MassDOT Updates

Northeast Pavement Preservation Partnership

November 3, 2009

Edmund Naras
Pavement Management Engineer
Newsflash!!!! MassDOT

MassDOT as of November 1, 2009

Four Divisions
- Highway
- Mass Transit
- Rail
- Registry of Motor Vehicles.

Highway Division
- MassHighway, MassPike, DCR (portion) and the Tobin Bridge (MassPort).
What are we doing for Preservation?

- Interstates & Limited Access Highways?
  - Thin overlays
    - Milling
    - No milling
    - Maybe leveling
  - OGFC ~ approximately 75% of system
    - Much of it overlaid in the mid 1990’s
    - 30% needed replacement w/in 2 year window.
    - Preservation candidates ~ tried ARGG!

- Other Roadways
  - Thin overlays, SAMI’s, Novachip & Microsurfacing.
Types of Preventive Maintenance Treatments Used on Statewide

- Asphalt Rubber - Gap Graded (borrowed from AZ, CA, etc…) with and without leveling course.
- NovaChip (with and without rubber), some with leveling course.
- Microsurfacing (Ralumac)
- Micromilling and OGFC (with or w/out leveling course).
- Thin lifts (1 ¼”) with SBS or SBR modified binders.
- Stress Absorbing Membrane Interlayers (SAMI’s)
Asphalt Rubber – Gap Graded (ARGG)

- Needed a stable crack resistant thin lift for high volume roadways.
- Tested 12.5mm ARGG and 12.5mm SuperPave (level 4)
  - Hamburg
    - No moisture damage or rutting.
  - Texas Overlay Tester
    - 370+ cycles to failure for ARGG
    - 2 cycles to failure for SuperPave.
Demonstration Projects

- **I-295 Attleboro – North Attleboro**
  - ARGG (1 ¼”)
  - ARGG (1 ¼”) Warm mix
  - Novachip (1/2”)
  - Novachip (1/2”) with Asphalt Rubber

- **Route 7 Cheshire (Novachip)**
  - W/ Rubber Chip SAMI.
  - W/ Fibermat SAMI.

- **Route 8 Lanesboro-Pittsfield (1 ¼” MassDOT thin mix w/latex). (Ride?)**
  - W/ Rubbed Chip SAMI
  - W/ Fibermat SAMI

- **Route 20 Weston-Waltham**
  - Hi-RAP SuperPave 9.5mm warm mix with latex
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Where Are We Going?

- Pilot project with Microsurfacing on Route 3A in the towns of Scituate and Duxbury.
- Increased RAP usage on thin lifts ~ continuing research with performance specifications.
- Increased usage of thin lift w/ rubber or polymers.
- Novachip experience has been positive.
- With these treatments, cost is a concern. We are monitoring the long term cost effectiveness and benefits of these strategies.