key questions and considerations around motivations for testing are considered.	Contribute to discussions as a subcommittee and/or as its members desire. For example: • Ensure motivations for testing decisions do not conflict with health and equity objectives • Identify opportunities where testing decisions may be leveraged in support of health and equity objectives	Contribute to discussions as a subcommittee and/or as its members desire. For example: • Identify potential alignment between motivations for testing and priorities from the perspective of infrastructure and other supporting systems • Identify infrastructure and systems needs that may encourage testing opportunities	Contribute to discussions as a subcommittee and/or as its members desire. For example: • Consider the liability implications of various testing scenarios that are of interest to industry partners	Facilitate and/or provide guidance on discussions with self-certified companies. For example: • Engage self-certifying entities through the DOL • Provide guidance to the DOL on interviews and/or workshops with self-certifying entities	Contribute to discussions as a subcommittee and/or as its members desire. For example: • Ensure motivations for testing decisions do not conflict with or compromise safety objectives • Identify potential alignment between motivations for testing decisions and priorities for testing related to safety	Contribute to discussions as a subcommittee and/or as its members desire. For example: • Ensure motivations for testing decisions do not conflict with or compromise objectives around data security and privacy • Identify potential alignment between motivations for testing decisions and priorities for system technology and data security	Contribute to discussions as a subcommittee and/or as its members desire. For example: • Ensure that motivations for testing decisions do not conflict with or compromise objectives related to workforce safety and rights
Near-Term Testing Activities	2nd	**Implementation of and/or revisions to ESHB 2676 section 2: Autonomous Vehicle Testing & Reporting**	Section 2 of ESHB 2676 establishes the minimum reporting requirements for companies that self-certify to test their technologies in Washington State. In its current form, the information required from self-certifying entities include contact information, the local jurisdictions where testing is planned, vehicle identification numbers, and proof of insurance. The bill lays out the information required to be filed before, during, and after testing, including any incidents that occur. It also specifies requirements for public access to information, and retains the ability for a fee to be charged to offset administrative costs.	As the DOL has led the charge on implementation and revision of ESHB 2676, the DOL and the 'Licensing' Subcommittee are best placed to continue the work of revising Section 2, and to implement the established requirements with companies that have self-certified for testing. The remainder of the Work Group could contribute by providing input to the revisions of Section 2 of ESHB 2676 based on the priorities and objectives represented by each subcommittee.	Serve as a clearinghouse for the proposed revisions to the requirements in Section 2. For example: • Provide an overarching perspective on testing considerations to address areas not covered by any subcommittee • Ensure a balance of perspectives are considered	Provide input on revisions to Section 2 requirements based on subcommittee priorities and objectives. For example: • Ensure that reporting requirements sufficiently address questions that need to be answered from the perspective of equity, and that the data of where testing is being done and the services being provided	Provide input on revisions to Section 2 requirements based on subcommittee priorities and objectives. For example: • Identify potential reporting requirements that would allow a better understanding of the expected interaction between autonomous sensing and infrastructure and other supporting systems	Provide input on revisions to Section 2 requirements based on subcommittee priorities and objectives. For example: • Ensure that reporting requirements are sufficient in addressing matters related to liability, and enables the State to appropriately assign responsibility over various aspects of testing	Solicit input from other subcommittees and key stakeholders to revise Section 2 of ESHB 2676, and support the DOL as it progresses to implementation of the updated requirements. For example: • Circulate language from Section 2 of ESH 2676 to other subcommittees for review and incorporate input • Facilitate discussion with other subcommittees to capture the balance of perspectives from the different subcommittees	Provide input on revisions to Section 2 requirements based on subcommittee priorities and objectives. For example: • Ensure that reporting requirements are sufficient for addressing questions related to AV safety	Provide input on revisions to Section 2 requirements based on subcommittee priorities and objectives. For example • Ensure that the reporting requirements for self-certifying entities sufficiently protect the privacy of those involved, while providing the transparency of the state of practice in mobility data reporting	Provide input on revisions to Section 2 requirements based on subcommittee priorities and objectives. For example: • Ensure that reporting requirements are sufficient in addressing matters related to workforce safety and rights • Ensure that reporting requirements are adequate in informing Washington State and its stakeholders in the tracking of workforce trends
