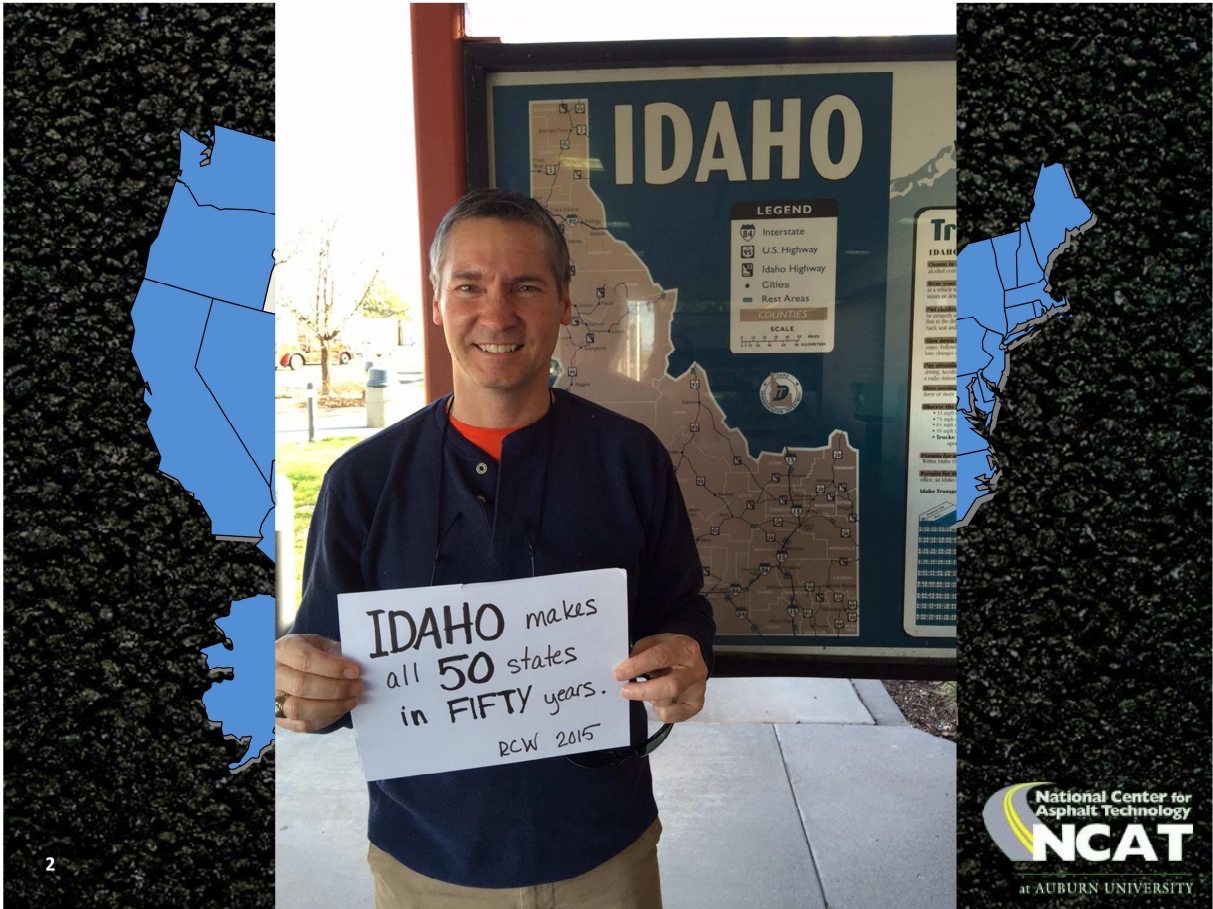


MnROAD-NCAT

Pavement Preservation Study

55th Annual
Idaho Asphalt Conference
October 22, 2015



Pavement Preservation

“A program employing a network level, long-term strategy that enhances pavement performance by using an integrated, cost-effective set of practices that **extend pavement life**, improve safety and meet motorist expectations”

