



Manufacturers' Perspectives on Minnesota's Transportation System

August 2016



We all have a stake in **A**  **B**



West-Central Minnesota (D4)

Cities > 5,000: Alexandria, Detroit Lakes, Fergus Falls, Moorhead, Morris

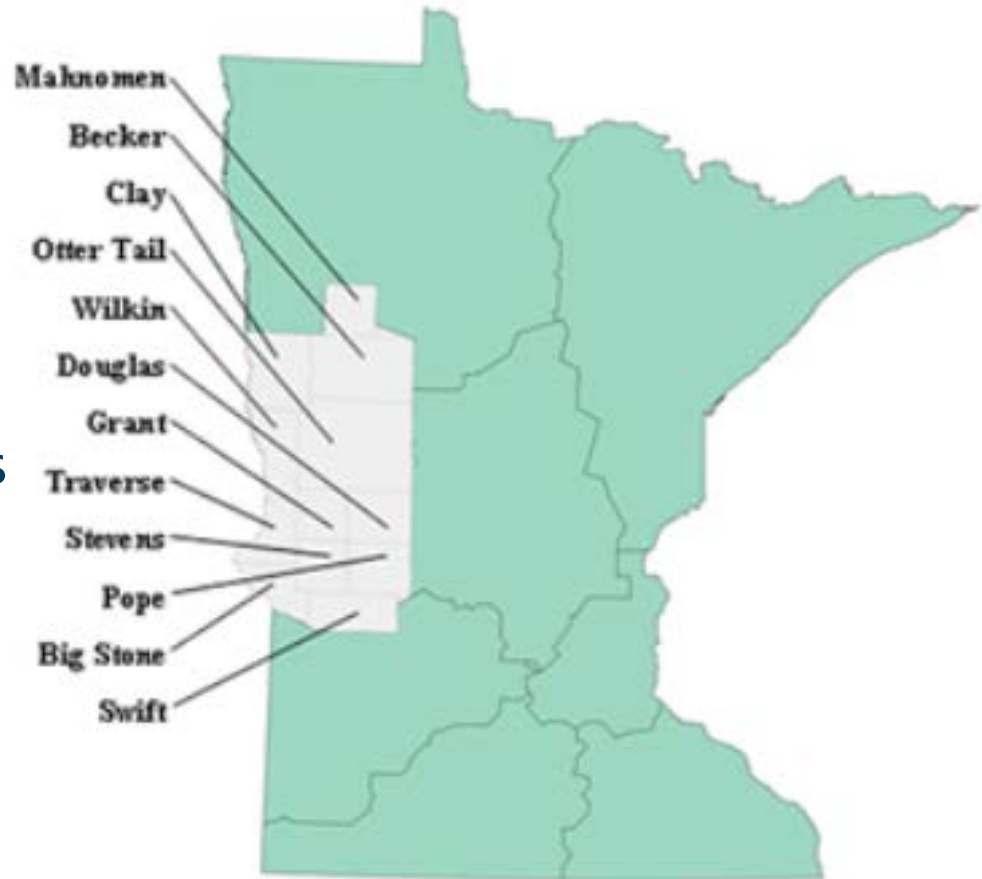
~4% of state population
~12% of state land area,
10K sq. miles

