

NEW HAMPSHIRE STATE REPORT

Northeast Pavement Preservation Partnership Meeting

Boston, MA

November 8-10, 2011



Eric Thibodeau – Pavement Management Chief

PRESENTATION OVERVIEW

1. 2011 Resurfacing Program Overview
2. 2011 New Innovations/Treatments



1. 2011 RESURFACING PROGRAM

| | |
|------------------------------------|----------------|
| • Turnpike Resurfacing: | \$4.2M |
| • Interstate Preservation Program: | \$6.4M |
| • Interstate 4R Program: | \$12.4M |
| • Federal Resurfacing Program: | \$18.7M |
| • Secondary System Reclamation: | \$2.7M |
| • District Program: | |
| – Resurfacing | \$12.0M |
| – Secondary Rehabilitation | \$2.4M |
| – Leveling | <u>\$2.4M</u> |
| TOTAL: | \$61.2M |

Proposed 2011 Pavement Resurfacing Program

2011 RESURFACING SUMMARY

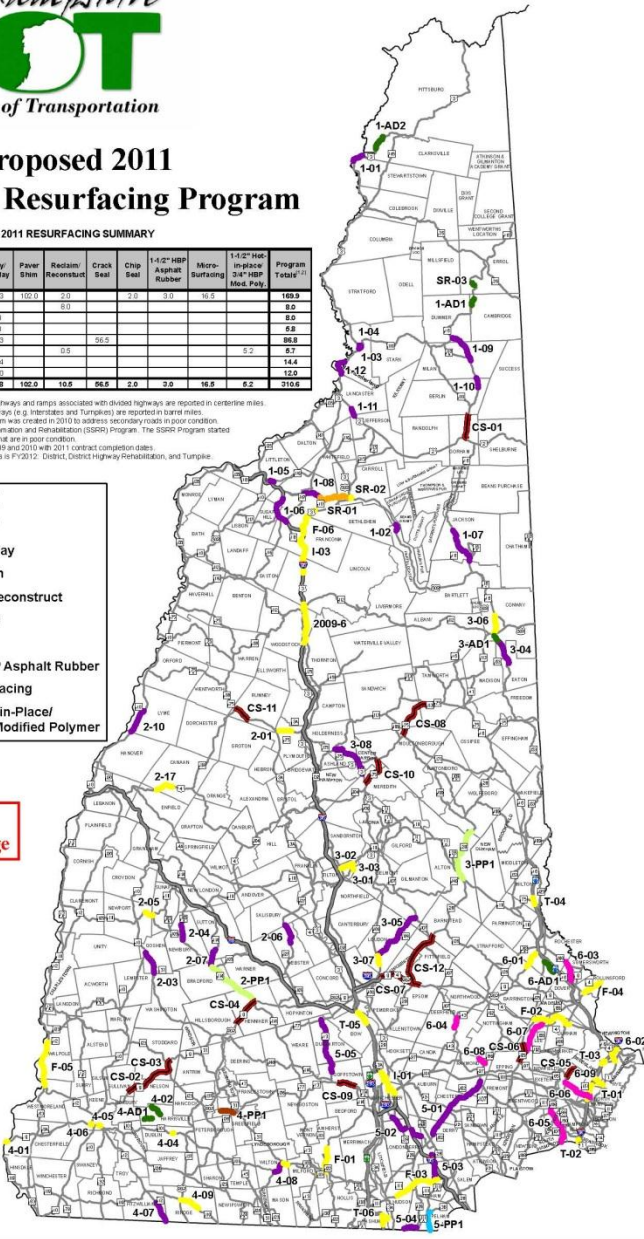
| Program | 3/4" PMST | Inlay/Overlay | Paver Shim | Reclaim/Reconstruct | Crack Seal | Chip Seal | 1-1/2" HBP Asphalt Rubber | Micro Surfacing | 1-1/2" Hot-in-Place/3/4" HBP Mod. Poly. | Program Total ⁽¹⁾ |
|---|-------------|---------------|--------------|---------------------|-------------|------------|---------------------------|-----------------|---|------------------------------|
| District ⁽²⁾ | 20.1 | 49.3 | 100.0 | 2.0 | | 2.0 | 3.0 | 10.0 | | 185.3 |
| District Highway Rehab ⁽³⁾ | | | | 0.0 | | | | | | 0.0 |
| Interstate | | 0.0 | | | | | | | | 0.0 |
| Interstate 405 | | 0.0 | | | | | | | | 0.0 |
| Federal Resurfacing | | 30.3 | | | 56.5 | | | | 5.2 | 92.0 |
| Federal Reclaim ⁽⁴⁾ | | 0.0 | | 0.0 | | | | | 5.2 | 5.2 |
| Turmoil ⁽⁵⁾ | | 0.0 | | | | | | | | 0.0 |
| 2009-10 Carryover Projects ⁽⁶⁾ | | 0.0 | | | | | | | | 0.0 |
| GRAND TOTALS | 20.1 | 49.3 | 100.0 | 2.0 | 56.5 | 2.0 | 3.0 | 10.0 | 6.2 | 310.8 |

