



## Long-Term Pavement Performance Committee Letter Report: August 3, 2015

### DETAILS

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Committee on Long-Term Pavement Performance

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TRANSPORTATION RESEARCH BOARD

August 3, 2015

Mr. Gregory G. Nadeau  
Acting Administrator  
Federal Highway Administration  
U.S. Department of Transportation  
1200 New Jersey Avenue, SE  
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  
Suite 225  
Washington, DC 20001

Re: 36th 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 May 28-29, 2015. 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.

The agenda of the meeting consisted of informational briefings and status reports by members of the FHWA LTPP Research Team and the chair of the committee's Expert Task Group (ETG) on LTPP Special Activities, each followed by a question-and-answer period and discussion. Among the matters addressed were the following: the committee's 35th letter report and FHWA's response, outreach to state agencies through AASHTO's committees, development of a state-led pooled fund initiative for forensic evaluations of LTPP's remaining sections before they leave service, development of a pavement preservation experiment, update on the warm-mix asphalt overlay experiment, the benefit of monitoring remaining test sections, use of webinars for outreach to states and the public, ongoing and planned data analysis projects, the international data analysis contest, and the LTPP InfoPave web portal.

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<sup>1</sup> 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 given below.

First, we commend FHWA for the following:

- The agenda, content, and atmosphere of the meeting. Clearly, FHWA's LTPP Team extends itself to report comprehensively on the status of the program, and seeks the committee's feedback on all matters. A genuine spirit of professional respect, openness to others' ideas, and willingness to explain decisions prevails.
- Recent enhancements of the LTPP InfoPave software product. They extend its availability to users, simplify its use, and strengthen its perception as one of LTPP's premier outcomes.
- Continued attention to data analysis activities through the sponsorship of projects defined by the LTPP Pavement Analysis Forum conducted in 2010. Data analysis is the logical successor to data collection and the precursor to product development, and it is assuming its proper place as LTPP's principal activity in this decade.
- The creative use of the broad agency announcement process to reach out to the research community and solicit new ideas for achieving LTPP's strategic data analysis objectives. The process, which states the desired outcome of the prospective project without specifying a work statement against which proposals will be evaluated, encourages diverse approaches by previously uninvolved analysts. These approaches can infuse new life into the research activity.
- The use of contractor-funded ETGs in the new experiments on warm-mix asphalt and pavement preservation. The ETGs are well-positioned to provide contractors with informal but technically relevant peer reviews more frequently than other committees.
- Completion of the draft document on LTPP history. LTPP's story is complex, continuing, and not easy to tell succinctly. Care has been taken to avoid implying that LTPP is coming to a close, or is continuing indefinitely.

Next, we compliment AASHTO for the active participation of two AASHTO representatives in the meeting: Evan Rothblatt and Keith Platte. Their contributions to our discussions and offer to facilitate increased interaction between LTPP and AASHTO's committees were greatly appreciated. We look forward similar participation at future meetings.

Our findings and recommendations are as follows:

**LR36/1**

**Finding:** Recent meetings of the committee have included briefings and discussions of LTPP's outreach to the states and the larger pavement community. This topic is important and would benefit from the establishment and articulation of clear goals for the activity.

We view LTPP as a long-term effort by FHWA to improve understanding of the causes of pavement deterioration and the mechanisms and timing of the various stages of this physical breakdown. To achieve this, LTPP gathers performance-related data from many in-service

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<sup>1</sup> 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.

pavements and conducts analyses aimed at uncovering insights into pavement behavior. State agency cooperation is critical to the success of this effort because the states are the owners and operators of the pavements being studied. Pavement community interest in this effort is also critical because the states, universities, consulting firms, and independent experts are likely to do the bulk of the data analysis. They will make the connections between causes and effects that lead to better designs, better maintenance or rehabilitation strategies, and longer-lasting highway pavements.

LTPP's outreach efforts would be more effective if they were more than reports on what is underway in the program. This outreach could explain why this work is underway, the intended outcomes, how these outcomes will be translated into useful products, the timetable for delivery of these products, and the expected benefits of successful applications of these products. LTPP's outreach could invite the active participation of the states in this continuing search for a better understanding of pavement performance, and suggest ways in which they can become and stay involved.

***Recommendation:*** We recommend that LTPP's outreach message conveyed during the one-on-one state visits be expanded to include the FHWA's vision of the long-term future of LTPP: its activities, outcomes, and products, and request a briefing at our next meeting on this expanded message.

