Various patching repairs are the solution . . .

By Bob Kudelka

There is more than one way to fix a pothole.

At SCDOT, maintenance forces typically use three: hot mix asphalt, pressurized spray patching and cold mix asphalt.

Veteran employees say hot mix provides the best patch. Some crews deploy hot mix by using the Pro-Patch Pothole Patcher. It is a patching machine that can carry up to 5 tons of asphalt and 100 gallons of asphalt emulsion.

Two-person crews ride in the Pro-Patch truck, which can transport hot mix asphalt mix of up to 300 degrees. Asphalt needs to be at least 250 degrees to provide the right sticky texture to fill potholes. Not only does the truck keep asphalt hot during use, but can be plugged in overnight to keep it warm so leftovers are not wasted.

Joe Davis and Paul Fee, members of one of four pothole crews at Richland Maintenance, use the Pro-Patch to fill about 24 potholes a day.

At a residential street off Broad River Road, the crew stopped to repair a pothole 3 inches deep. Davis said he has seen potholes as deep as a foot.

The crew first set up safety cones and activated the lighted traffic arrow sign on the truck before sweeping debris from the pothole.

A pothole can damage vehicles and it would make sense that motorists would be glad to find Davis and Fee fixing potholes. However, during this pothole repair in Columbia, as is typical, motorists driving by seemed irritated at having to slow down.

"They get irate because they think we're keeping them from getting on their way," Fee said, adding that once in a while a citizen will give a wave of thanks.

After setting up, the crew sprayed emulsion oil around the pothole to create a tacky priming surface for the asphalt to adhere to. Then they opened the hopper and poured asphalt onto the pothole. A compactor is rolled to level the asphalt, debris is swept up and the job is done.

When he is not working, Fee said he doesn't think about potholes much, except if sees one while driving. Then he'll put it on a list for him or another crew to fix when back at work.

Another way SCDOT fills potholes is by using hot liquid asphalt in an AMZ trailer. After the pothole is swept clean, crews use an air pressurized spray to fill the pothole with liquid asphalt combined with small rock.

"Because you're spraying under pressure it gets a degree of compaction," said Walt Holladay, Operations Engineer at Richland Maintenance.

The advantage of the AMZ method is speed. Depending on the size, a pothole can be filled in 10 minutes or less. However, the fix is not as long-lasting as the hot mix done by the Pro-Patch machine, Holladay said.

Cold mix is the least effective pothole repair. Maintenance crews typically use cold mix when temperatures are too cold to apply hot mix, or if asphalt plants are not in operation. In some areas of the state, asphalt plants shut down in winter months and cold mix is the only option.

PHOTOGRAPHS BY ROB THOMPSON/THE CONNECTOR

Paul Fee, left, and Joe Davis are one of four pothole crews in Richland County. The Pro-Patch trucks fill about 24 potholes per day in Richland County.

. . .until there's more money

By Bob Kudelka

As an avid bicyclist, Jim Feda regularly gets an up-close look at our state's roads.

That knowledge comes in handy for his job as Director of Maintenance at SCDOT, overseeing maintenance of the nation's fourth-largest state maintained highway system.

Lately while bicycling across the state's roads, Feda has noticed a dramatic change in the quality of the road surface.

"Until this past winter, we had smooth, distressed pavement," Feda said. "Now with the harsh winter, now they're riding poorly as well as being distressed and it's a lot more obvious when you ride across them they're in bad shape.

"On my bicycle, I can hear the pieces of pavement - it sounds like piano keys. They're loose and as I ride over them as they come up and fall back down, but in a car you ride over them and you don't hear or feel that and it feels smooth."

The piano key sounds are not music to Feda's ear, but an indication of just how great the state's needs have become.

SCDOT maintenance forces continue to work hard to squeeze as much as possible from available resources. It's no small challenge, considering that South Carolina state highway funding per mile is the lowest in the nation.

SCDOT's Maintenance budget relies on the state's motor fuel user fee. This rate of 16 cents per gallon does not grow with the price of fuel and was last adjusted in 1987.

This year, SCDOT has received record numbers of pothole complaints and has been doing the best possible job to respond. Feda knows filling potholes is like putting Band-Aids on roads that could use much more work.

"No matter how smooth we make those patches they're going to ride rough," Feda said. "People are complaining and rightly so. People have every right to ride on a well-maintained transportation system. They also need to give us the funding we need to maintain that highway system.

"It's frustrating for us as well because we want to do a good job. Our people out in the field take a lot of pride in the work they do. When they get complaints, you can't tell them their complaints are unwarranted. Yes, these roads are falling apart and need to be patched and need to be reconstructed but we don't have the money to reconstruct them. Until then, we'll just keep them patched."