

**U.S. HOUSE OF REPRESENTATIVES  
SUBCOMMITTEE ON TECHNOLOGY AND INNOVATION  
COMMITTEE ON SCIENCE AND TECHNOLOGY**

**HEARING CHARTER**

**The Research and Development Portfolio Required to Support the Priorities of the  
Department of Transportation**

**Thursday, November 19, 2009  
10:00 a.m. – 12:00 p.m.  
2325 Rayburn House Office Building**

**I. Purpose**

This hearing will focus on the components of a surface transportation R&D portfolio to support the U.S. Department of Transportation's goals of safety, economic competitiveness, environmental sustainability, and community livability. The hearing will also address the necessary steps for the DOT to implement its R&D agenda and the most effective practices for ensuring the latest R&D is utilized.

**II. Witnesses**

**The Honorable Polly Trottenberg**, Assistant Secretary for Transportation Policy, U.S. Department of Transportation

**The Honorable Peter Appel**, Administrator, Research and Innovative Technology Administration

**Mr. Neil J. Pedersen**, Administrator, Maryland State Highway Administration, Vice Chair, AASHTO Standing Committee on Highways

**Mr. Robert E. Skinner**, Executive Director of the Transportation Research Board, The National Academies

**Mr. Alan E. Pisarski**, Independent Consultant

**Ms. Ann Flemer**, Deputy Executive Director, Policy, Metropolitan Transportation Commission, Oakland, California; Vice Chair, Intelligent Transportation Society of America

**III. Brief Overview**

At his Senate confirmation hearing on January 21 of this year, Transportation Secretary Roy LaHood identified four priorities for his time at the Department of Transportation: safety, the economy, sustainability, and community livability. While the DOT has not

yet issued an official strategic plan around these goals, they are already reflected in DOT policy. For example, these priorities are reflected in the selection criteria for the TIGER Discretionary Grants<sup>1</sup>, a DOT-wide Livability Initiative, and a joint DOT-HUD task force to guide the development of Sustainable Communities. Safety, the economy, and environmental considerations have long been historic goals for transportation investment. Livability, however, is a new policy initiative for the DOT. However, it is also a subjective term, open to many different interpretations. The same concern is also present for the terms of sustainability and economic competitiveness. Without more specificity to these goals, it is difficult to assess the impact of federal investment on achieving them.

Annually, the budget for surface transportation research, development, and technology transfer activities is over \$600 million<sup>2</sup>. The purpose of this hearing is to discuss the specific components of a surface transportation R&D agenda that will support the DOT's priorities. As required under SAFETEA-LU, the highway reauthorization bill of 2005, the Research and Innovative Technology Administration (RITA) issued *The Transportation Research, Development, and Technology Strategic Plan for 2006 to 2011*. The plan listed research activities within the Department associated with strategic objectives, such as safety, environmental stewardship, or congestion reduction. However, the plan fell short of offering justifications for the R&D priorities or specific information on how the research would further the DOT's strategic goals<sup>3</sup>. The pending surface transportation reauthorization presents an opportunity to ensure transportation R&D activities are aligned with DOT priorities and to examine how the priorities will further the Department's strategic goals. To determine the elements of an R&D agenda needed to support the goals, the terms must be well defined.

#### **IV. Background**

##### DOT Priorities

Although the Secretary's priorities discussed above are not yet in an official DOT strategic plan, they are already reflected in significant policy initiatives as described below.

- **LIVABILITY**. In March 18 before Congress, the Secretary stated that many DOT activities already foster community livability, including the promotion of transit-oriented development, bicycle and pedestrian programs, and congestion mitigation initiatives. However, he argued that a Livability Initiative was necessary to accomplish goals such as, integrating transportation and land-use planning, fostering multi-modal transportation, and increasing access to housing, jobs, and other services.<sup>4</sup> In furtherance of many of these goals, the DOT's

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<sup>1</sup> The Transportation Investment Generating Economic Returns, authorized by American Recovery and Reinvestment Act.

<sup>2</sup> Approximate per fiscal year total for the RD&T activities of the Research and Innovative Technology Administration, the Federal Highway Administration, the Federal Transit Administration, and the National Highway Traffic Safety Administration. The research budget for the Federal Motor Carrier Safety Administration was not available.

<sup>3</sup> Comments of the Transportation Research Board, Appendix A of the 2006 Strategic Plan.

<sup>4</sup> March 18, 2009 hearing before the House Appropriations Committee, Subcommittee on Housing,

partnership with the Department of Housing and Urban Development (HUD) for Sustainable Communities will focus on integrating regional housing, transportation, and land-use planning. Part of this will include the development of livability measures and tools to track the progress of areas in meeting these measures. As noted above, livability is one of the evaluation criteria for the TIGER Discretionary Grants, which seek to fund projects that will, for example, significantly enhance user mobility through the creation of more convenient transportation options for travelers *or* projects that are the result of a planning process which coordinated transportation and land-use planning decisions and encouraged community participation in the process.

