



Volpe
National
Transportation
Systems
Center

Volpe Center Highlights

Cambridge, Massachusetts

November/December 2000

Director's

Notes



Dr. Richard R. John

Volpe's Growing Role in Global Transportation

The Volpe Center has an increasing role in global transportation issues. In the *Highlights* for January 2000, I wrote about the expansion of our work to the international arena. This trend continues and is reflected in much of our recent work.

Our approach is flexible. The Volpe Center shares its technical knowledge by being able to respond to specific challenges such as the reconstruction work begun last year in Honduras. The Center also makes its technological advances available to the general global community. For example, new Global Positioning System technology has been made available to other countries including Australia and several European nations. We work with our international colleagues by developing collaborative agreements and participating in international working groups. We also host meetings for various transportation groups from all over the world and receive many transportation delegations from other countries.

Continued on page 9

Focus

Volpe Renews Collaborative Agreement with Dutch Ministry



(seated, left to right) Dr. Richard R. John and Mr. Houko Luikens renew the 1998 collaborative agreement between DOT and the Dutch Ministry in Rotterdam, the Netherlands. (standing, left to right) Mr. William Lyons, Volpe coordinator of the agreement; Mr. Jacques Sistermans, coordinator of the agreement for the Transport Research Centre (TRC) of the Dutch Ministry; and Mr. Hans Jeekel, Director of Research for TRC.

The Volpe Center has renewed a collaborative agreement first signed in 1998 under an existing Memorandum of Understanding between DOT and the Dutch Ministry of Transport and Waterworks. From October 4 to 6, 2000, Dr. Richard R. John, Director of the Volpe Center, and Mr. William Lyons of the Service Assessment Division, who serves as the Volpe coordinator of the agreement, traveled to Rotterdam, the Netherlands, to formally renew the agreement. While there, a signing ceremony was held with Mr. Houko Luikens, Director of the Transport Research Centre (TRC) of the Dutch Ministry. *Continued on page 2*

Inside...	Safety _____	2	National Security _____	7
	Mobility _____	4	Human and Natural Environment _____	8
	Economic Growth and Trade _____	5		



In Rotterdam, Dr. John also participated on a peer review panel of international experts to review the functioning of the TRC, which operates as a research and development center within the Dutch Ministry, and gave a presentation on transportation and technology policy at the Technical University of Delft to representatives from TRC and the Dutch Ministry, and to faculty and guests. Mr. Lyons also gave a presentation at TRC. His presentation focused on the U.S. institutional framework for transportation planning as defined by the Transportation Equity Act for the 21st Century and the Clean Air Act and was the result of work completed for the Dutch Ministry under an Interagency Agreement. As part of the visit, Mr. Lyons then traveled to the Hague to meet with staff from TRC and the Dutch Ministry to discuss the possibility of the Volpe Center providing assistance to the Dutch Freight Transport Directorate for monitoring freight safety and policy.

As a result of the October visit, a number of projects were identified as priorities and candidates for future collaboration between DOT and the Dutch Ministry. These include: research related to human factors and safety; institutional frameworks for transportation planning and public collaboration; data to monitor public transit performance; development of road safety monitoring systems; and research initiatives of the European Commission.

Under the renewed Volpe/TRC agreement, a team of Dutch researchers visited the Volpe Center for a cross-national workshop on human factors and safety from November 13 to 15, 2000. During the three-day workshop, participants discussed a variety of issues related to human factors and safety. Panel topics included: strategies to manage operator fatigue and alertness in transportation; the risks of young and novice drivers; Geographical Information System applications to enhance safety; international comparison of safety and risk; advanced instructional technologies to enhance transportation operators' performance; and user acceptance of Intelligent Transportation Systems technology. Participants also were given an overview of the Volpe Center and a demonstration of the Federal Aviation Administration's Enhanced Traffic Management System. The workshop concluded with identification of future opportunities for collaboration.

