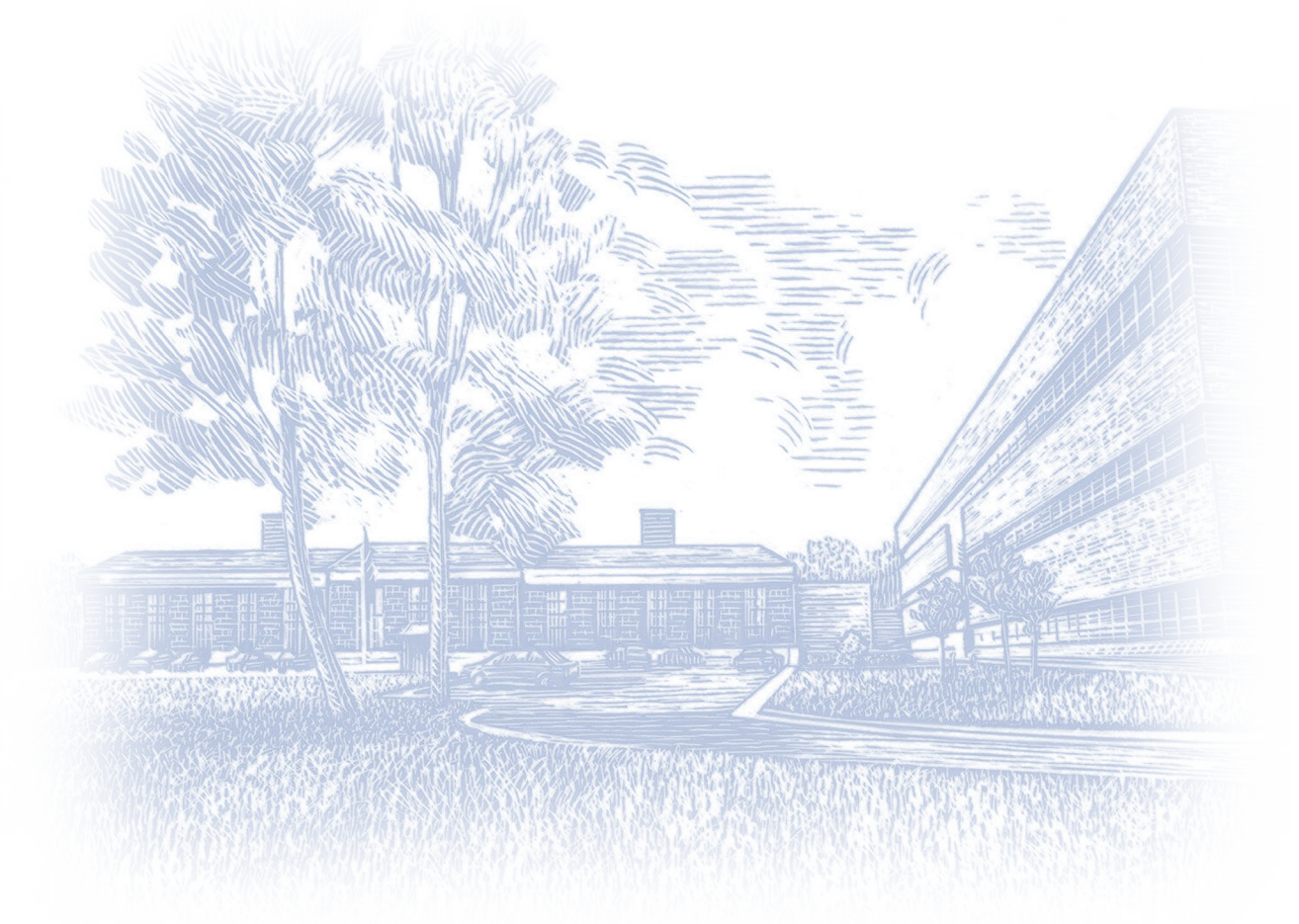


List of LTBP Program Protocol Worksheets

Publication No.: N/A

Year 2015



The original format of this document was an active HTML page(s). The Federal Highway Administration converted the HTML page(s) into an Adobe® Acrobat® PDF file to preserve and support reuse of the information it contained.

The intellectual content of this PDF is an authentic capture of the original HTML file. Hyperlinks and other functions of the HTML webpage may have been lost, and this version of the content may not fully work with screen reading software.

Foreword

These protocol worksheets are a part of the Federal Highway Administration's *Long-Term Bridge Performance (LTBP) Program Protocols, Version 1* (Publication No.: FHWA-HRT-16-007). To ensure that LTBP Program data are collected in a consistent manner over the duration of the program, data collection protocols were developed for data collection, mining of bridge legacy data, visual inspection, sampling and testing of concrete materials, and nondestructive evaluation of bridges, as well as data management and storage.

The following worksheets, along with the appropriate protocols to which they refer can be used for collecting, recording, and storing data. If specific protocol worksheets are desired, they can be found at the links provided below. For more information, please contact Robert Zobel at robert.zobel@dot.gov or Yamayra Rodriguez at yamayra.rodriguez@dot.gov.

