

ASPHALT REJUVENATORS AND SLURRY SEALS

EXPANDING THE PAVEMENT
PRESERVATION TOOLBOX

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WHY THIS MATTERS TO DOTS

Preservation Challenges Facing Agencies

- Rising rehabilitation and reconstruction costs
- Limited capital and maintenance budgets
- Need to extend pavement life earlier in the life cycle

Objective: Select the right treatment at the right time to maximize life-cycle value



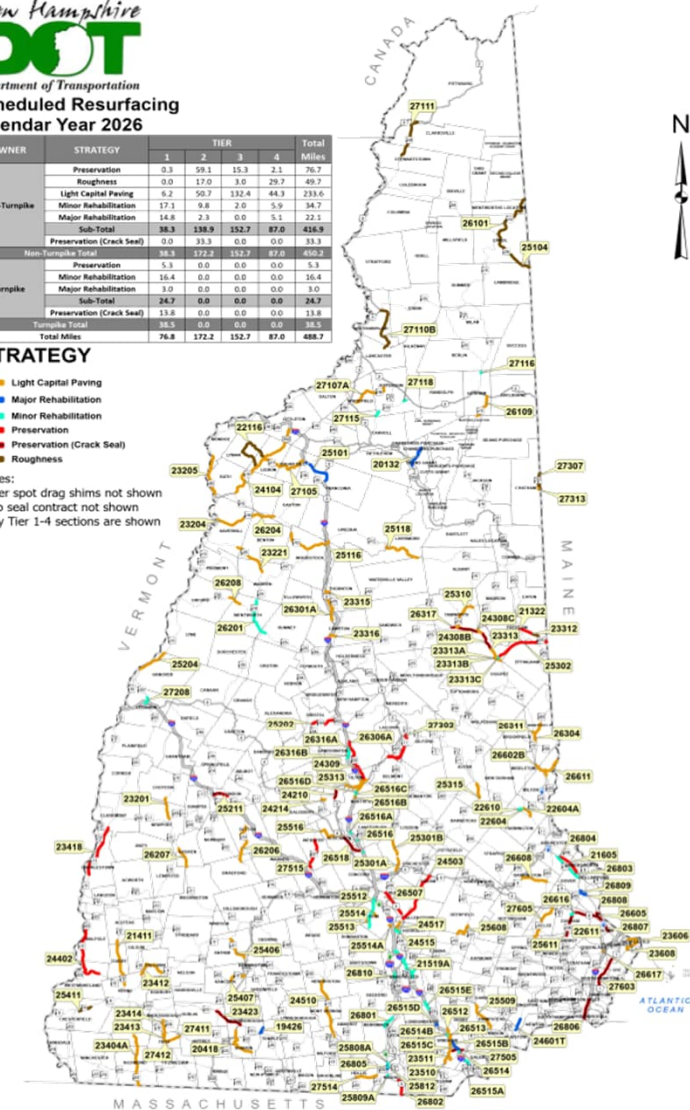
New Hampshire
DOT
 Department of Transportation
**Scheduled Resurfacing
 Calendar Year 2026**

