ARTS 22 Breakout Session Title:
332-AVs in Rural America – What can we learn from the data?

Session Contact/Organizers:
- Cher Carney, Senior Research Associate-- National Advanced Driving Simulator, University of Iowa
- Jaime Sullivan, Senior Research Engineer-- Western Transportation Institute at Montana State University
- Kristin White, Chief Operating Officer- ITS America

TRB Sponsor/Partner Committees (if any):
Rural Transportation Issues Coordinating Council (A0400C)

Session Description
While only 19% of the U.S. population lives in rural areas, 45% of all roadway fatalities occur on rural roads. The fatality rate on rural roads is 2 times higher than on urban roads. Rural areas pose unique challenges for AV deployments. To solve those challenges requires data sharing, sharing lessons learned from pilots and demonstrations and ensuring mobility, access and equity for all. The new DOT National Roadside Safety Strategy recommends broad stakeholder engagement to ensure these communities benefit from safety solutions. Disadvantaged and underserved communities can greatly benefit from the successful implementation of AVs in rural areas.

Building off previous ARTS, TRB, and ITS America rural AV events, this session will discuss the benefits and needs and benefits of rural AV projects, that advance safety, mobility and economic growth.

Goals/Objectives/Outputs
- Discuss lessons learned during rural AV pilots and deployments
- Increase awareness about the challenges to implementation in rural areas
- Identify available data sets specific to rural AV testing
- Discuss use cases that are being identified as potentially viable opportunities
- Discuss perceptions of the public/ridership

Agenda
Introduction – 5 minutes
Presentation 1 – 12 minutes
Presentation 2 – 12 minutes
Presentation 3 – 12 minutes
Presentation 4 – 12 minutes
Presentation 5 – 12 minutes
20 minutes Q/A
Final Thoughts and Wrap-Up (5 minutes)

Presentations include:

Texas A&M University- Texas Transportation Institute- Sivakumar Rathinam
Ensuring equitable access to Automated Vehicles using an efficient sensing and navigation system for small and rural communities that uses open source topological maps in concert with onboard sensing systems that include LIDAR and cameras to localize and navigate an autonomous vehicle.

National Park Service- Charlie Gould
With visitation at unprecedented levels, the NPS is exploring innovative transportation solutions to mitigate congestion, provide visitors with multimodal transportation alternatives, and develop new infrastructure like real-time visitor information.

Drive Ohio- Sarah El-Dabaja
DriveOhio's Automated Driving Systems project will demonstrate how connected and automated semi trucks and passenger vehicles could improve safety for drivers, passengers, and other travelers in rural settings like Appalachian Ohio.

University of Iowa- National Advanced Driving Simulator- Omar Ahmad
Automated Driving Systems for Rural America is a project that is testing the use of automated driving technologies on rural roadways to examine and understand the unique needs of rural environments, while working toward solutions that improve safety and mobility

Minnesota DOT CAV-X Office- Thomas Johnson-Kaiser
Over the last few years and into the future, MnDOT has led a wide variety of CAV projects that incorporate data collection and rural areas. This presentation will highlight those projects and efforts including, an automated shuttle pilot project in rural Minnesota, research project "Can Automated Vehicles "See" in Minnesota? Ambient Particle Effects on LiDAR Systems", Drive Minnesota where two automated vehicles will drive over 1000 miles throughout Minnesota in one week collecting data on the compatibility of roadways against emerging ADAS/AD technologies, and the work of our Data and Connectivity CAV Innovation Alliance Committee.