Near-Term Testing Activities	3rd	**Identify and pursue funding to support pilot and testing activities**	Funding could be identified and pursued to support pilot and testing activities that specifically address the needs and objectives of the state, the Work Group, or a subset of the Work Group's membership.	All workgroup subcommittees should work to identify and pursue funding to support pilot testing activities. However, given that many of the current funding opportunities for pilot and testing activities exist within the transportation sector, the DOL and the Infrastructure and Systems Subcommittee may be best positioned to identify, initiate, lead, and/or support the pursuit of those opportunities. Other Work Group subcommittees could contribute by identifying and pursue additional funding opportunities through their networks.	Leverage the Executive Committee's network to identify funding opportunities, and based on subcommittee inputs, make recommendations to the Transportation Commission on opportunities to pursue. For example: • Review the funding sources identified by the subcommittees to ensure alignment and non conflict with broader Work Group priorities and needs	Consider how subcommittee goals may be achieved through pilot/testing activities For example: • Explore potential for any pilot activities to incorporate access to disadvantaged populations • Explore potential for any pilot activities to include a health impact assessment or other study of outcomes and how they may impact health and equity	Build on understanding of existing funding sources to identify and pursue funding to support pilot and testing activities. For example: • Identify use cases which meet work group and CAT policy goals and may be suitable/eligible for pilot funding • Identify existing transportation and infrastructure funding sources from the Federal Government that could be leveraged to support pilot and testing activities	Consider how subcommittee goals may be achieved through pilot/testing activities For example: • Consider potential partnerships within the insurance industry where testing and pilot objectives align with or are compatible with policy goals and objectives	Consider how subcommittee goals may be achieved through pilot/testing activities For example: • Explore opportunities to partner with private companies, such as those that have self-certified through the DOL, where testing priorities and objectives align or are compatible	Consider how subcommittee goals may be achieved through pilot/testing activities For example: • Identify existing funding sources from the Federal Government that are oriented towards improving transportation safety	Consider how subcommittee goals may be achieved through pilot/testing activities For example • Consider potential partnerships with private companies that have similar priorities and objectives in studying the management of data and information from AVs and ADAS	Consider how subcommittee goals may be achieved through pilot/testing activities For example: • Consider funding opportunities from the Federal Government that are oriented towards workforce safety, rights, and workforce training and transition

Highlighted cells in columns F through M indicate a suggested lead entity for the action

Description				Workgroup Roles	Executive Committee	Health and Equity Subcommittee	Infrastructure & Systems Subcommittee	Liability Subcommittee	Licensing Subcommittee	Safety Subcommittee	System Technology & Data Security Subcommittee	Workforce Subcommittee
Broad Focus Area	Rank	Action			contributing action	contributing action	contributing action	contributing action	contributing action	contributing action	contributing action	contributing action
Deployment-Oriented Activities	1st	**Prioritize a list of near-term infrastructure investments to pursue (signing/striping, broadband, etc.)**	Certain advanced and automated driving technologies may necessitate specific infrastructure needs to support proper function and ensure safe operation. Prioritization of a list of near-term infrastructure investments to pursue could support the advancement of near-term testing and eventually deployment.	The 'Infrastructure and Systems' Subcommittee is best placed to lead the identification and prioritization of a list of near-term infrastructure investments to pursue. The remainder of the Work Group could contribute by providing input on the anticipated impacts of the infrastructure investments based on the anticipated impacts of the infrastructure investments on the priorities and objectives of each subcommittee.	Provide overarching guidance on the prioritization of infrastructure investments, and ensure a balance of perspectives across the subcommittees For example: • Review prioritized list of near-term infrastructure investments and ensure balanced consideration of input from all subcommittees • Facilitate the submission of recommendation from the subcommittees to the Transportation Commission	Provide input on prioritization based on positive or negative impacts of infrastructure investments to subcommittee focus. For example: • Encourage prioritization of supporting infrastructure, such as broadband in disadvantaged communities to ensure equal opportunity for deployment of technology • Discourage infrastructure investments that would negatively impact the urban environment for other road users, particularly that of pedestrians and cyclists	Solicit input from the rest of the Work Group and develop a list of potential near-term infrastructure investments to pursue, and identify top priorities to include as part of recommendation for Executive Committee and Transportation Commission. For example: • Work with AV technology companies to determine emerging infrastructure needs • Host workshops with all subcommittees to identify and prioritize investments • Develop a prioritization framework according to a balance of the priorities and objectives of the other subcommittees	Provide input on prioritization based on positive or negative impacts of infrastructure investments to subcommittee focus. For example: • Ensure that prioritized infrastructure investments do not compromise infrastructure state-of-good-repair, and other elements for which the infrastructure • Consider the risks and liabilities associated