



U.S. Department  
of Transportation

**Federal Highway  
Administration**

# Memorandum

6300 Georgetown Pike  
McLean, Virginia 22101

Subject: **ACTION**: LTPP Directive GO-37  
Submission of Electronic Data for Customer Support  
And AIMS

Date: April 15, 2005

From: Eric Weaver   
Long-Term Pavement Performance Team

Reply to  
Attn of: HRDI-13

To: Dr. Frank Meyer, PM - LTPP North Atlantic Regional Contract  
Dr. Frank Meyer, PM - LTPP North Central Regional Contract  
Mr. Mark Gardner, PM - LTPP Southern Regional Contract  
Mr. Kevin Senn, PM - LTPP Western Regional Contract

Attached is the Long Term Pavement Performance (LTPP) Program Directive GO-37, which provides instructions concerning the transmittal format of electronic data included in the ancillary information management system (AIMS). The data shall be submitted to FHWA and the LTPP Technical Support Services Contractor (TSSC) for the purposes of the LTPP Customer Support Service Contract (CSSC) and data archival. The objective is to provide a central source of data that, with some exceptions, is not available in the Pavement Performance Database (PPDB) and is frequently requested by LTPP data users.

Should you have any questions or would like to discuss this directive, please do not hesitate to contact me at 202-493-3153.

Attachments

# LONG TERM PAVEMENT PERFORMANCE PROGRAM DIRECTIVE



*For the Technical Direction of the LTPP Program*



Program Area: General Operations                      Directive Number: GO-37  
Date: April 15, 2005                                      Supersedes: GO-31, FWD-28  
Subject: Submission of Electronic Data for Customer Support and AIMS

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This directive provides instructions concerning the transmittal format of electronic data included in the ancillary information management system (AIMS). The data shall be submitted to FHWA and the LTPP Technical Support Services Contractor (TSSC) for the purposes of the LTPP Customer Support Service Contract (CSSC) and data archival. The objective is to provide a central source of data that, with some exceptions, is not available in the Pavement Performance Database (PPDB) and is frequently requested by LTPP data users.

Data types currently being stored centrally include:

- Digitally scanned hand drawn distress maps from manual distress surveys
- Digital images from manual distress surveys
- Digital distress maps generated from photographic film
- Digital images scanned from 35mm photographic film
- Longitudinal profile data at 25mm intervals
- Profile measurements at WIM sites in 25mm intervals
- Transverse Profile measurements
- Falling weight deflectometer data containing deflection-time history measurements

Other data types may be added in the future as directed by FHWA.

The data shall be submitted to FHWA and the TSSC on the last business day in June of each year. Data submittals shall include data previously submitted plus data collected since the last submittal, up until 2 months prior to the submittal date.

### **Disk Format Submittals**

The next submittal will require disk-based media using a DVD-R format. Data will be grouped into 3 categories, and each category will be submitted on a separate set of one or more DVDs: distress, profile and deflection. More categories may be added in the future by revised directive. In some cases, there will be subcategories for each data type contained on a particular disk. More than one disk may be used if all of the data for a particular data category will not fit on a single disk.

The following DVD naming convention shall be used when formatting a disk for submittal. This name would appear when viewing the drive through the operating system. The name electronically burned into the disk media on each disk shall include

*Data-Type\_Region\_Disk-Number*, where:

Data-Type: A three-letter abbreviation for each major data category; deflection (DEF), profile (PRF), and distress (DIS).

Region: A two-letter abbreviation used to specify the regional contractor; North Atlantic Region (NA), North Central Region (NC), Southern Region (SR), and Western Region (WR).

Disk-Number: Hyphenated double-digit number used to indicate the disk number within a set for a particular data-type and the total number of disks for that set. For example, if only one disk is required the number would be 01-01. If a disk were the fifth, out of a set of nine, the number would be 05-09.

*Example: PRF\_NA\_05-11*

The human-readable label contained on the DVD shall conform to the following:

- The information contained in the label shall be printed in computer font directly on the disk media. Use of attached paper based labels is prohibited.
- The following information, at a minimum, shall be included on the physical label:
  - FHWA/LTPP
  - Descriptive Title. (e.g. DISTRESS);
  - Data type(s) – 3-letter (e.g. PRF);
  - Region – 2-letter (e.g. SR);
  - Disk Number – Double 2-digit; (e.g. 01-02);
  - The range of State/province/territory abbreviations and associated STATE\_CODES contained on the disk, alphabetically. (e.g. AL(01)-KS(20); and
  - Submittal date, in text using “Month Year” format; e.g. June 2005

Handling and organizational procedures for each data category and subcategory on DVD are described below.

