Pavement Preservation

“A program employing a network level, long-term strategy that enhances pavement performance by using an integrated, cost-effective set of practices that extend pavement life, improve safety and meet motorist expectations”

- FHWA Pavement Preservation Expert Task Group
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Pavement Preservation

- Prevention
- Rehabilitation
- Reconstruction

Time / Traffic

Pavement Condition
2012 Preservation Group (PG) Study

• Quantify life extending benefit of study treatments
  – Time/traffic to return to pretreatment condition(s)
  – Test sections on the Track and Lee Road 159

• Sampling/testing for construction quality
Asphalt Plant
Martin Marietta Quarry

- Low ADT roadway
- Very high % trucks
- Load data provided by quarry and asphalt plant
- No traffic control needed for data collection
Final 159 Treatment Layout

- Preventive maintenance
- Routine maintenance
- Minor rehabilitation
2012 Preservation Group (PG) Study

- Fog seals (with and without rejuvenators)
- Crack seals (routing/filling, hot air lance, go-type)
- Chip seals (single, double, triple, scrub, FiberMat)
- Cape seals (on chip/scrub seals, FiberMat)
- Micro surfacing (single, double, Capes)
- Plant mix overlays (4.75 screening mix variations)
- Ultra thin bonded wearing course
- Lightweight aggregates for surface treatments
Lee Road 159 Construction Overview

- FiberMat by Strawser on 7/17
- Week of 8/6 was busy and challenging
  - Chip/scrub seals & micro surface by Vance Brothers
  - 100% foamed recycle mix by Lanford Brothers
  - Inbound thin overlays by East Alabama Paving (EAP)
- Outbound thin overlays by EAP on 8/13
- Outbound bonded with Astec spray paver 8/28
- FiberMat on 159 by Strawser 9/19 (W2 lightweight)
Rates Checked Prior to Placement
Actual Rates Verified During Placement
Lee Road 159
Pavement Preservation Experiment
to Reduce the Cost to Maintain Your Roads

Funding Provided by:
Alabama, Mississippi, Missouri, North Carolina,
Oklahoma, South Carolina, Tennessee, and FP2 via
Auburn University and the Lee County Commission
L1 – Rejuvenating Fog Seal
L4 – Untreated Control
L6 – Chip Seal
L7 – Chip Seal with Crack Sealing
L8 – Triple Layer Chip Seal
L9 – Double Layer Chip Seal
L10 – Cape Seal (Micro Surface on Chip Seal)
L11 – Micro Surface
L12 – Micro Surface with Crack Sealing
L13 – Double Layer Micro Surface
L14 – Micro Surface on FiberMat (FiberMat Cape)
L15 – Micro Surface on Scrub Seal (Scrub Cape)
L16 – Scrub Seal
L17 – Subsection Distress Data Demonstration
L18 – Thin HMA Overlay on FiberMat (HMA Cape)
L19 – Thin HMA Overlay
L20 – Thin HMA Overlay on 100% RAP Mix Base
L21 – Polymer Thin HMA Overlay
L22 – Bonded Thin HMA Overlay
L23 – 50% RAP
Thin HMA Overlay
L24 – 5% RAS
Thin HMA Overlay
L25 – HiMA
Thin HMA Overlay
159 Testing Overview

• Weekly
  – ARAN Van (rutting, roughness, texture)
  – Video for crack mapping
  – Visual inspections with notes/pictures

• Monthly
  – Wet ribbed surface friction
  – Subgrade moisture readings
  – Falling weight deflectometer (FWD)

• Other
  – Ground penetration radar (GPR)
ARAN Van for Roughness/Texture
ARAN Van for Rut Depths
Falling Weight Deflectometer
Lee 159 Testing

• Ground Penetrating Radar
  – By 3d-Radar
• Progression of cracking in control
L11 Lee Road 159
PG Study Implementable Findings

- Prevention
- Rehabilitation
- Reconstruction

Time / Traffic

- Control
- Treatment A
- Treatment B
PG Study Implementable Findings

Pavement Condition

- Prevention
- Rehabilitation
- Reconstruction

Time / Traffic

- Control
- Treatment A
- Treatment B
PG Study Implementable Findings

- Prevention
- Rehabilitation
- Reconstruction

Time / Traffic:
- Control
- Treatment A
- Treatment B
Performance data for each section can be viewed by positioning your mouse over the section in question and left clicking. Based on feedback from our research sponsors, the performance reports have been revised to include crack maps. The 2009 performance reports are now a fully integrated and active part of the web presentation.