

LTPP Newsletter

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U.S. Department of Transportation
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FHWA's InfoMaterials™ : A New Web Portal on LTPP InfoPave™

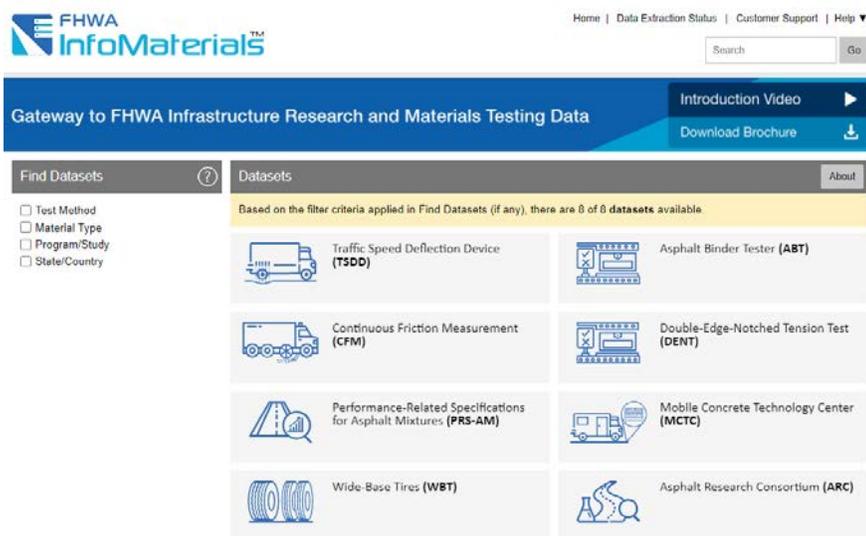


Figure 1. Screenshot. Homepage of FHWA's InfoMaterials.

Launched in January 2020, the Federal Highway Administration's (FHWA's) InfoMaterials™ portal was designed, developed, and is being managed by the FHWA Long-Term Infrastructure Performance (LTIP) team. This web-based portal, which is currently hosted on the Long-Term Pavement Performance (LTPP) web portal, LTPP InfoPave™, functions as a window into the research conducted or sponsored by FHWA. Prior to the creation of InfoMaterials, datasets produced by research efforts, along with their supporting technical and background information and

accompanying metadata, were not readily available.

Heading into its second year of implementation, InfoMaterials has gained visibility and increased interest from researchers within FHWA and outside the agency. It should be noted that the research teams that generate the datasets are responsible for ensuring the accuracy of the data and providing the necessary documentation (e.g., data field descriptions, data collection protocols, standard specifications, and references) for users to understand the data.

Source: FHWA.

In its first release, in 2020, InfoMaterials contained datasets from the Asphalt Research Consortium, Performance-Related Specifications for Asphalt Mixtures study, and the Mobile Concrete Technology Center. The January 2021 release added five more FHWA pavement-related research datasets: Traffic Speed Deflection Device, Asphalt Binder Tester, Continuous Friction Measurement, Double-Edge-Notched Tension Test, and Wide-Base Tires.

The feedback received this past year has shown that InfoMaterials has improved the accessibility and functionality of FHWA laboratory data, which was one of the main goals of the web portal. The portal was well received at several presentations made at committee meetings held during the 100th Transportation Research Board (TRB) Annual Meeting in January 2021. The portal has also been a source of information for States, academia, and other researchers who may not have known these valuable datasets exist.

To browse the portal, visit [LTPP InfoPave](#) and click FHWA InfoMaterials on the homepage. Once on the InfoMaterials page, you can view a 5-min video that describes the portal and download the brochure,

which provides more detail about the features and organization of the portal. For more information about InfoMaterials, contact Jane (Yan) Jiang at jane.jiang@dot.gov.

LTPP Revamps Analysis Plan to Meet State Department of Transportation Needs

FHWA's LTPP program held a virtual workshop over 6 days in November 2020 to gather information and suggestions from 42 subject matter experts representing State departments of transportation (DOTs), industry, academia, and FHWA to revise and enhance its data analysis plan.

The Strategic Plan for LTPP Data Analysis, as it was formerly known, had nine objectives and was last updated in 2010. The newly developed LTPP Data Analysis Plan has five objectives. Given the changes that have taken place in data collection procedures, equipment technology, and new materials being used on the highway system, LTPP program staff recognized the need to update the plan to include projects that are relevant to the pavement community today and in the future.