Dutch participants at the workshop included representatives from TRC, the University of Groningen, the SWOV Institute for Road Safety Research, Utrecht University, Traffic Test, and the TNO Human Factors Research Institute. U.S. participants included representatives from the Volpe Center; Mr. Thomas Granda of the Federal Highway Administration; Mr. Ronald Knipling of the Federal Motor Carrier Safety Administration; Mr. Michael Smith of the National Highway Traffic Safety Administration; and Dr. William Bailey, principal scientist with Exponent Health Group. Dr. Mary Stearns and Dr. Donald Sussman both of the Operator Performance and Safety Analysis Division and Dr. Sherry Borener of the Accident Prevention Division organized the workshop. More information on the workshop is available at www.volpe.dot.gov/opsad/ws00/index.html.

Continuing the Volpe Center's collaboration with the Dutch Ministry, Mr. Lyons gave a combined presentation with Dr. Pieter Boot, Policy Director of the Dutch Ministry, on Dutch/U.S. institutional approaches to transportation planning at the Institutional Frameworks Workshop held in Madrid, Spain, from December 13 to 14, 2000. The workshop was sponsored by the European Conference of Ministers of Transport, Organization of Economic Cooperation and Development, and the Spanish Ministry of Public Works and Infrastructure.



Promote public health and safety by working toward the elimination of transportation-related deaths, injuries, and property damage.

Improving Airport Capacity at JFK International Airport (FAA)

On September 12, 2000, Mr. Robert Rudis of the Surveillance and Sensors Division presented the results of the John F. Kennedy International Airport (JFK) Jet Blast Test Program to a JFK Technical Review Panel. The Panel included representatives from the Port Authority of New York and New Jersey, JFK Tower and the New York Terminal Radar Approach Control Facility, Air Transport Association, and Federal Aviation Administration (FAA) Eastern Region Office, as well as airline representatives from Delta Airlines, British Airways, and Korean Air. The Jet Blast Test Program was designed to determine whether spacings at JFK between departures of Heavy aircraft (e.g., Boeing 747) on runway 31L and arrivals of Large aircraft (e.g., MD80) or Small

aircraft (e.g., turboprop) on runway 4R, which runs perpendicular to runway 31L, could be safely reduced. Reducing the spacings would improve airport capacity.

Under the current rules, if a departing Heavy aircraft is in the departure hold position on runway 31L and a Large or Small aircraft is on a 5-mile (120 seconds) final approach to runway 4R, the Heavy aircraft is held in position until the arriving aircraft has touched down. The concern has been that the arriving Large or Small aircraft would encounter the jet blast from the departing Heavy aircraft. The results of the Jet Blast Test Program clearly showed that 60 seconds after a Heavy aircraft departure on runway 31L, the jet blast turbulence encountered on the centerline of runway 4R is no worse than if the Heavy aircraft were sitting at the departure position of runway 31L and idling.

Following Mr. Rudis' presentation, the Technical Review Panel discussed how best to convert the results of the Jet Blast Test Program into new operational air traffic control procedures at JFK. The JFK Tower Chief, Mr. George Dodolin, agreed to review the current air traffic control procedures with his staff to determine how best to take advantage of the results of the Jet Blast Test Program. As a result of that review, Mr. Dodolin informed the FAA Eastern Region Office that, beginning November 1, 2000, the hold delay on departing Heavy aircraft on runway 31L would be reduced from the original 5-mile (120 seconds) final approach for arriving Large or Small aircraft on runway 4R to a 3-mile (72 seconds) final approach, a delay reduction of 40 percent. This reduction in hold delay represents a significant increase in throughput for JFK's operations.

Supporting Positive Train Control (FRA)

As part of its support to the Federal Railroad Administration (FRA), the Volpe Center is providing guidance to the Railroad Safety Advisory Committee (RSAC) on Positive Train Control (PTC). The committee is developing rules for the implementation of new signal-based train control systems. These new train control systems will use more advanced communication and control systems than previous systems. To help the FRA understand the safety implications of this technology, the Center has investigated how varying levels of information content and automation affect operator performance in train control.

From November 8 to 9, 2000, Dr. Jordan Multer of the Operator Performance and Safety Analysis Division attended a meeting of the RSAC. Dr. Multer has been supporting this committee by presenting the human factors issues relevant to the development of standards for signaling and operating systems for PTC. At this meeting, Dr. Multer discussed the role of the operator as an information manager and described how the impact of automation and information design will affect operator performance and safety.

