Establish Inputs for the Rigid Component of
the New Mechanistic-Empirical Pavement Design Guide

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Introduction
The current 1993 design guide is based on the empirical interpretation of the results of the 1960 American Association of State Highway Officials (AASHO) Road Test. With the release of the new Mechanistic-Empirical Pavement Design Guide (MEPDG), pavement design has taken a leap forward. This design guide is based on pavement design procedures that use existing mechanistic-empirical principles. The MEPDG has been approved by AASHTO and highway agencies are starting to implement the use of this new design methodology.

Problem Statement
To date, the PennDOT’s implementation effort of the Mechanistic-Empirical Pavement Design Guide (MEPDG) been focused on the flexible pavement design. This study aims to focus on the implementation the rigid pavement portion of MEPDG.

Objective
The objective of this research is to begin implementation process for the use MEPDG in production mode for the design of rigid pavements. The following tasks will be performed to meet this objective:

Phase I:
a. Identify the inputs for the MEPDG that can be defined for Pennsylvania conditions with information currently available.
b. Perform a sensitivity analysis using the data from Phase Ia to identify the most critical inputs for Pennsylvania conditions so that resources can be strategically allocated.

Phase II:
a. Estimate input data needs required for using the MEPDG in production mode
b. Identify field performance data linked with the corresponding design, construction and traffic data available for validation.
c. Develop and execute a field study for meeting the data needs identified in Phase I & II.

Work in Progress
Currently Phase I of the project has started, which means the Pitt research team is working on identifying the inputs for the MEPDG and checking the availability and accuracy of the data for defining these inputs.