

SEAUPG 2002 CONFERENCE

Central Sub-Group Update

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2002 SEAUPG Meeting

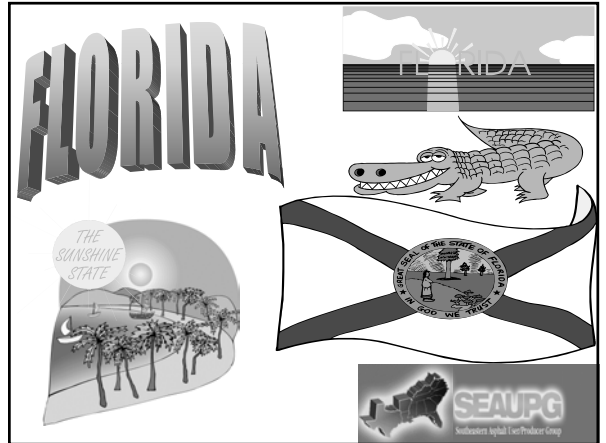
“Central Sub-Group Update”

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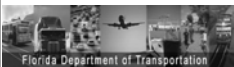


Southeastern Asphalt User/Producer Group (SEAUPG)

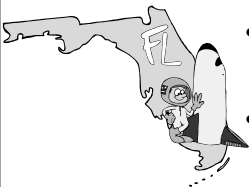
Central Sub-Group



FLORIDA



- “Contractor Quality Control Specification”
- “Asphalt Binder Acceptance Program”
- “Contractor-Guaranteed Asphalt Pavement”



FLORIDA

- “Contractor Quality Control Specification”
 - Effective on all projects let after July 1, 2002
 - Percent Within Limits approach
 - Use Department-verified contractor’s data for acceptance



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FLORIDA

- “Contractor Quality Control Specification”

- Composite pay based on:

- 35 % density
- 25 % air voids
- 25 % asphalt binder content
- 10 % passing No. 200 sieve
- 5 % passing No. 8 sieve

- Electronic data entry and calculation

- Major change in “who does what”



FLORIDA

- “Asphalt Binder Acceptance Program”

- Three-pronged approach

- Binders initially certified by producer
- Binders tested according to quality control plan as approved by Department
- Approved binders placed on Department’s Qualified Product List



FLORIDA



- “Contractor-Guaranteed Asphalt Pavement”

- Warranty concept without warranty bond

- Failure to perform = removal from bid list

- Initial approach of five years

- Eventually may be longer
- “Walk before we run”

- Performance criteria are smoothness, rutting, and cracking



GEORGIA

Georgia



GEORGIA



- “Density”
- “Moisture Susceptibility”
- “RAP in SMA”
- “4.75-mm Superpave”
- “Permeability”
- “Quality Conference”



GEORGIA

- “Density”

- Previous specification required test section

- Nuclear density gauge calibrated with cores

- Required minimum of 97.5% of 95.0% of theoretical maximum density

- “Practical maximum density”



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GEORGIA

- “Density”
 - New specification
 - Permit maximum of 7.8% air voids in place for full pay
 - Nuclear density gauge calibrated with cores



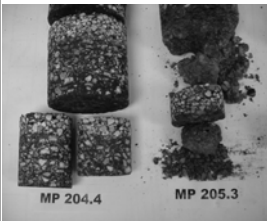
GEORGIA

- “Moisture Susceptibility”
 - Majority of quarries are granite
 - “Stripping” potential of granite
 - In 1982, required hydrated lime



GEORGIA

- “Moisture Susceptibility”
 - Some “pre-lime” mixtures are “stripping”
 - Older, intermediate layers are “stripping”
 - Newer, top layers are rutting
 - Do other states have “stripping” problem?
 - Do other states allow “stripped” layers to remain in pavement structure?



GEORGIA

- “RAP in SMA”
 - Milling process affects particle shape and quality of recycled mix
 - Satisfy 20 % maximum flat-and-elongated at 3:1 ratio?
 - Performance of SMA containing RAP?



