



Volpe
National
Transportation
Systems
Center

Volpe Center Highlights

Cambridge, Massachusetts

September/October 2000

Director's

Notes



Dr. Richard R. John

The Value of the Volpe Workforce

Recently, I was awarded the Rank of Distinguished Executive by President Bill Clinton. This honor has led me to reflect on what a privilege it has been to work here at the Volpe Center. I have worked at the Center since 1970 and one of the constant highlights has been watching an extraordinary workforce and work portfolio evolve, grow, and respond to the changing needs both of transportation and of our society at large. My award is a direct reflection of the Center's fine workforce.

For more than 30 years, the staff of the Volpe Center has been applying their technical knowledge to transportation issues. As a catalyst for innovation, the Center fosters key technical, operational, and management advances to meet current and future transportation challenges. A former NASA laboratory, we have successfully broadened our mission from aerospace research to the challenges of the entire transportation community. We have become market driven, re-engineered our federal staff, and streamlined our procurement process.

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Dr. John Awarded the Rank of Distinguished Executive



Dr. Richard R. John, Director of the Volpe Center, is congratulated by Deputy Secretary of Transportation Mortimer Downey and RSPA Administrator Kelley S. Coyner at the RSPA Awards Ceremony held recently in Washington, D.C.

President Bill Clinton announced in October that Dr. Richard R. John, Director of the Volpe Center, is being awarded the Rank of Distinguished Executive. The award is the highest and most prestigious commendation given to federal members of the Senior Executive Service.

In announcing the President's decision, Ms. Kelley S. Coyner, Administrator of the Research and Special Programs Administration (RSPA), and Mr. Jack Murray, Deputy Administrator of RSPA, praised

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Dr. John enthusiastically. “The award highlights and recognizes Dr. John’s extraordinary and sustained performance and achievements throughout his career,” they said. “Dr. John has demonstrated creativity, leadership, and a strong personal commitment to heightening awareness in the U.S. Department of Transportation, and indeed the transportation community, on the importance of bringing about technological innovation in shaping a transportation system that meets America’s needs in the 21st Century. He has successfully led the Volpe Center in its ambitious mission of becoming a world-class federal center for facilitating transportation innovation. Dr. John is insightful, creative, energetic, and most of all, dedicated in his service to his country... We thank Dr. John for his relentless commitment to public service and for the exemplary manner in which he has consistently represented the Volpe Center, RSPA, and the Department of Transportation.”

Dr. John joined the Volpe Center in 1970. Since that time, he has initiated and led the early development of many of the Center’s current, world-class capabilities and participated in early groundbreaking studies on the international competitiveness of the U.S. automobile industry. More recently, Dr. John has become a spokesperson for the importance of an educated workforce and of long-term research in bringing about the technological innovations necessary to meet the transportation challenges of the 21st Century.

Mobility



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

Supporting the Maglev Deployment Program (FRA)

In support of the Federal Railroad Administration’s (FRA) Maglev Deployment Program, the Volpe Center’s Environmental Engineering Division recently completed a Draft Programmatic Environmental Impact Statement (DPEIS), and now is preparing the final PEIS for the FRA. This DPEIS has been prepared to satisfy the requirements of the National Environmental Policy Act by affording the public an opportunity to comment on the potential for environmental impact associated with the Maglev Program.

Magnetic levitation (maglev) is an advanced transportation technology in which magnetic forces lift, propel, and guide a vehicle over a specially designed guideway. The Maglev Deployment Program was established in the Transportation Equity Act for the 21st Century with the purpose of demonstrating

the feasibility of maglev technology for speeds of at least 240 mph. Through a nationwide competition, the FRA selected seven states to compete for future funding to advance their maglev design and implementation. The seven states chosen (California, Florida, Georgia, Louisiana, Maryland, Nevada, and Pennsylvania) have completed project descriptions that include relevant environmental, technical, safety, and cost information.

