



ABOUT THIS PROJECT

PROJECT NAME: [Roller Compacted Concrete Shoulders](#)

PROJECT NUMBER: TR-829

PROJECT FUNDING PROGRAM: Iowa Highway Research Board

PROJECTED END DATE: December 2027

PROJECT CHAMPION:
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RESEARCH IN PROGRESS

Using roller compacted concrete for paving granular shoulders

Unpaved road shoulders present safety concerns when rutting occurs where the paved road meets the granular shoulder. If a vehicle drifts onto the shoulder, this rutting can lead to an uneven driving surface that causes skidding or loss of control. Paving the shoulders can address these safety concerns.

Traditionally, low-volume road shoulders are paved with hot-mix asphalt (HMA). However, roller compacted concrete (RCC) may be less expensive and more durable under heavy loads. RCC is a no-slump concrete composed of similar ingredients as portland cement concrete. Overall, RCC offers faster construction to minimize traffic delays, lower maintenance costs, and offer sufficient structural capacity for heavy loads.

RCC has been commonly used for low-speed pavements that support heavy loads such as parking lots, but its use on local streets and highways is increasing. Iowa counties wanted to explore its long-term durability when exposed to the state's freezing and thawing conditions and when supporting large traveling farm machinery and heavy trucks.

The primary objective of this project is to develop specifications for the product mix, shoulder construction, and maintenance of completed RCC road shoulders. To meet this objective, researchers are performing comprehensive laboratory assessments, field demonstration constructions and evaluations, and a life-cycle cost analysis for quantifying cost-

effectiveness of various shoulder options. "The results of this project will be potentially valuable for justifying expanded use of RCC in Iowa as a stronger and more durable material for paving road shoulders and other applicable areas," explained Jacob Thorius, Washington County Engineer.

The research is expected to conclude in December 2027.

To learn more about this project and subscribe to updates, visit [Idea #3840](#).

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