



Washington State  
Transportation Commission



WASHINGTON STATE  
AUTONOMOUS VEHICLE  
WORK GROUP

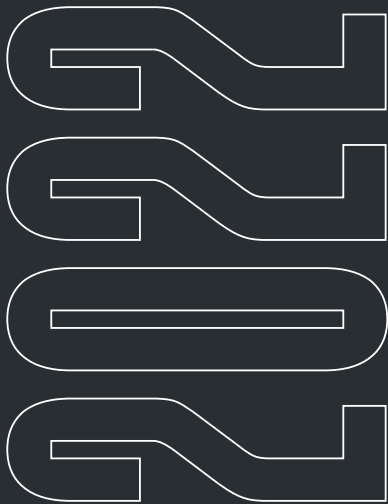
WSP

# Autonomous Vehicle Work Group

# 2022

ANNUAL REPORT





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STATE OF WASHINGTON  
TRANSPORTATION COMMISSION

*PO Box 47308, Olympia WA 98504-7308 • 2404 Chandler Ct SW Suite 270, Olympia WA 98502  
(360) 705-7070 • Fax (360) 705-6802 • [transc@wstc.wa.gov](mailto:transc@wstc.wa.gov) • <http://www.wstc.wa.gov>*

November 15, 2022

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

On behalf of the Washington State Transportation Commission and the Autonomous Vehicle (AV) Work Group, we are pleased to submit our annual report of findings and recommendations. This report reflects the efforts undertaken in 2022, per requirements set forth in RCW 47.01.510.

The AV Work Group convened in 2018 and continues to advance research exploring the potential impacts and benefits AV technologies may bring to the state and how we can best prepare for their operations. This report represents the culmination of knowledge sharing and discussions this year, led by the 35-member Executive Committee made up of public, private, and non-profit organizations, supported by seven subcommittees led by nine state agencies.

We hope you find this report of findings and recommendations helpful and supportive of your deliberations, as we collectively work to prepare the State of Washington for the safe deployment of autonomous vehicles on our roadways in the future. We look forward to your review and input.

Sincerely,

A handwritten signature in blue ink, appearing to read "Roy Jennings".

Roy Jennings, Chair  
Washington State Transportation Commission

A handwritten signature in blue ink, appearing to read "James A. Restucci".

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

# Executive Summary

The transportation industry across the world is collaboratively looking at the advancement of autonomous vehicles (AV) as a potential benefit for public safety, economic viability, and enhanced mobility and livability. The potential benefits include how AVs can enhance and support existing transit operations, expand access to underserved communities, and support climate goals. With benefits comes possible implications to consider, such as determining the level and type of regulations needed to ensure public safety and public interest is protected, determining the appropriate level of testing requirements before allowing commercial deployment of AVs on public roadways, increasing engagement and outreach to the public, and assessing the needs that emerge for further investments in public infrastructure and systems to fully enable safe AV operations on public roadways.

The Washington State Autonomous Vehicle Work Group convened in 2018 and continues to advance statewide dialogue to explore the potential impacts and benefits AV technologies may bring to the state and how we can best prepare for their operations.

The Work Group kicked off 2022 with the continued development of a state-sponsored AV pilot, coordinating with lead agency staff and subcommittee co-chairs to refine the pilot concept, conducting outreach to stakeholders and industry partners, and refining the proposal into a recommendation for consideration by the WSTC in Fall 2022. The Work Group held two Executive Committee meetings where academic, industry, and agencies presented on a variety of educational topics, and the Executive Committee continued to refine the key elements of the Roadmap to the Future, a legacy deliverable that will provide lawmakers with key recommendations on how the state can prepare for AVs long after the Work Group is gone.

## 2022 Work Group's Year in Review



### 2022 Research, Education, & Engagement

- 2 Executive Committee meetings
- Working sessions on developing the Roadmap to the Future
- Industry presentations and updates
- Local and national research and publications
- Evaluation of AV impacts to workforce and equity



OCTOBER 1, 2022

### AV Legislation Implemented

- House Bill 2676, Section 2 (passed in 2020)
- Requires AV Testing Company Notification and Reporting

## 2022 Recommendations

Based upon the information gathered during the Work Group's meetings and research this year, along with the Transportation Commission's outreach, a recommendation is provided below to advance a state-sponsored AV pilot. There are also several recommendations that were made in prior years of the Work Group that have not been acted upon by the Legislature; those are included in this section for consideration of action.

Details on these recommendations can be found in Section 4: Recommendations of this report.

| Recommendation #1                           | Source   | Recommendation  | Executive Committee Action | WSTC Action |
|---|--|---|----------------------------|-------------|
| <b>Carry Out a State-Sponsored AV Pilot</b> | Support development and funding of an AV pilot program | Support development and funding of an AV pilot program<br><br>Recommend the Legislature appoint a lead state agency and provide funding (estimated need: \$2 million) for an AV pilot program to further advance the mission of the AV Work Group | Endorsed                   | Endorsed    |

| Recommendation #2  | Source                                  | Recommendation   | Estimated Cost  | Current Status  |
|--|---|--|---|---|
| <b>Consider Prior Recommendations from the AV Work Group</b> | Safety Subcommittee                     | Requirement for a Law Enforcement/ First Responder Interaction Guide   | Unknown   | Included in HB1731 (2021), which was succeeded by SSB5460, with interaction guide language removed    |
|  | Licensing Subcommittee                  | Amendment of RCW 46.92.010 to enable rulemaking by the Department of Licensing for the Self-Certification Program  | Unknown   | Included in HB1731 (2021), which was succeeded by SSB5460, with rulemaking authority language removed |
|  | Health and Equity Subcommittee          | Conduct structured public outreach   | \$30,000  | No further action taken.  |
|  |   | Identification of testing locations  | Unknown   | No further action taken.  |
|  | Infrastructure and Systems Subcommittee | Increased investment on in high visibility pavement markings (focus on WSDOT-owned facilities statewide to align with the latest MUTCD standards for retro-reflectivity) | \$10M per year ongoing investment for equipment, materials, and labor for WSDOT pavement marking maintenance operations | No further action taken.  |
|  |   | Support WSDOT's work zone data initiative (implementing smart work zones for ongoing WSDOT incident management and maintenance operations)                               | \$1M per year ongoing investment for equipment and service fees   | No further action taken.  |

