VTRC
Virginia Transportation Research Council

We bring innovation to transportation.

Virginia's Pavement and Materials Research Program

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Areas of Emphasis

- Asphalt mix design and performance
- Structural evaluation
- Accelerated testing
- Managing for safe function
- Quality management
- Preservation and recycling

Recycling/Reclaiming

I-64 WIDENING

VDOT

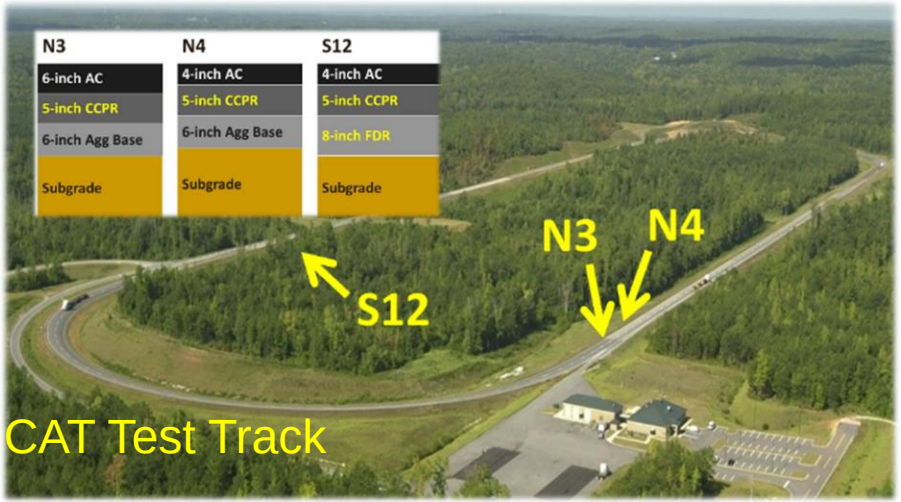
$71 / SY

2-in SM + 2-in IM
4-in BM
8-in Cement Treated Aggregate
Subgrade

$45 / SY

2-in SM + 2-in IM
6-in CCPR
12-in FDR
Subgrade

Structural Equivalents

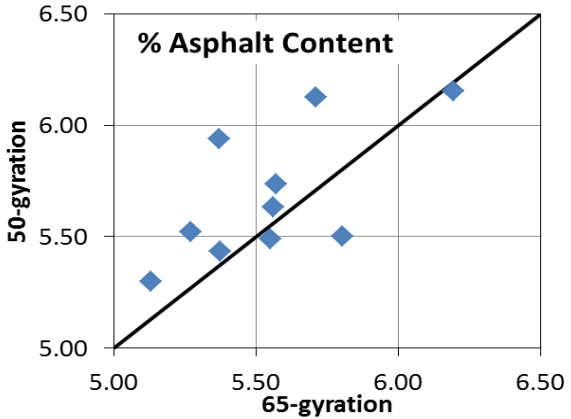



Research "Sweet Sixteen" 2017
The American Association of State Highway and Transportation Officials Recognizes
Virginia DOT
Structural Study of Cold Central Plant Recycling
BRIAN NESS
Chair, AASHTO Standing Committee on Research
AASHTO
THE VOICE OF TRANSPORTATION
DALE PEABODY
Chair, AASHTO SCOR Research Advisory Committee
SCOR RAC

Improved Dense-Graded Mixtures

Activities:

- 50-gyration/65-gyration Field Trials
- Mix Design Task Force – VTRC support
- Density & Permeability Review



Findings:

- Modestly higher AC levels
- Improved compact-ability and in-place density
- **Contractors really like incentives!**

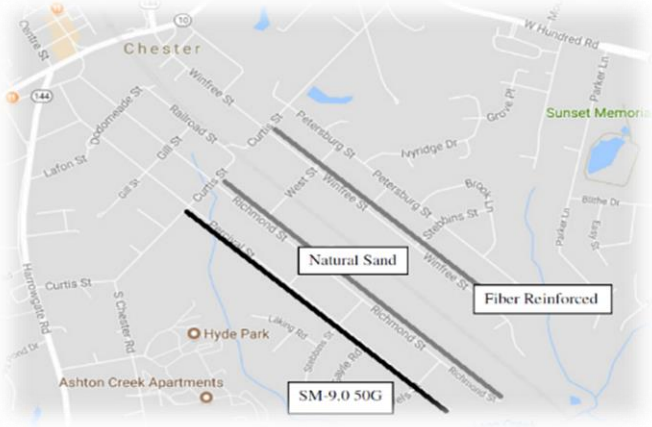
Better Performing Subdivision& Secondary Road Mixtures

- Application thickness of an inch or less – more lane miles with less material.
- Good ride, fine surface texture, increased durability - extended pavement life

SM-4.75 and SM-9.0 Mixtures

Multi-year monitoring of SM-4.75 mixtures:

- Yield/quantity issues
- Compaction/Permeability
- Cool-weather laydown



2017 Field Trials with SM-9.0 mixtures:

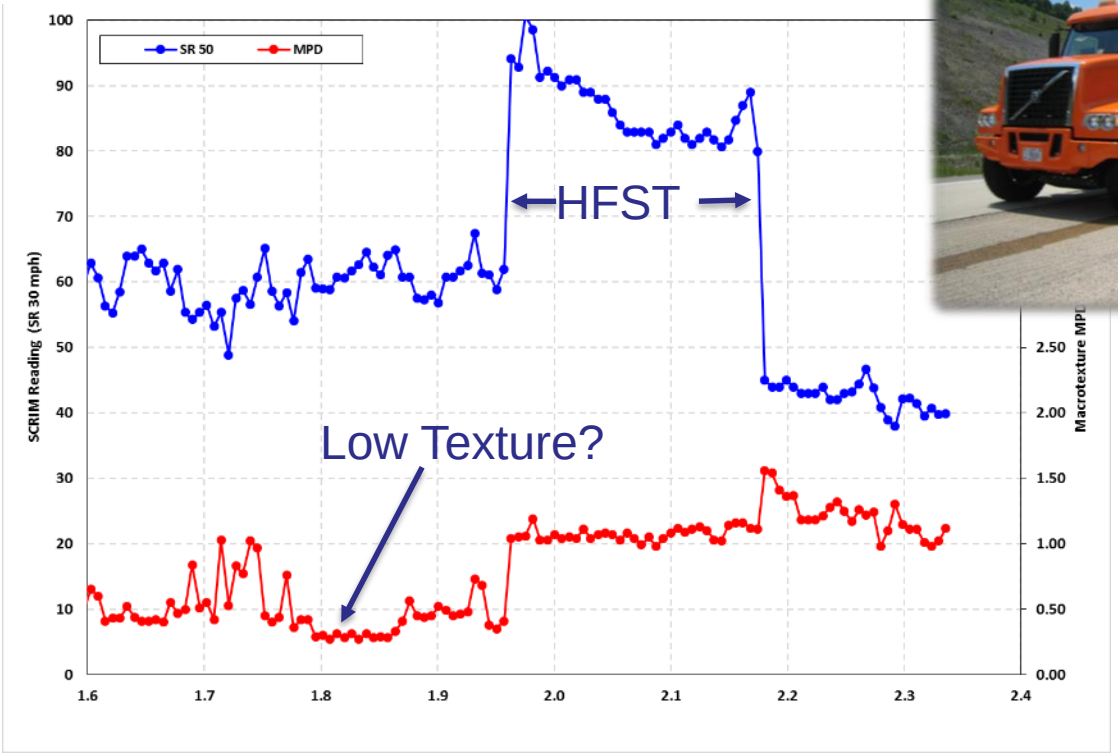
- Natural Sands
- Fibers
- 50-gyration designs

Pavement Preservation

FiberMat with Latex Slurry

US 301, Sussex County

Managing Pavement Friction



High-Production Continuous Friction and Texture Measurement

Network Structural Evaluation

Traffic Speed Deflectometer

High-Production Continuous Deflection Measurement (plus lots of other stuff)!

Accelerated Pavement Testing

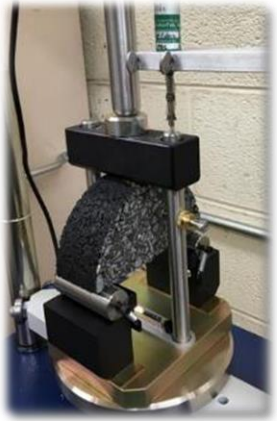
Lane 6	Lane 5	Lane 4	Lane 3	Lane 2	Lane 1
3" SMA	3" SMA	3" Surface Asphalt 65 gyr	3" Surface Asphalt 50 gyr	Surface Asphalt	Surface Asphalt
8" jointed concrete	8" jointed concrete	Intermed Asphalt	Intermed Asphalt	Cold Recycled Asphalt	Cold Recycled Asphalt
6" Compacted Aggregate (21B)	6" Compacted Aggregate (21B)	6" Compacted Aggregate (21B)	6" Compacted Aggregate (21B)	6" Compacted Aggregate (21B)	6" Compacted Aggregate (21B)
Compacted Subgrade (CBR 7.5)	Compacted Subgrade (CBR 7.5)	Compacted Subgrade (CBR 7.5)	Compacted Subgrade (CBR 7.5)	Compacted Subgrade (CBR 7.5)	Compacted Subgrade (CBR 7.5)

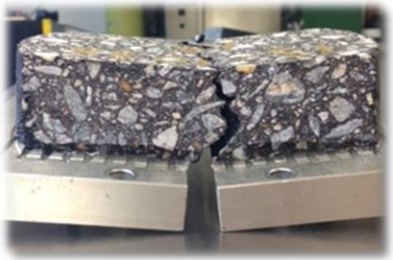
High Polymer Asphalt Binders

- Being studied to mitigate reflective cracking over jointed concrete
- Increased polymer content in binder
- Other uses?
  - Subdivisions (with cracking)
  - Rut-prone locations

Laboratory Performance Testing

- Investigation of various performance testing criteria
  - Crack tests
  - Durability tests
  - Rutting tests
- Objective – preparing for more performance-oriented material specifications





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Thanks to everyone for your support of our research program!

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