Ohio Automated Driving System (ADS) Project – Host Fleet Participation

Introduction
DriveOhio (part of Ohio Department of Transportation (ODOT)) has a mission to advance smart mobility initiatives within the State of Ohio. As part of this mission, DriveOhio is conducting a tractor technology field demonstration (entitled Ohio ADS Project) with a yet-to-be-named host fleet. DriveOhio has started a process to reach out to shippers and motor carriers to solicit interest in participating in a truck technology field demonstration in rural/southern Ohio.

Ohio ADS Project Scope

Project Background
DriveOhio’s automated driving systems project will demonstrate how automated tractors could improve safety for drivers, passengers, and other travelers in rural settings.

While automated driving systems have been tested in urban areas, there is much yet to learn regarding how automated vehicles operate in rural environments. As a microcosm of the U.S., southeast Ohio serves as the ideal testbed to collect data due to its four-season climate and a diverse landscape of level and steep terrain.

The USDOT awarded the $7.5 million ADS Demonstration Grant to the DriveOhio-led team of the Transportation Research Center (TRC), JobsOhio, AutonomouStuff, University of Cincinnati (UC), Bosch, and Ohio University (OU). The Federal Motor Carrier Safety Administration (FMCSA) is administering the grant.

Field demonstration findings will help define technology needs and limitations as well as inform the safe scaling of future vehicle automation deployments in the U.S.

Truck Automation Field Demonstration
Teaming with TRC, Bosch and a yet-to-be-named host fleet partner, DriveOhio will test partial, Level 2 Advanced Driver Assistance System (ADAS) truck automation technology, including tractor semi-trailer “platoons” where two tractor semi-trailers travel closely together. Tractors with Level 2 ADAS technology can control both steering and accelerating/decelerating, but a driver sits in the tractor’s seat and can take control at any time. Each tractor will have an engaged operator at all times to oversee safety and functionality and to drive when the two trucks are not in truck platooning mode.

Data will be collected while platooning or in single tractor mode as the automated trucks operate on different types of roads in different weather conditions. This will help researchers understand how automated trucks perform in real-world situations.
In addition to those cited above, partners include JobsOhio, UC, OU, OhioSE, NW 33 Council of Governments (NW33 COG), freight industry stakeholders, and local entities.

Automated trucks may benefit the freight industry through improved safety, fuel economy, and operational efficiency. Lower emissions may also result. DriveOhio will work with freight industry leaders, local communities and law enforcement to understand safety needs, concerns, and constraints with emerging technologies. Demonstration findings will help define technology needs and limitations to better serve the safe operation of the trucking industry.

**ADAS Technologies**

Two Class 8 tractors will have Level-2 technologies:

- Lane keeping
- Adaptive cruise control
- Automated emergency brakes
- Cooperative adaptive cruise control while platooning (two tractor semi-trailer set)
- Human machine interface that provides the drivers with data about
  - the platooning with a push button that the front driver uses to engage the platoon (drivers in each tractor)
  - Either driver can disengage the platoon
  - Forward-facing radar (for collision avoidance and adaptive cruise control) and cameras that detect lane markings for lane centering

**Host Fleet Participation**

The yet-to-be-named host fleet will have the option of operating the two ADAS-equipped tractors in single tractor and/or truck platooning mode, depending on its operations. The host fleet will integrate the two ADAS tractors into their operations. The goal is to operate the ADAS tractors in revenue service in the rural/southern portion of Ohio. DriveOhio will deliver two ADAS equipped tractors to the host fleet, and work with the selected host fleet’s management with training of their drivers using the ADAS tractors as well as related operational and safety topics.

**Next Steps**

DriveOhio will be reaching out to the supply chain industry operating in rural/southern Ohio to provide more details of the ADAS technology field demonstration and solicit interest in participating in the field demonstration. DriveOhio will share their selection process (Request for Information-RFI and Request for Proposal-RFP) with interested host fleets over the next 6 months. If you have any questions, please contact Cynthia Jones (Cynthia.Jones@drive.ohio.gov), DriveOhio’s ADS Project Manager.