30 annual snow and ice events

3,600 lane miles of roadway

Interstate 94

Major routes: 10, 59, 29

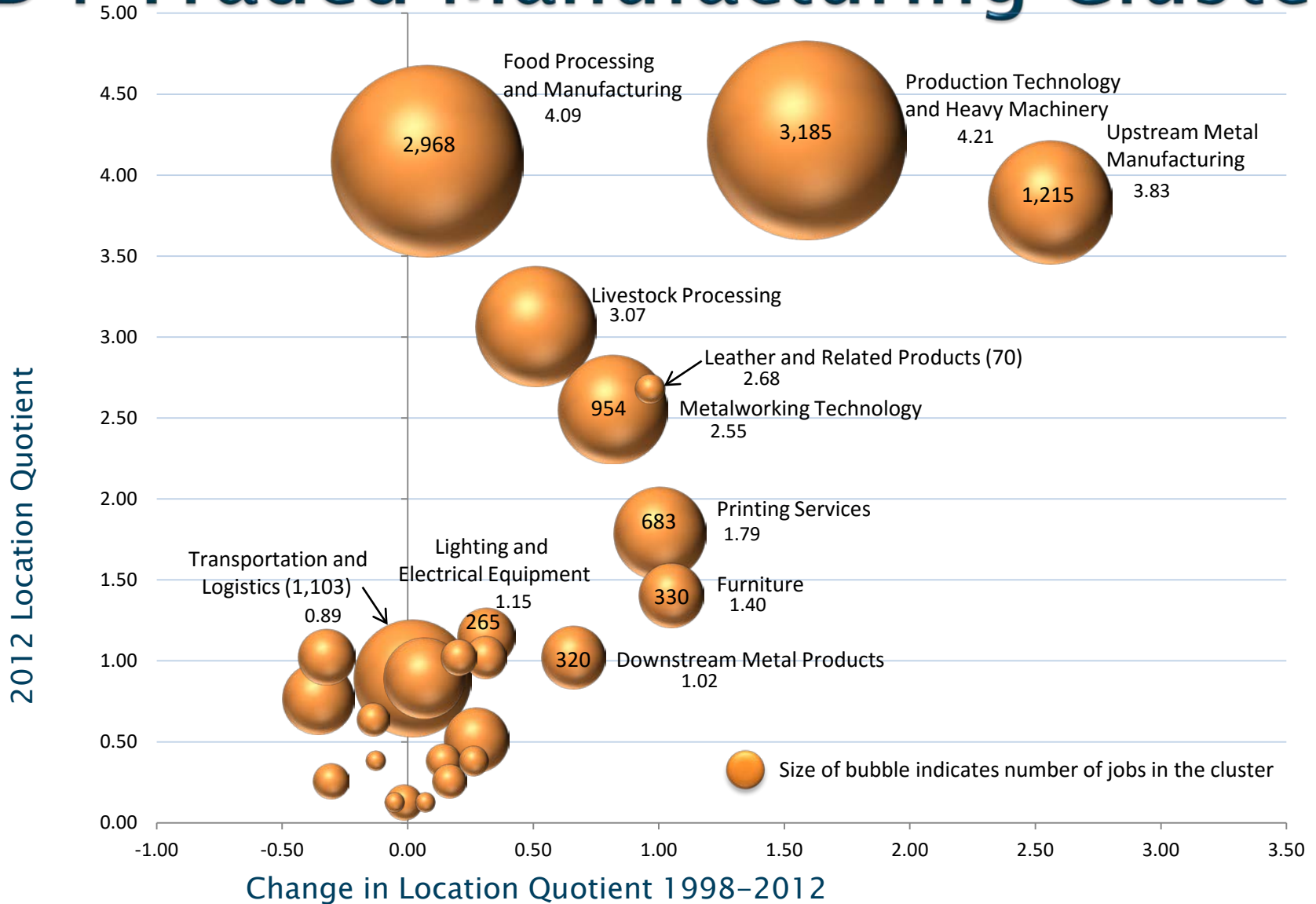


Business Selection – Industry Cluster Analysis

Focused on manufacturers and other businesses that bring economic resources and stable and well-paying jobs *into* the region



