



Committee on Implementing the Research Results of the Second Strategic Highway Research Program (SHRP 2) Letter Report: August 6, 2013

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TRANSPORTATION RESEARCH BOARD

OF THE NATIONAL ACADEMIES

August 6, 2013

Mr. Victor M. Mendez
Administrator
Federal Highway Administration
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Mr. Bud Wright
Executive Director
American Association of State Highway and
Transportation Officials
444 North Capitol Street, NW
Suite 249
Washington, DC 20001

Dear Mr. Mendez and Mr. Wright:

This is the fourth letter report of the Committee on Implementing the Research Results of the Second Strategic Highway Research Program (SHRP 2). SHRP 2 is a major research program authorized by Congress and administered by the Transportation Research Board (TRB) under a cooperative agreement with the Federal Highway Administration (FHWA). The committee was established at the request of FHWA to provide policy and technical advice to the U.S. Department of Transportation (USDOT) and the American Association of State Highway and Transportation Officials (AASHTO) on recommended strategies for introducing the results of SHRP 2 into the knowledge base and the active practice of transportation engineers, planners, traffic managers, and other potential users. The committee will focus its recommendations on implementation plans and future actions by USDOT and the state departments of transportation. The committee membership has been drawn from the executive and senior professional levels of state highway agencies, a metropolitan planning organization, private industry, transportation-related associations, and academia.

Summary of June 18-19, 2013 Committee Meeting

The committee met in Washington, DC, on June 18–19, 2013, and was briefed on the status of completion of research and development activities being conducted by TRB, including presentations by state department of transportation representatives who had used SHRP 2 products in pilot studies in the Renewal, Reliability, and Capacity focus areas.

Representatives of FHWA and AASHTO updated the committee on a number of implementation-related activities, including the following:

- A revised implementation plan and budget that reflects more than a doubling of funding available for SHRP 2 implementation as a result of passage of the MAP-21 reauthorization legislation. The total amount budgeted for implementation increased from the \$81 million that was previously available from SAFETEA-LU to \$169 million. Monies are now available to support implementation through FFY 2017.

- FHWA's Implementation Assistance Program, which makes funding available to transportation agencies to assist in the adoption and use of SHRP 2 products.
- The status of implementation planning workshops for individual SHRP 2 products.
- Project management and tracking systems that have been put in place by FHWA.
- The process for deciding on the future home for IT products developed by SHRP 2.
- Communications and outreach activities.
- The review and assessment process undertaken by AASHTO for TCAPP (Transportation for Communities—Advancing Projects through Partnerships).
- Stewardship issues for the naturalistic driving study and roadway information databases being developed as part of the Safety focus area's research program.

The committee commends FHWA and AASHTO for the progress that has been made in transitioning to the implementation phase of SHRP 2. It was clear that considerable work has been done by both FHWA and AASHTO in putting processes and systems in place for SHRP 2 products to begin being used by state DOTs and other organizations in the Renewal, Reliability, and Capacity focus areas. Safety implementation will require a different approach. The committee is pleased that preliminary planning for implementation in the Safety focus area has begun. Safety implementation will involve a wider group of involved parties and will need to address many complex technical, institutional, financial, security, and legal issues. The committee looks forward to continuing to discuss these issues as Safety implementation plans are more fully developed.

The committee conceptually endorses the implementation plan and budget jointly presented by FHWA and AASHTO, recognizing that many details still need to be worked out. The committee particularly appreciates the level of involvement of users in providing input regarding the products contained in the plan.

FHWA has established an implementation assistance program that provides financial incentives for state DOTs and other agencies to assume the additional risk and/or cost associated with trying new processes and products. This program also provides technical assistance to help implementation agencies. FHWA offered assistance opportunities for six products to those states that were interested in a first round solicitation in February–March 2013. It is encouraging that 34 states and the District of Columbia responded to the first round solicitation and that all of them received at least one award. A goal should be that all states participate in SHRP 2 implementation with FHWA assistance.

As cited in our last letter report, the committee recognizes the importance of having in place a sound project management system for a program the size of SHRP 2. The committee looks forward to receiving summary reports from the project management system in future meetings of the committee.

Dr. Joseph Schofer, Chairman of the Committee on the Long-Term Stewardship of Safety Data from the Second Strategic Highway Research Program (LTSC), briefed the committee on the work of LTSC and the recommendations contained in LTSC's first letter report of May 3, 2013. The committee concurs with the phased approach recommended in that letter for ownership, governance, and operation of the SHRP 2 safety databases and the institutional roles outlined for Phase 1. The committee looks forward to hearing from LTSC, FHWA, and TRB as they develop plans for Phase 1.

The committee was also briefed about AASHTO's proposed near-term implementation strategy for the SHRP 2 Safety program. The committee endorses in concept AASHTO's proposal to study priority research questions that can lead to countermeasures that will reduce crashes and fatalities, recognizing that many details regarding the approach need to be worked out. The committee looks forward to learning more about these details.

