

# Long-Term Pavement Performance Data Analysis Program

## LTPP Strategic Plan Objectives, Analysis Outcomes, and Supporting Projects

Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Objective 6	Objective 7	Objective 8	Objective 9
<b>Traffic characterization and prediction</b> <b>A</b> <b>1</b> <b>High</b>	<b>Materials characterization</b> <b>A</b> <b>1</b> <b>High</b>	<b>Determination of environmental effects in pavement design and performance prediction</b> <b>A</b> <b>1</b> <b>High</b>	<b>Evaluation and use of pavement condition data in pavement management</b> <b>A</b> <b>1</b> <b>High</b>	<b>Development of pavement response and performance models applicable to pavement design and performance prediction</b> <b>A</b> <b>1</b> <b>High</b>	<b>Maintenance and rehabilitation strategy selection and performance prediction</b> <b>A</b> <b>1</b> <b>High</b>	<b>Quantification of the performance impact of specific design features</b> <b>A</b> <b>1</b> <b>High</b>	<b>Analysis supporting and enhancing the use of the ME-PDG</b> <b>A</b> <b>1</b> <b>High</b>	<b>Comprehensive use of LTPP to improve the management of pavement assets</b> <b>A</b> <b>1</b> <b>High</b>
<b>Guidelines for data collection (hardware, software, calibration, data collection frequency), data element requirements beyond LTPP data analysis, but analysis is needed to provide some context</b> <b>A</b> <b>1</b> <b>High</b>	<b>Robust material properties to pavement performance</b> <b>A</b> <b>1</b> <b>High</b>	<b>Characterization of temporal variations in pavements</b> <b>A</b> <b>1</b> <b>High</b>	<b>Data relevance and effectiveness</b> <b>A</b> <b>1</b> <b>High</b>	<b>Guidelines for selection of appropriate response models for use in pavement response prediction (e.g., input-output models)</b> <b>A</b> <b>1</b> <b>High</b>	<b>Up-to-date LTPP maintenance and rehabilitation data available for analysis use</b> <b>A</b> <b>1</b> <b>High</b>	<b>Impact of design features on measured pavement performance (deflection, load transfer, stress, etc.)</b> <b>A</b> <b>1</b> <b>High</b>	<b>Implementation of the ME-PDG using LTPP data</b> <b>A</b> <b>1</b> <b>High</b>	<b>Network level assessment and program development</b> <b>A</b> <b>1</b> <b>High</b>
<b>NCHRP 243</b> <b>Guidelines for Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design</b> <b>A</b> <b>1</b> <b>High</b>	<b>NCHRP 243</b> <b>Guidelines for Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design</b> <b>A</b> <b>1</b> <b>High</b>	<b>NCHRP 243</b> <b>Guidelines for Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design</b> <b>A</b> <b>1</b> <b>High</b>	<b>NCHRP 243</b> <b>Guidelines for Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design</b> <b>A</b> <b>1</b> <b>High</b>	<b>NCHRP 243</b> <b>Guidelines for Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design</b> <b>A</b> <b>1</b> <b>High</b>	<b>NCHRP 243</b> <b>Guidelines for Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design</b> <b>A</b> <b>1</b> <b>High</b>	<b>NCHRP 243</b> <b>Guidelines for Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design</b> <b>A</b> <b>1</b> <b>High</b>	<b>NCHRP 243</b> <b>Guidelines for Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design</b> <b>A</b> <b>1</b> <b>High</b>	<b>NCHRP 243</b> <b>Guidelines for Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design</b> <b>A</b> <b>1</b> <b>High</b>
<b>Guidelines for using traffic data in pavement applications</b> <b>B</b> <b>2</b> <b>High</b>	<b>Appropriate using current properties determined in the laboratory</b> <b>B</b> <b>1</b> <b>High</b>	<b>Guidelines for using traffic data in pavement applications</b> <b>B</b> <b>2</b> <b>High</b>	<b>Quality of data</b> <b>B</b> <b>2</b> <b>High</b>	<b>Guidelines for optimal timing of pavement maintenance and rehabilitation</b> <b>C</b> <b>1</b> <b>High</b>	<b>Guidelines for optimal timing of pavement maintenance and rehabilitation</b> <b>C</b> <b>1</b> <b>High</b>	<b>Guidelines for optimal timing of pavement maintenance and rehabilitation</b> <b>C</b> <b>1</b> <b>High</b>	<b>Guidelines for optimal timing of pavement maintenance and rehabilitation</b> <b>C</b> <b>1</b> <b>High</b>	<b>Guidelines for optimal timing of pavement maintenance and rehabilitation</b> <b>C</b> <b>1</b> <b>High</b>
<b>Guidelines for forecasting and backcasting traffic loading data</b> <b>C</b> <b>3</b> <b>High</b>	<b>Using deflection and DCP procedures to obtain material properties and their variability</b> <b>D</b> <b>1</b> <b>High</b>	<b>Guidelines for forecasting and backcasting traffic loading data</b> <b>C</b> <b>3</b> <b>High</b>	<b>History of advances in research</b> <b>C</b> <b>3</b> <b>High</b>	<b>Selection of timely and effective maintenance and rehabilitation activities</b> <b>D</b> <b>2</b> <b>High</b>	<b>Selection of timely and effective maintenance and rehabilitation activities</b> <b>D</b> <b>2</b> <b>High</b>	<b>Selection of timely and effective maintenance and rehabilitation activities</b> <b>D</b> <b>2</b> <b>High</b>	<b>Selection of timely and effective maintenance and rehabilitation activities</b> <b>D</b> <b>2</b> <b>High</b>	<b>Selection of timely and effective maintenance and rehabilitation activities</b> <b>D</b> <b>2</b> <b>High</b>
<b>Guidelines for characterizing material properties</b> <b>E</b> <b>1</b> <b>High</b>	<b>Time and load dependent material properties</b> <b>F</b> <b>1</b> <b>High</b>	<b>Guidelines for characterizing material properties</b> <b>E</b> <b>1</b> <b>High</b>	<b>Data management</b> <b>D</b> <b>1</b> <b>High</b>	<b>Impact of pavement roughness on the dynamic loads applied to pavements</b> <b>D</b> <b>3</b> <b>High</b>	<b>Validation of pavement response and performance prediction models</b> <b>E</b> <b>1</b> <b>High</b>	<b>Validation of pavement response and performance prediction models</b> <b>E</b> <b>1</b> <b>High</b>	<b>Validation of pavement response and performance prediction models</b> <b>E</b> <b>1</b> <b>High</b>	<b>Validation of pavement response and performance prediction models</b> <b>E</b> <b>1</b> <b>High</b>
<b>Time and load dependent material properties</b> <b>F</b> <b>1</b> <b>High</b>	<b>Time and load dependent material properties</b> <b>F</b> <b>1</b> <b>High</b>	<b>Time and load dependent material properties</b> <b>F</b> <b>1</b> <b>High</b>	<b>Time and load dependent material properties</b> <b>F</b> <b>1</b> <b>High</b>	<b>Time and load dependent material properties</b> <b>F</b> <b>1</b> <b>High</b>	<b>Time and load dependent material properties</b> <b>F</b> <b>1</b> <b>High</b>	<b>Time and load dependent material properties</b> <b>F</b> <b>1</b> <b>High</b>	<b>Time and load dependent material properties</b> <b>F</b> <b>1</b> <b>High</b>	

