

# Minnesota Department of Transportation District 7 Freight Plan

## Working Paper 5: Investment Priorities

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# Table of Contents

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<b>Acronyms and Abbreviations .....</b>	<b>iv</b>
<b>Executive Summary .....</b>	<b>v</b>
<b>1 Freight Project Showcase .....</b>	<b>1</b>
1.1 Infrastructure Projects .....	1
1.2 Plans, Programs, and Operations Changes .....	3
<b>2 Prioritizing Freight Needs and Issues .....</b>	<b>5</b>
2.1 Introduction .....	5
2.2 Process .....	7
2.3 Evaluation .....	8
<b>3 Selection of Gaps and Concepts to Advance to Pre-Feasibility Study.....</b>	<b>23</b>
3.1 Introduction .....	23
3.2 Selecting Project Concepts to Advance to Pre-Feasibility .....	23
<b>4 Conclusion and Next Steps .....</b>	<b>25</b>
<b>Appendix A Identifying Investment Priorities.....</b>	<b>A-1</b>
<b>Appendix B Findings .....</b>	<b>B-1</b>

# Table of Figures

---

Figure 1: US-14 Expansion Area and Configurations	2
Figure 2: Mini Roundabout Review in St. James	3
Figure 3: District 7 Freight Transportation Gaps	6
Figure 4: Categories and Measures for Evaluation	7
Figure 5: Truck Volume Scores	9
Figure 6: Truck Percent of Total Traffic Scores	10
Figure 7: Travel Time Reliability Scores	11
Figure 8: District 7 Project Gaps by Rank	13
Figure 9: District 7's Top 30 Safety Gaps	15
Figure 10: District 7 Safety Gap Locations	17
Figure 11: District 7's Mobility Gaps	18
Figure 12: District 7 Mobility Gap Locations	20
Figure 13: District 7's Top Condition Gaps	21
Figure 14: District 7 Condition Gap Locations	22

# Acronyms and Abbreviations

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Abbreviation	Definition
CSAH	County State Aid Highway
MHFP	Minnesota Highway Freight Program
MnDOT	Minnesota Department of Transportation
TTTR	Truck Travel Time Reliability

# Executive Summary

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The Minnesota Department of Transportation (MnDOT) District 7 consists of 13 counties: Blue Earth, Brown, Cottonwood, Faribault, Jackson, Le Sueur, Martin, Nicollet, Nobles, Rock, Sibley, Waseca, and Watonwan. The District 7 Freight Plan is being created to provide MnDOT with an improved understanding of the freight transportation system in these counties, and information on how local industries use that system. Additionally, the plan identifies the District's freight transportation issues and needs with the goal to help MnDOT incorporate freight considerations into policy and programming decisions.

This Working Paper is the fifth in a series of six Working Papers contributing to the District's Freight Plan and provides information on the priority of unaddressed issues and needs (referred to here as "gaps") that were identified in Working Paper 4. These gaps were evaluated, scored, and ranked based on MnDOT's statewide process for evaluating and ranking district-level freight system projects. This scoring and ranking process produced a ranked list of priority freight needs for District 7 to address, as well as a sub-ranking of gaps where investments could provide the greatest benefits for freight transportation safety, mobility, and infrastructure condition.

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*The District 7 Freight Plan gives MnDOT data and tools to improve freight transportation safety, mobility, and condition in the future.*

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One of the goals of the District 7 Freight Plan is to ensure that District 7's critical freight transportation needs can be addressed by future rounds of freight-specific funding or can be incorporated into ongoing planning and project development work. One potential way to address these critical needs through future funding is to prepare data and information that can be used to support future grant applications for programs like the Minnesota Highway Freight Program (MHFP). Therefore, the MHFP's scoring criteria form the basis of the scoring criteria used in the District 7 Freight Plan's gap scoring and ranking process.

The scoring and ranking process is intended to be a decision-making aid, and not the final decider of which freight issues and needs are most important for District 7. While the gaps discussed in this Working Paper have been scored and ranked, MnDOT District 7 collaborated with key freight stakeholders such as the Advisory Committee and Technical Team to determine which projects would be in the best interest of District 7 to advance to the pre-feasibility assessment stage of this plan. A set of seven gaps or concepts – out of a possible 153 – are being advanced to a pre-feasibility assessment that will produce a conceptual design of possible projects to address the gap and order-of-magnitude construction cost estimates. This pre-feasibility work will also include a screening of [highway names to be inserted after SEH discusses with District 7]. The results of this pre-feasibility work will be presented in Working Paper 6.

# 1 Freight Project Showcase

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## *Key Findings*

District 7 has already made investments to address feedback from freight transportation stakeholders. This chapter showcases some of the freight-related or freight-benefitting projects that District 7 has undertaken in the past or is planning to undertake, including roundabout design adaptations and highway corridor expansions. Projects like these also show how many highway investments provide benefits for both freight transportation and the general public.

## 1.1 Infrastructure Projects

### Four-Lane Highway Expansions

The expansion of some regional highways from two lanes to four lanes was a common theme in feedback for both the Manufacturers' Perspectives study and this freight plan. Many stakeholders mentioned that they prefer to route their trucks along four-lane highways rather than two-lane routes. Respondents felt that four-lane highways have fewer crashes and are easier to navigate when inclement weather such as snow is present. Stakeholders in the 2019 Manufacturers Perspective Study and prior research efforts broadly identified the need for more four-lane roadway sections on US-169, US-14, and MN-60.

#### *MN-60 Expansion*

MN-60 serves as a key cross-district freight link, serving many communities and providing a connection between the Twin Cities area and South Dakota. Given this route's regional and state-wide importance, efforts have been made to further increase the capacity of this route. In 2018, MnDOT completed a four-lane expansion of MN-60 which addressed some gaps in four-lane service. This project focused on improving 19 miles of two-lane sections between Windom and St. James. Notable benefits from the project include better traffic capacity, improved safety with a divided highway design, and improved regional connectivity.

#### *US-14 Expansion*

US-14 is an important freight route for communities in the northern areas of District 7, including New Ulm, Nicollet, Mankato, and Waseca. A four-lane expansion of US-14 between Nicollet and New Ulm will be constructed in 2022 and 2023. As with other four-lane highway expansions, one of the anticipated benefits of this expansion will be improved highway safety, and Figure 1 illustrates the scope of the project and the types of traffic separation that will be implemented. In addition to the creation of a divided highway, other notable safety improvements will include the addition of J-turns at higher-risk at-grade intersections, and some grade-separated interchanges.

Other sections of US-14 have also been expanded thanks to freight-related funding programs. In 2016, an expansion of US-14 from Nicollet to North Mankato was completed. This project was made possible due to a funding award from MnDOT's Corridors of Commerce program.

**Figure 1: US-14 Expansion Area and Configurations**

Source: MnDOT.

## Intersection and Roundabout Improvements

A consistent theme in District 7 and across Minnesota has been the need for properly-designed intersections that can safely accommodate turning and crossing truck traffic. In particular, many trucking stakeholders have expressed concern about the potential implementation of roundabouts and the negative impact that certain roundabout design elements may have on truck traffic. In response, MnDOT has been investing in designing roundabouts with design elements tailored specifically for truck movement, such as low “mountable” curbs or aprons, and sufficient room for turning movements. Some of District 7’s notable intersection work is profiled below:

### **MN-22 and US-169 in St. Peter**

Stakeholders consulted in the Manufacturers’ Perspectives Study, as well as this freight plan effort mentioned multiple concerns about the risk of crashes in the area around the MN-22 and US-169 intersection on the south side of St. Peter. MnDOT will be reconstructing this intersection in 2023 and will be improving traffic signal timing and the geometry of the intersection. Reduced-conflict U-turn intersections will also be implemented at the intersection of MN-99 and US-169. Together, safety investments like these will improve the safety of these intersections for truck traffic as well as the general public.

### **Worthington Roundabouts**

In District 7, stakeholders had noted the need for roundabout reconfiguration at MN-60 and US-59 in Worthington, which was needed to accommodate the movement of large trucks and prevent load shifting.



Reconfiguration of that roundabout and two other MN-60 roundabouts in Worthington was completed in July 2021, and the updated roundabouts include design elements intended to improve truck mobility.

### **St. James Roundabouts**

One challenge for many communities with downtown areas served by trunk highways has been the need to balance residents' needs and the needs of other transportation users with the needs of truck traffic. One example of this challenge is MN-4 in St. James, which provides local truck connections, and is also located in a densely-developed downtown area. To address ongoing road condition issues and local utility issues, MnDOT reconstructed MN-4 through St. James. This project included the creation of two "mini roundabouts" on 1<sup>st</sup> Avenue. These mini-roundabouts have low-set centers that allow long truck trailers to pass over them, ensuring sufficient truck mobility is maintained. Figure 2 provides a visual example of a truck navigating one of the roundabouts. The creation of these two mini roundabouts was supported by a Federal Highway Administration Accelerated Innovation Deployment grant award.

**Figure 2: Mini Roundabout Review in St. James**



Source: MnDOT.

### **MN-4 Roundabout**

In 2018, District 7 installed a roundabout at the intersection of MN-4 and CR-29 north of Sleepy Eye. This former 2-way stop-controlled intersection had been the site of several serious injury and two fatal crashes in the past and was replaced with a roundabout to improve traffic safety. During project development, District 7 design staff incorporated a lower curb height into the roundabout design. This design change was made in response to concerns from trucking firms elsewhere in Minnesota, who had noted that curb heights on transitions to truck aprons were too high on some other roundabouts.

