Minimum Effective Asphalt Content
- **Short-term**: Minimum effective asphalt content
- **Long-term**: Performance testing for mix design approval
Minimum Effective Asphalt Content

- Reviewed District 1-0 (total) and District 4-0 approach
- Extracted CAMM’s 9.5 mm Mix Design Information
  - Applied Minimum effective asphalt targets
  - 32% of existing mixes did not meet
- Reviewed known good and bad performing mixes
- Discussed how target values derived
- How do we implement and consider workload?
- No change to previously approved JMF if it meets requirements
Minimum Effective Asphalt Content

New Pbe Requirements for 9.5mm Mixes - PennDOT

- Good Performers
- Poor Performers
- NYSDOT
- Spec Limit
### Minimum Effective Asphalt Content

#### Minimum Pbe for 9.5mm Superpave Mixes

<table>
<thead>
<tr>
<th>Gsb</th>
<th>Pbe</th>
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<tbody>
<tr>
<td>2.250 to 2.274</td>
<td>6.2</td>
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<tr>
<td>2.275 to 2.324</td>
<td>6.1</td>
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<tr>
<td>2.325 to 2.374</td>
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<td>2.675 to 2.724</td>
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<tr>
<td>3.025 to 3.074</td>
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</tbody>
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Minimum Effective Asphalt Content

- CT issued Dec. 10, 2014
  - Creates standard special provision for 9.5mm
  - Minimum effective asphalt content based on Gsb
- Comments due Jan. 9, 2015
- Team meeting Jan. 12, 2015
  - Reviewed comments
  - Revised table to provide range
- Feb. 11, 2015 Implementation letter
- All contracts let after Feb. 12 2015 containing 9.5mm wearing course must contain the special provision.
Minimum Effective Asphalt Content

• For mixes that must have the asphalt content adjusted make 2 gyratory samples.
  – Voids allowed to be 3.5 to 4.0%
  – Maximum VFA revised to 80%
  – Changes to gradation allowed if they are not greater than multiple sieve tolerances in 409.2(e) Table A.

• If any of these conditions are not met a complete redesign must be done.
• Long term asphalt mixture optimization solutions.

• Performance testing of mix design for approval
  – Other states pursuing this option
  – Combination of rut testing and fatigue testing
Performance Testing
- Currently testing (3) different existing PA mixes
  - Aggregates of different geology
- Rut testing: PennDOT lab
- Fatigue: Asphalt institute

**Expected outcome?**
- Determine:
  - Where are existing mixes now?
  - Test methods
  - Specification limits
  - Implementation
- Preliminary test data due this spring
Questions?