



## MEETING SUMMARY

**Meeting:** Safety Subcommittee  
**Location:** 310 Maple Park Ave SE, Olympia  
**Date:** June 12, 2019

First Name	Last Name	Organization	Executive Committee Member? (Y/N)
Debi	Besser	Washington Traffic Safety Commission (WSTC)	N
Kenton	Brine	NW Insurance Council	N
Barb	Chamberlain	Washington Department of Transportation (WSDOT)	N
Brian	Chandler	DKS Associates	N
Tim	Coley	Washington State Patrol	N
Jennifer	Cook	AAA Washington	N
William	Covington	University of Washington School of Law	N
Doug	Dahl	TransitLab Consulting	N
Andrew	Dannenberg	University of Washington	N
Mandie	Dell	WTSC	N
Katharine	Flug	Washington State Department of Health	N
Dan	Hall	Washington State Patrol	N
Jennifer	Harris	Washington State House Transportation Committee	N
Francois	Larrivee	Hopelink	N
Mi Ae	Lipe	Driving in the Real World	N
Anne Marie	Lewis	Alliance of Automobile Manufacturers	N
Steve	Marshall	City of Bellevue	N
John	Milbrath	AAA Washington	Y
John	Milton	WSDOT	N
Markell	Moffett	WSP USA	N
Paul	Parker	WA State Transportation Commission (WSTC)	N
Christina	Postlewait	City of Seattle	N
Yes	Segura	Smash the Box	N
Shannon	Walker	Seattle DOT	N
Angie	Ward	WTSC	N
Bryce	Yadon	Futurewise	Y

### WELCOME AND INTRODUCTIONS

Dan Hall and Kenton Brine

- Introductions
- Review agenda

*Topic closed.*



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### PUBLIC PERCEPTION PANEL

#### Seattle's Public Perception on Self-Driving Cars – Yes Segura

- AV 101
    - Pros:
      - Eliminates car fatalities / standardization of driving cultures
      - Cost-efficient transportation option
      - Eliminates congestion – shared economy model
    - Cons:
      - Could increase congestion – increasing rideshares on road today
      - AV autocentric design
      - Artificial Intelligence (AI) algorithmic bias
      - Increased vehicles miles traveled (VMT)
    - Review of levels of AVs and terminology
    - HD maps available and evolving to support AVs – cloud, sensors, cameras, GPS, LiDAR
    - Several types of AVs – Pods/shuttles, passenger vehicles, heavy and delivery trucks
  - Status of AVs
    - Between March 2017 and June 2019, states exploring and testing AVs has almost doubled
    - Conferences and groups have been created for AV research, testing, and deployment discussions
    - Research institutes and initiatives created – Carnegie Mellon, Penn. AV Task Force, University of Michigan
  - History of AVs in Washington State
    - Governor Inslee signed Executive Order for AV testing and creation of Work Group
    - AV Work Group started – similar task force structures around the country
    - Virginia Tech was first to test AV in Washington – TORC vehicle
  - Uber Driving Research
    - Started as an Uber driver to conduct research, talk to people about self-driving cars
    - Drove in various conditions to experience different environments, routes, riders, types of trips
    - Seattle public's perception of AVs – Main questions Uber riders had when queried
      - When are AVs coming
      - How do they work
      - Insurance
      - Cyber hacking
      - What will happen to drivers
    - America's perception of AVs
      - First killing by an AV (self-driving Uber in Tempe, AZ) was a pivotal moment in public acceptance
      - Vandalism of self-driving cars has started
      - Question: What are the infrastructure needs to restrict AV behavior?
        - Infrastructure should prevent collisions, injuries
        - AVs should be held to the same standards as driven vehicles
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- What are we trying to achieve, what leniency are we giving to AVs now?
- *Note that the AV collision that caused the bicyclist death had automated emergency braking intentionally turned off. If turned on, collision may have been prevented.*
- Equity
  - AV Planning needs to cover all – gender identities, sexualities, ages, religions, races, abilities and the homeless
  - Joy Buolamwini, Founder of the Algorithmic Justice League did a Ted Talk on algorithmic bias
    - Conducted a test with Intelligence (AI) facial recognition, which was unable to identify Joy's face
    - AI, facial recognition algorithms, and other technology needs to be enhanced/advanced enough to remove bias
  - Map of greater Seattle identifies gentrification patterns, good to include in AV equity discussion and testing plans

