NCAT Pavement Test Track

Research Update
NCAT Track, US-280, and Lee Road 159

ADEM
Alabama Department of Environmental Management

ALABAMA
DEPARTMENT OF TRANSPORTATION

COLLABORATIVE
AGGREGATES LLC

CO
CDOT

DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA

FP2

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

GDOT
Georgia Department of Transportation

Illinois Department
of Transportation

KENTUCKY
TRANSPORTATION
CABINET

SHA
State Highway
Administration

MDOT
Michigan Department of Transportation

MDOT
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

MINNESOTA
DEPARTMENT OF TRANSPORTATION

MoDOT

NEW YORK
STATE OF
OPPORTUNITY.
Department of
Transportation

DOT
Oklahoma Department
of Transportation

SCDOT
South Carolina Department of Transportation

TN
TDOT
Department of
Transportation

VDOT
Virginia Department of Transportation

WISCONSIN
DEPARTMENT OF TRANSPORTATION

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Texas
Department
of Transportation

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NCAT Pavement Test Track

- Help state DOTs implement positive change
- Promote real innovation for the industry
  - Mix and materials
  - Structural pavement design
  - Pavement preservation.

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Surface Performance

Parameter	Track	Lee Road 159	US-280
Roughness	Weekly	Weekly	Weekly
Rutting	Weekly	Weekly	Weekly
Macrotexture	Weekly	Weekly	Weekly
Crack Mapping	Weekly	Monthly+	Monthly+
FWD	Weekly	Monthly	Quarterly
Surface Friction	Monthly	Monthly	Monthly
Permeability	Quarterly	-	Quarterly
Noise	Quarterly	Quarterly	Quarterly

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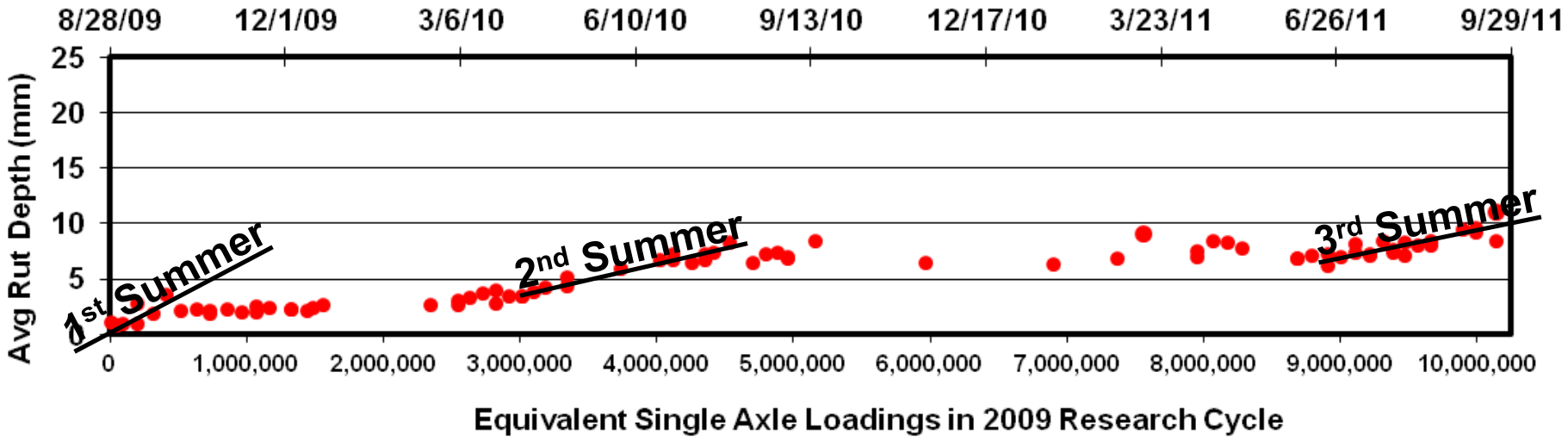
Rutting



