

Symposium 2021 Breakout Session Title:

B204-Inclusive by Design: Creating an Equitable and Accessible Automated Future (combined proposals #300, 301, 302)

Session Contact/Organizers:

Session Leads:

- *Charlotte Frei, Transportation Engineer, CDM Smith*
- *Daniela Bremmer, Cooperative Automated Transportation (CAT) Development Manager, Washington State Department of Transportation*
- *David Perlman, Technology Policy Analyst, USDOT Volpe National Transportation Systems Center*

Other Organizers:

- *Adam Cohen, UC Berkeley*
- *Cynthia Peck, DLZ (300,301)*
- *Rob Dingess (301)*
- *Bingchu Chen University of Pennsylvania*
- *Kiel Clasing (302)*
- *Eric Hill*

TRB Sponsor/Partner Committees (if any):

AP020(3) Equity of Innovative Mobility Services and Technologies and parent committees AP020, ACP30

Session Description

Automated transportation technologies have the potential to provide increased access and mobility to underserved and disadvantaged populations, but the technology advancements also could deepen existing inequities and mobility challenges. This session examines several aspects of equitable automated vehicle deployment, including: accessibility to people with ambulatory, sensory, and cognitive disabilities; service availability and affordability in underserved and low income neighborhoods and regions; and addressing technology-based sources of inequity, such as bias in artificial intelligence-based systems and closing the digital divide.

Private and public sector leaders will provide though provoking remarks and discuss advancing accessibility and affordability of AVs for passenger transport followed by breakout sessions. This will be an interactive and participatory session for those attending, allowing everyone to engage and learn and contribute to advance equity, technology and society.

Goals/Objectives/Outputs

Participants will hear brief remarks from several leaders advancing equity, accessibility and affordability of AVs for passenger transport. The goals of this session are:

- Overview key challenges in design and implementation of AVs for diverse passenger needs
- Highlight examples and good practices from industry, government, and academia of early steps being taken to build and deploy AVs with equity in mind.
- Participate in breakout sessions focused on physical, financial, geographic and digital access to AV services.
- Have meaningful discussions on impacts of automation on equity, race, social justice and mobility access, including employment and labor force impacts.
- *Influence and prioritize research needs that focus on equity, building on the findings of recent research including:*

- NCHRP project 20-113F.
http://onlinepubs.trb.org/onlinepubs/AVSMForum/products/5-NCHRP_Paper_Equity_Final_10-28-20v2.pdf-Prioritizing Equity, Accessibility and Inclusion around the Deployment of Automated Vehicles- TRB AVS Forum
- <https://www.urbanismnext.org/resources/a-framework-for-shaping-the-deployment-of-autonomous-vehicles-and-advancing-equity-outcomes> A Framework for Shaping the Deployment of Autonomous Vehicles and Advancing Equity Outcomes-Urbanism Next

Agenda

7 am to 10 am Central Time - Full session/ 3hrs

Equity Panel:

Description: Three thought-provoking speakers will talk about a component of equity for 10 minutes each. The panel speakers will examine various aspects of equitable automated vehicle deployment, including: (1) accessibility to people with ambulatory, sensory, and cognitive disabilities; (2) service availability and affordability in underserved and low income neighborhoods and regions; and (3) addressing technology-based sources of inequity, such as bias in artificial intelligence-based systems, closing the digital divide, and the impacts of autonomous vehicles on employment in the transportation sector.

Session Moderators:

- *Charlotte Frei, Transportation Engineer, CDM Smith*
- *Daniela Bremmer, CAT Development Manager, Washington State DOT (WSDOT)*
- *David Perlman, Technology Policy Analyst, USDOT Volpe National Transportation Systems Center*

Break-out Moderators:

- *Cynthia Peck, DLZ*
- *Rob Dingess*
- *Bingchu Chen University of Pennsylvania*
- *Kiel Clasing*
- *Eric Hill*
- *Adam Cohen, UC Berkeley*
- *Sara Khoeni, Arizona State University*

Panelists:

Topic #1: *Physical and Human Access*

- **Jimin Choi**, PhD Student, Department of Urban and Regional Planning, University at Buffalo, Center for Inclusive Design and Environmental Access (IDEA)

