

Crossroads

Summer 2001



TRANSPORTATION Information Center — LTAP

University of Wisconsin—Madison

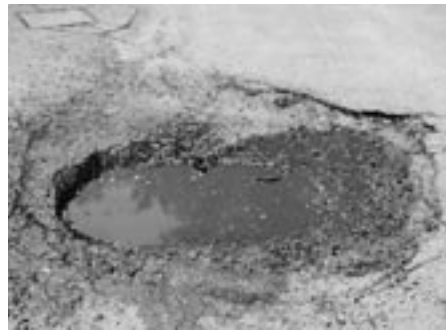
Maintenance basics – potholes and cracks

Potholes and cracks are a constant headache for local road agencies. Not only do they bring citizen complaints and cause untold wear on vehicles, they're a serious threat to pavement life. Water gets through the pavement surface and weakens the road structure underneath. Here are some basics guidelines:

Patch promptly An open pothole collects water and directs it down into the pavement structure. The sooner you close it the better.

Use high quality patching material The quality of asphalt used for patching is more important than the patching method, according to research by the Federal Highway Administration (FHWA). For temporary patching, use a high quality, asphalt mix customized for patching. These mixes have chemicals added to make the material stickier for longer. For permanent patching use hot mix asphaltic concrete. Hot mix will usually provide the most durable patch.

Patch a dry, clean hole Patching material will stick better when you have cleared loose material out of the hole and the base underneath is dry. This may not always be possible. Some agencies use spray injection equipment that blasts the hole with high pressure, blowing loose material and water out of the way.



“Throw and roll” works Simply filling a pothole and compacting the patching material with the maintenance vehicle's tires produces a patch that is usually good enough. Such patches, when using high quality material, lasted as long as those using the “semi-permanent” method of squaring the hole's edges and compacting with a vibratory compactor, FHWA research demonstrated.

Make permanent patches If you have not used the higher priced patch material, plan to return to the area and replace the temporary patch with a permanent one. Use a concrete saw to cut a rectangular opening 6-12 inches wider than the pothole. Loosen and remove material from center out to cut lines and down to dry, solid base. Blow or sweep out extra fines. Tack edges and place hot mix in layers no more than 3 inches thick. Tamp into corners and compact with a plate compactor or wheeled roller.

Effective patching can save 25% How many times have you filled a pothole, only to see the asphalt popping out again in a few days to a few weeks? Putting in a patch that stays will reduce regular maintenance costs and extend pavement life.

Fix underlying problems When an area of pavement breaks up more often or sooner than neighboring stretches, there likely is a soil or water problem underneath. Review the surrounding area, then plan a permanent solution. Excavate small areas of unstable soil and replace with sand/gravel mix. Improve drainage if necessary.

Clean and seal cracks Cracks let water into the pavement and often spawn potholes. It is best to seal cracks in spring or fall when they are at their midpoint. Seal in dry weather if possible. Rout out relatively straight, individual cracks to 1/2-3/4 inch wide and 1/2-3/4 inch deep. (Clustered cracks, alligator or edge cracks require patching.) Clear debris with a hot air lance or compressed air. Apply sealant with applicator wand from hot kettle or use a pour pot. Squeegee to make a clean edge and push sealant into crack. Apply blotter: sand or single ply toilet paper.

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Asphalt Maintenance

DEMONSTRATION DAY

Patching and Surface Treatment Techniques

July 11, 2001 at UW-Green Bay

Learn about a variety of asphalt pavement maintenance techniques and see them demonstrated live. Watch for a T.I.C. mailing with more details.

PASERWARE 2.5 out now; more training in July

The first Windows version of PASERWARE (v. 2.5) is now available. Many new features make it easy to use:

- A run time version of Access 2000 is included with PASERWARE 2.5 so you do not need a separate copy of Access 2000 to use the program.
- The Windows operating system manages printers, ending the printer problems of earlier DOS versions.
- It translates all data from previous versions of PASERWARE and ROADWARE.
- All menus and features are mouse driven. Most reports have screen previews so you can look at the report without having to print it.
- The data entry screen, the general report, and the inventory forms all have a place to enter new "on/at" location descriptions.
- A new datasheet screen lists locations, condition ratings, and rating year in a spreadsheet-type table.

