

VOLPE HIGHLIGHTS

New National Medical Examiner Database for Truckers Under Development



The stakeholder community directly affected by the NRCME project.

Federal Motor Carrier Safety Administration (FMCSA) asked the Volpe Center's Safety Management Systems Center of Innovation to develop, deploy, operate and maintain the new National Registry of Certified Medical Examiners (NRC-ME) which will serve as a national database of MEs who are certified to determine a driver's physical qualifications.

The U.S. has more than nine million commercial motor vehicle (CMV) op-

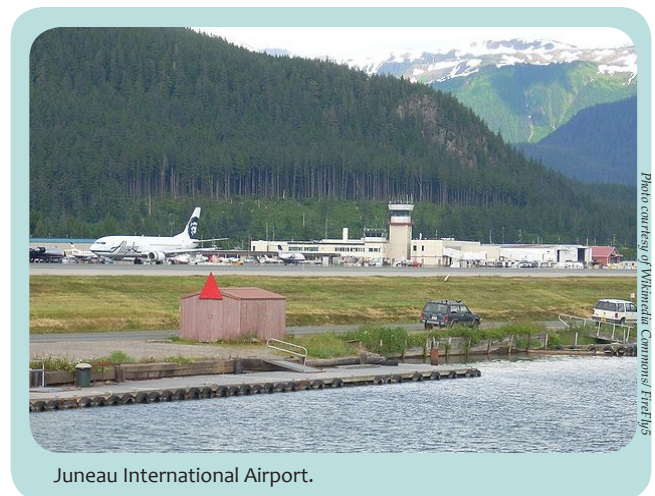
erators who drive our nation's fleet of buses and heavy trucks. Each of these operators must meet a set of physical qualifications in order to receive or renew a license. In 1996 and 1997, the Federal Highway Administration convened a negotiated rulemaking committee and several proposals were submitted that addressed ways to ensure that medical examiners understood the agency's driver medical requirements, including models for a national registry and education programs for MEs. In 1999, the idea for the National Registry re-emerged with the introduction of the Motor Carrier Safety Improvement Act, which also established the FMCSA.

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Assisting FAA in Enhancing Alaska Air Safety

Navigating an aircraft through the rugged mountains surrounding Juneau, Alaska has always posed a special problem for both pilots and air traffic controllers. The lack of precise radar coverage due to the mountains has meant that aircraft must be separated by larger distances than is normally required. Now, thanks to the Federal Aviation Administration (FAA) and the Volpe Center's Communications, Navigation and Surveillance (CNS) and Traffic Management Systems Center of Innovation, the job has become much easier.

The Juneau Wide Area Multilateration (WAM) system, developed by the FAA with Volpe Center assistance, achieved Initial Operational Capability in late January. WAM consists of a series of small sensors distributed around Juneau airspace that send and receive signals to and from aircraft in the region via on-board transponders. WAM then multilaterates the return signals to provide air traffic controllers with the precise location of each aircraft. The result: the capacity of Juneau's airspace can be significantly increased with the added benefit of an increase in safety. WAM surveillance complements Automated Dependence Surveillance-Broadcast services which were added to the Juneau airspace in April 2010.



Juneau International Airport.

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Support to Maritime Information Security Initiatives

The Volpe Center's Safety Management Systems Center of Innovation has been a key supporter of several Maritime Administration (MARAD) security initiatives. This includes the Information Security Program, which has become increasingly visible as emphasis has grown on protecting personally identifiable information (PII) and securing U.S. DOT's IT assets, including Internet gateways to the public. The Volpe Center has conducted security reviews and prepared certification and accreditation documentation for numerous MARAD IT systems to assure compliance with U.S. DOT and Office of Management and Budget requirements. The Volpe Center team has also acted as the MARAD Information System Security Officer on an interim basis and is supporting the agency's effort to create a permanent in-house capability.

The Volpe Center conducted the security review and certification of multiple systems for the U.S. Merchant Marine Academy, Kings Point, NY. These systems support vital functions for both the academic and administrative community and midshipmen. During the initial reviews, the Volpe team proposed a separate review of controls and procedures for protecting personally identifiable information. This was finished in conjunction with the MARAD IT staff and has resulted in a successful pilot of a document control system.



United States Merchant Marine Academy, Kings Point, NY.

New Features Enhance Highway Investment Model



Photo courtesy of Texas Transportation Institute

Volpe has been a key partner in the creation and evolution of the HERS model.

One of the U.S. DOT's strategic goals is to ensure that transportation assets are maintained in a state of good repair. The Federal Highway Administration (FHWA) uses a formal highway invest-

ment model—the Highway Economic Requirements System (HERS)—to estimate the benefits and costs of alternative levels of investment in capacity, pavement rehabilitation, and other physical improvements.