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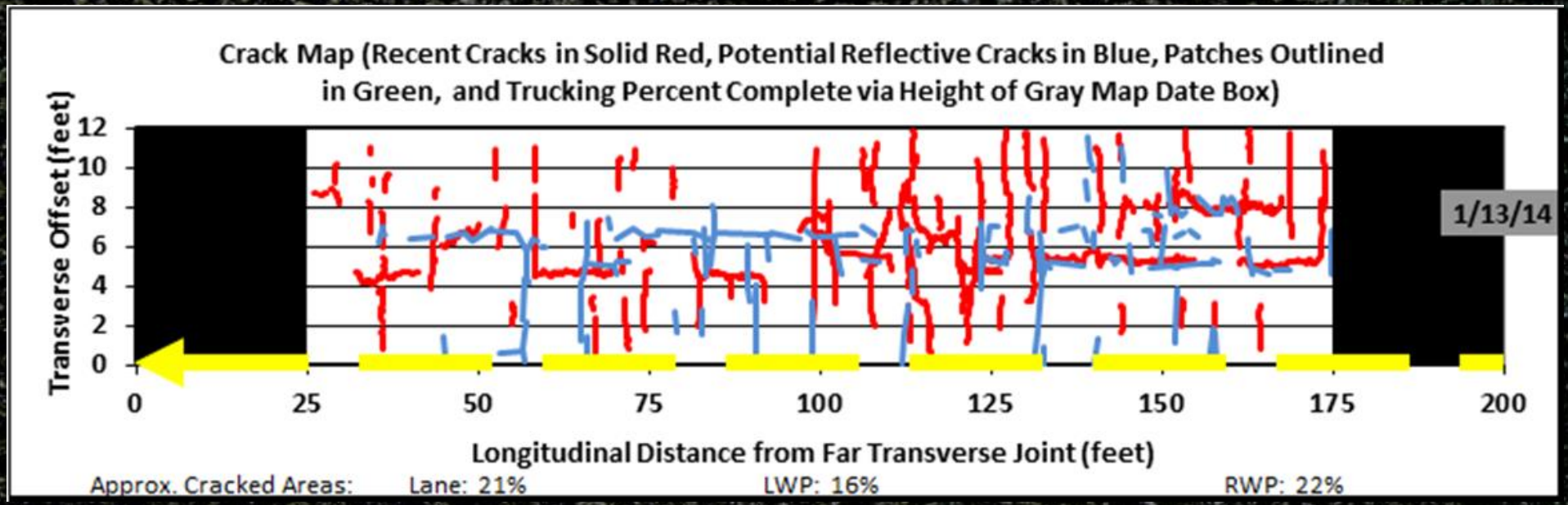
Cracking



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2015 NCAT Pavement Test Track

- Safe, sustainable, & cost effective pavements
- Optimizing the use of RAP & RAS (rejuvenation)
- Durability of small/fine surplus sand thinlays
- Improved longitudinal joint performance
- Cold recycle (CR) construction & performance
- Preventing surface & reflective cracking (CG)
- Pavement preservation (PG15).

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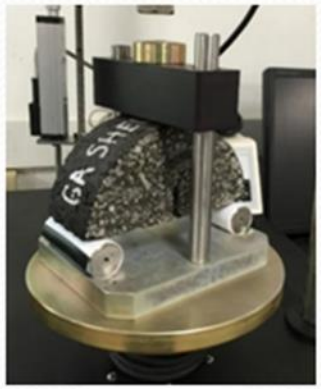
Cracking Group (CG) Experiment