- FHWA Pavement Preservation Expert Task Group



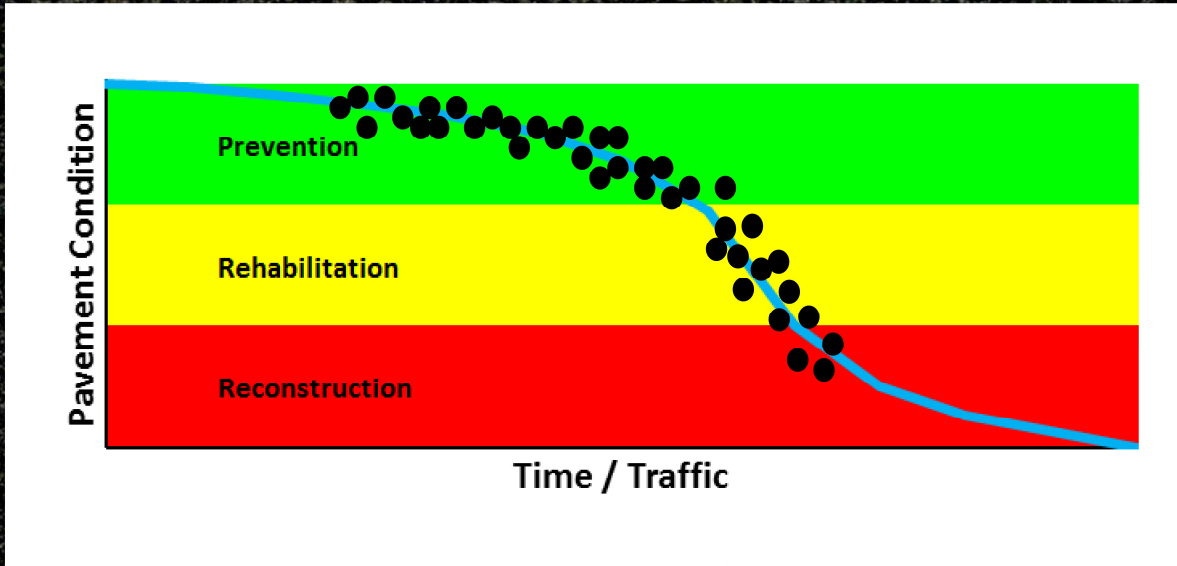
Pavement Preservation Study

Objectives:

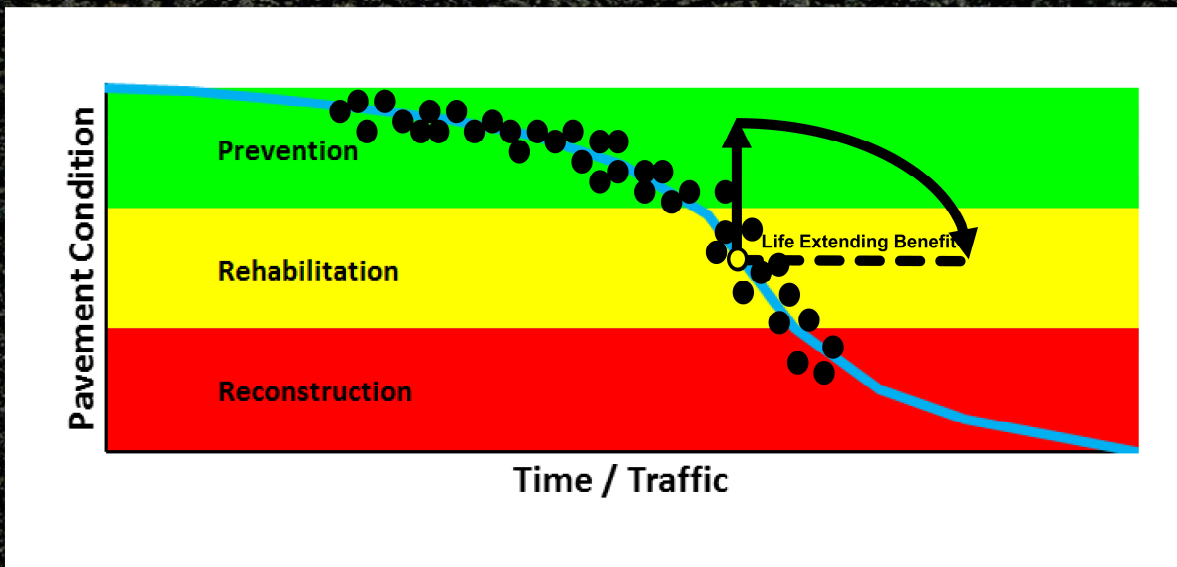
1. Quantify the life extending benefits of study treatments
2. Provide guidance on appropriate inspection and sampling and testing methods for use in construction quality assurance.



