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A stop gaffe

Agencies need to communicate preservation strategies

With the budgets available today, government agencies need every tool in the toolbox to extend the life of their roads and keep stakeholders happy.

This is obviously no easy task. The reality is, when applied at the optimal time, pavement preservation can extend the life of pavement by up to seven or more years. But that is not currently realistic for a lot of government agencies due to budget constraints and current road conditions. Many have no choice but to use pavement preservation as a stop-gap

measure, a process otherwise known as reactive maintenance. Reactive maintenance can still be beneficial, but many times the difference between these two processes is not explained or communicated fully.

Without communication of realistic expectations to stakeholders, the use of pavement-preservation surface treatments as stop-gap measures for structurally unsound pavements can give the agencies that specify the treatments and the contractors that apply them a bad name. And, it could certainly tarnish the value and future use of the treatments themselves.

This is the consensus of select representatives of federal and state agencies, contractors, industry associations, academia and materials

suppliers who were recently asked about a practice that appears to be on the rise due to budget constraints. These industry experts explain the critical messages that must be sent to stakeholders when pavement preservation is used as reactive maintenance.

Doing something

"While there's no quantitative data available at present on the prevalence of inappropriate use, we have seen a lot of anecdotal evidence of it," said Chris Newman, P.E., systems preservation engineer of the Federal Highway Administration (FHWA) and agency co-chair of the Pavement Preservation Expert Task Group, an advisory body to the FHWA. Newman said he believes there is no ill intent on the part of the agencies using surface treatments improperly.

"They feel they have to do something for failing pavements until they can afford to do more aggressive rehabilitative structural work."

Newman noted there has been a change in FHWA thinking from that of the past when it promoted fixing the worst roads first using thick pavement overlays or total reconstruction.

"Now we are advocating 'let's keep our good roads good' using thin non-structural surface treatments," he said, referring to such treatments as asphalt crack sealing, chip sealing, microsurfacing and thin hot-mix asphalt overlays. But he cautioned these treatments only perform as intended when they are placed on structurally sound pavements.

"Unfortunately, spending money to put a surface treatment on a road that was paved in recent years and is still in good condition can be misunderstood by the public and media, leading to lurid headlines," Newman said. He suggested that if people do not understand why it is being done, they will be concerned that the agency is wasting money. He further stated that some agencies bow to pressure to use a surface treatment inappropriately when it would be better in the long run for the agency to work harder to explain to people its rationale in treatment selection and its benefit.

With regard to sensational newspaper headlines, Newman said, "States and local agencies need to work with the

media and explain to reporters why a certain type of treatment is being applied. The public would be more understanding if agencies shared the message that 'keeping good roads good' will help agencies save money and provide a better system of roads."

Good-good situation

Eric Thibodeau, pavement management chief for the New Hampshire Department of Transportation's Bureau of Materials and Research, shares the philosophy of keeping media and public informed. When questioned for the Sept. 28, 2010, issue of *The Concord Insider* as to why the DOT had just paved a state highway that was in "pristine" condition instead of paving another road that obviously needed work, he explained that the highway had not been paved but instead

using preservation surface treatments inappropriately," said Thibodeau.

"You can drive through some towns and you'll often see roads that have been extensively crack sealed," he said. "If a road shows too much crack sealing, the pavement was probably not structurally sound, and crack sealing won't help solve the problem. That pavement is too far gone.

"For economic reasons they may be using the preservation surface treatment to try to hold the road together as a stop-gap measure until they can rehabilitate or reconstruct. But, if for any reason the agency decides to use a preservation surface treatment where it's not appropriate, then the public should be informed so they'll have realistic expectations as to how long it might perform adequately.



When performing reactive maintenance as a stop-gap measure on structurally unsound roads like these, the treatment life cycle may be greatly reduced.

received a thin pavement preservation asphalt overlay. He said the goal of such a project was to keep good roads in good condition and further made clear that a pavement-preservation strategy such as this allows the DOT to maintain its roadways at a higher level of service for less money versus the more traditional "worst first" or rehabilitation strategies.

"Unfortunately, this thinking is not prevalent at the local level, where it's evident that some communities are

"If the road wasn't a good candidate for pavement preservation, then the treatment probably won't perform well and will get a bad reputation, not those making the decision to use it," Thibodeau said.

High marks on time-tested

Reputation is all-important to Tim Harrawood, the immediate past president of the International Slurry Surfacing Association (ISSA) and



Ideally, agencies would apply pavement-preservation treatments at the appropriate time. Unfortunately, today's economy makes it necessary for agencies to mix and match road treatments according to their allocated budgets.

southern regional general manager for Vance Brothers, a Kansas City, Mo.-based company that manufactures supplies and installs asphalt products.

"A good portion of ISSA members' work involves pavement-preservation surface treatments such as microsurfacing, chip seal and crack sealing," said Harrawood.

"These time-tested surface treatments should be applied over structurally sound pavements to extend their service life by seven to nine years or more. However, some agencies are

using these economical nonstructural surface treatments in a reactive-maintenance environment. An increasing number of cash-strapped transportation agencies are calling for surface treatments as stop-gap measures to hold deteriorating pavements together until sufficient funds are available for more expensive full-depth reclamation or mill-and-fill procedures.

