AASHTO SOC

Performance Related Specification for Asphalt and Concrete Pavements

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Benefits of PRS

• Long term pavement performance predicted from fundamental engineering properties for Asphalt and Empirical/Fundamental properties for Concrete
• Incentives and disincentives justified through reduction or increase in pavement life
• Allow contractors to be more innovative and more competitive
Performance Approach

01 Assess Materials Using Standardized AASHTO or ASTM Tests

02 Transform Test Results into Material Properties

03 Relate Material Properties and Exposure to Predict Service Life

04 Use Service Life Predictions to Establish Pay Factors

After Barde et al. 2007
Tools, Guidelines, and Sample Specifications

- Define the PRS approach and the system of tools that agencies can use
  - A framework of the PRS approach
  - Describe a system of tests, quality characteristics, models or transfer functions for predicting performance
- Guidelines
  - Steps that an agency needs to take to develop and implement PRS
  - Lot/sublot layouts, type and number of tests, inspection and testing procedures and protocols, decision-making details that impact pay, etc.
- Sample specifications
  - AASHTO format
Objectives of Shadow PRS

- How would project have been accepted, (and contractor paid), if PRS were used
- Understand ways that PRS may impact normal testing and acceptance operations
Shadow Projects

- Working with State Highway Agencies for shadow projects
  - Conduct a coordination meeting
  - Collect and analyze pre-construction data
  - Training of highway agency staff and develop the PRS
  - Address contractor questions and concerns
  - Training for field implementation
  - Implement the sampling and testing plans on the project site.
  - Perform an evaluation of the PRS practicality and effectiveness
  - Prepare a summary report
- Use results for validation and refinements to procedure and guidelines
Asphalt Shadow PRS Plans

- Missouri DOT – 3 projects underway
- Maine DOT – July/August 2017
- Ontario MOT – Fall 2017
- Maryland SHA – Ongoing
- North Carolina DOT – SHRP2 R07
- FHWA Western Federal Lands – 1 of 2 Completed

- FHWA Mobile Asphalt Trailer support
Concrete Shadow PRS Status

- Illinois Tollway – Implemented beyond shadow
- Colorado DOT – Sept 2017
- Texas DOT – Fall/Winter 2017-18
- FHWA Mobile Concrete Trailer support
What Will I Get Out of This?

- FHWA/ARA/NCSU Will provide shadow guidelines and Technical support.
- Performance Testing Procedures Training
- Software and Analysis Training
  - Understanding of Performance Related Specification and how they measure Performance.
- SEEKING SHADOW PROJECTS
Thank you!

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