In related news, the FRA Administrator Jolene Molitoris recently appointed Mr. Ronald Mauri of the Office of System and Economic Assessment; Mr. Robert Dorer, Chief of the High Speed Ground Transportation Division; and Dr. Paul Valihura of the Environmental Engineering Division to a Maglev Technical Advisory Panel, chaired by the FRA Associate Administrator for Railroad Development Mark Yachmetz. The Panel is providing technical reviews and summaries of the project descriptions to be used in the selection process. One project is to be selected for construction and deployment.

Volpe Staff Member Receives Award from the Greater Boston Federal Executive Board

Mr. David A. Phinney of the Volpe Center’s Center for Navigation received the Technical and Scientific Employee of the Year Award from the Greater Boston Federal Executive Board. The citation for his Excellence in Government Award reads: “Demonstrating creative and innovative skills far beyond his position description, David Phinney has made outstanding contributions, which are national and international in scope, to marine navigation technology. His dedication to the advancement of navigation science is rivaled only by his burning desire to apply his knowledge and navigational expertise to aid his fellow man in times of need and distress.” Mr. Phinney was competitively selected for this award from a pool of 200 nominees. The award was presented at the John F. Kennedy Library in Boston, Massachusetts.

Human and Natural Environment

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

Comprehensive Transportation Planning Projects Begin at Two National Parks

Recently, staff members from the Volpe Center met with federal, state, and local officials on Cape Cod, Massachusetts, and in Gettysburg, Pennsylvania, to discuss development of comprehensive transportation management plans for these popular tourist destinations. The increasing popularity of the Cape Cod National Seashore and Gettysburg National Military Park, in combination with growing local populations, has resulted in serious traffic problems that affect local residents, damage park resources, and degrade park visitors' experiences. The meetings attended by the Volpe Center represent a major collaborative effort to address the transportation problems of these two popular sites in a regional planning context.

In Massachusetts, Mr. David Spiewak of the Advanced Vehicle Technologies Division and Mr. Michael Jacobs, Mr. Terrence Sheehan, and Mr. David Spiller of the Service Assessment Division met with representatives of the Cape Cod National Seashore, the Cape Cod Commission, the Cape Cod Regional Transit Authority, and other members of the Cape Cod Transportation Task Force. During these meetings, Volpe staff presented a proposal outlining current transportation issues at the National Seashore and made preliminary recommendations for project prioritization. As part of the project, the Volpe Center is studying options for an improved shuttle service. The current service uses two electric trams to take visitors to Coast Guard Beach, but the trams have been beset with many operational problems. During discussions, representatives of the Cape Cod Commission and Cape Cod Regional Transit Authority also requested a proposal that would include a lead role for the Center in the development of a comprehensive Regional Transportation Program Plan. The potential role of the Center in development of such a regional transportation plan was discussed at a previous meeting with the Cape Cod Transportation Task Force.

At that meeting, Volpe staff presented a proposal to prepare a short-range (5-year) and long-range (25-year) comprehensive public transportation plan for Cape Cod. This effort, which will involve the participation of the public and local municipalities, will be the first regionwide, multimodal transportation planning project on Cape Cod. Staff members currently are preparing a revised proposal with a budget of approximately \$200,000. Additional funding from the National Park Service of approximately \$300,000 also is anticipated for this effort.

At Gettysburg, Mr. Spiewak and Mr. Daniel Krechmer and Mr. Frank Goetzke both of Cambridge Systematics, Inc., (a Volpe Center contractor) met with staff from the Gettysburg National Military Park, the Gettysburg/Adams County Chamber of Commerce, the Pennsylvania Department of Transportation, and others. The 6,000-acre park attracts more than 2 million visitors annually, of whom more than 80 percent arrive by car, resulting in serious transportation problems within the park and throughout the region. The recently completed General Management Plan for the park cites damage attributed to automobile use as a serious resource concern. Park management has identified the need for a shuttle bus and Intelligent Transportation Systems. Development of transportation



The Volpe Center is studying options for a shuttle service at Cape Cod National Seashore. The current service, shown here, uses two electric trams to take visitors from the parking lot to Coast Guard Beach.

