teristics that can affect pavement performance and longevity. The Asphalt PASER Manual is used to rate all eight asphalt pavement types in WISLR—45, 50, 52, 55, 57, 60, 65, and 70.

Pavement performance

Long-term performance of the eight WISLR asphalt pavement types is likely to vary. Those variations are reflected in the deterioration curves developed for each pavement type in the WISLR five-year budget simulation. Making sure WISLR has the correct pavement types improves the accuracy of the database and budget projections.

Choosing pavement sections

One of the first decisions when preparing to rate pavements is how to divide the road system into manageable pavement rating sections. The WISLR rating download automatically divides a road system into sections so that each section has the same road name, pavement type, date of last construction or age, and condition rating. From a pavement deterioration standpoint, this makes sense. Local governments should consider changing their pavement sections to match the length of a typical construction or maintenance project.

Ratings responsibility

Local government officials play the lead role when it comes to maintaining roads within their jurisdiction. Conducting a thorough, accurate ratings process is part of that responsibility. WISLR, with its dynamic pavement analysis tools, gives them an effective way to evaluate and communicate the condition of the whole road system and explain their budget decisions. In this way, local officials can better meet their stewardship responsibilities to provide a cost-effective transportation system to meet local needs. ■

Pavement analysis tools sharpen planning

PLANNING & BUDGETING for road maintenance and replacement gets harder all the time as local governments juggle complex needs and limited resources. Enter the pavement analysis tools in WISLR (Wisconsin Information System for Local Roads). Added in the last two years, the tools allow decision makers to sharpen their planning and take informed action.

Joe Nestler, an engineer with Applied Research Associates and one of three instructors for the upcoming TIC workshop on using WISLR, recently outlined some of the applications he says make the system a powerful benefit to counties and municipalities.

WISLR generates reports with estimates of pavement maintenance and capital improvement needs for sections of rated roads. It produces maps from this data that color-code repair types. There are charts showing distribution of pavement conditions and the percent of pavement that fall into different ratings spreads. Joe calls the graphical printouts a good overview of the data. He envisions their use as a dynamic presentation tool when reviewing

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WISLR relies on users

KEEPING TRACK of accurate data on local roads became an interactive process five years ago with the introduction of WISLR (Wisconsin Information System for Local Roads). The Pavement Rating Entry web-based tool makes it easy for local officials to enter their own ratings information.

Susie Forde, Chief of Data Management for WisDOT, helped put WISLR into action. She says the system has seen more use every year since its launch in 2002. In 2005, 44 percent of submitted pavement ratings were entered via WISLR.

"We have over 2,000 users now, 1,500 of them local governments," Susie notes. "As people see what's possible, how they can generate maps, graphs, spreadsheets, and other reports from the data, view local road data statewide, when they see how to use it to spot trends, compare their road condition to a neighboring municipalities, the value of WISLR comes through."

With ratings due later this year, Susie and Kelly Schieldt, Statewide Local Roads Coordinator with WisDOT, remind local agencies that while inspecting roads in their jurisdiction, they can correct inaccurate pavement data.

WISLR's advantage is that authorized users have any-time access to their local roads database. They can—and should—go in to verify all road features, from surface type and width to road names. It is easy to download and review a spreadsheet to see where data is wrong or out of date. Users can make changes by going into the worksheet on the WEB WISLR Pavement Rating Entry Screen.

First-time users go to https://on.wisconsin.gov to register and receive access confirmation from WisDOT.

Susie, who participates again this August in a TIC workshop on using road-rating tools, calls WISLR a unique partnership between state and local agencies. "The first of its kind in the country, it's a model of how to maintain data quality on a vital, shared asset and give local governments the tools to control and manage resources wisely." ■

Four steps in ratings process

These general guidelines will get a pavement rating project off the ground.

1– Prepare to do the ratings

Download WISLR data, check for accuracy, make corrections. Mark road sections and plan rating route. Review condition table in PASER manual. Gather information on known problems. Arrange for multiple raters to work in tandem for consistency.

2– Rate the pavements

Take camera, tape, straightedge, rating map, spreadsheet, and pens. Ride pavement section to judge average condition, ride again at slow speed or stop to inspect pavement at close range and note condition. Consider causes and assign PASER rating.

