



Committee on Implementing the Research Results of the Second Strategic Highway Research Program (SHRP 2) Letter Report: August 18, 2014

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TRANSPORTATION RESEARCH BOARD

OF THE NATIONAL ACADEMIES

August 18, 2014

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Dear Mr. Nadeau and Mr. Wright:

This is the sixth 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 in October 2011 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 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 is focusing 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 (see Attachment 1 for a list of members).

Summary of June 25, 2014 Committee Meeting

The committee met in Washington, DC on June 25, 2014, and was briefed by chairs of the Technical Coordinating Committees on the status of research and development activities being conducted by TRB. Presentations were also made to the committee by FHWA and AASHTO staff on a number of implementation-related activities, including the following:

- Program-wide implementation activities, including the schedule, deployment status, budget, obligation of funds, information technology (IT) hosting decisions, the project management and tracking systems, the program evaluation process, communications and outreach, current status of the implementation assistance program, and future plans.
- Focus area-specific activities for the Capacity, Renewal, Reliability, and Safety focus areas.

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FHWA Executive Director Jeff Paniati informed the committee that SHRP 2 implementation has entered its peak period of activity and that implementation-related activities are expected to continue at this level for the next one to one-and-a-half years. With implementation activities underway for 27 SHRP 2 products or bundles of products, a major commitment of resources of staff at both FHWA and AASHTO has been made to support deployment of these products. While FHWA and AASHTO staff acknowledged that there have been some challenges, based on the presentations made and summarized below, they have also shown that they have listened to the committee's recommendations and made improvements to the way implementation is being managed and supported. Based on their presentations, staff at FHWA and AASHTO have also demonstrated that they are working together as a team in supporting implementation of SHRP 2 products.

The committee appreciates FHWA and AASHTO's responsiveness to the recommendations contained in our last letter report. The following is a summary of FHWA's and AASHTO's response to the recommendations contained in the committee's last letter.

Moving Products to Implementation. The pace of implementation activities has clearly increased. At the time of the meeting FHWA was planning to have 12 products or bundles of products included in Round 4 of the Implementation Assistance Program. This compares with six products in the first round, four products in the second round, and five products in the third round. The committee particularly commends FHWA and AASHTO for more strategically planning for implementation by bundling related products together for implementation.

Updating Products. FHWA and AASHTO reported that their plan is to revise and update products as needed, concentrating on updates to those products that are "game changers" after a determination has been made as to which products are most successful.

IT Hosting Decisions. FHWA and AASHTO made considerable progress regarding hosting decisions for IT products since the committee's last meeting. A permanent or interim host has been identified for all but four of the IT products. Since so many of the products of research included an IT component, the committee felt that progress in this area was particularly important.

Knowledge Transfer. FHWA and AASHTO reported that implementation planning workshops and knowledge transfer webinars will be completed for all products by the end of 2014. Knowledge transfer activities will continue to be an important function after the TRB cooperative agreement ends in March 2015 and it is important that FHWA and AASHTO continue to prepare for how those activities will occur beyond that time.

List of Peers Who Have Used Products. The committee appreciates the information being provided on the GoSHRP2 website about technical experts on staff for each of the products, as well as information about success stories. The committee continues to feel that providing names of peers who have used products and the information they can provide about their experience with use of the products is critically important for those in other agencies who are considering use of a product.

Project Management System. The committee appreciates the update that was given on the project management system being used by FHWA and AASHTO. The committee commends the consistent reporting of schedule and budget information through use of an MS Project template, as well as the narrative quarterly reports that are given to management. The committee also appreciated seeing samples of the reports. The committee has continued interest in receiving summary reports from the project management system on a periodic basis.

Evaluation. The committee also appreciates the status report that was given on the evaluation effort that is underway and the effort to identify output, outcome, and impacts/benefits information for selected products and for the overall program. Although this process is just getting underway, it is a critical element of implementation, and it is important that the evaluation process is in place to collect baseline before data.