with infrastructure investments expressly intended to support AV operation	Provide input on prioritization based on positive or negative impacts of infrastructure investments to subcommittee focus. For example: • Play a role in determining infrastructure priorities as facilitator of dialogue between companies self-certified for testing in the state to understand improvements desired by those companies	Provide input on prioritization based on positive or negative impacts of infrastructure investments to subcommittee focus. For example: • Identify infrastructure investments that support safe operation of AVs and ADAS, such as wider (at least 6 inches) retroreflective striping to support lane-keeping technologies	Provide input on prioritization based on positive or negative impacts of infrastructure investments to subcommittee focus. For example: • Ensure that any underlying communications, data, and information infrastructure investments are proposed with cybersecurity and privacy protection in mind	Provide input on prioritization based on positive or negative impacts of infrastructure investments to subcommittee focus. For example: • Ensure that changes to the transportation system created by recommended infrastructure investments do not compromise or overlook the safety of workers who support the operation of the roadway system. This may include impacts to construction zones where the quality of infrastructure varies depending on evolving conditions
Deployment-Oriented Activities	2nd	**Develop a prioritized list of topics needing legislative reform (e.g. video screens, public records act, etc.)**	Most existing legislation is designed for manually driven vehicles and may not appropriately address the impacts and requirements of AVs and/or other vehicles with features similar to ADAS. Legislative reform may be needed to provide the appropriate framework for near-term testing and future deployment of vehicles with ADAS and AVs. This may include enabling the use of in-vehicle features previously prohibited in manually driven vehicles, or establishing limitations on features or use cases that may be in conflict with overarching objectives.	All workgroup subcommittees should contribute to the identification of topics needing legislative reform. Given the broad range of potential legislative considerations that may occur across separate streams through the various subcommittee sponsor agencies, according to their legislative responsibilities.	Provide overarching guidance on the prioritization of topics needing legislative reform, and ensure a balance of perspectives across the subcommittees. For example: • Provide guidance where there are points of overlap or contradiction across the different subcommittees • Facilitate the submission of recommendation from the subcommittees to the Transportation Commission	Review existing legislation to identify topics in need of reform to address the priorities and objectives of the subcommittee. For example: • Consider legislative reform required to ensure equitable treatment of passengers that make use of AV services • Consider legislative reform to ensure that ADAS and AV technologies do not have inherent biases in their treatment of different parts of the population	Review existing legislation to identify topics in need of reform to address the priorities and objectives of the subcommittee. For example: • Consider legislative reform required in relation to the use of different road rights-of-way by AVs • Consider legislative reform to require consideration of AV implications in statewide transportation planning efforts	Review existing legislation to identify topics in need of reform to address the priorities and objectives of the subcommittee. For example: • Identify the legislative reform required to align with and/or adapt to emerging definitions and terminology (including potential language from the Uniform Law Commission)	Review existing legislation to identify topics in need of reform to address the priorities and objectives of the subcommittee. For example: • Consider review of driver licensing requirements to account for interactions between manual drivers and AVs • Consider a review of licensing requirements for mobility service providers to account for use of AVs	Review existing legislation to identify topics in need of reform to address the priorities and objectives of the subcommittee. For example: • Consider legislative reform to require safety features, such as the ability for manual override of automated driving under emergency situations • Consider legislative reform to ensure passenger safety and security on mobility services that make use of AVs, such as in-vehicle security features or limitations for unattended shared ride services	Review existing legislation to identify topics in need of reform to address the priorities and objectives of the subcommittee. For example: • Review the Public Records Act for potential topics in need of reform • Consider legislative reform required to ensure the protection of data generated from the use of AVs and ADAS, such as owner and passenger information, tracked locations from passenger AVs, and any imagery collected from vehicles for unattended shared ride services	Review existing legislation to identify topics in need of reform to address the priorities and objectives of the subcommittee. For example: • Consider legislative reform to protect the rights of workers dislocated by the deployment of AVs and ADAS
