RP 292 – *Implementation of Balanced Mix Design of Asphalt Mixtures Prepared with Reclaimed Asphalt Pavements and Rejuvenators for Enhanced Performance*

- Project Description:
  The Idaho Transportation Department is interested in utilizing performance-based testing for asphalt mixtures used in construction. A previous ITD research project (RP 261) recommended adoption of a balanced mix design approach utilizing tests aimed at assessing the rutting and cracking performance of asphalt mixtures in Idaho. RP 261 proposed performance thresholds to ensure adequate resistance to cracking, rutting, and moisture damage. This study will check the proposed performance thresholds for additional mixtures produced in the state and revise the thresholds as needed. As part of the study, researchers will also study the use of rejuvenators to improve the performance of RAP mixtures and increase its content without compromising the performance of asphalt mixtures.

- Project Objective:
  The objectives of this project include:
  - Evaluating and validating the performance thresholds developed in previous ITD research project RP 261 for additional asphalt mixtures currently produced in the state.
  - Evaluating the effect of rejuvenators on improving the performance of asphalt mixtures containing different percentages of RAP and reducing the need for softer binders which are costly to obtain.
  - Applying the balanced (engineered) mix design concept and performance thresholds, developed in RP 261, to optimize the mix design (e.g., binder content and gradation) of HMA prepared with RAP and rejuvenators for improved performance.
  - Studying the economic savings of using rejuvenators and RAP in asphalt mixtures.
  - Developing recommendations and guidelines on revising performance thresholds developed in RP 261 (if needed) and incorporating rejuvenators and RAP into asphalt mixtures that provide comparable or superior performance to control mixtures.

- Estimated Completion Date: August 31, 2022
- Budget: $170,000
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