D4 Traded Manufacturing Clusters



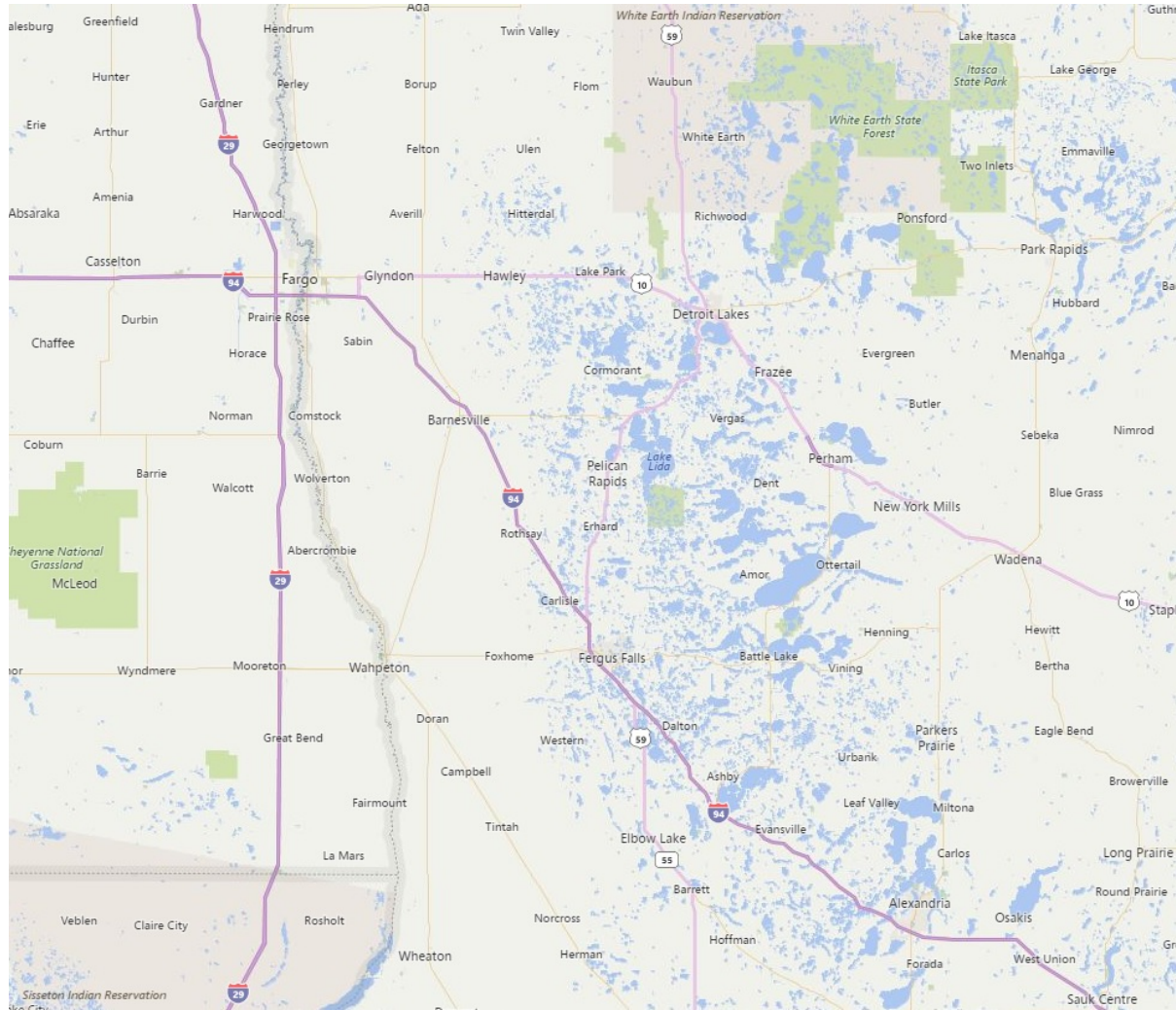
Food processing and tourism included as key industries in west-central Minnesota