Based on their backgrounds and experience, volunteering participants were assigned to different workgroups representing the five objectives. Each workgroup was tasked with reviewing the existing problem statements in the context of the new objectives and identifying new projects to add to the data analysis plan. The workshop generated 21 complete problem statements. A TechBrief summarizing the workshop is planned for publication this summer and will provide more details on the outcomes of the workshop and the LTPP program's plans for implementing those outcomes.

The LTPP program extends its gratitude to members of the TRB Long-Term Infrastructure

Performance Expert Task Group on Pavements who served as chairs and vice-chairs for each of the workgroups; FHWA staff who served as facilitators; and the other volunteer participants who provided feedback to update and improve the program's data analysis plan. If you have any questions, contact Larry Wiser at larry.wiser@dot.gov.

Winners of the 2019-2020 LTPP Data Analysis Student Contest

We are pleased to announce that five awards were made for the 2019–2020 student contest. The caliber of this year's paper entries was impressive, with first and second place awards made in two of the four contest categories.

The Aramis López Challenge Category saw one first place winner and two second place winners.

First Place:

Fengdi Guo
Department of Civil and Environmental Engineering
Massachusetts Institute of Technology
Jeremy Gregory, Ph.D. and Randolph Kirchain, Ph.D. (advisors)
Paper Title: *Assessing the Influence of Overweight Vehicles on Pavement Performance*

Second Place:

Issa M. Issa and Dan G. Zollinger
Texas A&M University
Paper Title: *A Framework for a Distress-Based Traffic Equivalency to Efficiently Evaluate the Effect of LTPP Traffic Loads on Pavement Performance*

Muhamad Munum Masud
Civil and Environmental Engineering Department
Michigan State University
Syed W. Haider, Ph.D., P.E. (advisor)
Paper Title: *Weigh-in-Motion Accuracy Prediction Using Axle Load Spectra and Effect of Overloading Vehicles on Pavement Performance*

In the Graduate Category, first and second place awards were made to the following students:

First Place:

Hamad Bin Muslim
Department of Civil and Environmental Engineering
Michigan State University
Syed W. Haider, Ph.D., P.E. (advisor)
Paper Title: *Effects of Seasonal and Diurnal FWD Measurements on LTE of JPCP – LTPP SMP Data*

Second Place:

Haoran Li and Katelyn Kosar
Department of Civil and Environmental Engineering
University of Pittsburgh
Lev Khazanovich, Ph.D. (advisor)
Paper Title: *Performance of Ohio SPS-2 Sections: Lessons Learned*

The winners were recognized for their achievement at a TRB-sponsored webinar on February 4, and they presented the findings from their analyses at an LTPP-sponsored webinar on March 25. To view a recording of that webinar, visit [2019-2020 LTPP Data Analysis Student Contest Winners](#).

Congratulations again to the winners, and thank you to everyone who participated in the 2019–2020 contest.

Announcing the 2020-2021 Student Data Analysis Contest

As we celebrate this past year's winners, the LTPP program is looking forward to the new student contest. The 2020–2021 contest will be run jointly with FHWA's Long-Term Bridge Performance (LTBP) program, which is the first time the LTBP program has hosted such a contest. The newly created LTIP Student Data Analysis Contest is designed to encourage undergraduate and graduate students to use pavement or bridge data to research topics in these areas and to explore a career in pavement or bridge engineering.

Students are required to use the LTPP InfoPave or LTBP InfoBridge™ web portals to study the various factors affecting pavement and bridge lifecycles and to develop a technical paper to document their research. Sample topics, which are included in the guidelines, and details for submitting papers by July 30, 2021, can be found on [LTPP InfoPave](#). If you have any questions, contact Deborah Walker at deborah.walker@dot.gov.

In Brief

Program Updates Given at TRB-Sponsored Webinar “Understanding Pavements”

On February 4, TRB held a webinar entitled “Understanding Pavements” to give the pavement industry an update on the LTPP program’s activities. The webinar was sponsored by the TRB Committee Pavements Section, chaired by Bouzid Choubane, Ph.D., of the Florida DOT, and had more than 380 attendees.