*Since LTPP's state coordinators are agents for dissemination of FHWA's outreach to the states concerning LTPP, we recommend that all state agency chief executives be asked to reconfirm the identity and the roles of the individuals in their states who serve in this capacity.*

#### **LR36/2**

**Finding:** The LTPP State Coordinators Meeting is held on the Sunday morning of the TRB Annual Meeting, and has been a major feature of FHWA's outreach to the states concerning LTPP since the beginning of the program. In the early years, the meeting was attended by many individuals from all states, and the agenda was typically a comprehensive review of the status of all ongoing activities as well as the initiatives scheduled to begin in the near future. The meeting was much more than an informational event; it helped generate and sustain interest in LTPP, and enabled the program's managers to collect feedback from the principal beneficiaries on what was going well, what needed improvement, and what outcomes and products were expected. Unfortunately, these meetings are different now, and the change is not an improvement. Few states have even one representative attend. As a consequence, the focus is on specific operational items rather than a comprehensive status report, and little or no feedback is received from the states. The principal reason for the change appears to be the states' severely limited travel budgets. We believe every aspect of the LTPP State Coordinators Meeting could be reexamined: its purpose, where and when it is held, the agenda and speakers, the use of subcommittees or break-out sessions or webinars, local or regional activities between plenary meetings, and so forth.

***Recommendation:*** We suggest that the LTPP State Coordinators Meeting be reviewed and revised to reestablish it as a vital part of LTPP's outreach effort. We request a briefing at our next meeting on the plan for revitalizing this meeting.

#### **LR36/3**

**Finding:** The American Society of Civil Engineers (ASCE)-LTPP Data Analysis Contest for 2015 is well under way, with theme, categories, awards, timeline, and paper guidelines all

having been established and promulgated. We look forward to learning of the receipt of a substantial number of high-quality papers by July, completion of their review by September, and notification of the winners in October. We are pleased that, once again, the winners will be invited to attend the TRB Annual Meeting in January, and one or two will be able to present briefings on their papers at the Data Analysis Working Group Forum on Pavement Performance Data Analysis.

We believe that it is not too soon for plans for the 2016 contest to be well underway at this time as well. The academic year will begin in a few weeks, and information about the contest would be more effective if it were disseminated widely to the universities at the beginning of the fall semester to draw the attention of students and faculty at a time when they can plan and implement their research, and develop competitive contest papers. Furthermore, the contest, to remain a viable feature of LTPP, must draw significantly more entries than have been received in recent years. Along with conformity to the academic calendar, the continued presentation of meaningful monetary awards to the winners is a key to substantially increased competition. To sustain their largesse, private-sector donors of such funds must be convinced of the contest's viability, its importance to the academic community, and the competitiveness of the entries.

*We request a briefing at our next meeting on the status of preparations for the 2016 contest, and would appreciate receiving additional information concerning the timeline of actions to be implemented throughout the year culminating in the announcement of the winners.*

**Recommendation:** *We recommend that the theme, categories, awards, timeline, and paper guidelines for the 2016 ASCE-LTPP Data Analysis Contest be established and promulgated by October 1, 2015.*

#### **LR36/4**

**Finding:** Providing a succinct explanation of the over-arching objective of LTPP research has always been a challenge. The objective has been described as "to improve understanding of why and how pavements perform as they do." The Strategic Plan for LTPP Data Analysis, which was first articulated in 1999 and is now commonly referred to as the "tablecloth", along with the objectives, outcomes, and products it describes, is LTPP's plan for improving this understanding. Yet, this plan coordinates only loosely a large number of individual efforts. Each project is a stand-alone investigation. Each set of results is separate. There is no plan for tying together the individual results; there is no synthesis producing a result that is greater than the sum of its parts. As one of our committee's newest members (a state agency employee) asked, "How are we going to get the formulas we need to explain how pavements perform?"

**Recommendation:** *We recommend that FHWA reexamine the form and content of the Strategic Plan for LTPP Data Analysis. The reexamination might confirm its status as the program's best plan for improving our understanding of how and why pavements perform as they do, might indicate how it can be "tweaked" to become such a plan once again, or might indicate that it is time for the plan to be substantially modified or replaced. The reexamination could also distinguish between plans for the coordination of research efforts, and plans for development of outcomes and products needed by state agencies. We request a briefing on this reexamination at our next meeting.*

In conclusion, 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 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 May 28-29, 2015.

Enclosure

**Roster of the TRB Long-Term Pavement Performance Committee  
Indicating<sup>1</sup> Attendance at the Meeting of May 28-29, 2015**

**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<sup>2</sup>**  
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

<sup>1</sup> Attendees of the meeting are indicated in boldface.

<sup>2</sup> Participated by telephone and internet