

ROADWARE makes convincing argument

"The highway committee wanted to cut the maintenance budget from \$1.5 million down to \$800,000 a year," says Dave Beaster, Fond du Lac County Highway Engineer. "The ROADWARE computer program gave them five different scenarios. They found out that if they cut it, the average condition rating would fall a full point." As a result the committee decided instead to raise the maintenance budget 10 percent.

The program also helped convince highway commissioners of the value of filling cracks. "It showed them that every dollar spent early in the pavement's life extends that life," says Beaster.

Fond du Lac County has been using the Pavement Surface Evaluation and Rating program (PASER) for three years to record road condition and maintenance data and to help with maintenance decisions. Before using the program, the county had lots of history and cost data . . . spread all over the office. The ROADWARE computer program puts the information all in one record and that helps the accountant get a better handle on it, Beaster says.

It took effort to get the data into the computer, according to Beaster. In their case they did not adopt the state's segment data, but chose to enter their own. Some of it was old, so the staff had to measure pavement and shoulder widths as well as rating the surface condition.

The county also offers rating seminars for town supervisors and enters their data into the ROADWARE system. Almost half the towns now use the system.

"This way you have to have more than just an opinion of what needs to be done," says Beaster. "When ROADWARE helps select the maintenance projects it minimizes the political elements of the decisions."

Urbanizing village plays catch-up

The Village of Howard near Green Bay has replaced their in-house rating system with PASER, modifying the state's pavement sections to coincide with those they had been using.

The village has been doing major reconstruction and resurfacing of its streets (some of them 35 years old at the time) since 1988. "With completion of a major, four-lane road and areas where utilities had been replaced, we looked for projects where long-standing problems of growing traffic had to be addressed," says Peter R. Wills, Operations Manager, Village Engineer/Planner.

When they did their first PASER inventory in 1993, the program identified three times as many projects as the scaled-down budget could handle. The community used



It's easier to decide which pavement sections to treat or rehabilitate if you have accurate, objective pavement condition information.

the list to help plan a multi-year program and developed additional guidelines for which ones to do first.

The system helps village trustees better understand which street and road repairs are needed and why. It gives them a way to answer those questions about 'how about repaving my area?'

Help for smaller communities

In north central Wisconsin, as in most of the state, good roads are important for tourism and other economic development. It's no wonder, then, that both the North Central Wisconsin Regional Planning Commission (NCWRPC) and a county UWEX Community Development Agent put a lot of energy into helping local officials use the PASER rating system and the ROADWARE computer program.

Dave Mack, the NCWRPC transportation planner, estimates that nearly 60 communities have used their PASER assistance since the program began in 1991. RPC members pay a nominal fee for Mack to rate the roads, enter the WisDOT files and the ratings data into the computer, and produce a recommendations report for the local officials.

"This is a wonderful program for local communities to keep track of their roads and how they spend their highway dollars," says Mack. "It also helps enhance the local transportation network of the region." This year Mack will rate all of the streets for the City of Wausau. They became interested in ROADWARE after attending a recent T.I.C. workshop on the program.

Peter Manley, Wood County Community Resources Development Extension Agent, offers training sessions for local officials, then enters their ratings results into the ROADWARE program and sends them a printout. Sometimes he goes out with them to rate a few road sections to help them feel secure in their ratings.

continued on page 5

continued from page 4

"When there's board turnover, it helps the new people see what they should be thinking about and helps them develop a priority list," says Manley. It also helps them clarify exactly which roads they are responsible for, and gives them a good objective tool for doing the spring road inspection.

Manley finds that people generally have little trouble understanding and using the rating system. "When they first try it, they are usually within one or two points of each other," he says. "After about 20 minutes they start to converge and there generally is consensus."

"ROADWARE helps them think about how to use their road budget, gets them to take a longer range perspective, helps them in applying for new funds, and helps them respond to their constituents," says Manley.

*For information on PASER and ROADWARE and copies of the manuals and program disks contact the T.I.C. at 800/442-4612 or use the form on page 7. A new video version of the training slide program is now available. Please see the **Resources** section for details.*

Cinder chips make better sealcoats

Study after study shows that sealcoating and crackfilling save money by extending the life of a road system. But many streets and highway departments are reluctant to use sealcoats, especially in urban areas. Too many drivers and neighbors complain about flying pea gravel just after the sealcoat is applied.

Power brooming before and after the application helps. So does posting warning signs and temporarily reducing speeds. "On heavily traveled roads, we close them and detour traffic while we are doing the sealcoating," says Steve Haag, Dane County Highway Department Superintendent. The county covered about 150 lane miles with chipseal in 1994.

Using cinder chips, the material that remains after coal is burned in a boiler, gives a solid surface at slightly less cost and with better public acceptance. The material meets state specifications for hardness but is more porous

continued on page 7

Resources

Publications listed here are available from the Wisconsin T.I.C. unless otherwise noted. To get your copy call 800/442-4615 or use the form on page 7. Videotapes are loaned free through Wisconsin County Extension offices.

