



ABOUT THIS PROJECT

PROJECT NAME: [Roadway Friction Forecasting Using Stationary and Mobile Friction Data](#)

PROJECT NUMBER: TPF-5(435)

PROJECT FUNDING PROGRAM:
Aurora program, a 19-state collaborative research effort

PROJECTED END DATE: September 2026

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RESEARCH IN PROGRESS

Developing a model for improving roadway friction forecasts

Adequate friction between a vehicle's tires and a pavement surface allows a driver to control a vehicle on the road. Inclement weather plays a role in decreasing roadway friction. To alert drivers to dangerous road conditions, many transportation agencies use stationary and mobile roadway friction measurement devices to collect information about road surfaces that is used in friction forecasting models. But these devices are not located everywhere, which results in gaps in friction data.

More mobile friction measurement data is becoming available from agency fleet vehicles and private vehicles, which improves forecast modeling. Improved modeling enhances agency planning for inclement weather, informing variable

message signage, variable speed limit adjustments and estimates of friction conditions.

This project will collect friction measurements from stationary and mobile sources to compare with concurrent weather conditions and use with artificial intelligence to develop a predictive roadway friction model. "If we can get improved friction forecasts, we can better inform drivers when conditions become significantly dangerous," explained Tina Greenfield, road weather information system coordinator at Iowa DOT. "By providing drivers with more accurate and timely alerts about dangerous driving conditions, drivers can slow down and hopefully reduce the number of crashes on icy and slick roads."

In Year 1, researchers will collect friction and weather data to develop a friction forecasting model. Then they will test the model the following winter season. An analysis of project results will compare the forecasting quality of stationary and mobile friction device locations.

The research is expected to conclude in September 2026.

To learn more about this project and subscribe to updates, visit [Idea #3499](#).

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