(Photo courtesy of Mr. David Spiewak)

improvements is complicated by two factors: 1) most of the roads in the park are registered as historical landmarks; and 2) many roads also serve as critical routes for local residents. During the June meetings, staff members discussed the successes and failures of prior transportation management programs, as well as the expectations and requirements of a shuttle service. While on site, Volpe staff collected pictures of the area and information on point-to-point distances and traveling times, and discussed potential route options with park representatives. A follow-up meeting was held at the Volpe Center.



Volpe staff receives Cambridge School Volunteers Corporate Team Award for the Lunch Buddies Program.

Volpe Volunteers Recognized at Awards Ceremony

Community service is a cornerstone of the Volpe Center's mission. Volpe staff, resident agencies, and on-site contractors all participate in a variety of literacy, education, and community-building activities in nearby neighborhoods and schools. At the conclusion of the school year, some of the Center's community service activities were recognized in a ceremony at the Harvard University Faculty Club. Mr. Anthony D. Galluccio, Mayor of Cambridge, Massachusetts, and Ms. Bobbie D'Alessandro, Superintendent of the Cambridge Schools, applauded the outstanding contributions of Volpe staff to the Cambridge

Public Schools. Numerous Volpe volunteers work in the public school system through the Cambridge School Volunteers (CSV), a nonprofit organization that serves as a liaison between the business community and the Cambridge Public Schools. CSV supports businesses that wish to set up volunteer educational outreach programs by helping them develop programs, train volunteers, and coordinate with teachers and school officials.

The awards ceremony specifically recognized the Volpe Center's Lunch Buddies Program, which matched more than 100 volunteers from the Volpe Center with second and third graders in the Robert F. Kennedy Elementary School in Cambridge. Volpe buddies went to the school every other week throughout the year to read aloud one-on-one with their reading partners. The Program was one of 12 recipients of a Corporate Team Award as well as the sole recipient of the Margret Rey Literacy Award 2000. This award was established two years ago in honor of the late Margret E. Rey, author of the Curious George books and one of CSV's major contributors. The award highlights exemplary volunteer programs that address the early literacy priorities of the Cambridge Public Schools. The Volpe Lunch Buddies Program, now in its third year, is the largest CSV corporate team project ever and, through the efforts of Ms. Lynn Murray, Chief of the Communications and Technology Outreach Division, has generated other lunch buddies programs, notably the new Genzyme Corporation Reading Buddies program at the Maynard School in Cambridge.

The awards ceremony also recognized Mr. Dick Chutter formerly of the Environmental Engineering Division for "extraordinary service to the Cambridge Public Schools." Mr. Chutter, who has since retired, was given the Mack I. Davis award for his extraordinary contributions as a volunteer, first for two years at the Kennedy School and then for the last three years at the Cambridge Rindge and Latin High School. At the Kennedy School, Mr. Chutter and Volpe staff such as Ms. Nancy Cooney of the Intermodal Logistics Systems Planning and Integration Division and Dr. Art Flores of the Safety and Environmental Technology Division disassembled all the components of a personal computer, demonstrating how a computer works and the intricacies of the components. Last year, Mr. Chutter developed an intensive transportation, design, and problem-solving project for a Cambridge Rindge and Latin High School pre-engineering class, which challenged students to develop solutions for real transportation problems. In addition, Mr. Chutter also actively recruited Volpe staff to advise the Cambridge Rindge and Latin High School Science Olympiad team. Under the coaching of Mr. Chutter, Mr. Dave Crawford of the Technology Applications and Deployment Division, Dr. John Hopkins of the Transportation Strategic Planning and Analysis Office, and Mr. Peter Osgood of the Aviation Safety Division, the Olympiad team recently won first

place in the state. Mr. Chutter also made a video chronicling the experiences of the 2000 Olympiad team, a copy of which was given to each team member. Mr. Chutter has compiled a notebook of transportation projects for high school students and teachers to use as part of their curriculum. A week after the awards ceremony, Mr. Chutter retired from his 12 years of service at the Volpe Center.

The event also highlighted the impact of these activities on the youth in public schools. Ms. Audrey Melick, Executive Director of CSV, told attendees that Larry Gregory, an eighth grade student from the Kennedy Elementary School, was spending the day in Washington, D.C., at the invitation of DOT Secretary Rodney E. Slater. Ms. Melick noted that this trip, organized through the Volpe Center, surely would have a long-lasting impact on this young man.