Deployment-Oriented Activities	3rd	**Identify and adopt AV data guiding principles**	Transportation vehicle technologies like AVs and other vehicles with ADAS collect, use, and generate a significant amount of data. While the data can be used to reveal valuable insights, it can also lead to challenges such as privacy and cybersecurity.	The 'System Technology & Data Security' Subcommittee is best placed to lead the identification and adoption of data guiding principles. The remainder of the Work Group could contribute by providing input and feedback on the guiding principles based on the priorities and objectives of each subcommittee.	Provide overarching guidance and serve as a clearinghouse on the AV data guiding principles. For example: • Provide guidance where there are points of overlap or contradiction across the different subcommittees • Facilitate the submission of recommendation from the subcommittees to the Transportation Commission	Provide input on the data guiding principles based on the priorities and objectives of the subcommittee. For example: • Ensure that the AV data guiding principles recognize, and address the potential for inequitable representation of different parts of the population within data	Provide input on the data guiding principles based on the priorities and objectives of the subcommittee. For example: • Ensure that AV data guiding principles recognize data needs from an infrastructure planning and investment perspective • Ensure that AV data guiding principles direct the collection of data to be interoperable with existing data collected by infrastructure owners and operators	Provide input on the data guiding principles based on the priorities and objectives of the subcommittee. For example: • Where necessary, ensure that AV data guiding principles consider liabilities associated with maintaining the accuracy and completeness of data used in critical functions, such as standard vehicle operations or emergency and work zone detours	Provide input on the data guiding principles based on the priorities and objectives of the subcommittee. For example: • Review proposed AV data guiding principles to ensure consistency with data needs from a licensing standpoint • Facilitate the gathering of input from companies that have self-certified through the DOL	Provide input on the data guiding principles based on the priorities and objectives of the subcommittee. For example: • Ensure that AV data guiding principles recognize data needs from a safety perspective • Ensure that AV data guiding principles direct the collection of data to be interoperable with existing data collected for the tracking and assessment of safety	Lead the identification of AV data guiding principles, and work with other subcommittees to determine avenues for adoption. For example: • Identification and evaluation of existing industry and national best practices on AV data guiding principles • Engage other subcommittees in providing feedback on data guiding principles, and incorporate accordingly	Provide input on the data guiding principles based on the priorities and objectives of the subcommittee. For example: • Identify where AV data guiding principles could be leveraged to protect the privacy and rights of workers • Consider the impact of new AV data guiding principles on needs from a workforce training perspective
Deployment-Oriented Activities	4th	**Review and recommend revisions to the draft Uniform Law Commission AV Model Bill language & HB 2470**	The Uniform Law Commission AV Model Bill language and HB 2470 seek to establish definitions and parameters around the licensing of AVs and vehicles with ADAS. The draft language includes numerous definitions for terms including "Associated automated vehicle", "Automated driving provider", "Automated driving system", "Automated operation", "Automated vehicle", "Completely automated trip", "Dedicated automated vehicle", "Dynamic driving task", "Minimal risk condition". Adoption of definitions will influence the effect and interpretation of the language in the bill, as well as the roles and responsibilities of entities involved in the provision, operation, and use of these technologies.	As the language put forward in the Uniform Law Commission AV Model Bill and HB 2470 could have a direct impact on the assignment of liability across different actors within the AV ecosystem, as well as those of other users of the road, this actions is of greatest relevance to the 'Licensing' and 'Liability' subcommittees. In particular, the 'Licensing' subcommittee may be best positioned to lead review of this language as companies that have self-certified through the DOL will be impacted greatly by the proposed definitions and terms. The remainder of the Work Group could contribute by providing recommended revisions to the draft language.	Provide overarching guidance and serve as a clearinghouse on any recommended language revisions. For example: • Uphold objective for alignment of terms and definitions put forward by the Uniform Law Commission • Review to ensure a balance of perspectives across the different subcommittees	Review and provide input on revisions from the perspective of the priorities and objectives of the subcommittee. For example: • Assess the impact of recommended language such as exceptions to prohibitions on television viewers, screens, and personal electronic devices, and consider whether this is sufficient in addressing the range devices that are used by people of variable backgrounds and bodily ability	Review and provide input on revisions from the perspective of the priorities and objectives of the subcommittee. For example: • Consider the impact of the recommended language on roadway maintenance and operations, particularly within the limits of a highway where an operator is not required to occupy an AV under automated operation.	Review and provide input on revisions from the perspective of the priorities and objectives of the subcommittee. For example: • Consider the impact of the recommended language on the assignment of liability to the various actors within the AV environment, such as the responsibility of "automated driving providers" on violations of the rules of the road by an associated AV under automated operation.	Review and assess the impact of newly defined terms and definitions on the assignment of liability across different actors within the AV and ADAS environment. For example: • Engage companies that have self-certified for testing through the DOL on potential impacts that the recommended language could have on their operations • Consolidate the inputs of other subcommittees and provide recommended revisions to the Executive Committee.	