Hot and Cold Mix Paving, Principles and Practice, CLRPP Report #95-4, March 1995, 97 pp.

This Cornell University workbook for local highway superintendents covers: materials and bituminous mixtures, cold mix and hot mix construction requirements, and selecting the right mix for your road. If you select paving alternatives and analyze costs, this book will help you do a better job, whether you do your own paving or hire others.

Maintaining Bridges after Inspection, National Association of County Engineers Training Guide Series, 1986, 123 pp.

A guide for the supervisors, crew leaders, and crews who maintain bridges. It is easy to read and illustrated with many drawings. Supervisors can use it to explain proper maintenance procedures to crew members.

Local Low Volume Roads and Streets, USDOT, Fed. Hwy. Admin. and Am. Soc. of Civil Engrs., Nov. 1992, 138 pp.

A reference manual with broad information on the design, maintenance, and operation of low volume roads (fewer than 500 vehicles per day). Discusses and references planning, construction and maintenance, traffic and safety design, pavement management and rehabilitation, and geometric design considerations. Particularly useful for individuals with limited technical expertise and experience.

What Every Supervisor Should Know, Lester Bittel & John Newstrom, McGraw-Hill, Inc., 1990, 614 pp.

Practical techniques, tips, and strategies for managing people. It spells out clear, realistic recommendations to help you handle the daily problems and challenges you face. Only a few copies available from the T.I.C.

People Skills, R. Bolton, Simon & Schuster, 1986, 300 pp.

A handbook to help you be a better communicator. Learn better skills for listening to others, asserting yourself, resolving conflicts, working out problems, and communicating calmly, even in stressful, emotionally-charged situations. Only a few copies available from the T.I.C.

Innovative Devices for Safer Work Zones, FHWA, Pub. No. FHWA-SA-95-029, January 1995, 14 pp.

Describes 11 new work zone safety devices developed during the SHRP program. Lists manufacturers and prices.

Asphalt PASER #17761, 46 min. videotape.

This training videotape helps local officials and roadway maintenance staff use the PASER pavement rating system. It investigates pavement distresses and performance and discusses environmental and structural causes of pavement deterioration. Describes how to evaluate the pavement on a scale of 1-10 and what types of maintenance to apply.

(The T.I.C. has added more than 35 new videotapes to its video lending library. A new catalog will be distributed soon. You can borrow tapes through your local UW-Extension County Office.)

Bridge management software *continued from page 6*

"The program has degeneration curves that we can use to predict deterioration of a bridge. The manager can do 'what if' scenarios," says Daniel Fedderly, St. Croix County Highway Commissioner and chair of the Wisconsin County Highway Association's bridge committee. By contrast, the National Bridge Inventory (NBI), the existing bridge inspection data system, simply inventories inspection results.

Although inspection procedures will remain pretty much the same, PONTIS records more detail. For example, where NBI records the general condition of a bridge's substructure, PONTIS stores ratings for individual beams. Once the program has data from several inspection cycles, it will use that history of ratings to project deterioration of the bridge or its members.

"The goal of the management software is to help us use our bridge funds most efficiently," says Stan Woods, state bridge engineer for WisDOT. For example, current guidelines recommend putting one overlay on a bridge deck, then replacing the whole deck after the first overlay wears out. Data from PONTIS may be able to show that the deck is still solid and needs only another overlay.

In 1995 WisDOT district bridge staff will be working with and refining the inspection procedures and the program while University of Wisconsin engineers validate the deterioration models. "We will try to have PONTIS in place for the 1996 inspections which are due January 1, 1997," says Woods.

For more information about PONTIS contact your WisDOT district office.

Cinder chips *continued from page 5*

and has more sharp edges. As a result it grabs and holds the asphalt better than pea gravel, especially on the newer water soluble emulsions.

"There's a big difference in cleanup," says Toby Opheim, City of Madison Streets Department Operations Manager. "We pick up less than half as much of the cinder chips as we did with pea gravel." Less excess means fewer complaints and less waste.

Madison tested the material in 1993 on some road sections. "It held up terrifically in the winter, so we decided to go with it for the entire sealcoat program last year," says Opheim.

Being black gives the cinder chips another advantage: better winter snow melting on sunny days. Striping paint stands out better against the black background and the road looks "new" longer. There's also less dust and the sharper edges mean less hazard for bicyclists because the chips are more stable and have better embedment.

Cinder chips are economical. They are both less expensive per ton, and weigh less per yard. Dane County paid \$4.95 per ton for cinder chips last year compared to \$5.80 per ton for pea gravel. It weighs about 2000 pound per yard compared to 2600 for pea gravel. At those figures, it costs about 35% less.

"Besides," says Steve Haag, "this is a form of recycling. Sooner or later we will deplete the gravel supplies and here is a product that can substitute for it."

For more information on Madison's seal coating program, contact Toby Opheim at 608/246-4535. For more information on Dane County's seal coating program contact Steve Haag at 608/266-4012.

Reader Response



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