

#### Meeting: Executive Committee, Meeting #12 Location: Virtual Meeting only Date: June 6, 2022

#### **Members in Attendance:**

| Member*                      | Organization   | Present<br>(Y/N) | Rep Sent in Place<br>(Y/N)           |
|------------------------------|--|------------------|--------------------------------------|
| James A. Restucci<br>(Chair) | Washington State Transportation<br>Commission  | Y                |                                      |
| Shiv Batra (Vice Chair)      | Washington State Transportation<br>Commission  | Y                |                                      |
| Senator Curtis King          | Washington State Legislature   | N                | Ν                                    |
| Senator Ann Rivers           | Washington State Legislature   | N                | Ν                                    |
| Senator Joe Nguyen           | Washington State Legislature   | Y                |                                      |
| Senator Mona Das             | Washington State Legislature   | N                | Ν                                    |
| Rep Sharon Shewmake          | Washington State Legislature   | N                | Ν                                    |
| Rep Shelley Kloba            | Washington State Legislature   | Y                |                                      |
| Rep Mary Dye                 | Washington State Legislature   | N                | Ν                                    |
| Rep Matt Boehnke             | Washington State Legislature   | N                | Ν                                    |
| Rep Jake Fey*                | Washington State Legislature   | Y                |                                      |
| John Batiste                 | State Patrol   | N                | Y – Jason Cuthbert                   |
| Shelly Baldwin               | State Traffic Safety Commission  | Y                |                                      |
| Mike Kreidler                | State Insurance Commission   | N                | Y – David Forte                      |
| Teresa Bertsen               | Department of Licensing  | Y                |                                      |
| Roger Millar                 | Department of Transportation   | Y                | Y – Ted Bailey                       |
| Joel Sacks                   | Department of Labor & Industries   | N                | N                                    |
| Laura Johnson                | Department of Health   | N                | Ν                                    |
| Cami Feek                    | Employment Security Department   | Y                |                                      |
| Bill Kehoe                   | State Chief Information Office, WaTech   | N                | Y – Zack Hudgins                     |
| Debbie Driver                | Governor's Office  | N                | N                                    |
| Dr. Yinhai Wang              | Smart Transportation Applications &<br>Research Laboratory (STAR Lab), University<br>of Washington | Y                |                                      |
| Justin Leighton              | Washington State Transit Association   | Y                |                                      |
| Tom Alberg                   | ACES Northwest   | N                | Y – Bruce Agnew                      |
| TBD                          | City of Seattle Transportation Department  | Ν                | Y – Kelly Rula                       |
| Curt Augustine               | Alliance for Automotive Innovation   | Y                |                                      |
| Brenda Wiest                 | Teamsters Local 117  | Y                |                                      |
| Todd O'Brien                 | Adams County   | Ν                | Ν                                    |
| Jessica Ramirez              | Puget Sound Sage   | Ν                | Ν                                    |
| Bryan Mistele                | INRIX  | Y                |                                      |
| Laura Ray                    | AAA  | N                | Ν                                    |
| Bryce Yadon                  | Futurewise   | N                | Ν                                    |
| Ariel Wolf                   | Self-Driving Coalition for Safer Streets   | N                | Y – Ian Williams &<br>Katie Marshall |
| Steve Gordon                 | Gordon Truck Centers   | Y                |                                      |
| Anna Zivarts                 | Disability Rights Washington   | Y                |                                      |
| Annabel Chang                | Waymo  | N                | Ν                                    |

\* AV Work Group meetings are open to all Washington State Legislature Committee Chairs.



### A full recording of the virtual meeting and meeting materials are available on the WA AV Work Group website:

Meeting agenda and presentation materials: <u>https://avworkgroupwa.org/committee-meeting/executive-committee-meeting-12</u>

Meeting session recording: <u>https://youtu.be/SnddkICnMJI</u>

Questions and responses during presentations can be found in the Presentation Questions Log table at the end of this document.

#### WELCOME AND INTRODUCTIONS

Jim Restucci, Chair of the AV Work Group, opened the meeting with introductions of Executive Committee members and an overview of the meeting agenda.

#### UNIVERSITY OF WASHINGTON AV NATIONAL RESEARCH UPDATE

### William Covington (Director) & Andrew Raitt (Student), *University of Washington Technology Law & Public Policy Clinic*

William Covington, Dean and Director of the University of Washington Technology Law and Public Policy Clinic, introduced the presentation topic and the Clinic's ongoing efforts to support autonomous vehicle (AV) research in Washington State. Andrew Raitt, student with the Clinic, then presented an overview of a database website developed by the Clinic 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.