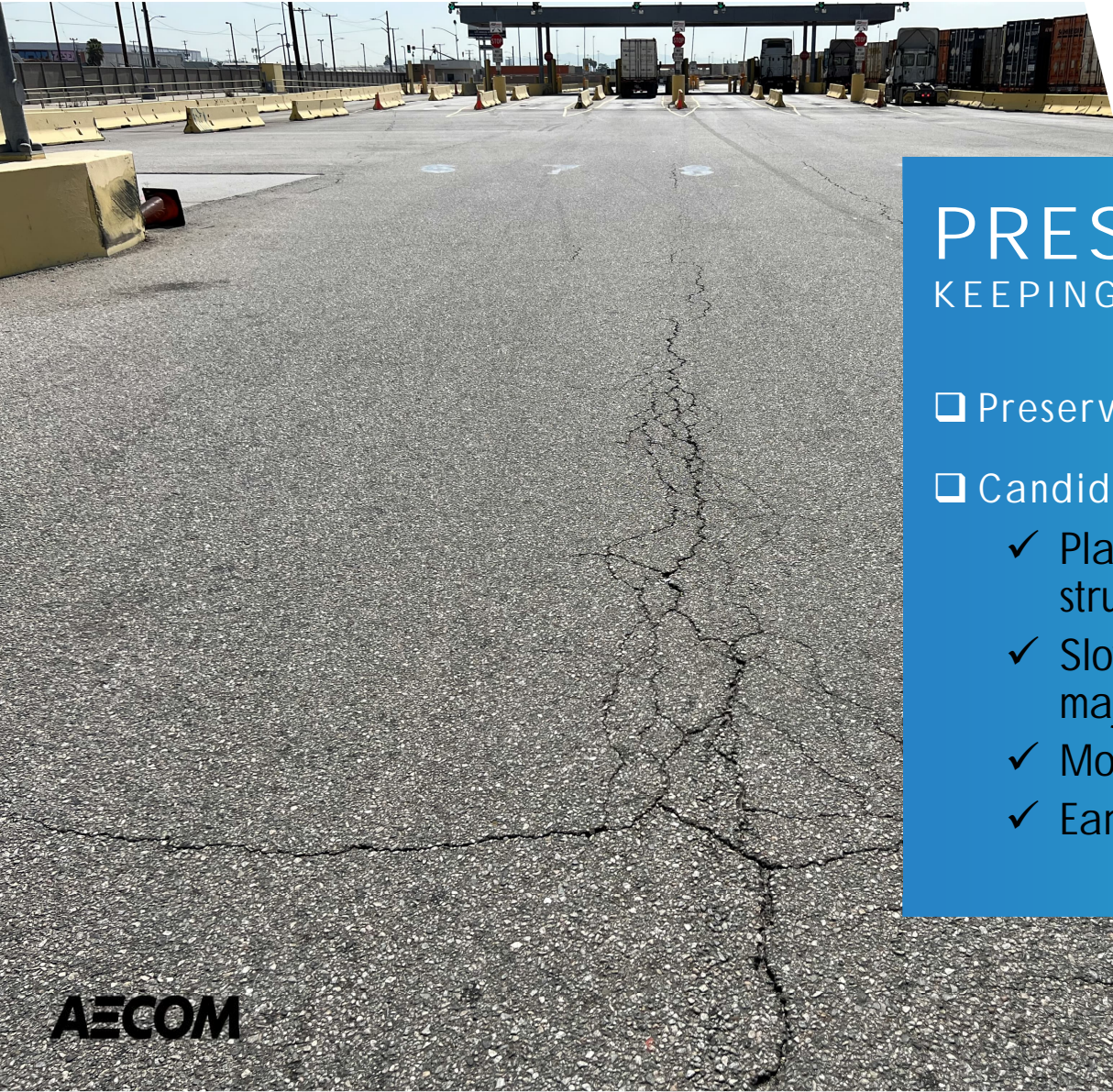
OWNER	STRATEGY	TIER				Total Miles
		1	2	3	4	
Non-Turnpike	Preservation	0.3	59.1	15.3	2.1	76.7
	Roughness	0.0	17.0	3.0	29.7	49.7
	Light Capital Paving	5.2	50.7	132.4	44.3	233.6
	Minor Rehabilitation	17.1	9.8	2.0	5.9	34.7
	Major Rehabilitation	14.8	2.3	0.0	5.1	22.1
	Sub-Total	38.3	138.9	152.7	87.0	416.9
Turnpike	Preservation (Crack Seal)	0.0	33.3	0.0	0.0	33.3
	Preservation	5.3	0.0	0.0	0.0	5.3
	Minor Rehabilitation	10.4	0.0	0.0	0.0	10.4
	Major Rehabilitation	9.0	0.0	0.0	0.0	9.0
	Sub-Total	24.7	0.0	0.0	0.0	24.7
	Preservation (Crack Seal)	13.8	0.0	0.0	0.0	13.8
Total Miles		76.8	172.2	152.7	87.0	488.7

STRATEGY

- Light Capital Paving
- Major Rehabilitation
- Minor Rehabilitation
- Preservation
- Preservation (Crack Seal)
- Roughness

Notes:
 Paver spot drag shims not shown
 Chip seal contract not shown
 Only Tier 1-4 sections are shown





PRESERVATION 101

KEEPING GOOD PAVEMENTS GOOD

- Preserve | Restore | Replenish
- Candidate:
 - ✓ Planned treatments applied to structurally sound pavements
 - ✓ Slows deterioration and delays major rehabilitation
 - ✓ Most effective at PCI > 70
 - ✓ Early action = lowest life-cycle cost



PRESERVATION TOOLBOX

- Crack Sealing / Hot Applied Mastics
- Seal Coats
- Slurry Seals / Polymer-Modified Surface Treatments
- Asphalt Rejuvenator

Select Based on Pavement Condition & Age, Traffic & Operational constraints, climate & construction window, and cost & expected service life

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SLURRY SEAL OPTION (LIQUID ROAD)

Polymer-modified Slurry Seal (Liquid Road)

- Fiber-reinforced asphalt emulsion with fine aggregate
- Seals out moisture & oxygen
- Improved durability and skid resistance vs. traditional seal coats
- Uniform appearance and surface protection