### Priorities

Critical	Red
Very High	Blue
High	Green
Sequence	1 2 3

Sequence numbers denote the order in which Analysis Outcomes should be addressed for a given Objective. Analysis Outcomes with the same sequence number can be addressed at the same time.

**March 13, 2017**

Note

1) Problem Statements are assigned a 3 character number using the convention 'O, A, n'. 'O' is the associated Strategic Objective number (1 through 9); 'A' is the associated Analysis Outcome letter (A, B, C, etc.) and 'n' is an arbitrarily assigned number used for identification purposes. The number 'n' does not imply a sequence in which Problem Statements should be addressed.

Dashed light blue boxes are ongoing NCHRP projects that were initiated by the LTPP ETC. Solid Light Blue boxes are completed projects.

Dashed pink boxes are ongoing NCHRP projects that were initiated by other agencies or work groups, but are directly associated with LTPP Data Analysis Plan Strategic Objectives and Analysis Outcomes. Solid Pink boxes are completed projects.

Dashed white boxes are proposed Research Problem Statements that were developed at LTPP Workshops. See Note 1) for an explanation of the Problem Statement Numbering scheme.

Hashed orange boxes are planned FHWA projects that will be funded using LTPP budgeted funds.

Dashed orange boxes are ongoing FHWA projects that were funded using LTPP budgeted funds.

Thin solid boxes are completed projects with reports pending.

Thick solid boxes are completed projects with reports published.