Andrew then introduced the remaining students of the Clinic for school year 2021-22 that presented AV research via pre-recorded video – Tatiana Barraza, Erika Bykov, Ramita Kondepudi, Carl Rustad, Ryan Tursi, and Shaun Olafson. The students discussed individuals with disabilities in the U.S. and its relevance in transportation and specifically transit. They identified potential planning, physical, passenger, and technology concerns, and how AV technologies could support or advance solutions to these concerns. The students presented a case study on Utah's autonomous shuttle pilot and its exploration to understanding what ADA compliance would look like with an AV shuttle.

The students 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. They also discussed recommended design improvements to autonomous vehicles, specifically transit-focused autonomous shuttles, such as external stop announcements, electric vehicle sound, and wheelchair securement systems.



The Clinic's exploration of ADA compliance and autonomous vehicles is summarized in the "ADA Compliance and Autonomous Vehicles: Surveying Accessibility Features and Best Practices" white paper.

#### **IIHS RATINGS PROGRAM FOR PARTIAL DRIVING AUTOMATION**

#### Dr. Alexandra Mueller, Research Scientist, Insurance Institute for Highway Safety

Dr. Alexandra Mueller, Research Scientist for 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 to provide a rating:

- Driver monitoring
- Attention reminders
- Emergency escalation
- Automated lane changing
- Automated cruise control auto-resume
- Cooperative steering assistance
- Safety features

Dr. Mueller walked through each category and how the ratings program examines the safety of partial driving automation systems for continued driver engagement – keeping the driver in the loop, generating alerts to bring the driver back into the loop, unexpected behaviors, and emergency escalations if the driver does not come back into the loop. Dr. Mueller discussed proactive design strategies to keep the driver in the loop, such as shared controls, that are built into the system before deployment to encourage safety of the driver and other road users when using partial driving automation technologies.

#### **AV PILOT RECOMMENDATION DRAFT**

#### Scott Shogan, Vice President, WSP USA

Scott Shogan, Vice President for WSP USA, presented an overview for a potential AV pilot in Washington, per 2021 Transportation Commission recommendation to explore.

The pilot recommendation outline included:

- Goals and objectives equity, public awareness, and organizational knowledge as identified as priorities by the AV Work Group in 2020 and 2021
- AV Pilot Use Case last mile solutions to increase accessibility to transit in urban and small city/town settings



- The intent of this approach is to start with a lower risk threshold pilot as Washington's first AV pilot, testing in both small city/town and urban settings to explore impacts to different communities and identify equity considerations.
- This approach would include gauging transit agency and industry interest in this type of pilot, as well as identify potential cost implications and discuss scope opportunities.
- The recommendation would include requirements for a future AV Pilot request for proposals to include proposal criteria, required execution and summary documentation, public user surveys, and information to support a report to the Legislature.
- Administration of the pilot would include a lead state agency to facilitate and coordinate the process, one or more transit agencies to help develop the pilot concept and integrate with their transit services, and industry partners to provide the autonomous technologies and provide technical and program support.
- The role of the AV Work Group would be to develop the goals and objectives, as well as the AV pilot recommendation to the Legislature. If the AV Work Group is extended beyond 2023, it could serve in an oversight role for pilot development, execution, and evaluation.

Mr. Shogan then presented a short series of polling questions to Executive Committee members to gauge interest in and agreement with the AV pilot proposal as presented, other objectives or pilot approaches/user cases that may need to be considered. Polling results are presented at the end of this meeting summary.

#### LEGISLATIVE UPDATES AND NEXT STEPS

### Reema Griffith, Executive Director, *Washington State Transportation Commission* & Comments from Legislators

During the 2022 Washington State legislative session, three AV-related bills were introduced, none of which passed:

- Senate Bill (SB) 5828<sup>1</sup>, sponsored by Senator Joe Nguyen Reduce requirements for reporting to Washington State (rely on national reporting requirements instead); revise existing law from being required to inform law enforcement when testing to instead provide a law enforcement interaction plan and expected period of testing.
- House Bill (HB) 1731<sup>2</sup>, sponsored by Representative Shelley Kloba Revisiting the idea of the self-certification program and the potential need for a higher standard if testing is done without a human driver in the car; increased amount of information and

<sup>&</sup>lt;sup>1</sup> SB 5828: <u>https://app.leg.wa.gov/billsummary?year=2022&billnumber=5828&initiative=false</u>

<sup>&</sup>lt;sup>2</sup> HB 1731: <u>https://app.leg.wa.gov/billsummary?BillNumber=1731&Year=2021&Initiative=false</u>



involvement of first responders and law enforcement; incorporate work auto manufacturers and software developers are being required to do by NHTSA.