Review and provide input on revisions from the perspective of the priorities and objectives of the subcommittee. For example: • Consider the impact of the recommended language and definitions of terminology on the enforcement of traffic safety laws and the determination of responsibility for traffic safety incidents, including under situations when an AV operating in automated mode does not have an operator occupying the AV. • Review and evaluate the safety impacts of recommended language, including exclusions for dedicated AVs from vehicle equipment requirements related to the dynamic driving task performed by a human driver.	Review and provide input on revisions from the perspective of the priorities and objectives of the subcommittee. For example: • Consider the impact of the recommended language, and proposed terms and definitions, on the interpretation of AV data guiding principles, and the requirements associated with the sharing of AV data.	Review and provide input on revisions from the perspective of the priorities and objectives of the subcommittee. For example: • Consider the impact of the recommended language and proposed definitions and terms on the roles, responsibilities, and liabilities of workers who support services that operate or support AV mobility services.
Deployment-Oriented Activities	5th	**Develop an Education Plan to communicate the benefits and limitations of ADAS and AV**	Variable understanding of the benefits and limitations of ADAS within the industry and among the general public raises the potential for misinformation and misunderstanding. This could result in either under reliance on the technology–leading to missed opportunities where the technology could be leveraged to improve transportation outcomes–or over reliance on the technology–leading to severe risks to safety. Development of an Education Plan would help to create greater clarity and consistency around the benefits and limitations of ADAS and AV, and ensure that the appropriate information is provided to stakeholders at pace with technological development, testing, and deployment.	Education of the industry, the public, as well as new and existing drivers is a responsibility across the subcommittees. However, The 'Safety' Subcommittee, led by the WTSC, is best placed to lead discussions related to the development of an Education Plan to communicate the benefits and limitations of ADAS and AVs. The remainder of the Work Group could contribute by ensuring the Education Plan reflect the priorities and objectives of their members, and that the information is disseminated through the appropriate avenues to users of the transportation system.	Provide overarching guidance and serve as a clearinghouse on any recommended language revisions. For example: • Ensure that the Education Plan addresses education for a range of potential audiences	Provide input to the Education plan based on the priorities and objectives of the subcommittee, and ensure equitable distribution of educational resources. For example: • Ensure that the education plan addresses the varying needs of people of variable backgrounds and bodily ability. • Ensure that any education plan, and resultant educational materials, are disseminated equitably to all.	Provide input to the Education plan based on the priorities and objectives of the subcommittee. For example: • Provide input to the development of the Education Plan to ensure that information regarding interactions between ADAS and AVs with transportation infrastructure (including road rights-of-way and communications infrastructure) are accurately, and adequately, addressed. • Identify avenues of communication to new and existing drivers, as well as through signage to direct road users towards additional information about ADAS and AVs.	Provide input to the Education plan based on the priorities and objectives of the subcommittee. For example: • Ensure that the education plan addresses the varying needs of drivers with variable backgrounds in companies that are self-certified for testing, and eventually deployment. • Consider additional measures, such as advanced certification for self-certified testing and/or deployment entities as an acknowledgement of their understanding of the benefits and limitations of ADAS and AV.	Provide input to the Education plan based on the priorities and objectives of the subcommittee. For example: • Consider revisions to driver licensing requirements needed for drivers who share the roads with vehicles equipped with ADAS and AV. • Explore avenues, such as licensing renewal, for ensuring that existing drivers	Through the WTSC, collaborate with other subcommittees to develop an education plan. For example • Ensure that emerging information on the safety benefits and limitations of ADAS and AVs is appropriately captured and disseminated to the various users who require this information • Work in collaboration with other subcommittees to incorporate specific benefits and limitations that pertain to their areas of focus, and identify different avenues through which the information could be communicated.	Provide input to the Education plan based on the priorities and objectives of the subcommittee. For example: • Ensure that the education plan addresses the varying needs of the limitations of ADAS and AVs as it relates to systems technology and data security, such as information for existing transit and mobility providers interested in transitioning towards the use of ADAS and AVs	Provide input to the Education plan based on the priorities and objectives of the subcommittee. For example: • Ensure that the education plan addresses the varying needs of the limitations of ADAS and AVs as it relates to systems technology and workers and contractors who support the testing and deployment of AVs.

