



ABOUT THIS PROJECT

PROJECT NAME: Bridge Strike Detection and Reporting

PROJECT NUMBER: HR-4002

PROJECT FUNDING PROGRAM: State Research

PROJECTED END DATE: June 2024

PROJECT CHAMPION:
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RESEARCH IN PROGRESS

Detecting bridge strikes will help Iowa DOT recover costs for repairs

Bridges are constructed with the expectation that they will last for years. When a vehicle hauling an oversized load strikes a bridge, however, it can cause significant damage and decrease the bridge's life expectancy. Drivers often don't stop or report the incident, leaving transportation authorities unaware of the damage and repairs to be paid at taxpayers' expense.

To combat the problem and ensure strikes are paid for by the offender, Iowa DOT is piloting a first-in-the-nation research project to detect bridge strikes in real time and match the data with vehicle records.

"We can't prevent trucks from hitting bridges and causing damage," explained James Hauber, Chief Structural Engineer with Iowa DOT. "But this research will help us detect

when a bridge strike has occurred, identify who owns the vehicle that struck it, and estimate the damage so that the agency can recover its losses."

At two bridges in Ames and Cedar Rapids, researchers added cameras and frequency monitoring systems that can detect a vehicle strike and identify the vehicle that caused it. When a bridge strike happens, the collected data can be transmitted to Iowa DOT and the police within seconds. By detecting changes in the bridge's frequency, the system will also be able to help Iowa DOT estimate the damage to the bridge.

After the pilot project is complete, the monitoring system and cameras will be installed on a bridge near Ames with a known strike history. Though Iowa is leading the way with

this research, Hauber notes that other states will benefit from the findings.

"Bridge strikes are a problem all across the United States," he said. "This project will be helpful to other state transportation departments that are grappling with this issue and the damage that results," he said.

The research is expected to conclude in June 2024.

To learn more about this project and subscribe to updates, visit [Idea #3791](#).

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