• HB 2100<sup>3</sup>, sponsored by representative Matt Boehnke – Mirrored SB 5828.

Representative Shelley Kloba and Senator Joe Nguyen were present to discuss the three bills, the intent of each bill, potential reasons the bills did not pass during session, and their expectations moving forward.

Representative Shelley Kloba shared several thoughts for AV policy development moving forward:

- Hope to increase knowledge base of members of the Transportation Committee
- Would like more of a focus on consumers and public safety
- Want to coordinate better with first responders
- Interested to see implementation of HB2676 requirements in October 2022
- Excited about a potential pilot project, help build core competencies of state agencies
- Want to continue to emphasize data collection hard to make decisions on policy without sufficient data

Senator Joe Nguyen also shared thoughts for AV policy development moving forward:

- Want to encourage the development of AVs in Washington manufacturing, testing, and ultimately deployment
- Want to reduce duplicate efforts and barriers to companies coming to test in Washington, such as potentially burdensome state reporting requirements that may already be happening at the national level

Representative Jake Fey, Chair of the House Transportation Committee, also shared some thoughts:

- 2022 was a short legislative session the Committee's main focus was on the major transportation package, many other bills did not get reviewed/discussed this session, have the opportunity in the next session
- The efficacy of doing an AV pilot needs to be weighed against what else Washington needs to spend money on

## AV ROADMAP TO THE FUTURE – KEY COMPONENT: PUBLIC OUTREACH

Scott Shogan, Vice President, WSP USA

Scott Shogan, Vice President for WSP USA, provided a refresher on the "Roadmap to the Future", a legacy deliverable for the Work Group to provide to law makers at the sunset of the

<sup>&</sup>lt;sup>3</sup> HB 2100: <u>https://app.leg.wa.gov/billsummary?BillNumber=2100&Initiative=false&Year=2021</u>



Work Group at the end of 2023, laying out a plan for the future and how Washington can prepare for AVs. Mr. Shogan then presented a deeper dive into one of the five key components of the Roadmap – Public Outreach.

Mr. Shogan discussed the public outreach goals – to communicate transparently and comprehensively, to increase awareness, and to understand varying needs from different perspectives. To support these goals, outreach activities to date include establishing this AV Work Group structure, Executive Committee and subcommittees, standing up the AV Work Group website, publishing quarterly AV newsletters, and the Washington Traffic Safety Commission's ADAS survey and upcoming education plan. Attendees also identified engagement with the Partners for Automated Vehicle Education (PAVE) Public Sector Advisory Council as another public outreach activity conducted to date.

Looking ahead, Mr. Shogan discussed outreach audiences, including policymakers, implementers, policy influencers, and those impacted by or benefiting from policies, the goals for outreaching to each of these audiences, and potential outreach methods (e.g., briefings, associations, experiential engagement, focus groups). Mr. Shogan also discussed the diversity of input, range of infrastructure users (e.g., drivers, pedestrians, etc.), and a need to focus on equity in outreach efforts.

Mr. Shogan polled meeting attendees on what roles the State has in engaging the general public, ranging from informing the public on safe use of AVs to informing the public on the state of the industry. Meeting attendees were also asked what methods of engagement should the State use for outreach, from broadcast media and focus groups to public meetings and experiential engagement. Mr. Shogan wrapped up the polling with a question to attendees on what other public outreach activities Washington should explore in the future for AV readiness. Polling results are presented at the end of this meeting summary.

#### **AV INDUSTRY PRESENTATION**

#### Katie Stevens, Head of State and Local Policy, Nuro

Katie Stevens, Head of State and Local Policy for Nuro, provided an overview of Nuro, an company focused on making fully autonomous, on-road vehicles designed specifically for goods delivery. Ms. Stevens discussed how communities can benefit from goods delivery AVs, reducing time spent on running errands and reducing potential driving-related crashes and fatalities.

Ms. Stevens presented how goods delivery AVs can address community challenges, such as revitalizing local commerce, serving food deserts and those with mobility challenges, and environmental goals. Nuro is also creating jobs that may otherwise be reduced by removing the need for drivers, by establishing the nation's first training program for autonomous vehicle fleet technicians.



