

LTPP is Moving Forward with the Collection of Traffic Data

While the Long-Term Pavement Performance (LTPP) program takes pride in the quantity and quality of the data available in the pavement performance database, there are some data that are lacking. LTPP has identified approximately 88 General and Specific Pavement Studies (SPS) test sites where there is very little or no monitored traffic data. With the support and help from our State partners, LTPP is taking action to fill in this gap.

The test sections identified have many years of distress and other performance data, but no traffic data. Very limited data analyses can be performed on these test sites without traffic data. It should be noted that this data collection activity is not part of the SPS Traffic Data Collection Pooled Fund Study. The intent of this new data collection activity is to provide minimum classification data for the nearly 88 LTPP sites where there is no or very limited traffic data in order for those sites to be used for future data analyses.

LTPP's priority is to provide complete datasets for as many LTPP test sites as possible within currently available program resources. Therefore, the program office has committed to collect 1-week of continuous classification data using the Federal Highway Administration (FHWA) Traffic Monitoring Guide classification scheme (13-bin).

The response from our State partners to collect this data has been very positive and many of them have been volunteering to use their own resources to collect the necessary data. A few sites will be collected by a FHWA contractor because some States simply do not have the resources to collect the data. It is anticipated that the data will be collected by early summer so that it may be available in the next release of the LTPP pavement performance database.

For more detailed information on collection of the missing traffic data or other LTPP traffic data collection activities, contact Deborah Walker at deborah.walker@dot.gov or (202) 493-3068.

LTPP Customer Usage Statistics

LTPP distributes its data, documents, and products to customers through two venues: the LTPP Customer Support Service Center (CSSC) ltpinfo@dot.gov and LTPP Products Online www.ltp-products.com. The CSSC has received 5,353 requests since its establishment in 1997. Figure 1 shows the distribution of those requests by year between 1997 and March 31, 2009.

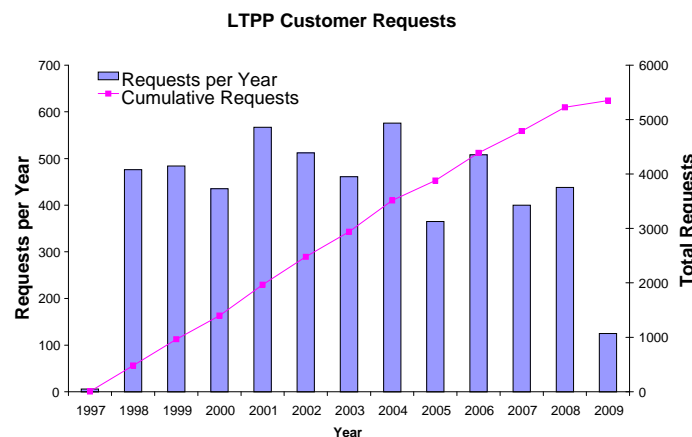


Figure 1. Distribution of LTPP CSSC requests between 1997 and March 31, 2009.

Figure 2 shows the breakdown of the 5,353 customer requests by request type. Each category is defined as follows:

- **Standard Data Release (SDR), 26%.** Requests for the SDR appear to be the leading demand from customers.
- **Questions, 25%.** How to use the data or units of a SDR table field, and how to find definition of a code and necessary data to meet a research need are just a few of the questions answered by LTPP.
- **DataPave Online, 19%.** Questions from customers on how to download LTPP data.
- **Resource Material, 16%.** Requests for research reports, TechBriefs, construction reports, protocols, manuals, guides, products, software, spreadsheets, and other LTPP documents.

- AIMS Data, 13%. The Ancillary Information Management System (AIMS) raw data custom-extracted and distributed to customers, such as falling weight deflectometer (FWD) time histories, 25-mm profile data, distress maps, weigh-in-motion (WIM), and traffic data from the Central Traffic DataBase (CTDB), excluding data downloaded from DataPave Online.
- Other, 1%. Requests or questions regarding highways/infrastructure unrelated to LTPP but referred to other programs such as Bridge Technology, Traffic Safety, or Hydraulics.

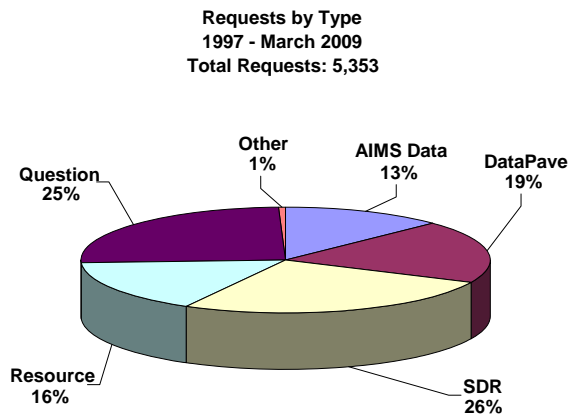


Figure 2. Customer requests by request type.

Figure 3 shows the breakdown of the 5,353 customer requests by agency. The categories are defined as follows:

- Educational, 27%. Requests from university professors, students, and researchers contribute to most of the requests.
- Research, 19%. Research institutes in the United States.
- International, 15%. Foreign government agencies, universities, companies, and individuals.
- Other, 14%. Independent researchers or consultants in the United States.
- Federal, 13%. Such as the U.S. Army Corps of Engineers, Federal Aviation Administration of the Department of Transportation, National Guard Academy of the Department of Homeland Security, and National Institute of Standards and Technology of the Department of Commerce.
- State, 12%. State highway agencies, county and city Departments of Transportation/Public Works.

