NCAT Pavement Test Track

Reducing Reflective Cracking
NCAT Pavement Test Track and Lee Road 159

ADEM
Alabama Department of Environmental Management

Alabama Department Of Transportation

Collaborative Aggregates LLC

CDOT
CO

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
Maryland Department of Transportation

MDOT
Michigan Department of Transportation

MDOT
Mississippi Department of Transportation

Minnesota Department of Transportation

MoDOT

New York State of Opportunity. Department of Transportation

ODOT
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

- Top-down cracking in perpetual pavements
- Route/fill versus blow/band crack sealing
- Fatigue cracking in thinner structures
- Crack inhibiting interlayer treatments
- Pavement preservation on Lee Road 159

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Perpetual Pavement Top-Down Cracking

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Perpetual Pavement Top-Down Cracking

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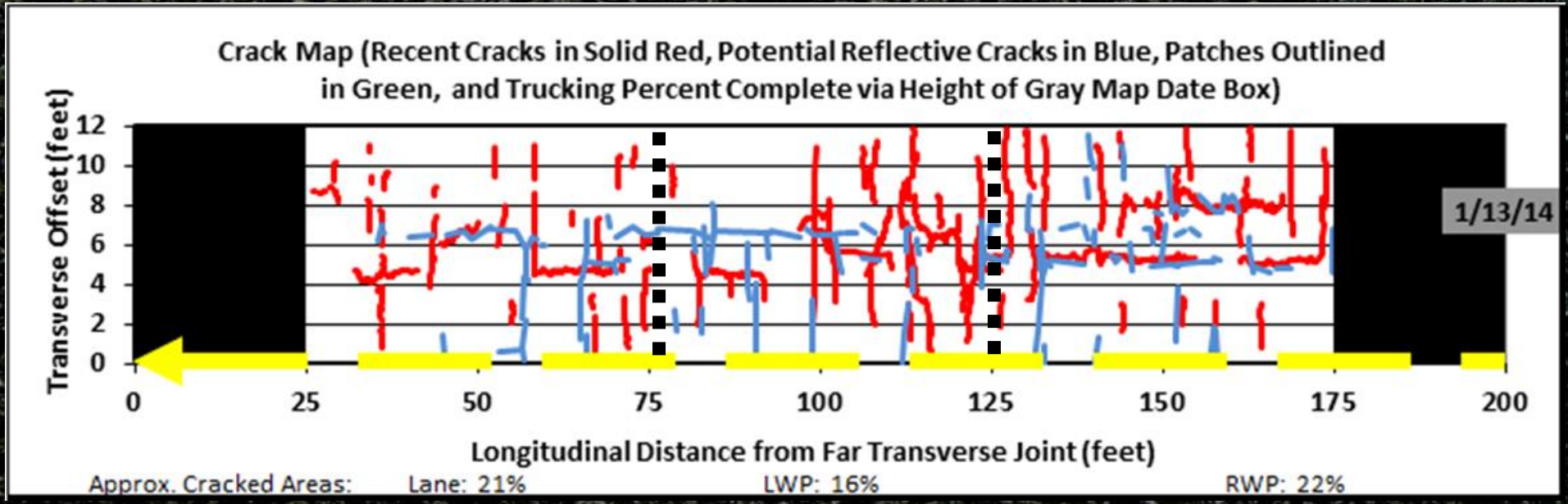
Perpetual Pavement Top-Down Cracking



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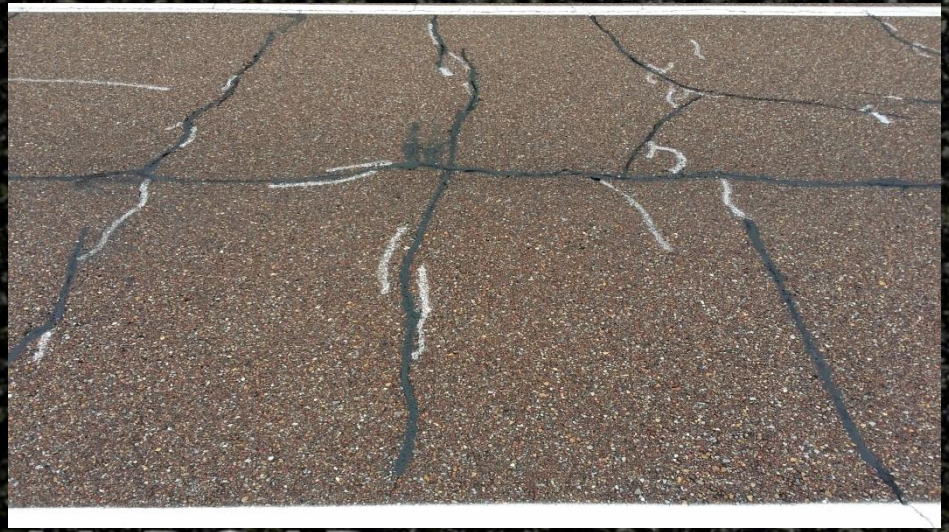
Perpetual Pavement Top-Down Cracking