Volpe Staff Attend Safety Fatigue and Napping Seminar (FRA)

From October 26 to 27, 2000, Dr. Stephen Popkin and Dr. John Pollard of the Operator Performance and Safety Analysis Division attended the Alertness 2000: Tools for Managing Fatigue in Transit seminar held in Arlington, Virginia. The seminar was sponsored by the Federal Transit Administration (FTA) in conjunction with the American Public Transportation Association, Community Transportation Association of America, and the National Sleep Foundation. The FTA hopes to conduct and facilitate similar fatigue awareness training within the transit industry in the future.

At the seminar, various internationally recognized speakers addressed the different facets of fatigue and its mitigation in the industry. Topics included defining alertness, intervention programs, scheduling, sleep and medicine, accident investigation, tools that identify and monitor fatigue, and other potential countermeasures.

The seminar was directly related to fatigue work that Dr. Popkin and Dr. Pollard are conducting for the Federal Railroad Administration (FRA), allowing them to leverage the "lessons learned" and work being conducted in transit to issues that they are addressing in the railway environment. Both Dr. Popkin and Dr. Pollard believe that this type of crosscutting effort falls within the One DOT initiative, allowing future savings in both research dollars and time.

Examining Issues for Pedestrians and Cyclists in Grade Crossings (FRA)

On October 18, 2000, Ms. Anya Carroll of the High Speed Ground Transportation Division moderated a panel session at the Sixth International Symposium on Railroad-Highway Grade Crossing Research and Safety held in Knoxville, Tennessee. More than 100 delegates from around the world met at the symposium, which was organized and hosted by the University of Tennessee's Center for Transportation Research. Crashes at railway level crossings have attracted special concern internationally because of their high mortality rate.

The topic of the panel session that Ms. Carroll moderated was "Issues Related to Pedestrians and Cyclists." The panelists included Mr. Richard Mather, Chair of the Transportation Research Board's A3A05 Committee on Railroad-Highway Grade Crossings, and Ms. Regina Richards, an adjunct faculty member at the University of Maryland at College Park (UMCP). Ms. Richards is the former director for the National Center for Hazard Communication at UMCP and also the former director of Education and Training for Operation Lifesaver, Inc. (OLI) in Alexandria, Virginia.

Mr. Mather gave a presentation on pedestrian/cyclist safety at grade crossings in Australia and New Zealand. His presentation included a slide show of specific treatments to increase safety around grade crossings, including the use of alternative signs and signals, and innovative pedestrian gating systems that lead pedestrians toward the railroad tracks so that they face both directions of train approach before they cross the tracks.

Ms. Richards gave a presentation on an evaluation tool that she developed and validated in conjunction with her work at OLI. The tool, which is a questionnaire to evaluate the OLI Adult Trespass Prevention Educational Program, is for use on educational programs related to grade crossing safety.

The information from these presentations are "lessons learned" and can provide new knowledge that may help to finding solutions to the problem of safety at railway level crossings.

Mobility



Ensure that the transportation system is accessible, integrated and efficient, and offers flexibility of choices.

Volpe Executes Three Cooperative Research and Development Agreements for APTS Mobile Showcase (FTA)

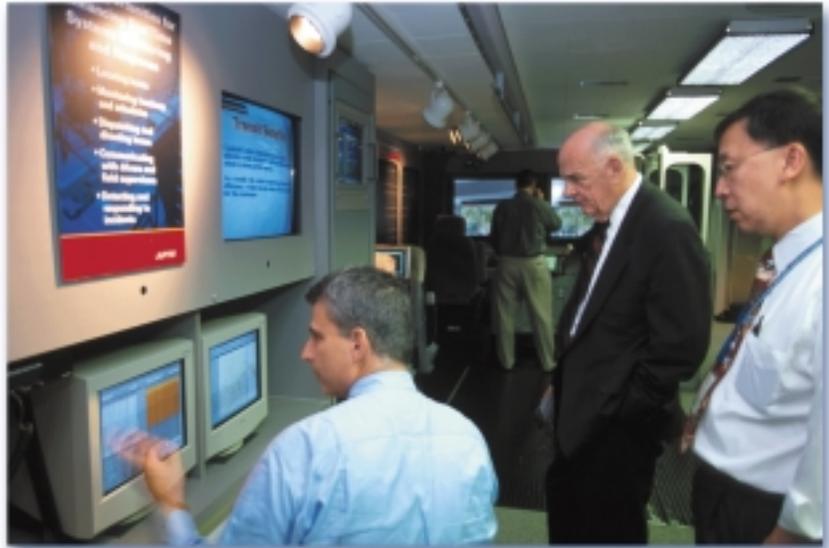
Recently, the Volpe Center executed three additional Cooperative Research and Development Agreements (CRADAs) in support of the Federal Transit Administration's (FTA) Advanced Public Transportation Systems (APTS) Mobile Showcase. The CRADAs are with the American Public Transportation Association (APTA), Community Transportation Association of America (CTAA), and Intelligent Transportation Society of America (ITS America). These CRADAs formalize the role of these organizations, including the nature of their assistance to the Mobile Showcase Program. To date, the Mobile Showcase Program has more than 30 CRADAs in place.