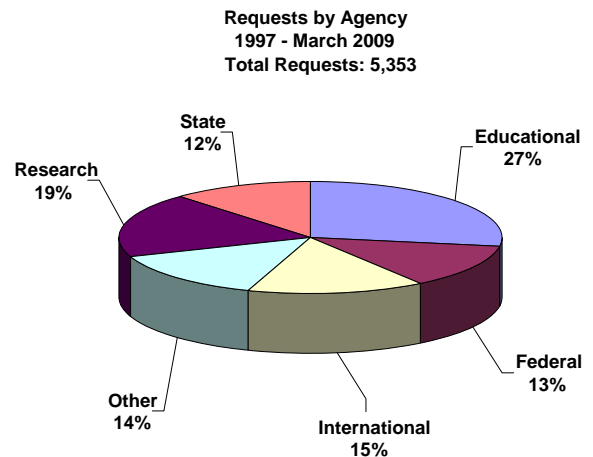


Figure 3. Customer requests by Agency.

The distribution of the 5,353 customer requests by geographic region is presented in Figure 4. North American (United States and Canada) customers dominate with almost 90 percent of requests, followed by Asian and South Pacific countries, Europe, Latin America, the Middle East, and Africa.

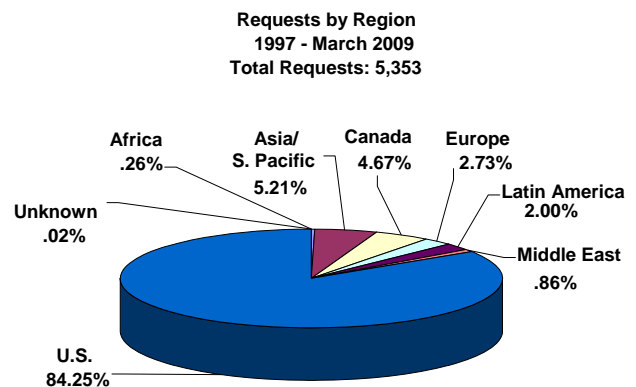


Figure 4. Customer requests by geographic region.

Since it was first launched, the usage statistics of LTPP Database Online between January 2006 and March 2009 are listed in the following table.

Usage	Total
Total Number of Users	3,762
Total Number of Downloads	51,031
Volume of Data Exported	32.7 GB
Compressed Files (Microsoft Access)	12.7 GB
Compressed Files (Microsoft Excel)	11.5 GB
Uncompressed Files (Microsoft Access)	1.0 GB
Uncompressed Files (Microsoft Excel)	7.5 GB

LTPP Database Tips

Periodically, LTPP shares database tips to give its users a better understanding of the data and how to use the database. This issue gives users tips to consider when comparing Photographic Distress Data (PADIAS) to Manual Distress Data (MDS).

Comparing Photographic and Manual Distress Data

In using PADIAS distress data the following tips should be considered:

- Due to the limitation of the 35-mm film resolution, it is expected that PADIAS values will normally be less than MDS values.
- Fatigue cracking on asphalt concrete (AC) pavements is sometimes rated as longitudinal and/or transverse cracking because the fatigue cracking pattern is not always visible on the film. This can cause low fatigue cracking areas and a larger number of transverse and longitudinal cracks on PADIAS distress surveys than on MDS.
- Because of the differences in wheelpath locations on film and manual surveys, longitudinal wheelpath cracking rated on MDS is sometimes rated as longitudinal non-wheelpath cracking on PADIAS surveys and vice versa.
- Fatigue cracking is sometimes rated as block cracking on PADIAS surveys because the fatigue cracking pattern may not be visible on film and the cracking appears to be block cracking.
- On AC test sections, the survey width on PADIAS surveys is usually wider (1-2 ft) than on MDS. This is due to a difference in survey procedures. This can cause larger values for transverse crack lengths and block cracking areas on some surveys.
- On Portland cement concrete (PCC) test sections, map cracking is not usually visible on film. Cracks that are visible may be rated as transverse and/or longitudinal cracking on PADIAS distress surveys.

It should be emphasized that in most cases, PADIAS and MDS distress data are comparable. Variability studies have shown that there is no statistical difference between the two data collection methods.

Watch for more database tips in upcoming issues.

In Brief

Relationships Between Laboratory-Measured and Field-Derived Properties of Pavement Layers

The FHWA recently awarded a contract to Cornell University entitled *Relationships Between Laboratory-Measured and Field-Derived Properties of Pavement Layers*.

The purpose of this project is to use LTPP data to conduct systematic research for developing a fundamental understanding of the factors underlying observed differences between laboratory-measured and field-derived properties of pavement layers. Ultimately, this work will support the development of improved methods and/or relationships that will allow laboratory- and field-based methods of material characterization to be used interchangeably for design and performance analyses.

The performance period of this contract is 30 months and work will be done in two phases. Phase 1 activities will explain and define in mechanistic terms the fundamental material properties as measured in the field versus the fundamental material properties as measured in the laboratory. The results from this phase will determine the specific activities that will be performed in Phase 2.

For more information about this study, contact Jane Jiang at: jane.jiang@dot.gov or (202) 493-3149.

New Publications

[Long-Term Pavement Performance Computed Parameter: Frost Penetration](#), FHWA-HRT-08-057

[LTPP Manual for Profile Measurements and Processing](#), FHWA-HRT-08-056

[Long-Term Pavement Performance Compliance with Department of Transportation Information Dissemination Quality Guidelines](#), FHWA-HRT-08-065

To learn more about the LTPP program and products, visit: www.fhwa.dot.gov/pavement/ltp/index.cfm or contact the LTPP Customer Support Service Center (CSSC) at: ltpinfo@dot.gov or (202) 493-3035.

Publication No. FHWA-HRT-09-043
HRDI-13/05-09(Web)E