

RP 275 – Statistical Analysis of HMA Production and Construction Data to Improve Quality Assurance and Acceptance Practices in Idaho

- Project Description:

The purpose of this project is to examine discrepancies between contractor-produced and ITD-produced QC/QA test results associated with HMA production and testing. During the year 2017, ITD undertook a forensic study on 13 pre-selected projects to identify any possible discrepancies between ITD-produced and contractor-produced test results. Out of the 77 comparisons (based on comparing six key properties) carried out, only 20 (26%) cases were observed where the contractor-produced and ITD-produced test results were in good agreement with each other; 57 (74%) cases were found where the two data sets did not ‘agree’ with each other (due to differences in mean and/or variances). This emphasized the need to review ITD’s practices related to QC/QA of HMA production and construction data. This research will examine sources of such discrepancies, the significance of any discrepancies present, and also their potential effects on construction costs, maintenance costs, and pavement life with the goal of improving the overall condition of asphalt pavements in the state of Idaho.

- Project Objective:

The primary objective of this proposed project is to identify sources of discrepancies/inconsistencies in HMA production and construction data through extensive statistical analysis. The data to be analyzed will include: (1) Contractor-provided mix design data; (2) data from ITD’s mix design verification efforts; (3) Modifications made to the original mix design through the Contractor’s Job Mix Formula (JMF); (4) Data from QC testing at the HMA plant (contractor-produced); and (5) QA data obtained during the pavement construction.

- Estimated Completion Date: June 30, 2020
- Budget: \$125,000
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