Presenters detailed the LTPP program’s initiative, started last fall, to update the data analysis plan; described the expansion of the LTPP InfoPave web portal by highlighting FHWA InfoMaterials; and recognized winners of the 2019–2020 Data Analysis Student Contest. Fengdi Guo presented his paper, *Assessing the Influence of Overweight Vehicles on Pavement Performance*, which was awarded first place in the contest’s Aramis López Challenge Category.

The LTPP program extends its gratitude to Elaine Ferrell of TRB for organizing this webinar, to the Pavements Section for sponsoring the session, and to Bouzid Choubane for serving as moderator.

LTPP Standard Data Release 34 Now on LTPP InfoPave

The LTPP program continues to increase the amount of data it releases annually to the public and improve the quality assurance process used to verify these data, as needed. The

34th LTPP Public Data Release posted on LTPP InfoPave includes two new tables that provide materials testing data from the Warm-Mix Asphalt Overlay of Asphalt Pavements Experiment (SPS-10). These tables are populated with the initial testing data for two LTPP SPS-10 test sections and include laboratory setup and other details about the Multiple Stress Creep Recovery test. The tables contain 57 test results for the warm-mix asphalt test sections in Oregon and Washington. More data will be added to these tables for these and other warm-mix asphalt sections as tests are performed and will be made available in future data releases.

In addition, the field that provides the value for percent cracking on jointed portland cement concrete pavements was revised to align with the values computed from LTPP data for calibration of the models used in the AASHTOWare® Pavement ME Design software. See the [LTPP Public Data Release Notes](#) for more information about the specific additions and changes made in this current release.

LTPP’s Impact

The LTPP program not only collects and stores quality pavement data that can be used to develop products for the highway industry, it also has expanded its reach by serving as a gateway for other researchers to share data from their projects with the pavement community. One example is the data collected at the Minnesota DOT’s (MnDOT’s) cold weather pavement testing facility (MnROAD) located near Albertville, MN. MnROAD has developed a new online data-sharing system modeled after LTPP InfoPave and, last fall, Ben Worel and Steve Henrichs of MnDOT presented this collaborative effort at one of the monthly “Research Pays Off” webinars sponsored by the National Road Research Alliance. Their presentation can be viewed at <https://www.youtube.com/watch?v=PpH3kss-f-g&feature=youtu.be>.

The LTPP data also continue to be used to enhance the AASHTOWare Pavement ME design software. In the next version, 3.0.0, scheduled for release in February 2022, there will be direct integration of the Modern-Era Retrospective analysis for Research and Applications (MERRA) climate data (a product of the National Aeronautics and Space Administration) from InfoPave. While the current application requires users to manually download and use the MERRA data from InfoPave, the new version of the software will eliminate that process. This has been a great effort and collaboration between the LTPP program and AASHTO.

The Materials Reference Library Keeps on Trucking



Source: FHWA.

Figure 2. Photo. View of the new Materials Reference Library facility.

The LTPP Materials Reference Library (MRL) successfully relocated to a new location in Reno, NV, in April 2019. After the move, a significant effort went into reorganizing inventory to optimize operations. Several improvements to the facility were made, such as replacing old, non-code-compliant racking systems with new ones. The facility is fully operational and ready to respond to researchers’ material requests. The MRL houses a wide variety of pavement material from the LTPP test sections and other experiments, such as WesTrack and the Asphalt Research Consortium. For more information about the MRL, go to the [MRL](#) page on LTPP InfoPave, or contact Larry Wiser at larry.wiser@dot.gov. We look forward to fulfilling your materials requests.

New Publications

Reports

*Use of LTPP SMP Data to Quantify
Moisture Impacts on Fatigue Cracking
in Flexible Pavements*

FHWA-HRT-20-006

[\[PDF\]](#)

*Long-Term Pavement Performance
Data Analysis Program: Effect of
Dowel Misalignment on Concrete
Pavement Performance*

FHWA-HRT-20-070

[\[PDF\]](#)

*Long-Term Pavement Performance
Information Management
System User Guide*

FHWA-HRT-21-038

[\[PDF\]](#)

TechBriefs

*Acceptance Testing of High-Speed
Transverse Profile Measuring Systems
Purchased for the Long-Term
Pavement Performance Program*

FHWA-HRT-20-023

[\[PDF\]](#)

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Recommended citation: Federal Highway
Administration, Traffic Management Center
Pooled Fund Study (Washington, DC: 2021)
<https://doi.org/10.21949/1521633>

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