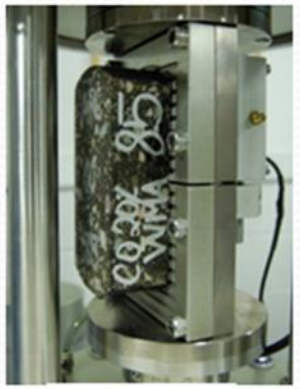
BBF



SCB-LA

I-FIT

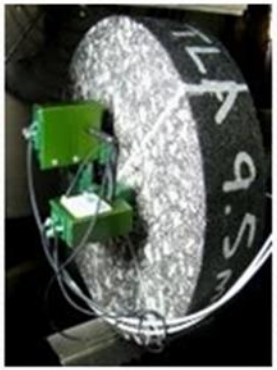
OT-TX



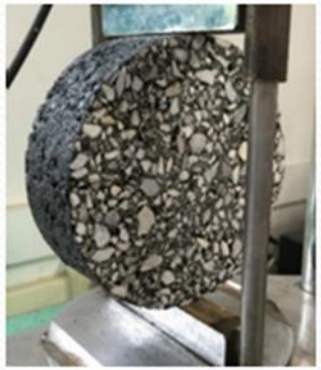
OT-NCAT

SVECD

DCT



Energy Ratio



Nflex Factor

Cantabro

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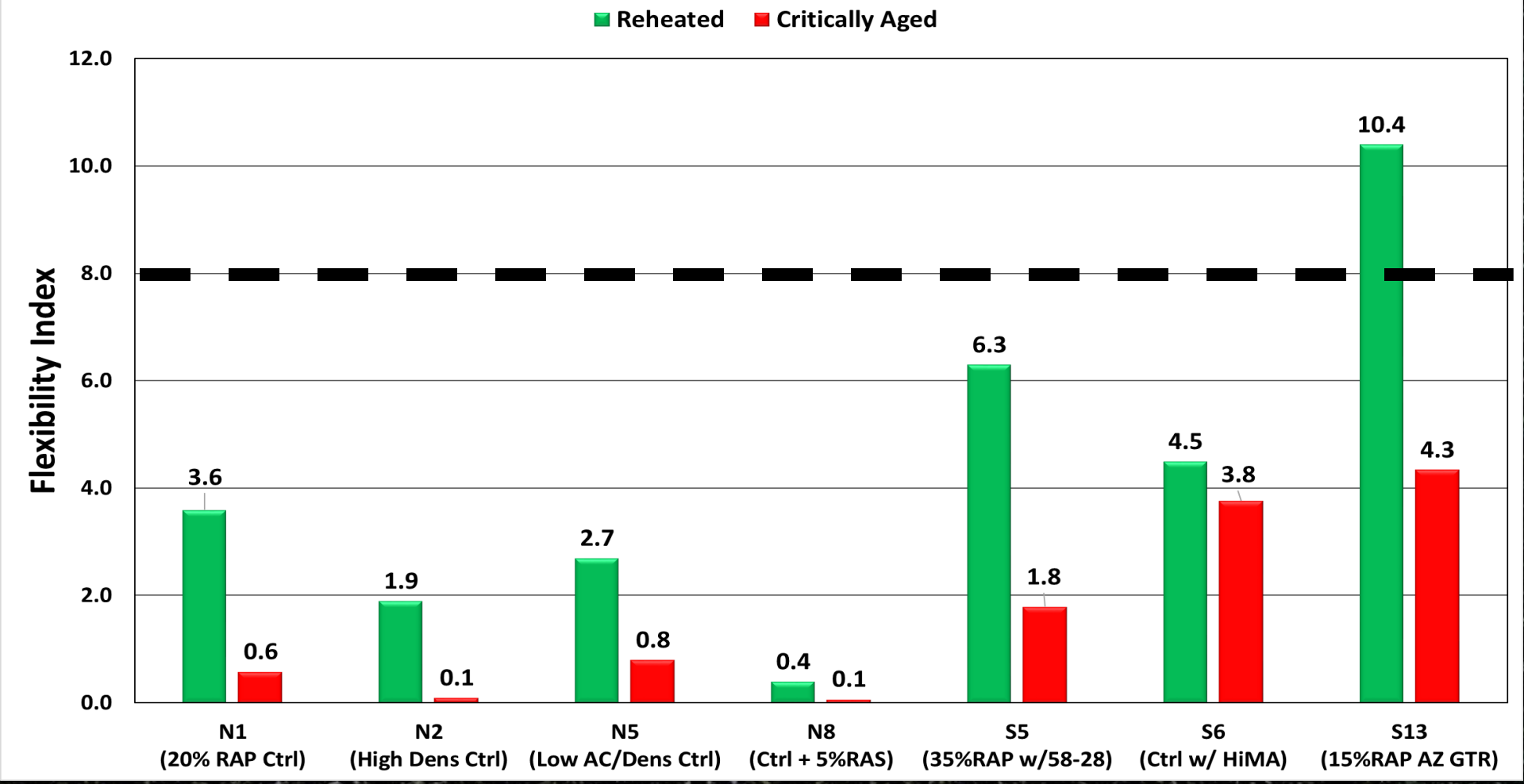
Cracking Group (CG) Experiment



