U.S. Department of Transportation
FY2002 Annual Report on Technology Transfer

I. Program Background

The Department of Transportation (DOT) is the federal steward of the nation's transportation system. It houses many transportation agencies and programs, all of which seek to apply innovations from their research and development (R&D) programs to fulfill the key goals of the Department: safety, homeland security, mobility and economic growth, human and natural environment, and organizational excellence.

In FY 2002, there were four laboratories in the Department. They include the Federal Aviation Administration's (FAA) William J. Hughes Technical Center, the Federal Highway Administration's (FHWA) Turner-Fairbank Highway Research Center, the Research and Special Program Administration's (RSPA) Volpe National Transportation Systems Center (Volpe Center), and the U.S. Coast Guard's Coast Guard Research and Development Center.

The Federal Aviation Administration (FAA) plays a variety of regulatory roles in air transportation and carries out an extensive research and technology program to support those responsibilities. The program is carried out in cooperation with the regulated industries and other federal agencies and includes research on air traffic control systems, weather forecasting and impacts, airport technology, aircraft safety technology and airport security technology.

> The FAA's William J. Hughes Technical Center in Atlantic City, New Jersey is the focal point for technology transfer activities in the FAA. The Center's mission is to provide research, engineering, and test expertise in an integrated laboratory environment for the development and support of a safe, secure, and efficient global aviation system. (http://www.tc.faa.gov/)

The Federal Highway Administration (FHWA) plays a key role in improving the quality of the nation's surface transportation systems, providing grants and an aggressive research program to support the state and local agencies primarily responsible for our highways. The research FHWA sponsors explores material, structural and information technologies designed to promote efficient and safe use of the highways. The Intelligent Transportation System (ITS) is one of its most innovative programs, working with industry, state and local agencies and consumers to support research applying information technologies to improve highway safety, increase efficiency, reduce energy use and limit adverse environmental impacts. Many other programs promote the development and transfer of innovative transportation technologies to state and local agencies.

> The Turner-Fairbank Highway Research Center (TFHRC) is the home of the Federal Highway Administration's Research, Development, and Technology Business unit. The Center advances the state-of-the-technology and works

> cooperatively with FHWA's headquarters offices and the 55 field offices to ensure that the technology is put into practice. The FHWA Research and Technology Program directly supports the goals of the U.S. Department of Transportation to invest strategically in transportation infrastructure, promoting, safe and secure transportation, enhancing our environment, mitigating traffic congestion; and creating new alliances between the nation's transportation and technology industries. (http://www.tfhrc.gov/)

The U.S. Coast Guard has a wide-ranging mission that includes setting standards for commercial vessels, licensing seamen, safeguarding ports and waterways and providing radio-navigation systems. Its research programs support all of these missions, including work on search and rescue capabilities, marine navigation, marine safety, maritime law enforcement, and integrated command, control, communications, computer and intelligence systems.

> The Research and Development Center in Groton, Connecticut is the Coast Guard's sole facility performing research, development, testing, and evaluation (RDT&E) in support of the Coast Guard's major missions of Maritime Law Enforcement, Maritime Safety, Marine Environmental Protection, and National Security. (http://www.rdc.uscg.gov/)

On March 1, 2003, the U.S. Coast Guard became a part of the Department of Homeland Security.

The Research and Special Programs Administration (RSPA) is responsible for the safe and secure movement of hazardous materials to industry and consumers by all modes of transportation, including pipelines; coordinating rapid response to transportation emergencies; and facilitating advancement of science and technology for national transportation needs. RSPA manages DOT's multi-modal research programs, coordinates DOT's research and development strategic planning efforts, supports multi-modal research, education and technology transfer through thirty-three University Transportation Centers (UTCs), and oversees the work of the Transportation Safety Institute (TSI).

> RSPA's Volpe National Transportation Systems Center (Volpe Center) in Cambridge, Massachusetts is a fee-for-service organization that conducts research and development, engineering, and analysis for DOT, other federal, state, and local government agencies and some foreign entities. Its work includes a broad mix of projects that cut across traditional transportation modes and technical disciplines. The Center also has the responsibility for the Department's Small Business Innovation Research Program. (http://www.volpe.dot.gov/)

The Department's Patent Counsel coordinates patent licensing, although some agencies, like FAA, also have patent counsel at their laboratories to help with applications and processes.

II. DOT Technology Transfer Program

Technology transfer activities are coordinated at the departmental level through the DOT Technology and Innovation Committee. Each agency within DOT designates a representative to the Committee, which meets bi-monthly to discuss technology transfer issues, upcoming plans and opportunities, and to exchange information on cross-cutting technologies. Committee activities are discussed in the following paragraphs.

