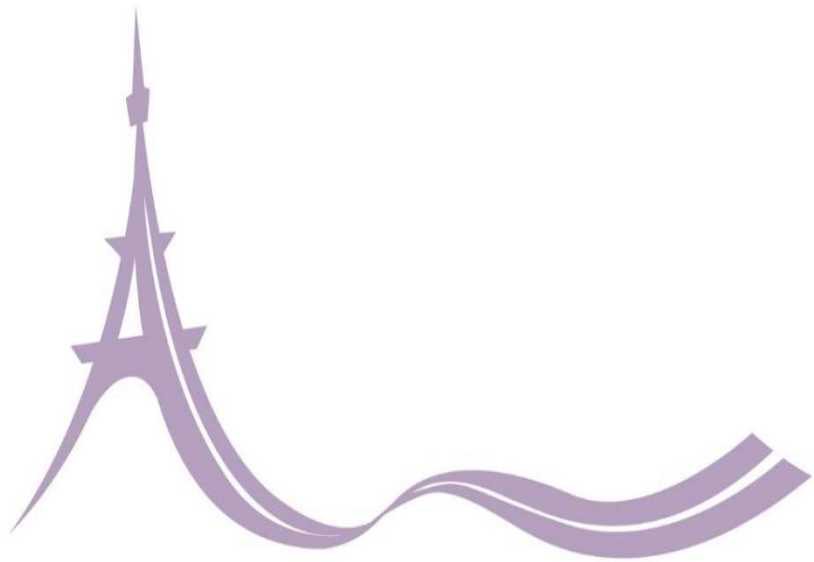


Pavement Preservation Research at the NCAT Pavement Test Track



PAVEMENT PRESERVATION & RECYCLING SUMMIT

PPRS PARIS 2015
FEBRUARY 22-25

Buzz
R. Buzz Powell
NCAT / AU



BACKGROUND

NCAT Pavement Test Track

1

National Center for Asphalt Technology (NCAT)

- › NCAT founded at Auburn University in the mid-1980s
- › Original focus on improving asphalt mix/material performance
- › Mission evolved to meet research needs of state DOTs in US
- › Added structural design₂₀₀₃ and pavement preservation₂₀₁₂
- › Track research projects evolved in parallel to NCAT mission.

NCAT Pavement Test Track



Lee Road 159



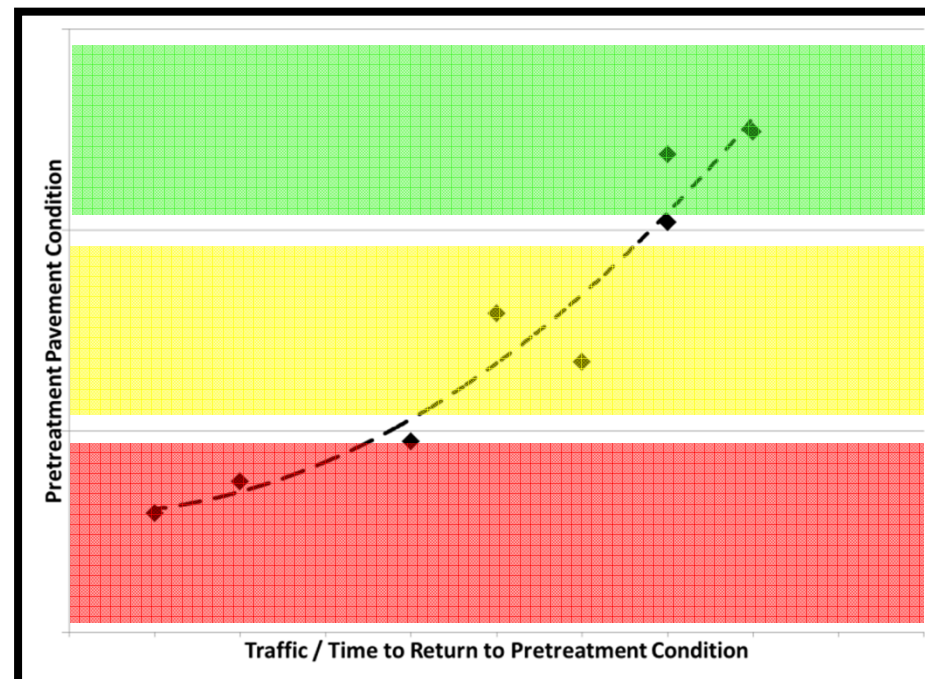
RESEARCH NEED

2

Benefits of Pavement Preservation

Performance Life Expectation

- › Many state DOTs in US have decision trees for asset management
- › Wide ranges in performance confound treatment selection process
- › State DOTs in US need objective preservation performance data.