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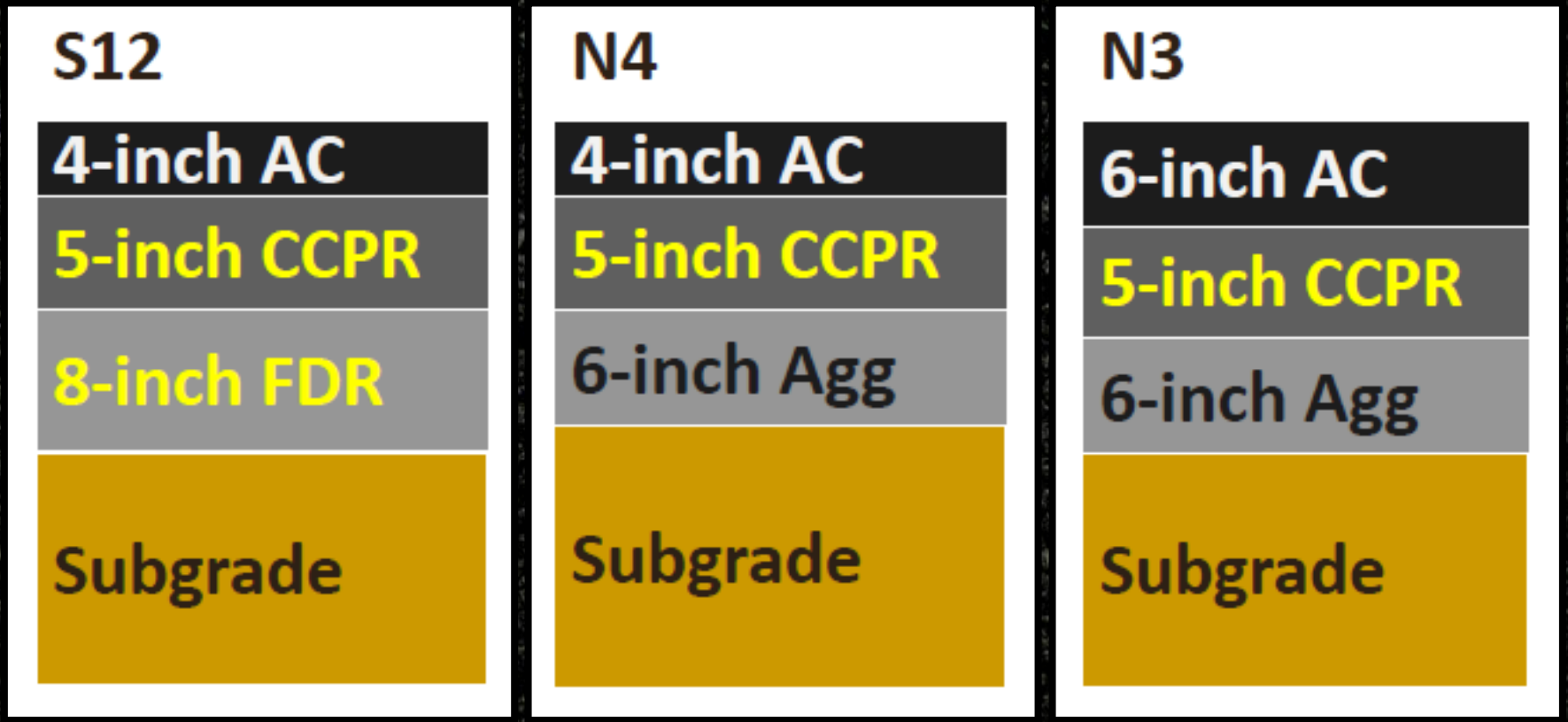
TEST SECTION
NUMBER N-8
Cracking Group
(Oklahoma)
Direction of Travel

