WASHINGTON STATE
AUTONOMOUS VEHICLE
WORK GROUP

MEETING SUMMARY

Meeting: Health & Equity Subcommittee
Location: Seattle Municipal Tower | 700 Fifth Avenue, Room 1610 | Seattle, WA
Date: November 19, 2019

Attendees:

First Name	Last Name	Organization
Ted	Bailey	Washington State Department of Transportation (WSDOT)
Debi	Besser	Washington Traffic Safety Commission (WTSC)
Barb	Chamberlain	WSDOT
Abby	Chazanow	Sound Transit
Jennifer	Cook	AAA Washington
William	Covington	University of Washington Law School
Chris	Comeau	City of Bellingham
Rad	Cunningham	Department of Health
Margo	Dawes	City of Seattle
Jennifer	Harris	Washington State House Transportation Committee
Emily	Kawahigashi	University of Washington Law School
Nico	Larco	University of Oregon, Urbanism Next
Francois	Larrivee	Hopelink
Patrick	Lynch	Transpo Group
Kelsey	Mesher	Transportation Choices Coalition
Kyle	Miller	WSDOT
Markell	Moffett	WSP USA
Amy	Pow	Tacoma-Pierce County Health Department
Paula	Reeves	Washington Department of Health, Subcommittee Staff
Rachel	Shaeffer	Feet First
Becky	Steckler	Urbanism Next
Ryan	Thompto	Puget Sound Regional Council
Shannon	Walker	City of Seattle
Julie	West	Public Health – Seattle King County
Anna	Zivarts	Disability Rights Washington

WELCOME, INTRODUCTIONS AND QUICK OVERVIEW OF WORK TO DATE

Dr. Andrew Dannenberg

- Washington State Legislature passed a law in 2018 that mandated the creation of an Autonomous Vehicle Work Group

  - Managed by the Washington State Transportation Commission (WSTC)
  - Several subcommittees were created to explore specific focus areas
  - Safety Subcommittee identified a bevy of health and equity issues that justified a new subcommittee, recommended to the Work Group's Executive Committee
  - Executive Committee and WSTC endorsed the creation of a new Health & Equity Subcommittee

- Health & Equity Subcommittee goal: Ensure the health benefits of automated mobility are equitably distributed and that negative impacts are not disproportionately borne by traditionally marginalized communities.
- Health & Equity Subcommittee Purview
  - Access to transportation for all income levels
  - Costs of AV transportation – Especially in relation to overall income and other costs (e.g. housing)
  - Distribution of AV services – How distribution may impact items such as air pollution
    - High poverty neighborhoods are more likely to be located near major roads, where AVs may be highly distributed – what is the positive or negative impact of this distribution?
  - Impacts to existing health disparities
  - Accessibility and mobility for vulnerable populations, such as:
    - Communities of color
    - People with disabilities
    - Young and aging
    - Rural populations
    - Other historically marginalized populations
  - Job losses from automation – How those currently working in transportation earn a living after those jobs are transferred to automated functions/technologies
  - Exposure to traffic and related impacts – How AVs may impact traffic, congestion, etc.
  - List of topics for this subcommittee is not set in stone – as additional topics are identified, notify the subcommittee chairs and agency support staff to add to the discussion
- Intent of exploring these topics is to eventually result in developing policy recommendations to go through the Work Group process for legislative consideration
- Safety Subcommittee brought forth a recommendation to the Work Group in 2018 to conduct a Health Impact Assessment – This subcommittee is picking that up – to discuss further in agenda
  - Note that the current recommendation being developed under this subcommittee is for an assessment of health impacts, rather than an actual Health Impact Assessment
    - Health Impact Assessment is from perspective of a specific policy being proposed

