

December 18, 2001

Ms. Mary 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 October 25 at FHWA's Turner-Fairbank Highway Research Center (TFHRC) and on October 26 at the National Academy of Sciences in Washington, D.C. The enclosed meeting roster indicates the members, liaisons, guests, and TRB staff in attendance. On behalf of the committee, I want to thank FHWA for its continuing interest in the work of the RTCC. I also want to thank and commend the FHWA staff for their hospitality during the committee's tour of the TFHRC and for their presentations and participation in the meeting.

I would like to take this opportunity to congratulate you on your appointment as FHWA Administrator and to briefly introduce you to this RTCC activity. Since 1991 the RTCC has provided guidance to FHWA on highway research and technology (R&T) programs and activities and made broad-based recommendations regarding research priorities. The RTCC provides a mechanism for independent expert assessment of research opportunities and for consideration of the views of highway researchers, users, and suppliers and contractors, as well as nonhighway researchers dealing with related technologies. The committee normally meets three times each year and after each meeting provides a letter report to the FHWA Administrator. The committee also occasionally prepares full-length reports; indeed, I recently had the opportunity to brief you on such a report, entitled *The Federal Role in Highway Research and Technology*. (Enclosed are several pre-publication copies of the report. Copies of the final publication will be sent to you when they are available.) I would like to invite you to future meetings at which the RTCC will continue to discuss R&T activities throughout FHWA.

The meeting on October 26, 2001 ended in closed session at which the committee met to deliberate its findings and recommendations and begin the preparation of this report, which was completed through correspondence among the members. This report summarizes the committee's key discussions and provides several recommendations for your consideration.

Discussion with the Administrator

The committee appreciates your candid remarks about your priorities for the agency and its research program. Your comment that there is an important federal role for highway research on topics of national significance mirrors the committee's view as expressed in its recent full-length report. The committee believes FHWA's core research responsibilities can be broadly described as encompassing (a) topics of national interest in support of the agency's mission; (b) topics of national interest not being addressed by others in the public or private sector; and (c) topics that, while possibly related to the research interests of others, address specific aspects of significant interest only to the highway industry and/or user community.

The committee appreciated hearing your statement of key agency priorities, including addressing the security of the nation's highway system, enhancing quality of life through greater individual mobility, providing a national highway system that supports the nation's commerce, continuing to improve highway safety, streamlining the environmental process for highway projects, achieving greater accountability and stewardship of the nation's highway system assets, and preparing for the next highway reauthorization process. The committee is encouraged by your interest in examining the changing role of FHWA in the national highway R&T enterprise and the consequences of the agency's 1998 reorganization for its R&T program. In light of this interest and the recommendations in the committee's recent full-length report, the committee believes FHWA should examine the following topics with regard to how its R&T activities function within the new organizational structure:

- *Research agenda*—How are research priorities being determined? Do priority setting practices vary or are they applied uniformly across the agency?
- *Stakeholder¹ involvement*—How are stakeholders being involved in the identification of needs and setting of priorities for R&T?
- *R&T leadership*—Who is responsible for articulating an agencywide R&T vision and interacting with stakeholders?
- *Program focus*—Can the current organization support the committee's recommendations for more fundamental, long-term research and a greater focus on anticipatory and gap research while also meeting the needs of internal stakeholders?
- *Accountability*—Who is responsible for the agency's R&T program results? How are these results measured?
- *Effectiveness*—Which R&T activities are enhanced by a decentralized organization, and which are disadvantaged? How is effectiveness measured?

¹ The committee views FHWA's research stakeholders as primarily state departments of transportation that are willing to partner financially with the agency as well as committees of the American Association of State Highway and Transportation Officials (AASHTO). Highway users, local highway agencies, contractors and suppliers, people and communities served and affected by highways and many others are stakeholders.

The committee notes that prior to the reorganization, FHWA initiated roadmapping activities for each of its key research areas. The agency also organized internal Research and Technology Coordinating Groups (RTCGs) that worked across agency office boundaries to prepare the individual roadmaps. The RTCC encouraged this activity and supported it by identifying committee members to serve as liaisons to each of the RTCGs. Before the roadmapping had been completed for all research areas, however, responsibility for R&T priority setting was assigned to the directors of the Core Business Units in conjunction with the director of the Research, Development and Technology Service Business Unit. In addition, the RTCGs were disbanded, and the committee's involvement with the research roadmaps ceased. The committee believes the roadmapping effort is important for R&T priority setting and programming, and urges the agency to reinstate this activity. The committee would be pleased to advise the agency in this activity.

Tour of Turner-Fairbank Highway Research Center Facilities

At the invitation of Dennis Judycki, Director of FHWA's Office of Research, Development and Technology, the committee toured the TFHRC and met with research staff who described ongoing and planned research activities. The purpose of the tour was to familiarize the committee with that portion of FHWA's research activities undertaken at the center's laboratories. The discussion that follows is based on the members' observations during the tour, as well as information provided by FHWA staff members during the visit and on the second day of the committee meeting.