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LIQUID ROAD: USE CRITERIA

- Applicable PCI range: 55-85
- Surface protection and appearance improvement
- Typical like extension: 5-7 years
- Requires re-striping
- Short-duration closures (hours to 1 day)



LIQUID ROAD PROCESS

1. Traffic Control Setup
2. Surface cleaning and crack repair
3. Slurry application (squeegee or spray)
4. Curing (weather dependent)
5. Pavement Markings
6. Reopen to Traffic

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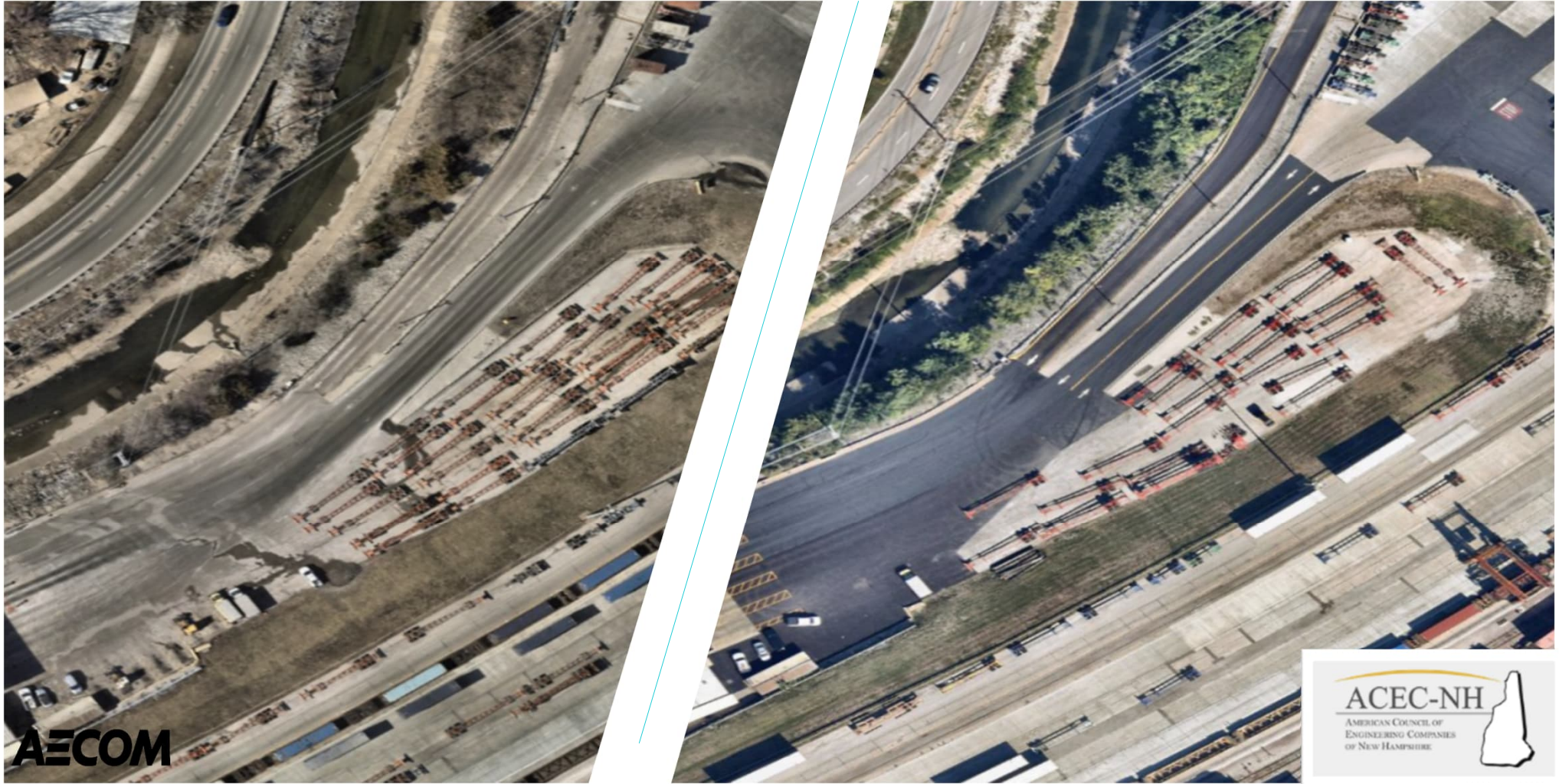
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Liquid Road
Application at
St. Louis IMF
August 2025



LIQUID ROAD: BEFORE & AFTER



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LIQUID ROAD: BEFORE & AFTER



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LIQUID ROAD: SIX MONTHS LATER

