FHWA Mixtures and Construction Expert Task Group Meeting
April 2016
FY 2017 PROJECTS

- **Project 9-61:** Short and Long-term Aging Methods to Accurately Reflect Binder Aging in Different Asphalt Applications ($750,000)

- **Project 9-62:** Quality Assurance and Specifications for In-Place Recycled Pavements Constructed Using Asphalt-Based Recycling Agents ($750,000)
**PROJECTS NEARING COMPLETION**

- **9-49A**: Performance of WMA Technologies: Stage II--Long-Term Field Performance (Washington State University)
- **9-56**: Identifying Influences on and Minimizing the Variability of Ignition Furnace Correction Factors (NCAT)
- **20-07/Task 382**: Longer Pavement Life from Increased In-Place Density of Asphalt Pavements (Decker)
Recent Publications

NCHRP Reports:

- 818: Comparing the Volumetric and Mechanical Properties of Laboratory and Field Specimens of Asphalt Concrete (Project 9-48)
- 815: Short-Term Laboratory Conditioning of Asphalt Mixtures (Project 9-52)
NCHRP Reports:

- **817**: Validation of Guidelines for Evaluating the Moisture Susceptibility of WMA Technologies (Project 9-49B)
- **807**: Properties of Foamed Asphalt for Warm Mix Asphalt Applications (Project 9-53)
- Web-Only Document 219: Hamburg Wheel-Track Test Equipment Requirements and Improvements to AASHTO T 324 (Project 20-07/Task 361)
PROPOSED AASHTO STANDARDS

- Recommended Practice That Addresses The Cause And Magnitude Of Variability Within And Among The Three Specimen Types (i.e., LL, PL, and PF). (Project 9-48)

- Recommended Practice on Measuring the Effects of Asphalt Plant Mixing and Processing on Binder Absorption by Aggregate and Asphalt Mixture Characteristics (Project 9-52)
PROPOSED AASHTO STANDARDS

- Revisions to AASHTO R 30, Standard Practice for Mixture Conditioning of Hot Mix Asphalt (HMA) (*Project 9-52*)
- Revisions to AASHTO R 35, Superpave Volumetric Design for Hot Mix Asphalt (HMA) (*Projects 9-49 and 9-49B*)
- Test for Determining the Expansion and Collapse of Foamed Binder by Using the Laser Distance Measurement Device (*Project 9-53*)
PROPOSED AASHTO STANDARDS

- **Test for** Determining the Size Distribution and Surface Area of Binder Foam Bubbles During the Foaming Process (*Project 9-53*)
- **Tests for** Evaluating the Workability and Coatability of Foamed Warm Mix Asphalt by a Laboratory Foaming Unit Using a Superpave Gyratory Compactor (*Project 9-53*)
Revisions to AASHTO T 324, Hamburg Wheel-Track Testing of Compacted Hot Mix Asphalt (HMA) (Project 20-07/Task 361)
HTTP://WWW.TRB.ORG/NCHRP
Projects in Progress
Laboratory procedure to simulate long-term aging of asphalt mixtures for performance testing and prediction.

Correlate rheology and kinetics of binders aged in the laboratory and long term in the field, including ARC, MnRoad, FHWA-ALF, WesTrack, and LTPP SPS-1 and SPS-8.

Dr. Richard Kim will present current results at this meeting.

North Carolina State University (August 2016)
Develop a design and evaluation procedure for acceptable performance of asphalt mixtures incorporating WMA technologies and RAS, with and without RAP, for project-specific service conditions.

Testing and analysis of field specimens in progress.

National Center for Asphalt Technology (July 2017)
9-57: EXPERIMENTAL DESIGN FOR FIELD VALIDATION OF LABORATORY TESTS TO ASSESS CRACKING RESISTANCE OF ASPHALT MIXTURES

- Develop an experimental design for a field experiments to validate (a) laboratory-to-field relationships for selected fatigue tests and (b) criteria for assessing the cracking potential of asphalt mixtures.
- Dr. Dave Newcomb will present key findings at this meeting.
Determine asphalt binder properties that are significant indicators of the fatigue performance of asphalt mixtures.

Identify or develop a practical, implementable binder test (or tests) to measure properties that are significant indicators of mixture fatigue performance.

Advanced Asphalt Technologies (October 2017)
Propose changes to the current PG asphalt binder specifications and test methods to remedy shortcomings related to incidents of premature failure of asphalt pavements.

- **FY 2016, $1.0M**
- **Contract in negotiation**
Determine the appropriate trigger measure and value, which necessitates use of Dry Back procedure in AASHTO T 209.
Establish criteria for sample mechanical shaking in AASHTO T 209 that assures measurement of true $G_{mm}$ values.

Contract in negotiation.