## **1.2 Plans, Programs, and Operations Changes**

### **MnDOT Truck Parking Study**

In 2019, MnDOT completed the Statewide Truck Parking Study. This study was initiated in response to concern about a lack of truck parking across the state, including in the Mankato area. The study included an assessment



of areas where additional truck parking may be needed. Analysis from the study highlighted two opportunities for truck parking improvements pertinent to District:

- Mankato's zip code (56001) has the 13<sup>th</sup> highest demand to capacity ratio out of all zip codes in Minnesota. This ratio compares existing parking demand to existing parking capacity. Mankato's ratio of 10.8 means that the demand for truck parking in Mankato outweighs the capacity by 10.8 times. In this area, there have been concerns about trucks parking in residential areas, or on the shoulders of some highways. MnDOT is continuing work to identify opportunities for truck parking development in the general area.
- The I-90 corridor was identified as a heavy truck corridor with limited parking availability. The study recommended that MnDOT implement a Truck Parking Information Management System along the corridor to allow truck drivers to share parking availability information. Some District 7 stakeholders mentioned a need for additional truck parking in the Worthington area, which aligns with that study's findings and recommendations.

### *Highway 169 Corridor Study*

MnDOT was a partner in a corridor study for US-169 that was led by the Mankato / North Mankato Area Planning Organization. This study examined the need for safety and mobility improvements on US-169 between the MN-60 junction in the south and US-14 in the north. Multiple intersections within this corridor were flagged as potential truck safety concerns by Manufacturers Perspectives interviewees and consultees for this freight plan. The 169 Corridor Study includes preliminary designs for solutions and an action plan for the implementation of safety and mobility improvements that will address many of these documented safety issues.

## 2 Prioritizing Freight Needs and Issues

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### *Key Findings*

The District 7 Freight Plan has generated a large amount of new information about freight transportation issues and needs in the District. With this information, District 7 had the opportunity to conduct further study on a select set of freight gaps, which will undergo pre-engineering feasibility studies. To assist the District with selecting specific gaps, all of the identified freight gaps in District 7 were scored and ranked using an evaluation process used for all district freight plans.

### 2.1 Introduction

An inventory of District 7's freight transportation issues and needs was presented in Working Paper 4. That Working Paper also documents the known State and County-level plans that may address or overlap with issues and needs. Those issues and needs unaddressed by expected investments reported in documents like the State Highway Investment Plan are referred to as "gaps" that could be addressed by future projects. These gaps are shown in Figure 3.

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*Gaps are freight issues and needs that do not overlap with programmed projects.*

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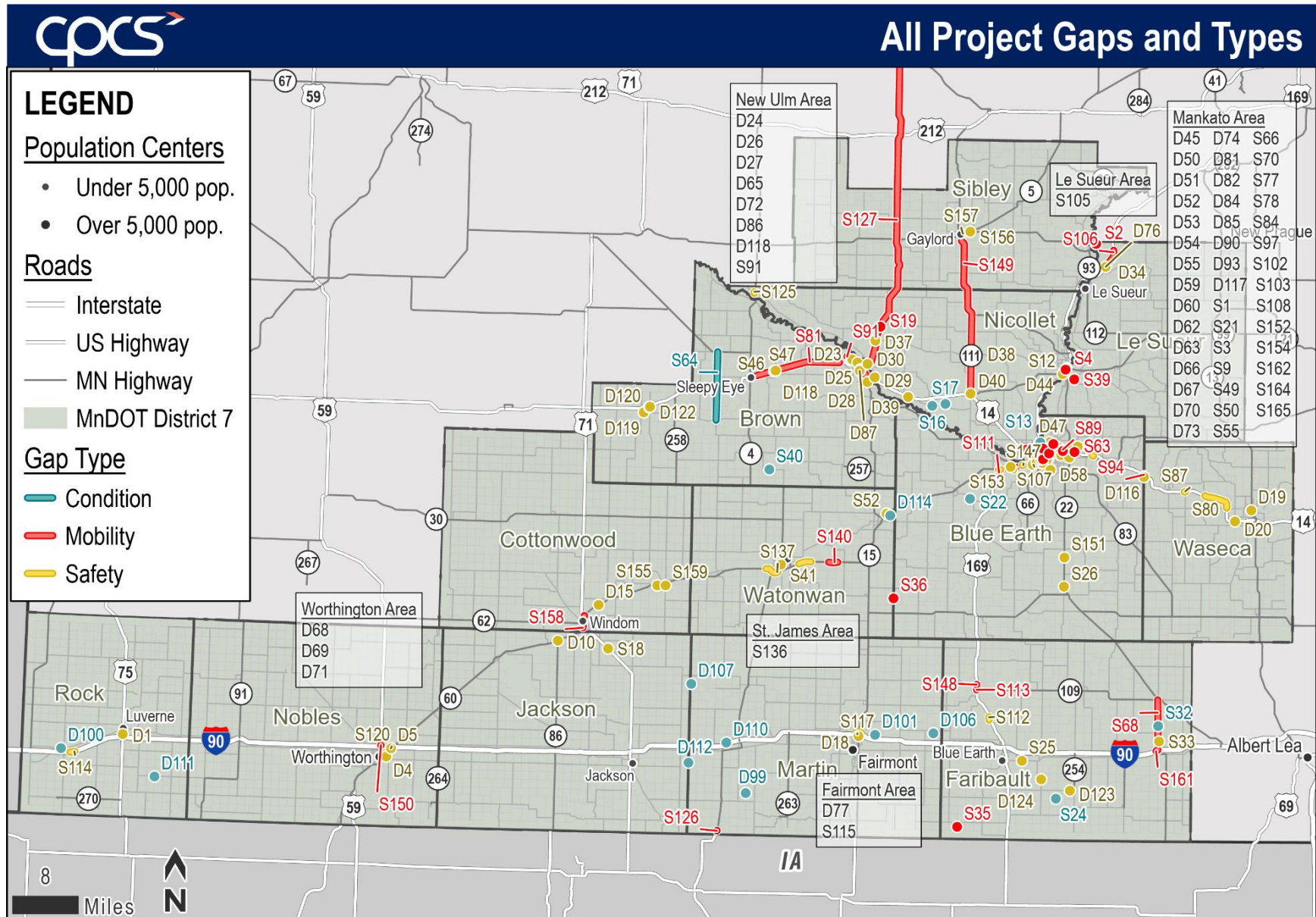
The next step in the planning process was to determine the relative importance of District 7's freight transportation gaps because a small set of gaps would be selected for further study to develop project concepts for potential solutions. Only a small set of gaps can be selected for engineering study, and the scoring and ranking process described below was an important tool for helping the District understand the relative importance of gaps. This ranking information helped inform the district's choices about gaps that required further engineering study.

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*Project concepts are potential solutions to issues or needs identified as gaps, and a small set of gaps were selected for pre-feasibility engineering analysis.*

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Figure 3: District 7 Freight Transportation Gaps



Source: CPCS analysis, 2022.

## 2.2 Process

Based on work conducted in prior District freight plans, MnDOT has created a common process for scoring and ranking freight needs and issues for all District freight plans. This scoring and ranking approach is intended to:

- Evaluate “gaps” or potential project concepts. It is not intended to evaluate well-defined projects.
- Focus on regional issues (i.e. topics known to be important to each District in Greater Minnesota) vs. those topics that may be more important to the Metro District or more urban areas.
- Use as much data as available at the local level, as possible.

A high-level overview of the scoring and ranking process is provided in **Appendix A**, and rankings are provided in **Appendix B**.

### Categories and Measure for Evaluation

Figure 4 lists the performance categories and performance measures used for the scoring and prioritization of District 7’s freight “gaps.” A few notes on this figure and the evaluation process:

- All measures in the figure below are weighted equally.
- A high overall score is intended to identify what “gaps” have the greatest potential to provide freight benefits for District 7. In this Working Paper, this overall score is referred to as “pure ranking.”
- A sub-set of evaluations are conducted to indicate the “gaps” that score well within the sub-categories of safety, mobility, and condition.

**Figure 4: Categories and Measures for Evaluation**

Category	Ranking Score Measure/Performance Indicator	Safety	Mobility	Condition
Truck Activity	HCAADT	X	X	X
	Truck percent (%) of total vehicles	X	X	X
Safety	Addresses a sustained crash location	X		
	A safety issue identified in a district or county safety plan (provide risk rating)	X		
	Addresses at-grade crossing safety risk	X		
Freight Mobility	Truck Travel Time Reliability		X	
	Addresses a vertical clearance restriction		X	X
	Addresses a weight limited bridge		X	X
Condition	Bridge condition rating			X
Stakeholder Need	Y/N if this issue overlaps with a stakeholder identified need	X	X	X

Additional information on the criteria for each category and measure is provided in **Appendix A**.