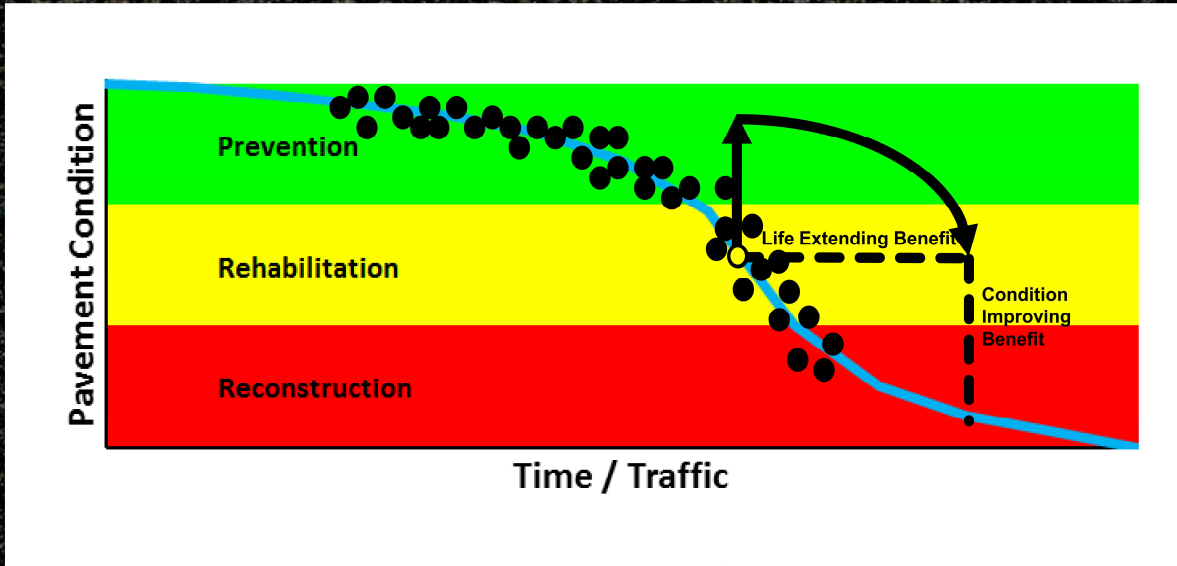
Pavement Preservation



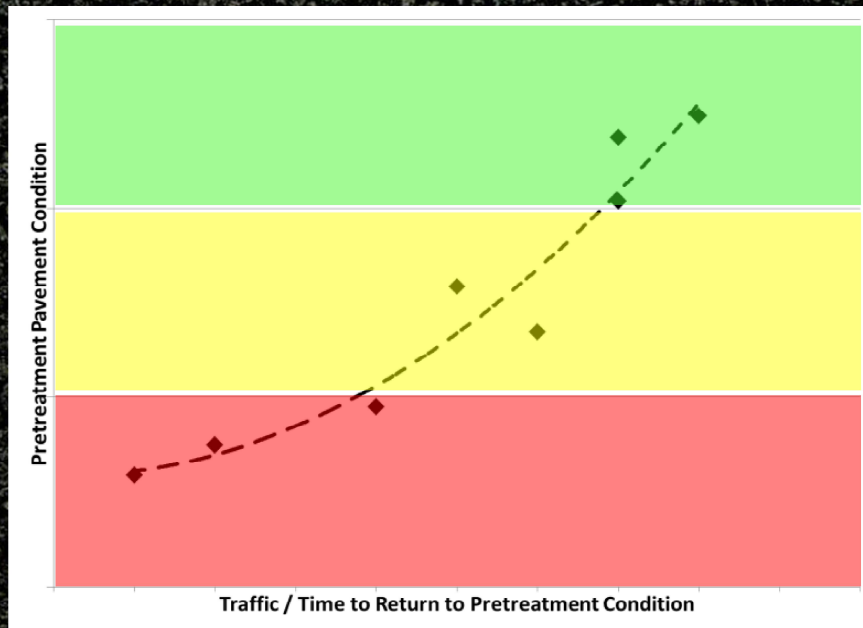