Each year, the Committee publishes the "Guide to Transportation Technology and Innovation." This guidebook is intended as an overview of innovation and technology transfer activities in the Department. The guidebook is a quick reference to points of contact to begin to understand innovation, research and technology activities at the DOT and to help individuals pursue development of more formal technology and innovation sharing partnerships.

The DOT Technology Transfer website (http://t2.dot.gov) provides additional information on DOT agencies, DOT laboratories, partnership opportunities, the Small Business Innovation Research (SBIR) Program, and as other updated information on DOT technology transfer. The annual "Guide to Transportation Technology and Innovation" can be found on the website at http://t2.dot.gov/guide/index.html. Another DOT website, the Transportation Science and Technology home page, http://scitech.dot.gov, is a one-stop resource for additional information on federal, national, and international transportation planning, technology, and R&D activities.

In addition, the DOT Technology and Innovation Committee features an exhibit at the Transportation Research Board's annual meeting each January in Washington, DC. The meeting draws approximately 8,000 transportation professionals from around the world and gives Committee members an opportunity to distribute information and to discuss DOT technology transfer with other transportation professionals.

III. Data about the Agency's Tech Transfer Activities and Performance for FY02

_ Collaborative Relationships for Research & Development

	FY 2001	FY 2002 (1)
_ CRADAs total active in the FY	82	92
- New, executed in the FY	11	14
_ Non-traditional CRADAs (5), total active in the FY	4	12
- New, executed in the FY	0	5
_ Other types of collaborative R&D relationships (6)		
_ (specify as relevant), total active in the FY	0	0
-New, executed in the FY	0	0

Intellectual Property Management

_ Invention Disclosure and Patenting

	FY 2001	FY 2002
_ New inventions disclosed in the FY	2	0
_ Patent applications filed in the FY	3	0
_ Patents issued in the FY	0	0

- **Licensing**

There were no active or new licenses in FY 2002. There is no data to report in any of the categories. The following provides data from FY 2001.

Invention Licenses Total number of invention licenses active in FY01	1
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Licenses for "Other IP"	

Total number of active licenses for "other IP" in FY01	0
Other Characteristics Total number of active licenses for which the agency/laboratory received royalty income in FY01 _ Number exclusive _ Number partially exclusive x Number non-exclusive	 1
Number of licenses terminated for cause in FY01	0

- **Income**

Income from Licenses Active in the FY Total income from all licenses active in FY01 x Income from invention licenses active in FY01 _ Income from "Other IP" licenses	 **$5,500.00**
Disposition of royalty income or other payments from licensing (such as to inventors, back to labs, etc.)	**$2,225.00 inventor $1,400.00 patentability search and provisional patent filing**

*Data covers the following departmental agencies: Federal Aviation Administration (FAA), Federal Highway Administration (FHWA), Research and Special Programs Administration (RSPA).

IV. Technology Transfer Outcomes

CRADAs

The following is a good example of how one technology can be broadly disseminated through the use of multiple CRADAs.

In support of the Federal Transit Administration's Advanced Public Transportation Systems (APTS) program, the **Volpe Center** developed a Mobile Showcase. The APTS Mobile Showcase is a 48-foot trailer with expandable sides that serves as a research lab, classroom, and briefing facility on wheels that tours the country and demonstrates transit-related Intelligent Transportation Systems initiatives to encourage their adoption at the local level. These technologies range from improving operations, such as automated vehicle location (AVL) system; improving communications, such as mobile data terminals; improving passenger service, such as real-time information kiosks; and improving safety, such as pedestrian detection technologies. The showcase also serves as a mechanism for educating the transit community. Hands-on technical courses taught during Showcase visits to transit agencies give the individuals visiting the opportunity to gain firsthand knowledge about APTS technologies. Over the past year, the Mobile Showcase has traveled to numerous transit agencies and to national, state, and regional transit and transportation conferences to provide transportation professionals, legislative

and executive branch officials, and the general public with increased exposure to APTS technology. A large number of technology manufacturers, suppliers, vendors and consultants are participating in this program through Cooperative Research and Development Agreements (CRADAs). There are currently 44 active CRADAs supporting this program.

Partnership to Promote Education

The **FAA William J. Hughes Technical Center** entered into a Memorandum of Agreement (MOA) with the Atlantic City Board of Education. The MOA is to provide technical, professional, and engineering employees to serve in various teaching capacities. The MOA is effective through June 30, 2006.