The HERS model is a primary contributor to the information and recommendations in the biennial U.S. DOT [Conditions and Performance \(C&P\) Report](#) to Congress on the nation's surface transportation system.

Recently, the Volpe Center designed a new feature that allows for analysis of congestion pricing on road usage and investment needs, as a policy alternative. Instead of a single daily traffic volume for a road segment, these new features would allow for analyses of three different diurnal traffic categories -- peak, off-peak and counter-peak (i.e., reverse commuting).

The Volpe Center has been a key partner in the creation and evolution of the HERS model in the 1980s, and today hosts, maintains and operates the system for FHWA. The Volpe Center works closely with FHWA to add new features and continually improve the effectiveness of HERS as a decision support tool. In an effort to ensure the scientific integrity of the model, enhancements to HERS are regularly subjected to peer review by academic experts.

Preparations Underway for Comprehensive Safety Analysis Rollout

This year, the Federal Motor Carrier Safety Administration's (FMCSA) Comprehensive Safety Analysis (CSA) 2010 Initiative -- developed with significant support from the Volpe Center -- will begin its national rollout. CSA 2010 is designed to increase the efficiency and effectiveness of the FMCSA's motor carrier compliance and enforcement program by improving large truck and bus safety to achieve a greater reduction in crashes, injuries, and fatalities. While nationwide implementation is planned to begin later in the year, nine states are currently employing the CSA 2010 Operational Model as part of a test that is scheduled to end in June 2010.

The Volpe Center Safety Management Systems Center of Innovation has made significant contributions to the CSA 2010 effort. Volpe Center staff has been focused on development of the carrier safety measurement system and the development and deployment of a new interventions toolbox to deal effectively with motor carrier safety problems of various natures and different levels.

In preparation for the national rollout, Volpe Center staff recently led several webinars to train Federal and state investigators in how to use one of the intervention tools -- a new crash investigative toolkit -- and developed new and improved performance measures to evaluate the quality of truck crash data reported by state offices. The Volpe Center has also developed training materials, including a Field Operational Training Manual Addendum that will soon be released nationwide.

Malaysian and Thai Aviation Officials Visit the Volpe Center

In May, the Volpe Center hosted two delegations of aviation officials sponsored by the U.S. State Department's International Visitor Leadership Program.

A delegation from the Republic of Malaysia, including officials from the Malaysian Ministry of Transport, Kuala Lumpur International Airport and Malaysia Airlines, participated in a meeting on aviation and its impact to the environment along with representatives from the State Department, the Federal Aviation Administration and the World Bank.

The Volpe Center also hosted a delegation from the Kingdom of Thailand. The visitors attended a session on international aviation and environmental policies. The delegation included officials from the Thailand's Department of Civil Aviation, AEROTHAI and Thai Airways International.

Volpe Center participants included Director Robert Johns; Director Emeritus Richard John; Environmental and Energy Systems Center of Innovation Director Gregg Fleming; Chris Roof, Chief of the Environmental Measurement and Modeling Division; and staff members David Senzig, Jonathan Koopman, and Cyndy Lee. Dr. Kristen Lewis coordinated both visits.



Pictured above from the Malaysian delegation: Mr. Muhamad Aziyan Hussim of the Ministry of Transport; Ms. Majidah Hashim of Malaysia Airport Holdings Berhad; Ms. Badriyah Noordin, Ms. Muhafiza Musa, Mr. Mohd Iskandar Zulkarnain Mohd Noh and Mr. Mahyuddin Sajuri of the Malaysian Department of Civil Aviation; Mr. Randhill Singh Amrick Singh and Mr. Azrul Hizam Mohammadiah Munir of Kuala Lumpur International Airport; and Mr. Low Kian Tee of Malaysia Airlines. Volpe Center Director Robert Johns and Volpe representatives Gregg Fleming, Chris Roof, and Dr. Kristin Lewis and Emnet Kubrom of WorldBoston and Shahrol Shahabudin, Director of the Malaysian Industrial Development Authority were also in attendance.

Volpe Ambassador Program Promotes Diversity Outreach

The Volpe Center recently hosted a Professional Society Reception with participants from the Boston, MA chapters of the Society of Hispanic Professional Engineers and the Mexican-American Engineering Society. This event is one of the several activities taking place as part of the Volpe Center's Ambassador Program which promotes diversity outreach and hiring of veterans, people with disabilities and individuals from underrepresented populations.