Ms. Stevens then discussed Nuro's technology, which has an exemption from NHTSA for certain aspects traditional vehicles require that are not required in an AV with no driver or passengers, such as a steering wheel or side mirrors.

Ms. Stevens wrapped up the presentation with a discussion on recommendations for AV frameworks, noting common regulations across the states in which Nuro operates, including explicit authorization of AV operations, law enforcement interaction plans, exceptions to state motor vehicle equipment laws that support conventional human drivers, and requirements that are clear, achievable, and provided on a swift timeline.

#### **EXECUTIVE COMMITTEE MEMBER ITEMS**

#### Open forum

All Executive Committee members in attendance were given the opportunity to offer thoughts, insights, and observations.

• No members brought forth a topic for discussion.

#### **CLOSING REMARKS**

Chair Jim Restucci thanked the presenters, organizers, and Executive Committee members, and asked if there was any other business to come before the committee. No other business identified.

#### **MEETING ADJOURNED.**

#### Next Meeting Date:

• September 28, 2022 - Washington State Autonomous Vehicle Work Group Executive Committee Meeting



#### PRESENTATION QUESTIONS LOG

| Presentation   | Participant | Question / Comment  | Presenter Response   |
|--|-------------|---|--|
| University of<br>Washington AV<br>National<br>Research<br>Update | David Forte | Did the Clinic examine when<br>an AV is in Level 4 or 5<br>transporting passengers, that<br>you would consider them a<br>common carrier with those<br>heightened liability<br>requirements?   | We did not look at that specifically, but something we would<br>like to amend into the white paper. A lot of AV testing right<br>now, the autonomy level an AV is operating at is not always<br>published, but something we can certainly look at.   |
| University of<br>Washington AV<br>National<br>Research<br>Update | Ted Bailey  | Question on the database<br>and outreach the Clinic has<br>done or planning to do, to<br>verify with states the<br>information in the database,<br>and where they seem<br>themselves in effectiveness<br>or leading in the AV space?<br>States I would have<br>assumed would be green are<br>Minnesota, Pennsylvania,<br>Florida, and Virginia. | Not published on the website to respect privacy of contacts, but<br>we do have a collection of each state's contact(s). We found it<br>was difficult to contact every contact from each state, trying to<br>manage schedules.<br>Some states ended up in a different 'level' than we had<br>expected, but we developed a method to scientifically<br>operationalize the variables to assign ratings to states. One<br>example is Florida: Florida has tried 28 times to be a leader in<br>the CAV research development and deployment space, but<br>has only passed 6 relevant bills. Therefore Florida is "yellow",<br>in preliminary steps and starting to allocate money, but has not<br>done extensive testing or deployments. |



| Presentation   | Participant                     | Question / Comment   | Presenter Response  |
|--|---------------------------------|--|---|
| IIHS Ratings<br>Program for<br>Partial Driving<br>Automation | Representative<br>Shelley Kloba | Is there value in including the<br>language that companies<br>use to describe them in this<br>ratings program? There is a<br>lot of misunderstanding of<br>the capabilities of partial<br>driving automation systems.<br>Is that in what you have<br>contemplated? | Terminology manufacturers are using to describe these<br>systems is not something addressed by this program. We are<br>taking care to promote this program, to discuss the ratings, the<br>way we are going about data collection to inform<br>communications and ratings, using deliberate language when<br>talking about this. Language is only as good as the person<br>interpreting it. These various technologies have similarities but<br>have different behaviors and purpose. How do you<br>communicate that with the general population who isn't<br>comfortable with all of this? |
|  |                                 |  | The way this program is designed, it puts guardrails to<br>minimize opportunities for misuse regardless of consumer<br>education and knowledge. This program is not looking at<br>functional performance (e.g., how well they lane-keep, how<br>well they manage the speed); it is about user-centric design.<br>How are they designed to have the driver stay an active driver<br>in the driving task. if driver is engaged in driving, doesn't matter<br>how functionally capable these systems are.  |