Download a zipped file containing all protocols. Or, select individual protocol worksheets using the links below. (These worksheets use Microsoft Excel. If you do not have the Excel worksheet program, you may download a reader [here](#).)

Previsit Protocols (PRE)

Existing Documentation (ED)

Bridge Documentation Protocols (BD)

- PRE-ED-BD-001, Plans and Specifications for Bridge Design and Construction
- PRE-ED-BD-002, Bridge Construction Records
- PRE-ED-BD-003, Bridge Design and Construction Cost Data
- PRE-ED-BD-004, Bridge Site Conditions
- PRE-ED-BD-005, Bridge Inspection Records
- PRE-ED-BD-006, Bridge Maintenance Records and Cost Data
- PRE-ED-BD-007, Calculation of Bridge Ratings

Legacy Data Mining Protocols (LD)

- PRE-ED-LD-001, Legacy Data Mining for Untreated Bridge Decks

Preliminary Planning and Logistics (PL)

Logistics Protocols (LO)

- PRE-PL-LO-001, Reference Bridge Testing - **N/A**
- PRE-PL-LO-002, Cluster Bridge Testing - **N/A**
- PRE-PL-LO-003, Traffic Control, Maintenance and Protection of Traffic (MPT), and Permits
- PRE-PL-LO-004, Personal Health and Safety Plan - **N/A**
- PRE-PL-LO-005, Personnel Qualifications - **N/A**
- PRE-PL-LO-006, Power and Network Requirements - **N/A**
- PRE-PL-LO-007, Communication and Coordination Plan - **N/A**

Field Visit Protocols (FLD)

Onsite Pretest Activities (OP)

Site Preparedness Protocols (SP)

- FLD-OP-SP-001, Site Preparation - **N/A**

Spatial Context Protocols (SC)

- FLD-OP-SC-001, Data Collection Grid and Coordinate System for Bridge Decks
- FLD-OP-SC-002, Structure Segmentation and Element Identification System - **N/A**
- FLD-OP-SC-003, Determination of Local Origins for Elements

Field Data Collection (DC)

Photography Protocols (PH)

- FLD-DC-PH-001, Photography Equipment Requirements - **N/A**
- FLD-DC-PH-002, Photographing for Documentation Purposes - **N/A**
- FLD-DC-PH-003, Image Naming - **N/A**

Material Sampling Protocols (MS)

- FLD-DC-MS-001, Wet Coring of Concrete Decks
- FLD-DC-MS-002, Compressive Strength and Static and Dynamic Elastic Moduli of Concrete Cores
- FLD-DC-MS-003, Resistance of Concrete to Chloride Ion Penetration (Permeability)
- FLD-DC-MS-004, Sampling and Testing for Chloride Profiles

Nondestructive Evaluation Protocols (NDE)

- FLD-DC-NDE-001, Electrical Resistivity Testing
- FLD-DC-NDE-002, Ground Penetrating Radar Testing for Bridge Decks
- FLD-DC-NDE-003, Half-Cell Potential Testing
- FLD-DC-NDE-004, Impact Echo Testing
- FLD-DC-NDE-005, Linear Polarization Resistance Testing
- FLD-DC-NDE-006, Dye Penetrant Testing
- FLD-DC-NDE-007, Ultrasonic Surface Wave Testing—Concrete
- FLD-DC-NDE-008, Ultrasonic Testing—Steel Fatigue Cracking

Visual Inspection—Steel Elements Protocols (VIS)

- FLD-DC-VIS-001, Steel Superstructure Deterioration - **N/A**
- FLD-DC-VIS-002, Steel Superstructure—Corrosion
- FLD-DC-VIS-003, Steel Superstructure—Section Loss
- FLD-DC-VIS-004, Steel Superstructure—Cracking, Deflection, Uplift, Distortion, Buckling, Rotation, and Impact Damage

Visual Inspection—Concrete Elements Protocols (VIC)

- FLD-DC-VIC-001, Concrete Deterioration - **N/A**

- FLD-DC-VIC-002, Concrete Substructure Condition Assessment - **N/A**
- FLD-DC-VIC-003, Concrete Deck—Spalls and Delamination
- FLD-DC-VIC-004, Concrete Superstructure and Substructure—Spalls and Delamination
- FLD-DC-VIC-005, Concrete—Cracking
- FLD-DC-VIC-006, Concrete—Abrasion
- FLD-DC-VIC-007, Concrete—Sulfate Attack

Visual Inspection—Bearings Protocols (VIB)

- FLD-DC-VIB-001, Elastomeric Bearings
- FLD-DC-VIB-002, Rocker Bearings

Visual Inspection—Joints Protocols (VIJ)

- FLD-DC-VIJ-001, Drainage System on Bridge Decks and Approach Slabs
- FLD-DC-VIJ-002, Expansion Joints

Data Storage (DS)

Local Storage Protocols (LS)

- FLD-DS-LS-001, Data, Document, and Image Storage—Local - **N/A**

Remote Storage Protocols (RS)

- FLD-DS-RS-001, Data, Document, and Image Storage—Remote - **N/A**