### AAA Washington – Jennifer Cook

- AAA has research institutes and testing facilities (Florida and California) to test technology like Advanced Driver Assistance Systems (ADAS)
  - AAA has conducted surveys of public opinions as they relate to AVs
    - Annual surveys conducted, with interim survey added following two AV crashes in 2018
    - Comfort levels with AVs were starting to rise, declined again after AV crashes
    - High-Level Overview of Results (detailed results can be found in presentation materials and full survey results online):
      - Baby boomers and women more afraid of AVs
      - Three quarters of Americans still afraid of full self-driving vehicles
      - Decline in people feeling less safe sharing the road with AVs
      - Three quarters afraid to ride in an AV
      - Of those that do not want ADAS technology in their vehicle, most cite distrust, unproven technology
      - Of those that want ADAS technology in their vehicle cite safety and trust of technology
      - Desire for ADAS to be consistent across manufacturers – naming conventions, functionality, availability
    - Question: Was the survey broken down by income range, race, ethnicity, etc?
      - Believe so, link to full report on website will have that level of granularity
    - Question: Were respondents asked comfort level between protected (in vehicle) vs. unprotected (bike, pedestrian, etc.)?
      - Yes. Full survey has detail.
  - Owners of vehicles with ADAS were surveyed
    - Favorable towards ADAS technology, would recommend to others
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- 70-80% have lack of awareness of limitations of ADAS functionality
  - Example: Side mirror alerts may not trigger if vehicle moving too fast
  - Has led to unsafe behavior, trusting ADAS too much
    - Felt comfortable engaging in other activities when using adaptive cruise control
    - No longer look over shoulder when backing up using rear camera
  - Drivers are not providing the “human aspect” of safety/functionality
- AAA testing results on ADAS functionality confirms higher levels of safety when properly using ADAS
  - Parking assist – fewer curb hits, reparks, etc. Parks faster.
  - Self-braking – Reduces speed, avoids more collisions.
    - Still has environment conditions that do not prevent collisions.
- ADAS Naming Study
  - Common naming for ADAS technology needed
  - Currently, manufacturers all name ADAS technology differently
    - Example: 40 different terms/names for Automated Emergency Braking
  - Leaves gap in consumer understanding
    - Example: Terminology such as “Auto Pilot” leads some to believe higher capability than available, allows vehicle to drive itself more than it should
    - Test results show 75% of ADAS functionality requires driver intervention when interacting with a stationary target
    - Systems perform best on highways, stop-and-go traffic. Urban environments are challenging
    - Need more public education, education at dealerships/vehicle purchase
- Question: Is there a correlation between AAA testing/activities and what manufacturers are doing?
  - Yes. AAA takes test results and information/materials to manufacturers. Want to partner.
    - Working hard on education campaigns, public relation activities.
    - Provides information via member club publications and media as well.
  - Question: Are there statistics comparing number/severity of crashes between regular vehicles and those equipped with ADAS?
    - Insurance Institute for Highway Safety (IIHS) has done preliminary research
      - **ACTION ITEM:** Debi Besser to provide link to IIHS research to subcommittee members
    - Question: If ADAS research indicates higher safety, less collisions, will that correlate to insurance premiums?
      - Long term, yes will correlate. May not see individual premiums reduce, but overall costs/premiums will reduce as a result.
        - NOTE that even with fewer collisions, costs may still rise because collisions that do occur are with higher technology (ADAS) that needs to be repaired/replaced.

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- Full cost savings may not be realized until only self-driving vehicles are on the road, when collisions no longer occur
- Question: Are there infrastructure elements/queues that will help ADAS/AV technologies perform better or worse?
  - Yes. Example: May be helpful to have infrastructure such as hard sensors in the road or protected bike lanes, but it is not necessary.
  - It depends where AVs are testing/deploying. AVs can use HD maps to recognize hard lane lines in urban, defined areas, but rural areas may not have hard lane lines or defined maps.
- Marketing strategies are almost underselling ADAS right now. AAA asking manufacturers to enhance ADAS education now.