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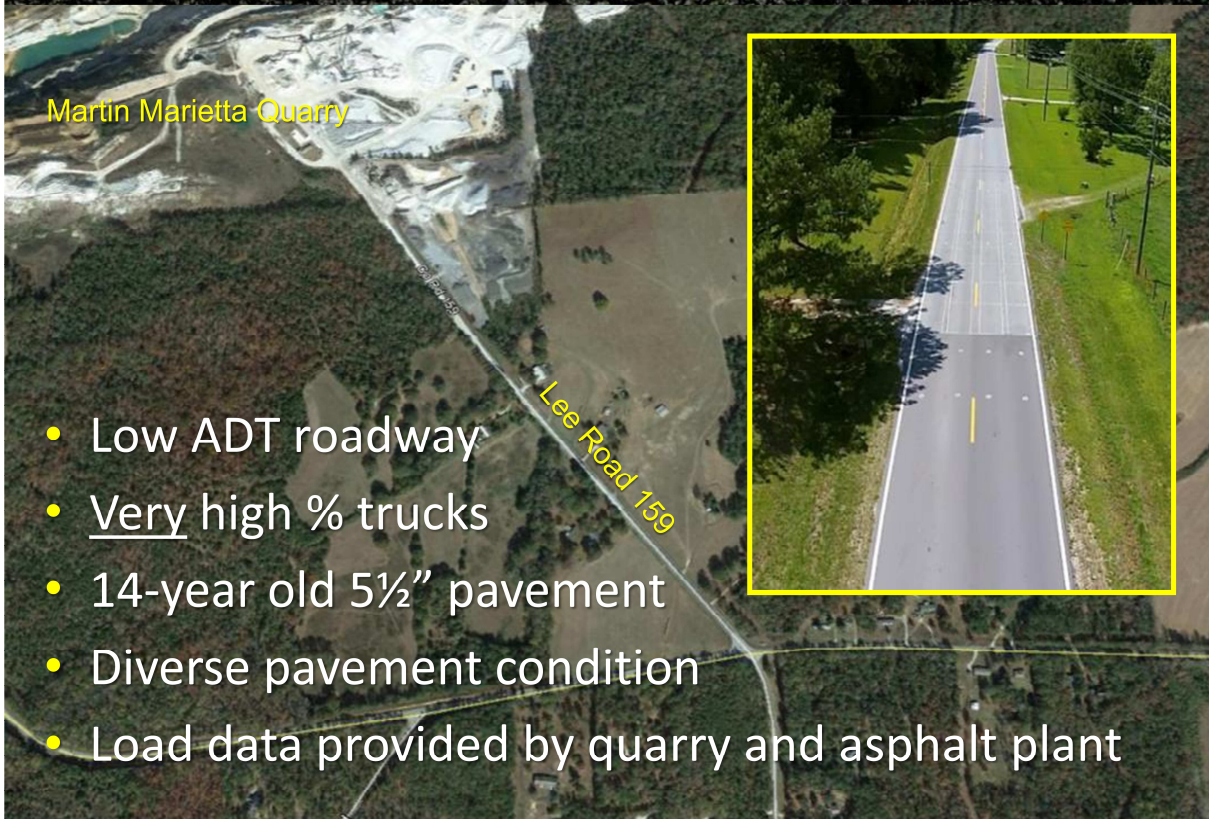
Pavement Preservation