The APTS Mobile Showcase is a 48-foot trailer with expandable sides, which can serve as a research lab, classroom, and briefing facility on wheels. The Mobile Showcase will tour the country for the next several years demonstrating the benefits of APTS technologies and will be seen at various transportation conferences, transit agencies, universities, and other venues. The Volpe Center's Service Assessment Division, under the sponsorship of the FTA's Office of Mobility Innovation, designed and developed the Mobile Showcase and is now responsible for its operation and maintenance.

On August 11, 2000, Dr. Richard R. John, Director of the Volpe Center; Mr. Robert Ow of the Office of Traffic and Operations Management; and Mr. Robert Brodesky of EG&G Technical Services, Inc. (a Volpe Center contractor) participated in a ceremony for the signing of the CRADAs. The ceremony was held at DOT headquarters in Washington, D.C. Other participants included Ms. Kelley S. Coyner, then-Administrator of the Research and Special Programs Administration; Ms. Nuria Fernandez, then-Acting Administrator of FTA; Mr. Walter Sutton,

then-Deputy Administrator of the Federal Highway Administration; Mr. Lou Sanders, Director of Research and Technology for APTA; Mr. Dale Marsico, Executive Director and Chief Executive Officer of CTAA; and Mr. John Collins, President of ITS America.

In addition, from August 10 to 11, 2000, the APTS Mobile Showcase, which was located adjacent to the DOT headquarters building, was available for viewing by DOT staff and other interested parties. It is estimated that approximately 300 persons visited the Mobile Showcase during this time. Comments received from showcase visitors were very positive and affirmed the need for a mobile platform to educate and highlight the benefits of Intelligent Transportation Systems applied to public transportation.



(left to right) Mr. Robert Brodesky, Dr. Richard R. John, and Mr. Robert Ow inside the APTS Mobile Showcase.

(Photo courtesy of Mr. Robert Brodesky)

Supporting the International Organization for Standardization (FTA)

The Volpe Center is the officially designated Administrator of the International Organization for Standardization's (ISO) Technical Committee 204 U.S. Working Advisory Group (WAG) 8. The WAG develops the U.S. position on international standards for public transportation and emergency services, provides guidance and direction to U.S. experts in representing this position in the international arena, and monitors their work and progress. Mr. Michael Sheehan of the Operator Performance and Safety Analysis Division serves as Secretary to the WAG and Rapporteur of the corresponding international ISO Working Group.

From October 31 to November 1, 2000, Mr. Sheehan attended a meeting of the international ISO Working Group held in Naples, Italy. The ISO Working Group is trying to establish international standards for Intelligent Transportation Systems in transit vehicles. Several issues were discussed at the meeting, including progress on a U.S.-proposed Committee Draft Standard, the Transit Communications Interface Protocol. The group also discussed a Japanese proposal for a traffic signal preemption system for emergency service vehicles. The system will provide signal priority for transit vehicles. In addition to chairing the ISO Working Group meeting, Mr. Sheehan also represented the WAG at the subsequent plenary meetings of ISO Technical Committee 204, which also were held in Naples.



Advance America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation.

