

## WisDOT's no-seal policy gets attention

After studying Portland Cement Concrete (PCC) pavement performance since the 1950s, WisDOT concluded in 1990 that sealing contraction joints is a waste of money. The policy has saved Wisconsin as much as \$6 million a year with no loss in pavement quality, according to a report for the 1996 World Congress on Joint Sealing and Bearing Systems for Concrete Structures.

The research applies only to contraction joints and cracks in PCC pavement. Crack sealing in asphalt pavements appears to be effective and economical in helping preserve them. Similarly, sealing edgeline cracks between PCC pavement and asphalt shoulders can also be effective.

"The Wisconsin Division of the Federal Highway Administration has concurred," says FHWA Pavement Engineer Wes Shemwell. "Wisconsin has a lot of research to show that sealing is not cost effective and that the pavement performs better." He admits that the conclusion is very controversial. The American Concrete Pavement Association has called for a national working group to consider the issue.

Pavement performance depends much more on how the joint was initially constructed, the WisDOT report says. It is difficult and costly to really seal the joints, they note. Ten

years' effort to keep test segments on US Highway 51 completely sealed added as much as 45% more to the cost of the pavement. They also argue that when sealant fails it acts as a funnel forcing more water into the joint than would occur naturally.

The best overall PCC pavement performance is achieved with very narrow (1/8th inch), unsealed joints. Studies in the 1950s and 1960s showed that short segment spacing (15-20 feet apart) and using dowels at joints also improves performance. More recent pavement sections under study have been on USH 51 (21 years), USHs 18/151 and 16/190 (12 years), and STHs 29 and 164 (8 years). Performance is described in terms of a Pavement Distress Index which measures extent and severity of several factors including faulting, cracking, spalling, patching, etc. Ride characteristics and materials integrity were also evaluated.

"By not sealing, we also avoid inconvenience to highway users during sealing operations and increase highway safety because no crews are out on the highway closing lanes when joints are resealed," says Steve Shober, Chief of the Pavement and Research Engineer at WisDOT.

*For copies of the WisDOT study **The effect of PCC joint sealing on total pavement performance**, contact Steve Shober at WisDOT, 608/246-5399.*

## Calendar

### T.I.C. workshops

*Specific details and locations for workshops are in the announcements mailed to all **Crossroads** recipients.*

**Winter Road Maintenance** Prepare for better winter operations at this workshop on equipment preparation, safe winter driving skills, the latest on ice control materials, and operations planning. Share experiences and tips.

Sep 11	Brookfield	Sep 18	Eau Claire
Sep 12	Green Bay	Sep 19	Cable
Sep 13	Barneveld	Sep 20	Rhineland
Sep 17	Tomah		

**Selecting Materials for Local Roads** A two-hour ETN workshop on selecting, specifying, and testing materials used in local road maintenance and construction projects, including stone, asphalt, and culvert pipe. What you learn will help you effectively implement the *Sample Bidding Documents for Small Road Projects* developed by and available from T.I.C.

Nov 5 an ETN location in every county

**Equipment Maintenance** Your chance to re-evaluate your approach to equipment maintenance and repair, including trouble shooting and preventive maintenance.

Nov 6	Green Bay	Nov 13	Eau Claire
Nov 7	Brookfield	Nov 14	Cable
Nov 8	Barneveld	Nov 15	Rhineland
Nov 12	Tomah		

**Traffic Engineering** This is an opportunity to review some special topics of particular interest to street and highway operations, including several simple traffic studies. Also review the warrants for traffic control signs and signals and look at selected traffic control materials.

Dec 10	Eau Claire	Dec 12	Green Bay
Dec 11	Wausau	Dec 13	Waukesha

### UW-Madison Seminars

*Local government officials are eligible for a limited number of scholarships for the following engineering courses in Madison. Use the form on page 7 for details or call 800/442-4615.*

**Managing Snow and Ice Control Operations**, Oct 7-8

**Timing Traffic Signals Using TEAPAC, PASSER, TRANSYT & NETSIM**, Oct 21-23

**Advanced TEAPAC Application Techniques**, Oct 24-25

**Traffic Engineering Fundamentals**, Oct 22-24

**Pavement Rehabilitation and Construction**, Nov 13-15

**Improving Quality in Street and Highway Design and Construction**, Nov 18-20

**Highway Bridge Design**, Dec 9-10

**Bridge Condition Evaluation**, Dec 11-12