

National Study to Quantify the Life Extending Benefits of Pavement Preservation

NCAT+MnROAD Research Partnership



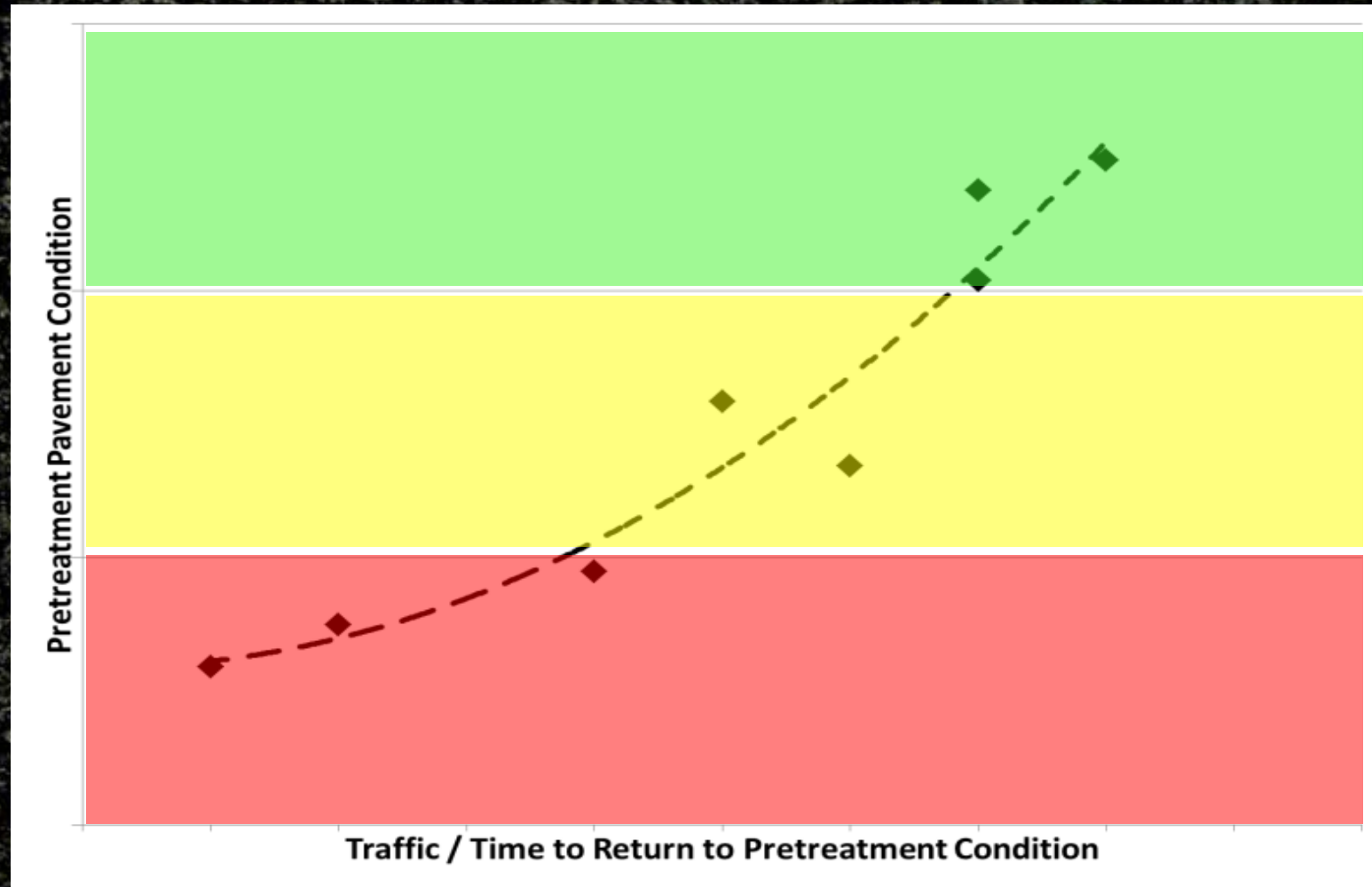
Content

- 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.