← Untreated control

↑ Blow and band



← Route and fill

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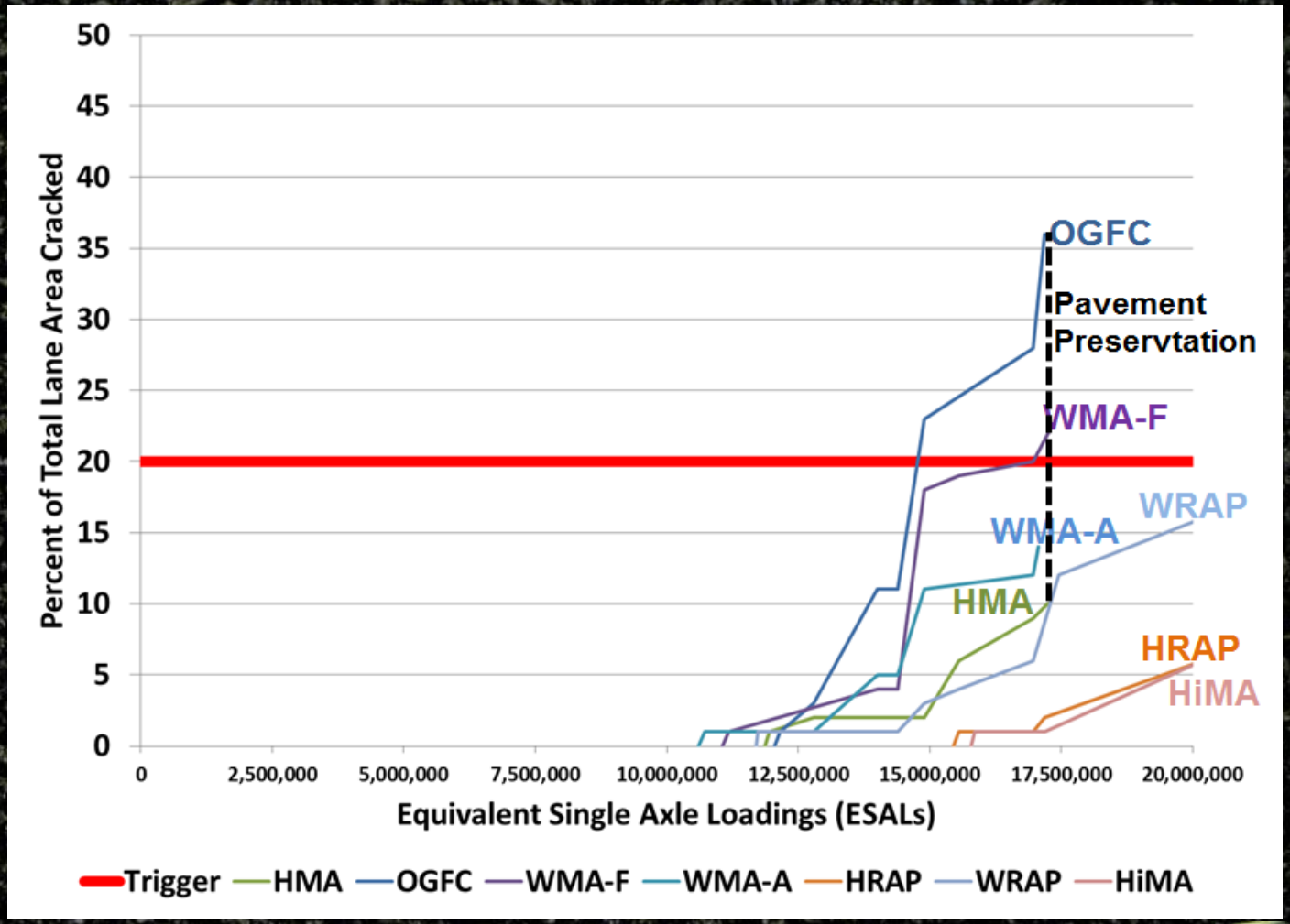
Fatigue Cracking in Thinner Structures