# Introduction

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The transportation industry across the world is collaboratively looking at the advancement of autonomous vehicles (AV) as a potential benefit for public safety, economic viability, and enhanced mobility and livability. The potential benefits include how AVs can enhance and support existing transit operations, expand access to underserved communities, and support climate goals. With benefits comes possible implications to consider, such as determining the level and type of regulations needed to ensure public safety and public interest is protected, determining the appropriate level of testing requirements before allowing commercial deployment of AVs on public roadways, increasing engagement and outreach to the public, and assessing the needs that emerge for further investments in public infrastructure and systems to fully enable safe AV operations on public roadways.

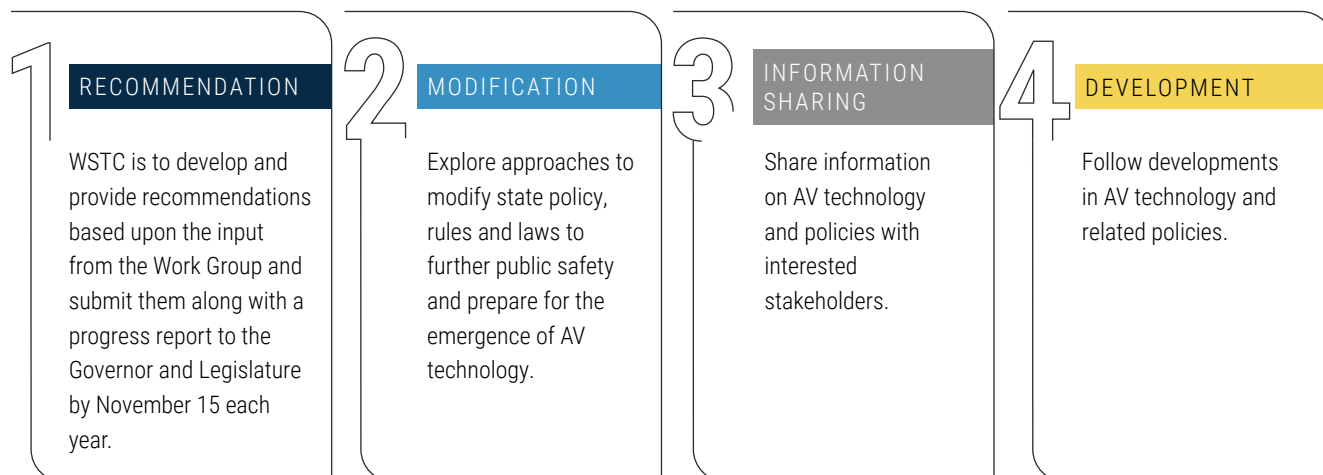
The State of Washington, through its Work Group process, is taking a deliberative and forward-looking approach to the entrance of autonomous vehicle technologies into the transportation network, holistically evaluating potential regulatory, operational, and community implications and benefits.

RCW 47.01.510<sup>1</sup> directs the Washington State Transportation Commission (WSTC) to appoint and convene a Work Group to gather information and develop policy recommendations to prepare for the operation of AVs on public roadways in the State of Washington.

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1 [RCW 47.01.510: Autonomous vehicle executive and legislative work group. \(Expires December 31, 2023.\) \(wa.gov\)](#)

## The Work Group and the WSTC are charged with the following:



The Washington State AV Work Group (hereafter referred to as “the Work Group”) first convened on June 27, 2018. The law 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 is executing this charge through a collaborative process that engages public sector and private sector, academia, non-profit organizations, community partners, and advocacy groups. The Work Group takes deliberative steps towards preparing the State of Washington for the safe deployment of autonomous vehicles on the state’s roadways.

## Purpose of this Document

As required under the enabling legislation, this document represents a summation of the Work Group’s efforts during the 2022 calendar year<sup>2</sup>. This annual report documents the organization and composition of the Work Group, summarizes the key activities conducted through the year as well as points of discussion and decisions as part of various Work Group meetings, outlines 2022 recommendations for consideration, and describes the Work Group’s path forward for the remainder of its purview, through 2023.

<sup>2</sup> Per RCW 47.01.510, this report is due to the Governor and Legislature on November 15, 2022. Any activities or actions taken by the Work Group between November 15, 2022 and December 31, 2022 will be captured in the 2023 annual report.

# Work Group Overview

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The Work Group serves as a public forum where public and private stakeholders, as well as community partners, academia, and advocacy groups can share insights, provide guidance in the AV space, and have collaborative discussion around evaluating and setting policy to ensure the safe operation of AVs on Washington's public roadways. The Work Group has seven subcommittees to support topic-specific explorations around potential AV impacts and considerations. Each subcommittee is led by at least one Washington State agency, and co-chaired by a public and private co-chair. The illustration below provides an overview of the AV Work Group organizational structure.



