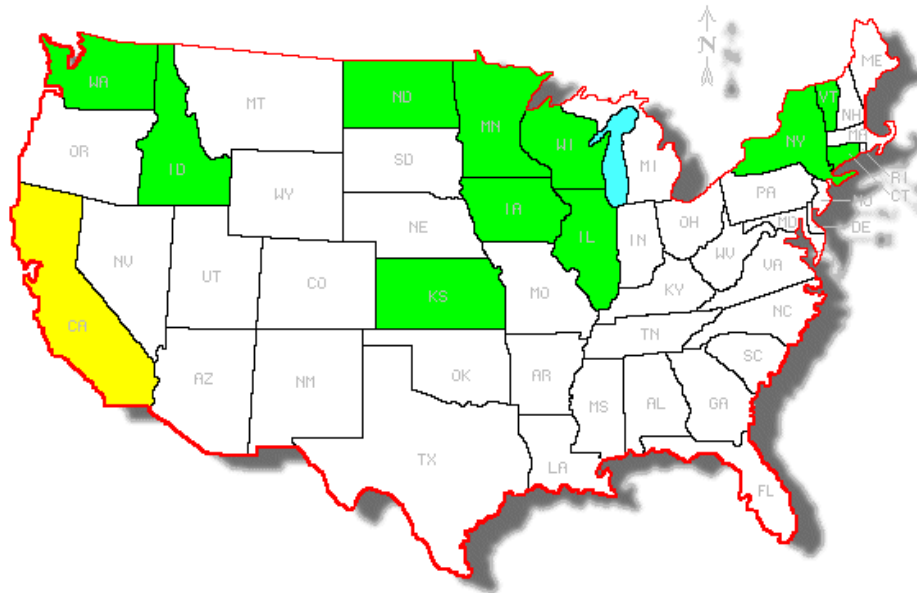


# Investigation of Low Temperature Cracking in Asphalt Pavements National Pooled Fund Executive Summary

November 2004

The Minnesota Department of Transportation (Mn/DOT) is leading a nationally supported pooled fund research effort aimed at developing a nationally accepted specification for polymer-modified asphalts. The ultimate goal is the elimination of low temperature cracking in both new and rehabilitated Hot Mix Asphalt (HMA) pavements. Low temperature cracking is the main cause of pavement roughness and reduced service life for this type of pavement surface.



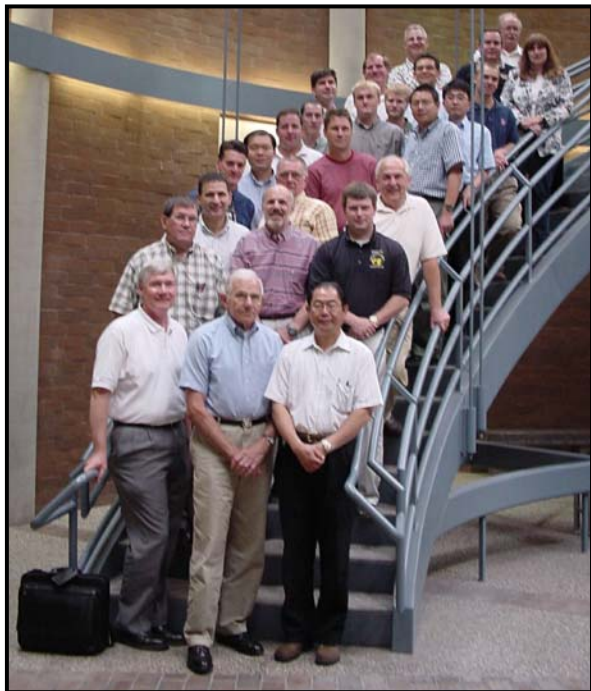
## Agency Participation

Participation from a number of states has been established along with contacts with other interested agencies. Listed below shows the states, state technical contact, and dollars that have been currently set up for this effort. Other states including California, Iowa, Maine, Michigan, New Hampshire, Texas, Washington State, and Wyoming are also considering to technically participate and contribute funding.