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Track Micro Surface

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Track Thinlay

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Healing via Rejuvenating Scrub Seals

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Crack Inhibiting Interlayers

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Triple Chip Seal Interlayer

1st Treatment Applied:	7 Chip Seal
Placement Date:	8/8/2012
Emulsion Grade:	CRS-2HP
Target Emulsion Rate (GSY):	0.26
Meas. Emulsion Rate (GSY):	0.28
Aggregate Type:	Granite
Meas. Aggregate Rate (PSY):	23.0
2nd Treatment Applied:	89 Chip Seal
Placement Date:	8/8/2012
Emulsion Grade:	CRS-2HP
Target Rate (gals / SY):	0.34
Measured Rate (gals / SY):	0.28
Aggregate Type:	Granite
Meas. Agg. Rate (lbs / SY):	16.0
3rd Treatment Applied:	W10 Chip Seal
Placement Date:	8/9/2012
Emulsion Grade:	CRS-2HP
Target Rate (gals / SY):	0.15
Measured Rate (gals / SY):	0.14
Aggregate Type:	Granite
Meas. Agg. Rate (lbs / SY):	15.0

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12.5 mm Open Graded Interlayer (OGI)

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12.5 mm Open Graded Interlayer (OGI)

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Cracking-N12

2016

2017

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Cracking-N13

2016

2017

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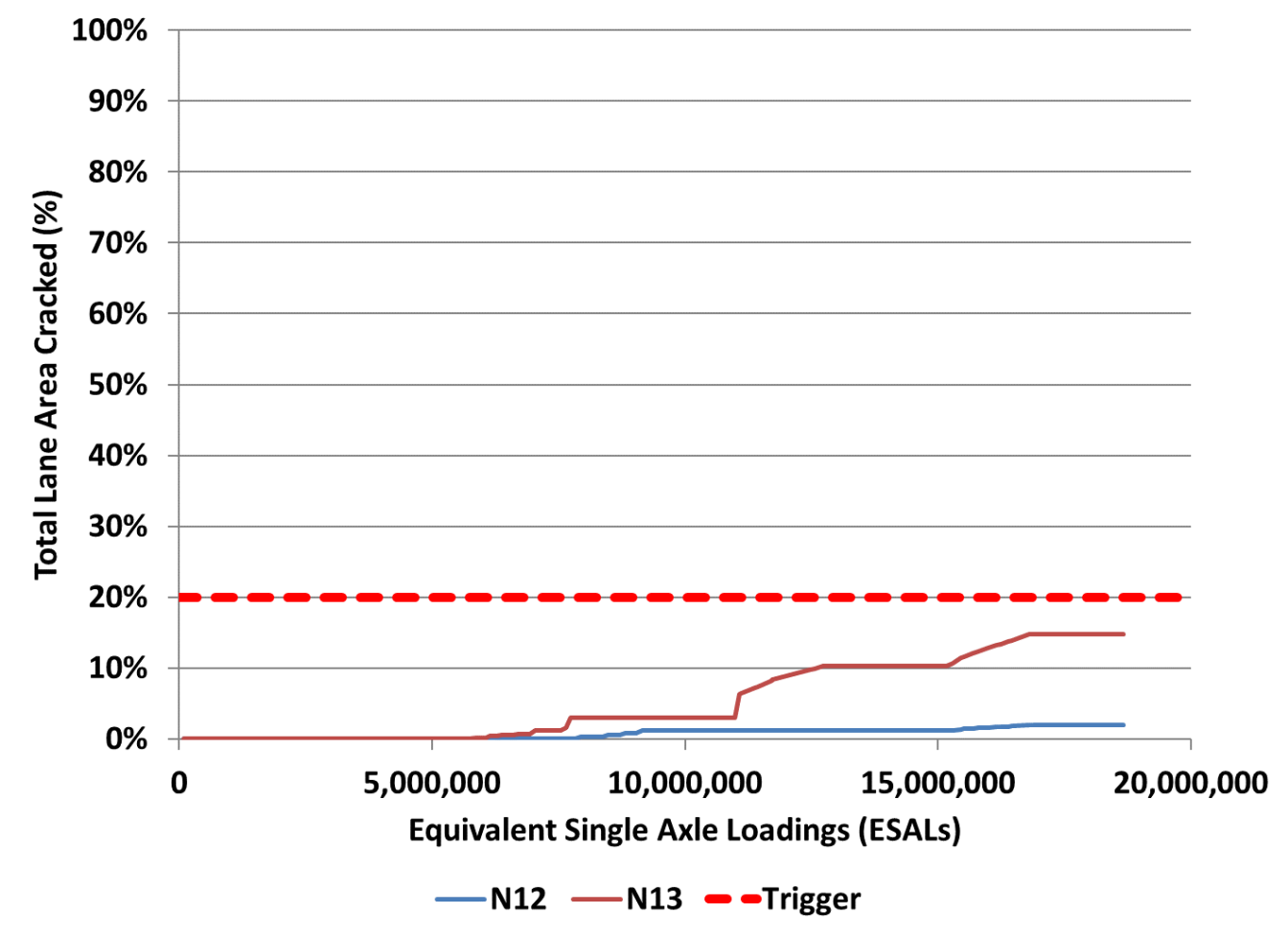
Cracking



