



American Center for Mobility Leads Collaborative Study on CAV Truck Platooning

The U.S. Department of Energy (DOE) funded program will examine fuel-efficient platooning in mixed traffic highway environments, communication systems reliability in adverse weather scenarios and validate simulation models

YPSILANTI TWP., Mich., Sept. 24, 2018 — The American Center for Mobility (ACM) has gathered a team of organizations representing defense, academia and the public sector to further research and test automated convoy platooning in a two-year study that will feature both military and commercial grade trucks.

The study aims to autonomously control an entire fleet of vehicles—throttle, brake and steering—while optimizing fuel efficiency and safety. A study of this proposed scope has not been attempted before; if completed successfully, it will be the first of its kind in the nation.

Participating organizations have led multiple years of research, development, design, build, and test efforts in connected and autonomous vehicles (CAVs) and include: Auburn University (Auburn, Ala.), University of Michigan-Dearborn (Dearborn, Mich.), Michigan Department of Transportation (Lansing, Mich.), the U.S. Department of Energy’s National Renewable Energy Laboratory (NREL) (Golden, Colo.) and the United States Army and Tank Automotive Research, Development and Engineering Center (TARDEC) (Warren, Mich.).

“This is an unprecedented study with extensive implications as the project touches on many aspects of the CAV ecosystem,” said Jeff Rupp, chief technical officer for ACM. “Automated truck platooning promises increased fuel efficiency, improved safety and greater throughput on America’s roads. This project is an important step to commercializing and safely deploying the technology.”

Experts predict it will take seven to 10 years for autonomously controlled trucks to be safely deployed. Working collaboratively, the group has identified and pooled resources to address deficiencies in prior platooning work studies that will contribute to shortening that window, while also realizing additional opportunities for testing in controlled environments and on public roads.

"Unmanned driving has the potential to be a breakthrough capability that can enhance our mission efficiency many times over, and the potential that advancing this work at ACM brings is extraordinary," says Bernie Theisen, Ground Vehicle Robotics, United States Army and Tank Automotive Research, Development and Engineering Center. "But what we're most excited and passionate about are the safety advances we can make here and with our other partners."

ACM’s purpose-built facility will be used to test increased reliability of multi-truck convoys traveling at highway speeds on elevated on-ramps, bridges, overpasses and tunnels in mixed vehicle traffic scenarios. NREL will leverage extensive previous experience precisely quantifying efficiency impacts of advanced vehicle technologies to ensure confidence in the detailed measurements for this study.

“This is another example of the collaboration that makes Michigan a leader in deploying technology for advanced mobility,” said Kirk Steudle, Michigan Department of Transportation director and interim CEO at the American Center for Mobility. “Truck platooning will pay safety and environmental benefits that we can only begin to imagine.”

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“We are proud to partner with the American Center for Mobility and these exemplary organizations to move forward with this first-of-its-kind study. Working together will allow us to more effectively tackle the challenges of connected and autonomous vehicles,” said Tony England, dean, UM-Dearborn College of Engineering and Computer Science. “UM-Dearborn was founded with a spirit of collaboration and innovation; and today, faculty members like Professor Paul Richardson and Associate Professor Sridhar Lakshmanan carry on that legacy as their work positions us — and our students — at the forefront of CAV and mobility.”

“Truck platooning technology has the potential to make our streets safer and increase efficiency in the transportation industry. Those are the kind of transformational research outcomes that drive us at Auburn Engineering,” said Christopher B. Roberts, dean of Auburn University’s Samuel Ginn College of Engineering. “Our college is committed to staying at the forefront of this area of research, and we are excited to partner with organizations that share this commitment.”

Barring any unforeseen circumstances, participating organizations will conclude the study with a high-speed truck convoy demonstration staged at ACM to showcase the achievements during the two-year project.

About ACM

The American Center for Mobility is a non-profit testing, education and product development facility for future mobility, designed to enable safe validation and self-certification of connected and automated vehicle technology and future mobility, and to accelerate the development of voluntary standards. ACM is one of 10 U.S. DOT designated Automated Vehicle Proving Grounds in the U.S. ACM is also part of PlanetM, a collaborative that represents Michigan’s unique and vast ecosystem, connecting resources and opportunities for its consortium of members. To learn more about ACM, visit www.acmwillowrun.org.

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