



WASHINGTON STATE  
AUTONOMOUS VEHICLE  
WORK GROUP

## MEETING SUMMARY

### Washington State AV Work Group - Infrastructure and Systems Subcommittee

August 12th, 2019 | 1:00pm-4:00pm

WSDOT HQ Nisqually Board Room | 310 Maple Park Ave SE - Olympia, WA 98501

#### Attendees:

First Name	Last Name	Organization
Robert	Acevedo	HDR
Bruce	Agnew	ACES Northwest
Ted	Bailey	Washington State Department of Transportation (WSDOT)
Erica	Bramlet	Washington State Senate Transportation Commission
Jeffrey	Connor	Unknown
William	Covington	University of Washington School of Law
Marc	Daily	Thurston Regional Planning Council (TRPC)
Mike	Ennis	Association of Washington Business
Mariya	Frost	Washington Policy Center, Coles Center for Transportation
Chris	Grgich	Intelligent Transportation Society of Washington (ITS-WA)
Jennifer	Harris	Washington State House Transportation Committee
Azmeena	Hasham	Verizon Smart Communities
Les	Jacobson	WSP USA
Scott	Kuznicki	Modern Traffic Consultants
Daniel	Lai	University of Washington
Francesca	Maier	Fair Cape Consulting
Cecile	Malik	City of Auburn
Steve	Marshall	City of Bellevue
Megan	McPhaden	Washington State House Transportation Committee
John	Milbrath	AAA Washington
Roger	Millar	Washington State Department of Transportation (WSDOT)
Kyle	Miller	WSDOT
Markell	Moffett	WSP USA
Loreana	Marciante	HNTB
Paul	Parker	Washington State Transportation Commission (WSTC)
Eric	Pierson	Chelan County
Jeff	Peterson	First Group
Shannon	Walker	Seattle DOT
Mike	Walton	WSDOT
Yinhai	Wang	University of Washington Civil & Environmental Engineering
Mike	Wendt	Mike
Bryce	Yadon	Futurewise

## WELCOME, INTRODUCTIONS, OPENING REMARKS

Roger Millar and Mike Ennis

- Walkthrough agenda
- Go-To-Webinar remote participant process
- Co-chairs are encouraged by progress being made in all 3 active Subcommittee Work Plan activities

*Topic closed.*

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## PUBLIC COMMENT

- No public comment.

*Topic closed.*

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## OPEN DISCUSSION AND REFLECTIVE COMMENTS – June 28 Executive Committee and July 16 WSTC Meetings

Roger Millar & Mike Ennis

- AV Work Group membership
  - Original charge from the Washington Legislature to the WSTC was for the AV Work Group to be made up of legislators and agency heads
  - Since, AV Work Group has had conversations about adding business and labor to the table
  - WSTC has expanded the AV Work Group Executive Committee to include representatives from OEMs, tech companies, environmental, transit, cities, counties, MPOs, firms involved in testing and deployments.
    - Disability Rights Washington was invited to join Executive Committee at June 28 meeting to represent disabled and marginalized communities
- General purpose and structure of Work Group
  - Executive Committee and WSTC are a means of communicating in this space
  - Ideas/issues brought to Subcommittees to vet, then flow up through the Executive Committee and WSTC to get to the Legislature
  - General agreement that policies and issues that go through this process is good but is not the exclusive means of working in this space
  - Agencies/entities have the right to work outside of Work Group in this space
- Two new subcommittees created
  - Health & Equity – Topic that must be considered by each Subcommittee, but established an Subcommittee specific to this topic for a more broad focus
  - Workforce – Labor and labor related issues
    - Technology and transportation have always been disruptive
      - America went from majority of transportation being horse drawn carriages to automobiles in less than two decades
      - This transition was rapid, and difficult on those in the horse industry
    - C/AVs bring the need for new technologists, workers at all skill levels
    - Current areas of workforce may change, diminish, or grow
- A lot of discussion on cybersecurity and data privacy – good, ongoing conversation
- Infrastructure & Systems Subcommittee co-chairs presented on Work Plan activities
  - Concern on Activity 2 – Potential to expand criteria for existing grant programs may disrupt

those that currently take advantage of those programs and are wary of competition