| Presentation   | Participant  | Question / Comment  | Presenter Response  |
|--|--------------|---|---|
| IIHS Ratings<br>Program for<br>Partial Driving<br>Automation | Anna Zivarts | Curious what Dr. Mueller had<br>found around pedestrian/bike<br>rider avoidance and lane<br>keeping on roads without<br>sidewalks/shoulders where<br>pedestrians are sharing the<br>roadway. I've been<br>concerned that these<br>systems may pit lane<br>centering against passing<br>other road users with<br>adequate space. | That is why we want to promote cooperative steering. Ideally<br>the driver sees the pedestrian or cyclist on the side of the road,<br>we want to make sure the driver is encouraged to participate in<br>the steering. If the driver wants to hug one side of the lane to<br>give the other road user more room. We do not want the driver<br>to be penalized for not steering directly in the middle of the<br>lane, but allow the driver to make that choice. The steering<br>assistive technology should still be there in standby mode, not<br>turn off completely. |



| Presentation   | Participant                     | Question / Comment   | Presenter Response  |
|--|---------------------------------|--|---|
| IIHS Ratings<br>Program for<br>Partial Driving<br>Automation | Representative<br>Shelley Kloba | We've noticed some crashes<br>that occur when people are<br>using these technologies are<br>due to the fact they are<br>operating on a road that is<br>not what the design domain<br>specified. Most of them are<br>designed for limited access<br>highways, not for more rural<br>highways, accessing the<br>road from a horizontal entry.<br>Has geofencing been<br>considered for scenarios like<br>that? | Yes. These systems often struggle even within their<br>operational design domain (ODD). Cross traffic is something<br>these systems struggle with. The ODD geofencing requirement<br>is something that could be implemented in the future.<br>Driving is a difficult and complex task. The ODD these systems<br>have typically been designed for – limited access highways –<br>have the lowest crash rates, which speaks to function of<br>restricted access roads. Free flowing traffic can get boring.<br>Even if the system is designed to keep the driver engaged, the<br>driver's mid may start wandering.<br>Also, there are extenuating circumstances, such as a<br>construction zone in an otherwise regular ODD. The system<br>may be technically allowed to operate there, but it isn't safe for<br>the system to be used when it is a construction zone. Map<br>updates would need to be required to account for situations like<br>this. |



| Presentation   | Participant                           | Question / Comment  | Presenter Response  |  |
|--|---------------------------------------|---|---|--|
| IIHS Ratings<br>Program for<br>Partial Driving<br>Automation | Ted Bailey                            | What are your thoughts on<br>near term next steps for this<br>working group relative to the<br>use or consideration of the<br>IIHS 7 category rating<br>systems alongside AV<br>testing and deployment<br>regulation on public roads<br>which is currently focused on<br>SAE Levels 4 and 5 when<br>there currently are not any | By the end of the summer, IIHS plans to publish its<br>methodology for scoring, and by the end of the year we plan to<br>publish our first round of ratings under this program. Our goal<br>with the first round of ratings is to provide a representative<br>sample of the technologies currently available in the market to<br>give consumers more information about safeguards<br>implemented (or not) in their vehicles.<br>In benchmark testing, we have found that no single system<br>scores perfectly in all of these categories. Some systems do<br>some things really well. Everything we are asking for is<br>achievable. We want to see systems do well in all of these |  |
|  | · · · · · · · · · · · · · · · · · · · | categories. We want to avoid cherry-pi<br>some categories but not others. All of t<br>interrelated. We hope there will be a tri<br>strategies developed in response to the<br>be implemented in level zero and 1 systems.   | their vehicles in relation to a particular ODD and associated SAE Level of  | categories. We want to avoid cherry-picking – doing well in<br>some categories but not others. All of these categories are<br>interrelated. We hope there will be a trickle-down effect of<br>strategies developed in response to these categories that can<br>be implemented in level zero and 1 systems as well. |
|  |                                       |   | Level 4 systems are designed for specific ODDs, so when they<br>leave that ODD they will go into lower level automation and<br>subject to these guardrails. Level 5 systems are supposed to<br>operate in any domain without a driver, ever, so there is no<br>need for these guardrails as they interact with the driver.  |  |
|  |                                       |   | We continue to conduct research to help inform bodies like this<br>work group about safety topics and issues. Using data from<br>IIHS and wider sources to help inform consumer information<br>strategies so they are better aware of what is out there, and<br>what safeguards are meant to do/why they matter.  |  |