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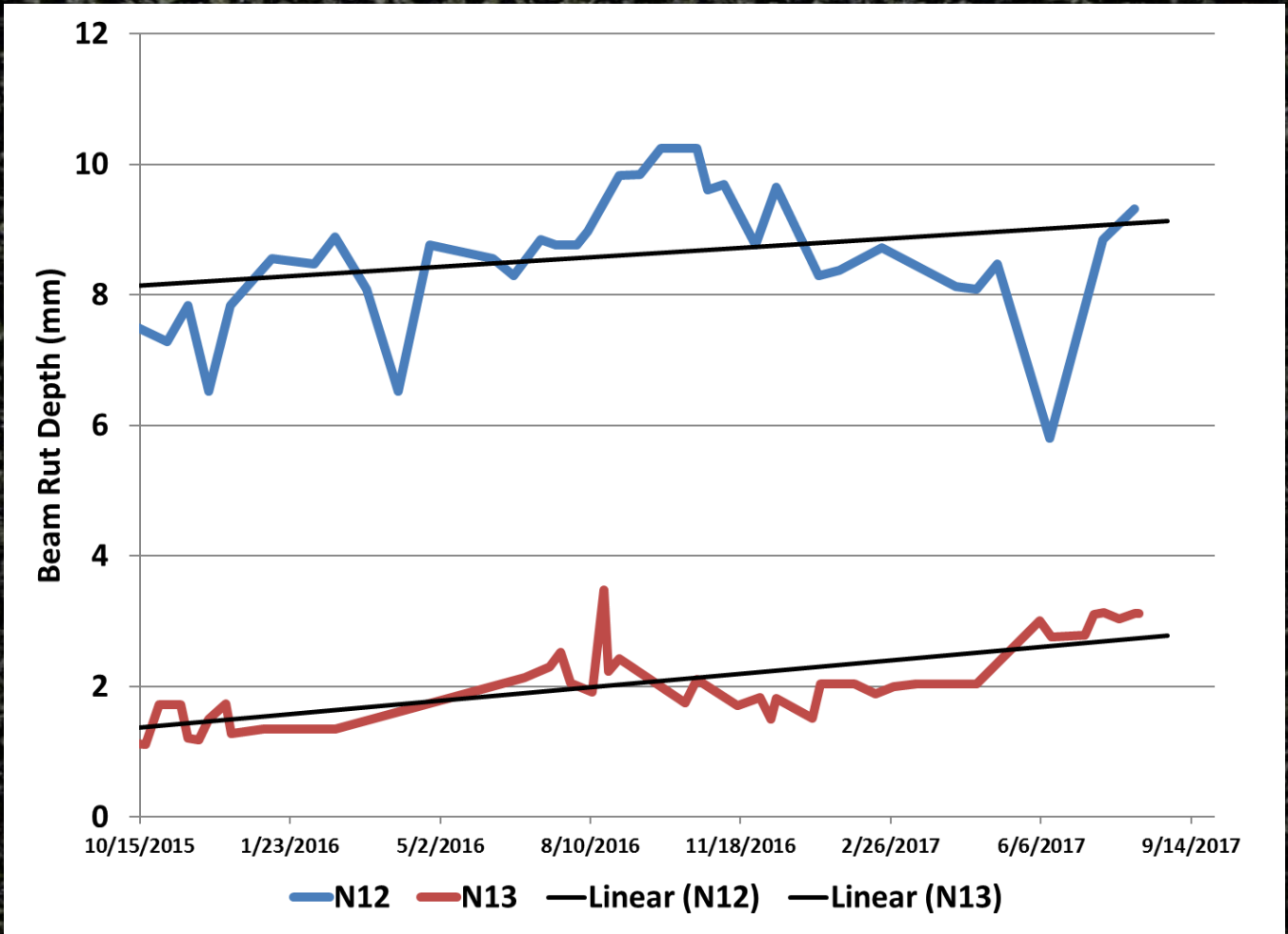
Rutting