Figure 1: Work Group Executive Committee and Subcommittee Structure

## AV Work Group Executive Committee



Government Representatives and Key Stakeholders from:

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

## Subcommittees



### Health & Equity

TBD Lead Agency

Co-Chairs: Dr. Andrew Dannenberg, UW School of Public Health; TBD

- Health and equity considerations related to autonomous vehicles, such as air quality, water quality, noise, green space, mental well-being, physical activity, safety, and social connections
- Engagement from communities, prioritizing communities of color

### Infrastructure & Systems

WSDOT Lead Agency

Co-Chairs: Roger Millar, WSDOT; Alison Cochran, PACCAR

- Roadway infrastructure
- Traffic management
- Transit service & vehicles
- Advertising
- Right of way
- Multi-modal transportation
- Mobility as a service

### Liability

Insurance Comm. Lead Agency

Co-Chairs: David Forte, Office of the Insurance Commissioner; Harris Clarke, PEMCO

- Insurance
- Tort liability
- Criminal law
- Judiciary

### Licensing

DOL Lead Agency

Co-Chairs: Beau Perschbacher, DOL; Drew Wilder, Vicarious Liability Risk Management LLC

- Manufacturer Vehicle Testing
- Pilot certification
- Vehicle registration
- Driver's licensing
- Rules of the road

### Safety

WTSC & WSP Lead Agency

Co-Chairs: Captain Dennis Bosman, Washington State Patrol; Manuela Papadopol, Designated Driver

- Traffic safety
- Law enforcement
- Synchronization with other safety priorities
- Drivers and vulnerable users and hazards

### System Tech & Data Security

State CIO Lead Agency

Co-Chairs: Zack Hudgins, Office of the Chief Information Officer; Michael Schutzler, Washington Technology Industry Association

- Data & information management
- Cybersecurity
- Privacy protection

### Workforce

ESD and L&I Lead Agency

Co-Chairs: Brenda Wiest, Teamsters; Caitlyn Jekel, Washington State Employment Security Department; Allison Drake, Washington State Department of Labor & Industries

- Worker safety & worker rights
- Worker displacement/job loss
- Worker retraining and transition
- Industry impacts

## Executive Committee

Thought leaders on the Executive Committee contribute to the Work Group by applying diverse viewpoints and perspectives on ideas and recommendations generated by the collective Work Group. The membership of the Executive Committee was established in law, with the WSTC making additional member appointments. The current membership of the Executive Committee is listed below.

| Name and Title   | Organization                               |
|--|--|
| <b>Legislatively Appointed Members</b>   |  |
| James A. Restucci, 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 Shelley Kloba   | Washington State Legislature               |
| Representative Mary Dye  | Washington State Legislature               |
| Representative Matt Boehnke  | Washington State Legislature               |
| Representative Sharon Shewmake   | 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               |
| Debbie Driver, Senior Policy Advisor   | Governor's Office                          |
| <b>Members Added by WTSC</b>   |  |
| Joel Sacks, Director   | Department of Labor & Industries           |
| Cami Feek, Commissioner  | Employment Security Department             |
| Bill Kehoe, State Chief Information Officer  | Washington Technology Solutions (WaTech)   |
| Laura Johnson, Director of Policy and Technology for the Division of Disease Control and Health Statistics | Department of Health                       |
| Shelly Baldwin, Director   | State Traffic Safety Commission            |
| Dr. Yinhai Wang, Director  | STAR Lab, University of Washington         |
| Justin Leighton, Executive Director  | Washington State Transit Association       |
| Anna Zivarts, Program Director of Disability Mobility Initiative   | Disability Rights Washington               |
| Bruce Agnew, Fellow  | ACES Northwest & Discovery Institute       |
| <i>Vacant Seat</i>   | City of Seattle Transportation Department  |
| 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                               |
| Fernando Mejia Ledesma, Co-Executive Director  | Puget Sound Sage                           |
| Bryan Mistele, CEO   | INRIX                                      |
| Laura Ray, VP Corporate Affairs & ESG  | AAA  |
| Bryce Yadon, State Policy Director   | Futurewise                                 |
| Steve Gordon, Principal  | Gordon Trucking                            |
| Aidan Ali-Sullivan, State Policy & Government Affairs  | Waymo                                      |
| Ariel Wolf, Counsel  | Autonomous Vehicle Industry Association    |

# Work Group Process

WSTC staff, Work Group lead Agency staff, and subcommittee co-chairs convene as needed to explore focus areas and foster ideas, leveraging subcommittees as a vetting body for more developed ideas. The WSTC puts forth content for areas of further exploration and proposed approaches, and the Executive Committee continues to evaluate matured recommendations. How ideas flow through the Work Group process is depicted in the figure below.

Figure 2: Work Group Ideation to Recommendation Process



# 2022 Year in Review

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The Work Group kicked off 2022 with the continued development of a state-sponsored AV pilot, coordinating with lead agency staff and subcommittee co-chairs to refine the pilot concept, conducting outreach to stakeholders and industry partners, and refining the proposal into a recommendation for consideration by WSTC in Fall 2022. The Work Group held two Executive Committee meetings where academic, industry, and agencies presented on a variety of educational topics, and the Executive Committee continued to refine the key elements of the Roadmap to the Future legacy deliverable.

## Exploring a State-Sponsored AV Pilot

A state-sponsored AV pilot is a logical next step for the state to take as the AV Work Group's process wraps up over the next year. It puts the efforts of the Work Group to the test in a real-world environment and serves as a culmination of lessons learned that will inform future policy making. It will allow the state to:

- Provide the public with the opportunity to have first-hand experience with AV technology and services
- Enable the exploration of possible operational considerations unique to Washington State, in preparation for future AV service deployment
- Identify approaches to harnessing AV opportunities that increase equity and access

### Developing the AV Pilot Proposal

Over the past year, the AV Work Group has explored approaches for a state-sponsored AV pilot, including goals and objectives, use cases, and desired outcomes. The Work Group identified four key goals to guide AV pilot proposal development:



#### Equity

How AV technology could support transit use, increase access in disadvantaged communities, close transit service gaps, etc.



#### Public Awareness and Exposure

Increase public understanding and awareness of AVs and the safety of their use in the use cases to be piloted.



#### Organizational Capabilities

Better understand agency capabilities and limitations, partnership opportunities, and regulatory framework needs



#### Support the Current Mandate to Prepare for AVs

Per the directive in current law to the WSTC and the AV Work Group, a pilot will help inform the final legacy deliverable to the Legislature in the 2024 session.

The Work Group then evaluated various use cases and pilot settings that would achieve these goals, such as in urban or rural settings, high-occupancy or single-occupancy deployment scenarios, public awareness and exposure opportunities, and equity considerations.