Topic #2: *Racial Equity, Social Justice and Affordability-*

Adam Cohen, Adam Cohen, Senior Research Manager, Innovative Mobility Research Group, Transportation Sustainability Research Center (TSRC) University of California, Berkeley

Sara Khoeni, Assistant Research Professor, Transportation Systems Assistant Director, TOMNET –University Transportation Center School of Sustainable Engineering and the Built Environment Arizona State University

Topic #3: *Impacts of Automation on the Transportation Workforce –*

Susan Massel, Chief of Communications and External Affairs, Chicago Cook Workforce Partnership

**Minute 7:00-7:10 Central time:
Welcome and Session Overview**

- Charlotte Frei, Transportation Planner, CDM Smith
- Daniela Bremmer, CAT Development Manager, Washington State DOT (WSDOT)
- David Perlman, Technology Policy Analyst, USDOT Volpe National Transportation Systems Center

**Minute 7:10-7:50 Central:
Topic 1: Physical and Human Access: Accessibility)**

Moderator: David Perlman

Panelist: Jimin Choi, Center for Inclusive Design and Environmental Access (IDEA), University at Buffalo

Jimin Choi will discuss challenges related to physical access and human-vehicle interaction for persons with disabilities.

Process: After a 10-15 minute presentation, participants will be divided into breakout rooms for 15 minutes. They will be given a template to complete, such as a SWOT analysis, and specific discussion questions related to what the speaker presented. Following the 15 minute discussion, all breakout rooms will be pulled together for a 10 min report out to the entire group. Each breakout will present their key points to the group.

**Minute 7:50-8:35 Central:
Topic 2: Racial Equity, Social Justice and Affordability:**

Moderator: Daniela Bremmer, CAT Development Manager, WSDOT

Panelists:

Adam Cohen, Senior Research Manager, Innovative Mobility Research Group, Transportation Sustainability Research Center (TSRC) University of California, Berkeley,

Sara Khoeini, Assistant Research Professor, Transportation Systems Assistant Director, TOMNET –University Transportation Center School of Sustainable Engineering and the Built Environment Arizona State University,

Panel members will discuss research efforts and findings related to racial equity, social justice and affordability.

Process: After a 10-15 minute presentation, participants will be divided into breakout rooms for 15 minutes. They will be given a template to complete, such as a SWOT analysis, and specific discussion questions related to what the speaker presented. Following the 15 minute discussion, all breakout rooms will be pulled together for a 10 min report out to the entire group. Each breakout will present their key points to the group

8:35-8:50 central -Brief Break for Participants

**8:50- 9:30 AM Central:
Topic 3: Impacts of Automation on the Transportation Workforce: Addressing issues that could deepen inequities.**Moderator: Charlotte Frei, Transportation Planner, CDM Smith

Panelist: Susan Massel, Chief of Communications and External Affairs, Chicago Cook Workforce Partnership

Panelist will provide an overview of workforce development and how it will be impacted by automation. The goal is to inform participants regarding the “bigger picture” of regional jobs needs to support automation and ensure transportation jobs remain high

quality so that the discussion can equip them to consider how research and practice can support broader workforce development objectives.

Process: After a 10-15 minute presentation, participants will be divided into breakout rooms for 15 minutes. They will be given a template to complete, such as a SWOT analysis, and specific discussion questions related to what the speaker presented. Following the 15-minute discussion, all breakout rooms will be pulled together for a 10 min report out to the entire group. Each breakout will present their key points to the group.

9:30-9:40 Break

9:40-10:00 Central- Conclusion and Next Steps (required reporting for TRB)

Moderator: TBD

Report-Out/Speakers

Topic1: Cynthia Peck

Topic2: Sara Khoeini

Topic3: TBD – this person will need to work quickly following the 3rd breakout

- General participant feedback on session
- Summary of breakout reports
- Identification and recording of next steps
- Summary and recording of research needs

The moderators will discuss overall findings and next steps to advance the discussion from the session to action items, research needs statements and related recommendations for industry and practitioners.

Related Sessions:

Non conflicting with

B209: Public and Private Sector Collaboration to Advance Automated Driving Systems Testing and Deployment (Bailey, Bremmer, White)

200: Data Exchange between Public and Private (Jones, Bremmer, Larson et al)