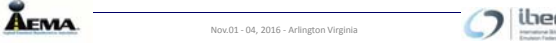


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2015 NCAT Pavement Test Track
Pavement Preservation Research Update

Track, CR-159, US-280, MnROAD

Dr. R. Buzz Powell, P.E., Assistant Director, National Center for Asphalt Technology

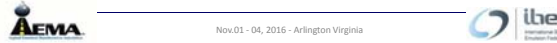


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1. Background and Introduction
2. Objectives
3. Proposed Solutions
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5. Evaluation of Results and Next Steps
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1. BACKGROUND AND INTRODUCTION




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2. OBJECTIVES

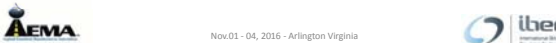
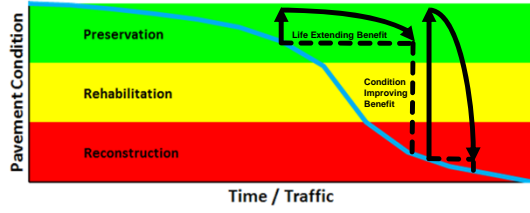
- Quantify the benefits of pavement preservation
- Life extension (Δx) and condition improvement (Δy)



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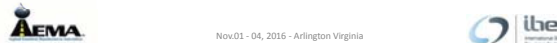
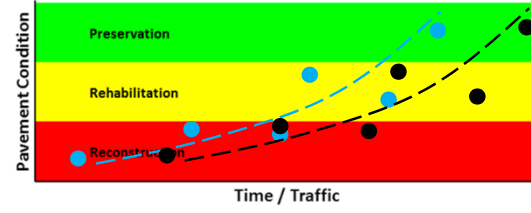
2. OBJECTIVES



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2. OBJECTIVES





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3. PROPOSED SOLUTION

- Benefits = f (pretreatment condition, traffic, climate, quality)
- Pretreatment condition ranging from poor to good
- Roadways with traffic volumes ranging from low to high
- Hot (e.g., bleeding) and cold (e.g., snow plows) climates.

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4. SOLUTION IMPLEMENTATION



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4. SOLUTION IMPLEMENTATION

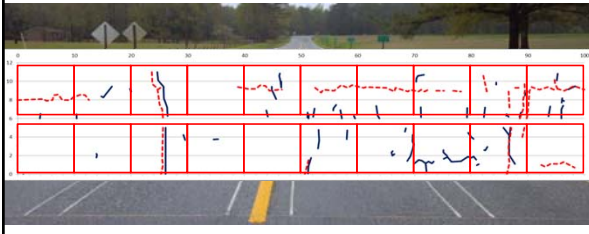




 

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4. SOLUTION IMPLEMENTATION



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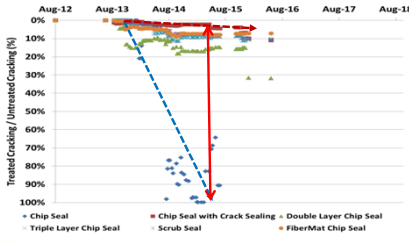


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5. EVALUATION OF RESULTS AND NEXT STEPS (CR-159)



Date	Chip Seal	Triple Layer Chip Seal	Chip Seal with Crack Sealing	Scrub Seal	Double Layer Chip Seal	FiberMat Chip Seal
Aug-12	10%	10%	10%	10%	10%	10%
Aug-13	10%	10%	10%	10%	10%	10%
Aug-14	10%	10%	10%	10%	10%	10%
Aug-15	10%	10%	90%	10%	10%	10%
Aug-16	10%	10%	10%	10%	10%	10%
Aug-17	10%	10%	10%	10%	10%	10%
Aug-18	10%	10%	10%	10%	10%	10%

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5. EVALUATION OF RESULTS AND NEXT STEPS (CR-159)

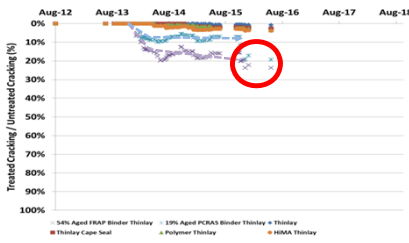


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5. EVALUATION OF RESULTS AND NEXT STEPS (CR-159)



Date	54% Aged FRAP Binder Thinlay	Thinlay Cape Seal	19% Aged PCAS Binder Thinlay + Thinlay	Polymer Thinlay	HMA Thinlay
Aug-12	10%	10%	10%	10%	10%
Aug-13	10%	10%	10%	10%	10%
Aug-14	10%	10%	10%	10%	10%
Aug-15	20%	20%	20%	20%	20%
Aug-16	10%	10%	10%	10%	10%
Aug-17	10%	10%	10%	10%	10%
Aug-18	10%	10%	10%	10%	10%

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5. EVALUATION OF RESULTS AND NEXT STEPS (CR-159)

- Crack sealing - Significantly effective as standalone or combination
- Chip seals - Least cracking in scrub/triple/FiberMat, then double, then single
- Micro surfaces - Less cracking in double layer/crack sealed, best in Capes
- Thinlays - No cracks in Cape/CCPR base sections, more in 50% F-RAP & 5% RAS
- Cape seals - Least cracking in scrub/Thinlay, then FiberMat, then chip

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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

Untreated Cracks, Pumping _{128.0-128.5}



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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

(Rejuvenating) Fog Seals_{129.0-129.2}



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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

No New Cracks in Crack Sealing_{128.7}




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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

Chip Seal Cracks, No Pumping_{129.5}



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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

Chip Seal with Crack Sealing_{129.3}



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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

Cracks, Healing FiberMat Chip Seal_{130.4}



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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

Bleeding in Triple Chip Seal_{130.5}



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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

Flushing in Double Chip Seal^{130.6}



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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

Cracks, No Pumping-Micro-Surface^{129.7}




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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

No Cracking in Thinlay^{128.5}



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5. EVALUATION OF RESULTS AND NEXT STEPS (US-280)

100% RAP Cold Recycle Mix^{131.9-132.4}

CCPR (KMA220)


CIR (3800CR)



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6. ACKNOWLEDGEMENTS/ CONTACT INFORMATION



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