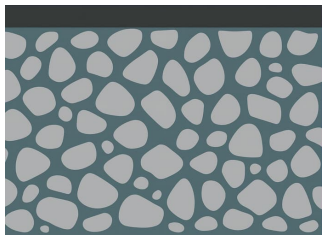


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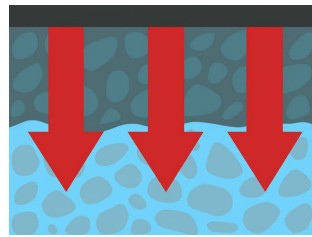


REJUVENATOR

- Penetrates the pavement (top 3-8")
- Replenishes the lost asphalt component (oxidation/aging)
- Restores durability & crack resistance
- Dries clear, no need to restripe



Traditional Seal Coat



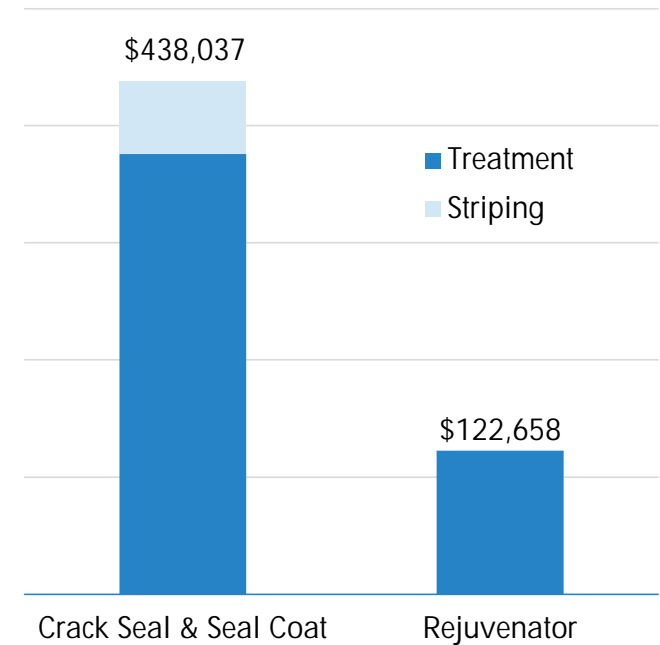
Rejuvenator

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CASE STUDY – BNSF SAN BERNARDINO

- Approximately 7 years old
- Existing pavement is structurally adequate (12" AC/12" AB)
- Satisfactory surface condition (PCI \approx 76)
- Cost-effective (\$1.60/SY vs. \$2.50/SY for seal coating)
- Avoids restriping costs



CHALLENGES OBSERVED

- ❑ Insufficient absorption
- ❑ Wet & slippery pavement surface
- ❑ Pooling at dolly pad depressions and pavement marking

CAUSES

- ❑ High application rate (0.1 Gal/SY)
- ❑ Insufficient absorption testing
- ❑ No sand blotting



REMEDIAL MEASURE



- Applied sand screening
- Power blew parking stall numbers
- The parking lot opened within hours

OUTCOME



- Residue absorbed
 - No operational issue due to slippery pavement

LESSONS LEARNED

- ❑ Extensive absorption testing
 - Separate tests for each “section” of the pavement
- ❑ One or more test strips prior to full application
- ❑ Sanding as standard procedure
 - Should be prepared to sweep away extra sand
- ❑ Mask or avoid large pavement markings
- ❑ Discuss operational risks and work limits with the facility
 - Consider smaller sections to mitigate delays

PRESERVATION TREATMENT COMPARISON

FACTOR	SEAL COAT	LIQUID ROAD	ASPHALT REJUVENATOR
FUNCTION (IDEAL PCI RANGE)	SEALS SURFACE AGAINST WATER & OXIDATION (70-100)	PROTECTS SURFACE, IMPROVES APPEARANCE (55-85)	RESTORES AGED BINDER, EXTENDS PAVEMENT LIFE (70-100)
INITIAL COST (REGION DEPENDENT)	LOW COST (SE CONTRACT: \$1.85/Sq. Yd.)	HIGHER THAN STANDARD SEALERS (SE CONTRACT: \$4.59/Sq. Yd.)	VARIES BY PRODUCT (CA CONTRACT: \$1.60/Sq. Yd.)
DURABILITY	LOW (2-3 YEARS)	MODERATE (5-7 YEARS)	MODERATE (3-5 YEARS)
CURE TIME	2-8 HOURS	4-24 HOURS	1-4 HOURS
LIFECYCLE COST	HIGH (DUE TO FREQUENT RE-APPLICATION)	MODERATE TO HIGH	LOW TO MODERATE
APPLICABILITY	SHORT-TERM PRESERVATION IN BETWEEN MAJOR REHAB	GOOD FOR SURFACE PROTECTION, BETTER AESTHETICS	EXCELLENT FOR BINDER RESTORATION



THANK YOU

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