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

Friends of Volpe Discuss Sustaining Transportation Innovation

The eighth conversation session in the new “Friends of Volpe” series was held at the Volpe Center this past summer. The topic of discussion was “MEMS and Nanotechnology.” MEMS, or Micro Electro Mechanical Systems, is a relatively new technology that exploits the existing microelectronics infrastructure to create complex machines with micron feature sizes (A micron is one-millionth of a meter.). These machines can have many functions, including sensing, communication, and actuation. Nanotechnology is 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.

Guests at the summer session included: Dr. David Carnahan, NanoLab, Inc.; Dr. Stephen Bart, Microcosm Technologies, Inc.; and Dr. John Lennhoff, Physical Sciences, Inc. Dr. Richard R. John, Director of the Volpe Center, welcomed the participants, and Ms. Kelley S. Coyner, Administrator of the Research and Special Programs Administration, provided introductory remarks.

Following a discussion of the current work in MEMS and nanotechnology, the group participated in a roundtable discussion. The group discussed applications of MEMS and nanotechnology that hold promise for transportation and the steps that the federal government can take to facilitate the introduction of these technologies in transportation. The group also discussed the challenges and opportunities associated with nanotechnology and transportation.

The Friends of Volpe series, which held its first session in late February, consists of half-day, informal discussion forums on the themes of workforce/education, technology scanning, and security. Sessions that have been held since February include: Building Partnerships in the Academic and Private Sectors; Advances in Automation and Robotics: Prospects for Transportation; Transportation Decision Making; The Importance of Information Assurance/ Information Security and its Place in the Cyber Age; New Ideas in Workforce Training, and Current Issues in GPS; Sustaining Transportation Innovation; and Marine Safety, Port Security, and Security Awareness and Education.



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 Symposium Provides a Forum for National Security Specialists

The Volpe Center recently organized and hosted the Interagency National Security Technology Symposium, an interagency conference showcasing the latest developments in security technology. The conference was sponsored by the Facility Protection Committee of the U.S. Security Policy Board, an advisory group to the White House, and was attended by more than 140 representatives from throughout the federal government. Mr. John Wojtowicz of the Infrastructure Protection and Operations Division has been the National Chair of the Committee's Research and Development Working Group. Mr. Wojtowicz organized and moderated the symposium.

The symposium addressed technological innovations in security and counter-terrorism with the objective of developing an integrated approach to physical

and cyber infrastructure assurance. Critical to reaching this objective is the open exchange of technology information in a classified forum. The symposium provided an environment for such an exchange of information while also fostering important partnerships; communication at the forum also will help to minimize duplication of effort among federal agencies.

Symposium presentations and discussions covered a wide range of technologies relevant to national security. For specialists addressing physical security, topics included digital video technology, tagging and tracking advancements, wireless communications vulnerabilities, as well as detection, modeling, and mitigation techniques for explosive, chemical, biological, nuclear, and radiological threats. Topics critical to information security included risk assessment methodologies for information systems and facilities; command, control, and communications technologies; and DOT's ongoing Global Positioning System vulnerability assessment work.

Participants at the symposium represented a wide range of federal organizations, including the Federal Aviation Administration; Central Intelligence Agency; Defense Threat Reduction Agency; U.S. Air Force, U.S. Army, and U.S. Navy; Department of Energy and its national laboratories; Department of Defense's (DoD) Combating Terrorism Technology Support Office/Technical Support Working Group; Department of Treasury's Departmental Office of Security; Secret Service; Customs Service; and Federal Bureau of Investigation. Representatives from industry and academia also attended the conference.

Participants noted that the conference provided a very stimulating forum for the exchange of information, and suggested that the Volpe Center continue to play a facilitating role in the exchange of information on National Security. As a direct result of hosting this conference, the Center now is supporting the DoD's Combating Terrorism Technology Support Office/Technical Support Working Group. Mr. Wojtowicz is managing its technology research and development program for entry point screening of vehicles, vessels, mail, cargo, and personnel.

