

## Shoulder maintenance—too important to defer till spring

Road shoulders are an important part of the roadway. Yet, in the rush to complete projects before winter, some agencies defer shoulder work until spring.

This can result in shoulders which do not do their jobs: supporting the side of the pavement, draining water away from pavement into ditches, and providing vehicles a safe emergency area.

Fall shoulder repairs slow roadway deterioration, save money and reduce environmental impacts. Asphalt shoulders need repair if they are cracked, or if there is a gap along the pavement edge. Dirt or gravel shoulders need repair if they show one or more of the following conditions:

- The shoulder is higher than the pavement edge.
- The shoulder surface shows ruts and corrugations deeper than one inch.
- The slope is too flat to provide good drainage.
- The shoulder has eroded into cuts and gullies, causing cracks in the pavement edge and/or excessive material being carried into ditches.
- There is more than a 1½ inch drop-off from the pavement to the shoulder.

### How to repair shoulders

Two methods are used to correct dirt or gravel shoulders. Reshaping corrects excess height, ruts, and lack of slope. Crews use a motor grader to shape and smooth the shoulder slope. They should compact the shoulder, ensuring that it is not higher than the pavement edge.

Replenishing corrects holes, gullies and drop-offs. Crews reshape and compact the existing surface. Then they add, spread and compact additional material which should be granular and well-graded with sufficient fines.

Shoulders must support vehicle loads, so their materials should be similar to the road base. Before reshaping or replenishing, it might be necessary to remove organic debris, clays, silts, and other unsuitable materials.

Repairing asphalt shoulders uses the same methods as for asphalt pavements. Sealing gaps between the shoulder and pavement is necessary to prevent freeze-thaw effects.



Poor ditch and shoulder drainage cause pavement damage.

Reshaping ditches should also be considered. This is especially important as poor ditch drainage will affect the repaired shoulder and roadway base.

A new T.I.C. publication, the **Drainage Manual**, can help local highway officials assess and rate shoulder and ditch conditions. See **Resources**, page 2 for details. This story was adapted from an article in the *University of New Hampshire Technology Transfer Newsletter*, Vol. 14, No. 3.

## Long-term investment in roads pays off

The first community to ever use the PASER pavement rating system is still using it 13 years later. And the overall condition of the roads has improved considerably, according to former Town of Rutland Chair Mike Bacon.

“What it did was allow us to establish a long term direction and goal for how we wanted to spend our money,” says Bacon who still serves on the town’s roads committee. “We began to look at the roads as being an investment rather than an expense, and we wanted to invest our money in the best way possible.”

The town started using PASER as a simple paper-and-pencil system for comparing and ranking roads for improvement. The training and accompanying handbook made it relatively easy to see where the problems were. It also explained treatment alternatives.

“Basically, what the town was doing before was primarily just seal coating,” says Bacon. “Using PASER we were able to determine that other types of treatment



would be a better investment.”

Understanding that a road is only as good as the base it has under it, the town began a program of pulverizing and rebuilding old town roads. The first ones they did 12 years ago are still in excellent condition today. “So if we have a road that will last longer, we’re getting a better return on our investment,” Bacon says.

### PASER training in February

Towns throughout Wisconsin will have an opportunity to learn the PASER system at workshops in February. The T.I.C. is doing training at sessions in every county in the state, coordinated by local Regional Planning Commissions. PASER is an approved pavement rating system under the new state requirements that local government rate their roads and report them by December 2001. Announcements and details will go out in early winter.

“Many people think that the best town roads are in front of the supervisor’s house. Using PASER and its engineering recommendations helps supervisors avoid such perceptions,” says Bacon.

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