VDOT Sections with CCPR Base Track



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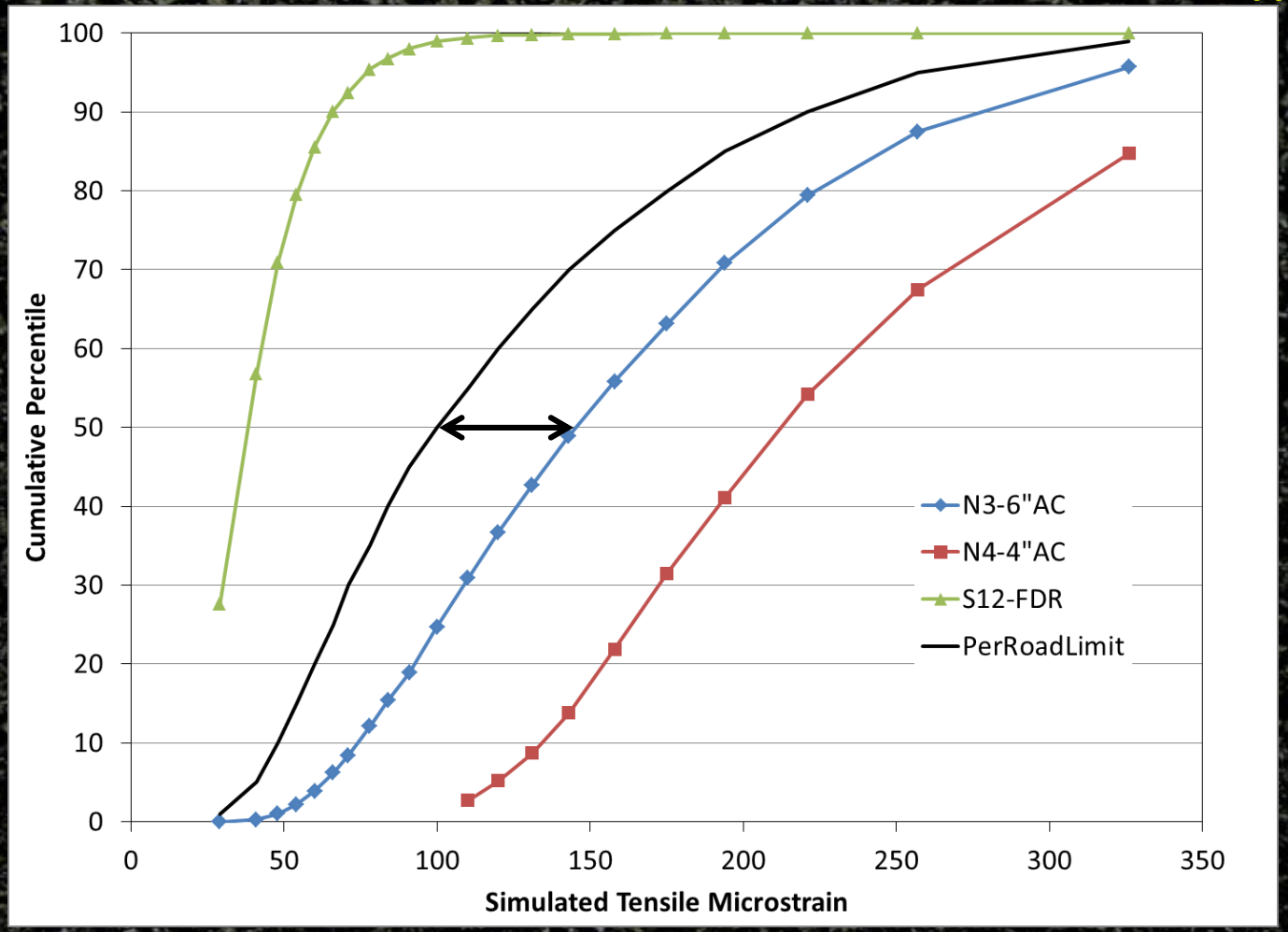
VDOT Sections with CCPR Base Track



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Lee Road 159 Low Traffic Preservation