Pavement Preservation



Pavement Preservation on Lee Road 159



Pavement Preservation on Lee Road 159

1. Rejuvenating Fog Seal
2. Fibermat
3. Control
4. Control
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. Microsurfacing + Single Chip (Cape)
11. Microsurfacing
12. CS + Microsurfacing
13. Double Layer Microsurfacing
14. Fibermat + Microsurfacing (Cape)
15. Scrub Seal + Microsurfacing (Cape)
16. Scrub Seal
17. Distress Demo Section
18. Fibermat + HMA thinlay (HMA Cape)
19. HMA Thinlay (PG 67-22)
20. HMA + 100% Foamed Recycle Inlay
21. HMA Thinlay (PG 76-22)
22. Ultra Thin Bonded Wearing Course
23. HMA Thinlay (50% RAP)
24. HMA Thinlay (5% PCRAS)
25. HMA Thinlay (High Polymer)

Pavement Preservation on Lee Road 159

- Rutting, roughness, texture
- Surface friction
- Subgrade moisture contents
- Falling weight deflectometer (FWD)
- Visual and video based cracking measurement



MnROAD-NCAT Partnership

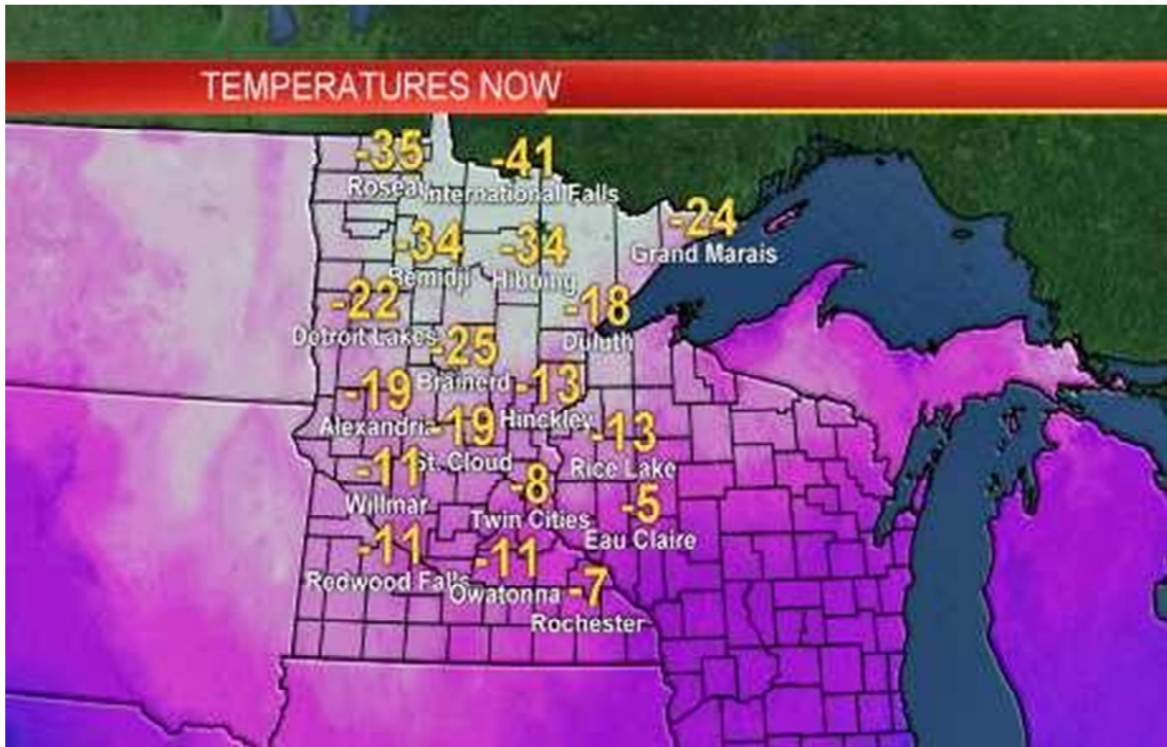


Focusing on 2 National Research Needs

National Pavement Preservation Study

Validation of Cracking Test(s) for Mix Design and QA





Thermal Crack



We all have a stake in **A to B**



National Pavement Preservation Effort

- **Partnership Development**

- Partnership formalized in July 2015
- Build off the strength of NCAT and MnROAD
- States / Academia / Industry involvement
- FP² / National Center for Pavement Preservation