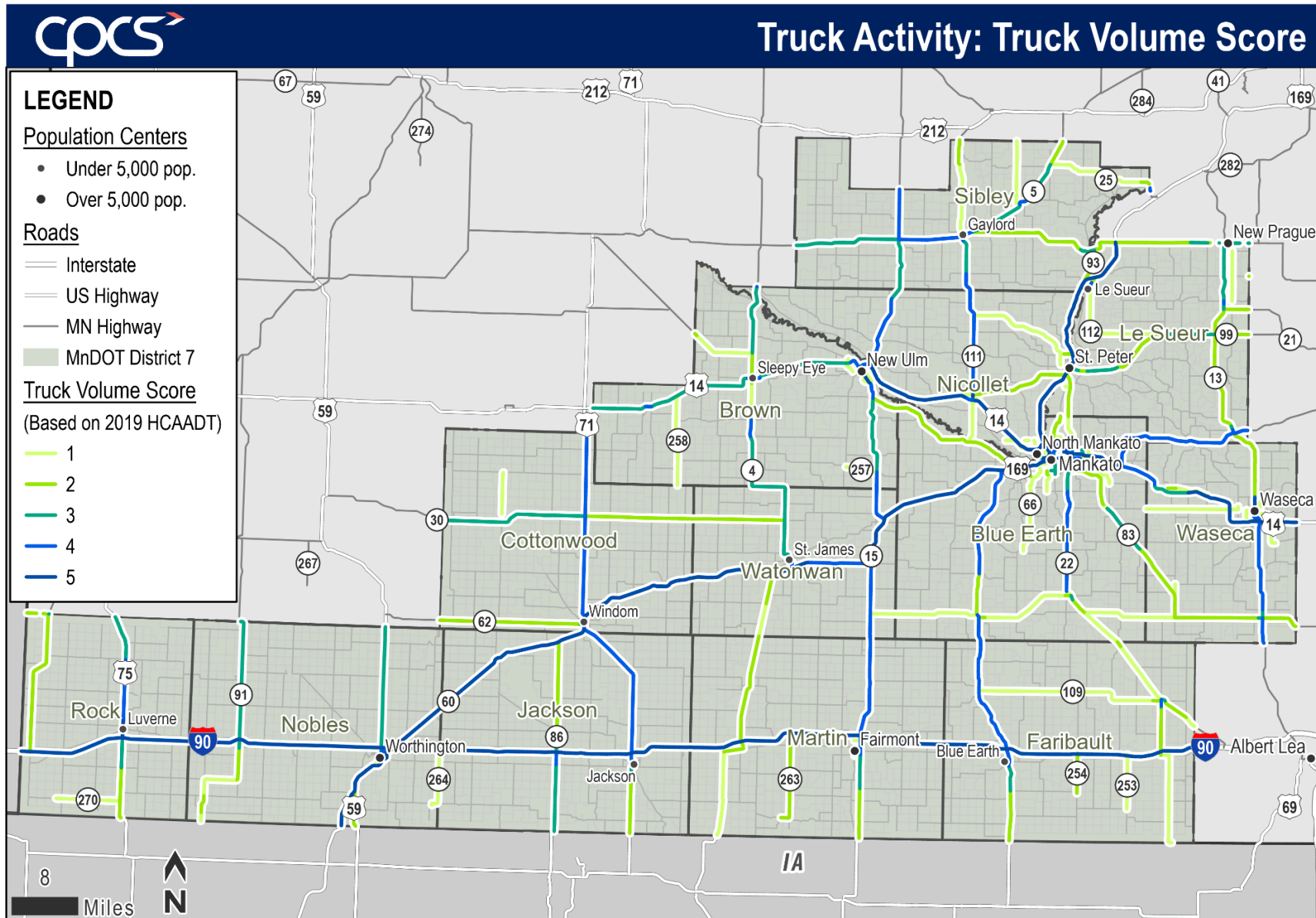
## 2.3 Evaluation

The following provides an overview of the scoring process of the results of each performance indicator listed in Figure 4 and example visualizations for some measures that were broadly applicable to the system's gaps.

- **Truck Volume Score.** Figure 5 shows truck volumes scores. These scores were assigned to all identified gaps where Heavy Commercial Annual Average Daily Traffic counts were available. Where data was not available, a null value was assigned to the gap for this attribute. The primary purpose of this score is to provide context for interpreting other scores.
- **Truck Percent Score.** Figure 6 illustrates the scores assigned to roads based on trucks' share of total traffic volumes. Where data was not available, a null value was assigned to the gap. This score was used as a tiebreaker factor for gaps during the ranking process.
- **Crash Location Score.** Crash location scores were assigned based on the count of truck-involved crashes that overlapped with an area around each gap.
- **Safety Risk Score.** Safety risk scores were assigned to all identified gaps only if the gap was covered by a risk area identified in the District 7 Safety Plan. Gaps that did not overlap with areas that had risk assessments conducted in the Safety Plan received a null score, and this measure was not considered as part of the total possible score for these gaps.
- **Grade Crossing Risk Score.** Grade crossing scores were only assigned to gaps that overlapped with grade crossings. Scores were based on the assigned crossing risk categories provided in MnDOT's prior grade crossing safety risk assessment. This measure was not considered as part of the total possible score for gaps that did not overlap with railroad crossings.
- **Truck Travel Time Reliability (TTTR).** Figure 7 illustrates the TTTR scores calculated for roads in the District based on MnDOT's StreetLight data. As discussed in Working Paper 4, travel time reliability is generally not a concern in the District. For this screening, TTTR scores were assigned based on the percentile each road segment fell into. This measure was not considered as part of the total possible score for gaps that did not have TTTR data available.
- **Bridge Vertical Clearance Score.** Vertical clearance scores were assigned to gaps based on clearance information from the National Bridge Inventory. This measure was only relevant to a small set of gaps in District 7, and was not considered as part of the total possible score for gaps that did not pass beneath bridges.
- **Bridge Operating Score.** Bridge operating scores were assigned to gaps that passed over bridges. This information came from the National Bridge Inventory and reflects the weight capacity of the bridge.
- **Bridge Condition Score.** Bridge condition scores were assigned to gaps identified from MnDOT bridge condition data.



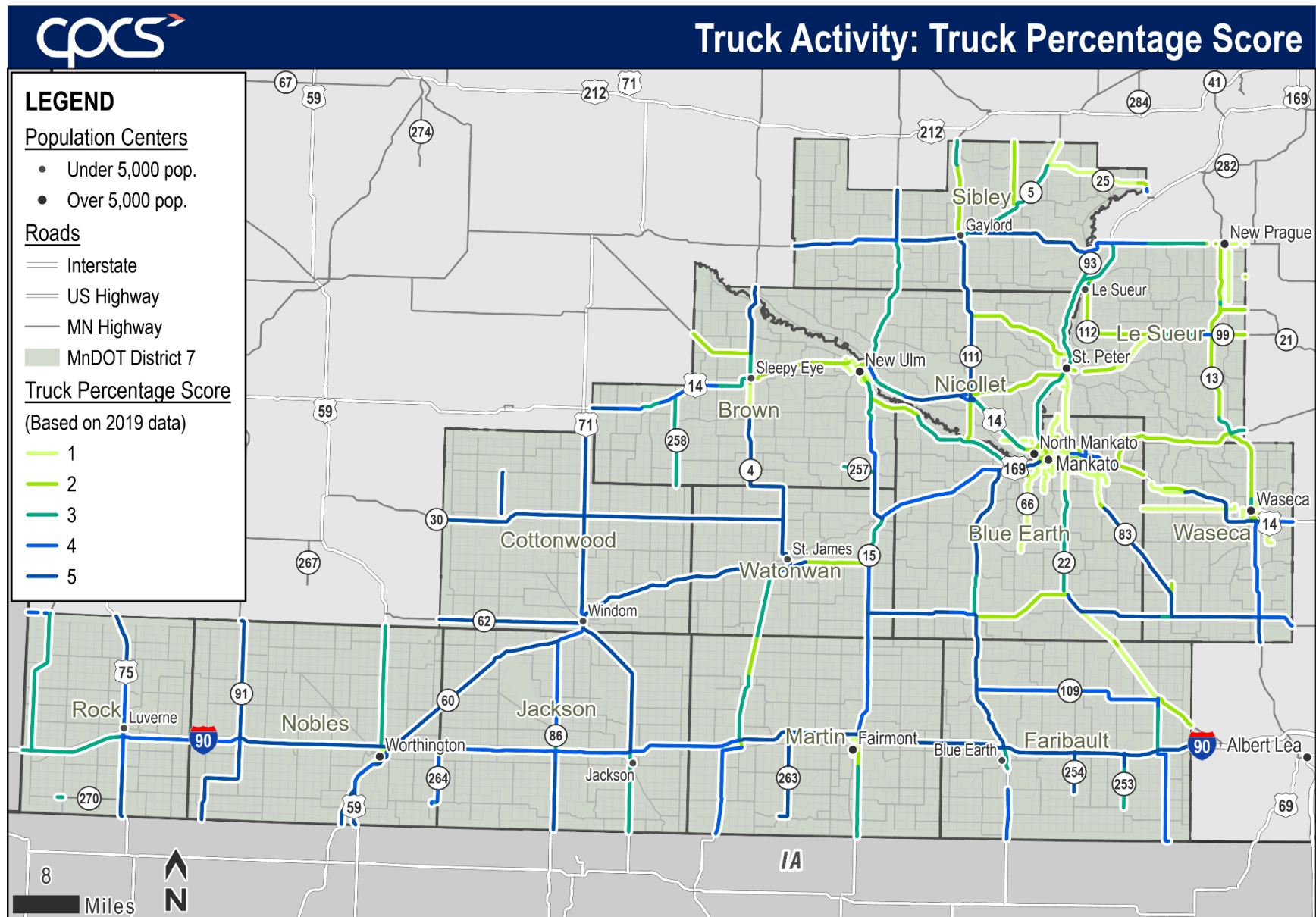
Figure 5: Truck Volume Scores



Source: CPCS analysis of MnDOT data, 2021.