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CCPR Base in Section L20

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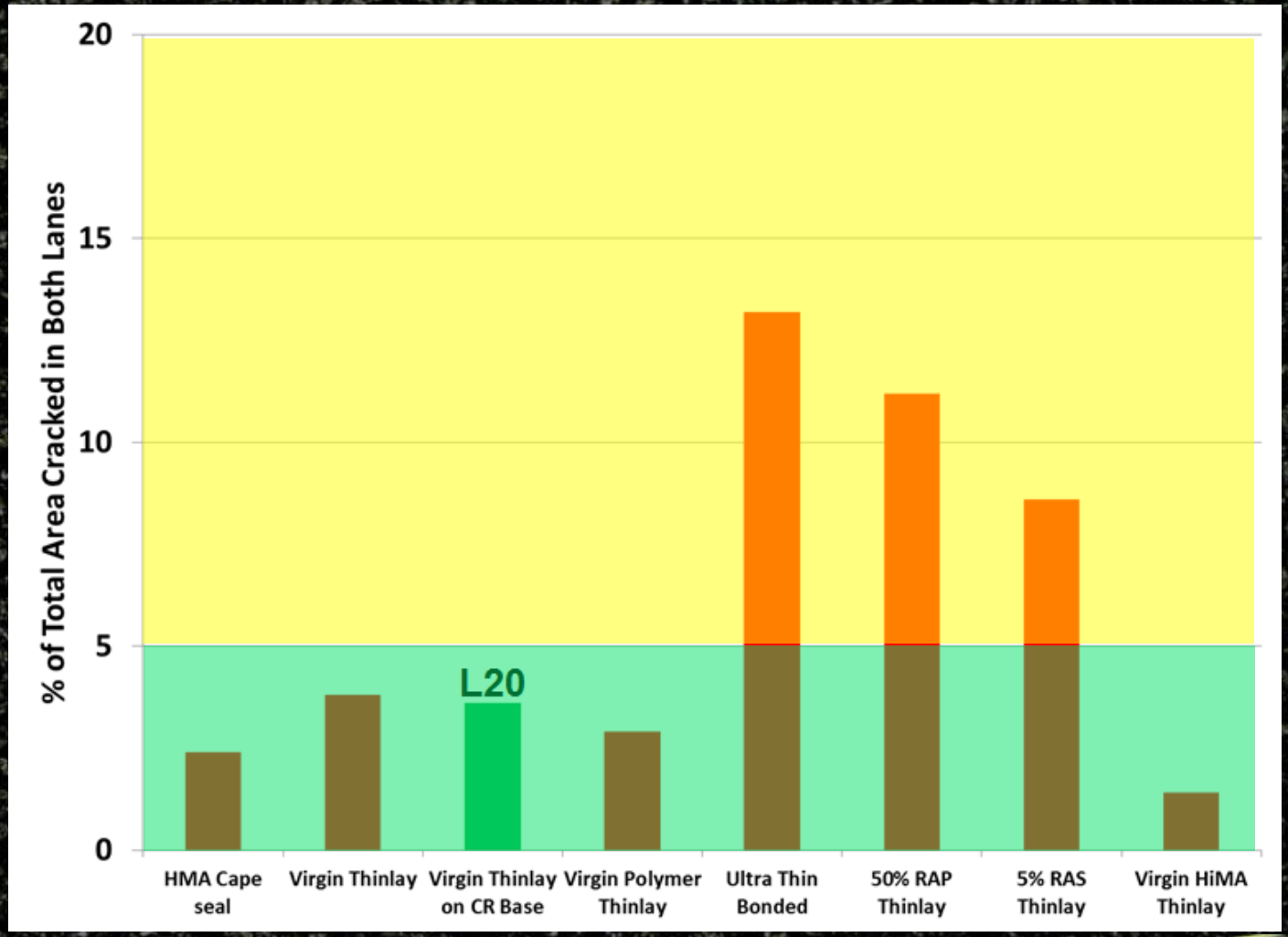
CCPR Base in Section L20



