Maryland's Progress

December, 2022

in Connected and Automated Vehicle (CAV) Technology

Maryland CAV has a new website! If you haven't seen it yet, visit us at cav.mdot.maryland.gov

Key Focus Area Accomplishments

PUBLIC EDUCATION & OUTREACH

- Maryland launched the first ever CAV Awareness Day as proclaimed by the Governor on October 8th; social media campaign coordinated across multiple stakeholders.

Click the number for more information (1) (2) (3) (4)

- Maryland Department of Commerce hosted a booth at Association for Unmanned Vehicle Systems International Conference for the second year in a row.
- Morgan State University hosted a CAV Working Group meeting to showcase several MSU CAV tech demonstrations along with Atlas Transit Solutions and Kiwibot Personal Delivery Devices and a discussion on equity and CAV – just days after celebrating 30 years of Innovation at MSU's National Transportation Center.
- Maryland participated in multiple national conferences and webinars related to CAV, including those hosted by the Partners for Automated Vehicle Education [1] , The Eastern Transportation Coalition [2], TRB's Automated Road Transportation conference, ITS World Congress, and many more!
- The Maryland Department of Planning helped with outreach and education by publishing CAV related articles in their Maryland Planning Blog. [1] [2] [3]
- With a Spring update of the Driver's Manual, Maryland is the first state to have any substantial information on ADAS – Advanced Driver Assistance Systems for novice drivers; workshops to teach an understanding of ADAS were also provided for driver education instructors and law enforcement liaisons.
- Maryland was recognized by the American Association of Motor Vehicle Administrators (AAMVA) for the CAV Strategic Framework with a Public Affairs and Consumer Education Award for the agency's work in Customer Convenience and Education, Innovative Use of Technology and Community Service.

EARLY DEPLOYMENT & TESTING

- Kiwibot deployed Maryland's first ever Personal Delivery Device solution at Morgan State University through collaborative efforts with MDOT and Baltimore City, including data exchange. [1]
- Westminster's Autonomous Corridor project completed aerial and ground scanning of the city using LIDAR and began the next phase to create a digital twin to "train" the automated vehicles virtually, while also expanding efforts to deploy CAV technology to connect directly to the infrastructure to enhance innovative transportation in the community.
- Seven more companies submitted expressions of interest in 2022 to formally state they are interested in CAV technology testing, research, and implementation in Maryland. This makes a total of 46 submittals since inception of the EOI process in mid-2017.
- Robotic Research engaged with MDOT and local government executive leadership in visioning for their exponential growth this year after raising $228M in Series A Funding Round and provided in-person emergency responder demonstration of their New Flyer autonomous transit bus in Montgomery County, Maryland.
- The Johns Hopkins Institute for Assured Autonomy created a simulation environment for V2X to study system behavior, cybersecurity, and loss of data packages, among other efforts.
- The Maryland CAV Emergency Responder Subgroup updated the state's Emergency Response Plan to include recommendations for appropriate procedures for testing and deployment for truck platooning and personal delivery devices – when AAMVA's national best practices became available, the recommendations were reviewed and assessed as conforming!
- MDOT MTA collaborated with local jurisdictions to provide funding opportunities through the Statewide Transit Innovation Grant to explore potential applications of CAV technologies.

Continue reading!

PLANNING & POLICY

- Maryland kicked off a planning feasibility effort to identify how to improve physical infrastructure to support automated freight movements across the state.
- The Baltimore Metropolitan Council (BMC) began a project to develop customized, actionable recommendations for the region and its local jurisdictions on preparing for CAV. The project will identify what BMC, the Baltimore Regional Transportation Board, and local jurisdictions should know and do to prepare for CAVs.
- MDOT MTA began developing a CAV work plan to guide the agency on how it can adopt CAV technologies over the short, middle, and long-terms; catalogue the various technologies as well as their vendors; and will highlight challenges and opportunities for public transportation, including equity considerations.
- Maryland submitted a proposal to the Transportation Research Board that was later funded for $250,000. The project - Determining the State of Knowledge, Opportunities for Outreach, and Data-Driven Tools for Consumer Education of Advanced Driver Assistance Systems (ADAS) - is set to be begin in early 2023.

INFRASTRUCTURE

- Morgan State University deployed connected vehicle technologies to support research and testing of vulnerable roadway user solutions.
- Prince George's County converted infrastructure technologies to conform to the Federal Communication Commission requirements and tested emergency responder signal pre-emption over connected vehicle applications.
- The Maryland Transportation Authority integrated transponders to provide alerts via certain apps, navigation systems or mobile devices for when the automated lane closure gates at the Baltimore Harbor Tunnel Thruway are deployed.
- Maryland is one of eight states participating in a national Pooled Fund Study on Automated Vehicles. The group released an IOO Roadmap in 2021 and is currently developing a free and national online forum for public and private sector entities to engage and partake in discussions around AV technologies, to be released in 2023.

WORKFORCE

- Maryland promoted CAV through STEM outreach events, including at the Maryland Quality Initiative Engineer's Week, at several middle and high schools, and at the annual Fleet Week Air Festival event at Martin's Airport.
- The University of Maryland at College Park has begun work on a collaborative CAV laboratory within the new Zupnik Hall engineering building to spur education and skill force development in building and maintaining CAV.
- The Army Research Laboratory created a new facility called the Robotics Research Collaboration Campus, located in White Marsh. Researchers from the Army, universities, and industry are doing early-stage research for future autonomous system technology.
- Frostburg State University is developing the Western Maryland Advanced Technology Center to address workforce needs for the future of technology through collaborations with education and industry.

Maryland CAV SubGroup Accomplishments

- Subgroups remain strong and vibrant and continue to offer opportunities to dig into the details on CAV initiatives and needs in Maryland. Significant collaboration occurs in these groups.

– We encourage partners to get involved!

Looking Towards 2023

- Outreach to improve awareness of CAV, gain insights of stakeholders, and educate on short-term and long-term needs.
- Deeper dive discussions within Subgroups and other forums on actions to be taken to move Maryland forward on a safe, efficient, and equitable transportation future.
- Next level of partnering with local governments, State agencies, academia, and industry to build on collaborative efforts for integrating CAV technology.

MDOT MARYLAND DEPARTMENT OF TRANSPORTATION

For more information on Maryland's CAV Working Group you can visit cav.mdot.maryland.gov or send an email to CAVMaryland@mdot.maryland.gov.