



MassDOT Updates

Northeast Pavement Preservation Partnership

November 3, 2009

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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 1/4") 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
 - $370 \pm$ cycles to failure for ARGG
 - 2 cycles to failure for SuperPave.

Demonstration Projects

- I-295 Attleboro – North Attleboro
 - ARGG (1 1/4")
 - ARGG (1 1/4") 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 1/4" 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

Preservation and ARRA

Year	NHS Route	Location	Proj. Num.	Dist	From	To	Lns+ Shld	Tot Lane Mi	Prelim Cost/ lane-mi	Prelim. Office Estimate	Prelim Est. Total Cost	Revised Office Estimate	Revised Est. Total Cost	Revised OffEst/ lane-mi	Ad Date	Contr.	Award Date	Contr.
2009	2	Arlington - Belmont - Camb.	605259	4	131.7	134.0	10	23.0	150,000	3,450,000	5,285,090	4,190,475	5,112,380	182,195	7-Mar-09			
	8	Pittsfield - Lanesborough	605211	1	44.4	47.6	4	12.8	100,000	1,280,000	1,561,600	1,280,000	1,561,600	100,000	6-Dec-08	57964	1-Apr-09	Warner
	2	Fitchburg - Westminster	604364	3	92.4	95.0	6	15.6	160,000	6,700,000	8,000,000	6,735,353	7,999,550		23-May-09			
NHS									136,667	11,430,000	14,846,690	12,205,828	14,673,530					
ER1	8	Cheshire	605386	1	47.6	51.0	4	13.6	100,000	1,360,000	1,659,200	1,360,000	1,659,200	100,000	28-Mar-09	58324	12-May-09	Warner
ER1	9	Belchertown - Ware	605540	2	52.9	62.6	4	38.8	120,000	6,864,000	8,374,080	4,111,475	5,112,180	105,966	4-Apr-09	58399	12-May-09	Palmer
	-	-	-	2	64.7	68.6	4	15.2	-	-	-	-	-	-	-	-	-	-
	-	-	-	2	69.8	70.6	4	3.2	-	-	-	-	-	-	-	-	-	-
ER1	2	Gill - Erving - Orange	605539	2	52.9	56.6	4	14.8	100,000	4,480,000	5,465,600	3,532,364	4,333,650	78,847	14-Mar-09	58219	29-May-09	Warner
	-	-	-	2	60.2	63.8	4	14.4	-	-	-	-	-	-	-	-	-	-
	-	-	-	2	64.7	65.4	4	2.8	-	-	-	-	-	-	-	-	-	-
ER1	2	Harvard - Littleton	604400	3	110.3	115.5	6	31.2	150,000	4,680,000	5,709,600	4,680,000	5,709,600	150,000	14-Mar-09	58221	29-May-09	Agg
ER1	2	Concord	604630	4	120.5	124.0	6	21.0	145,000	3,045,000	3,714,900	3,045,000	3,714,900	145,000	21-Mar-09	58279	6-May-09	D&R
ER1	24	Avon - Stoughton	605238	5	34.0	38.0	8	32.0	100,000	3,200,000	5,260,000	4,029,930	5,197,970	125,935	6-Jun-09			
ER3	24	Brockton - W/Bridgewater - Raynham	605558	5	21.6	34.0	8	99.2	135,000	13,392,000	16,338,240							
ARRA								238.4	149,585	35,661,000	44,862,420							
2010	33	Chicopee	605260	2	0.0	4.0	4	16.0	275,000	4,400,000	5,368,000							
	2	Leominster - Fitchburg	n/a	3	97.0	103.0	6	36.0	140,000	5,040,000	6,148,800							
	24	Fall River	605698	5	0.00	1.80	6	10.8	225,000	2,430,000	2,964,600							
								52.0	228,269	11,870,000	14,481,400							
2011	9	Cummington	n/a	1	17.0	26.0	4	36.0	110,000	3,960,000	4,831,200							
	2	Acton	n/a	3	114.0	119.8	6	34.8	110,000	3,828,000	4,670,160							
	28	Falmouth	605619	5	50.7	57.0	6	37.8	110,000	4,158,000	5,072,760							
NHS								108.6	110,000	11,946,000	14,574,120							
2012	24	Randolph	605607	4	39.0	40.0	8	8.0	160,000	1,280,000	1,561,600							
	3	Weymouth - Braintree	605602	4	36.0	38.0	8	16.0	165,000	2,640,000	3,220,800							
	28	Bourne	n/a	5	56.5	63.0	6	39.0	155,000	6,045,000	7,374,900							
NHS								24.0	160,000	9,965,000	12,157,300							
2013	20	Northborough - Marlboro	605610	3	122.0	126.5	4	18.0	135,000	2,430,000	2,964,600							
	6	Dennis - Orleans	n/a	5	78.5	90.8	3	36.9	135,000	4,981,500	6,077,430							
NHS								54.9	135,000	7,411,500	9,042,030							

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.