



Federal Motor Carrier Safety Administration

FMCSA

MAASTO CAV Summit

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FMCSA'S ROLE IN AUTOMATED COMMERCIAL MOTOR VEHICLES

FMCSA's Automated CMV Evaluation (ACE) Program will:

- **Conduct research** to inform safety equivalency decisions for waivers, exemptions, and pilot programs
- **Identify best practices** for industry's use of automated CMVs
- **Remove regulatory barriers** to the operation of automated CMVs
- **Promote safe operation** of automated CMVs

ACE PROGRAM FOCUS AREAS

- Roadside Inspections of Automated Driving System (ADS)-equipped CMVs
- Automated CMV Technologies and Capabilities (e.g., Platooning, Advanced Driver Assistance)
- In-service training with FMCSA field staff
- CMV Driver Readiness for Advanced Technologies
- CMV Cybersecurity



ACE PROGRAM RESOURCES

- Four tractor-trailers equipped with hardware to enable Level 2/3 automation
- Autoware & CARMA software to enable automation
- To be used as research vehicles in FMCSA's automated CMV evaluation program



USDOT COOPERATIVE AUTOMATION SOLUTION

CARMA 3 APPROACH



Advancing Cooperative ADS research with FHWA and FMCSA fleet and partnerships

CARMA
PLATFORM



Source: FHWA.

- Expand cooperative automation capabilities.
- Develop proofs of concept to support TSMO use cases.
- Collaborate with Infrastructure Owner-Operator (IOO)/Original Equipment Manufacturer (OEM) community.



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- Leverage Autware open-source software (OSS) development.
- Enable ADS level 2–3 capabilities.
- Engage ADS community.

Autware
PLATFORM

COOPERATIVE

AUTOMATION

FMCSA PLATOONING RESEARCH

FMCSA views platooning as one application of cooperative automation capability.

Specific areas of interest include:

- Brake variability and performance;
- Trailer load considerations;
- Platoon size considerations;
- Platoon interactions with law enforcement;
- Platoon dissolution; and
- Identification of potential regulatory barriers to platooning.

FIVE-YEAR RESEARCH, TESTING, AND EVALUATION TIMELINE

2019

- Collaborate with the AV Industry through open-source AV Software (CARMA)
- Development of FMCSA's Automated Truck Safety Research Plan
- Design and Installation of hardware to equip three tractor-trailers with Level 2/3 automation capability

2020

- Verification testing and deliver of automated tractor-trailers
- Demonstration events with State Law Enforcement partners
- Development of individual test plans and test cases for future year testing

2021-2023

- Conduct test events to research inspection protocols, work-zone area safety, and emergency response situations
- Utilization of FMCSA's automated tractor-trailers for in-service training with FMCSA field staff at academies and training centers
- Joint testing with MARAD utilizing automated trucks in a port drayage setting



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