Other participants included members of the National Society of Black Engineers, Society of Women Engineers, Institute of Electrical and Electronics Engineers, American Society of Mechanical Engineers, and the Boston Society of Civil Engineers. Volpe Center operations and technical staff served as Volpe's ambassadors for the evening. The Center's work in vehicle safety, traffic flow management and information technology was exhibited. The event was organized by the Volpe Center's Human Resources recruitment team in coordination with the EEO Manager.

Overhaul of Federal Hiring Process Focus of OPM Visit

The same week John Berry Director of the U.S. Office of Personnel Management (OPM) announced a major overhaul of the Federal hiring process, detailing reforms ordered by President Obama, the Volpe Center hosted a visit from OPM leadership.

On May 14, Elizabeth (Liz) Montoya, Chief of Staff at OPM, and Michael Mahoney, Hiring Policy Manager, OPM Employee Services, met with Volpe Center management and staff to discuss these reforms. Maria Caminos Medina, Equal Employment Opportunity Manager, and Sue Connors, Chief of the Human Resources Division, coordinated the visit.

Medical Examiner Database *(continued from p. 1)*

The new four-year project will enable CMV operators to access via the Internet a database of approximately 40,000 certified MEs nationwide. The Volpe Center will: develop, install, operate and maintain the NRCME software application; select and purchase the system hardware and software; operate a help desk; perform analysis and technical support for the FMCSA's Medical Program and performance measurement system; and assure that the system meets all applicable security, accessibility, and continuity of operations requirements. Once operational, the NRCME will assure both that MEs are certified to perform this essential function, and that CMV operators can easily find an ME to perform their examination. The result will be safer streets not only for truck and bus drivers, but for all of us.

The 1990s: Seeking Common Ground on Major Transportation Issues



A 1994 Volpe Center study for FRA and FTA led the way for Amtrak's Acela service along the North East Corridor.

The 1990s were marked by the end of the Cold War, the beginning of long-term U.S. military engagement in the Middle East, the dawn of the Internet age, unprecedented global economic growth, and the rejuvenation of the environmental movement. The Volpe Center adeptly shifted to meet new national priorities and to develop innovative solutions to the nation's transportation problems. Reinforcing its critical role as a thought leader in transportation, the Volpe Center convened international experts to generate fresh approaches to emerging issues. To support Federal decision making and prepare for the new century, the Volpe Center hosted a series of high-profile outreach events and explored major transportation challenges (See box). In 1990, the Transportation Systems Center was re-named to the John A. Volpe National Transportation Systems Center in honor of the second U.S. Transportation Secretary who, with the New England congressional delegation, had been instrumental in the launch of the Transportation Systems Center.

The Volpe Center's primary activities during this decade reflected the major themes of national transportation policy: safety and security, energy and the environment, and mobility and the economy. Major new safety initiatives included railcar crashworthiness; motor carrier safety data collection and analysis; risk analysis for transporting hazardous materials; vehicle crash avoidance research; runway incursion reduction; and Intelligent Transportation Systems activities for the surface modes.

The Volpe Center's extensive physical security expertise was instrumental to such diverse sponsors as the Bureau of Printing and Engraving, the U.S. Capitol Police, and the Immigration and Naturalization Service (INS). Border security systems for passengers and cargo were developed and applied in our work for the INS.

Environmental sustainability, remediation and clean up efforts took on new importance as landmark clean air and transportation legislation and conferences in Rio de Janeiro (1992) and Kyoto (1997) increased global awareness of these issues. Volpe Center staff worked on efforts to enhance the capacity of developing countries to mitigate transportation-related GHG emissions and to address climate change. The Environmental Protection Agency, U.S. Postal Service and National Park Service sought out the Volpe Center's technical expertise in environmental issues. In support of the Federal Transit Administration, the Volpe Center began studying alternative fuel buses. The Volpe Center was now looked to by a growing number of Federal agencies challenged by issues related to transportation and the environment.

In an effort to reduce trip times and expand passenger capacity on the Northeast Corridor, a major study of Boston-New York City rail improvements in the mid-1990s led to infrastructure upgrades, electrification and the start of Amtrak's Acela service. At this time, the Center also developed internationally-renowned expertise in the application of Global Positioning System satellites to support transport and logistics needs for military and civilian users. The Volpe Center developed the U.S. Government's radio navigation plans and was instrumental to the development and deployment of a new generation of air traffic control systems such as Automatic Dependence Surveillance-Broadcast and the Enhanced Traffic Management System.

The Center entered the new millennium with a full head of steam.

This is the fourth in a special series of stories honoring the Volpe Center's 40th anniversary of Federal service to the Nation.



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