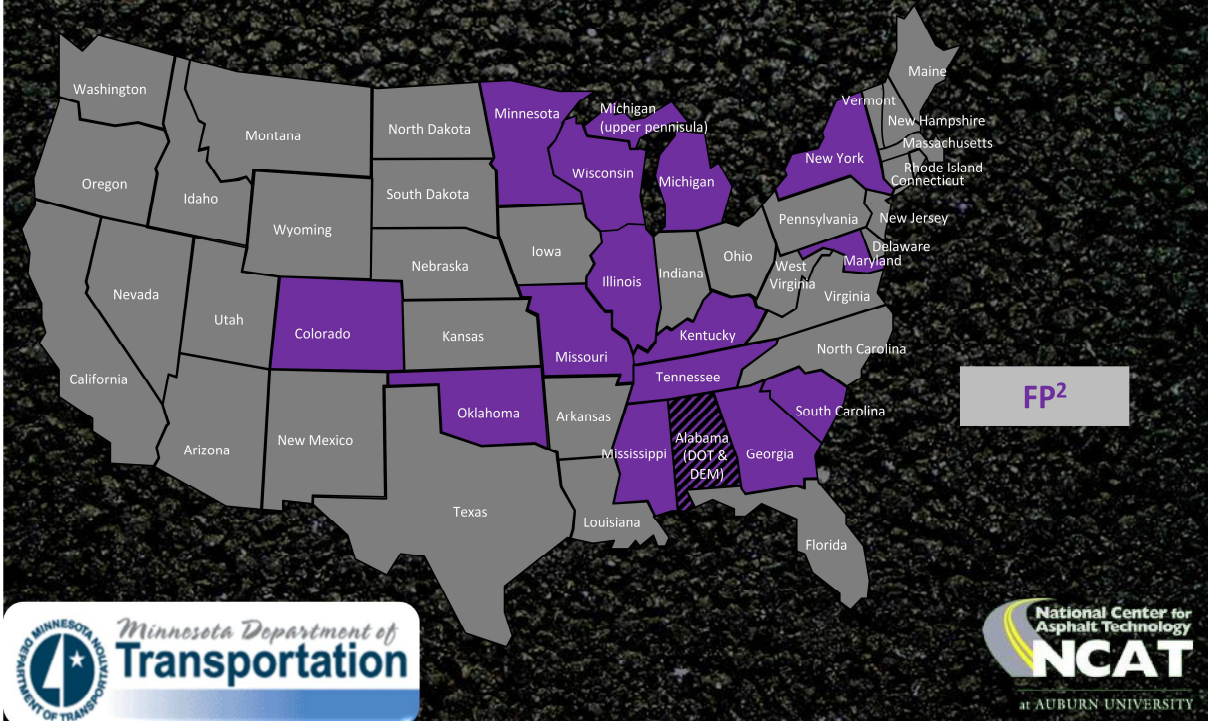


- **Study / Test Sections**

- North (Minnesota) / South (Alabama) Climatic Zones
- Low and High Volume Roads both locations
- Common (Core) Treatments in study
- Provide consistently collected data / analysis



PG 2015 Research Sponsors



2015 Preservation Continuation/Expansion

- Continue monitoring sections on LR 159
- Build new sections on higher ADT roadway in Alabama
- MnROAD to build low and high traffic experiment in 2016 with same core treatments for cold climate.



Higher ADT Off-Track Preservation



- US-280 3 miles to east of Track
- 17,000 ADT, ≈9 year old surface
- Westbound outside lane
- Tenth mile sections
- Repeat Lee Road 159 (±)
- Add CCPR_{F,E}, CIR_{F,E}
- Thin overlays with RAP & RAS



Treatments

- Control Sections
- Surface Treatments
 - Crack Sealing
 - Fog Seal
 - Chip Seals
 - Scrub Seals
 - Microsurfacing
 - Combinations (Cape Seals)
- Thin Overlays (3/4")
 - Dense Graded (4.75 mm)
 - OGFC
 - UTBWC
 - Combinations
- Cold Recycling + 1" overlay
 - Cold-in-place (CIR)
 - Cold Central Plant Recycle (CCPR)



Crack Sealing



Scrub Seal



Fibermat Chip Seal



MicroSurfacing



Cold In-Place Recycling