| Presentation   | Participant  | Question / Comment   | Presenter Response  |
|--|--------------|--|---|
| IIHS Ratings<br>Program for<br>Partial Driving<br>Automation | Ian Williams | From autonomous vehicle<br>industry position, this work is<br>very valuable in that it shows<br>a set of challenges for<br>automated levels 2 and<br>below that are somewhat<br>regulatorily different from<br>levels 4 and 5. This group's<br>focus is on levels 4 and 5,<br>there might be separate<br>challenges for ADAS that<br>should be addressed by<br>other groups. The issue of<br>consumer confusion – the<br>industry struggles to continue<br>communicating that levels 4<br>and 5 are not consumer<br>products yet, they are in<br>testing, in development.<br>What you see on roads today<br>are level 2 systems. Related<br>but separate technologies<br>and challenges. | One thing of value of application from lessons learned from this<br>program and research around this program is the prototype<br>testing for level 4 designated systems, specifically around<br>safety drivers and remote operators. How do you promote<br>keeping them in the loop, keeping their attention and<br>availability for when the system encounters a situation that is<br>ambiguous or engages a behavior through its decision making<br>tree that isn't appropriate for that specific situation. If you<br>require a driver to be in the loop for intervention, even if that<br>human is a safety driver or remote operator, there are still<br>human factors considerations around that person's ability to<br>intervene when necessary.<br>Those human factors issues may or may not be directly<br>relevant to the factors addressed here. As a remote operator,<br>there are many other challenges you have by virtue of not<br>being in the vehicle. Safety drivers have many situations where<br>you are expected to not intervene, even if the system were<br>designated a level 2 system you would be expected to<br>intervene. |



| Presentation         | Participant           | Question / Comment   | Presenter Response |
|----------------------|-----------------------|--|--------------------|
| AV Pilot<br>Proposal | Chair Jim<br>Restucci | Question to Executive<br>Committee members – If you<br>do not think this AV pilot<br>proposal is the right<br>approach, then what is? If<br>this is not the pilot to help<br>better understand these<br>technologies, then what is?  | No responses.      |
| AV Pilot<br>Proposal | Justin Leighton       | Have talked about this with<br>WSTC and discussing with<br>transit agencies to<br>understand what they would<br>need. The technology is new,<br>resources on transit<br>agencies is tight for staffing<br>and skill. If there is a pilot<br>project, it has to come with<br>all of the resources –<br>technology, human<br>resources for operating and<br>training. Hard for transit<br>agencies to expand right<br>now. Looking forward to<br>continue engaging on what<br>public transit agencies could<br>help guide in the<br>development of this pilot<br>proposal. | N/A                |



| Presentation         | Participant  | Question / Comment  | Presenter Response  |
|----------------------|--------------|---|---|
| AV Pilot<br>Proposal | Anna Zivarts | How would this actually<br>benefit underserved<br>communities anymore than<br>taking resources away from<br>other last mile or expansion<br>programs. What else would<br>this pilot be doing beyond<br>allowing companies to come<br>test out their products in our<br>market. To serve those<br>currently not being served by<br>our transportation market, is<br>this going to work any better<br>than existing last mile pilots<br>or expanding transit<br>services? | The idea is recognizing AV technologies are coming. This is<br>the AV work group. We are looking for ways to study and<br>understand the implications of this technology. The idea is to<br>look at how AV technologies help be part of that solution. They<br>are not the only solution. There are current last mile solutions<br>being deployed. How could AVs be part of that solution. And<br>we want to test them in a real-world context to find out what the<br>barriers may be for disadvantaged communities. How can we<br>understand that better, plan better, develop regulation, etc.<br>This is not going to be private companies testing their<br>technology. The idea for this pilot is for existing technology,<br>likely an AV shuttle, not in a testing mode but being deployed<br>to use as a service in this type of context. This is not to pay a<br>private company to do their research. |



| Presentation         | Participant | Question / Comment   | Presenter Response |
|----------------------|-------------|--|--------------------|
| AV Pilot<br>Proposal | Ted Bailey  | If you reach out nationally<br>and ask what is it that we<br>could do that the private<br>sector cannot do by itself,<br>that needs public investment<br>beyond infrastructure? The<br>Infrastructure & Systems<br>Subcommittee brought two<br>infrastructure-related<br>recommendations –<br>pavement markings and<br>smart work zones – neither<br>of which were funded.   | N/A                |
|                      |             | Proposals I have seen at the<br>local level – Lakewood,<br>Mercer Island, Renton,<br>Bellevue – are around an AV<br>shuttle for informing public<br>policy. Encourage this group<br>to encourage the legislature<br>to invest in <i>something</i> . If not<br>current recommendations,<br>then a pilot could give people<br>a reason to explore equity,<br>safety, data sharing, privacy<br>issues, etc. That project<br>would need to be owned by a<br>transit agency as they would<br>be responsible for the work. |                    |