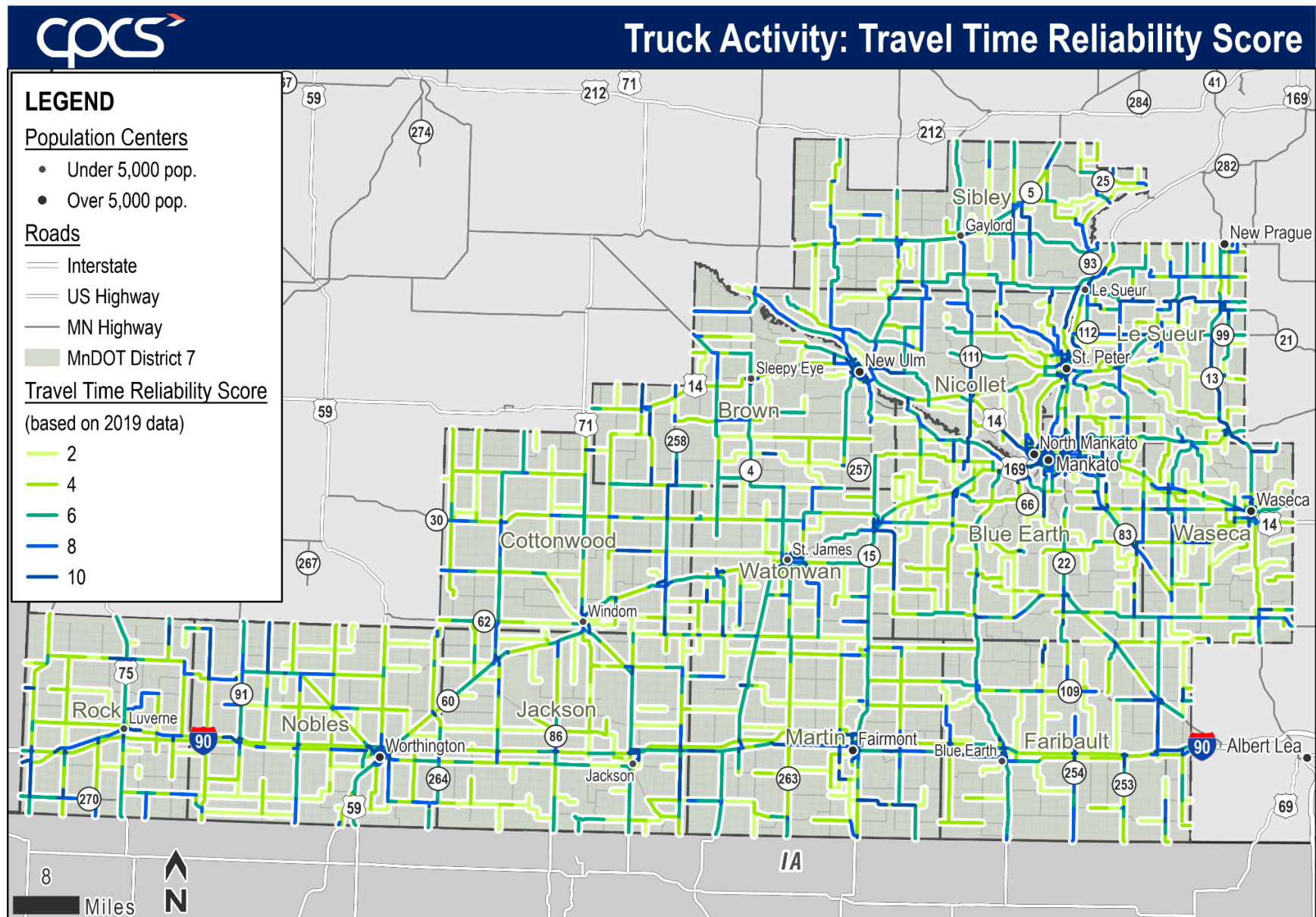


Figure 6: Truck Percent of Total Traffic Scores



Source: CPCS analysis of MnDOT data, 2021.

Figure 7: Travel Time Reliability Scores



Source: CPCS analysis of StreetLight data, 2021.

## Pure Ranking Evaluation

After the relevant scores were assigned to each gap, the sums of relevant scores were used to rank projects. The first ranking calculated was “pure rank” – an evaluation based on *all* available data attributes for each gap. This pure ranking process produces a full ranked list of gaps that factors in all performance considerations for safety, mobility, and condition.

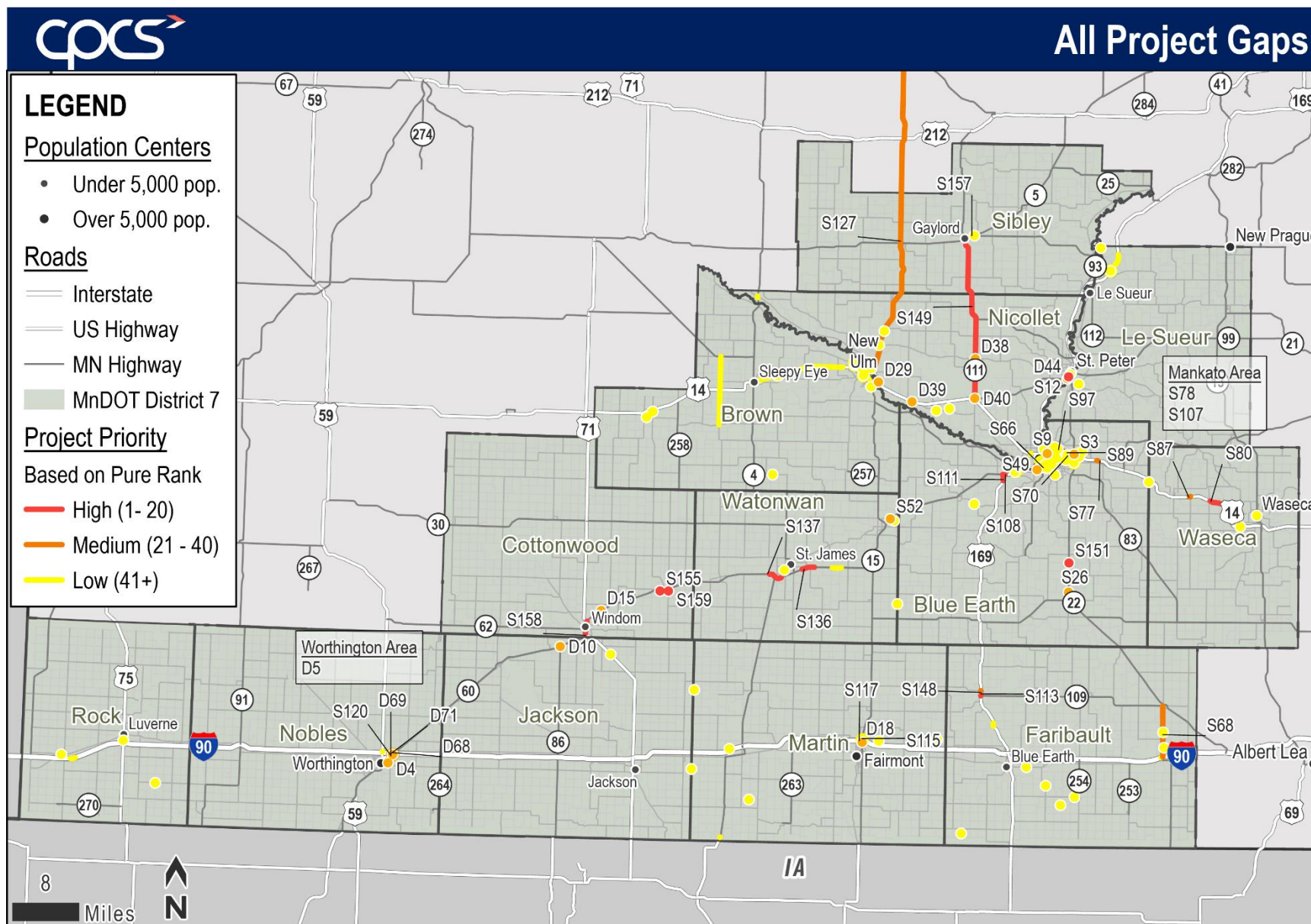
Since pure ranking considers all relevant data for all performance categories, it is simply the total of all relevant scores for each gap, divided by the potential maximum points a gap could have received. It is important to remember that not all gaps have all scores for each of the performance measures. For example, a weight-limited bridge gap is unlikely to have a grade crossing associated with the gap as well, and this gap would not receive a grade crossing safety risk score. However, there are cases where project concepts receive scores for multiple and varied types of measures, and as a result, may receive a higher score. For example, a congested highway segment may also have safety issues present. In turn, they may be ranked higher in the evaluation, depending on the degree of problem associated with the gap’s measures.

**Appendix B** provides a list of the 153 gaps in pure rank order. These gaps are mapped in Figure 8 with top ranked gaps labeled. This list provided the District with a sense of the highest-scoring gaps and helped to establish a general understanding of how the benefits of addressing gaps or project concepts may compare against each other.

It is important to note that the scoring and ranking information created by this process was only used as a decision-making aid and was not the final decider on what gaps would advance for further pre-engineering study. District staff collaborated with the Technical Team and Advisory Committee members to select gaps that advanced for pre-feasibility study.



### Figure 8: District 7 Project Gaps by Rank



Source: CPCS analysis, 2022.

## Evaluation by Project Type or Expected Benefit

In addition to a pure ranking, each gap was assigned a rank based on its performance type: safety, condition, or mobility. A sub-ranking exercise provided information on which gaps, when addressed, may yield the greatest benefit in these three performance areas. The three performance types of safety, condition, and mobility are directly related to goals of the Minnesota Statewide Freight System Plan, were the focus of quantitative analysis conducted in prior District 7 Freight Plan working papers, and are also tied to existing MnDOT funding programs such as the MHFP. When scored within these categories, top safety, mobility, and condition gaps are more clearly identified and are not diluted by being combined with all project types as was done in the pure ranking.

### *Safety-Related Evaluation*

Figure 9 lists the top 30 of the 102 safety gaps that were scored and ranked for this project, and all safety gaps are mapped in Figure 10. The table provides two columns that give context for the rankings:

- **Pure Rank** – as mentioned above, the pure rank reflects the importance of a project relative to all other projects.
- **Safety Rank** – this rank reflects the project’s rank among safety projects only.

Many of these safety gaps are related to intersections where slower-moving trucks must enter, exit, or cross faster-moving highway traffic. These needs and issues were identified in stakeholder consultations, prior research and literature, and analysis of MnDOT safety data.

### *Mobility-Related Evaluation*

Figure 11 lists the 34 mobility-related gaps in District 7, and Figure 12 illustrates the location of mobility-related gaps. Comments about mobility include difficulty turning at some intersections, issues with acceleration on trunk highways, and load limits.

### *Condition-Related Evaluation*

Figure 13 lists District 7’s 17 condition-related gaps, and Figure 14 illustrates the locations of these gaps. Condition was the least-mentioned gap type in District 7, in part because areas of poor condition were often already programmed to be addressed in the State Transportation Improvement Program or county improvement programs.