- Subcommittee will work to find a balance between including C/AV initiatives to support evolving transportation landscape and existing initiatives / transportation needs
- Concern on Activity 3 – Not all self-certified companies are actively testing C/AVs in Washington, wary of questions being specifically related to testing.
  - Conversations with self-certified companies are open dialogue, looking to understand goals/objectives of self-certifying in the State and current or potential future activities in the C/AV space.
- Group Discussion:
  - What is the timing of any recommendations to be put forth to the Legislature? Is the next Executive Committee meeting, September 26, an important meeting to make sure subcommittees put forth recommendations?
    - The Legislature is still informing themselves in this space, in information gathering mode right now to prepare for future policy decisions
    - Agency budgets for 2020 Legislative Session are being prepared and finalized now, any recommendations made at September meeting that require funding would not be included in 2020 session
    - Recommendations in September *may* impact legislators looking to introduce related legislation
    - Joint Transportation Commission just initiated a Statewide Transportation Needs Assessment over the next year
      - Opportunity for subcommittees to prepare recommendations to inform those discussions
    - This is an ongoing, long-term effort. Not a sprint. “Get it right, not get it fast”.
    - Recommendations made this year will likely go to the 2021/23 or 2023/25 sessions
  - Liability Subcommittee may be the only subcommittee bringing a recommendation forward at September meeting
    - Expanding insurance umbrella coverage requirement from \$25,000 to \$5 million per occurrence for companies testing AVs in Washington

*Topic closed.*

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## UW Law School Update

William Covington

- 2018-19 school year: Team of students reviewed and analyzed legislative activity and made recommendations for revised law/definitions bill in relation to AVs
  - Pre-emption of Local Regulations: Determine whether states should restrict localities from establishing their own AV regulations
  - Definitions: Evaluate current and potential definitions for C/AV technologies, vehicles, etc.; determine if the same between states
  - Self-Certification: Faster process for companies and reduced burden on government
  - Enhanced Infrastructure: Critical to support C/AV testing and deployment
  - Liability: What should liability requirements be for C/AV manufacturers, operators, software companies
  - Data Security: Increasingly, connected vehicles can be susceptible to threats from hackers
  - Social Justice: Explore the positive things that AVs can bring, such as more accessibility, but beware of the burden
- Recommendations were presented to Executive Committee and circulated to subcommittees for feedback

- 2018/19 Students are gone, Bill Covington and research assistant are continuing work through the Summer
  - Contacting all 50 states to inquire about AV policies/activities. Information Matrix includes:
    - Contact information
      - Policy – directors, legislators
      - Operations – DOT, DOL, other regulatory bodies
    - Legislation
      - What current legislation/executive orders/regulations does a state have in place
      - If a state has none in place, why?
      - If a state does have something in place, what is being used as the basis for law? What definitions are being used?
      - Hope to create uniformity among states
    - Testing and Deployment
      - Types of active or upcoming testing or deployments
      - Types of testing or deployments approved but not active
      - Lessons learned
      - Testing requirements (if any)
      - What agency(ies) grant approval for testing, or is a self-certification process in place?
    - Pre-emption:
      - Does the state allow or bar local regulations?
    - Infrastructure:
      - Work being done to improve infrastructure in anticipation of C/AVs?
      - Planning activities occurring for future improvements?
      - Focus on specific infrastructure, such as signage or signaling?
    - Liability:
      - Insurance requirements in place?
      - Are software providers liable?
    - Information Gathering:
      - What information is being gathered by the state?
      - Any focus or concern on privacy and data security?
    - Social Justice:
      - Does legislation/law/regulation have presence of addressing historically overlooked communities?
      - Sensitive to those physically impaired?
    - Stakeholder Interest:
      - Academia involved in testing/deployments/policymaking?
      - Industry involved in policymaking?
      - Special interests / unique elements of state
    - Miscellaneous Information:
      - Web page URL and related information for state AV efforts, testing activities, certification process, etc.
  - Initial results from 27 states and 1 city that have responded to inquiry so far:
    - Some states working closely with universities
    - Railroads are concerns with how AVs will handle railroad crossings
    - Some states deploying P3s to initiate testing/deployments
    - Some states looking at Internet of Things
    - At least one state working with private sector partner on improving signage
    - At least one state updating rural roadways with long-life markings
- Request to Subcommittee to help focus direction and future work

