

# SEAUPG 2003 REGIONAL UPDATES - EAST

## East Regional Superpave Update North Carolina South Carolina Virginia

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## Top Asphalt Issues in Each State: Materials

- NC: Natural Sand in asphalt mixes (C&D mixes)
- SC: Aggregate gradations and availability (short supply)
- VA: F&E requirement for aggregate used in SMA of 3:1.

## Top Asphalt Issues in Each State: Construction

- NC: Inadequate lift thickness and lack of pneumatic tired rollers both leading to poor compaction and high permeability.
- SC: Over-vibrating coarse surface mixes to achieve compaction
- VA: SMA implementation and density of all mixes.

## Top Asphalt Issues in Each State: Performance

- NC: Coarse graded surface mixes with thin lifts deteriorating badly (potholes)
- SC: Slippage cracking on several roads
- VA: Durability and ride quality

## Design Types for Different Facilities: Interstates

- NC: Superpave D mixes with 125 Ndes gyrations and PG 76-22 binder
- SC: Superpave 100 gyration mixes
- VA: Superpave 65 gyrations mixes with PG 70-22 or 76-22, SMA with 100 gyrations and PG 70-22 or 76-22. Binder grade is dependant on underlying layers and traffic.

## Design Types for Different Facilities: Primary Routes

- NC: Superpave B and C mixes using 75 and 100 gyrations with PG 64-22 and 70-22
- SC: Marshall 75 blows - moving to Superpave during 2004-05
- VA: Superpave 65 gyrations (12.5 and 9.5 mm) with PG 70-22 for high volume and PG 64-22 for low volume

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## Design Types for Different Facilities: Secondary Routes

- NC: A and B mixes using 50 and 75 gyrations with PG 64-22
- SC: Marshall 50 blow (Superpave in 2004-05)
- VA: 65 gyrations (9.5 mm and 9.0 mm) using PG 64-22

## Other Recycled Products Used in HMA

- NC: Using roofing shingles (rejects). Limited to 6%
- SC: None
- VA: None, some interest in shingles

## Asphalt Research Topics: NC

- Impacts of Price Reductions on the Long Term Pavement Performance of HMA mixes in NC
- Dynamic Modulus of Typical Asphalt Mixes in NC

## Asphalt Research Topics: SC

- Laboratory and Field Investigation of Temperature Differential in HMA mixtures using an Infrared Camera
- Evaluation of Aggregate Durability Properties

## Asphalt Research Topics: VA

- Development of a Uniformity (Segregation) Specification
- Analysis of the Stripsan Device (determining the presence of anti-strip)

## Key Research Findings: NC

- Not yet final, but the Dynamic Modulus project has shown a method where this test can be completed in an 8 hour day with fewer temperatures but more frequencies.

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## Key Research Findings: SC & VA

- SC: Research with the APA demonstrates modified binders (PG 76-22) resistance to rutting
- VA: Ability to incorporate permeability in the mix design process

## Steps Toward Implementation of 2002 Design Guide

- NC: Research project characterizing dynamic moduli
- SC: None at the moment
- VA: Beginning to establish a database for material characterization.

## Modification of Structural Numbers for Superpave

- NC: No, planning on moving away from structural numbers.
- SC: No
- VA: No

## Asphalt vs. Concrete Sections?

- NC: None
- SC: One just completed, no conclusions yet
- VA: Will begin researching soon.

## Same Ride Specification for Concrete and Asphalt?

- NC: No
- SC: No
- VA: Yes

## Vibratory Compactors on Secondary Roads

- NC: Individual resident engineers and contractors determine the best methods for compaction.
- SC: Contractor is required to achieve proper compaction, but there are concerns about vibration damaging existing pavement
- VA: Try to achieve maximum density based on conditions and limitations of pavement

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## Future Changes Each State would Like to See

- NC: Metering of baghouse fines and a performance test
- SC: *Simple* Shear Test
- VA: Performance based end result spec that encourages the contractor to meet reasonable specs that produce quality asphalt pavement.

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