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Long Term Pavement Performance

"The Bottom Line"

LTPP Data Help Minnesota Evaluate Performance Grades (PG) for Its Superpave System

LTPP data are a powerful resource that many members of the highway community are tapping into. For example, take Minnesota's Asphalt Pavement Association. When implementation of Superpave raised questions throughout the Minnesota highway community regarding adopting the PG method of selecting asphalt binders, the Association decided to find answers and thus sponsored a study to evaluate the cost implications of PG decisions. And what they quickly found out was that LTPP's Seasonal Monitoring Program was the place to go for the data they needed.

"LTPP is a wealth of information," stated David Holt, executive director of the Minnesota Asphalt Association. "When we looked around for data for our study, we found that not only did LTPP have the best available data, it had the *only* data available. We also found they had done work on temperature models that proved to be very useful. LTPP is a great resource, one we want to continue working with."

As a result of this study, contour maps that clearly illustrate the distribution of PGs with reliabilities throughout Minnesota were developed. The contour maps provide practicing engineers with a simple, yet effective, tool for selecting binder grades that are more cost-effective for regional or local conditions and meet Superpave PG concepts.

LTPP Paves the Way for AASHTO Adoption of Improved Pavement Design Guidelines

It's official. AASHTO has adopted improved design guidelines for portland cement concrete pavement – guidelines that are based on LTPP's data analysis efforts.

"LTPP really paved the way for these improved guidelines," explained Brian McWaters, former chairman of the AASHTO Joint Task Force on Pavements. "Because of LTPP's cooperative spirit, we now have field-verified guidelines that will help engineers tailor their design efforts to optimize performance."

The data analysis effort that led to the newly adopted, improved guidelines was initiated by LTPP in September 1994. Its primary objective was to evaluate and field-verify the guidelines originally proposed in the Support Under Concrete Pavements Project of the National Cooperative Highway Research Program (NCHRP 1-30). To this end, data from the LTPP General Pavement Studies sections were used to assess the proposed guidelines in terms of their practicality and appropriateness for use in concrete pavement design nationwide.

The new guidelines are slated to be published by AASHTO in December as a supplement to its *1993 Guide for the Design of Pavement Structures*.

Keeping You Informed— This newsletter is one of several communication initiatives undertaken to keep the highway community better informed about LTPP. Published twice a year, the newsletter is directed at Chief Engineers and other managers. The message relates to *LTPP products and their impact on cost and performance—the bottom line.* LTPP also publishes a status report twice a year, which is intended to provide technical information about the status of various aspects of the program. The newsletter and status report are mailed to individuals in the States, Provinces, and FHWA field offices. They are also available on the LTPP Homepage.

New Tools for AC Pavement Design

Improved guidelines for AC pavement design are now available in a series of three design pamphlets. Application of these guidelines will help engineers provide more reliable pavement design together with more realistic estimates of pavement performance. Furthermore, agencies that use the guidelines will have a head start on getting ready for the next edition of the AASHTO Guide, slated for publication in 2002.

Developed from the results of a recently completed LTPP data analysis, the design pamphlets outline procedures that can be used to determine the design resilient modulus of different pavement materials, backcalculate pavement layer moduli, and determine the design resilient modulus of subgrade soils.

The series of design pamphlets, entitled

- *Design Pamphlet for the Determination of Layered Elastic Moduli for Flexible Pavement Design in Support of the 1993 AASHTO Guide for the Design of Pavement Structures (FHWA-RD-97-077),*
- *Design Pamphlet for the Backcalculation of Pavement Layer Moduli in Support of the 1993 AASHTO Guide for the Design of Pavement Structures (FHWA-RD-97-076),* and
- *Design Pamphlet for the Determination of Design Subgrade in Support of the 1993 AASHTO Guide for the Design of Pavement Structures (FHWA-RD-97-083),*

are available in limited quantities from LTPP, (703) 285-2124.

More Data Available From LTPP IMS

LTPP is working hard to provide the highway community with quality data. To this end, significant amounts of data from LTPP's Seasonal Monitoring Program, long with traffic monitoring and materials test data, have been added to the LTPP IMS and much of it has gone through LTPP's quality control process.

In fact, over the last 12 months, more than 7 million releasable records have been added to the LTPP IMS. This brings the total number of available records to more than 57 million; these records are currently available through the LTPP Data Customer Center. Requests for this data can be made via phone: (423) 481-2967, fax: (423) 481-8555; or e-mail: ltppinfo@fhwa.dot.gov.

LTPP TechBrief Update

Earlier this year, LTPP began to roll out a series of TechBriefs (summaries of recent LTPP reports) to help engineers, researchers, and others keep up-to-date on new findings and results from the LTPP program. So far, the following five are available (with several more to come):

- *Pavement Treatment Effectiveness, 1995 SPS-3 and SPS-4 Site Evaluation, National Report (FHWA-RD-97-29).*
- *Improving the Accuracy of Unbound Resilient Modulus Testing (FHWA-RD-97-090).*
- *Improved Guidance for Users of the 1993 AASHTO Flexible Pavement Design Procedures (FHWA-RD-97-091).*
- *LTPP Data Analysis: Frequently Asked Questions About Joint Faulting With Answers from LTPP (FHWA-RD-97-101).*
- *Advanced Methods for Using FWD Deflection-Time Data to Predict Pavement Performance (FHWA-RD-97-093).*

LTPP TechBriefs are available from the National Technical Information Service, (703) 486-4600. In addition, some are available on the World Wide Web at the following address:
http://www.advancenet.net/~fhwa/main/navigator.html

Upcoming Events

To get the latest LTPP information, plan to have your State represented at the State Coordinators' meeting on January 11, 1998, held in conjunction with the Transportation Research Board's (TRB) Annual Meeting. TRB Annual Meeting attendees will also have the opportunity to hear more about LTPP's programs, initiatives, and products at the SHRP and LTPP Box Session on Monday, January 12, 1998.