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Lee Road 159 Low Traffic Preservation

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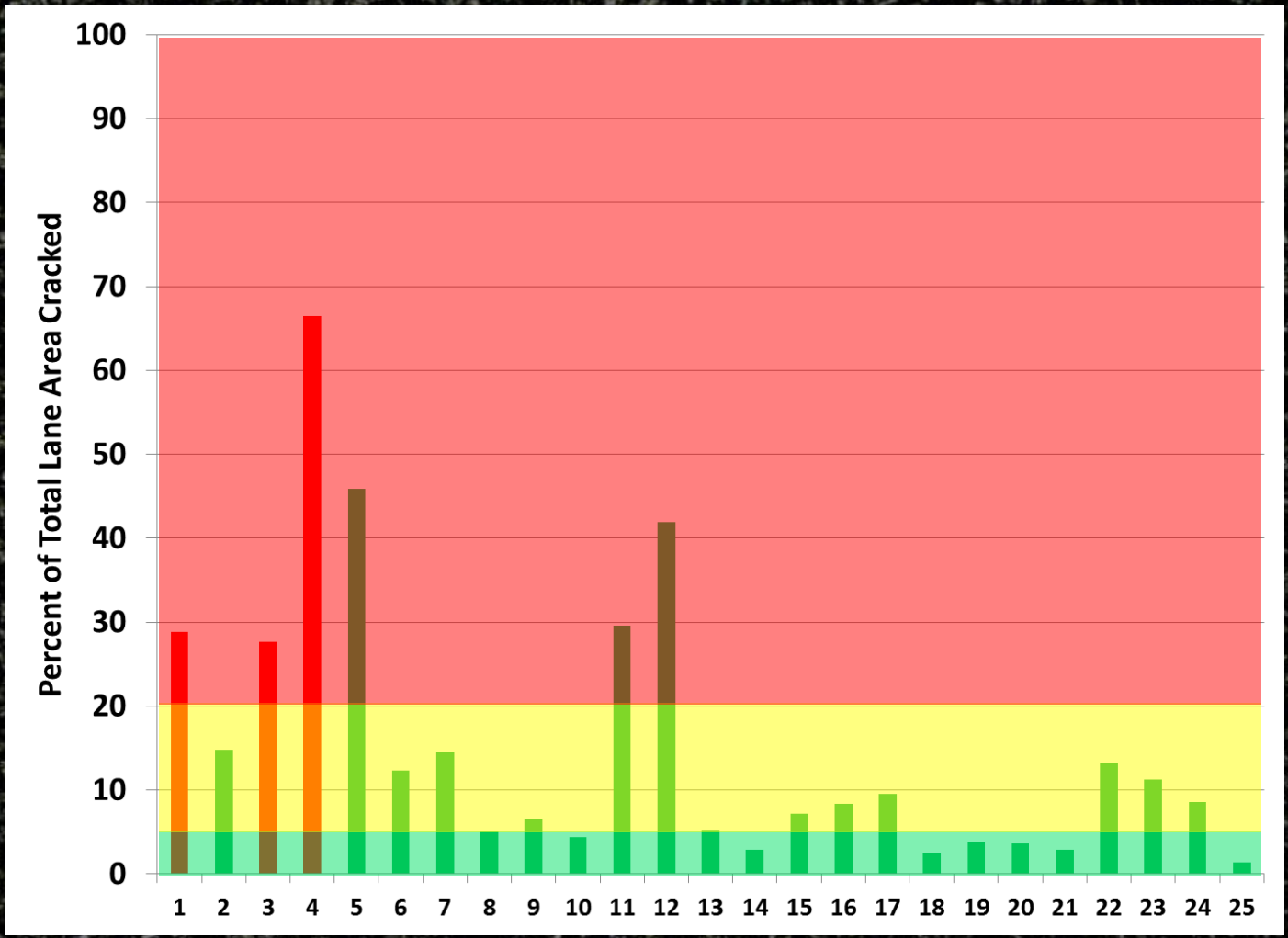