Volpe Staff Member Moderates Panel on Nanotechnology

On September 28, 2000, Ms. Annalynn Lacombe of the Transportation Strategic Planning and Analysis Office moderated a panel on the social, ethical, and legal implications of nanotechnology at a National Science Foundation (NSF) workshop titled "Societal Implications of Nanoscience and Nanotechnology." The workshop was held in Roslyn, Virginia, under the National Nanotechnology Initiative (NNI), an interagency effort that supports nanotechnology research in a number of federal agencies. Among the participants on the panel were Dr. Edward Tenner from Princeton University, author of *Why Things Bite Back*; Dr. Viola Vogel, Director of the Center for Nanotechnology at the University of Washington; Dr. Vivian Weil from the Illinois Institute of Technology's Center for the Study of Ethics in the Professions; and Dr. Daniel Sarewitz from the Center for Science, Policy, and Outcomes at Columbia University.

Nanotechnology—the building of devices and materials at the level of atoms and molecules and the exploitation of the new and improved properties at this scale—is leading to fundamental scientific advances and dramatic changes in the ways that materials, devices, and systems are understood and created. Among the potential breakthroughs in transportation are lighter, safer, and more efficient cars; “smart” infrastructure materials that monitor their own condition and repair any defects; and tiny sensors for detecting chemical and biological weapons at airports and other transportation facilities.

The study of nanotechnology’s societal implications is an integral part of the NNI. Among the conclusions at the NSF workshop were:

- Nanotechnology will affect society in many ways, some not intended by those who develop it. Those unintended consequences could be beneficial, such as spin-off technologies, or may involve disruptions, such as economic dislocations or job shifts.
- Nanotechnology will develop through a complex interplay of technical and socioeconomic factors. Social science research can identify, and to some extent anticipate, societal bottlenecks and successful investment strategies, with valuable insights into factors that promote or retard innovation and its diffusion.
- Of utmost importance is the consideration of ethical issues connected with nanotechnology’s development. Such work must involve both social scientists and the larger community while protecting technical creativity and the innovative spirit.
- The capability of our educational institutions is a concern: the current educational system may not be prepared to provide the interdisciplinary scientific training and practical experience needed by the future generation of nanotechnologists.
- At present, we do not have the institutional infrastructure required to organize and support research on the societal implications of nanotechnology. However, researchers could apply a number of existing research approaches and methodologies.

Volpe Hosts Visiting Japanese Delegation

On October 30, 2000, Dr. Richard R. John, Director of the Volpe Center; Dr. Frank Tung, Deputy Director of the Volpe Center; and Mr. Gary Ritter, Acting Chief of the Policy and Technology Analysis Division, hosted a delegation of Japanese visitors for an informal technical exchange. The visit was initiated by Dr. Ichiro Nakahori, President of Sohatsu Systems Laboratory, Inc., who had visited the Center several years ago when he was a visiting researcher under Dr. Ichiro Masaki of the Massachusetts Institute of Technology. The visitors were in the Boston area to attend a technical conference on tunnels.

Among the members of the Japanese delegation were Mr. Hisaharu Tottori, Equipment Manager of Hanshin Highway Company; Mr. Nobuyoshi Kawabata, Professor with the Mechanical Engineering Department at Fukui University; and Mr. Takuji Ishikawa, Associate Professor with the Mechanical Engineering Department at Fukui University. Participants from the Massachusetts Institute of Technology included Dr. Ichiro Masaki and Mr. Ichiro Mizunuma, a visiting researcher. Other attendees included Mr. Dan Wood, Federal Highway Administration Massachusetts Division; and Mr. Sergiu Luchian, Boston Central Artery/Tunnel Project, Bechtel/Parsons Brinckerhoff.

The agenda for the visit included several technical presentations. After Dr. John welcomed the delegation and provided an overview of the Volpe Center, Mr. Nakahori discussed a 3-D computer graphics simulator for a visual effect of road tunnel ventilation control. Mr. Ishikawa and Mr. Tottori discussed backlayering characteristics of thermal flames during tunnel fires in the Hansin Expressway. Mr. Kawabata presented a simulation of the behavior of smoke from fires in a ventilated tunnel. Mr. Luchian discussed the Boston Central Artery/Tunnel Project.

National Security



Advance the Nation's vital security interests by ensuring that the transportation system is secure and available for defense mobility and that our borders are safe from illegal intrusion.