### Attitudes Towards ADAS – Mi Ae Lipe

- Columnist for BMW magazine “Roundel”
  - Received requests to write column piece about ADAS
  - Interviewed BMW engineers and drove BMW with 34+ ADAS features/options/systems
  - Surveyed Roundel readers about attitudes towards ADAS
    - Negative:
      - Some ADAS features are annoying/irritating
      - False alerts or false positives (e.g. auto braking)
      - Encourages complacency
      - Low understanding/knowledge of feature functionality and limitations
      - Reliance on technology, may cause issues when driving a vehicle without ADAS
      - ADAS may malfunction, distrust
      - Creates risk for new/young drivers who only learn on vehicles with ADAS, not learning full proper driving techniques
    - Positive:
      - Reassuring safety net
      - Provides assistance to ailing/aging drivers, such as limited peripheral vision or inability to full extend/turn neck to view blind spots
      - Adaptive cruise control may help ease congestion
      - ADAS can protect others from poor drivers (e.g. lane keeping system may prevent texting driver from drifting and causing a collision)
    - Question: Are there requirements now on manufacturers/sellers/dealers to educate buyers on ADAS functionality and limitations?
      - Yes, to a point. BMW has a position called a “Genius”, which is a specially trained dealership employee whose job it is to educate buyers of their vehicle’s ADAS
  - Key Takeaways:
    - There is an opportunity to start educating people
    - As drivers experience ADAS directly, comfort level with technology rises
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*Topic Closed.*

### UW SCHOOL OF LAW – UPDATE ON AVs

William Covington

- 2018-19 school year: Team of 6 students reviewed and analyzed legislative activity and made recommendations for revised law/definitions bill in relation to AVs
- 2019-20 school year: New group of incoming students will research AV policy
- Positions/recommendations taken by 2018-19 group (will be starting point for 2019-20 students):
  - Washington State should have “light touch” regulation, minimal requirements that still enforce policy and safety
  - Pre-emption of Local Regulations:
    - Regulation should be statewide, instead of each city/county developing their own
    - Make as seamless to testing/deployment companies, enforcing agencies, and general public
    - Some cities/counties may have unique regulatory needs not met by statewide law to be considered
    - 2019-20 Work Plan:
      - Communicate with other states allowing pre-emption now
      - Communicate with jurisdictions in those states
      - Discuss opportunities/pitfalls with industry
      - Get a national snapshot of the issue(s)
      - Communicate with diverse communities
  - Definitions:
    - Robust definitions need to allow both semi and fully autonomous vehicles to fit within the language
  - Self-Certification – Minimize Government Oversight
    - Faster process for companies to self-certify, reduced burden on government
    - Removes potential issues with misunderstanding of AV technologies by allowing those that know the technology to conduct certification
    - May prevent industry from taking safeguards, potentially less public protection
      - Example: Boeing Max 8 accident – company using plane self-certified
    - Need to evaluate the benefits and potential harms
  - Enhanced Infrastructure
    - Critical to testing and deployment
    - Infrastructure and related enhancements are expensive
    - Infrastructure Owner Operators must “leave no stone unturned” – Urge government to use all available resources to create AV friendly highways, roads, etc.
    - Not just basic infrastructure, such as lane lines, also need V2V and V2I capabilities
    - Only 6% of U.S. cities currently have a plan for AV infrastructure
  - Liability