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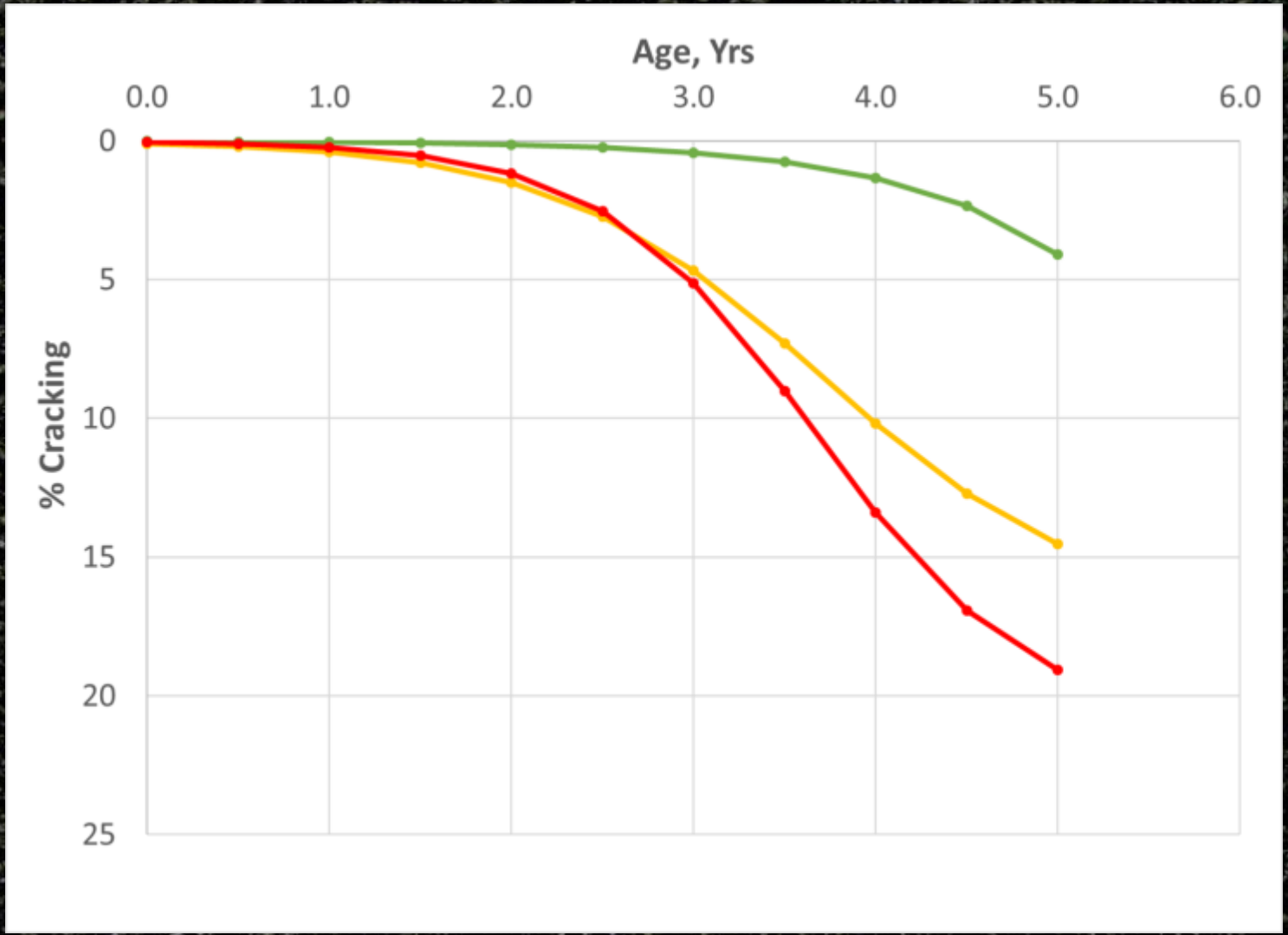
Benefits of Preservation (PG)