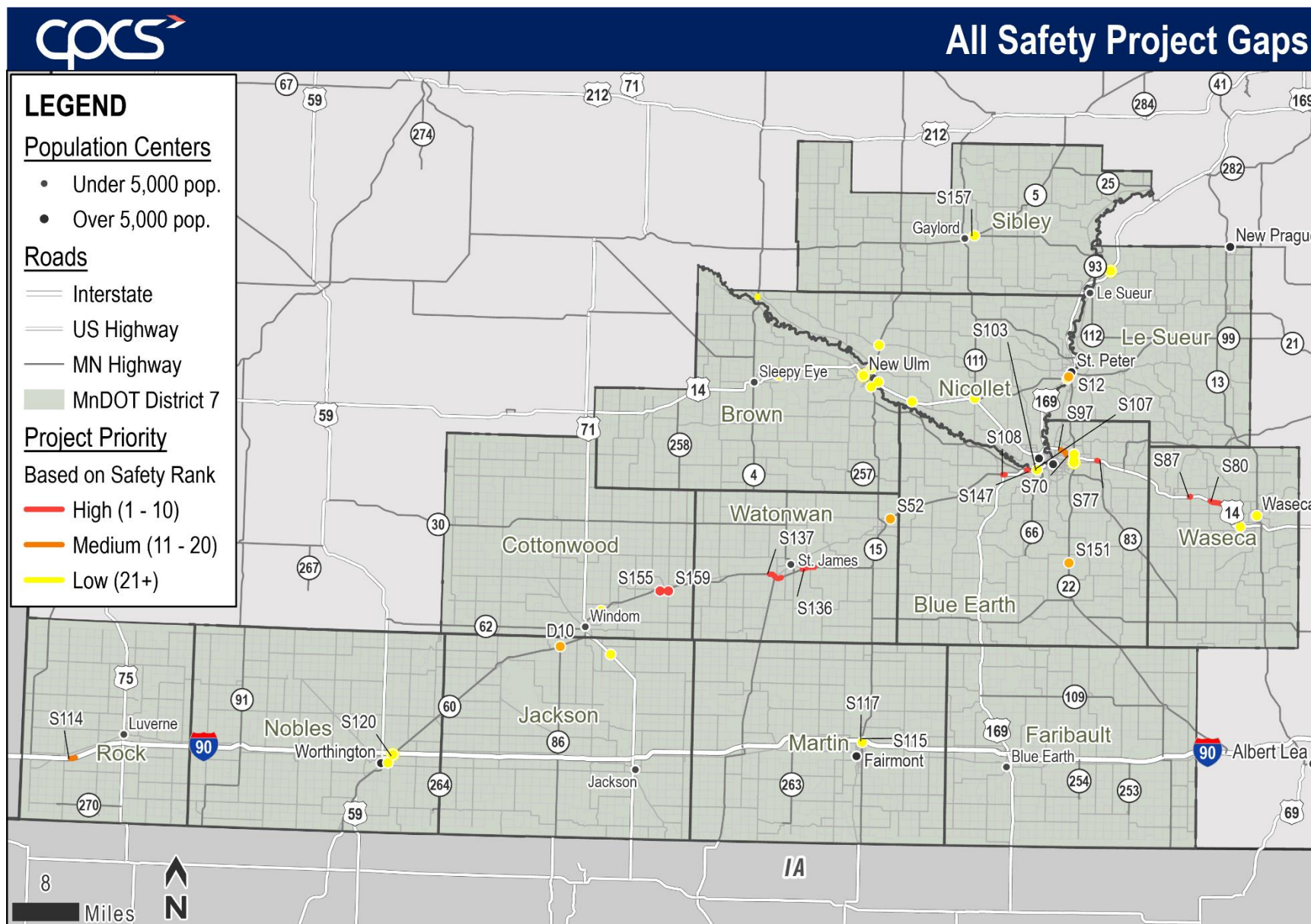
Figure 9: District 7's Top 30 Safety Gaps

Project ID	Information Source	Highway	Pure Rank	Safety Rank	Additional Information
S147	Manufacturer's Survey	MN 60/US 169 at MN 68, Mankato	1	1	Narrow turn lane--concerns were raised that it is not possible to stay between the white lines and make this turn without striking the guardrail in a truck.
S108	Manufacturer's Survey	NB US 169 to WB US 169/MN 60	4	2	Short distance to merge into left lane to get to businesses on N side of Hwy.
S80	Manufacturer's Survey	US 14 west of Waseca by Crystal Valley Coop, where road goes from NB to WB	16	3	Snow issues.
S137	Manufacturer's Survey	MN 60 curve near St. James	15	4	Refreeze/blow ice issues.
S117	Manufacturer's Survey	I-90 at MN 15, Fairmont	2	5	Acceleration lanes are too short for trucks to pick up adequate speed to blend with traffic on I-90.
S159	Other Consultation	TH-60/CSAH-1	6	6	Th 60/CSAH 1 in Mountain Lake has a history of truck crashes.
S155	Other Consultation	MN-60 and 570th Ave	7	7	Westbound acceleration lane needed
S136	Manufacturer's Survey	MN 60 curve near St. James	17	8	Refreeze/blow ice issues.
S77	Manufacturer's Survey	US 14 at Brown CR 10	22	9	No acceleration lanes and no bypass lane at CR 10.
S120	Manufacturer's Survey	MN 60 roundabouts in Worthington	11	10	Bad curb design apron slope - causes load shifts.
S87	Manufacturer's Survey	WB US 14 from Waseca CR 33 (50th St)	34	10	No acceleration lane; has caused accidents.
S52	Other Consultation	MNTH 60	27	11	MN-60 has tough turn, with left turn blocking traffic, and railroad grade crossing.
D10	CMV Crash Data	MNTH 60; MNTH 86	29	12	More than 2 truck crashes at this location between 2018-2019
S114	Manufacturer's Survey	I-90 at curve near Beaver Creek	41	13	Snow trap.
S12	MetroQuest Survey	S Minnesota Ave	18	14	Lots of fast traffic running this red light leading to major traffic collisions.
S157	Other Consultation	TH-5/TH-19	12	15	TH-5 corridor in Gaylord from the 5/19 junction to 4th Street (MN-22) in downtown Gaylord.
S115	Manufacturer's Survey	MN 15 at I-90, Fairmont	13	16	Wind is always blowing.
S97	Manufacturer's Survey	US 14 EB between Riverfront Dr and Victory Dr, Mankato	14	17	Not enough time to move over from truck lane back to left lane.
S103	Manufacturer's Survey	Hawley St at US 169 NB, Mankato	37	18	Acceleration lane too short; challenging to get on US 169.



Project ID	Information Source	Highway	Pure Rank	Safety Rank	Additional Information
S107	Manufacturer's Survey	US 169 at Hawley St/CR 69, Mankato	37	18	In busy traffic, trucks have difficulty moving to left lane to accommodate merging traffic.
S151	Other Consultation	MN-22 and 153rd Street	19	19	Risk of collision for vehicles waiting to turn left, important intersection for local livestock farms
S70	Manufacturer's Survey	Highway 14 in Mankato	20	20	Truckers not familiar with the area have a hard time getting back into the left lane with short notice and doing so before the crest of the hill.
S49	Other Consultation	USTH 169	21	21	Lots of pedestrian activity; hard to merge from CSAH 69 (Hawley Street) to eastbound Hwy 169 and the Riverfront Drive interchange.
D15	CMV Crash Data	MNTH 60; 500th Ave	33	22	More than 2 truck crashes at this location between 2018-2019
D4	CMV Crash Data	USTH 59; MNTH 60	33	22	More than 2 truck crashes at this location between 2018-2019
S156	Other Consultation	TH-5/TH-19	76	23	TH-5/TH-19 intersection with adjacent railroad crossing in Gaylord.
S26	MetroQuest Survey	Victory Dr	36	24	N/A
D18	CMV Crash Data	MNTH 15; Torgerson Dr	24	25	More than 2 truck crashes at this location between 2018-2019
S3	MetroQuest Survey	N Victory Dr	26	26	Pedestrians attempting to cross MN 22 at this intersection from the business park to the east risk their lives crossing 6 lanes of traffic.
S18	MetroQuest Survey	USTH 71	72	27	Very dangerous for people to cross this busy area with three highways connecting together.

### Figure 10: District 7 Safety Gap Locations



Source: CPCS analysis, 2022.