Safety Implementation. FHWA, AASHTO, and TRB provided briefings on progress made since the committee's last meeting regarding FHWA's proposed Safety Training and Analysis Center, the solicitation of Implementation Assistance Program proposals for Safety, and planning for Phase 1 of stewardship of the Safety databases. A cohesive implementation strategy among FHWA, AASHTO, and TRB regarding safety implementation remains a critical need.

The committee is pleased that, as of the date of its meeting, Implementation Assistance Program awards had been made to agencies in 48 states and the District of Columbia. Through the Implementation Assistance Program alone, SHRP 2 products are being used on 180 projects nationwide. The committee is also aware that many products are being used outside the Implementation Assistance Program. SHRP 2 products are clearly being widely used in agencies across the United States.

Overall, the committee is quite pleased with progress that has been made in implementation of SHRP 2 and recommends that the current approach continue. The recommendations contained in this letter report are made in the spirit of building on the excellent work that FHWA and AASHTO has underway.

Recommendation 1. FHWA and AASHTO should continue to move products to implementation as soon as practical after they become available; the type of agencies being provided implementation assistance should be broadened and the number increased. An assessment should be made of how funds can be most effectively used for those products with large unexpended balances remaining , and a plan for the use of contingency funds should be developed.

The committee was pleased that Round 4 of the Implementation Assistance Program offered 12 products or bundles of products. This included several bundles of related products and user incentives for products that had previously been offered for proof of concept pilot or lead adopter awards. With research essentially complete, the committee recommends that all remaining products be offered for implementation assistance as soon as practical. The committee also recommends that products be offered to a broader base of agencies, including MPOs, counties, cities, and toll authorities; and for Capacity and Reliability products, to non-transportation agencies as well. This will require a broader marketing and outreach effort as

outlined in Recommendation 4. The committee recommends increased application of user incentive awards for those products that have previously had proof of concept pilot awards or lead adopter awards. For those products that still have a large portion of their budget unallocated, plans should be made for use of those funds in a timely manner, including where appropriate, shifting the funds to other products where the funds can be more effectively used. The committee recommends that FHWA and AASHTO staff develop options for use of contingency funds and that the meeting of the AASHTO Implementation Task Force for making recommendations on use of these funds be held as early in 2015 as possible, so these funds can be allocated and spent in a timely manner.

Recommendation 2. FHWA and AASHTO should keep SHRP 2 products up to date.

As indicated in our previous letter report some research projects have now been complete for more than two years. The nature of the products of SHRP 2 research requires that some of the products be continually updated as new information becomes available or as products get used and needed refinements are identified. It is especially important that as products are offered through the Implementation Assistance Program that they are current. FHWA and AASHTO in their response to the committee's last letter report indicated that their update efforts would be focused on the most successful products. This may be appropriate for addressing long-term planning for updating of products, but in some cases, products that are currently being offered as part of the Implementation Assistance Program need to be updated before they are offered. This is especially true for those that provide evaluation information on the most current technologies or methods for certain activities, such as non-destructive testing.

Recommendation 3. FHWA and AASHTO should make decisions regarding hosting and responsibility for ongoing maintenance, enhancement and technical support for all remaining SHRP 2 information technology (IT) products for which those decisions have not yet been made.

The committee recognizes that FHWA and AASHTO have made considerable progress since the committee's last meeting regarding decisions for hosting and ownership of SHRP 2 IT products when decisions had not yet been made regarding hosting for most products. The committee appreciates the spreadsheet that FHWA and AASHTO provided regarding hosting decisions that have been made to date. A permanent or interim recommended host was listed for 33 of the 37 IT products. In three instances the host was still to be determined and in a fourth instance the host was not identified. In five cases AASHTO will serve as a short-term host with the long-term host being determined after an evaluation. In two other instances the current host will serve as the short-term host with the long-term host being determined after an evaluation. In eight cases where FHWA is the recommended host, a final approval has been granted by FHWA's Internal Review Board (IRB) or a determination has been made that an IRB review is not required. In six instances where FHWA was shown as the recommended host, no indication was given that an IRB decision has been made. The committee recommends that final approvals be obtained for hosting of all IT products by Fall 2014, so there will be no gap in hosting of IT products when TRB responsibility for hosting of the IT products ends on December 31, 2014.