| Presentation         | Participant    | Question / Comment   | Presenter Response |
|----------------------|----------------|--|--------------------|
| AV Pilot<br>Proposal | Reema Griffith | To give more context, we are<br>not trying to answer a<br>number of questions with this<br>pilot. This is a first step for<br>public exposure and<br>understand the potential for<br>what AVs can and cannot do<br>to support use cases such as<br>last mile solutions. This is<br>one piece in a bigger puzzle.                           | N/A                |
| AV Pilot<br>Proposal | Kelly Rula     | Seattle DOT's position is<br>seeing how to drive industry<br>towards higher occupancy<br>application of AVs. If our<br>focus is on decreasing<br>congestion and increasing<br>accessibility, this pilot could<br>be an opportunity to signal to<br>the market those are the<br>types of applications cities<br>and states are looking for. | N/A                |



| Presentation         | Participant   | Question / Comment   | Presenter Response  |
|----------------------|---------------|--|---|
| AV Pilot<br>Proposal | Bryan Mistele | Main concern is the idea of<br>last mile. When you change<br>modes, you lose quite a bit of<br>interest. Would like to see<br>this pilot be somewhere<br>mass transit is not deployed.<br>Recommend point-to-point,<br>A-to-B. | N/A   |
| AV Pilot<br>Proposal | Anna Zivarts  | Can you speak to the<br>process for how the<br>feedback we shared on<br>revising the priorities will be<br>incorporated?   | This is a foundational piece to advance this recommendation<br>over the course of the summer, we will discuss the schedule on<br>how we are going to do that later in the presentation. |



| Presentation         | Participant                     | Question / Comment  | Presenter Response |
|----------------------|---------------------------------|---|--------------------|
| AV Pilot<br>Proposal | Representative<br>Shelley Kloba | Would like to emphasize one<br>of the key things when we<br>think what we can do that the<br>industry cannot do by<br>themselves is figuring out a<br>way to do it so it is<br>accessible and making sure<br>it is not single occupancy<br>vehicles – whether one<br>person is hopping into an AV<br>or a group of friends getting<br>in together, still considering<br>that single occupancy. Want<br>to move towards looking for<br>real potential for this that<br>does not increase traffic and<br>greenhouse gas emissions<br>that we are seeing with<br>TNCs. | N/A                |



| Presentation   | Participant  | Question / Comment   | Presenter Response |
|--|--------------|--|--------------------|
| AV Pilot<br>Proposal   | Brenda Wiest | Seems like the broad scale<br>of deployment of this<br>technology is a ways away.<br>Maybe we can focus some of<br>our work on the next<br>generation of people using<br>that technology. You will find<br>many plan to always drive a<br>car, but if talking with those<br>in college, in high schools,<br>getting them familiar with<br>these technologies as it will<br>likely be an easier transition. | N/A                |
| AV Roadmap to<br>the Future –<br>Key<br>Component:<br>Public<br>Outreach | Brenda Wiest | Want to flag there is not a<br>mention of workforce and<br>workforce development, such<br>as technical and community<br>colleges that identify the<br>skills that are going to be<br>needed. Workforce is not just<br>drivers, it includes those<br>developing the technology,<br>working on the technology,<br>etc.   | N/A                |



| Presentation   | Participant | Question / Comment  | Presenter Response   |
|--|-------------|---|--|
| AV Roadmap to<br>the Future –<br>Key<br>Component:<br>Public<br>Outreach | Ted Bailey  | Looking at results on the<br>polling question related to<br>forms of public outreach, the<br>ones that rose to the top –<br>community events, focus<br>groups, public meetings –<br>those are the most<br>expensive and time<br>consuming and the ones that<br>require investment in agency<br>staff and consultant support<br>to have the expertise and<br>bandwidth to do that<br>outreach. Recommend<br>rightsizing public outreach<br>with resources appropriated<br>to the effort. | N/A  |
| AV Industry<br>Presentation –<br>Nuro                                    | Ted Bailey  | Would you happen to have<br>summary information relative<br>to which states are working<br>on and/or have removed the<br>low hanging fruit on slide 24<br>(pedals, mirrors, etc)?   | We can provide that. Think there are ten states, will follow up offline to provide that information. |



