

Asphalt pavement warranties successful

Warranties, long available on products from toasters to Toyotas, are cautiously being offered on hot mix asphalt pavement projects in Wisconsin. Contractors have built nearly 50 road miles of warranted projects on state highways since 1995 and the state is very pleased with them.

"We're pretty excited about it," says John Volker, Chief Product Quality Management Manager for WisDOT. "We're always looking out for the taxpayer, and we think we're getting our money's worth out of it."

The warranted pavements are performing better than typical pavements and cost less per ton than standard projects, according to an October 1998 WisDOT Progress Report on Asphaltic Pavement Warranties.

For warranty projects the owner specifies the final product in terms of condition and performance, such as the amount of alligator or block cracking permitted per 1/10th mile segment. Then it is up to the contractor to decide how to construct the pavement. This gives contractors freedom to try new techniques.

"They do a better job of constructing in general," says Volker, "and we're seeing a lot of innovative concepts on these projects."

"I think a warranty promotes higher quality hot mix asphalt," agrees Brian Pitlik, VP of Pitlik and Wick paving contractors, Eagle River. "And all parties bidding on a warranty project are bidding on a higher level of quality."

Another potential benefit of warranty projects is that the municipality knows it will be free of maintenance responsibility for the life of the warranty. In addition, future maintenance costs should be less because of the higher quality construction.

Base, subgrade quality critical

Currently, warranties are only available on the hot mix portion of asphalt paving projects. Native soils are extremely variable, so contractors and WisDOT have been very careful to choose sites with stable, well-drained soils for their warranty projects.

"We don't have control over the base course or the subgrade," emphasizes Jerry Waelti, Executive Director of the Wisconsin Asphalt Pavers Association (WAPA). "If they are adequate, we can do a warranty project."

Currently there are no unified and verifiable criteria for quality subgrade and base course preparation. Differences



Warranty asphalt construction has many benefits.

of opinion as to what would support the new base and asphalt "caused many arguments" and created "very stressful project situations," according to the WisDOT's Progress Report. The Department's pavement design program is working on establishing functional and effective specifications for bases and subgrades.

Contract elements

Sample specifications are available for laying warranted asphaltic pavements over flexible bases and over concrete pavements. They give

the contractor responsibility for selecting the mix formula and all materials, and for developing a quality control plan. Contract bonds and five year warranty bonds are required. They also set up a conflict resolution team as the final authority if a conflict occurs.

Establishing warranty criteria is a critical element. Criteria are described in terms of common types of pavement distress: edge raveling, flushing, longitudinal cracking, rutting, pot-holes, etc. A threshold level and remedial action is defined for each type. For example: *Flushing, 20% of the segment length, remove and replace distressed surface mixture full depth.* Methods and timing for surface distress surveys are included, as are traffic control requirements and payment terms.



Soils are variable and subgrade preparation is very important.

"You have to set parameters," says WAPA's Waelti, "and they have to be do-able. You can't go in with the idea that there will be no cracks; it's not economical for most roads." The state's extensive pavement management system helped in setting their parameters. The database accurately reflects what a five-year-old pavement should look like. In addition, pavement surface condition must be carefully inspected every year.

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Getting started

Local officials should start at the project's earliest design stage. Ask your consulting engineer if the project, or a segment of it, might be a suitable candidate for a warranty pavement. It is important to have good pavement history records and accurate subgrade information.

Review warranty specifications and modify them to meet your needs and expectations. Copies are available from John Volker at the WisDOT Bureau of Highway Construction. Warranty construction, which was experimental, is now a standard process and approved by FHWA for federal highways.

Consult your asphalt paving contractor and industry representatives to see if warranty work is feasible in your area. "Many contractors like it because they can control the quality 'right now,'" says Jerry Waelti. "The workers take pride because they know that everything is hinging on their work. Contractors are willing to do warranty work because they know their product and they know it will stand up."

"I think it's a good idea," says paving contractor Brian Pitlik. "It's a good tool for people to use in the right conditions, and it helps us deliver the project more smoothly."

For copies of warranty specifications contact John Volker, WisDOT Bureau of Highway Construction, 608/246/7930.

Calendar

T.I.C. workshops

Specific details and locations for workshops are in the announcements mailed to all Crossroads recipients. For additional copies, or more information, call the T.I.C. at 800/442-4615.

Flagger Instructor Training A 1½ day training course for road supervisors and safety trainers who supervise or train flaggers for construction and maintenance operations. Participants will get the training and tools they need to properly train their own employees to be effective work zone flaggers. Participants will receive an instructor's training kit that includes the *Flagger Training Instructors Guide*, a professional quality *Flagger Training* video, and 20 copies of the *Flaggers Handbook*.

April 13-14	Wausau
April 15-16	Brookfield
April 19-20	Eau Claire
April 21-22	Cable

Flagger Training. This half-day workshop is for agencies that do not have their own flagger training instructors. It will be taught in various locations during May and June. Look for a brochure or call T.I.C. at 800-442-4615 if you would like to schedule a session at your location.

Roadway Maintenance. This workshop is your opportunity to improve your street and road maintenance operations. It will include preventive maintenance techniques and investigating and repairing pavement failures.

March 10	Green Bay	March 16	Cable
March 11	Brookfield	March 17	Eau Claire
March 12	Barneveld	March 18	Tomah
March 15	Rhineland		

Liability for Local Road Agencies. Learn your responsibilities for managing local road liability and ways to limit liability. The topics included are local government immunity, negligence, snow and ice removal, and traffic control. This is part of series on Local Transportation Issues.

If you haven't received a brochure for the series call your local county Extension office or (608) 262-9960.

Mar 4 10:00 to 11:50 an ETN location in every county

REPEAT

Basic Work Zone Safety. This workshop was conducted 10 times during January, but due to

demand it will be scheduled again in several locations around the state in early spring. It is for road supervisors and maintenance personnel who plan and set up work zones. It covers temporary traffic control devices, the parts of a work zone, how to set up a work zone, mobile operations, and pedestrian, worker, and flagger safety. Participants will receive the new pocket-size booklet *Workzone Safety: Guidelines for Construction, Maintenance and Utility Operations*. If you couldn't attend in January and want to in March, look for a brochure in the mail or call the T.I.C. at 800/442-4615 to get on the mailing list for a brochure.

UW-Madison Seminars

Local government officials are eligible for a limited number of scholarships for the following engineering courses in Madison. For details, use the form on page 7, call 800/442-4615, or e-mail: ranum@engr.wisc.edu.

Fleet Maintenance Management

April 19-21

Managing Street and Highway Design Projects

April 19-20

Environmental Impacts of Highway Projects

April 26-28

Mastering the Budget Process in Public Works

May 10-12

Highway Drainage Design

May 10-11

Pavement Design

May 12-13

Planning and Financing Stormwater Management Programs

May 17-19

Municipal Engineering Fundamentals for Non-Engineers

June 7-9

Traffic Signal Design and Operations

July 12-14

Other Training Opportunities

1999 North American Snow Conference, April 18-21 in Duluth, MN. Contact the American Public Works Association at 816/472-6100 for conference information.