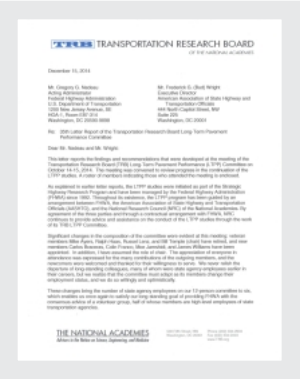

Long-Term Pavement Performance Committee Letter Report: December 15, 2014

DETAILS

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Committee on Long-Term Pavement Performance

TRB TRANSPORTATION RESEARCH BOARD
OF THE NATIONAL ACADEMIES

December 15, 2014

Mr. Gregory G. Nadeau
Acting Administrator
Federal Highway Administration
U.S. Department of Transportation
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HOA-1, Room E87-314
Washington, DC 20590-9898

Mr. Frederick G. (Bud) Wright
Executive Director
American Association of State Highway and Transportation Officials
444 North Capitol Street, NW
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Washington, DC 20001

Re: 35th Letter Report of the Transportation Research Board Long-Term Pavement Performance Committee

Dear Mr. Nadeau and Mr. Wright:

This letter reports the findings and recommendations that were developed at the meeting of the Transportation Research Board (TRB) Long-Term Pavement Performance (LTPP) Committee on October 14-15, 2014. The meeting was convened to review progress in the continuation of the LTPP studies. A roster of members indicating those who attended the meeting is enclosed.

As explained in earlier letter reports, the LTPP studies were initiated as part of the Strategic Highway Research Program and have been managed by the Federal Highway Administration (FHWA) since 1992. Throughout its existence, the LTPP program has been guided by an arrangement between FHWA, the American Association of State Highway and Transportation Officials (AASHTO), and the National Research Council (NRC) of the National Academies. By agreement of the three parties and through a contractual arrangement with FHWA, NRC continues to provide advice and assistance on the conduct of the LTPP studies through the work of its TRB LTPP Committee.

Significant changes in the composition of the committee were evident at this meeting: veteran members Mike Ayers, Ralph Haas, Russel Lenz, and Bill Temple (chair) have retired, and new members Carlos Braceras, Colin Franco, Moe Jamshidi, and James Williams have been appointed. In addition, I have assumed the role of chair. The appreciation of everyone in attendance was expressed for the many contributions of the outgoing members, and the newcomers were welcomed and thanked for their willingness to serve. We never relish the departure of long-standing colleagues, many of whom were state agency employees earlier in their careers, but we realize that the committee must adapt as its members change their employment status, and we do so willingly and optimistically.

These changes bring the number of state agency employees on our 12-person committee to six, which enables us once again to satisfy our long-standing goal of providing FHWA with the consensus advice of a volunteer group, half of whose members are high-level employees of state transportation agencies.

The agenda of the meeting consisted of briefings by members of the FHWA LTPP Research Team and the chair of the committee's Expert Task Group on LTPP Special Activities, each followed by a question-and-answer period and discussion. Among the matters addressed were the committee's 34th letter report, FHWA's response, and status updates on the following LTPP program topics: the likely impact of potential reductions in research and technology budgets on LTPP's funding, FHWA-AASHTO coordination on recruitment of test sections for LTPP's new warm mix asphalt overlay experiments, data analysis, database enhancements, and software development.

At the conclusion of the open session, the committee held a closed session to deliberate on its findings and formulate its consensus advice. This advice is organized below into sets, each labeled[1] for reference and consisting of one or more "finding" paragraphs in regular type sometimes followed by a "recommendation" paragraph in italic type.

Our findings and recommendations are as follows:

LR35/1

Finding: We are pleased that outreach to the states --- to inform them of the status of the LTPP program, to encourage them to continue to support LTPP's data collection activities at their test sites, and to invite them to participate in LTPP's new warm mix asphalt overlay experiment --- has become and remains a high priority. We commend FHWA's efforts to disseminate information about LTPP's progress and products through the Internet, but such information can overwhelm some and appear insufficiently detailed to others. Outreach to the pavement community (researchers, administrators, managers, engineers, and maintenance workers) is definitely an activity in which one size cannot fit all. LTPP's message and delivery mechanism would be more effective if they were tailored to meet the needs of the specific subset of the community at which they are aimed. In support of FHWA's outreach activities, committee members and AASHTO liaisons will work to add presentations by the LTPP Team periodically to agendas of future meetings of the AASHTO Subcommittee on Materials.

Recommendation: *We recommend that the LTPP Team expand its outreach efforts to include counties and cities which could benefit from the program's pavement information but are generally unaware of and uninvolved in the LTPP studies. We request a briefing at our next meeting on FHWA's perspective concerning what can be done to extend the benefits of LTPP to the local level.*

LR35/2

Finding: Our recent letter reports and your administration's responses indicate that we agree on the value of forensic studies of pavement test sections when they reach the final stage of their participation in the LTPP program. We appear to differ in the priority we assign to forensic studies and in the manner we believe they would be best pursued. The committee contends that forensic studies are "last chance" opportunities to investigate both the mechanics and likely causes of failure of specific pavements, and that therefore they should take precedence over new initiatives to improve ongoing activities such as the enhancement of existing software. We also contend that a pooled fund study headed by a state department of transportation "champion" and funded by LTPP-participating states (with some

[1] The label takes the form "LRn/m," where "n" is the number of the letter report and "m" is the number of the finding–recommendation set.

pump-priming by LTPP funds) would be the most effective mechanism for conducting forensic studies.