Recommendation 4. FHWA and AASHTO should broaden the target audience for marketing, communications, and education of SHRP 2 products with a greater emphasis on local governments, the consultant and contractor communities, and universities.

FHWA, AASHTO, and TRB have been quite successful marketing SHRP 2 products and the Implementation Assistance Program to state DOTs and MPOs as demonstrated by the number of states and MPOs that have applied for implementation assistance or are using SHRP 2 products independent of the Implementation Assistance Program. A number of SHRP 2 products will also be useful for county and city governments, toll authorities, and in the case of certain Capacity and Reliability products, non-transportation agencies. As SHRP 2 products become embedded into state departments of transportation, the committee recommends that marketing and outreach efforts to other agencies that would benefit from use of the products increase, in cooperation with the National Association of County Engineers (NACE), the American Public Works Association (APWA), and the Local and Tribal Technical Assistance Programs (LTAP and TTAP). Emphasis should also continue to be given to communication and outreach to MPOs regarding use of Capacity and Reliability products. Outreach efforts to the consultant and contractor communities should also increase, since in many instances they will be direct users of the products on behalf of the transportation agencies.

Another area the committee would like to see FHWA and AASHTO emphasize is outreach to and education of college and university professors regarding SHRP 2 products. If SHRP 2 products become part of the curriculum in college and university courses, new engineers and other transportation professionals will be familiar with them when they begin their professional careers. Particular emphasis should be placed on educating relatively new college professors, who often have not been as involved in the research that led to the development of SHRP 2 products, or who are less likely to be involved in conferences where SHRP 2 products are featured.

Recommendation 5. An evaluation process should be in place for each product prior to the start of implementation, whenever possible, so good baseline data can be collected. The evaluation should include lessons learned from products that were not successful as well as products that were successful, and successes should be documented in brief easily digestible documents that can be understood by non-technical experts.

The committee appreciated the plan outlined by FHWA for the evaluation program for SHRP 2 products. The evaluation will include performance measures for outputs, outcomes, and impacts/benefits for individual products and for the program as a whole. Successful evaluation will depend on individual performance measures being identified and baseline data being collected prior to the beginning of implementation. Ideally the evaluation process should already be underway prior to a product being offered for implementation assistance. For those products that have previously been offered for implementation assistance, baseline data should be collected as soon as possible, in order to ensure that good before and after data are available.

The evaluation should not only focus on those products that are deemed to be “winners,” but also those that have not been as successful. Often valuable lessons can be learned from

products that have not been as successful, so these lessons can be used during the implementation of later products and can inform future research efforts.

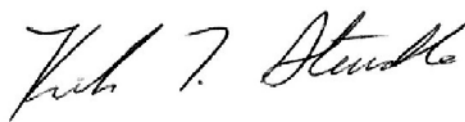
In addition to the detailed information developed as part of the evaluation process that would be contained in an evaluation report, summary information should be developed that can be presented in brief, easily digestible formats that will be easily understood by persons who are not technical experts. This type of information will be helpful for making the case to policy makers on why SHRP 2 was a good investment and will be useful in making the case for funding future research of this type.

Recommendation 6. Lessons learned on the implementation of process-related products should be shared among the focus areas.

SHRP 2 research has produced a number of products that involve changes to business processes or the way business is done in a transportation agency. Implementation of these types of products is quite different from implementation of a technology change and can be quite challenging, especially when it requires culture change within an agency. Lessons learned from implementation of these type of business process changes may be applicable across the focus areas. Therefore the committee recommends that FHWA and AASHTO identify lessons that can be learned about SHRP 2 products involving business process change that may be applicable to other focus areas and share these lessons learned among the focus areas.

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

Sincerely,



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
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Gerald Ross, Chief Engineer and Transportation Strategist, Jacobs Engineering Group¹
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¹ Did not attend the June 25, 2014, committee meeting