

## **RP 261 – Development and Evaluation of Performance Measures to Augment Asphalt Mix Design in Idaho**

### ○ Project Description:

This project will examine and recommend candidate performance tests to evaluate the resistance of asphalt mixtures to cracking (fatigue and thermal), rutting, and moisture damage. In addition, as part of the project researchers will develop specification limits for these tests to be included in the asphalt mix design in Idaho.

### ○ Project Objectives:

The objectives of this project are to:

1. Review current tests used by other transportation agencies to evaluate cracking, rutting, and moisture damage of asphalt mixtures, review the specification limits set by different states for these tests.
2. Conduct field performance evaluation of pavement distresses at selected sites
3. Conduct laboratory performance tests on materials collected from field sites including cores and virgin materials prepared according to ITD's original mix design for the sites. Testing will include:
  - *Cracking tests*: direct tension cyclic fatigue test, semi-circular bend (SCB), indirect tension (IDT) may be conducted to evaluate the resistance of asphalt mixture to fatigue and thermal cracking.
  - *Rutting tests*: Hamburg wheel tracking or APA Jr, dynamic repeated load tests, and flow number and flow time test may be conducted to evaluate the resistance of asphalt mixtures to rutting.
  - *Moisture damage tests*: modified Lottman test, IDT, and direct tension cyclic, and Hamburg wheel tracking or APA Jr in wet conditions may be used to study the moisture susceptibility test samples.
4. Compare laboratory test results with field performance information to identify if there are tests that could be used to predict field performance of mixes
5. Develop performance test specifications for each test.

### ○ Estimated Completion Date: September 30, 2017

### ○ Budget: \$169,998.97

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