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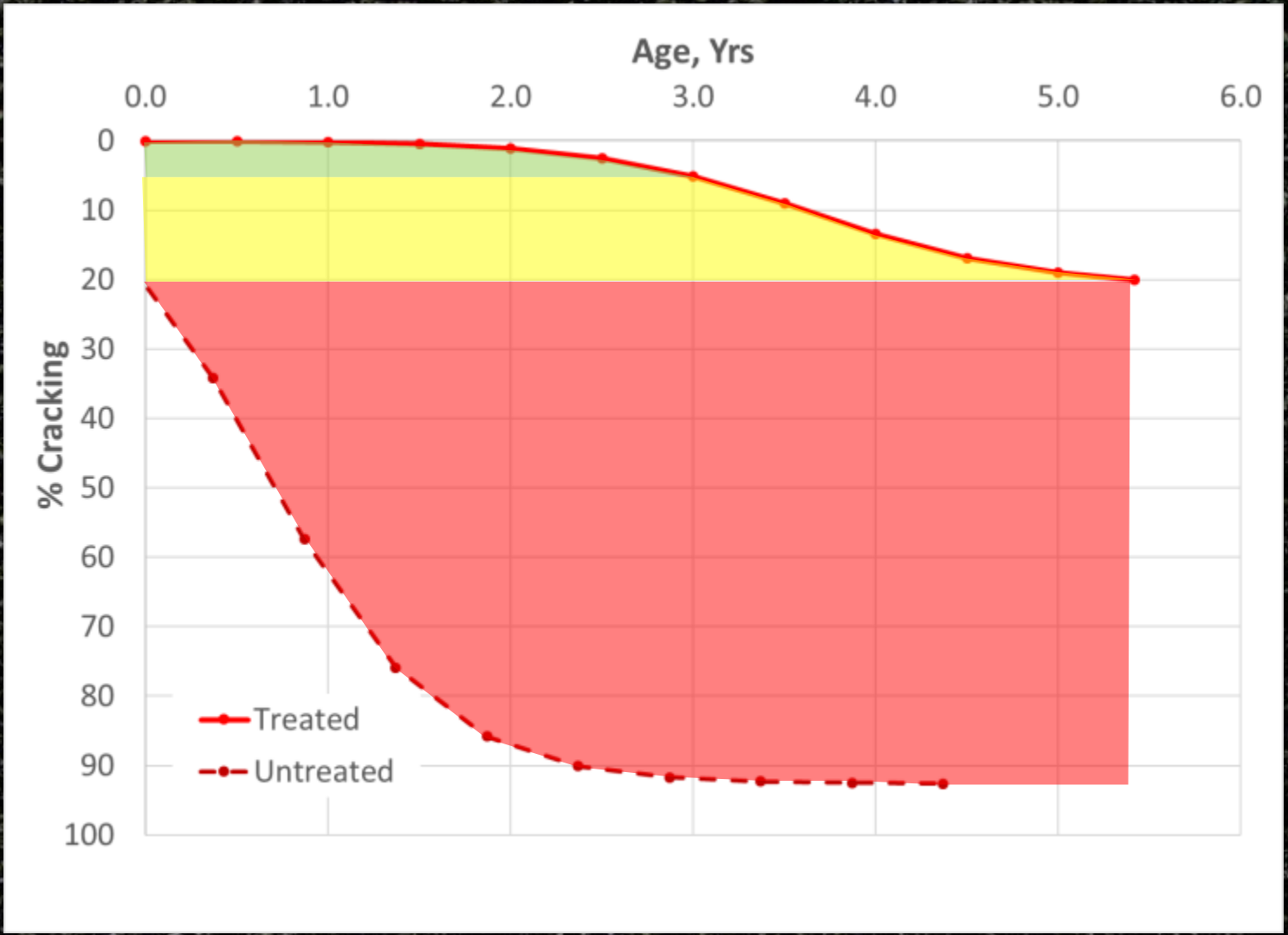
Benefits of Preservation (PG)



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US-280 High Traffic Preservation

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RAP+RAS Thinlays on Cold Recycle$_{F,E}$

CCPR

CIR

No Rutting

No Cracking

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Summary

- Non-surface cold recycle has high potential
- Optimism about cracking test(s) for design and QC
- True innovation via balance mix design approach
- Preservation benefit function of MAP-21 condition
- Performance of standalone thinlay surfaces
- Role of route/fill versus blow/band crack sealing
- Performance of combination emulsion treatments.

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2018 TEST TRACK CONFERENCE

MARCH 27-29, 2018

AUBURN, AL

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www.ncat.us

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