



Manufacturers' Perspectives on Minnesota's Transportation System

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Project overview

Gather input from manufacturers and shippers to inform MnDOT's regional and statewide work

- ▶ Understand individual and aggregate business perspectives and priorities for transportation
- ▶ Build relationships, to better align the system to shippers' needs
- ▶ Support continuous improvement at MnDOT with on-going input from these customers

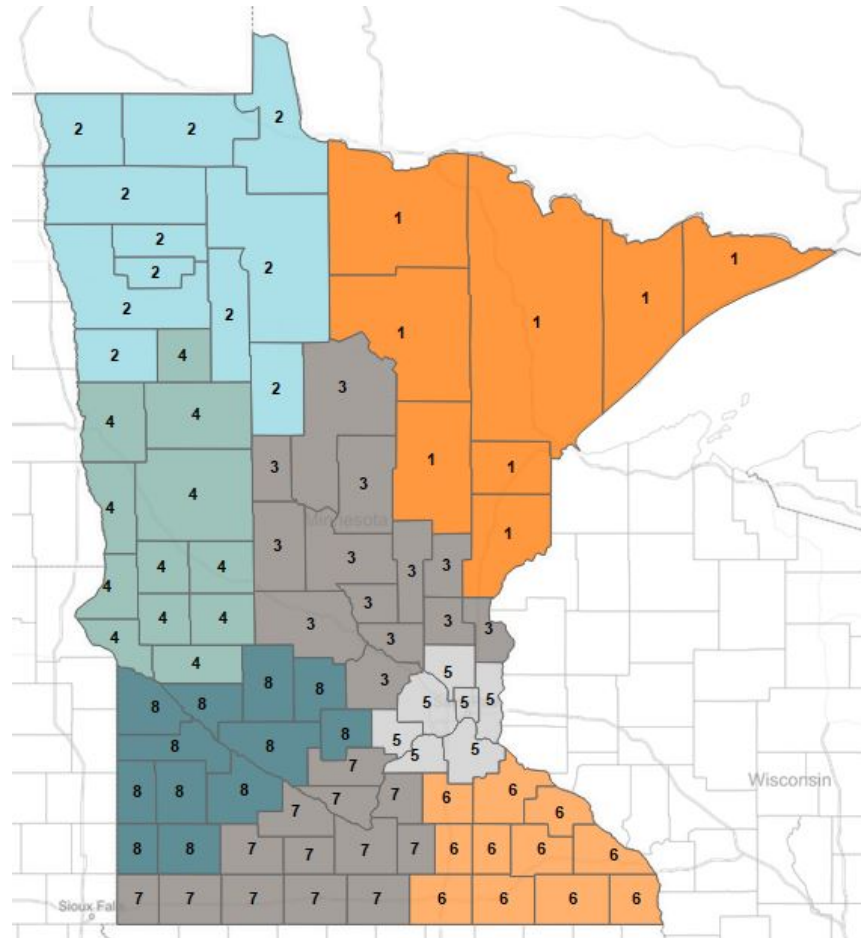
Statewide, region by region

Completed projects
in MnDOT Districts
2, 4, 8 and almost 1

Interviewed more than
300 manufacturers, carriers
and other businesses

Face-to-face interviews,
on-site

MnDOT interview teams



Qualitative, structured interviews

Infrastructure

- Pavement
- Shoulders
- Intersections
- Acceleration and passing lanes

Maintenance & Operations

- Snow and ice
- Traffic peaks

Communications

Policy and Permitting

Safety



Sample comments

Smooth pavement is a major concern, rough roads can cause maintenance problems and product damage. Hwy 59 from Erskine to Winger is rough. Any gaps in the pavement really pound the truck.

Weather is by far our most consistent challenge. MnDOT's ability to quickly remove snow and ice makes a huge impact.

Shortage of rest areas ... This is especially important because of the new logbook regulations. We need to find places to rest/sleep.

Pavement quality

Smooth pavement is important to prevent:

- ▶ Truck / equipment damage
- ▶ Driver fatigue
- ▶ Product damage (e.g., breakage, scratches, dents)
 - Compressors
 - Machine components
 - Electronics, gaming equipment, other fragile products
 - Livestock, food products
 - Garage doors
 - Fenders
 - Custom-made cabinets, granite countertops



Lanes and shoulders

Acceleration, turning, passing and bypass lanes preferred for safety and convenience

Wide / paved shoulders are perceived as a crucial safety feature

To accommodate wide loads, place rumble strips outside of fog lines



Additional content areas

- Intersections
- Roundabouts
- Signage



Snow and ice removal

Identified specific areas of concern for ice and blowing snow

Some requests to plow roads thoroughly or earlier in the morning

Important to know about shift changes and major input / output movement

2-3 shifts, employees driving longer distances



Road construction

Well-managed road construction project experience:

- Feeling well-informed
- Good signage
- Traffic management
- Few delays

Timing of projects and delays caused by detours:

- All at once (not in sections year after year)
- Only close lanes when actively working
- Work at night (or not)

Coordination with local jurisdictions / projects

Keep in mind OS loads when designating detours

Communication

Businesses that use 511 value the information provided

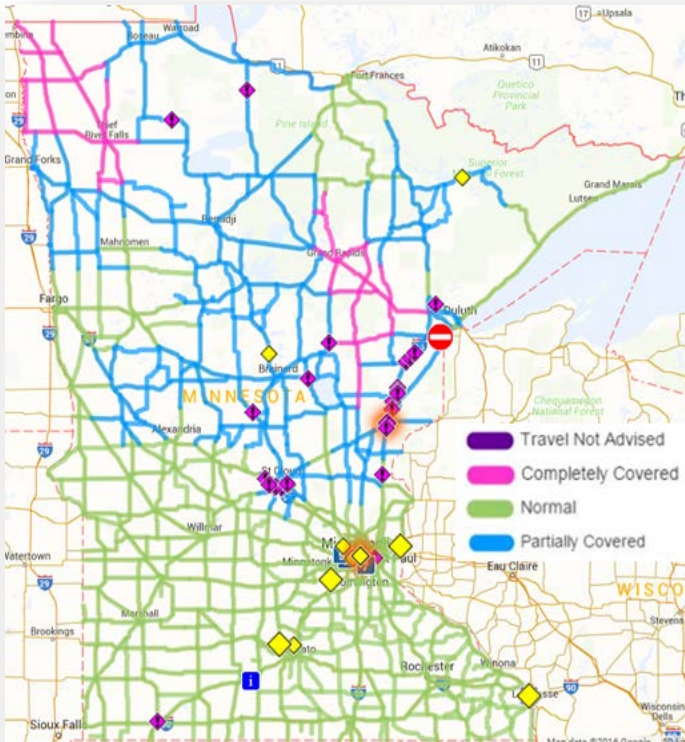
Requests included:

Information on 511 be updated as often as possible, including nights and weekends during inclement weather

Provide estimates on re-openings

Increased linkages with counties and bordering states' information

Provide cameras in more areas



Other findings

- Transit options that align with shift start / end times needed
- Congestion, mainly during shift changes and school start / end
- Intermodal transportation:
 - Rail is crucial to some businesses
 - Businesses using rail cited challenges or barriers to use – access and cost
 - Uses for air not limited to shipping – businesses fly material experts, people to repair equipment, and customers



Results: How we work

Confirmation that planning processes identify many of the improvements that businesses are seeking

Changed construction planning process in southwest Minnesota to allow more lead time for shippers to figure out alternative routes

Added businesses to districts' media distribution list for road condition updates

Improvement input: 511; permitting process; potentially pavement quality / winter analysis

Results: Business-specific

Incorporated a new pedestrian crosswalk
Into existing highway construction project
near Shooting Star Casino



Working with the City of Bagley to improve
TEAM Industries' facility access, through a
wider right-turn lane



Coordinating plowing schedule with Anderson Fabrics in
Blackduck, to accommodate their early morning shift change

A machine shop in Parkers Prairie requested a right-turn lane
due to traffic volume and truck traffic; it was added to a
Complete Streets project in 2016

Results: Improving safety

MnDOT engaged businesses that use TH 23 in the southwest region about placement of 10 bypass lanes, to allow safer passing

MnDOT worked with shippers to identify 17 locations in the northwest region, where reflective signs were placed to improve safety around curves

Northeast region will review how crash data is analyzed as it pertains to intersection analysis



Conclusions

Relatively low-cost changes can have significant impact on business costs

Business preferences can vary depending on what they do and where they are

Low-cost method to optimize freight movement

Directly connects MnDOT's planning and budgeting to business and community needs



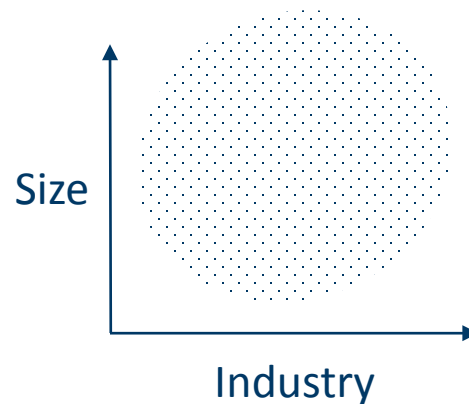
Implications for Metro project

Will we hear about the high-value / low-cost opportunities from Metro-based businesses?

Scoping

- Manufacturers only or also distributors and other freight?

- Sampling



- Location



- What else?