- Are we a solution looking for a problem, or is this going in the right direction?
- Are we asking the right questions?
- Anything we are missing?
- Group Discussion:
  - When considering pre-emption of local regulation, what level is being considered “local”?
    - Some states looking at anything below state level as being pre-empted
    - Some states allowing large municipal areas to engage and develop regulations (e.g. City of Boston)
  - Is this research looking at the failed AV START Act or the reauthorization and replacement of the FAST Act at the Federal level?
    - Not at this time.
  - Is UW in touch with the Uniform Law Commission (ULC) as they are looking at self-driving regulations, producing definitions and sub reports?
    - Yes, have been in touch with them on definitions, not on any sub reports.
  - Work being done by UW School of Law is very much appreciated. Would like to see near-term findings in real-time, if possible...
    - 2019/20 students will shadow the subcommittees and provide information as it becomes available
    - Will process raw data received so far and issue on a preliminary basis to receive feedback prior to presentation to AV Work Group in early 2020
    - Anticipate preliminary results will be available by mid-November
  - Do any of the questions get to if states have policy to ensure equity roll out? If not, should there be?
    - Social justice is covered as a question
      - How do states plan to handle disabled communities, historically overlook communities, etc.
      - What social justice issues is your state facing? How could C/AVs negatively or positively affect those issues?
    - Suggestion to add other discriminated groups – age, gender, etc.
    - Implications are not just about equitable access, but increased access.
  - Is there a way to get leaders of subcommittees engaged upfront to review these questions and provide feedback?
    - Yes, information provided to WSTC for distribution
  - Topics related to C/AVs but not specifically related to testing and deployment of AVs should be included in discussions with states
    - ADAS technologies (blind spot monitoring, back up cameras, etc.)
    - Paratransit
    - Land use
    - Transportation funding – how does this initiative impact gas tax vs. alternative revenue mechanism discussions?
    - Electrification of vehicles and infrastructure
    - Decarbonization efforts
  - UW School of Law 2019/20 students will look at topics related to C/AVs as well, but want to make sure their focused on what is of the highest and best use to policymakers in their short time in this space
  - Suggestion for overall matrix to contain three ‘buckets’ – State level, Local level, and gaps between the two
  - Presentation given today is broader than presentation given at June Safety Subcommittee meeting. Other subcommittees will be interested in this expanded set of information.

- **ACTION ITEM:** Bill Covington to send presentation to all subcommittee co-chairs/supporting agency staff
- Suggestion to add question(s) related to how states compile accident data to evaluate if they have the ability to collect C/AV-related data
  - Would assist in analyzing how different C/AV technologies may impact accident occurrence and severity

*Topic Closed.*

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## **ACTION PLAN PROGRESS REPORT**