        - This assessment of health impacts will be looking at what policy could/should be proposed
- Some open questions to be answered under an assessment of health impacts:
    - Would AVs be more willing to go in to areas at night that current taxi systems are unwilling to go to?
    - What health and equity issues are communities experiencing now, and how might AVs improve the situation, or make it worse?
    - How might testing AV technology on public roads disproportionately impact disadvantaged or vulnerable populations?
    - Testing needs to occur somewhere. Some states encourage testing, others do not. Washington is currently 'regulatory light' and generally encouraging testing. What health and equity impacts may occur during AV testing execution?
    - Urban planning – how AVs might impact parking and land use decisions
        - AVs may not need to park, and if so, can drive out of congested downtown areas until called for pickup – severely affects parking needs
    - Will more AV use mean less active transportation and potential increased obesity?
        - Less need to walk, bike, use public transit
    - How might AVs impact access to health care?
        - Potential for AVs to provide rides to and from health care for those previously unable to access
    - Noted that if an assessment of health impacts would include assumptions derived by and agreed upon by this subcommittee to identify a potential future AV scenario(s) to assess
- Discussion:
    - What is the current market penetration of vehicles with high levels of automation (levels 4 and 5), and/or when are they expected to penetrate the market?
        - Predictions of what automation levels will penetrate the market at what speed are widespread and difficult to discern a potential future scenario
        - Anticipate a mixed system for many years to come – current vehicles, low-automated vehicles and highly-automated vehicles traveling together
        - Level 4 automation means driver in vehicle (not necessarily in driver seat) and able to take over in case of an emergency, vehicle operates in automated mode under specific conditions
            - Anticipate that, once in the market, Level 4 automation will be prevalent for a long time
        - Level 5 automation means no driver or potential for a human to take over (often steering wheel and pedals removed)
            - Unsure if/when true Level 5 automated vehicles will penetrate the market

- Suggestion to add resource distribution to list of exploration topics – How the State makes decisions on where resources are distributed, as it relates to AVs
- Suggested addition to open questions – At what age should a child be before a parent feels comfortable putting them in to an AV, unattended (e.g. ride to school, in lieu of school bus)?
    - What safety precautions and parameters should be in place in that situation?
- How does this subcommittee interact with the other six subcommittees?
    - Work Group Executive Committee provides an open forum where subcommittees and the public can attend and participate
    - Subcommittee supporting agencies (i.e. Health & Equity Subcommittee supporting agency is Department of Health) hold regular coordination calls to discuss progress in each subcommittee, areas of intersection and where subcommittees can collaborate on research and recommendation development
    - Subcommittees are still working through best practices for collaboration on recommendation development, welcome suggestions

Topic Closed.

WHY ARE YOU TALKING TO ME ABOUT AUTONOMOUS VEHICLES? *EQUITY AND HEALTH IMPLICATIONS OF NEW MOBILITY AND AVS*

Nico Larco & Becky Steckler

- Introduction on University of Oregon's Sustainable Cities Institute, Urbanism Next program
    - Advances in technology are affecting how we live, move and spend our time in cities
    - Less interested in the technologies themselves, looking at the impacts of those technologies
- As people think of future cities, presents a futuristic picture such as those in movies, makes one think the future is not here yet - However, AVs are deployed now
    - Waymo running level 4 in Phoenix, AZ right now
        - Expanded from Google/Waymo employees only to regular citizens able to ride in Level 4 AV
- Concept of "new mobility" has been introduced
    - Old mobility is transit
    - New mobility is mobility-as-a-service (MaaS) – purchasing a single, on-demand ride
        - Car share
        - Ride hail / ride share
        - Scooters
        - Bike share
        - (eventually) AVs

  - How we anticipate AVs to be rolled out, as shared MaaS vehicles, are deployed now on city streets, they just have drivers…. As TNCs
    - TNC – Transportation Network Company
    - Call the car, car shows up, get in and take the ride, arrive at destination, car takes off to another ride.
    - Many companies exist as TNCs now, and market is continuing to grow
- Review of NY Times Technology Consumption and Adoption Chart[1]
  - 100 years ago, as technologies were introduced, adoption and consumption moved slowly, taking decades to become mainstream
  - Each decade, with each new technology, adoption comes faster and faster
  - By 1990, technologies were adopted within 10 years (such as cell phones)
- TNC adoption
  - TNCs did not exist 10 years ago
  - By 2018, there were 4.2 billion TNC trips
  - 36% of people used TNCs in 2018, more than double from two years before
  - 51% millennials used TNCs – if young people use it, that's the transportation mode that is going to stick around
  - 19% in rural areas – Not just an urban trend
  - 36 million docked bike share trips - Lots of growth with minimal infrastructure
  - 38 million scooter share trips between April and December 2018
  - Makeup of trips and mode switches
    - Large subset of scooter trips are commuting trips
    - 40(ish)% of scooter trips were previously walking trips
    - 60% of TNC trips transitioned from transit, bike and walking trips
- Brief history of AVs
  - Aug 2016 – Uber deployed first AV in the U.S. in Pittsburgh
  - Oct 2016 – Otto deployed first freight delivery in Denver
  - Nov 2017 – Waymo starts Level 4 automation in Phoenix area
  - Jan 2018 – GM Cruise puts in for a permit at the Federal level to manufacture a vehicle with no steering wheel, no pedals. Was approved.
  - Jan 2018 – Waymo orders 20,000 vehicles for AV operations
  - Jun 2018 – Waymo orders 62,000 more vehicles – Included 50% fully EV; 25% hybrids