### Partner Interest and Engagement

To further inform the pilot proposal, the WSTC engaged with transit agencies and transit advocacy organizations within Washington during Summer 2022 to gauge interest and gather input on a last-mile or point-to-point transit-focused AV pilot. While generally supportive, some in the transit community raised concerns about their ability to lead a pilot, but would be more capable of being a partner in a pilot where there is a strong lead role for the state who would facilitate and oversee the pilot. The ability to participate would vary by transit agency but there was general interest to partner with the state provided the participating transit agency would not need to divert existing resources from operational needs.

WSTC also reached out to the national AV industry with a request for information to assess levels of interest and capability to fulfill the pilot concept. WSTC received three responses from the industry: one technology company and two turnkey AV service providers, validating interest and ability to deliver a pilot. Estimated costs ranged from \$500,000 to \$3 million based on proposed operational design domains, vehicle types, and pilot durations.

Based upon this work and collective input, a pilot proposal was developed and advanced. See Section 4 Recommendations for more information on the pilot recommendation.

## Implementing Enacted AV Legislation

The State continued to advance revised State policy related to AVs with the 2022 Washington Department of Licensing (DOL) implementation of House Bill (HB) 2676, Section 2, AV Notifications and Reporting.

HB 2676<sup>3</sup> passed in 2020, required that starting October 1, 2022:

- Companies looking to test on public roadways in Washington must supply the DOL with
  - Contact information
  - Planned testing locations
  - Vehicle identification numbers
  - Proof of insurance (effective June 2020)
- Testing entities to annually report to the DOL any AV-related vehicle collisions or moving violations that occur during testing on a public roadway by February of the following year (first annual reports will be due February 2023)
- Testing entities must provide 14 to 60 days' notice to applicable law enforcement agencies prior to testing on public roadways
- DOL must provide public access to materials received from AV Program self-certified companies
- DOL must summarize and report information received from testing entities to the Legislature on an annual basis

## Research, Education, and Engagement

The Work Group Executive Committee met twice during 2022 – in June and September, to continue building its collective knowledge, with topics including continued AV research in safety, accessibility, workforce impacts, and regulatory, testing, and deployment activity across the country.

### Continued Research

The Insurance Institute for Highway Safety (IIHS) presented on the new IIHS vehicle ratings program for partially automated vehicles. The new ratings program sets minimum expectations for automakers to design systems that deter driver misuse of partial driving automation systems, with seven key system categories to evaluate individually and together for a rating:

- Driver monitoring
- Attention reminders
- Emergency escalation



- Automated lane changing
- Automated cruise control auto-resume
- Cooperative steering assistance
- Safety features

IIHS' initial findings through this ratings program were published in October 2022.<sup>4</sup>

The University of Washington Technology Law and Public Policy Clinic continues with ongoing efforts to support AV research in Washington State. The Clinic has developed a database website<sup>5</sup> for access to AV-related policy information for each of the 50 United States. Each state was given a rating based on its maturity in AV related policies and deployments.

The Clinic also presented to the Work Group, the results of their research on potential considerations of AV service and access for individuals with disabilities in the U.S. They identified potential planning, physical, passenger, and technology concerns, and how AV technologies could support or advance solutions. The students presented a case study on Utah's autonomous shuttle



3 House Bill (HB) 2676: <https://app.leg.wa.gov/billsummary?BillNumber=2676&Chamber=House&Year=2019>

4 IIHS Safety Ratings Program Initial Findings: <https://www.iihs.org/news/detail/despite-warnings-many-people-treat-partially-automated-vehicles-as-self-driving>

5 University of Washington Autonomous Vehicle State Policy Database: <http://avdatabase.uw.edu/>



pilot and its exploration around what ADA compliance would look like with an AV shuttle.

The Clinic also discussed job loss concerns with advancement of AVs and opportunities for job transitions to non-driving operators to provide an extra layer of accessibility, as well as recommended design improvements to autonomous vehicles, specifically transit-focused autonomous shuttles, such as external stop announcements, electric vehicle sound, and wheelchair securement systems.

## Workforce Impacts of AVs

The Work Group heard from the Teamsters who presented on

the considerations and potential impacts AVs will have on the workforce. While the AV industry has presented some alternative employment opportunities to those who may be displaced by AV penetration in the market, through transitioning to

different positions, additional education and skills building, along with the creation of new types of jobs will be needed. However, even with mitigations in place, there will be workers that may struggle with finding alternative employment due to professional or personal positions and restrictions.

The Teamsters recommend three policy strategies to address job loss in the sector:

- Develop an industry-wide approach to worker advancement and stability
- Bring business, labor, and public-sector resources and perspectives together
- Create a trucking innovation and jobs council that could develop and implement an action plan for how stakeholders would fund, design, and carry out policies and programs to address impacts of job loss
- Build strong career pathways
- Update commercial driver training and credentialing
- Develop on-the-job training programs to transition workers into new roles



- Provide job matching and career counseling services for dislocated and at-risk workers
- Create safety net programs to support worker transitions
- Establish work-share programs to provide opportunities for training and reorganization
- Offer retirement buyout packages in lieu of job-training benefits for workers close to retirement
- Expand who is covered under Worker Adjustment and Retraining Notification (WARN) Act so trucking companies can provide both employee and independent contractor drivers a longer notice period

## Continuing to Build the Roadmap to the Future

The Work Group continued its work during the 2022 Executive Committee meetings on the key components of the Roadmap to the Future legacy deliverable, focusing on Public Outreach and Agency Readiness.

### PUBLIC OUTREACH

Public outreach goals of the Work Group include: to communicate transparently and comprehensively; to increase awareness; and to understand varying needs from different perspectives. The Work Group discussed outreach audiences, the goals for outreaching to each audience, and potential outreach methods (e.g., briefings, associations, experiential engagement, focus groups). The Work Group also discussed the needed diversity of input, range of infrastructure users (e.g., drivers, pedestrians, etc.), and a need to focus on equity in outreach efforts. The Work Group felt the focus of the State's role should be to inform the public regarding safe use of AVs and to seek policy specific to equity. The Work Group also felt that more hands-on engagement and outreach would be the most beneficial, including participation in community events, focus groups, and public meetings.