Papers and Presentations

- Mr. Mark Safford of the Transportation Strategic Planning and Analysis Office recently prepared a first draft of the "Interagency Transportation Infrastructure Assurance Research and Development Plan" for the National Science and Technology Council's Interagency Working Group on Critical Infrastructure Protection Research and Development (R&D). The Plan includes a summary of the nation's transportation infrastructure, its vulnerabilities and potential threats, and a discussion of current and planned R&D to improve its security.
- On May 1, 2000, Dr. Aviva Brecher of the Office of Environmental Preservation and Systems Modernization organized and chaired a conference session on "Transportation, Energy, and the Environment: Progress and Promise" at the American Physical Society Annual Meeting held in Long Beach, California.
- On April 27, 2000, Dr. James Hallock of the Aviation Safety Division presented a paper, "Wake Vortex Tracking Using Frankfurt Windline," at the XXV General Assembly of the European Geophysical Society meeting held in Nice, France. The paper discussed the Volpe Center's joint program with the German Aviation Safety organization (Deutsche Flugsicherung or DFS) to examine wake vortices between two parallel runways at Frankfurt, Germany. Further meetings were held from May 2 to 4, 2000, at the DFS in Langen, Germany, to discuss the progress to date and to agree upon analyses to be conducted.
- Ms. Debra Chappell formerly of the High Speed Ground Transportation Division recently presented a paper, "Comparative Analysis of Innovative High-Priority Intelligent Transportation Systems (ITS) Highway-Rail Grade Crossing Projects: Interim Report," at ITS America's Tenth Annual Meeting and Exposition held in Boston, Massachusetts, from May 1 to 4, 2000. Ms. Chappell also recently presented a paper, "Field Trials of Freight Car Reflectorization," at the Transportation Research Board's Annual Visibility Symposium held at the National Academy of Sciences in Washington, D.C.

- On April 24, 2000, the Volpe Center delivered a draft final report, “DOT Research and Development Plan,” to sponsors within the Research and Special Programs Administration. The report is mandated under Section 508 of the Transportation Equity Act for the 21st Century. A principal objective of the DOT Research and Development (R&D) Plan is to enable higher returns from modal R&D investments by emphasizing areas of collective DOT-wide concern such as human factors, the accessibility of transportation, and infrastructure security.
- In February 2000, Mr. Donald Wright of the Economic Analysis Division published a study, “Analysis of New Entrant Motor Carrier Safety Performance and Compliance Using SafeStat,” that compares the more than 40,000 new entrant motor carriers to experienced carriers (with a breakout of foreign domiciled operators from Canada and Mexico). The analysis forms the basis for a new, three-stage entrant safety qualification process drafted by the Volpe Center for the Federal Motor Carrier Safety Administration. The process will be included in a rule-making that is called for under Section 210 of the Motor Carrier Safety Improvement Act of 1999.
- The Economic Analysis Division recently delivered a draft report to the Federal Motor Carrier Safety Administration’s (FMCSA) Data Analysis Division that examines the potential benefits and costs of retrofitting Type MC-300 cargo tanks to the newer DOT-400 requirements for rollover device protection against hazardous materials cargo spills. The FMCSA is considering a requirement for retrofitting cargo tanks used in hazardous materials with stronger rollover protection devices after a review of certain cargo tanks revealed that they did not meet 300-series protection device specifications in effect when the tanks were constructed.
- On June 1, 2000, the Economic Analysis Division, with support from Litton PRC, delivered a report, “Efficient Access Pricing for Rail Bottlenecks,” to the Federal Railroad Administration’s (FRA) Office of the Associate Administrator for Policy and Program Development. The report responds to an FRA requirement for a review of the bottleneck pricing issue in the context of the current regulatory scheme of constrained market pricing and the ongoing trend toward rail mergers.
- Ms. Alexandra Kuchar of the Vehicle Crashworthiness Division recently submitted a paper for publication at the 9th American Society of Mechanical Engineers Symposium on Crashworthiness, Occupant Protection, and Biomechanics in Transportation Systems to be held in Orlando, Florida, from November 5 to 10, 2000. The paper, “A Systems Modeling Methodology for Estimation of Harm in the Automotive Accident Environment,” which was co-authored by Dr. Robert Greif of the Structures and Dynamics Division and Mr. George Neat, Chief of the Vehicle Crashworthiness Division, describes a methodology for prediction of injuries across a variety of automotive crash configurations by combining a probabilistic statistical model of the accident environment and results of parametric simulation of impacts.
- On June 16, 2000, Mr. Neil Meltzer of the Accident Prevention Division presented his most recent paper, “Issues in Determining Data Capacity Requirements for Volvo US Xpress Field Operational Test Evaluation,” which was co-authored by Mr. John Hitz, Chief of the Accident Prevention Division, during a working meeting held in Washington, D.C. The Division is providing analytical support to DOT’s Intelligent Vehicle Initiative in the design and evaluation of the Volvo U.S. Xpress Field Operational Test for the Federal Highway Administration and the National Highway Traffic Safety Administration. This test will verify the benefits of an advanced crash warning system, with adaptive cruise control on trucks, based on a 2-year field test by U.S. Xpress drivers.
- From July 18 to 20, 2000, Mr. Gregg Fleming and Dr. Judith Rochat, both of the Safety and Environmental Technology Division, presented papers in New York, New York, at the summer meeting of the Transportation Research Board’s Committee A1F04, Transportation Related Noise and Vibration. Mr. Fleming’s paper was titled “Lateral Attenuation of Aircraft Sound Levels over an Acoustically Hard Water Surface: Logan Airport Study.” Dr. Rochat’s paper was titled “FHWA Traffic Noise Model—Validation Update.”