EXPERIMENT DESIGN

Treatments and Combinations

| 3

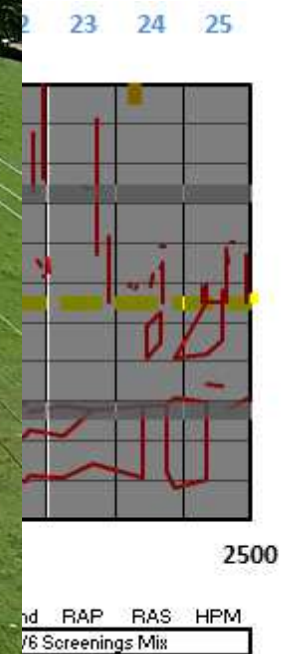


Treatments and Treatment Combinations



- 1. Rejuvenating Fog Seal
- 2. Fibermat
- 3. Control with Less Cracking
- 4. Control with More Cracking
- 5. Crack Seal (CS)
- 6. Single Layer Chip Seal
- 7. CS + Single Layer Chip Seal
- 8. Triple Layer Chip Seal
- 9. Double Layer Chip Seal
- 10. Cape Seal
- 11. Micro Surface
- 12. CS + Micro Surface
- 13. Double Layer Micro Surface

- 14. Fibermat Cape Seal
- 15. Scrub Cape Seal
- 16. Scrub Seal
- 17. Fibermat Chip Seal
- 18. Fibermat HMA Cape
- 19. HMA Thinlay
- 20. Thinlay on CCPR Base
- 21. HMA Polymer Thinlay
- 22. NovaChip
- 23. HMA 50% RAP Thinlay
- 24. HMA 5% RAS Thinlay
- 25. HMA HiMA Thinlay

