National Study to Quantify the Life Extending Benefits of Pavement Preservation

NCAT+MnROAD Research Partnership
• Pavement preservation research need
• NCAT Pavement Test Track
• Minnesota DOT’s Road Research Facility (MnROAD)
• Execution of experiment with nationwide impact
Pavement Preservation Research Need

- Safe mobility for the lowest possible life cycle cost
- Managing more lane miles with less buying power
- Many states have highly developed decision trees, but...
- Performance as a function of pretreatment condition
- Pavement condition metric requirements in MAP-21.
Pavement Preservation Research Need
NCAT Pavement Test Track
2012 NCAT Pavement Test Track

Private Sector Sponsors
- Cargill Deicing Technology
- FP2
- Kraton Polymers
- Oldcastle Materials
- Polycon Manufacturing
- Modified Asphalt Solutions
- Seneca Petroleum
- Shell Sulfur Solutions
- Trinidad Lake Asphalt

2012, Pre-2012
MnROAD

- MnROAD Owned and Operated by MnDOT
- 20-Years of Long Term Customer Service
  - Minnesota Department of Transportation
  - Minnesota Local Road Research Board
  - Pooled Funds Efforts (States) / Industry
  - SHRP II / FHWA
- Major Experiments
  - Phase I (1994-2006)
  - Phase II (2007-2016)
  - Phase III (Currently Planning → National Facility)
A long-term accelerated pavement testing facility that gives researchers a unique, real-life laboratory to study and evaluate the performance of materials used in roadway construction.
Existing Interstate-94
MnROAD
3.5 Mile “Mainline”,
Live Traffic WB
Interstate-94

W.B. I-94 Traffic Diverted
(3 days / month)
MnROAD “Low Volume Road”
2.5 Mile – MnDOT 5-Axle Semi
Controlled Access
NCAT-MnROAD Partnership
Partnership Vision for Nationwide Impact

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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