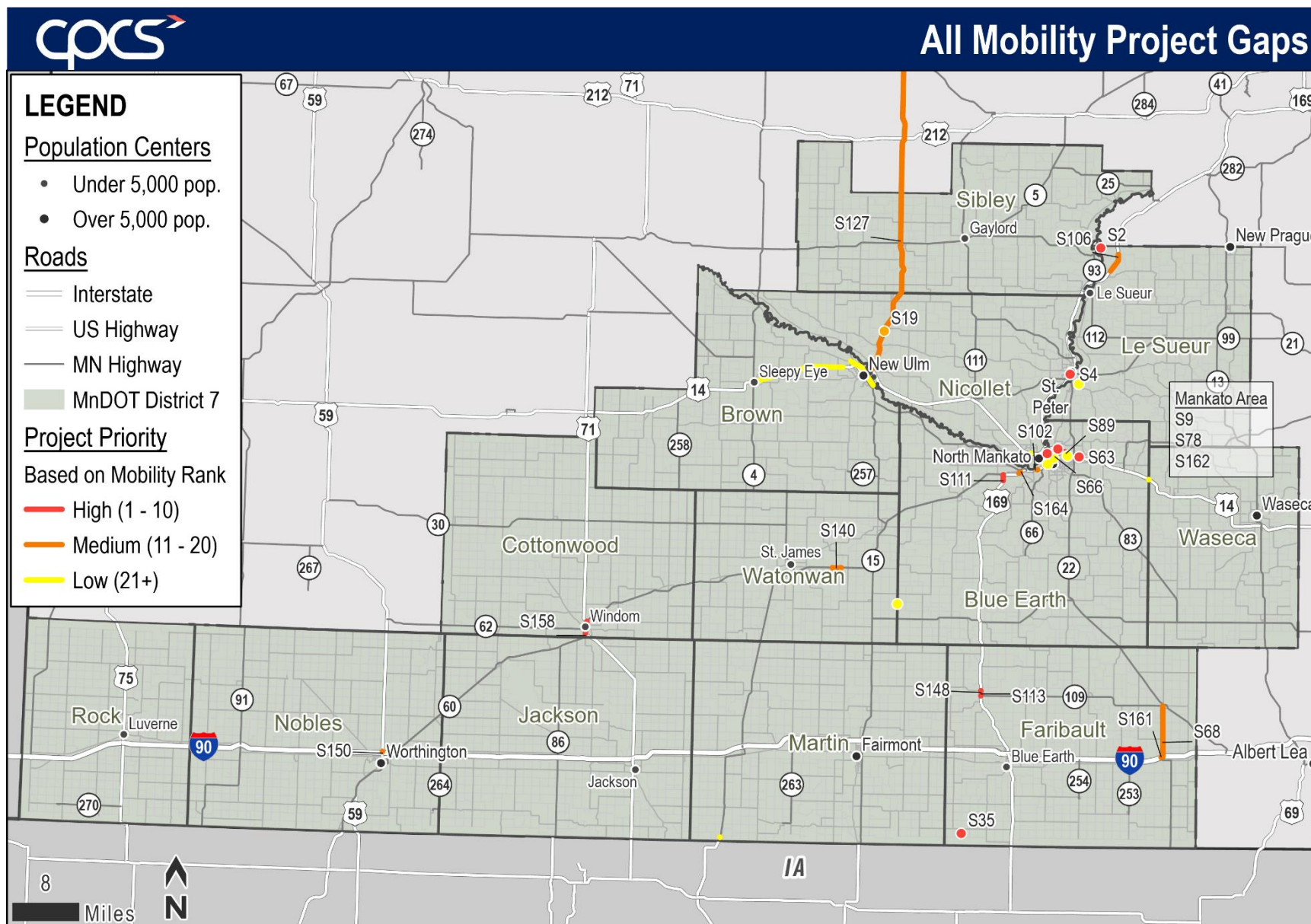
Figure 11: District 7's Mobility Gaps

Project ID	Information Source	Highway	Pure Rank	Mobility Rank	Additional Information
S9	MetroQuest Survey	Webster Ave	32	1	N/A
S2	MetroQuest Survey	MNTH 22	88	1	Rail to highway / road connections are one of the way to reduce wear and tear on highways. By expanding rail infrastructure and constructing rail to highway terminals / connections, we can build a more interconnected system which has some level of freight.
S35	MetroQuest Survey	330th Ave	88	1	N/A
S63	Other Consultation	USTH 14	88	1	Truck parking problem area - congestion with parked trucks.
S149	Manufacturer's Survey	MN 111/MN 22 between Nicollet and Gaylord	3	2	Slow traffic.
S111	Manufacturer's Survey	US 169 S from Mankato	9	3	N/A
S158	Other Consultation	TH-60/TH-71	5	4	Th 60/71 through Windom is a freight bottleneck.
S148	Manufacturer's Survey	US 169 and MN 109 (1st Ave NW) in Blue Earth	38	5	Turn radius and intersection not wide enough.
S113	Manufacturer's Survey	US 169 at MN 109 (6th Ave SE) in Winnebago	10	6	Turn radius and intersection not wide enough.
S78	Manufacturer's Survey	US 14 at Riverfront Dr, Mankato	8	7	Busy intersection(s); tough to turn onto road.
S4	MetroQuest Survey	S Minnesota Ave	52	8	Highway 169 needs to be rerouted around St. Peter next to the river or around town to the west before it gets too expensive. Also in its current position during rush hour trucks are dangerous through town.
S89	Manufacturer's Survey	US 14 near Victory Dr, Mankato	20	9	Trucks hold up traffic, causing bottlenecks.
S162	Other Consultation	US-14	50	10	US-14 bridge over railroad track by ADM in Mankato – this is a bottleneck for rail service development for local biz.
S68	Other Consultation	MNTH 109	23	11	Increase load width limits on 109. It will reduce travel time because OSOW carriers currently have to use TH-22 to access I-90.
S161	Other Consultation	TH-22	59	11	I-90 and Highway 22 ramp – another area with tight ramp or short acceleration and merge area.

Project ID	Information Source	Highway	Pure Rank	Mobility Rank	Additional Information
S164	Other Consultation	US-169	60	12	CR120 and Hwy 169 acceleration lanes
S66	Other Consultation	Riverfront Drive	25	13	Freight transportation needs must be considered with Riverfront Dr project.
S102	Manufacturer's Survey	US 169 at CR 69 (Hawley St), Mankato	68	14	Back-ups in the morning and hard to make the left turn sometimes.
S127	Manufacturer's Survey	MN 15, New Ulm to Hutchinson	30	15	Lack of passing lanes.
S150	Manufacturer's Survey	US 59 at Prairie Dr, Worthington	70	16	Uncontrolled intersection - makes it hard to get in and out.
S84	Manufacturer's Survey	WB US 14 at Riverfront Dr, Mankato	65	17	Vehicles making U-turns make it difficult for trucks to turn.
S19	MetroQuest Survey	MNTH 15	73	18	Needs four lane expansion.
S106	Manufacturer's Survey	US 169 from N of Le Sueur to Twin Cities	42	19	N/A
S140	Manufacturer's Survey	MN 60 at St. James Rest Area	45	20	N/A
S21	MetroQuest Survey	USTH 14	78	21	Congestion in Mankato, Hwy 14 and Hwy 169
S91	Manufacturer's Survey	US 14/MN 68 in New Ulm	48	22	Narrow passing lanes.
S81	Manufacturer's Survey	US 14 from New Ulm to Sleepy Eye	53	23	
S94	Manufacturer's Survey	US 14 at Smiths Mill (W Co Line Rd/CR 37)	62	24	Not enough storage for farmer to stop in median.
S92	Manufacturer's Survey	Lookout Dr over US 14, North Mankato	67	25	Roundabout(s) not big enough.
S39	MetroQuest Survey	Golf Course Rd	87	26	N/A
S126	Manufacturer's Survey	MN 4 S of Dunnell	90	27	Bridge too narrow.
S36	MetroQuest Survey	850th Ave	94	28	N/A
S55	Other Consultation	N Riverfront Dr	97	29	Localized congestion caused by railroad switching operations.
S1	MetroQuest Survey	Poplar St	100	30	N/A



### Figure 12: District 7 Mobility Gap Locations



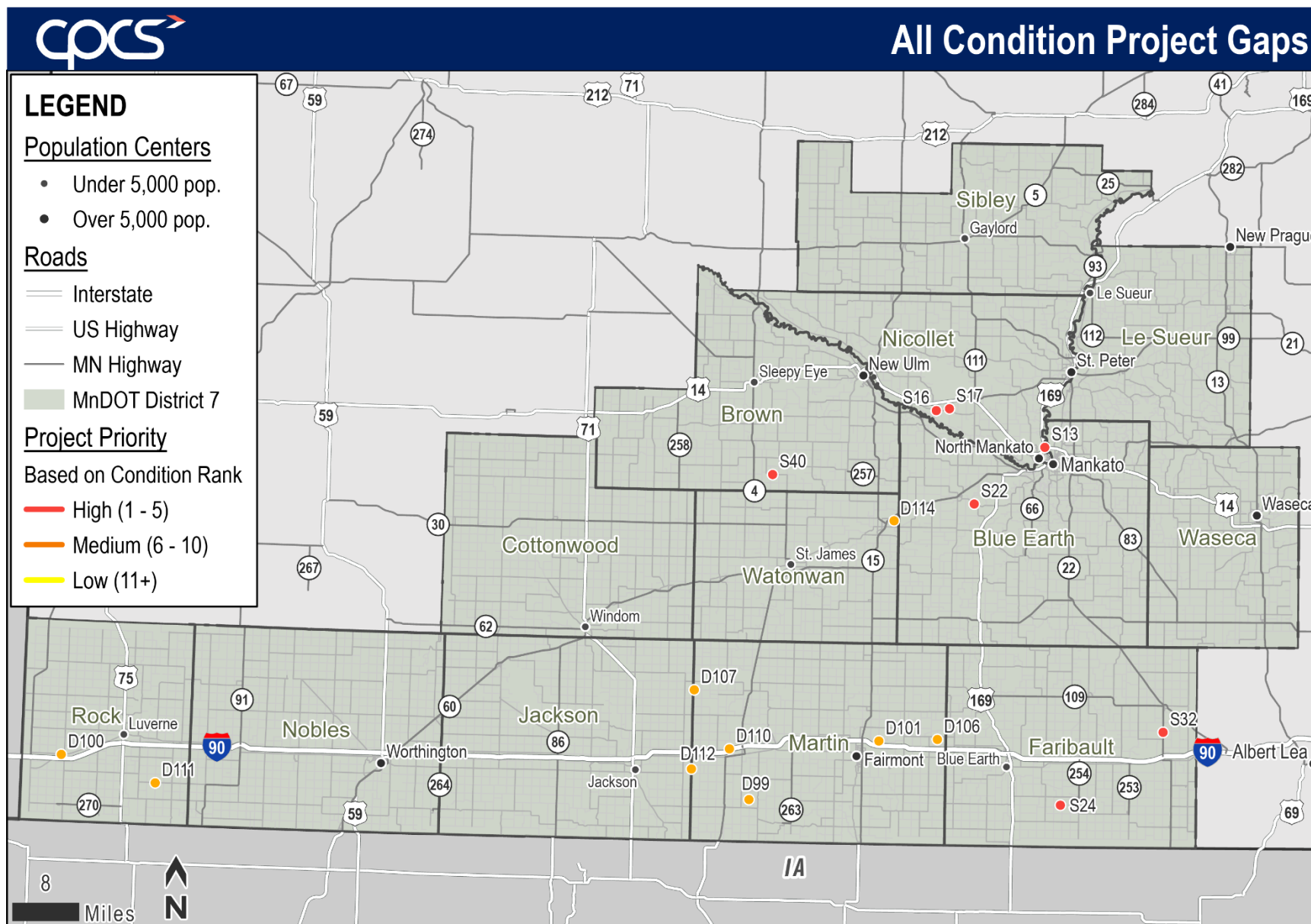
Source: CPCS analysis, 2022.