"This practice can and has provided agencies with a tool that allows them to quickly bring the pavement back to good condition, which ultimately

provides a safer riding surface for the traveling public. More often than not, these temporary stop-gap measures are successful at restoring the pavement to an acceptable condition that might last two to three years, as illustrated in the pavement condition index. This is an acceptable practice as long as the agencies have reasonably adjusted their expectations and informed all affected parties of the proper objectives. Unfortunately, most agencies aren't communicating this," he said.

Read the disclaimer

Harrawood suggested that in order to prevent an unfair assessment of what may be a short-duration performance of surface treatments used in this way, agencies should be encouraged to publish some kind of disclaimer.

"Ideally, this disclaimer should state that the surface treatment is being applied as a temporary measure for economical reasons or to correct imminent safety hazards posed by rutting or other conditions inherent in the pavement.

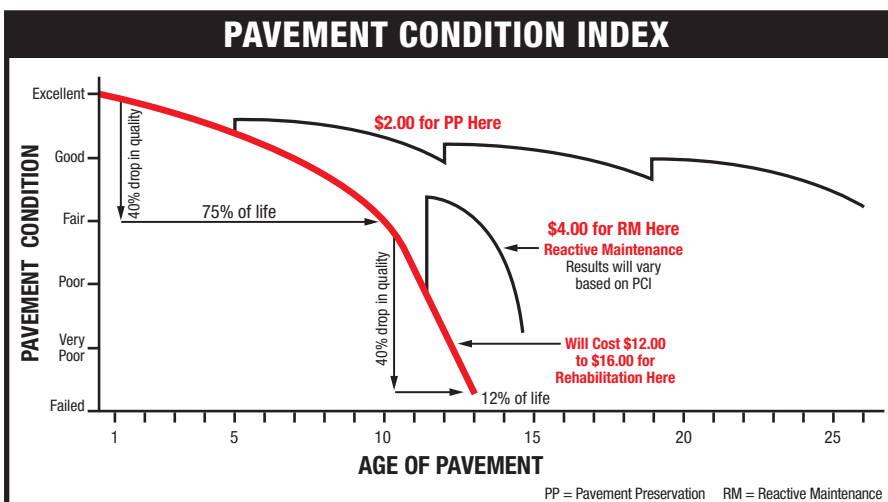
"But realistically, that's not likely to happen. The surface treatment will probably be applied over a deteriorated pavement without any public acknowledgement that it isn't reasonable to expect the pavement to last more than two to three years.

"If it does fail in a couple of years, critics will say that this proves surface treatments are not effective. In most cases, what's on the surface gets the blame, while the underlying problem is overlooked. Some pavement designers may even prohibit the use of these treatments in their agency's pavement-management program.

"This would be a serious black eye for the pavement-preservation industry. Additionally, it would reduce the number of tools that an agency has at its disposal for managing the pavements within their system."

Support good candidates

What constitutes pavement failure? Steve Varnedoe, P.E., of the National Center for Pavement Preservation, an education research arm of Michigan State University, said that it is important to differentiate between how long a



The Pavement Condition Index provides an estimation of how long an asphalt pavement will last when treated at different times in its life cycle. The red line represents the standard life of pavement.

treatment can extend the service life of a pavement and how long the surface treatment itself will last.

"When used appropriately, pavement-preservation surface treatments will extend the service life of the underlying pavement. But if an agency decides to use the treatment on roads that are not good candidates, it's a calculated risk—a slippery slope," Varnedoe observed. "A surface treatment placed on top of a structurally unsound pavement can't extend the service life of the pavement, because the pavement has already failed. So the real question becomes 'How long can that treatment on the surface of the failed pavement last?'"

"Unfortunately, the public doesn't make that distinction and will most likely say the treatment failed, not that it was used inappropriately."

Get on it

Peter Montenegro, a market development manager for Kraton Polymers LLC, a custom chemicals supplier to asphalt product manufacturers, said that the use of thin, nonstructural fixes inappropriately hurts the entire pavement-preservation industry.

"The FHWA and AASHTO [American Association of State Highway & Transportation Officials] are strongly advocating for an asset-management approach to the care of our roads and bridges," Montenegro said. "This means being on our pavements and bridge components earlier and more often with nonstructural fixes. This preservation strategy keeps costs down. It's common sense.

"As a personal observation," Montenegro remarked, "industry associations and individual companies pushing an agenda of 'thicker is better, all roads are candidates, all of the time' instead of the right application on the right road at the right time, undermines public agencies' professional stewardship of the country's pavements.

"It's not good business because it can't be sustained. And it detracts from today's budget discussions with legislators and the public.

"Put the transportation agency interests first and our commercial interests will soon benefit. Our collective road and bridge work must be characterized by excellent quality every day to help move the preservation paradigm forward," he concluded.

Make it clear

Ideally, agencies would apply pavement-preservation treatments at the appropriate time. Unfortunately, today's economy makes it necessary for agencies to mix and match road treatments according to their allotted budgets. This increases the importance of clear communication about what treatments are being applied and the goal and anticipated life expectancy. The agency's reputation, along with the reputation of the treatment, is on the line with each decision. Proper communication is the key to uphold both in the future. **R&B**

Fournier is a freelance writer for the construction industry and International Slurry Surfacing Association.

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