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- Complex issue
  - If manufacturers believe technology is ready for the road, they should take on the insurance liability
  - Conducting national research to understand what other states are doing
    - Michigan – Software development company is considered operator of vehicle
    - Nevada – Implemented insurance requirements
  - 2019/20 Work Plan: Communicate with selected states, insurers, manufacturers, and diverse communities on liability issues
  - Data Security
    - Hacking and security issues expected
    - A robust security regime is needed
    - Many interface points to connect to/communicate with an AV and collect restricted data (e.g. PII)
    - Look at other states' regulations, such as California which requires cybersecurity certification
    - Suggest giving people the right to control their data, especially PII
    - 2019/20 Work Plan: Communicate with states, cities, subject matter experts, industry and diverse communities
  - Social Justice – No One Left Behind
    - Explore the positive things that AVs can bring, such as more accessibility, but beware of the burden
    - Ensure fairness
    - 2019/20 Work Plan:
      - Cast a wide net
      - Communicate with states, industry, organizations such as NHTSA, and diverse communities
  - These are general recommendations that future students will continue to build on
  - We are a state school, have an obligation to help the State of Washington, and this Work Group to shape AV policy for Washington
  - Although 2018/19 students are graduated, still have some resources through summer to continue exploring what issues we should be researching and doing to add value to AV Work Group
  - Question: If there is a preference for self-certification, what exactly does self-certification mean and has that definition been reviewed/accepted by all of the subcommittees (self-certification has implications for liability, data protection, safety, etc.)?
    - Without self-certification, some type of government/state approval process would be required
    - Current recommendation for self-certification was done during a compressed, 5-week window to review and provide recommendations, want to continue exploring
    - Part of 2019/20 Work Plan is to look at real-world implementations of AV testing and deployment and understand how self-certification is being done and validated in other states/jurisdictions – best practices, lessons learned, barriers, and next steps
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- *Note: Original intent was to gather feedback from meeting attendees following this presentation – given compressed meeting time/agenda, will gather feedback either offline or at a future subcommittee meeting*
- Question to Attendees: What does the Safety subcommittee want the 2019/20 set of students to research from a Safety perspective?
  - When cars were first motorized, had to confront issues. Are they the same issues we are being met with now? Could we learn from their lessons?
    - AAA Washington: If interested in learning about history of vehicles in State of Washington, AAA does have history – policy, creating the state patrol, putting up road signs, etc. – in the archives on AAA website. May have to dig, but it is there.
  - If a self-certified AV has an accident, can a “no fault” system be applied (such as in Massachusetts)? What benefits and pitfalls would there be?
    - While there is a mixed system (drivers and AVs), a no fault system may be tricky
    - AV operators / auto manufacturers bear the liability
    - No fault system may make more palatable / publicly accepted
  - Personal Delivery Devices (PDDs), what are the ADA implications?
    - New PDD laws in Washington treat PDDs like pedestrians
    - Given pedestrian fatalities now, may not be a good process to treat PDDs just like pedestrians
    - Need regulations on drivers when they hit a PDD
    - UW School of Law: One of the student policy teams during 2019/20 school year will be exploring this type of policy

*Topic Closed.*

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### UPDATES FROM SUBGROUPS

#### Implied Consent – Steve Marshall

- What is implied consent?
    - Consent to test blood alcohol levels is implied when applying for and receiving a driver’s license in the state of WA ([RCW 46.61.506](#))
    - If a driver refuses a blood alcohol test, license is revoked
  - Can the concept of implied consent in this context be leveraged for connected/autonomous vehicle (C/AV) policy?
    - Cameras, radar, etc. in C/AV presents more data, and access complexities.
    - Currently, WA State Patrol would need to go to court to be granted access to C/AV data
    - Implied consent law for C/AV data would remove barriers to access when investigating crashes and injuries
    - Could impose implied consent law on C/AV manufacturer, through cloud or onboard diagnostics port to access data
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- Advantages:
  - More accurate
  - More precise
  - Faster discovery
  - Removes human factor – Driver may say “light was green”, data (camera) will clearly indicate whether light was green/red
  - Presents opportunity to make things safer for everyone
- Similar to blackbox on airplanes
  - Now and essential tool for investigating plane crashes
  - Since blackbox, large reduction in aircraft accidents following investigations of available data
- ***ACTION ITEM (for all attendees): If a meeting attendee would like to participate/help on this project – exploring potential recommendation for implied consent – please contact Steve Marshall.***

### Licensing Screen RCW – Tim Coley

- Three proposed changes to [RCW 46.37.480](#) Television Viewers
  - Strike multiple sentences to bring in line with current environment
  - Update language to allow for automated technology, such as platooning
  - Remove RCW all together, no longer enforceable or needed
- Subgroup to meet 6/14/19 to discuss which of the three proposed changes should move forward to recommendation

