



Volpe, The National Transportation Systems Center

# Safety Management and Human Factors

Our Center for Safety Management and Human Factors improves transportation safety by developing and applying innovative safety management and human factors processes and principles to our sponsors' research and demonstration projects.

We develop and apply cutting-edge approaches to safety management (including safety assurance, hazard analysis, safety culture, and communication and regulation) and safety data to extend their utility and transparency.

We pioneer ways to improve the interactions between humans, transportation systems, and current and emerging technologies.



U.S. Department of Transportation  
Volpe, The National Transportation Systems Center

## What We Do

### Aviation Safety Management Systems

Volpe's Aviation Safety Management Systems Division provides systems engineering and analysis, operations research, and associated information technology expertise to enhance aviation operational safety. We provide technical and risk analysis expertise on aviation and aerospace safety issues.

Our team designs and develops aviation safety business processes, decision tools, and knowledge management systems. A large portion of our work is focused on designing, developing, and maintaining information systems used by Federal Aviation Administration aviation safety inspectors.

### Human Factors: Aviation and Surface Transportation

Volpe's Aviation Human Factors Division and Surface Transportation Human Factors Division provide internationally recognized human factors research, engineering, development, and evaluation capabilities within a human systems integration framework.

We pioneer new relationships between humans and policies, processes, automation, and technologies to improve transportation safety, security, and productivity with due concern for unintended consequences.

## Safety Information Systems

Volpe's Safety Information Systems Division provides the full spectrum of information technology (IT) life-cycle support for safety information systems. Our work includes development of IT system requirements, software design, enterprise architecture, IT development, system testing and deployment, infrastructure support, technical help desk management, and a full spectrum of cybersecurity services.

## Safety Measurement and Analysis

Volpe's Safety Measurement and Analysis Division performs safety analysis, business process redesign, performance and program effectiveness measurement, and communications and outreach to support safety management systems.

Our team conducts assessments of safety programs and develops methods and models to measure the effectiveness of federal motor carrier safety initiatives, such as carrier compliance reviews, roadside inspections, and commercial motor vehicle traffic enforcement.

## Our Capabilities

- Analysis and decision support
- Business process design and implementation
- Human error assessment and countermeasure development
- Human-machine interaction research and assessment
- Information systems development
- Operator impairment evaluation
- Program effectiveness model development
- Safety data analysis
- Safety standards, policies, and directives analysis and management
- Safety studies and regulatory support

## Specialized Capabilities

- Our human factors laboratories house simulators and other technologies to support various human performance studies.
- Our alcohol countermeasures laboratory performs evaluations of evidential breath test instruments and alcohol screening devices and provides expert services.

## Our Sponsors

- Federal Aviation Administration
- Federal Highway Administration
- Federal Motor Carrier Safety Administration
- Federal Railroad Administration
- Federal Transit Administration
- National Highway Traffic Safety Administration
- Office of the Secretary of Defense
- Office of the Secretary of Transportation
- U.S. Air Force
- U.S. Coast Guard

## Contact Us

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