

CONGRATULATIONS

EEl would like to recognize the following employees for their milestone anniversaries with the company in 2022.

5 Years:
Keith Powell

10 Years:
Jim Schmidt

20 Years:
Dave Stewart
Michele Piotrowski
Angela McCoy

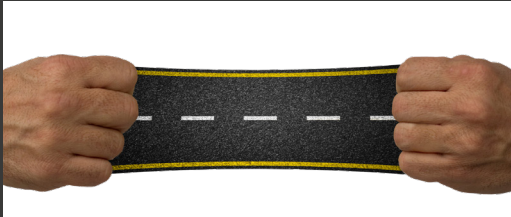
25 Years:
Jeff Freeman



30 Years:
Mark Scheller

45 Years:
Pete Wallers

DID YOU KNOW?



EEl hosted our annual Fall Forum on “Stretching Your Roadway Infastructure Dollars” on November 1st.

Videos can be found on our website!

ENTEPRISES TRIVIA CHALLENGE

Q: What is the average cost per square yard to do a 3-inch mill and overlay on a two-lane (24 foot-wide) asphalt road?

Submit answers to eei@eeiweb.com by 11/30 to be entered into a drawing for a \$50 gift card!



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STRETCHING YOUR ROADWAY INFRASTRUCTURE DOLLARS

The cost of roadway rehabilitation and maintenance can be a substantial part of a municipality’s annual budget. In recent years, both the need for and cost of rehabilitating and maintaining an agency’s roadways have increased, making an effective program essential. Such a program will identify the best strategies for extending pavement life cycles and maximize the effectiveness of annual budgets. Following are some considerations for developing an

effective roadway rehabilitation and maintenance program.

Roadway rehabilitation includes strategies such as your traditional mill and overlay, full depth reclamation, hot-in place recycling, full roadway reconstruction and everything in between. To determine the optimal roadway rehabilitation method certain information is necessary, including pavement distress, thickness, type of roadway

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STRETCHING YOUR ROADWAY INFRASTRUCTURE DOLLARS, CONT'D

(i.e., residential, collector, arterial), and drainage conditions.

Roadway Resurfacing

If it is determined during the preliminary stages of program development that the existing pavement is structurally sound and isn't showing signs of significant base failure, then the municipality can move forward with roadway resurfacing. Traditional methods of roadway resurfacing include overlays on rural streets or mill and overlays on curb and gutter streets. Typically, these projects will consist of milling/overlaying anywhere between 1.5-inches to 4-inches. During the preliminary phase it is important to determine the existing pavement thickness to determine the proper mill depth and determine your patching depth. It is also important to analyze the existing drainage conditions to determine the amount of curb and gutter replacement or ditch improvements needed. Analyzing the existing pavement distresses can help determine the proper amount of patching needed.

An alternative to traditional resurfacing is Hot-In-Place recycling, which is a process where you recycle the existing asphalt and recompact it in place. The first step of the process is to heat up the existing material to a temperature sufficient to allow the material to be reworked. After the heating unit passes, the heated pavement is sprayed with an asphalt rejuvenator liquid and scarified to loosen the material to a depth of approximately 1.25-inches. Lastly an auger unit scrapes up the loose material and mixes all of the components thoroughly to produce a new binder course. This recycled binder course

is then put down by a screed like a traditional paving machine and is compacted, similarly to traditional asphalt mixes. After the recycle binder has been compacted a traditional overlay will go over the recycled binder. This process does have high mobilization costs as well as a long equipment train so ideal candidates are larger scale projects (1 mile plus) and roadways that are relatively straight. By utilizing the existing binder course, the municipality is able to save money and time in comparison to a standard overlay project.



Reconstruction

If it is determined during the preliminary stages that the original roadway wasn't properly designed for the current/future traffic needs or the pavement distresses indicate widespread base failure, the municipality will need to reconstruct the roadway. Traditional reconstruction consists of excavating all of the existing asphalt and stone to achieve the desired pavement design (i.e., 4-inch HMA on 12-inch Aggregate). Typically, traditional reconstruction is very expensive, time consuming and burdensome on

nearby residents. It is important to rehabilitate roadways before they deteriorate past the point of resurfacing however, if a reconstruction is needed than a more cost-effective and quicker solution could be to utilize Full Depth Reclamation (FDR) with cement or lime stabilization.



FDR involves the pulverization of the existing base and subgrade. The pulverized material is then treated with water and an additive such as cement or lime. This treated material is then re-graded and compacted to create a new homogeneous base material that is stronger than the previous base. Once the new base has been compacted the new asphalt can be paved on top of the new base. By utilizing the existing materials on-site, the municipality can save on haul-off and excavation costs and also allows the municipality to complete the project in a shorter time period. This process does have high mobilization costs and is susceptible to frost/heave problems so ideal candidates are large scale projects (1 mile plus) and well drained subgrade.

Roadway Maintenance

Once a municipality has rehabilitated their roadways to new condition the next step is to keep those roadways in good condition for as long as possible by using roadway maintenance strategies. Roadway maintenance includes strategies such as localized patching, crack sealing, asphalt rejuvenation and other preventative measures designed to maintain your asphalt in excellent/good condition for a longer period of time. Asphalt rejuvenation involves the application of a thin layer of asphalt emulsion which penetrates the mix below restoring the asphalt binder content and can extend pavement life 5-7 years. It is recommended to apply within six months to two years after resurfacing/reconstruction. Crack sealing is an important maintenance strategy because it will help prevent water from penetrating into the base which leads to premature pavement failure. Typically, we recommend crack sealing 4-6 years after resurfacing. The last maintenance strategy would be to perform localized patching as needed to fix localized areas of pavement distress. Addressing these areas at the proper time can help maintain the streets in good condition for a longer period of time.

The bottom line is this: by implementing a combination of proper roadway rehabilitation methods with timely roadway maintenance, a municipality can improve roadway longevity and stretch their infrastructure dollars.

For more information on pavement and maintenance rehabilitation contact **Chris Ott at cott@eeiweb.com** or (630) 466-6700.

CHAIRMAN'S CORNER



Water Challenges

You may be following the water crisis that is unfolding in the Colorado River Basin. They are amid a 22-year drought. Water levels in Lake Mead are dangerously low and continue to fall. They have dropped 177 feet, and only 27% of the lake's total

volume of water remains. The lake level is moving closer to the "dead pool" mark. Once that level is reached, power production at Hoover Dam will stop. The states and tribes entitled to a share of the Colorado River are struggling to find a solution. I suspect that they will be moving to drastic measures in order to avoid severe economic consequences.

Meanwhile in the Midwest we have an abundant supply of water and don't need to worry, right? Yes and no. Yes, everyone has a safe and reliable supply, but some of the Midwest's water resources are being overused or are challenged by old, new and emerging contaminants. Water is a vital resource. It is the single most important service that communities provide to their residents. Planning for a sustainable water supply should be part of every community's on-going planning efforts, just like the comprehensive land use plan.

Israel, a desert country, recognized the importance of water and made water a priority. They teach water conservation and the value of water to all levels of students, starting in

pre-school. They treat water as a vital resource and intelligent use of water is a mandate, not an option. As a result, Israel is able to export water to their neighboring countries.

We currently do not have the challenges that the Colorado River Basin has when it comes to water supply, and with continued and deliberate planning we can keep it that way. If we plan, and seriously implement water conservation practices, we will make sure that our water supply is a strategic advantage for years to come. Water supply planning and water conservation cannot be afterthoughts. They need to be a priority!