- *SUSTAINABILITY*. Environmental Stewardship is currently a DOT strategic goal, the objectives of which are two-fold: (1) to reduce the pollution and adverse environmental effects from transportation; and (2) to streamline the environmental review of transportation projects. The DOT has not yet detailed the scope envisioned for sustainability and how it might differ from Environmental Stewardship. The DOT's current department-wide strategic plan<sup>5</sup> identifies activities supporting these two objectives, including the National Strategy to Reduce Congestion on America's Transportation Networks and the implementation of the President Bush's Executive Order to expedite the environmental reviews of high-priority transportation projects. In testimony before Congress<sup>6</sup>, Secretary LaHood cited fuel standards and transportation efficiency as important DOT activities in mitigating transportation's impact on climate change, as well as the need to stem the growth in vehicle-miles-traveled (VMT). Sustainability is also part of the evaluation criteria for the TIGER Discretionary grants, which will support projects that reduce energy consumption or carbon emissions, as well as those that maintain, protect or enhance the environment. As these different initiatives show, sustainability is a broad term, covering energy and resource conservation, preventing air, water, and noise pollution, and reducing greenhouse gas emissions. Defining the scope of sustainability will enable transportation decision makers to better assess if their investments are meeting these environmental objectives.
- *ECONOMIC COMPETITIVENESS*. In his March 12 testimony before the Senate Committee on Banking, Housing and Urban Affairs, Secretary LaHood stated that "improving the efficiency and reliability of our surface transportation system will be vital in enhancing the Nation's productivity and competitiveness in an increasingly global economy." The DOT estimates that Recovery Act funding has resulted in the immediate creation of thousands of jobs, but the DOT intends to make additional investments that "contribute over the long-term to growth in employment, production, or other high-value economic activity." The goal of such projects would improve long-term competitiveness in the movement of goods or to expand hiring and growth in the private sector. However, there is no guidance on how such goals would be planned or measured.

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Transportation, and Urban Development

<sup>5</sup> Strategic plan

<sup>6</sup> July 14 testimony before the Senate Committee on Environment and Public Works

- **SAFETY.** The current DOT Strategic Plan describes safety as the “premier goal of the DOT.” To that end, the Department has invested in the research, development, and deployment of surface transportation safety measures. Such investments include improved design for roads and roadside barriers, as well as behavioral research and intervention to improve driver safety. The DOT recently announced that it will be promoting education and awareness to combat distracted driving, and the Administration has also announced an executive order that will prohibit any federal employee from sending text messages while driving if they are driving a government-owned vehicle or engaged in government business. While safety is the most concrete of the DOT’s four key themes, defining its scope is also necessary to measuring the impact of safety investments.

DOT RD&T Activities.

Federal Highway Administration (FHWA)

FHWA’s total RD&T request is over \$200 million per fiscal year. Major focus areas for that funding in FY2009 included:

<b>Research Area</b>	<b>FY2009 Request (000)</b>
Safety	\$13.6
Operations (Congestion Mitigation)	\$7.8
Pavements	\$80.9
Infrastructure (Bridges)	\$25.6
Planning, Environment, and Realty (Asset Management, Travel Modeling, Environmental Research, and Geographic Information System applications)	\$19.5

Research and Innovative Technology Administration (RITA)

RITA is responsible for the coordination of all research and development at the DOT, and it also oversees the following programs. In addition to the \$13.2 million FY2010 request for the planning and coordination aspects of RITA, RITA also oversees:

<b>Research Area</b>	<b>FY2010 Request (000)</b>
Bureau of Transportation Statistics	\$28.0
Intelligent Transportation Systems Joint program Office	\$110
University Transportation Centers	\$76.7
Transportation Safety Institute*	(\$20.0)
Volpe National Transportation Systems Center*	(\$250.0)

\*The Transportation Safety Institute and the Volpe National Transportation Systems Center are fee for service entities that support education and research, respectively.

### Federal Transit Administration (FTA)

In FY2009, FTA requested \$59.6 million for its R&D programs, which included:

- \$14.1 million to improve capital and operation efficiencies, through projects such as the development and evaluation of small transit vehicles and clean fuels and the identification of transit benchmarks critical to the success of public transportation systems.
- \$8.4 million to improve safety and emergency preparedness through activities such as drug and alcohol compliance and the development of methods and technologies to increase the safety of transit.
- \$5.2 million to for research related to energy and the environment.

The FTA request also includes the Transit Cooperative Research Program, the National Transit Institute, and the transit University Transportation Centers.

### Federal Motor Carriers Administration (FMCSA)

The breakdown for the amount spent by the FMCSA on research activities not available. However, the website describes several RD&T initiatives, such as Large Truck Crash Causation Study Analysis Series, the 100 car Naturalistic Driving Study, and the development of technologies for the trucking industry.

### National Highway Traffic Safety Administration (NHSTA)

The National Highway Traffic Safety Administration's research activities for FY2009 included: \$29.2 million for vehicle safety research and analysis and \$105 million for Highway Safety Research and Development to reduce highway fatalities and injuries.

### The Transportation Research Board (TRB)

The TRB, part of the National Academies, manages the National Cooperative Highway Research Program and the Strategic Highway Research Program II.

- *Strategic Highway Research Program II*. This program focuses on four areas of research: Safety, Infrastructure Renewal, Reliability, and Transportation Capacity. FHWA has provided a total of \$170.8 million since FY2006 to TRB for SHRP II. Funding for the program from FHWA ended in FY2009, and TRB expects the results and products developed from this research to be available over the next several years.
- *National Cooperative Highway Research Program (NCHRP)*. NCHRP addresses surface transportation problems raised directly by state departments of transportation. Total funding for NCHRP is approximately \$36 million per fiscal year.

## V. Issues & Concerns

- Secretary LaHood's policy goals of safety, economic competitiveness, environmental sustainability, and community livability are broad terms. Providing definitions and performance measures will help ensure that the federal investment achieves the targeted results. Understanding the scope of these terms is particularly important in prioritizing a research agenda to support the policy objectives.
- States and local governments are responsible for the Nation's transportation systems. Therefore, it is crucial that federally funded research addresses the problems faced by these transportation officials. Understanding how the DOT's goals will affect state and local transportation agencies, and what types of knowledge and research they will need to advance goals of safety, competitiveness, sustainability, or livability, is key to ensuring that the intended benefits of the goals are realized by taxpayers.
- Particularly as policymakers look toward requiring more performance measures for the transportation system, it is important that the DOT goals have discernable metrics and methods to assess whether the policy investments are creating the intended benefits.