

VOLPE HIGHLIGHTS



U.S. Department of Transportation, Research and Innovative Technology Administration

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CSA 2010 Improves Motor Carrier Safety

The Federal Motor Carrier Safety Administration (FMCSA) has taken a fresh look at how the agency evaluates the safety performance of motor carriers and drivers. Comprehensive Safety Analysis (CSA) 2010 is a major FMCSA initiative to increase the effectiveness of the agency's compliance and enforcement program. CSA 2010 aims to reduce the injuries and fatalities associated with commercial vehicle crashes by identifying unsafe behaviors at an early stage and intervening to resolve these issues before they lead to crashes.



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The Volpe Center is providing key support to FMCSA's major motor carrier safety initiative, CSA 2010.

CSA 2010 covers the full spectrum of safety issues—from how data are collected, evaluated and shared to how enforcement officials can intervene most effectively and efficiently to improve safety on our roads. FMCSA's current model is very labor-intensive and covers only a small fraction of the nation's approximately 700,000 interstate carriers.

Improvements in available data and tools have enabled FMCSA to introduce CSA 2010. CSA 2010 provides: (1) a more comprehensive safety measurement system; (2) a broader array of progressive interventions; (3) a safety fitness determination methodology that is based on performance data and not necessarily tied to an on-site compliance review; and (4) supporting information technology systems. FMCSA has made significant progress in developing and testing this approach. An operational model field test in eight states began last year and runs through June 2010. The complete CSA 2010 model will be rolled out on a state-by-state basis.

The Volpe Center is providing significant technical support to CSA 2010, including: designing a new measurement system and operational model test; developing performance measures, information systems, and new implementation and safety fitness determination processes; and supporting outreach and communication efforts.

Information on the CSA 2010 program is available at <http://csa2010.fmcsa.dot.gov>, a web site developed and managed by the Volpe Center for FMCSA.

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Volpe Workforce Ready for Tomorrow's Challenges

The Volpe Center closed the fiscal year with the largest increase in technical staff in several years. Over 55 new staff were hired, with more than 40 of these new employees in technical positions. The use of the Federal Career Intern Program was instrumental in attracting new junior level staff from thirty different colleges and universities, in a range of technical disciplines spanning economics,



Volpe Center Photo

RITA Administrator Peter Appel welcomes new Volpe Center Director, Robert Johns.

community planning, operations research analysis, and information technology as well as aerospace, civil and mechanical engineering. In addition, the Volpe Center continued its robust student co-op employment program with over 25 new hires.

Public Safety Partnership Tested by Exercise Tremor



Photo courtesy of Wikimedia Commons

This collapsed California freeway is an example of the effects an earthquake can have on infrastructure.

An earthquake rattles Boston. Transit service is disabled. The Northeast rail corridor is shut down and bus service is unavailable. The Massachusetts Turnpike, a major artery into the city, is closed to the Newton tolls. The tower at Logan International Airport is down and the city of Boston is in the dark.

Exercise Tremor, a homeland security training initiative developed by the Federal Emergency Management Agency (FEMA), was executed recently in New England to familiarize Federal, state and local emergency personnel with their roles and responsibilities in the event of an earthquake.

“While this was an earthquake exercise, our response concept of operations is for all hazards. The response activities we engage in can be employed for a H1N1 flu pandemic, hurricanes, or even a terrorist attack. We build up our capabilities and competence by training and exercising regularly. The time for exchanging business cards and getting to know your Federal and state partners should be at training events such as Exercise Tremor, not during an actual event,” said Terry Sheehan, Volpe Center staff member and the U.S. DOT’s Regional Emergency Transportation Representative for New England, New York and New Jersey.

This proactive preparedness and response exercise provided an opportunity to test protocols and the nation’s National Response Framework with all of the New England partners with emergency support roles in the event of an earthquake scenario.

The Volpe Center is FEMA’s lead on emergency support related to transportation. Mr. Sheehan leads efforts to assist Federal agencies, State and local governmental entities, and other organizations requiring transportation capacity to perform response missions following a major disaster or emergency. The Volpe Center also serves as a critical coordination point between response operations and restoration of transportation infrastructure.

