Manufacturers’ Perspectives on Minnesota’s Transportation System

Western Minnesota

November 2016
Project Overview

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

- Understand 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
METHOD OLOGY
Statewide, region by region

Completed projects in MnDOT Districts 2, 4 and 8

Interviewed approx. 250 manufacturers, carriers and other businesses
Business Selection: Industry Cluster Analysis

Industries that bring economic resources and stable, well-paying jobs into regions:

- Reference USA database to generate business lists within industry clusters
- MnDOT staff and economic development organizations also recommended businesses to interview
- In partnership with University of Minnesota/SLPP, Extension Service

![Businesses](image-url)
## Industry Clusters

<table>
<thead>
<tr>
<th>Industry Cluster</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Production Technology and Heavy Machinery</td>
<td>21</td>
</tr>
<tr>
<td>Distribution and Electronic Commerce</td>
<td>18</td>
</tr>
<tr>
<td>Food Processing</td>
<td>14</td>
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<tr>
<td>Wood Products</td>
<td>12</td>
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<tr>
<td>Printing Services</td>
<td>8</td>
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<tr>
<td>Recreational and Small Electronic Goods</td>
<td>6</td>
</tr>
<tr>
<td>Heavy Construction Services</td>
<td>6</td>
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<tr>
<td>Furniture</td>
<td>6</td>
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</tbody>
</table>
Countries that western Minnesota businesses ship to include Australia, Brazil, Canada, China, Finland, France, Germany, Germany, India, Ireland, Italy, Japan, Korea, Mexico, Poland, Portugal, Russia, Saudi Arabia, South Africa, Spain, Switzerland, Thailand, and Ukraine.
Data collection model

Cross-organization interview teams

- MnDOT District and Freight/Permitting Office engineers, planners, and others
- Local economic development organizations
- University of Minnesota SLPP and Extension
- Management Analysis & Development/MMB

250+ businesses interviewed at their site by MnDOT staff
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.
FINDINGS
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.
Intersections

Advance warning signs, other lighted or flashing signals preferred

Stoplights important for trucks entering high-speed corridors

Anywhere there is a stop light in the county, there needs to be an advance warning light. Especially in the winter, they help you make better decisions. It would help save lives.
Roundabouts: Mixed reviews

Some roundabouts too narrow; prefer flattened curves

Concerns from various haulers, not just oversized

However, fewer stoplights preferred – reduces complete stops and starts
Various signage requests, such as:

- Directional signage to businesses for trucks
  - GPS, Google Maps errors common for some businesses
- Signs for truck traffic—truck routes, bypass routes
- Road designation changes, e.g., from state to county, may need additional signage
- Trucks entering/exiting signs to warn other traffic
- Electronic message boards to communicate road conditions/cautions
- Signs to warn drivers of severe bumps in the road
Snow and Ice Removal

Identified specific areas of concern for ice and blowing snow

Some requests to plow roads more thoroughly or earlier in the morning

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

2–3 shifts, employees driving longer distances
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
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

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 engaging 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
Shooting Star Casino, owned by the White Earth Nation (Anishinaabeg), expressed concern about pedestrians safely crossing Highway 59.

MnDOT will incorporate a new pedestrian crossing into an existing 2017 construction project.
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
Project website
http://www.dot.state.mn.us/ofrw/mps.html