Roger Millar and Mike Ennis

### Activity 1: Developing a “Bets Practices” Policy Summary Document – Francesca Maier

- Goal to take the WSDOT CAT Policy Framework, as a starting point, and evolve it into a Statewide Washington CAT Policy Framework
- Activity efforts started mid-April, reviewing policy frameworks and other documents being reviewed by AASHTO and others
- Activity progress evaluated in July, behind schedule, refocused efforts to speed up completion of activity
- Walk through of current status, participation level, documents reviewed, and general review process
- Review and mark up of WSDOT CAT Policy Framework and revise policy goal statements to be statewide focused and tangible
  - Goal 1 – Organize for Innovation: Revised to focus on organizational strategy rather than technological. About positioning organizations to be more adaptable.
  - Goal 2 – Shared Mobility: Revised to be mode neutral, focus on the movement of people and goods across all modes.
  - Goal 3 – Economic Vitality and Livability: Revised to include role of State, not just localities. Includes empowering local agencies to make their own decisions.
  - Goal 4 – Infrastructure and Context Sensitive Street Design: Revised to be mode neutral. Discussion around intent of goal and whether it is still needed.
  - Goal 5 – Land Use: Revised to be mode neutral, support multi-modal development.
  - Goal 6 – Equity: Revised to include working with marginalized communities.
  - Goal 7 – Safety: Worked in to other goals, also has its own goal. Revised to be mode neutral, remove ‘security’.
  - Goal 8 – Environment: Changed from enhancing environment to minimizing environmental impacts.
- Next steps:
  - Align/develop 5-10 strategies for each policy goal statement
  - Align/develop 1 illustrative action for each strategy – the ‘elevator speech’
  - Mark up WSDOT CAT Policy Framework with revised policy goal statements, strategies and illustrative actions
  - Present Draft Washington State CAT Policy Framework to this subcommittee on September 9<sup>th</sup> for discussion and vote
    - **ACTION ITEM:** Subcommittee support staff to evaluate potential voting mechanisms and identify one to use for September 9 subcommittee meeting
  - If voted to move forward, package results of September 9 vote and recommend to Executive Committee on September 26
- Group Discussion:
  - In this context, does the term “efficient” mean faster, more cost-effective, or both?
    - Both.

- Dedicated short range communications (DSRC) has a draft vision 050 out now. Many of the categories and goal statements in this WA State CAT Policy Framework are better than the DSRC draft. Will members of this subgroup be commenting on the DSRC draft?
  - As an action item for this subcommittee subgroup, no.
  - Hope that finished work here will be shared with those working on the DSRC draft.
- Goal 6, mention of “competitive mobility options” – what is the intent of the term competitive?
  - Want to make sure marginalized communities have fast, efficient, cost-effective choices rather than being stuck with only one option for mobility, regardless of cost-effectiveness, availability or convenience.
  - Competitive can also represent the desire for mobility partners to offer competition in the market, offering solutions that are desirable and that ultimately may drive cost down.
  - CAT Policy Framework allows for market competition, evolution of offerings for fast, more efficient, cost-effective solutions.
- Resiliency – Not directly captured in any of the 8 policy goals. How should resiliency be captured?
  - Resilient transportation system – If issue/congestion on one path, other options are available
  - Resiliency to extreme events – Weather, climate, etc.
  - Resiliency through long-term maintenance and improvements – Sustainability for preservation purposes
  - **ACTION ITEM: Activity 1 team to include resiliency in the Economic Vitality and Livability (goal 3) and Environment (goal 8) goal statements**
- Goal 6 Equity, the term “reliable” is not included. Want to ensure options are there all the time.
  - Reliability may be in context of speed and/or availability
    - Speed: Transit is reliably slow.
    - Availability: Is it there when I need it?
  - **ACTION ITEM: Activity 1 team to ensure reliability is included in Goal 6 Equity, and addressed as an overarching concept in policy framework document.**
- Data and consumer protection and privacy is not specifically called out
  - The AV Work Group has a System Technology & Data Security Subcommittee to address these topics
- Are these goal statements just for transportation infrastructure, or is this for a broader policy?
  - This subgroup focusing on infrastructure, however the hope is that other subcommittees and the Executive Committee will develop similar policy frameworks respective to their own, specific mission and scope.
  - As an Infrastructure Owner Operator (IOO), WSDOT must be ready for the rapidly changing transportation landscape. Working diligently to develop a policy framework to support.
  - This subcommittee will provide this draft Washington State CAT Policy Framework as a starting point for others to add on to, rather than asking others to start with a blank slate.
- **ACTION ITEM: If any subcommittee member / meeting attendee thinks ‘security’ should be added back in to the Goal 7 language, contact Francesca Maier no later than August 23.**
- 5-10 strategies for each policy goal statement seems high. Suggest focusing on 1-3 strategies for each. Helps force group to prioritize.
- Suggestion made to conduct in-person workshop to establish strategies at a more rapid pace
- Will other subcommittees have an opportunity to weigh in on draft policy framework prior to the September 26 Executive Committee meeting?
  - Potentially. Want to make sure other subcommittees are only provided with something this subcommittee agrees on first though.
  - If this subcommittee agrees, WSDOT can move forward with IOO-related efforts while other subcommittees absorb the draft framework.