### **Deflection (DEF) - Falling Weight Deflectometer (FWD) Peak and Time History Files**

The following FWD file types will be included:

- Version 10 “\*.FWD” files, containing both peak deflection data and time history data
- Version 20 “\*.FWD” files, containing both peak deflection data and time history data
- Version 25 “\*.F25” files, containing peak deflection data only

- Version 25 “\*.HXT” files, ASCII files containing converted binary encoded time history data
- FWDWin “\*.DDX” files, ASCII files converted from MS Access files containing peak and time-history data.
- Highway agency data collected on LTPP sections, regardless of format

The following directory/subdirectory structure shall be used:

DEF\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)

e.g.: \DEF\48\480102\20040905

### **Profile (PRF) – Longitudinal, Transverse, Weigh In Motion (WIM) Site**

The DVD containing profile data will have a folder for each profile subcategory; longitudinal profile (LPF), transverse profile (TPF) and WIM site profile (WSP). Specific directions and subdirectory structures for each subcategory follow:

#### Longitudinal Profile (LPF)

Longitudinal profile has been collected with both laser profilers and Dipsticks®. Both file types are included here. For 25 mm laser profile files, only those collected with equipment since the DNC-690 will be included here because DNC-690 data already resides in the PPDB. The following directory structures and subfolders shall be used:

LPF\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD),

e.g.: \LPF\01\012106\19921222

LPF\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)\ERD. RSCs shall convert raw profiles to the \*.ERD format and place these files in the ERD directory subfolder.

e.g.: \LPF\01\012106\19921222\ERD

#### Transverse Profile (TPF)

For the transverse profile (TPF) subcategory, the following directory structure shall be used:

TPF\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)

e.g.: \TPF\01\012106\19921222

#### WIM Site Profile (WSP)

For the WIM site profile (WSP) subcategory, the following directory structures and subfolders shall be used:

WSP\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)

(Files since the DNC-690)

e.g.: \WSP\01\012106\20051222

WSP\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)\ERD

RSCs shall convert raw profiles to the \*.ERD and place these files in the ERD subfolder.

e.g.: \WSP\01\012106\20051222\ERD

**Distress (DIS)**

This data type includes two subcategories; Manual Distress Surveys/maps (MDM) and Automated/photographic Distress Surveys (ADS). For each subcategory, there are two types of files; surveys (or maps) and photographs (or images). Collectively, these are as follows:

- 1) Manual distress maps/surveys (MDM);
- 2) Manual distress survey photos/images (MDP);
- 3) Automated/photographic distress maps/surveys (ADS); and
- 4) 35 mm photographic distress film/photographs (ADP)

The directory structure for each subcategory is as follows:

Manual distress surveys/maps (MDM) – includes MDM and MDP files;  
MDM\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)  
e.g.: \MDM\24\241006\20010229

Automated distress surveys/maps (ADS) – includes ADS and ADP files;  
ADS\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)  
e.g.: \ADS\24\241006\20010229

The Distress Review MS Access file from the DiVA output and the Distress Photo Survey MS Access metadata database table shall be stored in the root directory for each DIS DVD submitted.

**Examples of DVD Labels and Directory Structures for Each Data Type:**

Deflection (DEF)

DVD-R Label: *FHWA LTPP DEFLECTION*  
Submittal Date *June 2005*  
Disk Name *DEF\_WR\_01-01*  
Range *AL(01)-KS(20)*

Directory Structure:  
DEF\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)  
e.g.: \DEF\48\480102\20040905

Profile (PRF)

DVD-R Label: *FHWA LTPP PROFILE*  
Submittal Date *June 2005*  
Disk Name *PRF\_SR\_02-10*  
Range *AL(01)-KS(20)*

Directory Structures and Subfolders:  
LPF\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)  
e.g.: \LPF\01\012106\19921222

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LPF\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)\ERD  
e.g.: \LPF\01\012106\19921222\ERD  
TPF\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)  
e.g.: \TPF\01\012106\19921222  
WSP\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)  
e.g.: \WSP\01\012106\19921222  
WSP\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)\ERD  
e.g.: \WSP\01\012106\19921222\ERD

Distress (DIS):

DVD-R Label:        *FHWA LTPP DISTRESS*  
Submittal Date:    *June 2005*  
Disk Name:         *DIS\_NC\_01-09*  
Range:              *AL(01)-KS(20)*

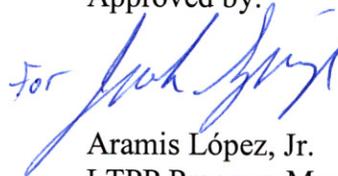
Directory Structures:

MDM\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)  
e.g.: \MDM\24\241006\20010229  
ADS\STATE\_CODE\STATE\_CODE+SHRP\_ID\SURVEY\_DATE (YYYYMMDD)  
e.g.: \ADS\24\241006\20010229

Questions concerning this directive should be addressed to the FHWA LTPP Team member responsible for IMS operations, with a copy to the LTPP TSSC.

Prepared by: TSSC/FHWA

Approved by:



Aramis López, Jr.  
LTPP Program Manager