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					Executive Committee	Health and Equity Subcommittee	Infrastructure & Systems Subcommittee	Liability Subcommittee	Licensing Subcommittee	Safety Subcommittee	System Technology & Data Security Subcommittee	Workforce Subcommittee
Broad Focus Area	Rank	Action	Description	Workgroup Roles	contributing action	contributing action	contributing action	contributing action	contributing action	contributing action	contributing action	contributing action
CAT-Oriented Actions	1st	**Conduct scenario planning to explore alternative AV futures and potential impacts and policy implications**	Despite increasing certainty around the capabilities of ADAS and AV technology, there remains a substantial amount of uncertainty around how the technologies will impact the transportation system, and more broadly, society as a whole. Scenario planning is a common tool for exploring areas of understanding uncertainty, and has been widely used to inform understanding of emerging mobility options and technologies. Conducting scenario planning to explore alternative AV futures for Washington State would help to identify potential impacts and policy implications, and provide guidance on potential strategies and solutions that need to be considered to support desirable outcomes.	Conducting a scenario planning exercise is a major undertaking that is likely to require significant effort beyond the scope of the Work Group subcommittees, and would likely best be handled by an agency which can contract for support services or provide sufficient staff time/expertise. The Executive Committee may be well positioned to lead a scenario planning exercise at this time, each subcommittee could contribute to a recommendation for scenario planning to be conducted, and elevate specific considerations based on the priorities and objectives of their subcommittee.	Elevate the need for scenario planning to the Transportation Commission and Legislature, and support the initiation of scenario planning as an action for the subcommittees to engage in.	Contribute to recommendation for scenario planning, and engage in any subsequent scenario planning activities through the lens of the subcommittee's priorities and objectives. For example: • Ensure that the scenario planning process includes consideration for implications related to impacts on different communities, particularly those who have been historically marginalized and/or disadvantaged.	Contribute to recommendation for scenario planning, and engage in any subsequent scenario planning activities through the lens of the subcommittee's priorities and objectives. For example: • Ensure that the scenario planning process includes consideration for implications related to a full range of infrastructure and systems in the state that could be impacted by ADAS and AV technology.	Contribute to recommendation for scenario planning, and engage in any subsequent scenario planning activities through the lens of the subcommittee's priorities and objectives. For example: • Contribute to the scenario planning discussion by identifying implications to liability that could manifest under different scenarios	Contribute to recommendation for scenario planning, and engage in any subsequent scenario planning activities through the lens of the subcommittee's priorities and objectives. For example: • Contribute to the scenario planning discussion by identifying potential scenarios where changes to licensing may be needed or serve as a solution.	Contribute to recommendation for scenario planning, and engage in any subsequent scenario planning activities through the lens of the subcommittee's priorities and objectives. For example: • Ensure that the scenario planning process includes consideration for implications related to different aspects of safety, including on-road safety for different road users, as well as in-vehicle safety for passengers.	Contribute to recommendation for scenario planning, and engage in any subsequent scenario planning activities through the lens of the subcommittee's priorities and objectives. For example: • Contribute to the scenario planning process includes consideration for implications related to system technology and data security, such as emergent needs for data and information management for various stakeholders.	Contribute to recommendation for scenario planning, and engage in any subsequent scenario planning activities through the lens of the subcommittee's priorities and objectives. For example: • Ensure that the scenario planning process includes consideration for implications to the workforce, such as existing workers who may be dislocated from their current roles due to the deployment of ADAS and AVs in different capacities.