## Activity 2: Project Selection Criteria – Robert Acevedo

- Objective: Develop project selection criteria and potential funding sources/opportunities for C/AV projects
- Somewhat reliant on Activity 1 – without concrete goals, difficult to focus selection criteria to meet goals
- Reviewed Seattle DOT project scorecard. Now evaluating other states' similar scorecard-like criteria systems, compiling goals and categories from other states/agencies
- Looking at several states and localities, including (but not limited to) Florida, Pennsylvania, Colorado, Minnesota, Vermont and Boston.
- Developing a matrix that organizes/compares all states/localities' selection criteria to determine what overlaps, and what is missing
- Will use matrix to develop draft project selection criteria for Washington
- Group Discussion:
  - Currently no C/AV pilot program. Recommended one to Executive Committee in 2018, but did not get approved.
  - Several grant programs exist that could support C/AV pilots either directly or through modification to selection criteria/eligibility requirements.
  - Concern over taking funding away from current grant programs for new initiatives like C/AV.
    - Want to change the discussion from “how the pie is sliced” to “getting a bigger pie”
  - When looking at criteria, what are the activities that would be eligible for funding? A private company looking for \$10 million to create an AV startup? A city that wants to take 20 traffic signals and upgrade?
    - Trying to stay neutral to this type of question. Project selection criteria should focus on how a project meets overall goals and objectives, rather than focusing on specific types of testing and deployments.
    - Evaluating whether to look into modifying existing grant programs to accommodate C/AV-related pilots or if a CAT-specific grant program should be established.
  - Activity 2 team focused so far on selection criteria, has not dug deep into current or potential funding sources, such as grant programs – that effort is starting soon.
  - Subcommittee needs to continue having discussions on whether a separate C/AV pilot/grant program should be developed, or if CAT should be looked at as a tool that should be integrated into other issues/solutions
    - Could a transit agency use CAT as a springboard to enhance an existing/proposed grant project? Aligning CAT with other efforts instead of putting them in competition.
    - What about a grant program that allowed for creating a test bed of a geo-fenced area where much/all of the infrastructure (pavement markings, signage, signals) were upgraded to support CAT? Parsing out CAT into its own program to support CAT-focused initiatives.
    - Do not want stakeholders and general public to see CAT as a threat but rather an opportunity

## Activity 3: Partnership and Collaboration Discussions with Private Sector – Ted Bailey

- Objective: Communicate with AV companies self-certified through DOL to test in WA state, find out how subcommittee can help, share information, collaborate.
- Reached out to 12 self-certified companies (was 11 at June meeting, since then one more company has self-certified)
- Light-touch approach. Why do you want to test? What type of testing is being conducted? How can the AV Work Group help self-certified companies be successful?
- Activity 3 team divided and conquered, attempted contact with all 12 companies.
- Contact and responses separated into 4 categories:
  - 1 – Responses received for all questions
    - Self-Certified Companies:



- Local Motors
  - Navya
  - May Mobility
- Why test in Washington:
  - Washington considered a priority state for testing
  - Unique geography and travel patterns for testing
  - Testing on broad level nationally/internationally
- Washington testing intentions:
  - None right now.
- Washington testing going forward:
  - Looking to get localities and communities engaged in testing
  - Evaluating future testing plans and needs
- Infrastructure needs:
  - Military grade GPS. If access to a tall building could be granted, could use for evaluating accuracy of certain routes
  - DSRC
  - Traffic signals
  - Operational Design Domain
  - Mixed traffic vs. not
- Regulation / rule needs:
  - FMVSS compliance
  - Comprehensive coverage
- If not currently testing, why not?
  - Need a project. Expensive to setup, test, etc. Need assistance funding the test.
- 2 – Contact complete, initial responses received
  - Self-Certified Companies:
    - PACCAR
    - Peloton Technologies
  - Appreciate Washington acting as a partner rather than an obstacle
  - Looking at near-term on-road testing
  - Lesson learned for AV Work Group – providing a self-certification process opens door for companies to test and deploy in your state first instead of focusing in other areas
- 3 – Contact complete, response anticipated
  - Self-Certified Companies:
    - Waymo
    - TORC Robotics
- 4 – Contact complete, response is uncertain
  - Self-Certified Companies:
    - NVIDIA
    - Drivent
    - Simple Solutions
    - Dooblai
    - Galilei
  - Will attempt contact one more time, will then assume that, for whatever reason, companies do not feel the need to engage/respond.
- Looking to get written responses from all companies by end of August.
- UW working with Peloton and PACCAR to develop year-end report of truck platooning testing in the state.
- Group Discussion:

- Washington not as big of an economic driver as some other states (e.g. Michigan, where several OEMs are headquartered) – looking to develop strong partnerships with industry in this space
- Have discovered that upfront planning is key to fully vet ideas before testing/deployment
- Small number of firms actively working in this space – interested to see Association of Washington Businesses, Washington Roundtable, Challenge Seattle, others having conversations with self-certified companies
  - Where do these entities see CAT going?
  - How can they be of most help to support this evolution?

*Topic Closed.*

## ROUNDTABLE

### All Meeting Attendees

- Executive Committee and AV Work Group structure/process is *a form* of communication/conversation, but not *the only* form.
- Walk through of upcoming meetings:
  - September 9, 1:30-4:30pm, WSDOT HQ Olympia WA WSDOT HQ Building Nisqually Conf Room 310 Maple Park Ave SE Olympia WA, **Infrastructure and Systems Subcommittee**
    - Goal to have Activity 1 content ready for review by Labor Day for a week review period prior to this meeting.
  - September 25<sup>th</sup>, 10am-3pm, Autonomous Vehicle Work Group **Executive Committee TOUR** - PACCAR Tech. Center
    - **ACTION ITEM:** Paul Parker to find out if subcommittee members can attend site visit.
  - September 26<sup>th</sup>, 10am-2pm, Autonomous Vehicle Work Group **Executive Committee Meeting** SeaTac Airport Conference Center in the International A Conference Room.
    - Any recommendations voted to move forward at September 9 subcommittee meeting will be presented
  - October 15/16<sup>th</sup>, **Transportation Commission Meeting**, WSDOT HQ Olympia WA WSDOT HQ Building Nisqually Conf Room 310 Maple Park Ave SE Olympia WA
    - Washington AV Work Group Annual Report due November 15<sup>th</sup> (hard deadline)
    - Annual Report will be presented at this meeting
  - Early December, Date: TBD, Location Olympia, **Infrastructure and Systems Subcommittee**
    - **ACTION ITEM:** Ted Bailey to identify date/time for this meeting
  - December 17/18<sup>th</sup>, **Transportation Commission Meeting**, WSDOT HQ Olympia WA WSDOT HQ Building Nisqually Conf Room 310 Maple Park Ave SE Olympia WA

*Topic Closed.*

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**MEETING ADJOURNED.**