## AGENCY READINESS

Agency readiness goals for the Work Group include: the state being able to adapt as transportation infrastructure becomes increasingly intertwined with other services; maintaining good relationships with private and non-profit sector partners in the AV space; and being more flexible and nimble than in the past. The Work Group discussed what is needed to implement and support AV testing and deployment, in terms of:

- Regulation and policy, such as legislation, motor vehicle code, and agency-specific policies;
- Resources, such as agency knowledge base, partnerships, and cross-agency collaboration; and
- State resource improvements, such as transportation infrastructure improvements, connectivity, and technology readiness.

More information on the Roadmap to the Future and continued development of the legacy deliverable through 2023 is detailed in Section 5: Roadmap to the Future of this report. Work Group feedback is included in Appendix A: Roadmap Working Session Feedback at the end of this report.

Work Group meeting recordings and presentations can be found on the AV Work Group website: <https://avworkgroupwa.org/resources>



# Recommendations

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Based upon the information gathered during the Work Group's meetings and research this year, along with the Transportation Commission's outreach, a recommendation is provided below to advance a state-sponsored AV pilot. There are also several recommendations that were made in prior years of the Work Group that have not been acted upon by the Legislature; those are included in this section for consideration of action.

Also included in this section is a comprehensive list of all recommendations brought forward for consideration by the Work Group, the WSTC, and the Legislature between the Work Group's establishment in 2018 and the time of this report, November 2022.

## 2022 RECOMMENDATION #1

# Carry out a State-Sponsored AV Pilot

### RECOMMENDED BY

Washington State Transportation Commission

### RECOMMENDATION

The State of Washington should advance and implement an autonomous vehicle pilot in 2023 to occur in an urban setting and in a small town/rural setting. Details on the pilot proposal are provided below. To accomplish this, it is recommended the Legislature provide \$2 million to a designated lead state agency to support the implementation of a full turnkey service to be provided by a private sector AV service provider, and the pilot should be operated for minimum of six months. A final report of findings to the Legislature and Governor should be due by December 2025.

### AV Pilot Proposal

A state-sponsored AV pilot should test two use cases in two settings: a last-mile use case, and point-to-point AV shuttle service use case, designed to enhance accessibility and connections between transit hubs, under-represented communities, and centers where vital community services are provided, in both an urban and a small town/rural setting.

Testing these AV use cases in both an urban and small town/rural setting enables the State to explore considerations and impacts AV services may have in different communities, with different users of the service, under different settings and environments. It also will support expanding public awareness and gathering of public input into what needs future AV services may need to address in our state, as well as identifying opportunities and hurdles to increasing equity and access to AV services.

| AV Pilot Use Case Types | Examples   |
|-------------------------|--|
| Last mile Service       | <ul style="list-style-type: none"><li>■ Transit hub to community center</li><li>■ Transit hub to shopping center</li><li>■ Transit hub to healthcare facility</li></ul>        |
| Point-to-Point Service  | <ul style="list-style-type: none"><li>■ Community center to shopping center</li><li>■ Residential area to healthcare facility</li><li>■ Residential area to jobs hub</li></ul> |

### AV Pilot Administration & Roles

- Lead State Agency: Define details around the service plan and operating locations, identify agency partners, secure pilot provider(s), and oversee pilot operations
- Agency Partners: Assist lead agency in defining the service plan and selecting the operating locations, coordinating on-the-ground needs, promotions in community, etc. Potential agency partners include:
  - Transit agencies
  - Local/municipal entities
  - Institutional/Academic
  - Non-profits
- Industry Partners: provide vehicles, technical and program support for full turnkey operation, which includes:
  - Route planning
  - Infrastructure deployment
  - Vehicle delivery and testing
  - Securing permits as required
  - Pilot operation and staffing
  - Developing operations, safety, and communications plans
  - Coordinating with stakeholders and partners
  - Preparing summary reporting

## Why an AV Pilot?

A state-sponsored AV pilot is a logical next step, based upon the research and fact-finding conducted by the AV Work Group. Washington State has not had any AV testing take place where the public can engage and experience it and offer input around how future AV services might take shape. To this end, a state-sponsored pilot will allow the state to:

- Provide the public with the opportunity to have first-hand experience with AV technology and services
- Enable the exploration of possible operational considerations unique to Washington State, such as specific RCWs or policies to revise, in preparation for future AV service deployment
- Identify approaches to harnessing AV opportunities that increase equity and access

### What this Pilot IS

A critical opportunity for first-hand experience with technology for the public, policymakers, and key stakeholders

An approach to identifying in real terms, policy needs, agency readiness considerations, and possible regulatory hurdles to AV adoption

A chance to better understand how AV technologies can serve disadvantaged communities and identify the barriers to access

## AV Pilot Goals and Objectives

Key goals of a state-sponsored AV pilot are to explore opportunities and challenges related to equity, public awareness and exposure, and organizational capabilities:

- Equity: How AV technology could support transit use, increase access in disadvantaged communities, close transit service gaps, etc.
- Public Awareness and Exposure: Increase public understanding and awareness of AVs and the safety of their use in the use cases to be piloted.
- Organizational Capabilities: Better understand agency capabilities and limitations, partnership opportunities, and regulatory framework needs
- Support the Current Mandate to Prepare for AVs: Per the directive in current law to the WSTC and the AV Work Group, a pilot will help inform the final legacy deliverable to the Legislature in the 2024 session.

### What this Pilot IS NOT

A testing and research effort for AV developers

A long-term service offering competing with other non-AV approaches to multi-modal transportation

A long-term service offering competing with other non-AV approaches to multi-modal transportation

## AV Pilot Recommendation Consideration and Action:

### EXECUTIVE COMMITTEE ACTION:

#### Presented to the Executive Committee at the September 28th 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 October 18th meeting

With the exception of one vacant Commissioner seat vote, the WSTC reviewed and unanimously endorsed the recommendation. No further discussion was held on the recommendation.