CAT-Oriented Actions	2nd	**Based on policy goals, prioritize a list of deployment scenarios to enable focused policy and strategy discussion**	Although much of the technological development in ADAS and AVs has been led by private industry, opportunities exist to deploy the technologies in ways that can serve policy goals and objectives. Establishing a prioritized list of potential ADAS and AV deployment scenarios or use cases based on policy goals can help to enable a more focused policy and strategy discussion, and provide greater guidance on pilots and testing, infrastructure investments, and required legislative reform.	Policy goals related to the deployment of ADAS and AVs are focused strongly on the impact to users within the transportation system, and the opportunities to improve mobility by leveraging these opportunities. While most subcommittees are likely to have a part to play in identifying possible deployment scenarios, the 'Health and Equity' and 'Infrastructure and Systems' Subcommittees have the greatest potential to affect the mobility of users in the transportation system, and are best positioned to identify and prioritize those scenarios.	Support the discussion by identifying potential deployment scenarios from developers across the industry, and elevate prioritized deployment scenarios for consideration by the Transportation Commission and Legislature.	Identify and prioritize potential deployment scenarios that would contribute to improving equitable mobility outcomes for users in the transportation system. For example: • Identify deployment scenarios which could improve employment or healthcare access to disadvantaged populations • Explore deployment scenarios that could support policy objectives outside of transport, such as food security and public health.	Identify and prioritize potential deployment scenarios that could contribute to improving operations of the transportation system. For example: • Explore potential use cases for leveraging AV technology supporting goods movement. • Consider deployment scenarios that leverage ADAS and AV technology in the support of public transit services.	Support the policy and strategy discussion by identifying potential liability implications from the perspective of the priorities and objectives of the subcommittee. For example: • Review identified ADAS and AV use cases for potential liability implications, such as the liabilities for government agencies that leverage the technology for public transit or transport maintenance and operations.	Support the policy and strategy discussion by identifying potential licensing implications from the perspective of the priorities and objectives of the subcommittee. For example: • Identify the licensing requirements for in-vehicle personnel that might be required to support the operations of automated public transit and paratransit services.	Support the policy and strategy discussion by identifying potential safety implications from the perspective of the priorities and objectives of the subcommittee. For example: • Contribute to the policy and strategy discussion by identifying potential safety implications of various deployment scenarios • Consider approaches to various deployment scenarios that could contribute to improving safety	Support the policy and strategy discussion by identifying potential implications from the perspective of the priorities and objectives of the subcommittee. For example: • Contribute to the policy and strategy discussion by identifying system technology upgrades or internal changes that will be needed by public agencies to effectively make use of ADAS and AVs in their services and operations	Support the policy and strategy discussion by identifying potential implications from the perspective of the priorities and objectives of the subcommittee. For example: • Identify the circumstances under which ADAS and AVs deployment scenarios will create workforce dislocation or skills mismatch implications • Identify needs for re-training and re-skilling, and support workforce transition efforts that minimize direct impacts for the existing workforce
CAT-Oriented Actions	3rd	**Develop engagement opportunities for disadvantaged communities for Work Group discussions**	Automated transportation will have broad impacts on the transportation system and its users, but these impacts will be differently experienced by different parts of the population. Public and stakeholder engagement is key to all developments within the transportation system. However, particular attention needs to be placed on disadvantaged communities that have historically had less opportunity to engage in transportation planning. Development of engagement opportunities for disadvantaged communities to engage meaningfully in Work Group discussions would help the Work Group gain a better understanding of existing mobility needs that could be addressed with automated transport, and potential challenges and sensitivities that should be centered with.	The 'Health and Equity' Subcommittee has specific focus on the needs of disadvantaged communities and is best placed to identify and develop engagement opportunities for disadvantaged communities to engage in Work Group discussions. The remainder of the Work Group could contribute by working with the 'Health and Equity' Subcommittee to develop engagement for discussions in need of targeted consideration of impacts and opportunities for disadvantaged communities.	Elevate the need for engagement opportunities for disadvantaged communities, and communicate with the Transportation Commission and Legislature on opportunities to support accommodations to overcome barriers for participation from disadvantaged communities.	