

RP 279 – Development of a Prediction Model for Pavement Temperature

- Project Description:

This project aims to expedite the Falling Weight Deflectometer (FWD) testing and operations by eliminating the need for drilling holes for measuring mid-depth pavement temperature a day before testing. The objective of this project will be achieved by developing a procedure that can be used by ITD crew to predict the mid-depth pavement temperature as a function of pavement surface temperature, that can be measured using infrared thermometer, and the high and low air temperatures the day before testing, which can be obtained from weather records. It is expected that such procedure will speed up the FWD testing, reduce costs for traffic control, and improve safety by eliminating the need to measure temperatures in the roadway.

- Project Objective:

The main objectives of this project include:

1. Reviewing and selecting proper methods/models used for predicting mid-depth pavement temperature using pavement surface temperature and high and low air temperatures a day before testing.
2. Validating and revising existing models or develop a new one for predicting mid-depth pavement temperature and develop an excel-based utility that can be used by ITD crew to determine the mid-depth pavement temperature.
3. Developing recommendations and guidelines on a revised practice for ITD-FWD testing and operations.

- Estimated Completion Date: June 30, 2020

- Budget: \$50,000

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