GEORGIA

- “4.75-mm Superpave”
 - Similar “G mix” used as leveling-and-surfacing for many years
 - Use on low-volume roads
 - \$70 million State-Aid program
 - Stone supply is at premium, so using 9.5-mm mix is more expensive
 - 4.75-mm mix would be more economical for low-traffic applications to replace 50-gratation, 9.5-mm Superpave mix



GEORGIA

- “Permeability”
 - Ten to 15 projects with high permeability
 - 19- and 25-mm base mixes
 - Drainage treatments are not standard procedure
 - Segregation may be part of problem
 - 8.0% air voids in place more detrimental to larger-sized mixtures



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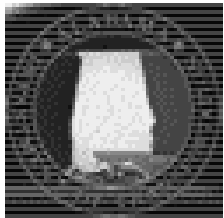
GEORGIA



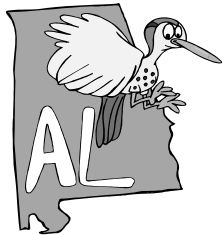
- “Quality Conference”
 - GA has no State Asphalt Pavement Association, only Highway Contractors Association
 - First GA Asphalt Quality Conference in February 2003 in Peachtree City, GA
 - Contact Peter Wu at 404-363-7501 for details



ALABAMA

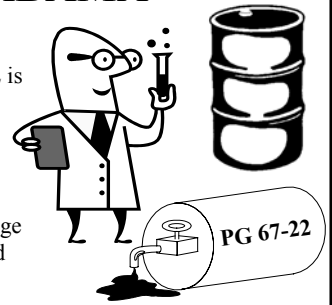


- “PG Binders”
- “4.75-mm Superpave”



ALABAMA

- “PG Binders”
 - Standard binder in AL is PG 67-22
 - Utilize PG 76-22 for high-traffic facilities
 - Required fatigue properties do not change between PG 67-22 and PG 76-22
 - DSR intermediate test temperature



ALABAMA



- “4.75-mm Superpave”
 - AL designation is “3/8-in. maximum mix”
 - Currently only experimental applications
 - Finer grading is more expensive
 - More economical overall due to thinner lifts
 - 4.75-mm SMA mix developed, but not yet used



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TENNESSEE



- “Superpave vs. Marshall”
- “Smoothness”
- “Density”
- “Pavement Preservation”
- “RAP in Surface Mixes”



TENNESSEE

- “Superpave vs. Marshall”
 - TN has not adopted Superpave
 - Five Superpave projects per year
 - Use conventional gradations, but compact with gyratory compactor?



TENNESSEE

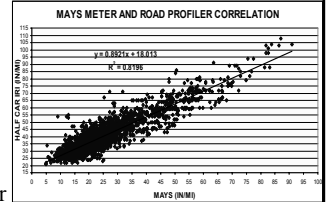


- “Superpave vs. Marshall”
 - NCAT test track
 - Existing test section is 125-gyratation Superpave mix
 - Future test section is same aggregate blend at 75 gyrations
 - Similar optimum AC as 75-blow Marshall mix
 - Equal performance?

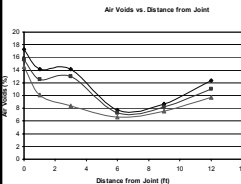


TENNESSEE

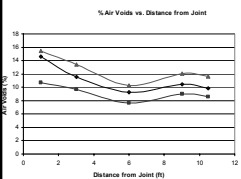
- “Smoothness”
 - Changing from Mays meter to road profilers
 - Purchased five road profilers
 - Comparing Mays meter to profilers and profilers to each other
 - Confident in using profilers for HMA
 - Specify profilers for 2003 lettings



TENNESSEE



- “Density”
 - Tennessee Tech comparing Corelok device to AASHTO T 166
 - Corelok more accurate for specimens with interconnected voids
 - Actually achieving in-place density?
 - Analysis comparing nuclear density gauge to cores



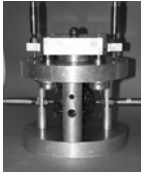
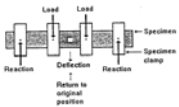
TENNESSEE

- “Pavement Preservation”
 - Several microsurfacing jobs
 - Are thinner lifts of conventional mix competitive with microsurfacing?
 - One-inch lift thickness requires no larger than 3/8-in. nominal mixture
 - For 3/8-in. nominal mix, utilizing No. 8-size aggregate would generate more fines and expense