State/Agency	Technical Contact	Funding Level
Connecticut	James Sime ( <a href="mailto:james.sime@po.state.ct.us">james.sime@po.state.ct.us</a> )	\$10,000
Idaho	Mike Santi ( <a href="mailto:msanti@itd.state.id.us">msanti@itd.state.id.us</a> )	\$50,000
Illinois	James Trepanier ( <a href="mailto:TrepanierJS@nt.dot.state.il.us">TrepanierJS@nt.dot.state.il.us</a> )	\$50,000
Iowa	Michael Heitzman ( <a href="mailto:Michael.Heitzman@dot.iowa.gov">Michael.Heitzman@dot.iowa.gov</a> )	\$50,000
Kansas	Glenn Fager ( <a href="mailto:glennf@ksdot.org">glennf@ksdot.org</a> )	\$50,000
Minnesota	Ben Worel ( <a href="mailto:ben.worel@dot.state.mn.us">ben.worel@dot.state.mn.us</a> )	\$150,000
New York	Gary Frederick ( <a href="mailto:GFREDERICK@dot.state.ny.us">GFREDERICK@dot.state.ny.us</a> )	\$100,000
North Dakota	Ron Horner ( <a href="mailto:rhorer@state.nd.us">rhorer@state.nd.us</a> )	\$50,000
Vermont	Craig Graham ( <a href="mailto:craig.graham@state.vt.us">craig.graham@state.vt.us</a> )	\$20,000
Washington	Linda Pierce ( <a href="mailto:PIERCEL@wsdot.wa.gov">PIERCEL@wsdot.wa.gov</a> )	\$10,000
Wisconsin	Steven Krebs ( <a href="mailto:steven.krebs@dot.state.wi.us">steven.krebs@dot.state.wi.us</a> )	\$50,000
FHWA	James Sherwood ( <a href="mailto:James.Sherwood@fhwa.org">James.Sherwood@fhwa.org</a> ) (Using FHWA MnROAD's 1.1 Million Funding)	\$147,713

**Current Total = \$737,713**

**National Technical Advisory Panel (TAP)**, made up of leaders from academia, industry, FHWA, and other participating states will be used to assist in the technical direction of the project. The initial meeting sponsored by the FHWA was held August 20-21, 2003 at the University of Minnesota at which technical direction was further developed to begin this national effort.



**Agencies**

- Minnesota Department of Transportation – Lead State
- Iowa Department of Transportation
- Ontario Ministry of Transportation

**Academia**

- University of Minnesota – Technical Team (Lead)
- University of Wisconsin – Technical Team
- University of Illinois – Technical Team
- Michigan Technological University – Technical Team
- University of California
- Pennsylvania State University
- University of Florida

**Industry**

- National Asphalt Paving Association (NAPA)
- Minnesota Asphalt Paving Association (MAPA)
- National Center Asphalt Technology (NCAT)
- Western Research Institute, (WRI)
- Heritage Research Group
- Mathy Construction

**Federal Highway Administration**

- Turner-Fairbank Highway Research Center (TFHRC)
- Mid-West Resource Center

**Technical team of four Universities** will complete the study along with Mn/DOT and the participating states. Each has been carefully selected for their experience and laboratory facilities to maximize their involvement in this national study.

**MnROAD facility and personnel** will be utilized to field validate the national findings of the study through reconstruction of test sections in 2005-2006.

The final work plan with Mn/DOT and the technical team members will be finalized into a contract starting August 1, 2004. The participating states will then be contacted to locate samples relating to good and poor performing pavements in their state for this study. This project will provide engineers and designers practical solutions to solve low temperature cracking problems. The current timeline includes two technical meetings that will be held in Minnesota. These meetings will provide direction to the both the original \$650,000 contract and prioritize the additional contract funds that are secured.

<b>Timeline</b>	<b>Action Item</b>
August 9 <sup>th</sup> 2004	Contract finalized with University of Minnesota
September 30 2004	TAC and Participating States met to discuss the project and develop task-2 of this project. This includes discussion on what variables should be studied in the laboratory prepared samples and nominations for field samples.
January 2005	Informal TRB meeting for those attending TRB (Sunday January 9 <sup>th</sup> – AM)
February 2005	Possible Participating State Meeting – Minnesota pavement conference (Feb 17 <sup>th</sup> )
March 2005	Informal meeting at AAPT for those attending
August 2005	Possible TAC and Participating State meeting
January 2006	Informal TRB meeting for those attending TRB
May 2006	Contract estimated ending date

Please contact Ben Worel ([ben.worel@dot.state.mn.us](mailto:ben.worel@dot.state.mn.us)) / (651) 779-5522 or review TPF-5(080) on the pooled fund web site (<http://www.pooledfund.org/>) using the search tab if you have any questions or comments.