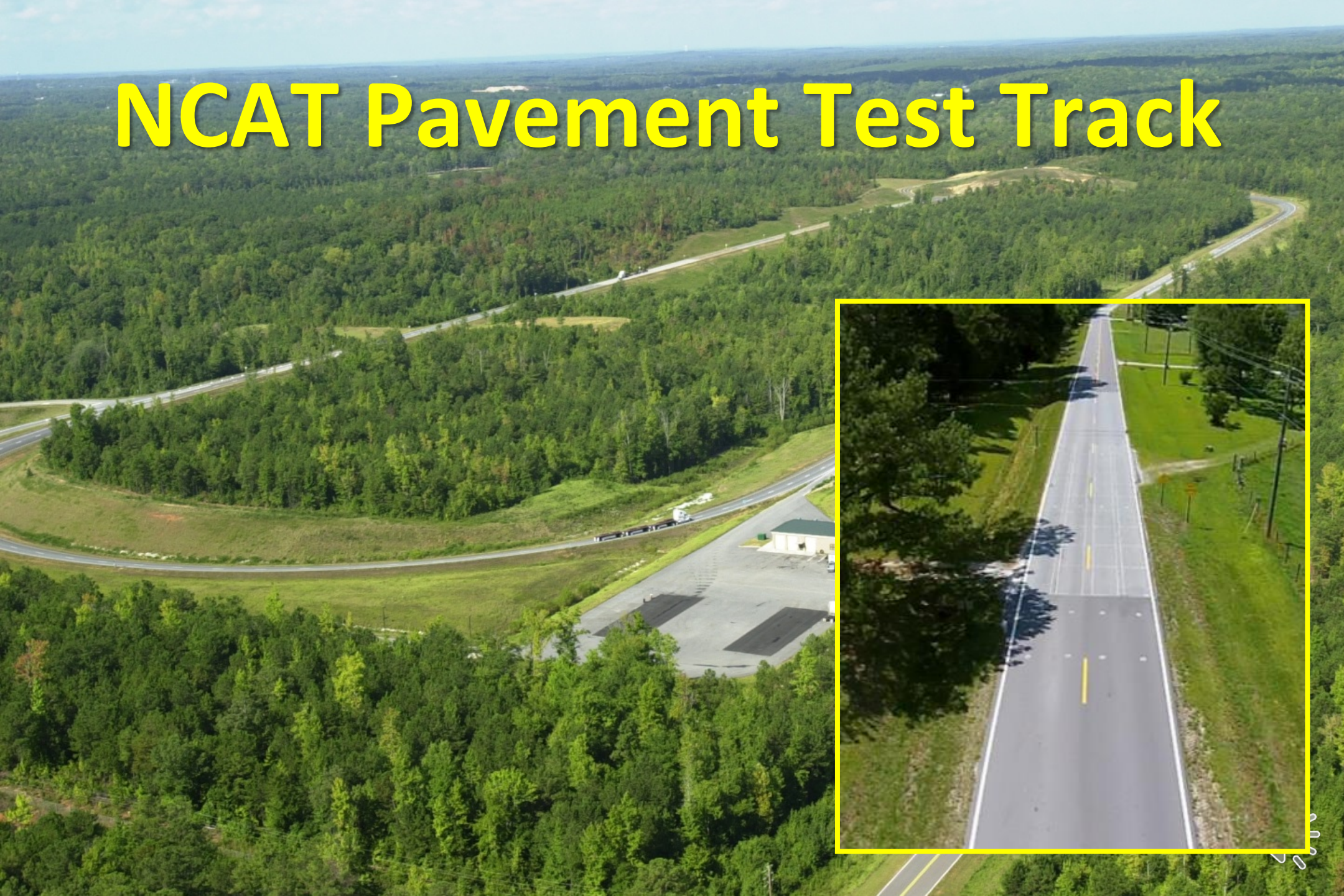
Pavement Preservation Research Need



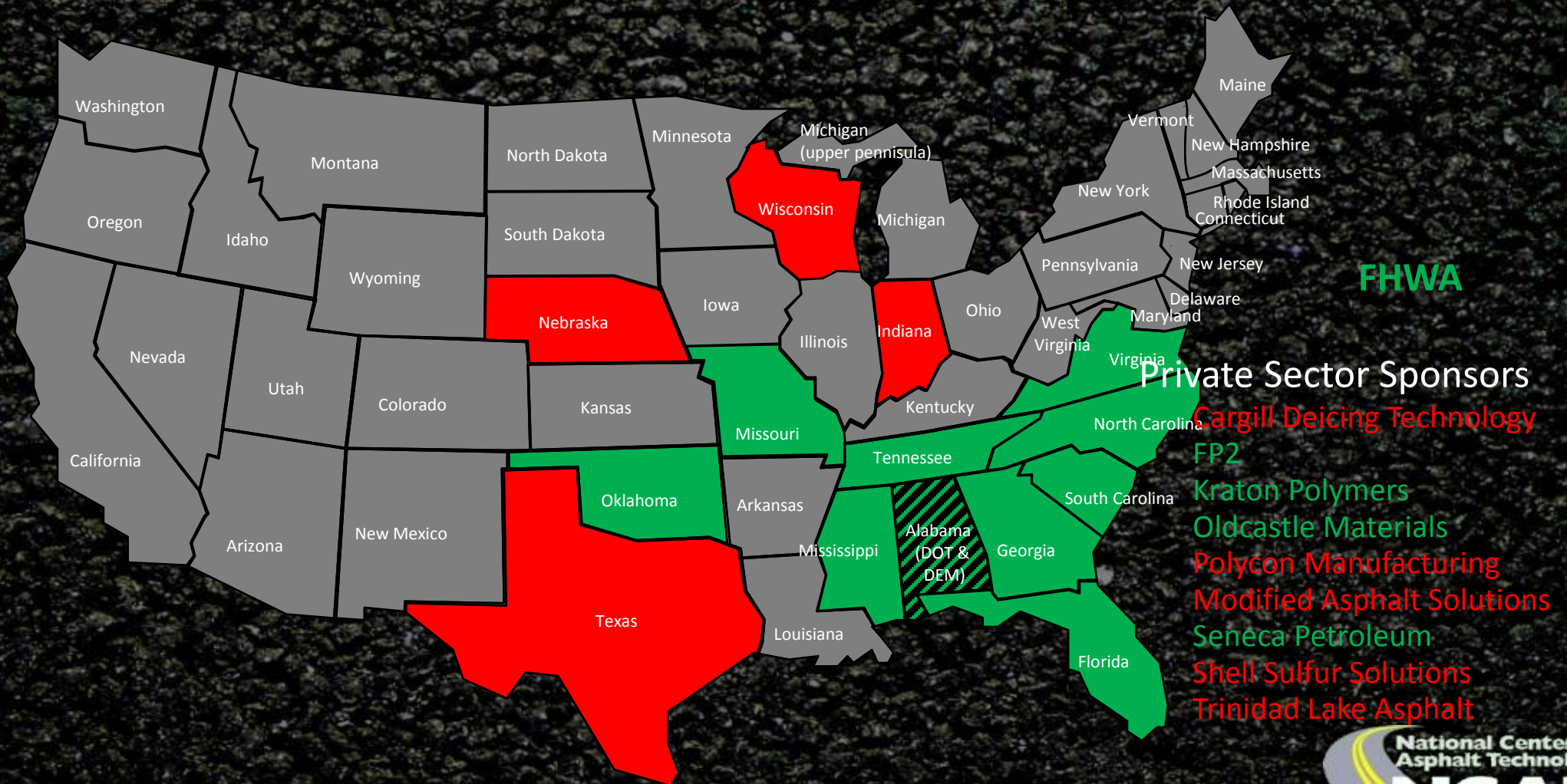
National Center for Asphalt Technology **NCAT** at AUBURN UNIVERSITY



NCAT Pavement Test Track



2012 NCAT Pavement Test Track



FHWA

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)



An aerial photograph of a long-term accelerated pavement testing facility. The facility consists of a long, straight, multi-lane highway stretching across a rural landscape. The road surface is light-colored, likely concrete or a specific type of asphalt, and is flanked by green grass and trees. In the background, there are rolling green hills, a small town or village, and a large body of water. The overall scene is a mix of natural and man-made elements, illustrating the real-life laboratory environment for testing pavement materials.

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.





www.ncat.us

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