## RECOMMENDATION #2

# Consider Prior Recommendations from the AV Work Group

Six recommendations were made and endorsed by both the Executive Committee and the Transportation Commission in prior years of the Work Group that have not been acted upon by the Legislature. They have been reintroduced here for Legislative consideration.

## Previously Endorsed Recommendations to Consider Further Action On

| Source                                  | Recommendation  | Estimated Cost  | Current Status  |
|---|---|---|---|
| Safety Subcommittee                     | Requirement for a Law Enforcement/ First Responder Interaction Guide  | Unknown   | Included in HB1731 (2021), which was succeeded by SSB5460, with interaction guide language removed    |
| Licensing Subcommittee                  | Amend RCW 46.92.010 to enable rulemaking by the Department of Licensing for the Self-Certification Program  | Unknown   | Included in HB1731 (2021), which was succeeded by SSB5460, with rulemaking authority language removed |
| Health and Equity Subcommittee          | Conduct structured public outreach  | \$30,000  | No further action taken.  |
|   | Identification of AV testing locations  | Unknown   | No further action taken.  |
| Infrastructure and Systems Subcommittee | Increased investment in high visibility pavement markings (focus on WSDOT-owned facilities statewide to align with the latest MUTCD standards for retro-reflectivity) | \$10M per year ongoing investment for equipment, materials, and labor for WSDOT pavement marking maintenance operations | No further action taken.  |
|   | Support WSDOT's work zone data initiative (implementing smart work zones for ongoing WSDOT incident management and maintenance operations)                            | \$1M per year ongoing investment for equipment and service fees   | No further action taken.  |

## Executive Committee Action:

### Presented to the Executive Committee at the September 28th meeting

With the exception of absent and abstained votes, all six recommendations were endorsed. Discussion included:

- Recommendations from previous years that were endorsed by both the Executive Committee and the WSTC should be reintroduced for consideration of further action in 2022.
- Washington Department of Licensing noted they understand there were industry concerns regarding the recommendation to enable rulemaking authority to the Department of Licensing for the AV Self-Certification Program, which were brought up during the 2020 legislative session. The Department of Licensing does not intend to pursue this recommendation further unless there is further endorsement and support.
- Recommendation made to coordinate the "conduct structured public outreach" recommendation with the [Environmental Justice Task Force and its implementation of the 2021 Healthy Environment for All \(HEAL\) Act](https://doh.wa.gov/community-and-environment/health-equity/environmental-justice)<sup>6</sup>.

## WSTC Action

### Presented to the WSTC at the October 18th meeting

With the exception of one vacant Commission seat, the WSTC reviewed and unanimously endorsed all six recommendations. No further discussion was held on the recommendations.

6 Environmental Justice Task Force and its implementation of the 2021 Healthy Environment for All (HEAL) Act: <https://doh.wa.gov/community-and-environment/health-equity/environmental-justice>

## Taking a Look Back – All Recommendations Brought Forward to the Work Group from 2018 through 2022

The table below is a comprehensive listing of all recommendations brought forward via the Work Group process – some were not fully supported; others were; and some were acted on by the Legislature, while others were not. The recommendations that appear in the table on the prior page are shaded in grey in the table below for easy identification.

### All Recommendations Brought Forward to Work Group, WSTC, and Legislature (2018 to 2022)

| Year | Source                              | Recommendation   | Current Status  |
|------|-------------------------------------|--|---|
| 2018 | Executive Committee                 | Develop and implement a communications strategy and plan, and launch a stand-alone website for the Work Group. The website will establish a one-stop shop for the public and stakeholders to get information on AVs in the State, as well as Work Group activities. This recommendation included a funding request of \$190,000. | Recommendation was accepted by the Legislature and the WSTC was appropriated \$100,000 to establish an AV Work Group website. The WSTC, in consultation with the Work Group, developed a communications plan and launched the AV Work Group website ( <a href="http://www.avworkgroup-wa.org">www.avworkgroup-wa.org</a> ). |
| 2018 | University of Washington Law School | Preempt local regulation to prevent unnecessary roadblocks to deployment of autonomous vehicles  | Executive Committee recommended further evaluation be conducted, as the Work Group had just been formed. The University of Washington Law School continues to provide research and evaluations of potential policy areas to the Work Group for consideration.   |
| 2018 | University of Washington Law School | Update Definitions: revise the RCW to accommodate new technologies.  | Executive Committee recommended further evaluation be conducted, as the Work Group had just been formed. The University of Washington Law School continues to provide research and evaluations of potential policy areas to the Work Group for consideration.   |
| 2018 | University of Washington Law School | Self-Certification: promote innovation and freedom to develop new technologies   | Executive Committee recommended further evaluation be conducted, as the Work Group had just been formed. The University of Washington Law School continues to provide research and evaluations of potential policy areas to the Work Group for consideration.   |
| 2018 | University of Washington Law School | Enhanced Infrastructure: encourage local, state, and federal improvements in road systems and technologies to support AVs  | Executive Committee recommended further evaluation be conducted, as the Work Group had just been formed. The University of Washington Law School continues to provide research and evaluations of potential policy areas to the Work Group for consideration.   |

