



June 30, 2005

Ms. Mary E. Peters
Administrator
Federal Highway Administration
Room 4218
400 7th Street, SW
Washington, D.C. 20590

Dear Administrator Peters:

The Research and Technology Coordinating Committee (FHWA) met on June 15-16, 2005, at the J. Erik Jonsson Woods Hole Center of the National Academies in Woods Hole, Massachusetts. The enclosed meeting roster indicates the members, liaisons, guests, and TRB staff in attendance. On behalf of the committee, I wish to thank FHWA for its continuing interest in and support for the work of the RTCC. I also thank and commend members of the FHWA staff for their participation in the meeting.

This letter report is an intentionally brief summary of the meeting; information about the committee's future activities and meetings is also provided. The report is organized under the following main topics:

- FHWA's Advanced Highway Research Activities
- Role of Universities in Highway Research and Technology Programs
- Status and Provisions in the Surface Transportation Reauthorization Bill

The committee prepared this letter in response to learning at the meeting about a new FHWA activity—a series of forums on advanced research issues. In light of its strong interest in advanced research, the committee invites the FHWA R&T Leadership Team to the committee's next meeting to review and discuss the results of these forums and what they imply about advanced research program management. As described below, a different management approach may be needed for advanced research than is used for applied highway research.

FHWA's Advanced Highway Research Forums

FHWA presented plans for a series of three forums beginning in July 2005 aimed at identifying potential topics for advanced highway research. Advanced research is intended to lead to breakthroughs that can fundamentally change the field; it does not specifically address current needs or seek results that can be implemented immediately. Instead, such research is aimed at discovering the bases for new directions in applied research and lead to high payoffs. The

forums are organized to look across science and engineering disciplines, within and outside the transportation sector, for promising technologies and subject matter appropriate for FHWA's advanced research program. While increased funding for advanced highway research is as yet uncertain, this effort to seek advice on potential research directions from a range of experts is an important initial step in an expanded program of advanced research. The need for such expert guidance was indicated in the committee's report entitled *The Federal Role in Highway Research and Technology*. As a result, the committee is keenly interested in the forums and individual members have agreed to participate in them.

In light of recent committee discussions about research coordination and the role that universities currently play in highway research and can play in advanced research, the committee decided to review the outcomes of the forum activity and to examine key issues related to an expanded advanced highway research program at its next meeting. We are particularly interested in how such a program would be managed. The committee is aware that successful programs of basic and advanced research—at NSF and the Defense Advanced Research Projects Agency, for example—have a different management model from FHWA's well-established applied research program. If reauthorization results in a substantially increased advanced research program at FHWA, the committee is especially interested in the Leadership Team's views on how it might be organized. We invite the entire FHWA R&T Leadership Team to the committee's next meeting to engage in these discussions.

Role of Universities in Highway R&T

The committee hosted a panel discussion on university involvement in highway R&T programs; the panel included a representative of the National Science Foundation (NSF) who addressed how that program manages its competitive program of basic research, much of which is performed by university researchers. The panelists included Stephen Andrie, Center for Transportation Research and Education at Iowa State University; Charles Nemmers, University of Missouri at Columbia; Jesus de la Garza, NSF; and Joseph Sussman, Massachusetts Institute of Technology and RTCC member.

Universities are integrally involved in highway research. The federal University Transportation Centers program provides funding on a matching basis for research and education in support of the transportation sector. Such funding provides a basis for transportation research and education programs. A substantial portion of highway research is undertaken for state departments of transportation (SDOTs) by individual university researchers and through university centers. University researchers also conduct large portions of research for the National Cooperative Highway Research Program, FHWA, and the private sector. In many cases, a state's Local Technical Assistance Program center is located at a university. Recent pressures in state governments to limit or reduce staff size have led to reorganization and downsizing in some SDOTs, resulting in decreases in SDOT research staffs and increased dependence on universities to meet state highway R&T needs. In summary, universities have a traditional role in highway R&T and are becoming even more involved in SDOT R&T programs.

NSF's competitive, merit-based program of basic research provides a successful model for involving universities in advanced research for FHWA. The selection and oversight of researchers is made by independent groups of peer experts. An expanded program of advanced highway research at FHWA is likely to attract university researchers not traditionally associated with highway transportation issues, providing new ways of understanding problems as well as with innovative solutions.

Status of the Surface Transportation Reauthorization Bill

Ann Brach of TRB and Dennis Judycki of FHWA provided status reports on Congressional reauthorization of surface transportation programs. While questions remain about individual provisions, support for research appears to be strong, especially for the F-SHRP program, which the committee has supported in the past.

Future Meeting Plans

The committee's next meeting is scheduled for November 1-2, 2005, at the Keck Center of the National Academies in Washington, D.C.

Final Remarks

In closing, the committee expresses its appreciation for the highly constructive participation and presentations of FHWA staff at its meeting. We stand ready to continue to assist you and your staff in ensuring the successful management and execution of an expanded advanced highway research program.

On a personal note, and because of the high level of importance the committee places on advanced research, I invite you to participate in the next meeting as time permits.

Sincerely,



E. Dean Carlson
Chair
Research and Technology Coordinating Committee (FHWA)

Enclosure

**Meeting Attendance: Committee, Liaisons, Guests, and Staff
June 15-16, 2005**

Committee

E. Dean Carlson (NAE), Chair
John Conrad
Karen Miller
Tim Neuman
Joseph Sussman
Paul Wells

Steve Heminger
Cash Misel
Len Sanderson
Al Teich
Kevin Womack

FHWA Liaisons and Guests

Debra Elston, FHWA
Marcy Kenney, FHWA

Dennis Judycki, FHWA
Tom Krylowski, FHWA

Guests

Stephen Andrie, Center for Transportation Research and Education, Iowa State University
Charles Nemmers, University of Missouri at Columbia
Jesus de la Garza, National Science Foundation

TRB Staff

Ann Brach
Stephen Godwin
Robert Skinner

Walter Diewald
Mark Norman