Recommendation: *We recommend initiation of a pooled fund study for forensic investigations of LTPP test sites at the conclusion of LTPP's data collection at these sites. We recommend further that the LTPP program serve proactively as the behind-the-scenes catalyst in identifying and enlisting a state champion to lead the study, and in assisting and facilitating the development and implementation of plans for the study. The plans could include optional levels of investigation, with trenching reserved for the most intensive and intrusive level. Such options might overcome the unwillingness of states that are reluctant to have trenches cut in their pavements to join the study.*

LR35/3

Finding: FHWA's LTPP Team continues to impress us with its progress toward improving understanding of the causes of pavement deterioration and the mechanisms and timing of such failures within the highway pavement community. Without unnecessary elaboration, this includes:

- The digitization of the Strategic Plan for LTPP Data Analysis, with drop-down windows that enable the user, who can access the plan via the Internet, to acquire increasingly detailed information about each project;
- Presentations to AASHTO's Standing Committee on Research and Standing Committee on Highways concerning LTPP's status, benefits, and role within the Moving Ahead for Progress in the 21st Century Act (MAP-21);
- The continuing progress in planning for the new warm-mix asphalt overlay experiments, and the initiation of planning for the new pavement preservation experiments; and
- The successful test of LTPP's backup system for protecting the database.

LR35/4

Finding: The LTPP InfoPave web-based software system for facilitating user access to the LTPP database continues to find acceptance in the highway pavement community, broaden the base of users of the database, and increase the use of the database in a variety of ways. We again commend the LTPP Team and its contractors for this accomplishment, and for their eagerness to improve the system and thereby make it even more useful in understanding why pavements behave as they do. We are impressed by the list of 197 suggested improvements that has been assembled, and by the fact that work is set to begin almost immediately on a number of them. Still, we are concerned that an overarching vision for the future of InfoPave has not been stated, and that a strategy for realizing this vision has not been developed. The absence of a vision and a strategy causes us to question the wisdom of further expenditures on InfoPave beyond those necessary to correct any bugs that usage of the current version uncovers,

Recommendation: *We recommend that LTPP enunciate its vision of the fully mature InfoPave software system, and indicate when it will be available for general use. We recommend that this vision be used as the basis for evaluating, categorizing, and prioritizing the suggested improvements, and that a plan be developed that identifies the leading 10 improvements and their cost. Finally, we request a briefing at our next meeting on the vision for InfoPave, the prioritization of suggested improvements, and the plan for developing the highest priority suggestions.*

LR35/5

Finding: LTPP's relevancy to the changing needs of the highway pavement community is the key to continued state support of the program's data collection, data analysis, and product development activities. The aging infrastructure of the nation's highway system, ever-increasing traffic demands, and limited resources are causing highway agencies to shift from system expansion to preservation. In addition, MAP-21 requires the states to develop asset management plans to preserve their highways. We understand that FHWA is supporting the implementation of asset management through the development of guidelines and tools that will help agencies address the technical issues associated with this new priority. LTPP should support this effort.

Recommendation: *We request a briefing at our next meeting on LTPP's plans to support, through data collection, data analysis, and product development, the states' asset management activities, including but not limited to LTPP's new pavement preservation experiments.*

LR35/6

Finding: It has been reported to us that LTPP's complement of in-service test sections that have been monitored over the years has been reduced from the original 2500-plus to approximately 700. This is understandable, because some of the experiments have been concluded, and others have been rehabilitated to address performance or safety concerns or at the discretion of the owning agency. Still, it is important for us to review periodically the state of LTPP's performance monitoring activities.

Recommendation: *We request a briefing at our next meeting on the status and benefits of monitoring the remaining test sections in the context of meeting LTPP's overall goals.*

The meeting was highly productive thanks to the preparations of Aramis López, the FHWA LTPP Research Team leader, and the members of his team. Your agency is fortunate in having professionals possessing such a steadfast dedication to the LTPP program as staff members.

Sincerely,

Thomas E. Baker, P.E.
Chair
TRB LTPP Committee

Enclosure: Roster of the TRB Long-Term Pavement Performance Committee Indicating Attendance at the Meeting of October 14-15, 2014.

Enclosure

Roster of the TRB Long-Term Pavement Performance Committee Indicating[1] Attendance at the Meeting of October 14-15, 2014

Thomas E. Baker, *Chair*
State Bridge and Structures Engineer
Washington State Department of Transportation

Carlos Braceras
Executive Director
Utah Department of Transportation

Colin A. Franco
Associate Chief Engineer
Rhode Island Department of Transportation

Gary L. Hoffman
Executive Director
Pennsylvania Asphalt Pavement Association

Patricia S. Hu
Associate Administrator and Director
Bureau of Transportation Statistics
Research and Innovative Technology Administration
U.S. Department of Transportation

Randell H. Iwasaki
Executive Director
Contra Costa Transportation Authority

Mostafa Jamshidi
Chief Engineer
Nebraska Department of Roads

Robert L. Sack
Deputy Chief Engineer
New York State Department of Transportation

Larry A. Scofield
Director of Engineering and Research
International Grooving and Grinding Association

Ted M. Scott II
Director of Engineering
American Trucking Associations, Inc.

Gary C. Whited
Program Manager, Construction and Materials Support Center
University of Wisconsin–Madison

James Williams
Assistant Chief Engineer
Mississippi Department of Transportation

[1] Attendees of the meeting are indicated in boldface.