Volpe Supports Strategic Arms Reduction in Russia (DoD)

For the past several years, the Volpe Center has supported the Department of Defense's (DoD) Defense Threat Reduction Agency (DTRA) in their efforts to assist the Former Soviet Union (FSU) in disabling their nuclear weapons of mass destruction as prescribed by the 1991 Strategic Arms Reduction Treaty (START I). Beginning in 1993, DTRA worked with the governments of the former Soviet states to design a procedure for eliminating the missiles and their fuel. The multi-step process called for destruction of a missile beginning with its removal from the silo, bunker, or submarine where it had been deployed. Each missile, with its fuel contained inside, then would be moved to the factory where it had been built and the missile designers and builders would disassemble it.

In 1993, Mr. Ross Gill of the Advanced Vehicle Technologies Division traveled to Ukraine and Russia to assist in implementing a missile transportation protocol for this effort. DTRA and FSU military planners had concluded that the FSU rail system was the best way to transport the missiles across thousands of miles; however, the railcars designed to carry the missiles had not been used in more than 15 years. Mr. Gill prescribed rehabilitation of these cars, including new brakes, hoses, and internal transport carriage rails, as well as the installation of on-board environmental systems to control temperature and humidity and to promote fire safety. In addition, special containers were needed to transport the missiles' fuel and oxidizer.

For the next several years, Mr. Gill assisted the DTRA team in managing several aspects of the equipment planning and procurement for this effort. He oversaw the procurement of \$4 million of flatbed railcars from Abakon, Russia, and \$44 million worth of International Organization for Standardization (ISO)-compliant fuel and oxidizer containers manufactured by Arbel, a French firm. During the same period, Mr. Gill visited the installations from which missiles were to be removed. The first round of visits revealed that the little-used rail systems inside the military bases were not up to standard for moving the missiles. With extensive experience in track inspection, the Volpe Center's effort refocused on inspecting and upgrading rail, including the replacement of switches, rails, and ties, and the addition of ballast to firm the track bed.



Maj. Robert Schultz (first row, second from left) and Mr. Ross Gill (first row, fifth from left) met with the staff of the Makeyev Rocket Center during their latest round of visits to Russia in support of DTRA and their efforts to assist the Former Soviet Union in disabling their nuclear weapons.

(Photo courtesy of Mr. Ross Gill)

In the latest round of visits from August 19 to 28, 2000, Mr. Gill accompanied Maj. Robert Schultz of DTRA to sites in Nenoska and Zlataoust to review Russian progress on repairs of rail-road track and railway missile transport cars. The first train with missiles was shipped from Nenoska to Zlataoust at the end of August to begin the disassembly process. During an October site visit to Zlataoust and Biynsk, Mr. Gill reviewed rail safety procedures and operations as agreed to in DTRA's contract with the Makeyev Rocket Center. The contract provides for the destruction of ten SS-N-20 missiles formerly used by the Russian submarine fleet.

Mr. Gill will travel to Russia again at the end of January 2001 to outline the scope of work to be done by the Russian Federation under the START I program to eliminate the train sets that were built to launch intercontinental ballistic missiles, and to oversee track upgrades. It will be Mr. Gill's seventeenth visit. For more information on the Center's role as part of the Cooperative Threat Reduction Program, please see the Summer 2000 issue of the *Volpe Journal*, available at www.volpe.dot.gov/infosrc/journal/summer00/index.html.



Protect and enhance communities and the natural environment affected by transportation.

Volpe Helps Coast Guard Improve Trash Management (USCG)

The U.S. Coast Guard's environmental program focuses on improving mission effectiveness and on reducing adverse environmental impacts of the Coast Guard Cutter fleet. Recently, the Volpe Center engineered and installed a solid waste trash pulper for shipboard use on two classes of Cutter ships. The pulper is capable of processing food wastes, paper, cardboard, glass, and metal cans, and will improve trash management processing at sea in compliance with the International Maritime Organization Marine Pollution Act.

Mr. Mark Gentile and Mr. Bob Pray both of the Technology Applications and Deployment Division and Mr. Bill Halloran of the Environmental Engineering Division completed the various stages of the feasibility study, an Environmental Impact Assessment, and an engineering design package. A prototype pulper was installed onboard the 270-foot Cutter Tampa, located in Portsmouth, Virginia. Final testing was completed on September 4, 2000.