Overall, the committee was favorably impressed by the research products viewed during the tour and by the caliber of the center's staff. The committee was pleased to learn that FHWA is developing a systematic process for evaluating its laboratories and looks forward to commenting on the plan for this process once it is completed. It was also pleased to see examples of fundamental, long-term research—such as some of the work in nondestructive evaluation—especially in light of the committee's recent conclusion that such research represents an important niche for FHWA and its recommendation that the agency conduct more such research. Also encouraging were the examples of gap research—research not being undertaken in state or private-sector research programs—that take advantage of the TFHRC's unique equipment and facilities. Most of the research viewed by the committee also reflected the involvement of FHWA's research stakeholders.

The committee's concern is that increasing congressional designations of FHWA's R&T funds reduce the agency's ability to pursue long-term research and threaten the existence of some of the TFHRC's laboratories. The reduction of nondesignated funding—coupled with the lack of a program of long-term research—hinders the agency's ability to attract and retain bright young researchers with the ability to address the kinds of topics the committee believes should be part of a federal program of highway research. The lack of discretionary funds also hampers the implementation of a previous committee recommendation urging FHWA to consider making “creative idea funds” available at the

team leader level to support staff-generated ideas and suggestions for innovative research aimed at high-payoff technology.

The key agency staff members who interacted with the committee appear to be well qualified to perform the research under way at the center, as well as highly motivated, resourceful, and productive. Several committee members suggested that the staff place more emphasis on ensuring that research stakeholders—both internal and external to FHWA—are well informed about the research under way and the products being developed. Such stakeholder involvement is important to the research program and to the eventual implementation of highway innovations. The committee suggests that the center’s research managers invite organizations representing key research stakeholders who are also actively involved in the reauthorization effort—such as AASHTO, the American Road and Transportation Builders Association, the Institute of Transportation Engineers, and the American Public Works Association—to hold meetings at the center and tour its laboratories.

The committee previously noted that some FHWA research facilities are comparable to facilities at other federal agency laboratories, universities, private research laboratories, state highway agencies, or other organizations in North America. Similar facilities can be justified in certain research areas so that tests and research related to the highway system can be conducted in a timely manner, particularly when it is clear that no other federal or state agency would undertake such work. Nevertheless, the committee urges FHWA to continue its selective use of outside facilities under contract, particularly when needs arise in areas in which the agency does not wish to make a long-term investment in facilities or staff.

Future Committee Activities

The RTCC will continue to review FHWA’s individual R&T program activities and respond to specific requests from the Administrator. In addition, the committee has identified several topics as potential candidates for more in-depth study. Two topics—addressing stakeholder involvement in a program of fundamental, long-term research and defining an agenda for such research—are aimed at providing more specificity for the recommendations in the committee’s full-length recent report. A third topic involves providing assistance to FHWA in assessing the consequences of the agency’s reorganization for the effectiveness of federal highway R&T. The committee believes the technologies, techniques, and methods needed to address tomorrow’s highway transportation issues begin with today’s investment in R&T, and that the effectiveness of that investment depends on how it is organized and managed. The committee plans to discuss each of these topics in more detail at its next meeting.

Meeting Plans

Future committee meetings are scheduled for March 28 and 29, 2002 in Washington, D.C. and June 19 and 20, 2002 in Woods Hole, Massachusetts. On behalf of the committee, I would be delighted if you could join us at these meetings.

Sincerely,

C. Michael Walton
Chairman
Research and Technology Coordinating Committee (FHWA)

Enclosure

Meeting Attendance: Committee, Liaisons, Guests, and Staff
October 25–26, 2002

Committee

C. Michael Walton (NAE), Chairman
Joel Anderson
Dwight Bower
Dennis Christiansen
Forrest Council
Frank Danchetz

Leon Kenison
Karen Miller
Sandra Rosenbloom
James Roberts (NAE)
Michael Ryan
David Spivey

Liaisons and Guests

Steve Chase, FHWA
Charles Churilla, FHWA
Michael Griffith, FHWA
Dennis Judyki, FHWA
David Keever, SAIC
Tom Krylowski, FHWA
Marci Kenney, FHWA
Gary Larsen, FHWA
Jason McConachy, FHWA

John McCracken, FHWA
Donna McEnroe, FHWA
Mary Peters, FHWA Administrator
Michael Smith, SAIC
Paul Teng, FHWA
Michael Trentacoste, FHWA
Karen Weiss, SAIC
Karen Whitney, FHWA

TRB Staff

Ann Brach
Walter Diewald
Stephen Godwin
Robert Skinner