Notes: 1. Mileage associated with undivided highways and ramps associated with divided highways are reported in centerline miles.
 2. Mileage associated with divided highways (e.g. Interstates and Turnpikes) are reported in barrier miles.
 3. District Highway Rehabilitation Program was created in 2010 to address secondary roads in poor condition.
 4. Districts the Secondary System Reclamation and Rehabilitation (SSRR) Program. The SSRR Program started in 2009 to address secondary roads that are in poor condition.
 5. These projects were advertised in 2009 and 2010 with 2011 contract completion dates.
 6. The funding for the following programs is FY2012: District, District Highway Rehabilitation, and Turmoil.

Legend

- 3/4" PMST
- Inlay/Overlay
- Paver Shim
- Reclaim/Reconstruct
- Crack Seal
- Chip Seal
- 1-1/2" HBP Asphalt Rubber
- Micro-Surfacing
- 1-1/2" Hot-in-Place/
3/4" HBP Modified Polymer

**Preliminary:
 Subject to change**



- 310 Total Miles
- Target: 500 miles

Preservation/PM Treatments

- Crack Seal: 57 miles
- Chip Seal: 2 miles
- Micro Surfacing: 17 miles
- 1-1/2" AR HMA: 3 miles
- HIP & 3/4" HMA overlay: 5 miles
- 1" Kraton HiMA demo: 4 miles

TOTAL: 88 miles

Not enough but its 28% of the total program!

NH 114 Henniker-Bradford



Micro Surfacing – 8.5 miles

NH 28 Alton-Wolfeboro



Micro Surfacing – 8.0 miles

2. 2011 New Innovations/Treatments

- **NH 38 Pelham (3.0 miles)**
 - 2001 FDR with 4" HBP
 - AADT: 12,000
 - Treatment: 1-1/2" full width overlay
 - Goal: preserve and increase structural capacity



NH 38 - Pelham

- 1st Asphalt Rubber HMA project since 1990s
- 12.5mm AR Gap Graded (ARGG)
 - 75 gyration
 - PG 64-28 with 17.5% AR, 7.7% AC
 - No RAP. No WMA.

75 Tons of
recycled tire
rubber



NH 38 - Pelham

- **12.5mm conventional**
 - 75 gyration
 - PG 64-28, 5.3% AC, 17% RAP, No WMA.



NH 38 - Pelham



Conventional

ARGG

NH 38 - Pelham



AR Blender Integrated with HMA Plant

NH 38 - Pelham

- Specialized Testing
 - On board sound intensity (OBSI)
 - Before and after for each mix
 - Texas Overlay
 - ARGG vs. Conventional