### All Recommendations Brought Forward to Work Group, WSTC, and Legislature (2018 to 2022)

| Year | Source                                | Recommendation  | Current Status  |
|------|---------------------------------------|---|---|
| 2018 | University of Washington Law School   | Control Liability: impose liability on AV systems and manufacturers while autonomous systems are in operation   | Implemented through HB2676 (2020).  |
| 2018 | University of Washington Law School   | Update current data security laws: "lead the pack" in securing driver and user data   | Topic discussed and recommended again in 2019.  |
| 2018 | Safety Subcommittee                   | Conduct public education campaign   | Executive Committee and WSTC recommended delaying until further work could be done by the Work Group.   |
| 2018 | Safety Subcommittee                   | Conduct Health Impact Assessment (HIA)  | Topic discussed and recommended again in 2019.  |
| 2019 | 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   | This recommendation was incorporated into House Bill (HB) 2676, introduced and passed in the 2020 legislative session.  |
| 2019 | 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 | The eight policy goals were incorporated into a draft statewide CAT Policy Framework.   |
| 2019 | 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                                    | The Infrastructure & Systems Subcommittee developed a draft statewide CAT Policy Framework that incorporates the adopted policy goals, and coordinated with other subcommittees to evaluate and refine the policy goals and supporting draft strategies and illustrative actions. |
| 2019 | Health & Equity Subcommittee          | Conduct Health Impact Assessment of AVs   | 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.  |
| 2019 | Safety Subcommittee                   | Establish new "Health & Equity" Subcommittee  | Health & Equity Subcommittee established in 2019.   |
| 2019 | Executive Committee                   | Establish new "Labor & Workforce" Subcommittee  | Workforce Subcommittee established in 2019.   |

### All Recommendations Brought Forward to Work Group, WSTC, and Legislature (2018 to 2022)

| Year        | Source   | Recommendation  | Current Status   |
|-------------|--|---|--|
| 2019        | Executive Committee                            | Appointment of a disabilities rights representative entity to the Executive Committee                             | Disabilities Rights representative was appointed to the Executive Committee and began attending at the September 2019 meeting. |
| 2019        | System Technology & Data Security Subcommittee | Adopt "AV Privacy and Data Security Principles" and "Data Standard revision 0.1" developed by the subcommittee    | Executive Committee and WSTC requested further exploration of best practices and standards. No further action was taken.       |
| 2020 / 2022 | Safety Subcommittee                            | Requirement for a Law Enforcement/ First Responder Interaction Guide  | Currently recommended for further action in 2022 Annual Report (this document).  |
| 2020 / 2022 | Licensing Subcommittee                         | Amendment of RCW 46.92.010 to enable rulemaking by the Department of Licensing for the Self-Certification Program | Currently recommended for further action in 2022 Annual Report (this document).  |
| 2020 / 2022 | Health and Equity Subcommittee                 | Conduct structured public outreach  | Currently recommended for further action in 2022 Annual Report (this document).  |
| 2020 / 2022 | Health and Equity Subcommittee                 | Identification of testing locations   | Currently recommended for further action in 2022 Annual Report (this document).  |
| 2020 / 2022 | Infrastructure and Systems Subcommittee        | Increased investment on enhanced roadway pavement markings  | Currently recommended for further action in 2022 Annual Report (this document).  |
| 2020 / 2022 | Infrastructure and Systems Subcommittee        | Support WSDOT's work zone data initiative   | Currently recommended for further action in 2022 Annual Report (this document).  |

# Roadmap to the Future

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As the Work Group closes in on its final year of research and outreach, work continues on the group's final report – The Roadmap to the Future. Based upon the information and insights that have been gathered throughout the course of the Work Group, this final, legacy report will provide the Legislature and Governor guidance on the key areas and priorities for continued focus after the sunset of the Work Group in preparation for the future operation of AVs on public roadways.

The Roadmap will address five key building blocks that will serve as a strong foundation which future policies and programs can be built upon during the ongoing preparations for safely accommodating AV operations on public roadways.

The Work Group Executive Committee is actively working to address each building block in a thorough and methodical manner, discussing the topics in the broader context of achieving full AV operational readiness. In 2022, the Work Group addressed two key areas – public outreach and agency readiness. In 2023, the Work Group will address safety and the path to deployment, leading to the issuance of the final report – the Roadmap to the Future – by December 2023.

## ROADMAP TO THE FUTURE - BUILDING BLOCKS:

- **Agency Readiness (Discussed September 2022):** Be flexible, organized for innovation, and adaptable as transportation infrastructure becomes increasingly intertwined with new mobility services, digital communication, and AVs.
- **Public Outreach (Discussed June 2022):** Communicate about AVs in a comprehensive and transparent way, increase awareness among the public and stakeholders, and understand varying needs from different perspectives.
- **Safety:** Identify policies, processes, rules, and activities that should be evaluated/developed to support the safe deployment of AVs in Washington
- **Testing / Pilots:** Explore opportunities to better understand AV capabilities, performance, applications and use cases, impacts and implications, and potential benefits.
- **Path to Deployment:** Explore environmental, fiscal, and social impacts and opportunities with deployment of AVs.



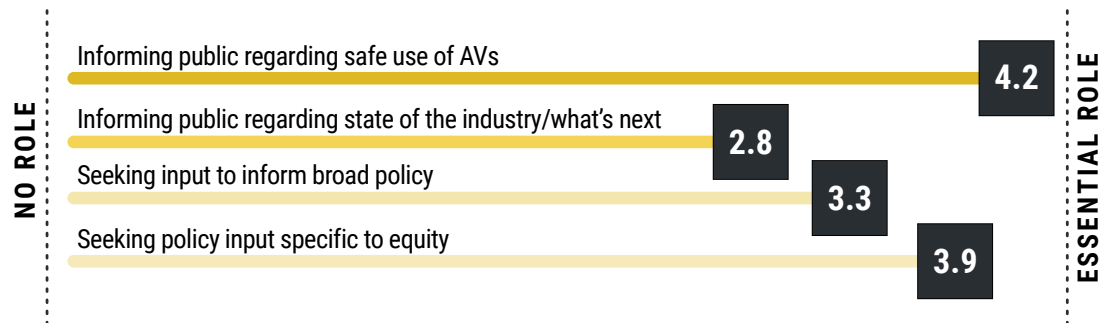
## Building Block: Public Outreach

During their June 2022 meeting, the Executive Committee was engaged to weigh in on both the role of the state in engaging with the public with regards to AVs, and the best methods to do so. Informing the public regarding safe use of AVs was identified as the top priority for outreach, with seeking policy input specific to equity as a second priority. The group expressed more reluctance for the state to engage around the state of the industry in general.