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TENNESSEE

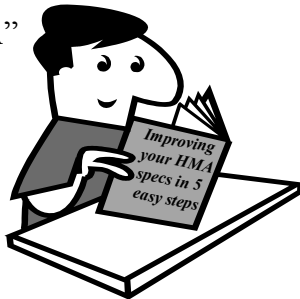


- “RAP in Surface Mixes”
 - TN does not currently allow RAP in surface mixtures
 - Research proposal with UT evaluating fatigue life of surface mixes containing RAP
 - Utilize Indirect Tensile Tester, Asphalt Pavement Analyzer, beam fatigue, and semi-circular bending test
 - Condition mixes with PAV or microwave, then freeze/thaw



KENTUCKY

- “Substandard HMA”
- “Smoothness”
- “Joint Density”



- “Substandard HMA”
 - Accept HMA with poor properties at reduced pay factor
 - Remove and replace material
 - Standard procedure for determining amount of material to be removed



KENTUCKY

- “Substandard HMA”
 - ESAL Class 1 or 2 = facilities with < 3.0 million ESALs
 - ESAL Class 3 or 4 = facilities with ≥ 3.0 million ESALs

Pay Value	AV	
	Test Result (%)	
	ESAL Class 1 or 2	ESAL Class 3 or 4
1.05	3.5-4.5	3.5-4.5
1.00	3.0-5.0	3.0-5.0
0.95	2.5-5.5	2.5-5.5
0.90	2.0-6.0	2.0-6.0
0.75	1.5-6.5	-----
(1)	< 1.5 or > 6.5	< 2.0 or > 6.0

KENTUCKY

- “Substandard HMA”
 - Test results represent “percent of G_{mm} ”
 - ESAL Class definitions as before

Pay Value	DENSITY	
	Test Result (%)	
	ESAL Class 1 or 2	ESAL Class 3 or 4
1.05	94.0-96.0	94.0-96.0
1.00	92.0-93.9	92.0-93.9
0.95	91.0-91.9 or 96.1-96.5	91.0-91.9 or 96.1-96.5
0.90	90.0-90.9 or 96.6-97.0	90.0-90.9 or 96.6-97.0
0.75	89.0-89.9	-----
(1)	< 89.0 or > 97.0	< 90.0 or > 97.0

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KENTUCKY

- “Smoothness”
 - Recent Ride Quality results indicate great improvement
 - Time to “raise the bar” on payment schedule
 - Relate smoothness to mixture quality



KENTUCKY

- “Smoothness”
 - Full pay for $3.75 \leq RI \leq 4.05$
 - Bonus pay for $RI \geq 4.06$

RIDE QUALITY ADJUSTMENT SCHEDULE

RI	Approximate IRI (inches per mile)	Pay Value*
4.20 or higher	37 or less	+0.15
4.06 to 4.19	38 - 46	RI - 4.05
3.75 to 4.05	47 - 66	0.00
3.60 to 3.74	67 - 76	RI - 3.75
3.59 or lower	77 or higher	Corrective work or replacement required

KENTUCKY

- “Smoothness”
 - Relate mixture properties to pavement density
 - Apply factor to RI pay value from previous schedule

RIDE QUALITY PAY VALUE ADJUSTMENT SCHEDULE

Percentage of Project Sublots
With Pay Factors < 1.00
for Any Mixture Property
(AC, AV, VMA, or Density)

≤ 20
21 to 25
26 to 30
31 to 35
36 to 40
> 40

Multiplier Factor for
Overall RI Pay Value

1.00
0.95
0.90
0.80
0.50
0.00

KENTUCKY

- “Joint Density”
 - Frequency of pavement failures at longitudinal joint
 - Concerns about density and permeability near joint
 - Research project by KY Transportation Center
 - Adequate data to develop acceptance schedule



KENTUCKY

- “Joint Density”
 - Test results represent “percent of G_{mm} ”
 - Full pay for Joint Density ≥ 89.0 percent
 - Bonus pay for Joint Density ≥ 91.0 percent

JOINT DENSITY	
Pay Value	Test Result (%)
1.05	91.0-96.0
1.00	89.0-90.9
0.95	88.0-88.9 or 96.1-96.5
0.90	87.0-87.9 or 96.6-97.0
0.75	< 87.0 or > 97.0

2002 SEAUPG Meeting

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Thank You!