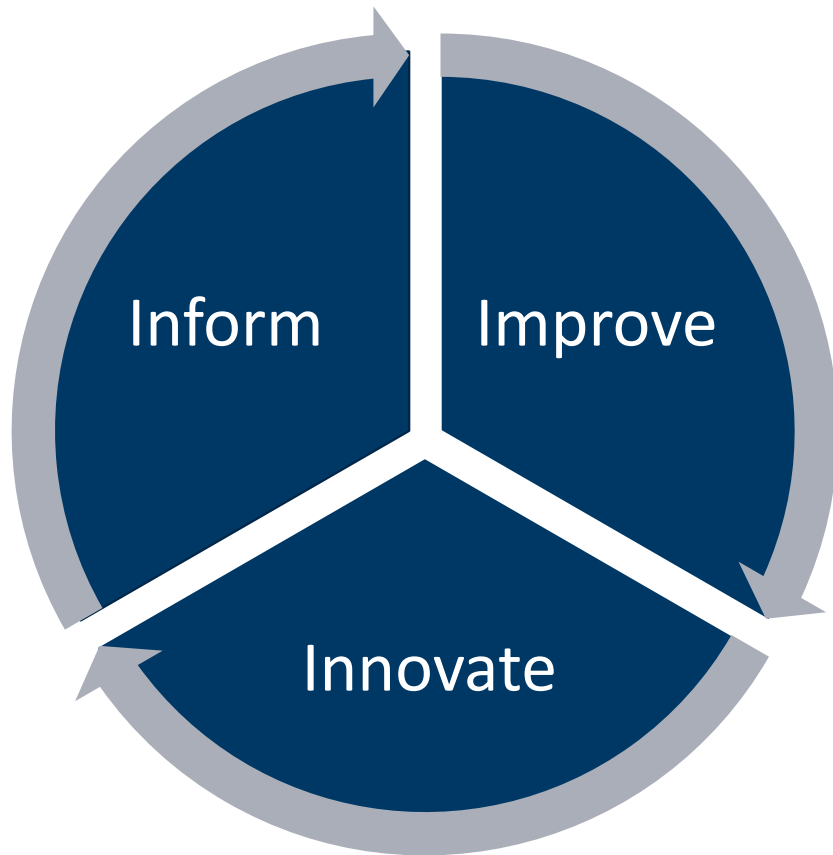# Research

Katie Walker | Director, Research & Innovation

Informing, Improving and Innovating Transportation in Minnesota

Inform to make better decisions

Improve our process, services & products to better serve our end users

Innovate to solve complex problems creating value for our organization and customers

Strategic Research Priorities

ADVANCING EQUITY

ASSET MANAGEMENT

CLIMATE CHANGE & ENVIRONMENT

INNOVATION & FUTURE NEEDS

SAFETY

We conduct need-inspired applied transportation research to maximize the health of people, the environment, and the economy.

By the Numbers

Using Data to Bolster Minnesota's Freight Infrastructure

Report 2023-02

Identified best practices, data set and other tools for freight transportation management to advance development of a tool to better optimize freight transport.

Evaluating New Materials to Strengthen Bridge Decks

Report 2023-13

A four-year evaluation comparing performance of traditional steel rebar with a nonmetallic alternative for reinforcing concrete bridge decks. The glass fiber-reinforced polymer (GFRP), which resists corrosion and has a longer service life, was found to perform as well as traditional steel.

Revitalizing Communities Through Innovative Right of Way Projects

Report 2023-28

Compilation of creative right of way projects, identifying lesson learned for developing community areas with multiple social benefits to facilitate equitable outcomes from infrastructure projects.

How Gender and Other Identities Impact Travel Needs and Experiences

Report 2023-10

Research included two-week travel diaries of participants across gender and social identities to reveal specific needs and barriers that potentially impact their subjective well-being. Findings support development of equitable and inclusive transportation policy and planning.

Supporting Snowplow Operators with Lane Guidance System

Report 2023-27

Working with plow drivers over two winter seasons, researchers refined a system that provides visible feedback on the truck's position in a lane and alerts drivers to upcoming obstacles. MnDOT is moving forward to enhance the system, explore production options and implement the system statewide.

Adapting Stormwater Infrastructure for More Severe Storms

Report 2023-21

Evaluation of stormwater infrastructure capacity scenarios found that stormwater ponds and diverting stormwater to infiltrate vegetated areas were among the most promising practices. MnDOT will continue to evaluate additional stormwater management strategies to ensure capacity that will accommodate future storm predictions and ongoing development throughout the state.

FY23 Research At-A-Glance

https://www.dot.state.mn.us/research/annual-reports.html

Thank You!

Katie Walker

Katie.walker@state.mn.us