Each of the other items on which the committee was briefed will be addressed below. The recommendations contained in this letter report are made in the spirit of building on the excellent work that has been done by FHWA and AASHTO during the six months since the last meeting of the committee.

1. The committee recommends that FHWA and AASHTO continue to involve users of SHRP 2 products throughout the implementation process for the program.

Consistent with our prior recommendations, FHWA and AASHTO have significantly involved users in the development of the revised program-wide SHRP 2 implementation plan and in the development of implementation plans for individual SHRP 2 products. In addition to being involved in planning, users should be involved as deployment takes place in order to provide advice regarding how the implementation program should be adjusted and products can be improved based on experience. User input will be critical in helping prioritize how scarce resources get used at a product level, a focus area level, and a program-wide level. For example, FHWA and AASHTO may want to set up user groups that can provide input both during the initial implementation phase and longer-term for some of the major products that are expected to continue to be upgraded over time. Funding will need to be set aside to support these user groups, initially with SHRP 2 implementation funds and subsequently with alternative funding sources for those user groups that would continue beyond the initial SHRP 2 implementation phase. As information technology tools are converted from research beta tools to tools that will be supported by FHWA or others, user input will be particularly important.

2. The committee recommends that FHWA and AASHTO implement SHRP 2 products as suites of interrelated products, as well as on a product-by-product basis. The committee also recommends that implementation demonstrate how multiple products can be used on individual highway projects or in a corridor.

When SHRP 2 was developed, it was designed to meet strategic objectives on both a program-wide and focus area basis. Research projects and the products coming out of research were designed to be interrelated. The implementation approach should demonstrate how the products are related to each other and how a number of different products, sometimes even from different focus areas, can be used together on highway projects or in addressing problems in a highway corridor or region. The committee was particularly impressed with the presentation on how the New York State DOT has used multiple SHRP 2 Renewal products on several current projects and with the presentation on how the Washington State DOT is using several Reliability and Capacity products for analysis and decision making on a congested highway corridor in the Seattle area. The integrated knowledge transfer systems that have been developed for both Reliability and Capacity may be helpful in facilitating a more strategic approach to implementation of products at a focus area level, but there may also be

opportunities to implement multiple products from different focus areas together on individual projects or corridors. Lessons from the first Strategic Highway Research Program on strategic packaging of products may be useful in this regard.

3. **The committee recommends that outreach and communications activities include the following: outreach to potential users other than state DOTs; use of champions and success stories; documentation of the benefits of implementing products; illustrations of the synergistic benefits of implementing interrelated products; and delivery of the message that most SHRP 2 products are no longer in the research phase but are tools that are ready to be used.**

The committee commends the progress that has been made in outreach and communications to state DOTs and other organizations through efforts such as state visits, TRB’s webinar series entitled “SHRP 2 Tuesdays,” briefings at AASHTO meetings, and the websites of all three partner organizations. Getting the potential user community—not just within state DOTs, but all potential users—familiar with SHRP 2 products so that they are in a position to decide which products can help them meet their business needs will be a challenge. The effectiveness of FHWA and AASHTO outreach and communications efforts as part of Round 1 of the Implementation Assistance program is demonstrated by the fact that 34 states and the District of Columbia submitted applications for assistance. Further efforts should be made to encourage the 16 states that did not apply to do so in future rounds. Outreach and communications efforts should also focus on potential users other than state DOTs, such as metropolitan planning organizations, local government transportation agencies, railroads, utilities, resource agencies, law enforcement, fire and rescue, and the full range of potential users of analyses from the safety databases. It will be important that specific responsibilities and accountability for outreach and communications within FHWA and AASHTO be established, including for field personnel in FHWA Division offices.

The potential users of SHRP 2 products, particularly within transportation agencies, place great credence on the experience of peers. Outreach and communications efforts should highlight success stories from the pilots and early implementation efforts and enlist persons involved in successful projects as champions to give testimonials via videos, webinars, speaking engagements, and peer exchanges. Formal, objective evaluation of the use of products is also needed, so that benefits can be documented and cited in outreach and communications efforts. In addition to documenting the benefits of individual products, messages should focus on how the products are interrelated and how multiple SHRP 2 products can be used on individual highway projects. The committee thought the presentation by Mr. Dan D’Angelo from the New York State DOT was a particularly effective example of communicating both successful strategic use of multiple SHRP 2 products on several projects in New York State and effective employment of a champion to articulate the benefits of implementation to his or her peers.

Mr. D’Angelo also demonstrated that there can be benefits derived from the use of products even before formal implementation activities begin. Messages about the availability of products as soon as they are ready, even if they are not scheduled yet for the implementation assistance program, will encourage early use and provide more information regarding benefits that can be shared with peers. It will also help overcome the perception among some potential users that SHRP 2 is still primarily a research program. A key message needs to be that there are many usable and proven products ready for use today.

