



MnDOT Selection of Pavement Surface for Road Rehabilitation

Update to 2014 Evaluation Report

March 2016

Problems Identified

- **Incomplete List of Pavement Alternatives.** The Minnesota Department of Transportation (MnDOT) met many but not all recommended practices for selecting between asphalt and concrete pavements for road rehabilitation projects. For instance, MnDOT had a *Pavement Design Manual*, but it lacked a complete list of feasible pavement alternatives.
- **Flawed Estimates in Life-Cycle Cost Analyses.** To select low-cost pavement alternatives, MnDOT required life-cycle cost analyses to compare costs of rehabilitation and maintenance over each alternative's lifetime. MnDOT correctly based its costs on historical bid data, but by the time it let projects for bidding, some costs were outdated.
- **Limited Impact of "Alternate Bidding."** In alternate bidding, both asphalt and concrete industries bid on a single project. Few such projects occurred, and they had limited impact on industry competition. Furthermore, MnDOT used statewide averages to estimate costs and develop rehabilitation and maintenance schedules, which did not always accurately reflect local market costs or appropriate local schedules of rehabilitation and maintenance.
- **Unneeded Statute on Comparing Pavements of "Equal Design Life."** Statutes required MnDOT to compare life-cycle costs for pavement alternatives with "equal design lives," but neither law nor department policy defined the phrase. MnDOT engineers interpreted the phrase differently. Moreover, literature does not recommend use of equal design life.

Changes Implemented

- **Expanded List of Pavement Alternatives.** In updating its *Pavement Design Manual*, MnDOT identified a broader range of feasible pavement alternatives for road rehabilitation.
- **Improved Cost Analyses and Alternate Bidding.** MnDOT now requires districts to update costs, as needed, for estimating life-cycle costs, and it uses district-specific costs to provide data for the analyses. It also focused alternate bidding on projects likely to benefit.

Action Needed

- **Change Statute on "Equal Design Life."** The Legislature should repeal a portion of *Minnesota Statutes* 2015, 174.185, subd. 1 (b), requiring MnDOT to consider equal design lives in pavements' life-cycle costs. Fair comparisons require using the same period of time, properly estimating costs, and accounting for remaining service life at the end of that time period—not equal design lives.
- **Monitor Alternate Bid Process.** MnDOT's alternate bidding process requires ongoing evaluation to ensure it produces the industry competition it originally promised.