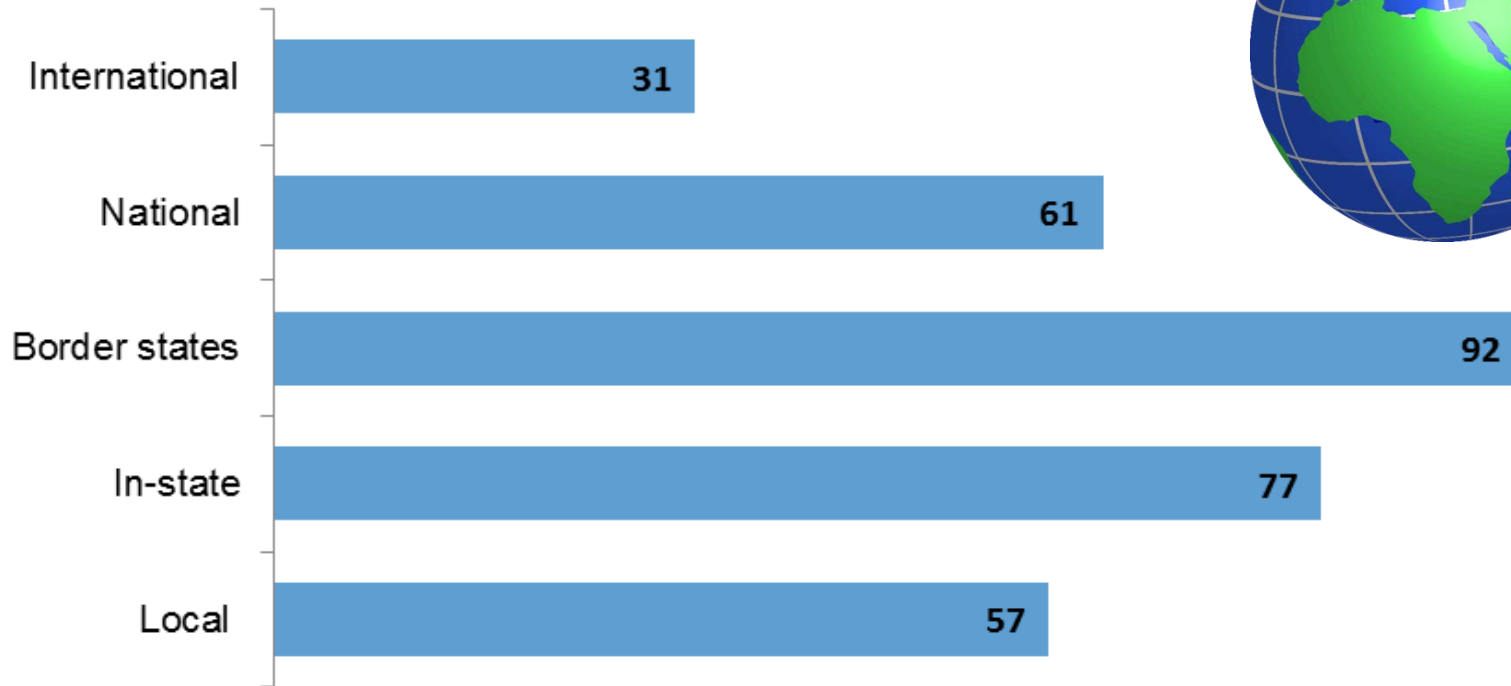
Shooting Star Casino



Lakes



Customer Markets



Countries that D4 businesses ship to include: Brazil, Canada, Chile, China, India, Japan, Jordan, Mexico, Russia, Singapore, Spain, Sudan, Turkey and Turkmenistan.



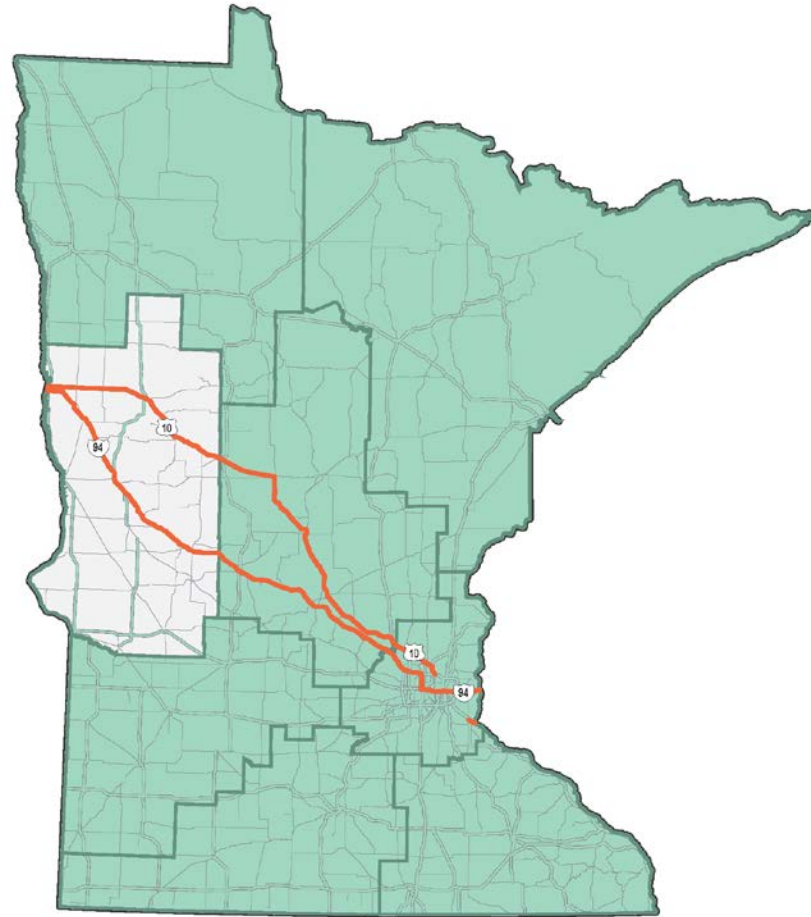
Key Findings

- ▶ Some infrastructure and maintenance requests are already planned or currently underway
- ▶ Proximity to major arteries, such as I-94 and Highway 10, key for many businesses
- ▶ Effects of oil boom with driver shortages and increased rail use