When asked to consider more desirable methods to conduct outreach, the Executive Committee expressed the strongest support for more direct in-person community events and focus groups, with lowest preference given to broadcast media.

Figure 1: Mentimeter Polling Results of Executive Committee Input, June 2022

### What do you feel is the role of the State in engaging with the general public?



1<sup>st</sup>

Participation  
in Community  
Events

2<sup>nd</sup>

Focus  
Groups

3<sup>rd</sup>

Public  
Meetings

4<sup>th</sup>

Experiential  
Engagement

5<sup>th</sup>

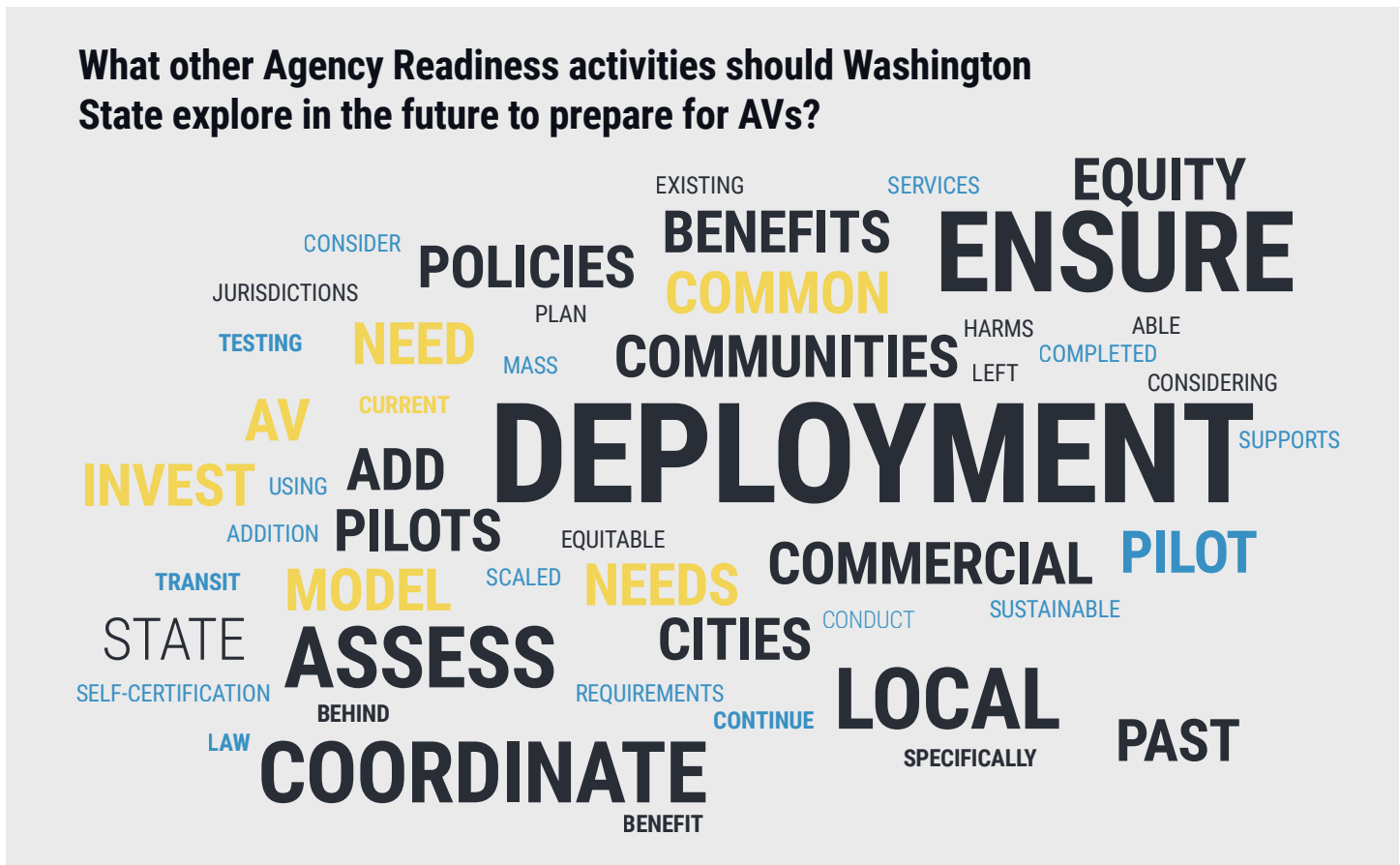
Broadcast  
Media

What methods do you think  
should be the focus of  
public outreach  
and engagement?

## Building Block: Agency Readiness

During the September 2022 Executive Committee meeting the group reviewed activities over the course of the Work Group to date targeting agency readiness, and provided suggestions for other activities the state should consider going forward. A wide array of feedback was received, with themes including needs for commercial deployment, needs of local government, equity, infrastructure, and pilots.

Figure 3: Mentimeter Polling Results Word Cloud of Executive Committee Input, September 2022



## Next Steps

The Work Group has spent the past 4 years gaining knowledge and building networks to understand what the State of Washington needs to have in place to prepare for the safe testing and deployment of AVs on the state's roadways. The Work Group has identified clear roles for the state versus other levels of governance, the key building blocks that will need to be further refined and built out, and the resources available within the AV industry to continue to keep a finger on the pulse of the industry's evolution.

For its final legislatively-mandated year of convening, the Work Group will focus 2023 on wrapping up its activities and preparing to hand-off its lessons learned and recommended actions to further prepare for AVs for the legislature and state agencies to pick up at a later time. The WSTC and Work Group will provide any support needed to help move selected recommendations forward for implementation, and will finalize the Roadmap to the Future legacy deliverable.

# 2022



WASHINGTON STATE  
AUTONOMOUS VEHICLE  
WORK GROUP



Washington State  
Transportation Commission

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