Safety Management Systems Center of Innovation

Volpe National Transportation Systems Center
U.S. Department of Transportation
Research and Innovative Technology Administration

Innovation for a Nation on the Move

Trends and Issues

Improving safety is the U.S. DOT's overarching goal. A major thrust for enhancing transportation safety systems in the future will be to take a proactive, data-driven, risk management approach. Assessment of the causes of accidents before rather than after they occur will be a critical to step in their ultimate prevention

Last year, more than 45,000 people died while using the U.S. transportation system, and highway fatalities accounted for about 95 percent of that total. Faced with increasing traffic volume and a growing population, we must continue to lower highway fatalities and fatality rates, through vigilance and innovative strategies.

COI Profile

The Safety Management Systems COI anticipates and responds to challenges in safety management for all modes of transportation, addressing highly complex safety requirements. It acquires, maintains, distributes, and analyzes transportation safety data to enable the Federal government, the states, municipalities, non-government organizations, and industry to take effective actions to reduce the number and severity of transportation-related deaths, injuries, and property damage.

Project Snapshots

• Developed innovative methods and data for the Federal Motor Carrier Safety Administration (FMCSA) to identify and contact more high-risk drivers and apply a wider range of interventions to address these risks at an earlier stage to improve safety among commercial motor vehicles operating on the Nation's highways.

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• Developed critical system enhancements and improvements for the National Highway Traffic Safety Administration's (NHTSA) Advanced Retrieval Tires, Equipment, Motor Vehicles Information System (ARTEMIS), which supports NHTSA in reducing fatalities, injuries, and economic loss resulting from traffic crashes. The Volpe Center completed a technology refresh of the production, development, and disaster recovery systems, and also completed the Certification and Accreditation (C&A) process.

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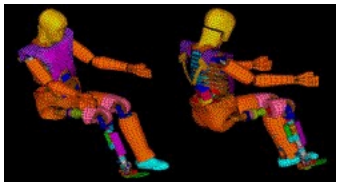
• Created for the Pipeline and Hazardous Material Safety Administration (PHMSA) the Safety Monitoring and Reporting Tool (SMART), a web-based enterprise-wide information system that improves safety analysis and reporting capability, while integrating pipeline inspection, monitoring, and enforcement business processes.

• Developed and continues to enhance the Safety Performance Analysis System (SPAS) in support of the Federal Aviation Administration (FAA), and in collaboration with FAA users. SPAS is the primary tool for FAA aviation safety inspectors to assess information about aviation certificate holders, such as air operators and repair stations.

• Operates and maintains a complex network of mission-critical information technology (IT) applications for the FMCSA that are accessed by inspectors, enforcers, motor carrier organizations, and others to ensure compliance with state and Federal laws.

• Operates and maintains a large IT network for NHTSA that is used to identify highway safety problem areas, support consumer information initiatives, assess the overall state of traffic safety, and improve treatment of crash victims.

• Supports mission-critical data systems of NHTSA through data storage, retrieval, and report-generation capabilities, including data from the Crash Injury Research and Engineering Network (CIREN) Electronic Data System. Data on actual crashes are collected and analyzed, and used by engineers and manufacturers to design safer vehicles, and by physicians and researchers to improve the treatment of crash victims.



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About the Research and Innovative Technology Administration

The Research and Innovative Technology Administration (RITA) coordinates U.S. DOT's research programs and is charged with advancing the deployment of cutting-edge technologies to improve our Nation's transportation system. RITA was established as a U.S. DOT Operating Administration by the Norman Y. Mineta Research and Special Programs Improvement Act of 2004.

About the Volpe Center

An innovative, Federal, fee-for-service organization, the Volpe Center, part of the U.S. DOT's RITA, is an internationally recognized center of transportation and logistics. The Volpe team represents a world-class transportation resource with multidisciplinary expertise in all modes of transportation. The Volpe Center plays a unique role in looking across the transportation enterprise to anticipate future transportation issues and challenges. The Center also has a highly skilled team of acquisition professionals. For nearly 40 years, the Volpe Center has lent critical support to all U.S. DOT's modal administrations and offices, other Federal agencies, state, and local governments and organizations, foreign governments and entities, and the private sector.

The Volpe Center is organized into eight Centers of Innovation (COI). Each COI applies its technical capabilities to U.S. DOT strategic goals and national transportation priorities. The COIs expand U.S. DOT's horizon and show how innovation can arise from creative and collaborative use of internal and external assets. The COIs include:

- **Multimodal Systems Research and Analysis**
- **Safety Management Systems**
- **Environmental and Energy Systems**
- **Freight Logistics and Transportation Systems**
- **Physical Infrastructure Systems**
- **Communication, Navigation, Surveillance (CNS) and Traffic Management Systems**
- **Human Factors Research and System Applications**
- **Advanced Vehicle and Information Network Systems**

For more information

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