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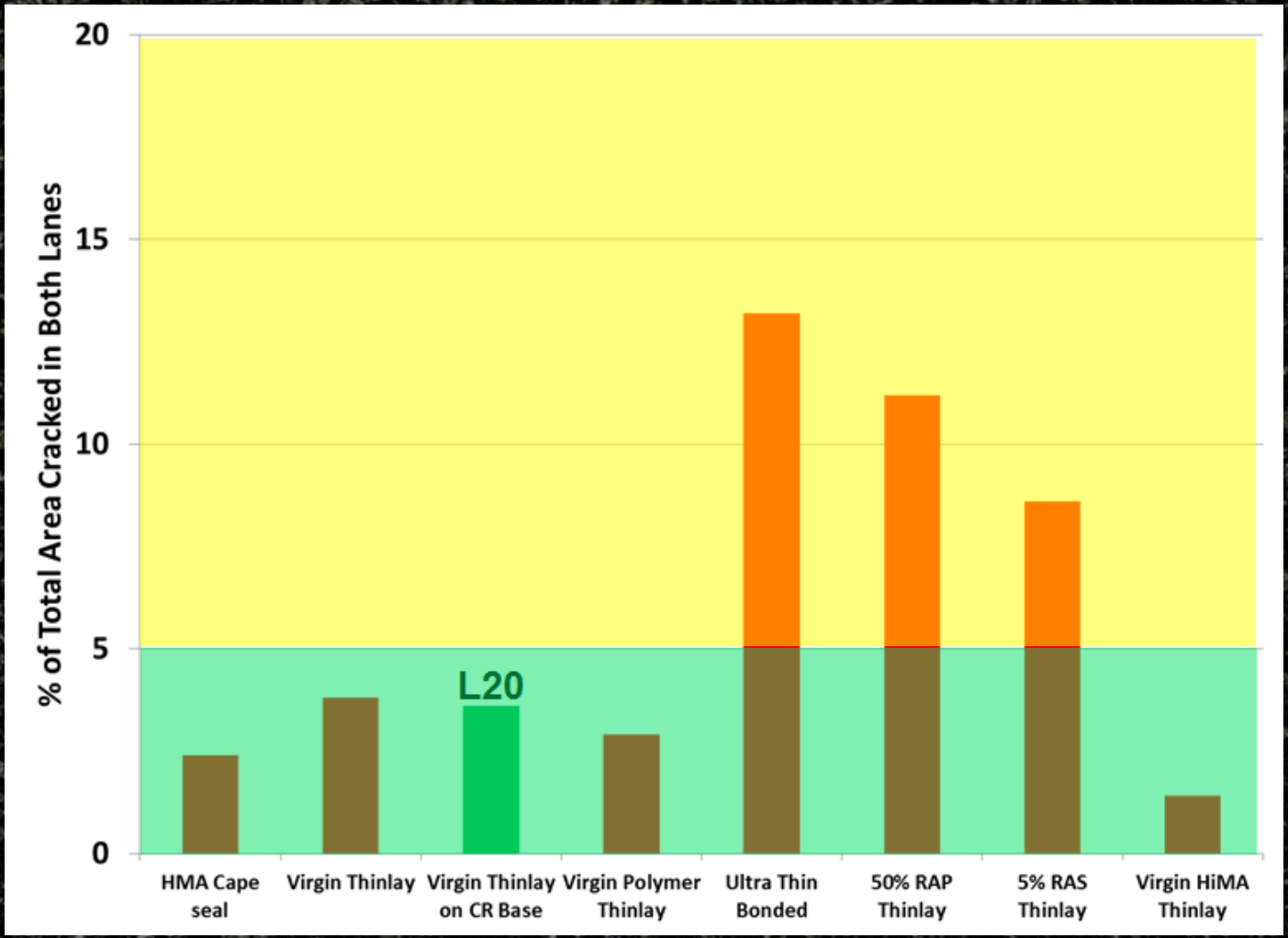
Lee Road 159 Low Traffic Preservation



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Summary

- Ideally mill to depth of top-down cracking
- Route/fill is best for standalone treatment, but…
- Blow/band is best for combination treatment
- OGI vs triple chip crack inhibiting interlayers…
- Fabric vs grid vs OGI+UF vs AZR vs double chip
- Thinlay on fatigue cracking has performed well

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2018 TEST TRACK CONFERENCE

MARCH 27-29, 2018

AUBURN, AL

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