- The History File can now be sorted and printed by the year the work was done.
- Instead of a single five-year budget for the simulation, the new version allows three five-year budgets: one for preventive maintenance, one for rehabilitation, and one for reconstruction projects. It also suggests trial budgets to begin the simulation process.
- A new WISLR report can be used to submit road condition data to WisDOT when it's required in December 2001.

PASERWARE 2.5 is written in Access 2000, and works in Windows 95, 98, NT, ME, and 2000 Professional. PASERWARE 2.5 requires at least a Pentium class PC with a minimum of 64 Megs of RAM.

Training sessions are being offered in July for those who were not able to attend in March and April. For information about PASERWARE 2.5 or PASERWARE training, contact the T.I.C. at 800/442-4615.

Pavement condition ratings due in December

Local governments must submit condition ratings for all local roads to Wisconsin DOT by December 15, 2001. While hundreds of local governments have been rating their pavements for years, over a 1000 more began the condition rating process this year by attending PASER training sessions in February and March. More than 900 local officials also attended PASERWARE computer software training sessions around the state to learn about using the newest version. Additional PASERWARE training sessions will be conducted in July and October.

There are four ways to submit ratings using PASER:

Electronic spreadsheet WisDOT will supply an electronic copy of an Excel spreadsheet on request. It lists the municipality's local road segments as they appear on the local road mileage certification map. Local officials only have to enter the PASER rating for each segment and the year it was rated. If conditions require that a segment be changed, then the new segments must be described in the spreadsheet.

Hard copy spreadsheet Small governments without a computer can submit information on a hard copy of that same Excel spreadsheet, also mailed by WisDOT on request.

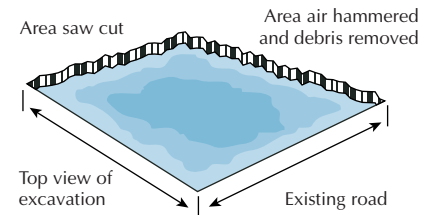
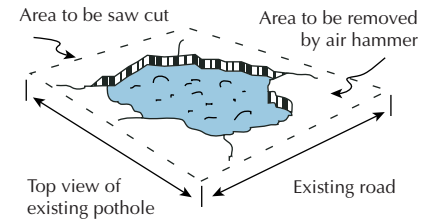
PASERWARE 2.5 WISLR report This electronic report is generated by PASERWARE 2.5 and can be e-mailed to WisDOT. (See related story above.)

Direct Internet entry When the Wisconsin Information System for Local Roads (WISLR) is on line in September, local governments can enter their PASER condition ratings and rating years directly into the WISLR data base. Training on the new WISLR data base will be offered around the state in late summer and early fall. WisDOT will send dates and locations to local governments in the near future.

To request a spread sheet contact Diane Phaneuf, WisDOT, PO Box 7913, Madison, WI 53707-7913, or 608/266-7136, or e-mail diane.phaneuf@dot.state.wi.us

Potholes and cracks

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Make patches permanent by sawing an opening, removing material, then filling and compacting hot mix.

Choose the sealant Many types of sealants are on the market, from asphalt emulsion, which is usually lowest cost, to silicone on the highest end. In deciding, consider such factors as preparation time, ease of placement, elasticity, resistance to aging and tracking, along with price. The summary chart offered by T.I.C. can help you decide (see below).

Consider a seal coat Once you have patched it, you can add years to the life of a low-volume or medium-volume road by covering it with a sealcoat treatment.

For copies of the crack sealant chart see Resources, page 7. This article summarizes some of the information presented by Tom Nelson, Professor of Civil Engineering, UW-Platteville, at the T.I.C.'s Spring 2001 Asphalt Road Maintenance Workshop. T.I.C. offers the workshop every spring at several locations around the state.

Crossroads

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