Massport Pioneers Vessel-Monitoring System for Air Traffic Controllers

Airplanes travel low over Boston Harbor Channel south of Logan Airport to land on Runway 4R, passing through space shared with ocean-going and other tall vessels. This intersection requires continuous coordination of air traffic operations between flight arrivals per hour and tall vessels navigating the channel.

Concerned about possible interferences with air traffic, The Massachusetts Port Authority (Massport) sought to upgrade the technology air traffic controllers use to monitor local ship movements. They enlisted the technical expertise of the Volpe Center. Volpe’s Dr. Thomas Seliga provided recommendations and technical assistance to Mr. Flavio Leo, manager of aviation planning at Massport. Massport built a project team with FAA and Pro-Sensing, Inc., and developed a solution.

The result is the installation of a high-resolution dual radar system, the first in the U.S. to present air traffic controllers with ship location and height information on a visual display. Massport recently announced the completion of the monitoring and reporting system, marking a major step forward in safety. Logan’s Air Traffic Controllers now possess a greatly improved level of ship-traffic situational awareness in any level of daylight or poor visibility due to weather.



Volpe Center Photo

The Liquefied Natural Gas tanker “Matthew” is escorted through Boston Harbor to a discharge facility. The passage of this and other large vessels must be coordinated with as many as 35 flight arrivals per hour into Logan Airport Runway 4R.

Volpe Honors Service and Commitment of Veterans

In tribute to current staff members that are veterans of the U.S. armed services, the Volpe Center is hosting a special exhibit during the month of November. The exhibit features over 60 members of the Volpe Center community and recognizes their commitment to serve our country in peacetime or war. Some of the Volpe veterans profiled in the display include:

Robert Hoaglund, *Freight Logistics and Transportation Systems*

Robert has been serving in the U.S. Army Special Forces since 1979 and is currently a Lieutenant Colonel in the Rhode Island National Guard and a Master parachutist and military diver. He has performed worldwide Special Operations missions in Belgium, Germany, Norway, Bulgaria, Republic of the Maldives, and Afghanistan and has earned the Bronze Star Medal.

Seamus McGovern, *Communication, Navigation, and Surveillance & Traffic Management Systems*

Seamus is currently commissioned in the U.S. Navy Reserve as an Aerospace Engineering Duty Officer. Prior duty includes active and reserve time in the Army National Guard as a MEDEVAC, Attack, and Maintenance Test Pilot. A short course graduate of the U.S. Naval Test Pilot School and the National Test Pilot School and member of the Society of Flight Test Engineers, Seamus has over 3,300 pilot flight hours in 25 different types of single and multiengine airplanes, helicopters, biplanes, jets, gliders, and aerobatic aircraft.



Carrie Brown, *Safety Management Systems*

Carrie graduated from the U.S. Coast Guard (USCG) Academy in 1991. Before joining the Volpe Center in the mid 1990s, she served as Communications Officer on the USCG Cutter Reliance in Portsmouth, NH, a staff officer at USCG Headquarters in Washington, DC, and as a Search and Rescue Controller at Woods Hole, MA.

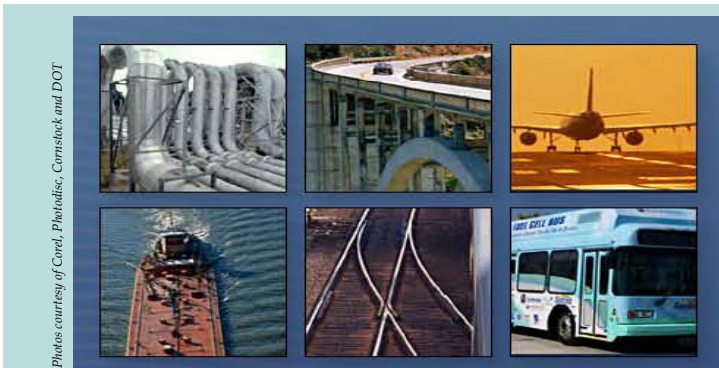
Michael Egan, *Physical Infrastructure Systems*

Michael was an air traffic control officer in the U.S. Air Force responsible for air traffic control (ATC) facilities and personnel as well as base operations and airfield management functions. He also had assignments as the test director for new ATC systems and the chief of ATC systems acquisition.