NH 38 - Pelham

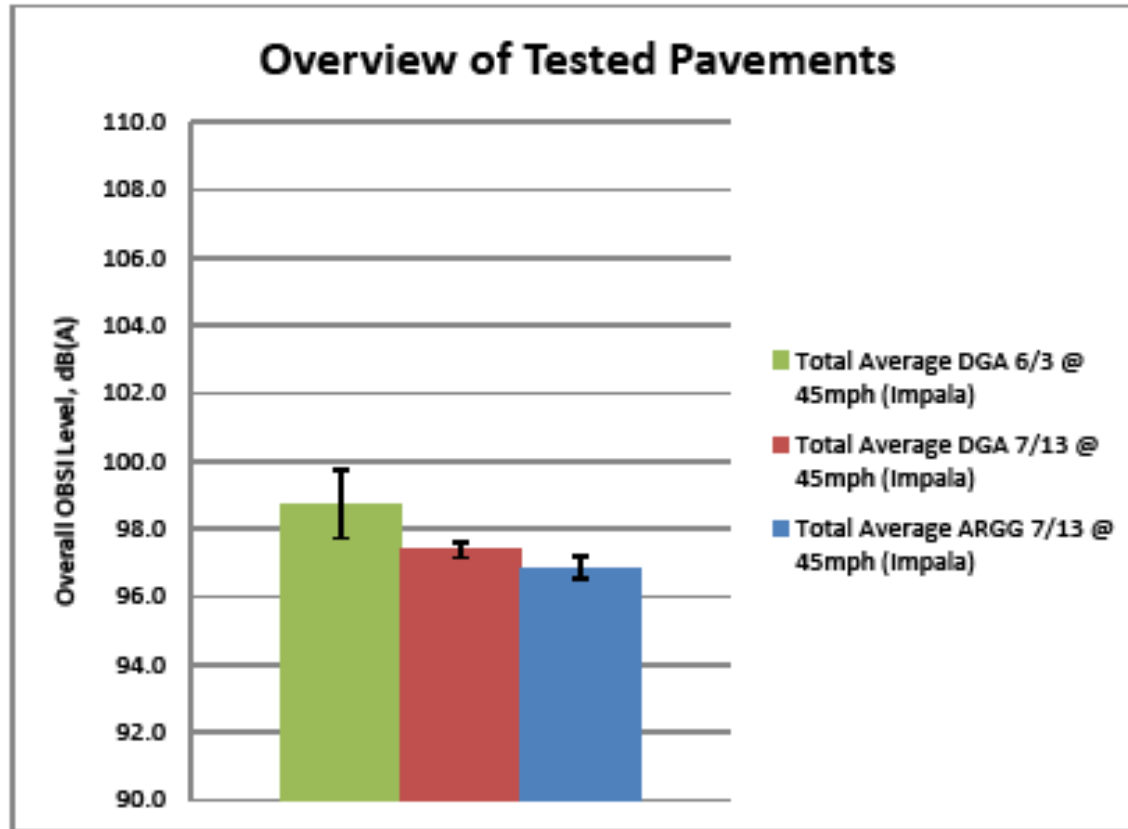


Figure 3: Average overall levels for the materials tested in Pelham, NH reported in A-weighted decibels (dBA).

Site will be monitored annually for changes

2. 2011 New Innovations/Treatments

- **US 302 Bethlehem-Carroll (5 miles)**
 - Full box reconstruction w/3-1/2" HBP
 - AADT: 2,400
 - Treatment: 1-1/2" HIP w/3/4" Polymer Mod. HMA
 - Goal: address surface distress and overlay



US 302 Bethlehem-Carroll

- **1st Hot In-Place Recycling since 1998**
- **HIP:**
 - 1-1/2” depth
 - Followed HMA density spec.



US 302 Bethlehem-Carroll

| Core # | Date | Sta. | Lift Thick (in.) | Density (%) |
|--------|----------|---------|------------------|-------------|
| HIP-1 | 6/1/2011 | MP 33.6 | 1.625 | 93.5 |
| HIP-2 | 6/2/2011 | MP 32.9 | 1.625 | 92.9 |
| HIP-3 | 6/2/2011 | MP 31.9 | 1.25 | 93.7 |
| HIP-4 | 6/3/2011 | MP 31.0 | 1.25 | 95.4 |
| HIP-5 | 6/3/2011 | MP 30.0 | 2.38 | 91.4 |
| HIP-6 | 6/4/2011 | MP 30.4 | 1.69 | 94.9 |
| HIP-7 | 6/4/2011 | MP 30.8 | 1.5 | 92.2 |
| HIP-8 | 6/6/2011 | MP 32.1 | 1.69 | 95.1 |
| HIP-9 | 6/6/2011 | MP 33.0 | 1.25 | 91.9 |
| HIP-10 | 6/7/2011 | MP 34.3 | 1.5 | 91.5 |

Method Density Spec: 75% of cores must meet 92%

US 302 Bethlehem-Carroll

Approx. 7 week wait
period between HIP
and overlay

Fat Spots



0.1" to 0.25" wheel rutting



Inlay Prior to
Overlay

US 302 Bethlehem-Carroll

- **Polymer Modified Overlay**
 - ¾” thickness. Essentially 9.5mm WC, 50 gyration
 - PG 70-34, SBS Polymer, 7.0% AC
 - No RAP. No WMA.



2. 2011 New Innovations/Treatments

- **US 202 Barrington-Rochester (4.4 miles)**
 - AADT: 4,600
 - Treatment: 1" overlay (HiMA and Conventional)
 - Goal: Demo project. Evaluate HiMA product



QUESTIONS?

