2015 NCAT/MnROAD Partnership



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Content

Partnership objective
Focus areas
Expected benefits
Long-term vision.





Partnership Objective

To facilitate high value pavement research that addresses national needs using full-scale pavement testing facilities in both warm and cold climates on flexible, rigid, and composite pavement structures.



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Focus Areas

Quantify benefits of pavement preservation
Mix cracking test for all climates and materials.





Pavement Preservation



Cracking Performance









Cracking Performance



National Center for Asphalt Technology

Cracking Performance



National Center for Asphalt Technology NCAT at AUBURN UNIVERSITY

Rutting Performance



National Center for Asphalt Technology NCAT

Roughness Performance



at AUBURN UNIVERSITY

2015 Preservation Group (PG15)

Track

NCAT Sections

Alabama Offsite Sections Lee Road 159 (Low Volume) + US-280 (High Volume)



MnROAD Cells (Past and Future)

Minnesota Offsite Sections (High and Low Volume)

> Possible Site 57th Street <u>Sherburne County</u> Landfill Roadway



2015 Preservation Group (PG15)

ee Road 39

US-280 3 miles to east of Track
17,000 ADT, ≈9 year old surface
Westbound outside lane
≥ MP 128.0 to MP 132.6



Longitudinal Transverse Alligator Total



2015 Cracking Group (CG)

Top-down, reflection, low temperature
Flexible, rigid, composite pavement structures
Design approval and construction quality
All mixes, regardless of RAP, RAS, GTR, etc.





2015 Cracking Group (CG)







2015 Cracking Group (CG)

NCAT surface Mixes with 6 inch thick Plant run m Same mix in

| Surface | Bro | bad |
|---------------------------------------|-------|-----|
| Binder | | |
| Base | | |
| 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | A. 12 | * |



Minnesota Departmen Transportati



N7 FSA 20M

vn" cracking) ceptibilities id results (GG) of lab tests luces lab costs.

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2012 Green Group (GG) Study



VERSITY

Benefits of Partnership

Leverage strengths to optimize outcomes

Construction, data collection/management, etc.

Relevance for both hot and cold climates
Flexible, rigid, and composite pavements
Improved implementation outcomes for both.





Log-Term Vision

Launch partnership with 2015 NCAT pooled fund
Startup costs recovered in 3-year project cycle
Rapid implementation of cracking test results
Long-term preservation performance expectation
MnDOT hosted pooled fund beyond year 4
Permanent relationship between facilities.





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Construction

Information



HOTENNES to <u>download</u> PAVE reports, review <u>upcoming NCAT training</u> <u>courses</u>, <u>query historical</u> weather data, <u>view current</u> <u>color radar</u> or <u>preview local</u> <u>forecast</u>.

, ESALs as of 2300 hours on

Performance data for each section can be viewed by positioning your mouse over the section in question and left-clicking. Based on feedback from our research sponsors, the performance reports have been revised to include crack maps. The 2009 performance reports are now a fully integrated and active part of the web presentation.

Trucking



2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 2



End-of-Cycle Track Conference



High RAP/RAS balanced mix designs
Nationwide pavement preservation
Preventing reflective distresses
Optimized structural design
Implementation



Pavement Test Track Conference March 6-8, 2018

The Hotel at Auburn University and Dixon Conference Center

www.ncat.us



at AUBURN UNIVERSITY

National Center for Asphalt Technology

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