- From June 19 to 23, 2000, Mr. Brian Kim of the Safety and Environmental Technology Division presented two papers at the 93rd Annual Conference on Air and Waste Management held in Salt Lake City, Utah. The papers are titled “Development of a Modal Emissions Model Using Data from the Cooperative Industry/Government Exhaust Emissions Test Program,” and “Predicting Air Quality Near Roadways through the Application of a Gaussian Puff Model to Moving Sources.”
- Dr. Bob Church of the Economic Analysis Division recently submitted a draft report to the Federal Motor Carrier Safety Administration’s (FMCSA) Analysis Division. His report is titled “Enforcement Tools Effectiveness Study: Analysis of Statistics from the Motor Carrier Management Information System—Stages I and II, Indicators of Carrier Compliance Behavior after FMCSA Enforcement Actions.” Dr. Church also prepared material for the FMCSA’s Associate Administrator to use in explaining his analysis to the Office of the Inspector General as part of a continuing effort to understand the circumstances most conducive to enforcement actions, thereby having a positive impact on compliance.
- On July 7, 2000, Dr. Yan Zhang and Dr. Michael Geyer both of the Surveillance and Sensors Division attended the Progress in Electromagnetics Research Symposium held in Cambridge, Massachusetts. Dr. Zhang presented a paper titled “Investigation of Ultra-Wideband (UWB) Technology and Its Possible Application to Aircraft Surveillance.” The paper, which was co-authored by Dr. Geyer and Mr. Carmine Primeggia of the Federal Aviation Administration’s Surveillance Systems Engineering Group, discusses the technical advantages and disadvantages of using UWB radar for aircraft surveillance, and assesses the capability of UWB technology to perform surveillance of aircraft. Dr. Zhang also co-chaired a session titled “RF, Microwave, and Millimeter-Wave Sensors.”
- From July 22 to 26, 2000, Dr. Paul Valihura of the Environmental Engineering Division and Dr. Aviva Brecher of the Office of Environmental Preservation and Systems Modernization participated in the first National Conference on Transportation and Environment for the 21st Century held in Pittsburgh, Pennsylvania. Dr. Valihura co-authored a poster paper with Dr. David Valenstein of the Federal Railroad Administration titled “Environmental Considerations for Superspeed Transit: The U.S. Maglev Deployment Program.”
- From May 15 to 16, 2000, Ms. Anya Carroll of the High-Speed Ground Transportation Division and Dr. Jordan Multer of the Operator Performance and Safety Analysis Division presented their respective research on high way-rail grade crossing safety and human factors at the 15th Biennial Symposium on Visibility, sponsored by the Transportation Research Board and held at the National Academy of Sciences in Washington, D.C. Part of their research has been evaluating methods for making rail cars more conspicuous to motorists by using retroreflective markings and evaluating the human performance considerations associated with the placement of these markings on rail cars. The titles of their respective presentations are “Field Trials of Freight Car Reflectorization” and “Evaluation of Four Patterns for Reflectorizing Rail Cars.”