### Health Equity – Debi Besser

- Subgroup was formed to reexamine recommendation for modified Health Impact Assessment (HIA)
  - Adjusting terminology from HIA to “health and equity impacts”
  - WA Department of Health subgroup members noted that although some health and equity impacts overlap with safety, many do not
  - Formal recommendation to subcommittee for a separate Health and Equity Impacts Subcommittee
    - WA Department of Health volunteered to staff subcommittee
    - Subcommittee would look at big picture of health and equity impacts
    - Subcommittee would provide tools and engagement/collaboration to other 5 subcommittees to look at subcommittee issues through a health and equity impact lens
  - Group discussion on formal recommendation:
    - Meetings over the past year have discussed health and equity impacts at length
    - Must understand impacts of health and equity across all subcommittees
      - Example: Personal Delivery Devices (PDDs) have health and equity impacts that affect multiple subcommittees – what are the implications for people that use mobility devices to get around? How long will PDDs take to cross a street? What infrastructure is needed to accommodate PDDs without impacting wheelchair access?
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- Example: ADAS often only available in premium vehicle purchase packages. Should be standard, offered in all purchase packages – should not have to spend extra money for safety features.
- Motion to adopt recommendation for a new Health and Equity Impacts Subcommittee
- Motion seconded.
- Subcommittee member vote:
  - In Favor: All in-person voting members; online voting members vote obtained after meeting
  - Opposed: *none*.
- **DECISION:** Formal Recommendation for Health and Equity Subcommittee adopted.
- **ACTION ITEM:** Debi Besser and Kenton Brine will present formal recommendation to AV Work Group Executive Committee on June 28th

### Education – Kenton Brine

- Subgroup to reevaluate public education issues/topics and refine scope, priority
- Recommendations for public education should reflect what can be done with existing resources
- Leverage existing education efforts being done by manufacturers, dealerships, government agencies (e.g. NHSTA), partner organizations (e.g. AAA)
- Need to inventory what education information is already available, where gaps are
- Work plan may include development of low cost survey (through WTSC or partner organization)
  - Review what information is available now
  - What questions to address, dig deeper
- Discussed how to bring in organizations that are not participating in AV Work Group, or that subcommittee would like to learn more about
  - Example: Auto manufacturers – what is timeframe for adoption of AVs? What infrastructure changes/needs do manufacturers have that State can address?
- Discussed how to organize Subgroup Work Plan
  - Identify known problem areas – driver understanding, new/young drivers, ADAS, etc.
  - Prioritize education needs within each area
  - Conduct needs assessment – What education is needed and by whom?
  - Conduct asset inventory – What education materials are available (surveys, rules/laws, etc.)?
  - Determine appropriate recommendations for the Safety Subcommittee to discuss/approve/forward to the Executive Committee
- Subgroup to meet 6/13/19 to continue discussion

**Topic Closed.**

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### UPCOMING MEETINGS

Kenton Brine and Debi Besser

Upcoming meetings

- Executive Committee Meeting June 28<sup>th</sup>.
  - Debi Besser and Kenton Brine will provide update on Safety Subcommittee – recommendation(s), status/progress, pressing issues, etc.
- Safety Subcommittee Meeting July 10<sup>th</sup> 9:30am – 12pm, State Farm offices DuPont
- Safety Subcommittee Meeting Sept 11<sup>th</sup> 9:30am – 12pm, Helen Sommers Building Olympia
  - Finalize any recommendations prior to Executive Committee meeting September 26<sup>th</sup>
- Safety Subcommittee Meeting Nov 8<sup>th</sup> 9:30am – 12pm, TBD location (likely Helen Sommers Building)

*Topic Closed.*

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### RECAP AND NEXT STEPS

Kenton Brine

- Reminder of [WSTC AV Work Group website](#)
  - Main page – Information on Work Group and Executive Committee
  - [Safety Subcommittee page](#) – Meeting information, materials, etc.
  - Safety Subcommittee “[Additional Resources](#)” page – Resources posted following meeting discussions
  - **ACTION ITEM:** Paul Parker to request WSTC website resource add “Last Updated” date to “Additional Resources” link on Safety Subcommittee page.
- Thank you to members/attendees for continuing to participate and engage in subcommittee, helping move recommendations forward to advance AV policy and safety for Washington

**NEXT MEETING:** July 10, 2019

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*Meeting adjourned.*

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