Report from the Automated Vehicles Symposium 2016

Gary Hsueh – Arup consultancy
Context

• The Automated Vehicles Symposium (AVS) was started 6 years ago as a meeting place for technology developers to share research.
• Seeks to be the premiere international event for automated vehicles.
• Cosponsored by the Transportation Research Board and the Association for Unmanned Vehicle Systems International (AUVSI).
• Attendance has grown steadily to 1,200+ this year.
• Recent emphasis on impacts of technology. Now attracts technologists + academics, planners, lawyers, policymakers.
• Format: 2+ days. ~10 breakout sessions each day. Held in July each year.
Breakout Sessions

User-Related AV Issues:
Breakout 3: Human Factors in Road Vehicle Automation
Breakout 14: Reducing Conflict Between Vulnerable Road Users and AVs
Breakout 9: Assessing Market Acceptance, Adoption, and Usage of AVs
Breakout 15: Behavioral Experiments for Modeling Adoption and Use of AVs

Specific AV Application Areas:
Breakout 1: Public Transport and Shared Mobility
Breakout 7: Future Challenges for Automated Trucks
Breakout 16: Aftermarket Systems (ADAS-related)

Policy and Societal Issues:
Breakout 2: Law and Policy as Infrastructure
Breakout 10: Ethical and Social Implications of Automated Vehicles
Breakout 17: Policy Making for Automated Vehicles

Planning for AVs:
Breakout 4: Impact Assessment
Breakout 11: Early Implementation Alternatives for Automated Vehicles: An Interactive Scenario Planning Session
Breakout 12: "AV-Ready" Cities or "City-Ready AVs?"
Breakout 22: Can Our Research Processes Keep Up in an Age of Automated Vehicles & Other Transformational Technologies?

Technology Issues:
Breakout 5: Enabling Technologies
Breakout 6: Safety Assurance
Breakout 19: Cyber Security and Resilience Challenges and Opportunities

Operational Issues for AVs:
Breakout 13: Design and Operational Challenges/Opportunities for Deploying Automated Vehicles on Freeways and Managed Lanes
Breakout 20: Physical Infrastructure, Work Zones, and Digital Infrastructure
Breakout 21: Traffic Flow of Connected Automated Vehicles
Breakout 8: Traffic Signal Control with Connected and Automated Vehicles (CAVs)
Public Transport and Shared Mobility

• ‘Quick Burst’ presentations: Updates on research, projects, pilot programs, testing sites
• Presentations: Program updates and funding opportunities
• ‘Shark Tank’: What it takes to launch a successful AV pilot program
• Panel: Integration of public and private models
• Panel: What is public transportation in the future?
• Workshop: Policy implications and research needs for public transport and shared mobility
• Organized by Gary Hsueh (Arup) with primary support by Susan Shaheen (UC Berkeley TSRC), Stan Young (NREL), Daniel Fagnant (GM), James Fishelson (Univ of Michigan), Tom Voege (OECD), William Baumgardner (Arup), Adam Stocker (UCB TSRC), Jessica Lazarus (UCB TSRC)
Quick Bursts

• Moderated by Susan Shaheen, UCB TSRC
• Susan Shaheen, UCB TSRC – Carsharing study, SAV Challenges / Benefits
• Randy Iwasaki, CCTA – GoMentum Station
• Justin Holmes, Zipcar – Zipcar
• Robbert Lohmann, 2getthere – APMs vs. Automated Vehicles
• Matthew George, Bridj – Bridj
• Adriano Alessandrini, Univ. of Florence – CityMobil2
• Chris Kopp, HNTB – Fare Structure / Cost Study
• Chris Augenstei, VTA – VTA Flex
• Gary Hsueh, Arup – UK Autodrive
GoMentum Station, Randy Iwasaki

Autonomous Transit

- Autonomous 12-passenger vans serving as shuttles to BART and other destinations
- Testing to begin at Bishop Ranch business park
The Future of Smart Mobility, Robbert Lohmann
Some figures to present a business case for driverless transport for last mile
Program Updates and Funding Opportunities

• Moderator: James Fishelson, Univ. of Michigan
• Vincent Valdes, FTA – Mobility on Demand Sandbox
• Kevin Dopart, ITS JPO – Smart City Challenge
• Michael McGurrin, Noblis – Accessible Transportation Technologies Research Initiative (ATTRI)
• Doug Gettman, Kimley-Horn – NCHRP
• Katherine Kortum, TRB – NCHRP research projects
Shark Tank: Thinking about setting up a Pilot Program?: What you need to succeed

• Several “candidates” describe their idea, one at a time, to a panel and then receive critical feedback

• Moderator: Tom Voege, OECD

• Candidates:
  • Jonathan Matus, Zendrive
  • Adriano Alessandrini, Univ. of Florence
  • Xavier Salort, Easymile / Habib Shamskhou, Stantec
Integration of Public and Private Models
Moderator: Dan Fagnant, GM
Speakers: Emily Castor, Lyft; Susan Shaheen, UCB TSRC; Barbara Laurenson, MTC; Michael Scrudato, Munich Re; Matthew George, Bridj

What is Public Transport in the Future?
Moderator: Stan Young, NREL/ATRA
Speakers: John Mirisch, Mayor of Beverly Hills; Stan Young, NREL/ATRA; Sam Lott, Texas Southern Univ.; Jerome Lutin, NJ Transit (ret.); Mark Mindorff, DARTS

Policy Implications and Research Needs
Moderator: Will Baumgardner, Arup
AVS Key Findings/Lessons Learned from Public Transport and Shared Mobility Breakout Discussion

• Automated vehicles, if shared, will begin to blur the lines between public and private transportation and deliver efficient and affordable public transportation to meet societal needs – improving access to jobs and healthcare

• Deployment opportunities for SAVs for first/last mile connections, underserved populations, and areas lacking quality transit service – a much broader market

• Cities and sites are different, so SAV deployments need to be tailored to varying technical, cultural, and legal contexts

• There is strong interest at the local level to test and deploy SAVs
AVS Key Findings/Lessons Learned from Public Transport and Shared Mobility Breakout Discussion

• Pilot programs, enabled by public-private partnerships, are encouraging private shared services to adapt and expand their functionality to meet the needs of public transit users

• There are many competitive federal funding opportunities that highlight the role of SAVs in public transportation

• Automation, safety technologies have potential to reduce the insurance costs of public transport operators

• Significant thought is required in setting and adapting policies at all levels of government to support the use of automation and SAVs in public transportation
AVS Recommended Action Items

• Adopt a traveler-centric approach to transportation planning that stresses equity, occupancy, and sustainability
• Promote public-private partnerships that leverage the strengths unique to each sector
• Add flexibility in transport procurement processes to consider mobility as a whole
AVS Recommended Action Items

• Establish safety standards to enable the implementation of automated technology in public fleets
• Encourage pilot programs as a safe space for experimentation
• Measure, document, and share best practices and impacts of automated shared mobility and public policy adaptations
For more information on AVS

http://www.automatedvehiclessymposium.org/program/proceedings

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