[1] NY Times Technology Consumption and Adoption Chart: https://hbr.org/resources/images/article_assets/2013/11/FELTON-CONSUMPTION--1200x623.png

  - Dec 2018 – Waymo starts AV TNC service in Phoenix area; limited, not open to public
  - Aug 2019 – AV testing in Florida – Rain, fog and other extreme weather conditions
  - Aug 2019 – China deploys AVs, hoping for full rollout by 2021
- Market and research indicates that AVs will likely focus on fleets, rather than individual ownership
  - AVs costly to upkeep/maintain, makes it more difficult to own AVs individually
- No longer a question of IF or WHEN AVs will arrive, rather what type of AV and use case?
  - Rail and Air already deploy AVs
  - Low speed AVs for definitive trips (e.g. college campus)
  - Dedicated lanes
  - Mixed traffic – Not here yet, it will not be the flip of a switch
  - Need to be looking at various time horizons for different use cases – 5, 10, 20 years
- Regulation should be thought of in two parts
  - Deployment – What safety, enforcement, insurance, etc. needs to be in place?
  - Impacts – what are the impacts and how do we prepare?
- States handling testing and deployment differently
  - Washington – Self-certification required to test, but one-time certification with minimal information and no follow up information on what testing is being conducted
  - Oregon – Not legal to test on public roads, self-certification encouraged
  - California – Self-certification and ongoing reporting requirements in place
  - Arizona – Does not track at all
- What are the impacts on cities?
  - Increase in congestion and vehicle miles traveled (VMT)
    - Happening now with TNCs (180% increase in recent study)
    - Dead heading – TNC positioning without a ride
      - San Francisco – 6% of trips and 14% of congestion are deadheading
      - New York City has a “cruising cap” – TNCs cannot have more than 20(ish)% of miles be deadhead rides
  - Role of transit – Use AVs for first/last mile solutions, or just bypass transit all together?
  - Secondary/multi-level impacts – not just about access, use, etc.
    - Examples – TNCs (and then AVs) anticipated to cause reduction in parking, especially in dense urban areas
      - Increases in population density
        - Using parking land for housing developments
        - Don’t have to limit housing based on parking

        - Strip malls, office parks – Do not need parking, can redevelop that land
        - Affordability of housing may be reduced – (example – No longer have to pay $225 per unit on parking included in rent)
        - Suburban areas have a lot more parking – What happens when land supply is increased?
            - Opportunities for development
            - Lower rent and pricing, property values and taxes
            - Affects city budget

- Health and Equity Impacts
    - Anticipate dramatic health and safety implications of AVs, reducing crashes because of human error / distraction
    - Can move focus of urban design to proactive, preventative healthy design and choices
        - Walking, biking, etc
        - Living conditions could evolve with less focus on personal use roadways
        - Building things next to each other encourages active transportation – housing near work, parks, sidewalks, etc.
    - Allows travel behavior changes for those previously limited in travel
        - Seniors able to go farther in AVs than driving themselves, able to go out at night
    - Decreases in rail and transit already happening – decreases funding to keep those services going, affects those dependent on rail and transit
    - Equity impacts – Is it available where I am and where I want to go?
        - Every neighborhood must have access
        - Access to the technology itself may be limited
            - Do residents have a smartphone?
            - Do they have a credit card? A data plan? Are they unbanked?
            - Presents additional concerns around privacy and identity theft
        - Cameras in AVs running in to equity issues – does not well recognize people of color, women or short people
            - LiDAR important for equity – sees an object, does not care what color/size/type
    - Driver license requirements – Do AV riders have to have a driver's license? What about those with disabilities? Elderly? Children?
- Assessment of health and equity impacts should be conducted now, use proxy(ies) for AVs such as TNCs rather than leading with AVs specifically
    - Need everyone at the table

