SHRP2 SOLUTIONS
TOOLS FOR THE ROAD AHEAD

Using Performance Specifications to Leverage Intelligent Compaction in Alabama

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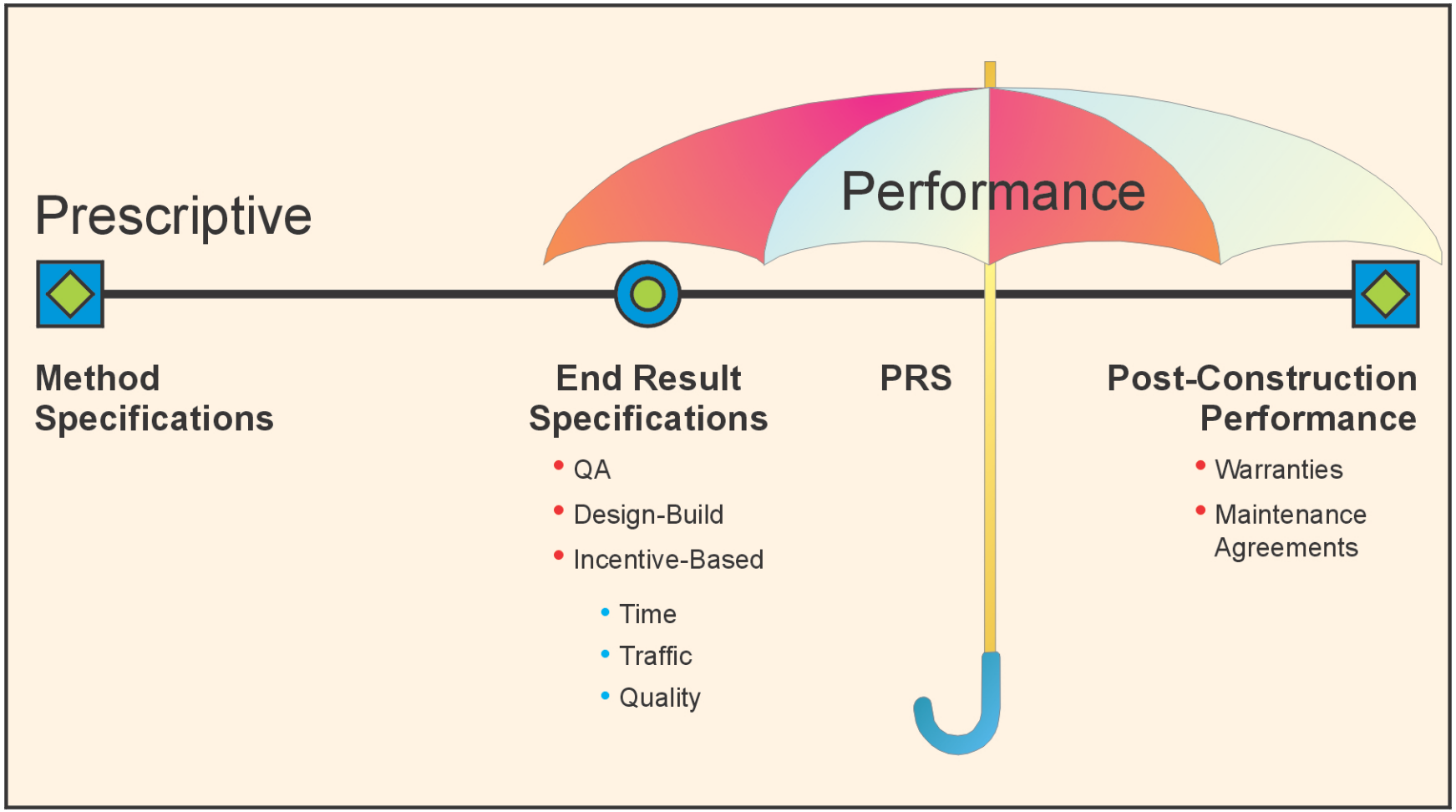
Today's Presentation

- Alabama's opportunity with implementing Performance Specifications
- SHRP2 Performance Specifications Solution
- Alabama's approach to implementation – connecting two new innovations
- Expected benefits and value

Opportunity - Advancing new two technologies together

- Alabama DOT wants **new testing methods** to address uniformity of the mat during mix placement to get longer-term pavement performance and increase contractor productivity.
  - Current methods are core testing and nuclear density testing via the back scatter method.
- EDC's **intelligent compaction technology**
  - Identifies temperature segregation areas, zones or spots of lower stiffness, paver stops, quality of joints
  - Potentially preventing premature failure providing long term cost saving benefits.
- SHRP2 **performance-based specification** will allow ALDOT to assess the entire roadway mat and provide real-time quality control for the contractor in asphalt laydown operations.

Specification Continuum



SHRP2's Performance Specifications for Rapid Renewal – R07

SHRP2 addressed the challenge to deliver projects faster, with better quality, and less disruption

- Conventional prescriptive requirements place the burden on owners to design, specify, and control the work.
- These requirements often hinder the innovation needed to deliver projects faster or find methods that minimize disruption.

Solution – Performance Specs

- Performance specifications emphasize desired results.
- Products include: Implementation guide.
  - Model performance specifications for various project types and delivery methods
    - Pavements, geotechnical, bridges.
    - Design-bid-build, design-build, design-build-warranty, and design-build-operate-maintain

Guide Performance Specifications

- Asphalt pavement (DBB)
- Asphalt pavement (DB)
- Asphalt pavement (Warranty)
- Concrete pavement (DBB)
- Concrete pavement (DB)
- Concrete pavement (Warranty)
- Precast concrete pavement
- Pavement (Design-Build-Operate-Maintain)
- Concrete bridge deck
- Vertical support elements

- Subsurface improvements for existing pavements
- Work zone traffic control
- Quality management

What was Alabama's Approach?

- **Incorporate intelligent compaction through the use of performance-based specifications** into two Every Day Counts Initiative projects selected for demonstrating this new technology.
- Identify two projects set up to specifically utilize intelligent compaction in the late 2014 or early 2015 paving season.
- Conduct **side-by-side testing**
- Develop a **performance-based specification** in the area of Intelligent Compaction.

Implementation Activities

- Add Alabama data to the **National Specifications Website** under ‘Emerging Specifications’.
- Participate in **regional or national knowledge-sharing events** to promote Intelligent Compaction.
- Develop **field-testing protocol**.
- **Upgrade or purchase** testing equipment.
- Conduct **training/workshop f**or Inspectors/Contractors.
- Conduct **post-construction assessment** of project and specifications.

Expected Value to Alabama DOT

- Demonstrate the **benefit** of implementing the intelligent compaction technology to the contractors.
- Supply ALDOT with a **new method** to accurately and completely evaluate the roadway mat and placement practices of the contractor.
- **Encourage contractors** to apply greater control and ingenuity.
- **Improve** project quality.
- **Accelerate** construction.
- **Minimize costly** construction oversight.
- Ensure construction management resources are **applied efficiently.**
- **Reduce claims and inspection.**

Next Steps

- Continued participation and advocacy for SHRP2
- Alabama's participation in Round 4
  - Tools to Improve PCC Pavement Smoothness During Construction (R06E) – as Lead Adopter
  - Technologies to Enhance Quality Control on Asphalt Pavements (R06C) – as Lead Adopter

Questions?

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More information on SHRP2

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