Freight that used to be on rail has moved to trucks



I-94 / Highway 10 Importance



Roundabouts: Mixed reviews

- Some roundabouts too narrow; prefer flattened curves
- Concerns from various haulers, not just oversized

However, fewer stoplights also preferred – reduces complete stops and starts



Signage and Warning Lights

- Advance warning and flashing stop signs
- Signage to identify truck routes, intersections and businesses
- Road designation changes, e.g., from state to county, may need additional signage



Lanes and Shoulders

- Acceleration, turning and passing lanes perceived to add safety and convenience
- Wide, paved shoulders preferred

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



Snow and Ice Removal

Expeditious snow and ice removal important on secondary state and county/local roads

Timing is important during shift changes and major input/output movement



Suggestions for more living snow fences



Road Conditions: Pavement

Smooth pavement important to prevent:

- ▶ Truck equipment damage
- ▶ Product damage (e.g., shaking bolts loose, dings and scratches)
 - Products that get damaged:
 - Compressors
 - Machine components
 - Granite countertops
 - Gaming equipment
 - Boats
 - Concrete culverts



Road Construction

- ▶ Aspects of a well-managed road construction project experience:

Feeling well-informed, good signage, traffic management, few delays

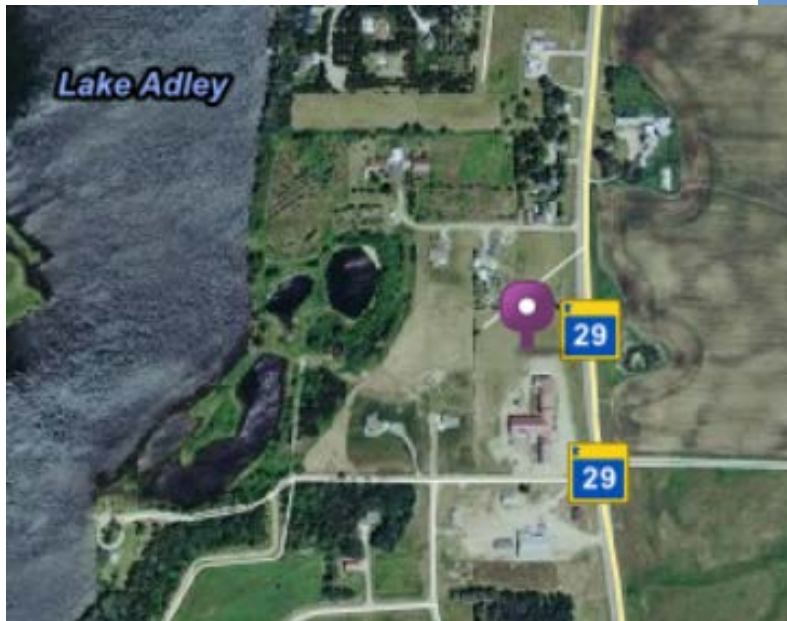
- ▶ Feedback on timing of projects and delays caused by detours:

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



Early Benefits: Parkers Prairie

A machine shop in Parkers Prairie requested a **right-turn lane** due to traffic volume and truck traffic.



26,800 square foot facility in Parkers Prairie, Minnesota

The lane will be added to a 2016 Complete Streets project on Highway 29.



Early Benefits: Ortonville

- “Highway 12 is so narrow without shoulders”
- “Low visibility at four-way stops”
- “Dark corners”
- “Rough”



District 4 staff are reviewing potential solutions such as **widening the pavement by two feet**

Early Benefits: Mahnomen

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

- The transportation system can have a significant impact for just-in-time and other businesses that have very tight margins
- Communication can make a difference; each conversation is unique and worth having
- Low-cost changes can provide significant benefits



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 and Operations

- Snow and ice
- Traffic peaks

▶ Communications

▶ Policy and Permitting

▶ Safety



Sample Feedback

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.”

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

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



MnDOT staff results planning session



Products

- ▶ Qualitative info from user perspective
- ▶ Spreadsheet of location-specific information for internal planning
 - 4-year plan
 - Value is in the specificity; not a research project
- ▶ Larger analysis of main themes, communication document



Results

- ▶ Responses for specific businesses (e.g., turn lanes, signage, plowing schedule)
- ▶ Roadway improvements called out by businesses
 - Many already programmed
- ▶ Systemic
 - 511mn.org
 - Freight input



Conclusion and contacts:

- ▶ Low-cost method to optimize freight movement
- ▶ Connects our planning and budgeting to business and community needs

Contacts

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