  - Need to clearly identify and explain different transportation challenges that exist and how AVs may impact (positively or negatively)
- Several AV manufacturers not looking for connectivity as required for AV operations
  - Connectivity of AV allows interaction with other vehicles, infrastructure – important for government entities
- Where to go from here:
  - Start with community goals – Design the community you want to live in. How does the technology help you achieve it?
  - Be nimble – Be flexible, willing to fail, willing to do things differently
  - Think ahead – How to leverage opportunities and embrace new mobility strategies
- Greenlining Institute published New Mobility Equity Framework[2] – key takeaways:
  - Increase access to mobility
  - Reduce air pollution
  - Enhance economic opportunity
- Old mobility rules still stand
  - Compact development
  - Urban growth areas / greenbelts
  - Transit oriented development
  - Promote mixed use zoning
  - Promote dense development
  - Create walkable spaces
  - Preserve open space and farmland
- Set priorities – who are we investing in? (in order of priority, italics new mobility additions)
  - Pedestrians
  - Bike/transit, MaaS adds micro- and shared-mobility
  - Freight/service, MaaS adds deliveries
  - Private vehicles, MaaS adds autonomous vehicles
  - *MaaS adds zero occupancy AVs*
- Don't forget about the data
  - People aren't driving the way they used to
  - Things are changing, and agencies don't have the data

[2] Greenlining Institute, New Mobility Framework: http://greenlining.org/publications/2018/mobility-equity-framework/

  - Many companies want to aggregate data. Only handful of questions you can answer with aggregate data
  - Difficult to answer questions on health and equity without more granular data
  - Private sector worried about public handling of data – proprietary data, personally-identifiable information, public discovery
- Currently, TNCs limit data sharing with non-disclosure agreements and the like
- Urbanism Next annual conference May 13-15, 2020; call for proposals out now (due Dec 5th)
- New Urban Mobility Alliance (NUMO) being expanded and development, looking to be one-stop online resource for new mobility, AVs, equity, etc.

Topic Closed.

WASHINGTON STATE TRANSPORTATION COMMISSION RECOMMENDATION: FUND AN ASSESSMENT OF HEALTH AND EQUITY IMPACTS OF AUTONOMOUS VEHICLES

Dr. Andrew Dannenberg & Rad Cunningham

- Review of recommendation form provided prior to subcommittee meeting
  - Many attendees have been unable to review the form at this point, request for more time
  - **ACTION ITEM:** Meeting attendees to review Assessment of Health and Equity Impacts of Autonomous Vehicles recommendation form prior to February 2020 subcommittee meeting
  - Suggestion to add "equity" to discussion topic sentence on first page, revised to read "Conduct an assessment of potential health *and equity* impacts of AVs…"
  - Suggestion to add collaboration with and review time for other six subcommittees
- Review of funding request associated with recommendation
  - Two cost estimates were provided to Work Group and WSTC (and ultimately Legislature in annual report) for the assessment of health impacts
  - Cost estimates were derived by determining scope of assessment, what data are needed, how in-depth assessment would consider potential policy development
  - Difference in two cost estimates mainly related to outreach efforts
    - Need to reach everyone – urban, rural, senior, disadvantaged, etc. through meetings, focus groups, etc.
    - Looking to contract out to group that has community level relationships and is able to reach everyone
    - Larger cost estimate (approximately $800,000) includes both urban and rural outreach efforts
    - Smaller cost estimate (approximately $550,000) includes only urban outreach efforts
      - If this option selected, could use urban assessment as a starting point.