Celebrating Energy Awareness Month

In October, the Volpe Center's Management Systems Office and the Facilities Management Division joined forces to promote Energy Awareness Month at the Volpe Center. The Department of Energy created Energy Awareness Month to foster greater public understanding and awareness of energy sources and how they can be used wisely and effectively, and the importance of energy to the economic prosperity and future of America.

In observation of Energy Awareness Month, energy conservation posters were placed on bulletin boards throughout the Volpe Center, and a table was set up in the lobby of the main building with calendars, stickers, bookmarks, and magnets. A VolpeNet News Flash announced the month-long celebration, and an article in the *Volpe Voice*, an in-house publication, explained the different energy conservation efforts at the Center.

In 1997, Johnson Controls completed a comprehensive energy analysis of the Volpe Center's physical facility and implemented six conservation measures. These measures led to significant utility costs savings at the Center. Under an innovative alternative financing arrangement of the Energy Savings Performance Contract (ESPC) program, which was authorized by the Energy Policy Act of 1992, Johnson Controls paid the upfront costs for implementing the energy conservation measures. In exchange, the Center pays Johnson Controls the majority of the cost savings resulting from the conservation measures each month during the 10-year contractual period. After the 10-year contractual period, the Center keeps all utility cost savings. The Center's Facilities Management Division was the first organization within the DOT to take advantage of the ESPC program.

Energy Users News recently recognized the Center's efforts in energy conservation by awarding the Center a *Energy Users News* 2000 Efficient Building Award in the retrofit category. Mr. Bill Sullivan of the Facilities Management Division accepted the award on behalf of the Center at an awards breakfast held in conjunction with the World Energy Engineering Congress in Atlanta, Georgia, on October 26, 2000.

On behalf of the DOT, I recently signed an agreement with the Transport Research Centre (TRC) of the Dutch Ministry. The agreement renews DOT's pledge to work together with TRC on topics such as human factors and safety research. The recent visit by a Dutch delegation from the TRC, which is reported in this issue, is witness to the thriving relationship that benefits both countries.

Another recent visit by a group of Japanese scientists and industrialists hosted by my office and the Policy and Technology Analysis Division demonstrated the value of technical exchanges between researchers across international boundaries. As the Volpe Center's Director, I was pleased to provide an overview of the Center's work and to moderate technical presentations on tunneling technology by both Japanese and U.S. representatives.

Other recent international guests have included representatives from the Railway Safety Review Committee of India who were hosted by the Volpe Center's Office of Safety and Security. This delegation had requested a visit to the Center after hearing about the Center's wide variety of railroad safety research topics.

Mr. Gregg Fleming, Chief of the Safety and Environmental Technology Division, hosted a joint meeting of sub groups of the Society of Automotive Engineers and the International Civil Aviation Organization. Participants included representatives from Australia, Brazil, Canada, Denmark, Germany, France, Japan, Norway, Sweden, Switzerland, and the United Kingdom. The purpose of this meeting was to share research associated with aircraft noise.

Volpe staff members continue to perform a significant role in the essential task of developing international standards. In support of the International Organization of Standardization, Mr. Michael Sheehan of the Operator Performance and Safety Analysis Division serves as the reporter for the working group that addresses standards for transportation and emergency services. He is also part of the working group that addresses the need for international standards for Intelligent Transportation Systems in transit vehicles.

The research of Ms. Anya Carroll of the High Speed Ground Transportation Division on highway grade crossing now has an international focus. Her work demonstrates that discussions with our international colleagues provide new ways to approach our own transportation and safety problems. Ms. Carroll recently moderated a panel on pedestrian and cyclist safety at the Sixth International Symposium on Railroad-Highway Grade Crossing Research. The panel discussed how some of the innovative safety features that are incorporated in highway grade crossings in Australia and New Zealand might apply in the United States.