3– Review ratings with others

Examine and verify all ratings on a map. Ask others who know the roads to review. Check for consistency with multiple raters. Field check any questionable ratings. Finalize ratings.

4– Enter ratings in WISLR

Enter final ratings into WISLR by web connection or other method.

The system has seen more use every year since its launch in 2002. In 2005, 44 percent of submitted pavement ratings were entered via WISLR.

Pavement analysis tools sharpen planning

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"The data available depends on what local governments put in for their PASER ratings."

recommendations with other officials or the public.

Introduced last year, the new budget simulation tool in WISLR gives users before-and-after, five-year budget information as a way to assess the impact of projected spending. The tool helps in evaluating each pavement section for suggested action. It calculates individual section costs and puts projects in priority order against budget projections until funds run out. In the process, WISLR creates a list of backlog projects, or unmet needs.

"The data available depends on what local governments put in for their PASER ratings, of course," Joe says. "But once they do, they are just a few mouse-clicks away from translating those ratings into valuable multi-year budget planning information."

He says when assessing a budget's impact on system condition, the budget tool resets ratings to a higher value when the project is scheduled. A built-in deterioration curve based on statewide averages of pavement age and type determines the rating of delayed or unscheduled projects that continue to deteriorate.

WISLR prioritization fine-tunes the data. It calls for treating pavements rated fair-to-very-good when ***functional*** rather than ***structural*** deterioration is the dominant distress. Joe notes this approach emphasizes "pavement preservation"—meaning local governments can maintain pavements in good condition at a lower cost per year of service life than pavements with significant structural deterioration.

Recognizing that significant roads in poor-to-failed condition cannot be ignored, the WISLR model also considers roadway classification as an indication of local importance. This dual-priority approach helps in selecting projects based on cost-effectiveness and on the importance of a road to overall system function.

Approved users can change two factors in the budget simulation. They can alter the take-action status of a roadway by identifying it as major, minor, local, or low use. Users also can change the unit costs for repair associated with pavement ratings and pavement type.

Joe says educating local governments about WISLR is an important ongoing effort that is paying off as more agencies give the pavement analysis tools a try.

"When it comes to substantiating budget requests with clear data on need and impact, weighing trade-offs, and coming up with a plan that gives more bang for the buck, this resource is outstanding," he concludes. "The right projects at the right time and with the right fix—it can happen." ■

RESOURCES

Print copies of publications available free from TIC while supplies last. Electronic copies may be downloaded from the TIC website.

Video, CDs, and DVDs are loaned free through county UW–Extension offices. Print copies of the current TIC. Copies of the TIC Lending Library Catalog were distributed last July. Items also are listed on the TIC website.

TIC website
http://tic.engr.wisc.edu/

Publications

PASER Series

The six manuals in the Pavement Surface Evaluation and Rating (PASER) series help you evaluate roadway surfaces and plan repairs for most road surface types. Common defects are described and illustrated with photos. A surface rating system links type, number, and severity of defects with the type of maintenance needed.

Asphalt PASER Manual
28 pp., 2002

Brick and Block PASER Manual
8 pp., 2001

Concrete PASER Manual
28 pp., 2002

Gravel PASER Manual
20 pp., 2002

Sealcoat PASER Manual
16 pp., 2001

Unimproved Roads PASER Manual 12 pp., 2001

Drainage Manual, TIC, 2000, 16 pp. Guide to evaluating and rating drainage conditions along rural and urban roadways.

Gravel Road Maintenance: Meeting the Challenge
A limited number of this training DVD and CD available from TIC. DVD includes modules on Correct Roadway Shape, Shaping the Roadway, Good Surface Gravel, and Dust control. CD contains instructors guide and FHWA Gravel Roads Maintenance and Design Manual. Limited number of print copies also available.

REVISED *Flagger's Handbook,* updated publication available from TIC this summer. It incorporates changes to the Manual on Uniform Traffic Control Devices (MUTCD).

Culverts: Proper Use and Installation, No. 15, TIC, 2004, 12 pp. Practical information on culvert design, permitting, material selection, construction, and maintenance.

Fish Friendly Culverts, a UW–Extension publication. A limited number of printed copies available from TIC. Demonstrates proper design, installation, and maintenance techniques for culverts that protect fish while providing effective drainage for roadways. Available online at http://clean-water.uwex.edu/pubs/pdf/shorefishfriendlyculverts.pdf