        - Understand not representative of rural, but provides baseline on some data points.
    - Funding requests for 2020 legislative session closed. If one of the two cost estimates is selected, may be able to get in to 2021 session funding request.
        - Does push out the effort, but provides more time for this newly formed subcommittee to get the right people at the table and agree on a path forward.
  - Department of Health is supporting agency and can help provide some resources for assessment
  - Who else needs to be at the table?
    - Children
    - Seniors
    - Disabled
    - Less access
    - Low income
    - People of color
    - Community based organization(s)
    - If lower cost estimate is selected, and Seattle is selected urban area, City of Seattle and King County may be right to lead effort
    - Need to account for geographic constraints (rural/eastern WA may be more difficult to attend/access)
    - Tribes (DOH has tribal liaison)
    - Labor (collaborate with Workforce subcommittee)
    - Parks Department / Land Use
- Discussion:
  - What are other states doing? Do they have similar committees?
    - Oregon has prescribed task force and subcommittee membership
    - Washington has flexibility to refine membership as needed
    - Different states handling AV engagement differently – DOTs are often most engaged
  - Where is Oregon on their AV work?
    - Legislatively mandated for a 31-member task force with prescribed membership
        - 31 members also make up all subcommittees
        - Lack of resources within task force and DOT as supporting agency
        - Required to convene for two years / two phases

- 2018 and 2019 reports published[3] with research and policy recommendations

Topic Closed.

QUESTIONS, DISCUSSION, NEXT STEPS

All Meeting Attendees

- Review and Discussion of the Subcommittee Draft Charter:
  - No specific direction from Executive Committee on how subcommittee charters are to be setup
  - Suggestions from Infrastructure & Systems Subcommittee:
    - Update language to clarify that subcommittees are voluntary bodies providing input to the Executive Committee as the Work Group's recommending body
    - When voting on recommendations, record votes by individual/organization and reasoning for any votes against the recommendation
      - Provides clear background on subcommittee's voting actions and discussion
  - **ACTION ITEM**: Paula Reeves will update subcommittee charter and send to subcommittee email distribution list prior to February 2020 subcommittee meeting
- Next Subcommittee Meeting
  - Looking at February 2020 for next subcommittee meeting, provides two months for reviews and action items
  - Suggestion to keep subcommittee meetings in Seattle based on location of members agreed upon by attendees
  - **ACTION ITEM**: Subcommittee public co-chair and agency support staff to identify exact date for February 2020 subcommittee meeting and disseminate meeting details/materials
- Discussion of Private Co-Chair
  - The other subcommittees have two co-chairs, one public sector and one private (private, non-profit or otherwise non-government)
    - Dr. Andrew Dannenberg serving as public co-chair
    - Looking to elect private co-chair
  - Some subcommittees' co-chairs serve for entire Work Group lifespan (through 2023), others serve 1-3 years

[3] Oregon Autonomous Vehicle Task Force Website: https://www.oregon.gov/ODOT/Get-Involved/Pages/Task-Force-on-Autonomous-Vehicles.aspx

MEETING SUMMARY

  - As starting point, this subcommittee's co-chairs will not have specified term, evaluate periodically to see if working
  - Expected level of involvement for private co-chair
    - Coordinate with public co-chair and Department of Health to organize and run meetings
    - Help shape direction of subcommittee, more input than just as a subcommittee member
    - Define agendas and schedule speakers
  - At February subcommittee meeting, will vote to confirm charter and elect co-chair
  - **ACTION ITEM**: All meeting attendees think about potential private co-chair nominees for February 2020 meeting

- Open Discussion:
  - One charge for this subcommittee is to frame why it is important to talk about these issues now, not just about the existing issues at hand that need attention
    - Many will be inclined to want to focus on existing issues
    - These issues may be 20 years out, but if postponed until then, will become larger problems that are more difficult to fix
  - Be sure to focus on the outcomes and impacts of these technologies, not just the technologies and deployment opportunities themselves
  - What would we like out of this committee?
    - With existing capacity of subcommittee members, suggest spending some time looking at existing literature related to AVs and potential health and equity impacts
    - Suggestion made to focus energy on improving existing transportation system (transit, sidewalks, etc.) to address health and equity impacts, less energy on assessing potential impacts of a possible AV future

- **ACTION ITEM**: As meeting attendees think of speakers or other topics for discussion, notify subcommittee co-chair(s) and agency support staff
- **ACTION ITEM**: All meeting attendees that identify other interested parties/organizations to become subcommittee members, notify subcommittee co-chair(s) and agency support staff

NEXT MEETING: February 19, 2020 1-4pm City of Seattle, 700 5th Ave, Room 3832 – GoToMeeting will be available.

MEETING ADJOURNED.