We are all proud of the work of Mr. Ross Gill of the Advanced Vehicle Technologies Division in the Former Soviet Union. Since 1993, Mr. Gill has been working with the Department of Defense's Defense Threat Reduction Agency as part of a team that is helping the Former Soviet Union to disable their nuclear weapons of mass destruction in accordance with the 1991 Strategic Arms Reduction Treaty. Mr. Gill was able to use his extensive experience with railroads in this country to provide guidance on implementing transportation protocols for this work. Now that the missiles are actually being moved and dismantled, Mr. Gill continues to provide technical support for the railroad track and railway missile transport cars.

In addition to our country specific work on the international front, we are also involved in international efforts to address such problems as global warming. Mr. Kevin Green of the Transportation Strategic Planning and Analysis Office plays an important role in supporting DOT's Center for Climate Change and Environmental Forecasting, which works to develop solutions for managing greenhouse gas emissions and the effects of climate changes on transportation systems. Mr. Green was part of a team that has provided technical support to the government of Argentina in voluntarily setting targets for greenhouse gas emissions. He has also represented DOT at international workshops and negotiating sessions under the United Nations' framework of the Convention on Climate Change.

Each of these efforts represents the Volpe Center's growth and demonstrates a climate of collaboration in the transportation field. The Center has the flexibility to adapt itself to working on the international front, both collegially and contractually. We see these trends growing and welcome the opportunity to serve and be a part of a wider world.



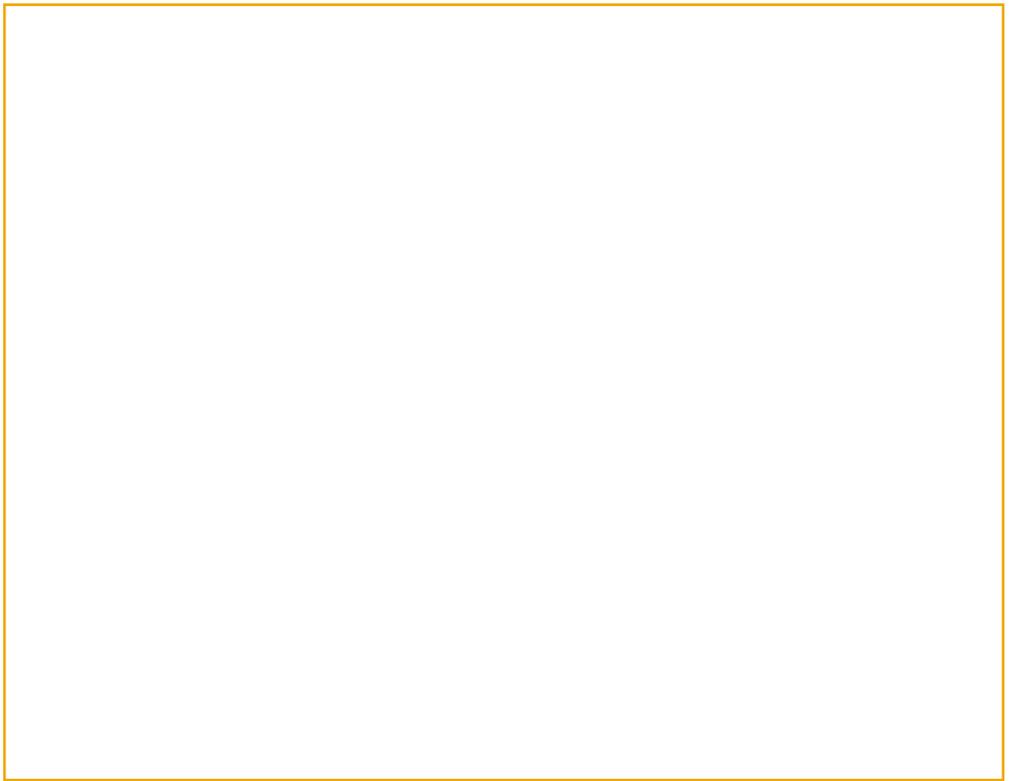
Volpe National Transportation Systems Center

55 Broadway
Cambridge, MA 02142-1093

FOR MORE INFORMATION

Call: 617.494.2225
Fax: 617.494.2370

e-mail: MurrayL@volpe.dot.gov
www.volpe.dot.gov



In This Issue... [Volpe Renews Collaborative Agreement wth Dutch Ministry.](#)