| Presentation                          | Participant    | Question / Comment  | Presenter Response   |
|---------------------------------------|----------------|---|--|
| AV Industry<br>Presentation –<br>Nuro | Reema Griffith | For accessibility, how does<br>Nuro handle reach access<br>for those that are unable to<br>reach high / far enough to<br>open and access the door<br>and bay? | We are coordinating with disability organizations for that exact<br>question in our next model. In Arizona, we are working with<br>Mobility360, a facility to help persons with disabilities. We<br>convened people around the table to understand their<br>concerns and issues with accessing their vehicle and features<br>with/on the vehicle. We are looking at workaround for those<br>that cannot reach all the way to the back. |
|                                       |                |   | One example of questions we are exploring solutions to: At the<br>end of my driveway, I have gravel. How will Nuro know when<br>you come to my house that you will need to move to a point<br>where you are beyond that gravel?  |
| AV Industry<br>Presentation –<br>Nuro | Shelly Baldwin | Can you say a little more<br>about states with<br>"reasonable weather." Would<br>this work in Washington?   | This would absolutely work in Washington State. We started in<br>states like California and Arizona, where it is relatively flat,<br>good weather. We are learning on driving with the weather, can<br>handle complexities of weather and roadways.  |
|                                       |                |   | We are not scaling quickly, we are deliberate. We are mapping<br>and testing, doing a lot of mileage and simulation. We will get<br>to Washington State, it won't be tomorrow. In the meantime,<br>we are identifying opportunities to develop policy that we know<br>when we are developing our plan five years down the road, we<br>know there will be business certainty to deploy.   |
| AV Industry<br>Presentation –<br>Nuro | Reema Griffith | Per your frameworks list,<br>how do you define "minimum<br>insurance requirements"?   | We look at what are existing insurance standards for an<br>automobile on the road. Some states have different<br>requirements for commercial vehicles. It varies, but is well<br>within standard commercial liability coverage – between<br>\$500,000 and \$5 million.   |



AV Pilot Proposal – Polling Exercise Results





| nink the primary goal should be how Washington State<br>in safely encourage the deployment of AV's across our<br>gion. | Health equity, climate impact  | What problem is being solved for public?   |
|--|--|--|
|  | Health equity and climate impact   | I think the primary goal should be how to safety encourag<br>the deployment of AV's across our region. This is why the |
| fety and safety for people outside the vehicle   |  | committee was set up. Other goals should be secondary t this.  |
| n't see the question   | Who will benefit from pilot? Public or Private sector?   |  |
|  |  | Consider if/ when safety drivers should always be required unless at level 5   |
| Regulatory framework gaps include notification requirements for inclusion of first responder partners                  | understanding how tech is appropriately deployed in our environment -topography/climate/congestion | Emphasis on last mile and connection to existing transit   |







#### If you answered "No, don't support" or "Not sure" to the Mentimeter previous question, please expand here... I don't understand why this is primarily focused on transit. What modes of transportation will be utilized? safety concerns as lastmile solution. Seems like non That's not the primary use case for AV's. automated last mile solutions are an important thing to invest in before piloting an av project. Many last mile solutions already exist. I would like the pilot to Don't think there is a compelling case for spending state include a look at what else is available in the areas chosen resources on this. How would it benefit underserved and how adding AV into the mix would benefit the communities any more than funding other lastmile transit community. connections?



# Do you have any additional comments or questions about the AV Pilot Proposal?

States leading the AV space are investing in more than enabling AV Testing and Deployment policy and comprehensive work group/task force discussions, they are investing State resources toward pilot deployments, research, infrast, and public education Glad we are discussing. Agree this should not be another the model

2

Mentimeter



#### AV Roadmap Key Component: Public Outreach – Polling Exercise Results

| What other Public Outreach activities has the Work Group and/or its subcommittees conducted to date? | Mentimeter |
|--|------------|
| Partners for Automated Vehicle<br>Education (PAVE) Public Sector<br>Advisory Council                 |            |
|  |            |
|  |            |
|  |            |







#### What methods do you think should be the focus of public Mentimeter outreach and engagement? Participation in 1st **Community Events** Focus Groups 2nd **Public Meetings** 3rd Experiential 4th Engagement **Broadcast Media** 5th 11



|   | Itreach activities shou<br>Iture for AV readiness     | •  |
|---|---|--|
| Do a pilot  | Linguistically and culturally appropriate engagement. | Public outreach is expensive. What are we<br>prepared to fund and at what point in time.<br>Without a pilot, my car does what should be the<br>focus |
| Collaborate with private sector who will be doing<br>outreach as these pilots deploy. | Encourage industry to test in our state.              |  |
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