



Multimodal Systems Research and Analysis 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

The U.S. DOT is committed to working with our stakeholders across the transportation enterprise to achieve a transportation system that is unparalleled in its safety, security, efficiency, and effectiveness, and sensitive to environmental issues.

Decision makers in government and industry are in need of information and knowledge that allows informed tradeoffs between competing goals. Looking to the future, the objective is to deliver a transportation system that ensures people and goods will reach their destinations safely and on time.

Growing capacity problems exist, particularly at modal transfer points. Further, a new generation of transportation professionals will be needed to develop and implement these innovative strategies, with the training, knowledge, and capacity to respond to these pressing issues.

COI Profile

The Multimodal Systems Research and Analysis COI undertakes transportation policy analysis and research that contributes to a compelling vision of the 21st Century transportation enterprise and supports decision making in the development, management, operation, and financing of an integrated multimodal national transportation system that meets today's and tomorrow's mobility needs for goods and people.

Project Snapshots

- Developed a methodology for Amtrak to use to determine the avoidable and fully allocated costs of each Amtrak route to provide improved and more timely cost information on Amtrak's train routes as well as cost information on Amtrak's ancillary businesses.

- Supported critical transportation workforce development by offering information, technical assistance, tools and training for transportation professionals through its professional capacity building program for the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA)



Volpe Center

- Assisted FHWA in designing and implementing a pilot program to test the benefits of carbon sequestration in highway rights of way and estimating the revenue that could be generated through the sale of "carbon credits" on an emissions trading market.

- Developing and recommending an approach to address fuel price volatility in a Department of Defense shipping contract, covering most modes worldwide.



Volpe Center

- Developed, in support of the U.S. DOT's national strategy to increase capacity on the Nation's transportation network, a comprehensive framework for cataloging measures to reduce congestion, evaluate their potential effectiveness, and develop and apply criteria for selected metropolitan areas where these measures could be most effective. A major focus is on pricing as a method to affecting use of the system.



- Conducts for the Federal Motor Carrier Safety Administration (FMCSA) benefit cost analyses of trucking and hazardous materials regulations.
- Supported the FHWA in evaluating the impact of the SAFETEA-LU Non-Motorized Pilot Program, examining how non-motorized projects can improve mobility and contribute to energy savings, improved health, and environmental quality.
- Prepared case studies on the 9/11 terrorist attack on New York City, the Northridge earthquake, and the Democratic National Convention in Boston for FHWA. Results of the case studies provide transportation and public safety agencies with lessons learned in planning and preparation, operating decisions, agency coordination, in the role of advanced technology, in technical communications, and in system redundancy.



- Supports the U.S. DOT in the Strategic Economic Dialogue (SED) with China, including suggested issues and background information for transportation component. Studied infrastructure and transportation policies in the U.S. and China, and produced a report for the purpose of discussing ways to reduce barriers to trade between the two countries, including inadequate cargo-handling capacity at critical ports to support forecast demand, unreliable inland rail and highway systems in China, and lack of investment funding in the U.S.

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 pursuant to 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

Name: Anne Aylward

Director, Center of Innovation for Multimodal Systems Research and Analysis

Email: Anne.Aylward@dot.gov

Phone number: 617-494-2191

<http://www.rita.dot.gov>

<http://www.volpe.dot.gov>