



ABOUT THIS PROJECT

PROJECT NAME: An Economical and Sustainable Dust Suppressant for Gravel Roads

PROJECT NUMBER: TR-813

PROJECT FUNDING PROGRAM:
Iowa Highway Research Board

PROJECTED END DATE: June 2025

PROJECT CHAMPION:
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RESEARCH IN PROGRESS

Sustainable dust suppressants on gravel roads may reduce health and environmental impacts

More than 60 percent of Iowa's roads are unpaved. These gravel roads are critical to the state's economy, providing essential connectivity for rural communities and the agricultural industry.

As vehicles and other heavy equipment travel along these roads, the loose aggregates on the surface are often crushed and released into the air as fine particulates, or "fugitive dust." This action not only reduces the amount of material on the roads and causes potholes and ruts to form prematurely, but the airborne dust can lower drivers' visibility and pose a serious health threat to road users and those living and working in the vicinity.

To combat the problem, chlorides are often applied to gravel roads to stabilize the aggregates and

minimize the amount of dust they release into the air. However, these products are costly and corrosive, and can contaminate the fertile soils and waterways nearby. To find a lower-cost and more environmentally friendly alternative, the Iowa Highway Research Board has launched a research project to identify potentially viable dust suppressant options and test them under real-world conditions.

"Dust can be a serious safety and health hazard," explained Iowa DOT Secondary Roads Research Engineer Lee Bjerke. "The dust suppressant products we use now do make a difference, but we're confident we can find something that costs less and works even better for our needs."

By investigating corn- and soy-

based alternatives, Bjerke intends to find a sustainable solution that also supports Iowa's agrarian economy.

"Agriculture is the cornerstone of everything Iowa does," Bjerke said. "We believe we can find a product that's safe and effective while simultaneously helping the farmers in our state."

The research is expected to conclude in June 2025.

To learn more about this project and subscribe to updates, visit [Idea #3176](#).

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