- 4. The committee recommends that FHWA and AASHTO ensure that activities requiring TRB's involvement, such as knowledge transfer activities, implementation planning workshops, and IT hosting and ownership decisions, occur in a timely manner because TRB's ability to provide support in these areas will decline over time as the research program winds down.**

With the number of SHRP 2 products contained in the FHWA/AASHTO implementation plan more than doubling, ensuring that the necessary knowledge transfer and implementation support from TRB staff and contractors occurs while resources are still available for these critical activities will be a challenge. Implementation planning should take place for as many of the products as possible while the expertise is still available at TRB, keeping in mind that some of this expertise will cease to be available well before the SHRP 2 cooperative agreement is finished in March 2015.

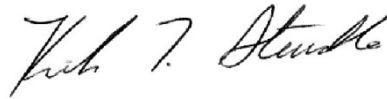
The number of IT products being produced by SHRP 2 has increased from 32 to 40 in the past year, with all but four of these IT tools being associated with SHRP 2 products that are in the revised FHWA/AASHTO implementation plan. The Oversight Committee has approved resources for TRB to provide necessary support for these IT products through the end of 2014. Most of these IT tools are critical to the successful implementation of the SHRP 2 products that they are associated with, and many are being used even prior to the formal start of implementation activities. Decisions on the hosting and ownership of these IT products need to be made in a timely manner, so that there is no gap in time during which the products are not available for use.

- 5. The committee recommends that a more detailed scope and schedule be developed for producing and deploying Version 1.0 of TCAPP, that a long-term user committee be established to provide advice regarding priorities for changes and upgrades to TCAPP, and that TCAPP be rebranded with a name that better reflects the purpose, use, and application of the tool.**

The committee commends AASHTO for the process it used to obtain user input regarding TCAPP and to develop consensus findings and recommendations regarding how to convert the current beta version of TCAPP to a Version 1.0 that can be hosted by FHWA. The committee conceptually concurs with the direction recommended in the AASHTO report but recognizes that a more detailed scope, schedule, and cost estimate needs to be developed for each of the recommended actions before final decisions can be made regarding which recommended improvements are possible within the time and budget available. The committee recommends that a committee of users be established to advise FHWA regarding priorities for improvements and that such a committee be kept in place over the long term to provide input on future content and functionality upgrades and on training and technical assistance. In the TCAPP assessment workshops conducted by AASHTO, participants indicated that the name "TCAPP: Transportation for Communities—Advancing Projects through Partnerships" did not describe what the tool was or what its purpose was. The committee agrees and recommends that TCAPP be given a new name that better reflects its purpose, use, and application. It would be useful to get user reaction and input regarding options for a new name before one is selected.

The committee commends FHWA and AASHTO for their responsiveness to the recommendations contained in our last letter report and the considerable progress that has been made in moving to the implementation phase of SHRP 2. The committee looks forward to working with both FHWA and AASHTO in further discussing the recommendations contained in this letter report.

Sincerely,

A handwritten signature in black ink, appearing to read "Kirk T. Steudle". The signature is written in a cursive style with a large initial "K".

Kirk T. Steudle
Chair, Committee on Implementing the
Research Results of SHRP 2

Attachment

Attachment 1

TRB Committee on Implementing the Research Results of the Second Strategic Highway Research Program

Kirk T. Steudle, Chair, Director, Michigan Department of Transportation

H. Norman Abramson, Executive Vice President (Retired), Southwest Research Institute

Alan C. Clark, MPO Director, Houston-Galveston Area Council

Frank L. Danchetz, Vice President, ARCADIS-US, Inc.

Malcolm Dougherty, Director, California Department of Transportation

Stanley Gee, Executive Deputy Commissioner, New York State Department of Transportation

Mary L. Klein, President and CEO, NatureServe¹

Michael P. Lewis, Director, Rhode Island Department of Transportation²

Charles F. Potts, Chief Executive Officer, Heritage Construction and Materials¹

Ananth K. Prasad, Secretary, Florida Department of Transportation¹

Gerald Ross, Chief Engineer and Transportation Strategist, Jacobs Engineering Group¹

George E. Schoener, Executive Director, I-95 Corridor Coalition

Kumares C. Sinha, Olson Distinguished Professor of Civil Engineering, Purdue University

Paul Trombino III, Director, Iowa Department of Transportation

Liaisons

Jeffrey F. Paniati, Executive Director, Federal Highway Administration

Jeff Michael, Associate Administrator, National Highway Transportation Safety Administration

Frederick G. "Bud" Wright, Executive Director, American Association of State Highway and
Transportation Officials (AASHTO)

TRB Staff

Ann M. Brach, Director of Strategic Highway Research Program 2, Transportation Research Board

Stephen J. Andrie, Deputy Director of Strategic Highway Research Program 2, Transportation
Research Board

Neil J. Pedersen, Deputy Director of Strategic Highway Research Program, Transportation
Research Board

¹ Did not attend June 18-19, 2013, committee meeting

² Attended June 19, 2013, the second day committee meeting