NJDOT UPDATE

2014 NEPPP Annual Meeting
By Susan Gresavage &
Robert Blight
Multi-Year Performance Analysis (Updated Deterioration Curves & Triggers)
State Maintained Pavement System Acceptability Based on IRI & SDI

Historical Measured Condition

- Current Funding & 50% Deficient Backlog Reduction ($300 Million/Yr)
- 25% Decrease From Current Funding & Maintains Current Condition ($225 Million/Yr)
- Achieves 80% Acceptable Goal By 2021 ($310 Million)
- 100% Decrease in Deficient Backlog ($400 Million/Yr)
Note: The Highway Resurfacing category contained economic stimulus funding of $205 million in FY09 and $41 million in FY10; FY13 funding included $175 million federal emergency funds.
NJ State Highway System
Lane Miles of Major Pavement Work Completed
(Total system mainline lane miles = 8410)

Fiscal Year

Lane Miles

2005  577
2006  459
2007  605
2008  595
2009  623
2010  511
2011  497
2012  733
2013  626
STATUS OF SYSTEM
Multi-Year Status of State Highway System

Data Collection Cycle

% of System Lane Miles

Deficient
Fair
Good

Source: NJDOT Pavement Management System
HOW DOES PAVEMENT PRESERVATION FIT IN?
PAVEMENT PRESERVATION VS. PREVENTIVE MAINTENANCE

- Mill X - Pave X
- VS.
- Crack Sealing
- Micro/Slurry Seals
- Thin Overlays
- CPR
Multi-Year Performance Analysis (Updated Deterioration Curves & Triggers)
State Maintained Pavement System Acceptability Based on IRI & SDI
Restricted Preventive Maintenance From $30 to $100 Million

% of System Lane Miles Acceptable

Fiscal Year

- Historical Measured Condition
- Current Funding & 50% Deficient Backlog Reduction ($300 Million/Yr)
- 25% Decrease From Current Funding & Maintains Current Condition ($225 Million/Yr)
- Achieves 80% Acceptable Goal By 2021 ($310 Million)
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NJ PREVENTIVE MAINTENANCE

NJ State Highway System
Annual Preventive Maintenance Pavement Investment

Millions

Fiscal Year

2008  2009  2010  2011  2012  2013

$3.10  $4.00  $0.00  $2.40  $5.69  $9.24
NJ State Highway System

Lane Miles of Major Pavement Work Completed

(Total system mainline lane miles = 8410)

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Preventive Maint</th>
<th>Resurf/Rehab/Recon</th>
<th>Total Pavement Work</th>
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</thead>
<tbody>
<tr>
<td>2008</td>
<td>27</td>
<td>595</td>
<td>622</td>
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<tr>
<td>2009</td>
<td>30</td>
<td>623</td>
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<td>2010</td>
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<td>2011</td>
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<td>2012</td>
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<tr>
<td>2013</td>
<td>132</td>
<td>494</td>
<td>626</td>
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NJ State Highway System
Lane Miles of Preventive Maintenance Pavement Work
(Total system mainline lane miles = 8410)

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<tr>
<th>Fiscal Year</th>
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High Performance Thin Overlay

6 mm mix used as Surface or Intermediate Course
- 7% min PG 76-22 to prevent rutting
- Voids 2% to 7% max

Requires performance testing of the mix design.
- APA (rutting)

Minimal impact to profile and roadway geometry with 1” thick design
7 projects since 2007
- 6 successful and performing well
- IRI improved and surface sealed to prevent further deterioration due to moisture
- 1 with improper bonding/tack coat issues

Incorporate bond strength requirement for future specification improvement
Non-proprietary Novachip
Bonded, gap-graded wearing course 0.5-1.5”
Requires spray paver
Minimal impact to profile and roadway geometry with 1” thick design
PREVENTIVE MAINTENANCE
MICROSURFACING OR SLURRY SEAL

MIXTURE OF
• POLYMER MODIFIED ASPHALT EMULSION
• AGGREGATE
• MINERAL FILLER
• WATER
• OTHER ADDITIVES
FOG SEAL

- Fog seals are used to restore or rejuvenate an HMA surface.
- Fill cracks and voids, sealing weather-tight.
- Material: Asphalt emulsion.
CONCRETE PAVEMENT REPAIR

- Full and partial depth repairs
- Diamond Grinding
- Thin bituminous overlays
LOOKING AHEAD

- Continue to ramp up Preventive Maintenance
  - Expand Toolbox
  - Refine treatment selection
  - Research Project with Rutgers University
CHALLENGES

- Department
  - Funding
  - Project Delivery Process
- FHWA
  - Project Delivery Process
- Contractors
  - Resistant to Change
- Public
  - Customer Expectations
- ADA
QUESTIONS?

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