

# Current and Upcoming ART Activities



U.S. Department of Transportation  
Federal Motor Carrier Safety Administration

March 10, 2021



## **Mission:**

to save lives and reduce crashes and injuries by advancing large truck and bus safety through collaboration, education, research, technology, and compliance.



# Research Focus Areas

- Produce Safer Drivers
- Produce Safer Carriers
- Improve Safety of Commercial Motor Vehicles
- Automated and Connected Commercial Motor Vehicles
- Maximize Communication and Collaboration w/ Stakeholders



# Analysis Division

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- Purpose: to provide timely, accurate, and complete data, statistics and analysis in support of FMCSA programs, State partners, the motor carrier industry, and the public.
- Priority Projects:
  - Large Truck Crash Causal Factors Study (detailed presentation to follow)
  - Completing the Picture of Crashes (detailed presentation to follow)
  - Carrier Intervention Effectiveness Model (detailed presentation to follow)
  - Expanding Crash Data Collection
  - Trucks Involved in Fatal Crashes / Buses Involved in Fatal Crashes
  - Identifying High Risk Fatal Crash Corridors
  - 2021 Pocket Guide to Large Truck and Bus Statistics

# Selected Analysis Division Projects

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- **Expanding Crash Data Collection**

- Modify FMCSA crash data system to accept all Model Minimum Uniform Crash Criteria (MMUCC) data elements
- Partner with the National Highway Traffic Safety Administration (NHTSA) in encouraging and supporting states to modify their crash data systems and police accident reports to capture all MMUCC data elements

- **Trucks Involved in Fatal Crashes / Buses Involved in Fatal Crashes**

- Identify fatal crashes from the NHTSA Fatality Analysis Reporting System (FARS) file and contact the motor carrier and/or driver to gather additional information, such as hours driven, driver compensation, vehicle weights and lengths, cargo carried, cab-styles, speed limiters, and more
- Support possible rulemakings on large trucks and buses with data unavailable through other sources



# Research Division

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- Purpose: to reduce CMV-involved crashes and enhance the safety and efficiency of CMV operations by conducting systematic studies directed toward fuller scientific discovery, knowledge, and understanding that contribute to a safe and secure commercial transportation system.
- Priority Projects
  - Assessment of CDL Holders' Traffic Violations, Convictions, and Suspensions
  - Effect of the Length of Medical Certification on Safety
  - Evaluation of the Effectiveness of the North American Fatigue Management Program (NAFMP)
  - Examining the Seizure Standard for Commercial Motor Vehicle (CMV) Drivers
  - Data Repository (Naturalistic Driving and Other Datasets)
  - Beyond Compliance and Safety and Enforcement Impacts (FAST Act § 5525)

# Selected Research Division Projects

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- **Assessment of CDL Holders' Traffic Violations, Convictions, and Suspensions**
  - Determine rates of driver conviction, following violation, and then appropriately disqualified
  - Data collection from 9 State Driver's Licensing Agencies
- **Effect of the Length of Medical Certification on Safety**
  - Assess safety performance of drivers certified for less than 2 years
  - Using existing data from National Registry of Certified Medical Examiners and MCMIS
- **Evaluation of the Effectiveness of the North American Fatigue Management Program (NAFMP)**
  - Assess impact of NAFMP training on safety performance, using fatigue monitoring technology
  - Partnering with NIOSH to collect data from participating drivers before/after training
- **Examining the Seizure Standard for Commercial Motor Vehicle (CMV) Drivers**
  - Assess the risk of seizure recurrence for CMV drivers who have experienced one or more seizures or have been diagnosed with a seizure disorder
  - To gather information on risks of seizure recurrence over various durations to better inform exemption process

# Technology Division

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- Purpose: to identify, develop, test, and deploy innovative technologies to improve the safety and security of commercial motor vehicles.
- Priority Projects
  - Tech-Celerate Now national webinar scheduled for March 2021
  - Upcoming ACE Demonstration of automated truck fleet in Spring 2021
  - Innovative Technology Deployment Grants (\$20M/year for ITS truck safety projects with States)
  - Recent Publications
    - Cybersecurity Best Practices for Integration/Retrofit of Telematics ... in HVs
    - Analysis of Variability in Heavy Truck Braking Systems
    - Safety Analysis of Interstate Carriers with UCR, IFTA or IRP Violations, 2017
    - ITD Annual Report



# Selected Technology Division Projects

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- **ACE Program: Inspections, Demonstrations, and Evaluations**
  - FMCSA is currently working with CVSA's Enforcement and Industry Modernization Committee Work Group to develop inspection procedures for ADS-equipped CMVs. This project will demonstrate, test, and evaluate the processes, methods, and technologies recommended by the CVSA Work Group.
- **ACE Program: Emergency Response and Work Zone Research**
  - This project will present findings on how automated vehicles impact current practices regarding emergency response and work zones.
- **ADAS Crash Safety Analyses via Onboard Monitoring Systems (OBMS) data**
  - This project will perform empirical analyses on OBMS (e.g. dash cam) data sets consisting of thousands of trucks with and without ADAS and billions of recorded miles to determine the safety impact of ADAS.
- **Hazard Triangles for Automated Trucking Applications**
  - Section 392.22 of the FMCSA's regulations requires that warning devices be placed behind a stopped CMV by a driver. This effort will develop technology-based alternatives for use by ADS-equipped CMVs.