Richard Nguyen, *Safety Management Systems*

Richard joined the U.S. Marine Corps Reserves after graduation from Norwich University and served for six years in an infantry unit located in New Hampshire. In 2003, his unit was mobilized and deployed to Camp Lejeune, NC and then to Okinawa. During his Marine Corps duty, Richard conducted infantry, anti-terrorism, urban operation, and marksmanship training.

New Brochure: How to Start Work with the Volpe Center



The Volpe Center performs work for Federal, state, local and international agencies and entities.

The Volpe Center now offers an online guide for agencies interested in initiating projects with us.

The "How to Start Work" guide provides information for clients representing Federal, state, local and international agencies that are seeking to engage a team of multidisciplinary experts in transportation and logistics initiatives that advance the nation's transportation system. It is tailored to address the needs of different agencies, includes a Question and Answer section and lists contacts that are available to assist with specific inquiries. Please visit <http://www.volpe.dot.gov/withus/start.html> for more detailed information and a downloadable brochure.

Volpe Launches Combined Federal Campaign

The Volpe Center kicked off the start of this year's Combined Federal Campaign (CFC), the annual fund-raising drive conducted by Federal employees to raise money for charitable organizations worldwide. The theme of this year's Volpe campaign is "500 Reasons to Give."

"There are 500 Federal employees working at the Volpe Center, and we each have our own reason to give," said Director Robert Johns.

The Center recently opened its doors to 13 Boston-area charities. Representatives from the Carroll Center for the Blind, the Posse Foundation, Outdoor Explorations, and the Silent Spring Institute addressed the Volpe community. They provided compelling stories about how a little bit of compassion, either in the form of a CFC donation or volunteered time, can go a long way in changing a person's life.

"The greatest joy that I have is when I meet people months after they first join the Carroll Center, and they tell me how dramatically the Center's improved and changed their lives," said Bruce Howell, a Carroll Center volunteer. The Volpe Center is a leader in the Massachusetts Bay area, winning a CFC Hall of Fame award for outstanding Center-wide participation and contributions. At times, employee participation has reached over 90%. This year, the Volpe Center's CFC Committee co-chairs, Stephen Popkin and Michael Dinning are confident that participation will be just as great as in previous years.



Volunteers from Action for Boston Community Development joined other charities at the Volpe Center Combined Federal Campaign Kickoff.

Modernization of Avionics Focus of IEEE Conference

"Modernization of Avionics and Air Traffic Management - Perspectives from the Air and Ground" was the theme of the Institute of Electrical and Electronics Engineers' 28th Digital Avionics Systems Conference held in Orlando, Florida in late October. Several senior Volpe Center specialists presented the results of their research and analysis:

- "Possible Enhancements of Airport Operations Based on Runway Visual Range Visibility Measurements" by Dr. Thomas Seliga and Timothy Hall.
- "Colorado Wide Area Multilateration Separations Standards Targets of Opportunity and Flight Test Analysis" by Timothy Hall.
- "Capacity Improvement Analytical Tools and Benchmark Development for Terminal Operations" and "Stochastic Airspace Simulation Tool Development," which is related to the development of a National Airspace System simulation and analysis capability, by Dr. Seamus McGovern.
- "Symbols for Cockpit Displays of Traffic Information," which evaluates proposed traffic symbols for intuitiveness, ease of learning, and ease of remembering, by Dr. Michael Zuschlag, Dr. Divya Chandra and John Helleberg of the Volpe Center and Stephen Estes of MITRE.
- "Impact of Traffic Symbol Directional Cues on Pilot Performance during a Traffic Alert and Collision Avoidance System Event," by Dr. Zuschlag and Andrew Kendra of the Volpe Center, Wes Olson of MIT Lincoln Laboratory and Bill Kaliardos of the FAA.



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