Lead the identification of disadvantaged communities that are underrepresented within current Work Group discussions, and identify an approach to engage these communities more effectively. For example: • Take stock of representation across current subcommittee membership and identify gaps in perspectives that need to be filled • Develop engagement plans to overcome barriers to participation for representatives of disadvantaged communities, such as virtual meeting access, transit fare subsidies, adjusted meeting times, and/or honorariums	Identify subcommittee discussion topics in need of targeted consideration of impacts and opportunities for disadvantaged communities. For example: • Work with the Health and Equity subcommittee to ensure that recommendations for infrastructure investments receive input and support from representatives of disadvantaged communities, and do not pose disproportionate impact	Identify subcommittee discussion topics in need of targeted consideration of impacts and opportunities for disadvantaged communities. For example: • Work with the Health and Equity subcommittee to ensure that the allocation of liabilities across different actors is easily understood, and can be communicated effectively in laymen's terms for a broad and diverse audience	Identify subcommittee discussion topics in need of targeted consideration of impacts and opportunities for disadvantaged communities. For example: • Work with the Health and Equity subcommittee to identify existing limitations to licensing among members of disadvantaged communities, and explore how this could be addressed with shifts within the AV environment	Identify subcommittee discussion topics in need of targeted consideration of impacts and opportunities for disadvantaged communities. For example: • Work with the Health and Equity subcommittee to review recommendations and ensure that the concept of safety captures considerations for what safety looks like for different parts of the population, and different users of the transportation system	Identify subcommittee discussion topics in need of targeted consideration of impacts and opportunities for disadvantaged communities. For example: • Work with the Health and Equity subcommittee to ensure that information around data privacy and security is easily understood, and can be communicated effectively in laymen's terms for a broad and diverse audience.	Identify subcommittee discussion topics in need of targeted consideration of impacts and opportunities for disadvantaged communities. For example: • Work with the Health and Equity Subcommittee to identify workforce implications that will have disproportionate impact to disadvantaged communities, and identify potential ways to support more effective transition of the workforce.
CAT-Oriented Actions	4th	**Develop AV health and equity guiding principles to apply across all subcommittees**	Ensuring desirable outcomes for communities across the state is an important policy goal for the transportation system. Beyond moving people and goods from point to point, the transportation system can impact community health, and more broadly quality of life. However, these impacts are not always experienced equally, and disadvantaged communities can bear more from the design and policies that dictate the transportation system, while others are disproportionately impacted it. The development of AV health and equity guiding principles for use across all the subcommittees would help to ensure that considerations for health and equitable outcomes underlie all recommendations that are put forward by each of the subcommittees.	The 'Health and Equity' Subcommittee has specific focus on the needs of disadvantaged communities and is best placed to identify and develop engagement opportunities for disadvantaged communities to engage in Work Group discussions. The remainder of the Work Group could contribute by working with the 'Health and Equity' Subcommittee on how health and equity guiding principles might interact with the work of their subcommittees, and ensure that the principles are applicable to their needs.	Review and serve as a clearinghouse for health and equity guiding principles put forward by the Work Group.	Lead the development of health and equity guiding principles in consultation with other subcommittees to ensure applicability. For example: • Research and evaluate industry and national best practices on health and equity principles related to AVs • Consult with other subcommittees on approaches to maximize the utility of the health and equity principles for their work	Provide insight on how the health and equity guiding principles can interact with the work of the subcommittee, and give insight on ways to make the principles broadly applicable. For example: • Support the Health and Equity Subcommittee by providing information on how principles may interact with standard infrastructure investment decision making processes and existing evaluation frameworks.	Provide insight on how the health and equity guiding principles can interact with the work of the subcommittee, and give insight on ways to make the principles broadly applicable. For example: • Consider the responsibility that different actors within the AV environment have in upholding health and equity, and support the development of language in the guiding principles that clarify expectations in this area.	Provide insight on how the health and equity guiding principles can interact with the work of the subcommittee, and give insight on ways to make the principles broadly applicable. For example: • Provide insight on existing equity challenges related to licensing, such as the ability for different parts of the population to access licenses due to issues such as cost, or access to training and testing, and consider how these implications will manifest in an AV environment	Provide insight on how the health and equity guiding principles can interact with the work of the subcommittee, and give insight on ways to make the principles broadly applicable. For example: • Contribute to the health and equity guiding principles by identifying potential safety implications that have disparate impacts for different parts of the population	Provide insight on how the health and equity guiding principles can interact with the work of the subcommittee, and give insight on ways to make the principles broadly applicable. For example: • Provide insight into how existing and emerging data collection and management practices impact the representation and privacy of various parts of the population.	Provide insight on how the health and equity guiding principles can interact with the work of the subcommittee, and give insight on ways to make the principles broadly applicable. For example: • Provide input on how the health and equity guiding principles could be made applicable to the protection of worker rights, and in the development of training programs aimed at countering dislocation of workers

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