

“Mn/DOT concrete rehabilitation standards are numerous; you have to work in this area day in and day out to keep up with them. We wanted to create a simpler, one-stop resource for use on-site.”

–Michael Sheehan,
Olmsted County
Engineer

“The contractors like that the new handbook gives them more standard procedures to follow; this positive feedback is helping to drive Mn/DOT to change its practices to follow suit.”

–Dan Frentress,
Principal, Frentress
Enterprises LLC

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When deterioration does not extend the full depth of the pavement, crews can employ partial-depth repair (shown above). The new handbook includes guidance for this and other common rehabilitation procedures.

documents, for the accompanying training, which he administered as part of the launch of the manual.

In the subsequent reformatting project, a few updates were made to the content, and the team reshaped the handbook into a smaller size (6 inches by 11 inches) with laminated pages, meant to withstand daily wear and tear in trucks.

What Was the Impact?

The final result was a sturdy field handbook with 16 standard plates covering concrete repair procedures. Some of these plates, such as those for sidewalk or median repair, curb and gutter repair, and catch basin repair, were entirely new. Each plate is accompanied by step-by-step designer notes and construction notes conveying the best practices gathered by the project. The handbook also provides Mn/DOT’s standard contract terms, repair guidelines, mixture requirements and more.

The training curriculum was first administered through the Minnesota Local Technical Assistance Program in 2005 and has been given every year since then to classes filled to capacity in different Minnesota cities and counties. Class participants spend six hours learning about specifications, go into the field to create their own repair recommendations, and then come back for another half day to compare and discuss their strategies.

What’s Next?

Reaction to the handbook has been very positive. By providing streamlined, authoritative specifications and instructions, the handbook has created a simpler rehabilitation process for local officials and for contractors. Mn/DOT is considering reworking its approach to presenting state and highway concrete specifications in light of this success.

The training has also been successful, with positive feedback ensuring that it will continue to be presented yearly through Minnesota LTAP.

This Technical Summary pertains to the LRRB-produced Reports 2006-31, “State Aid Concrete Pavement Rehabilitation Best Practices Manual 2006,” published September 2006, and 2005-33, “State Aid Concrete Pavement Rehabilitation (CPR) Best Practices Manual,” published September 2005. The full reports can be accessed at <http://www.lrrb.org/PDF/200631.pdf> and <http://www.lrrb.org/PDF/200533.pdf>, respectively. Report 2006-31 is a reformatting of 2005-33.

The research being implemented through this project was primarily an unpublished earlier version of the manual from October 2001 as well as Mn/DOT concrete pavement rehabilitation standards and Mn/DOT’s Concrete Manual. Mn/DOT information on this topic can be found at <http://www.dot.state.mn.us/materials/concretepavement.html>, with the manual’s Chapter 9, “Concrete Pavement Rehabilitation,” available at <http://www.dot.state.mn.us/materials/manuals/concrete/Chapter9.pdf>.