ABOUT THIS PROJECT

PROJECT NAME:
Navigation System for Snowplows
in Low Visibility Situations

PROJECT NUMBER: RE-22007

PROJECTED END DATE: October 2023

PROJECT CHAMPION:
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RESEARCH IN PROGRESS

High-tech solutions aim to help snowplows safely navigate low-visibility conditions

When winter weather conditions become too unsafe for snowplows to operate, snow can accumulate on roadways and mobility for everyone can become limited.

To combat this problem and help snowplow drivers continue their important work even when visibility is poor, Iowa DOT has launched a new research project to develop a variety of on-board navigational tools.

"If snowplows can't operate during a storm, snow builds up," explained Tina Greenfield, coordinator for Iowa DOT's Road Weather Information Systems. "Then, when the plows do get back out it can take longer to clear the roads and get things back to normal. Our goal is to do everything we can to help keep the plows running, especially in extreme weather."

With help from a team of university and industry investigators, the research aims to develop technology—such as digital maps and sensors—that can detect and alert plow drivers to obstacles in the roadway and guide the plows along their route, even in whiteout conditions.

The team will select technologies that are economical and practical, relatively easy for operators to use, and which perform well in winter weather. Once these have been identified and developed, the tools will be added to an actual snowplow for testing under real and simulated conditions.

While the tools will help with navigation, Greenfield noted that a human driver will be in control of the snowplow at all times.

"The driver will continue to be responsible for the snowplow," she said. "There's no self-driving features or automation being developed as part of this research."

The research is expected to conclude in October 2023.

Learn more and subscribe to project updates at Iowa DOT Research's Ideas site (Idea #3165).

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