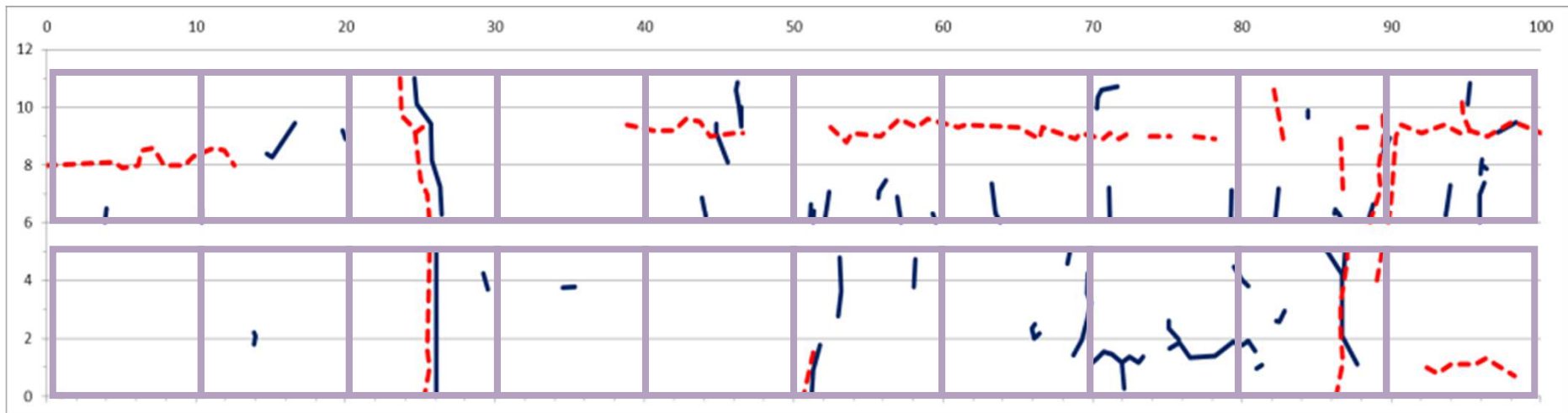


PERFORMANCE

4

Regular Performance Measures

Weekly/Monthly Performance Data

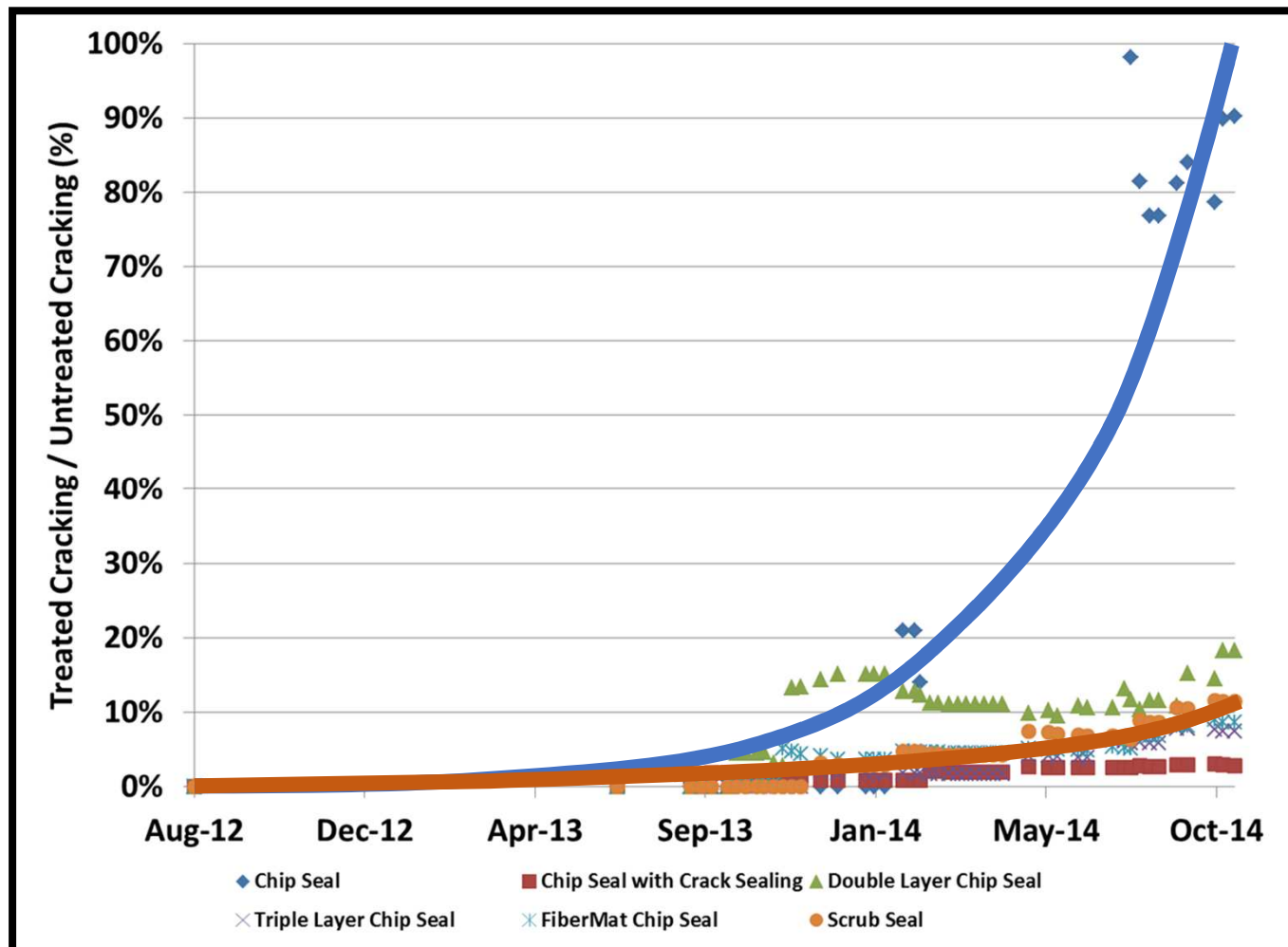


RESULTS

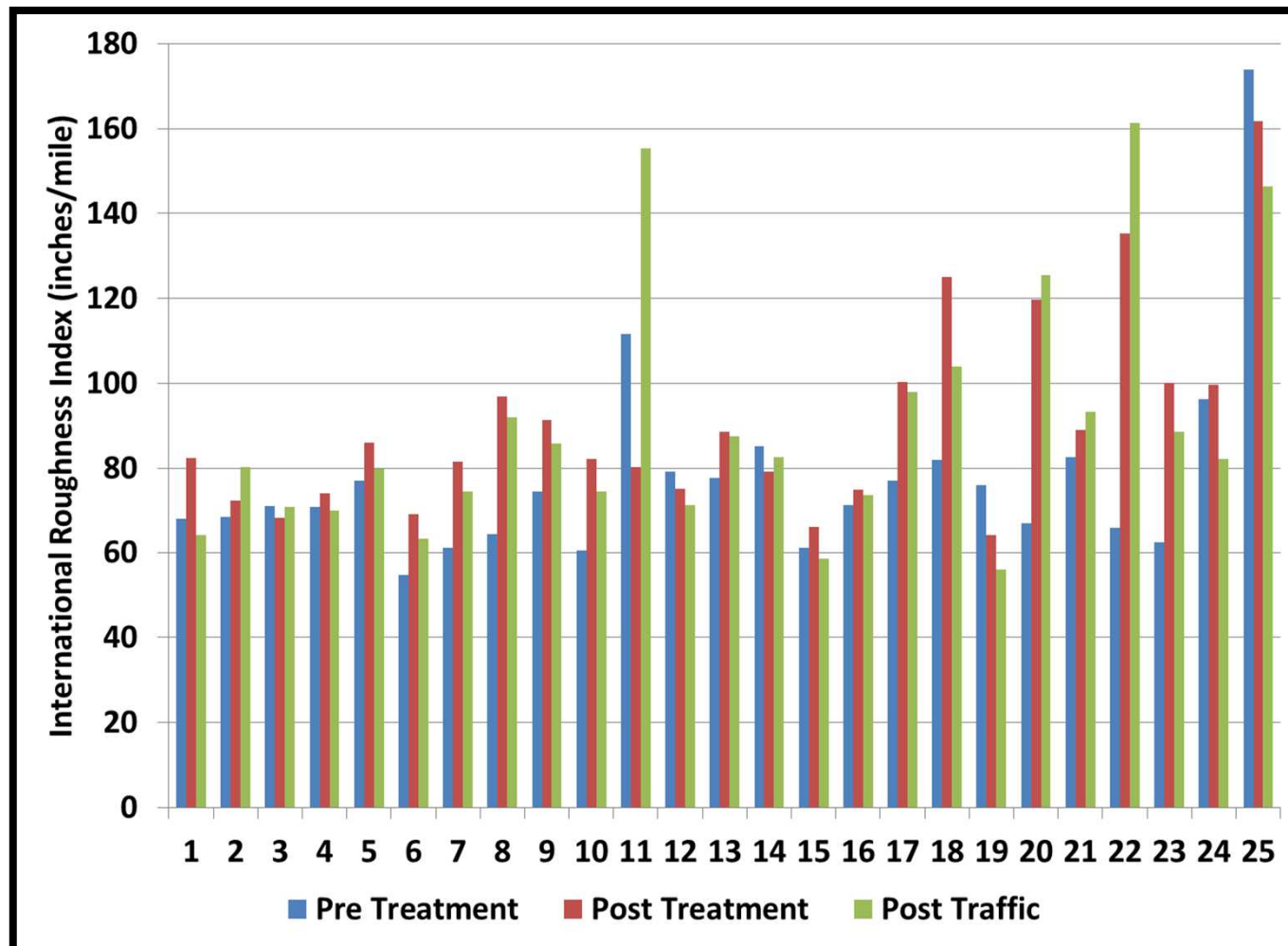
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Benefits of Pavement Preservation

Quantified Benefits of Pavement Preservation



Quantified Benefits of Pavement Preservation



CONCLUSION

- › Life extending and condition improving benefit curves (!)
- › Value added from pavement preservation quantified
- › Continue monitoring Lee Road 159 in 2015 research cycle
- › Plan to duplicate experiment on higher ADT roadway
- › Increase scope to include $CCPR_{F\&E}$, $CIR_{F\&E}$, and HIR
- › Partner with MnROAD for nationwide US experiment
- › Anticipate monitoring sections for many years to come.

Questions ?



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