

# SEAUPG 2003 REGIONAL UPDATES -WEST


**2003 Southeastern Asphalt  
User/Producer Group**

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**West Regional Update**

November 19, 2003  
Hilton Head, South Carolina


Presentation by  
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**Asphalt Issues Facing States**

- **Materials Related**
- **Construction Related**
- **Performance Related**




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**Materials Related ??????**

Working tank sampling and testing – LA

Aggregate angularity and problems with crush counts on aggregates not meeting minimum specifications – MS

Testing mix designs for rutting potential, repeatability and calibration of gyratory compactors (internal angle), modification of binders by air blowing and acid - AR




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**Construction Related ??????**

Adopting IRI specifications for smoothness – LA

Obtaining correct field densities - MS

Segregation - AR




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**Performance Related ??????**

Contractor's inability to achieve density on low volume Superpave – LA

Stripping as a result of what is believed to be the lack of full incorporation of hydrated lime into the mix – MS


Permeability, tender mixes, smoothness - AR



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**Design Type Used?**

|                     | LA   | MS                               | AR                          |
|---------------------|--|----------------------------------|-----------------------------|
| <b>Interstates:</b> | $N_{des} = 125$ or<br>SMA with ADT ><br>35,000 | $N_{des} = 85$<br>PG 76-22       | $N_{max} = 205$<br>PG 76-22 |
| <b>Primary:</b>     | $N_{des} = 100$                                | $N_{des} = 85$ or 65<br>PG 76-22 | $N_{max} = 205$<br>PG 70-22 |
| <b>Secondary:</b>   | $N_{des} = 75$                                 | $N_{des} = 50$<br>PG 67-22       | $N_{max} = 115$<br>PG 64-22 |



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## *Recycled items other than RAP*

Recycled concrete is allowed in base mixtures, but rarely used (<1%) other than RAP – LA

None, have allowed crushed concrete pavement in bottom lift (<1%) - MS

None, Use 10-15% RAP - AR



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## *Top 2 Research Topics in Progress*

Louisiana

“Comparison of In-situ Strength and Lab Properties of Asphalt Mixtures” (LTRC)

“Implementation of Superpave Mixtures” (LTRC) – Comparing gyratory compaction curve to actual densification curve of Superpave mixtures over 3/5 years of traffic



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## *Top 2 Research Topics in Progress*

Mississippi

“Correlation of the Asphalt Pavement Analyzer (APA) to In-place Field Rut Measurements” - (MSU)

“New Stripping Test” (MSU)



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## *Top 2 Research Topics in Progress*

Arkansas

Moisture Damage (ERSA II) Project

Permeability Project



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## *Key Findings from Recent Research*

The use of hydrated lime as a mineral filler significantly improved the mechanistic properties of the control mixture with limestone and polymer asphalt (LTRC Report No. 306) – LA

In-house research using the DAV has revealed that possibly internal angle does not necessarily reduce variability of bulk gravity results – MS

In-house project that dealt with evaluating asphalt HMA transfer devices - AR



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## *Steps Toward Implementation of Upcoming Pavement Design Guide*

Proposed research to identify material properties using test suggested in AASHTO guide – LA

Consultants have been hired to develop modulus values for HMA and for both bound and unbound bases – MS

In process of purchasing resilient modulus device to obtain actual in-place values of soils instead of estimating - AR



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## *Modified Structural Numbers*

All states reported that they have not modified structural numbers for various mixes (i.e. OGFC, SMA, Superpave, Modified Asphalts) to reflect improvements in performance of these mixes compared to Marshall mixes



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## *HMA vs. Concrete Research*

No - LA & AR

MS - One project underway in Oktibbeha County [Starkville, Bulldog country] where both pavements are being placed. Also, two warranty projects (one of each pavement type) on a section of I-55 with both being less than two years old and both performing well.



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## *Damage from Compactive Efforts on Secondary Roads*

LA - Says there is no difference in specifications  
AR - Dictates the type of roller to be used. A roller pattern is required. The required compactive effort is that which is necessary to produce the maximum density using the compaction method and equipment.  
MS - Will not allow vibratory roller in some cases. Contractors usually use rubber tire rollers. Structural failures, if any, addressed before construction is complete.



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## *HMA vs. Concrete Ride Specifications*

LA - In Louisiana concrete pavements must meet the same ride required of a one-lift HMA pavement section.

AR & MS - reported that ride specification was the same for HMA and Concrete pavements.



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## *Like to See Changed for Improvement*

AR - A reliable and repeatable method for determining in-place pavement permeability.

LA - Add the mandatory use of hydrated lime as a mineral filler and to encourage a denser gradation for all mixtures.



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## *Like to See Changed for Improvement*

MS - Raising target density levels  
Better training program for QC/QA and Mix Design Technicians  
Find some better way to meter hydrated lime introduction into the mix during plant production



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