Our diverse customer base includes local, state, federal, and foreign governments; and the private sector. A unique funding mechanism sets us apart from other federal entities. There is no direct annual appropriation for the Volpe Center—we are budget neutral with \$200 million in annual obligations.

As the Volpe Center has grown, hard-core engineering and scientific approaches have been augmented by a need to look at other disciplines. The Volpe staff has realized that the real questions about transportation technologies have to do with their value to society rather than simply whether they will work from a technical standpoint. The Center's workforce has broadened to include economists, social scientists, computer specialists, operational research analysts, and psychologists. In this way, the Center has been able to establish a tradition of providing leadership and rapid response to help decision makers and organizations to define problems and pursue solutions that are necessary for advancing transportation into the 21st Century. Over the course of the last 30 years, the Center has addressed major national and international issues related to safety, security, environment, mobility, and economic growth and trade.

Today, the Volpe Center is an internationally recognized federal center of transportation and logistics expertise. The Center places high value on critical thinking—which affords a perspective on the problems of transportation and technology. This perspective has fostered an ability to transfer the lessons learned across the transportation modes. Our workforce addresses problems in one transportation area and at the same time applies the knowledge gained in different areas. Our flexible organizational structure promoted creative teamwork across disciplines long before working in teams became the norm in today's workplaces.

Teams and individuals at the Volpe Center have the opportunity to grow and learn and adapt their skills to the changing problems faced by our society. Resourcefulness is encouraged by the wide variety of professional development opportunities to continue to learn while working at the Center. For example, the Center's Fellows Program pays the full tuition, fees, and book expenses for employees undertaking graduate or postgraduate degree programs that directly support the DOT and/or the Center's work areas, core disciplines, or long-range goals. I am proud that our dedicated and motivated workforce takes advantage of these opportunities. Because the Center is a knowledge-based organization, strong investment in learning and development is critical to our success. This atmosphere has led to a unique blend of talents where many staff members have shown themselves to be capable of working on a diverse range of projects, learning new disciplines, and taking new approaches as times change.

As we look to the future, it is our obligation to create an environment where the lessons learned in the past will be transferred to a new generation of transportation workers. We have a mandate to transfer knowledge. As part of this effort we have a Mentoring Program, which pairs new employees with established employees and allows established employees to convey not only their accumulated knowledge, but also a sense of what it means to be a part of the Volpe community. Through our distinguished Emeritus program "retirees" can continue to work on a part-time basis. These programs capture and disseminate the accumulated knowledge of the Center's technical and management leadership and create learning partnerships within and across the organization. The Faculty Fellows Program enables visiting professors from local academic institutions such as the Massachusetts Institute of Technology and Tufts University to work on site at the Center while retaining their faculty positions. This program enables academics to work side-by-side with our permanent staff, and the collaboration often continues after the staff has returned to their parent institutions.

I also am encouraged and excited about the programs that bring young people into the Volpe Center. The John A. Volpe Internship Program, established by DOT Secretary Rodney E. Slater, provides major tuition assistance and paid work opportunities at the Volpe Center for selected outstanding graduate students in the engineering, scientific, and social science disciplines who have expressed an interest in working in the field of transportation. The Center's Co-op Program employs highly qualified graduate and undergraduate students from 20 colleges and universities, allowing students to attend college while working at the Center. These programs give the Center access to an excellent pool of future professionals, and also give students the opportunity to serve their country and make a difference while working side-by-side with leaders and experts in transportation.

We can indeed look back proudly on the Volpe Center's history. It is with gratitude that I look back on the hard work of the Center's workforce and look forward with great optimism to the Center's future.



**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... Dr. John Awarded Rank of Distinguished Executive.