Figure 13: District 7's Top Condition Gaps

Project ID	Information Source	Highway	Pure Rank	Condition Rank	Additional Information
S17	MetroQuest Survey	491st Ave	88	1	Not safe driving a semi when it's bouncing all over the road!
S24	MetroQuest Survey	60th St	88	1	N/A
S13	MetroQuest Survey	USTH 169	47	2	Very rough condition.
S32	MetroQuest Survey	MNTH 22	59	3	N/A
S64	Other Consultation	Brown County Highway 8	55	4	Needs to be resurfaced.
S22	MetroQuest Survey	Edgewater Rd	89	5	Many poor pavement conditions in general.
S16	MetroQuest Survey	478th St	97	5	Road is in poor shape.
S40	MetroQuest Survey	CSAH 10	97	5	N/A
D101	Bridge Condition Data	'0.6 MI N of Jct TH 90'	101	6	Bridge Condition < 50%
D106	Bridge Condition Data	'0.3 MI S of Jct CSAH 32'	101	6	Bridge Condition < 50%
D107	Bridge Condition Data	'2.8 MI W of Jct CR. 107'	101	6	Bridge Condition < 50%
D112	Bridge Condition Data	'At W CO line'	101	6	Bridge Condition < 50%
D114	Bridge Condition Data	'0.7 MI N of CSAH 3'	101	6	Bridge Condition < 50%
D99	Bridge Condition Data	'0.9 MI E of Jct CSAH 13'	101	6	Bridge Condition < 50%
D100	Bridge Condition Data	'0.2 MI E of Jct CSAH 25'	104	7	Bridge Condition < 50%
D110	Bridge Condition Data	'1.5 MI E of Jct CSAH 7'	104	7	Bridge Condition < 50%
D111	Bridge Condition Data	'0.1 MI S of Jct CSAH 15'	103	8	Bridge Condition < 50%



### Figure 14: District 7 Condition Gap Locations



Source: CPCS analysis, 2022.

## 3 Selection of Gaps and Concepts to Advance to Pre-Feasibility Study

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### Key Findings

In addition to creating new information on freight issues and needs, the District 7 freight plan will help MnDOT address some freight issues and needs through future infrastructure investments. Part of this work includes the creation of additional data or documentation to support the implementation of specific investments to solve high-priority issues and needs. This documentation is also needed to support future grant applications, such as those for the Minnesota Highway Freight Program. Seven high-priority gaps or project concepts have been selected for further development into high-level projects or solutions in the next step of the planning process.

### 3.1 Introduction

One of the purposes of the District 7 Freight Plan is to help the District's important freight transportation issues and needs to be addressed by future rounds of funding. One way to improve issues and needs' ability to be addressed is to prepare data and information about the types of solutions and level of effort needed to solve top problems. This effort includes developing gaps or project concepts into more-clear projects or solutions so that these more-clear projects and solutions can be scored and considered when future investment decisions are made.

This chapter describes the process used to select a small set of gaps or project concepts to pre-feasibility evaluation. This pre-feasibility work will include the conceptual design of one or more projects or solutions to address a gap or project concept and order of magnitude construction cost estimates. This pre-feasibility process will also screen for high-level environmental issues, right-of-way issues, or other conflicts that could arise during the development of solutions.

### 3.2 Selecting Project Concepts to Advance to Pre-Feasibility

A list of the 153 gaps and project concepts that were scored and ranked in District 7 is provided in **Appendix B**. This listing was used as the basis for determining which projects would be carried forward into Task 6 for evaluation. The process for selecting the priority projects involved a combination of internal and external consultation among District 7 freight stakeholders, and included the following steps:

- Gaps and project concepts were scored and ranked according to the scoring processes described in Chapter 2.
- District staff reviewed the prioritized lists and developed an initial list of gaps and concepts for further study. Staff also removed gaps or concepts that had already been studied or were expected to be studied in upcoming plans.
- Maps and lists of top 30 pure rank projects, along with the District's initial "shortlist" were presented to and reviewed by the Technical Team and Advisory Committee. These groups provided feedback on additional freight needs and issues that could be considered for pre-feasibility study.

- The initial gap or concept shortlist was revised and expanded based on feedback from the stakeholder groups listed above.

Based on this process, District 7 selected a set of seven gaps or project concepts for pre-feasibility evaluation. These items are described in brief below.

- **S117, I-90 at MN-15 in Fairmont.** Stakeholders identified this area for both mobility and safety concerns, as acceleration lanes on I-90 westbound are relatively short, traffic entering I-90 westbound has relatively little room to accelerate to free-flowing speed. This problem is present at other I-90 interchanges in the District as well, so developing a project concept at this location can help the District understand the potential level of investment needed to improve acceleration lanes at other locations.
- **D18, MN-15 and Torgerson Drive in Fairmont.** This site was identified as a potential safety concern due to a history of prior truck-involved crashes and relatively high traffic volumes at this intersection. This intersection also serves a truck stop.
- **S155 and S159, MN-60 intersections in Mountain Lake, including CSAH 1 and 570<sup>th</sup> Ave.** Stakeholders identified this area as a safety concern with potential conflicts between traffic entering and exiting MN-60, particularly with the development of retail establishments at the intersection of MN-60 and 570<sup>th</sup> Ave.
- **S103 and S49, US-169 and Hawley Street.** Stakeholders identified this site as an area that needed an acceleration lane for trucks entering northbound US-169. This site was studied in the US-169 corridor study, and an engineering study conducted as part of the District 7 freight plan will provide further detail on the level of investment needed to improve the acceleration lane.
- **S164, Blue Earth County Highway 120 and US-169.** Advisory Committee members identified this area as a potential concern for trucks heading southbound on US-169, where trucks must climb a hill when entering US-169.

These projects are being advanced to pre-feasibility study in Task 6 and will be documented in Working Paper 6. In addition to these projects, District 7 has elected to conduct a screening of turning lane needs for HIGHWAY ##, ##, ## this will be updated after the specific routes or corridors are selected with SEH.

## 4 Conclusion and Next Steps

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A set of seven gaps have been chosen to advance to the pre-feasibility stage of this project. This work will include the design of project concepts to solve issues and needs, identification of challenges with the site, including environmental and right of way considerations, and a planning-level cost estimate. This information will help MnDOT ensure that critical freight needs in District 7 have the potential to be addressed through future projects and future rounds of funding. *In addition, a set of # highway corridors were selected for study to evaluate...*

This Working Paper summarizes the results of Task 5 of the freight plan process and provides the input for Task 6. Working Paper 6 for Task 6 will provide documentation created from studying the gaps and corridors listed above. All of the freight plan's Working Papers will be combined to provide an executive-level summary of information and recommendations for the District 7 Freight Plan.

# Appendix A Identifying Investment Priorities

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*A copy of Technical Team meeting 4 slides explaining scoring will be inserted here.*

## Appendix B Findings

This appendix provides a summary of the ranks assigned to each identified gap.

ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
S147	Manufacturer's Survey	MN 60/US 169 at MN 68, Mankato	1	1			Narrow turn lane--concerns were raised that it is not possible to stay between the white lines and make this turn without striking guardrail in a truck.
S117	Manufacturer's Survey	I-90 at MN 15, Fairmont	2	5			Acceleration lanes are too short for trucks to pick up adequate speed to blend with traffic on I-90.
S149	Manufacturer's Survey	MN 111/MN 22 btwn Nicollet and Gaylord	3		2		Slow traffic.
S108	Manufacturer's Survey	NB US 169 to WB US 169/MN 60	4	2			Short distance to merge into left lane to get to businesses on N side of Hwy.
S158	Other Consultation	TH-60/TH-71	5		4		Th 60/71 through Windom is a freight bottleneck.
S159	Other Consultation	TH-60/CSAH-1	6	6			Th 60/CSAH 1 in Mountain Lake has a history of truck crashes.
S155	Other Consultation	MN-60 and 570th Ave	7	7			Westbound acceleration lane needed
S78	Manufacturer's Survey	US 14 at Riverfront Dr, Mankato	8		7		Busy intersection(s); tough to turn onto road.
S111	Manufacturer's Survey	US 169 S from Mankato	9		3		N/A
S113	Manufacturer's Survey	US 169 at MN 109 (6th Ave SE) in Winnebago	10		6		Turn radius and intersection not wide enough.
S120	Manufacturer's Survey	MN 60 roundabouts in Worthington	11	10			Bad curb design apron slope - causes load shifts.
S157	Other Consultation	TH-5/TH-19	12	15			TH-5 corridor in Gaylord from the 5/19 junction to 4th Street (MN-22) in downtown Gaylord.



ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
S115	Manufacturer's Survey	MN 15 at I-90, Fairmont	13	16			Wind is always blowing.
S97	Manufacturer's Survey	US 14 EB between Riverfront Dr and Victory Dr, Mankato	14	17			Not enough time to move over from truck lane back to left lane.
S137	Manufacturer's Survey	MN 60 curve near St. James	15	4			Refreeze/blow ice issues.
S80	Manufacturer's Survey	US 14 west of Waseca by Crystal Valley Coop, where road goes from NB to WB	16	3			Snow issues.
S136	Manufacturer's Survey	MN 60 curve near St. James	17	8			Refreeze/blow ice issues.
S12	MetroQuest Survey	S Minnesota Ave	18	14			Lots of fast traffic running this red light leading to major traffic collisions.
S151	Other Consultation	MN-22 and 153rd Street	19	19			Risk of collision for vehicles waiting to turn left, important intersection for local livestock farms
S70	Manufacturer's Survey	Highway 14 in Mankato	20	20			Truckers not familiar with the area have a hard time getting back into the left lane with short notice and doing so before the crest of the hill.
S89	Manufacturer's Survey	US 14 near Victory Dr, Mankato	20		9		Trucks hold up traffic, causing bottlenecks.
S49	Other Consultation	USTH 169	21	21			Lots of pedestrian activity; hard to merge from CSAH 69 (Hawley Street) to eastbound Hwy 169 and the Riverfront Drive interchange.
S77	Manufacturer's Survey	US 14 at Brown CR 10	22	9			No acceleration lanes and no bypass lane at CR 10.
S68	Other Consultation	MNTH 109	23		11		Increase load width limits on 109. It will reduce travel time because OSOW carriers currently have to use TH-22 to access I-90.
D18	CMV Crash Data	MNTH 15; Torgerson Dr	24	25			More than 2 truck crashes at this location between 2018-2019

ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
S66	Other Consultation	Riverfront Drive	25		13		Freight transportation needs must be considered with Riverfront Dr project.
S3	MetroQuest Survey	N Victory Dr	26	26			Pedestrians attempting to cross MN 22 at this intersection from the business park to the east risk their lives crossing 6 lanes of traffic.
S52	Other Consultation	MNTH 60	27	11			MN-60 has tough turn, with left turn blocking traffic, and railroad grade crossing.
D38	CMV Crash Data	MNTH 111; MNTH 99	28	28			More than 2 truck crashes at this location between 2018-2019
D10	CMV Crash Data	MNTH 60; MNTH 86	29	12			More than 2 truck crashes at this location between 2018-2019
S127	Manufacturer's Survey	MN 15, New Ulm to Hutchinson	30		15		Lack of passing lanes.
D39	CMV Crash Data	USTH 14; 502nd St	31	30			More than 2 truck crashes at this location between 2018-2019
S9	MetroQuest Survey	Webster Ave	32		1		N/A
D15	CMV Crash Data	MNTH 60; 500th Ave	33	22			More than 2 truck crashes at this location between 2018-2019
D4	CMV Crash Data	USTH 59; MNTH 60	33	22			More than 2 truck crashes at this location between 2018-2019
S87	Manufacturer's Survey	WB US 14 from Waseca CR 33 (50th St)	34	10			No acceleration lane; has caused accidents.
D40	CMV Crash Data	USTH 169; MNTH 22	35	35			More than 2 truck crashes at this location between 2018-2019
D44	CMV Crash Data	3rd Ave; Lundin Blvd	36	37			More than 2 truck crashes at this location between 2018-2019
S26	MetroQuest Survey	Victory Dr	36	24			N/A
S103	Manufacturer's Survey	Hawley St at US 169 NB, Mankato	37	18			Acceleration lane too short; challenging to get on US 169.

ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
S107	Manufacturer's Survey	US 169 at Hawley St/CR 69, Mankato	37	18			In busy traffic, trucks have difficulty moving to left lane to accommodate merging traffic.
S148	Manufacturer's Survey	US 169 and MN 109 (1st Ave NW) in Blue Earth	38		5		Turn radius and intersection not wide enough.
D29	CMV Crash Data	MNTH 13; MNTH 99	39	31			More than 2 truck crashes at this location between 2018-2019
D5	CMV Crash Data	USTH 59; County Highway 35	40	32			More than 2 truck crashes at this location between 2018-2019
D68	CMV Crash Data	MNTH 60	40	32			Segment with high density crash rates
D69	CMV Crash Data	MNTH 60	40	32			Segment with high density crash rates
D71	CMV Crash Data	MNTH 60	40	32			Segment with high density crash rates
S114	Manufacturer's Survey	I-90 at curve near Beaver Creek	41	13			Snow trap.
S106	Manufacturer's Survey	US 169 from N of Le Sueur to Twin Cities	42		19		N/A
D30	CMV Crash Data	MNTH 13; 320th St	43	38			More than 2 truck crashes at this location between 2018-2019
D19	CMV Crash Data	Elm Ave W; State St N	44	39			More than 2 truck crashes at this location between 2018-2019
S140	Manufacturer's Survey	MN 60 at St. James Rest Area	45		20		N/A
D28	CMV Crash Data	USTH 14; MNTH 15	46	40			More than 2 truck crashes at this location between 2018-2019
S13	MetroQuest Survey	USTH 169	47			2	Very rough condition.
S91	Manufacturer's Survey	US 14/MN 68 in New Ulm	48		22		Narrow passing lanes.
S125	Manufacturer's Survey	MN 4 at CSAH 21, N of Sleepy Eye	49	34			No acceleration lane for SB traffic.
S162	Other Consultation	US-14	50		10		US-14 bridge over railroad track by ADM in Mankato – this is a bottleneck for rail service development for local biz.

ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
D34	CMV Crash Data	MNTH 22; 320th St	51	36			More than 2 truck crashes at this location between 2018-2019
D76	CMV Crash Data	Forest Prairie Rd	51	36			Segment with high density crash rates
S4	MetroQuest Survey	S Minnesota Ave	52		8		Highway 169 needs to be rerouted around St. Peter next to the river or around town to the west before it gets too expensive. Also in its current position during rush hour trucks are dangerous through town.
S81	Manufacturer's Survey	US 14 from New Ulm to Sleepy Eye	53		23		
D63	CMV Crash Data	USTH 169; MNTH 99	54	44			More than 2 truck crashes at this location between 2018-2019
D66	CMV Crash Data	Madison Ave	54	44			Segment with high density crash rates
D67	CMV Crash Data	MNTH 22	54	44			Segment with high density crash rates
D70	CMV Crash Data	Madison Ave	54	44			Segment with high density crash rates
D74	CMV Crash Data	MNTH 22	54	44			Segment with high density crash rates
S64	Other Consultation	Brown County Highway 8	55			4	Needs to be resurfaced.
S112	Manufacturer's Survey	US 169 near Riverside Country Club, north of Blue Earth	56	29			Wind causes roads to glaze.
D1	CMV Crash Data	USTH 75; W Gabrielson Rd	57	46			More than 2 truck crashes at this location between 2018-2019
D37	CMV Crash Data	USTH 14; 4th St	58	38			More than 2 truck crashes at this location between 2018-2019
S161	Other Consultation	TH-22	59		11		I-90 and Highway 22 ramp – another area with tight ramp or short acceleration and merge area.
S32	MetroQuest Survey	MNTH 22	59			3	N/A
S164	Other Consultation	US-169	60		12		CR120 and Hwy 169 acceleration lanes
D27	CMV Crash Data	USTH 14; 448th St	61	41			More than 2 truck crashes at this location between 2018-2019

ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
D72	CMV Crash Data	Broadway St	61	41			Segment with high density crash rates
D86	CMV Crash Data	Center St	61	41			Segment with high density crash rates
D87	CMV Crash Data	Center St	61	41			Segment with high density crash rates
S94	Manufacturer's Survey	US 14 at Smiths Mill (W Co Line Rd/CR 37)	62		24		Not enough storage for farmer to stop in median.
D23	CMV Crash Data	12th St N; N Valley St	63	50			More than 2 truck crashes at this location between 2018-2019
D65	CMV Crash Data	20th St N	63	50			Segment with high density crash rates
D60	CMV Crash Data	USTH 14; MNTH 60	64	51			More than 2 truck crashes at this location between 2018-2019
S84	Manufacturer's Survey	WB US 14 at Riverfront Dr, Mankato	65		17		Vehicles making U-turns make it difficult for trucks to turn.
D84	CMV Crash Data	N 2nd St	66	52			Segment with high density crash rates
S92	Manufacturer's Survey	Lookout Dr over US 14, North Mankato	67		25		Roundabout(s) not big enough.
S102	Manufacturer's Survey	US 169 at CR 69 (Hawley St), Mankato	68		14		Back-ups in the morning and hard to make the left turn sometimes.
D77	CMV Crash Data	MNTH 15	69	53			Segment with high density crash rates
S150	Manufacturer's Survey	US 59 at Prairie Dr, Worthington	70		16		Uncontrolled intersection - makes it hard to get in and out.
D62	CMV Crash Data	MNTH 60; 330th St	71	45			More than 2 truck crashes at this location between 2018-2019
S18	MetroQuest Survey	USTH 71	72	27			Very dangerous for people to cross this busy area with three highways connecting together.
S19	MetroQuest Survey	MNTH 15	73		18		Needs four lane expansion.
D82	CMV Crash Data	Belgrade Ave	74	48			Segment with high density crash rates
D20	CMV Crash Data	USTH 14; MNTH 4	75	42			More than 2 truck crashes at this location between 2018-2019

ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
S156	Other Consultation	TH-5/TH-19	76	23			TH-5/TH-19 intersection with adjacent railroad crossing in Gaylord.
D45	CMV Crash Data	USTH 14; 3rd Ave	77	56			More than 2 truck crashes at this location between 2018-2019
S21	MetroQuest Survey	USTH 14	78		21		Congestion in Mankato, Hwy 14 and Hwy 169
S165	Other Consultation	US-169	79	49			WB entry to 169/60 from Blue Earth Co. Rd 90 is on a curve and also way too short for trucks
S47	Other Consultation	USTH 14	80	43			Bypass lane needed to protect cars turning left off of 14.
D85	CMV Crash Data	N Riverfront Dr	81	59			Segment with high density crash rates
D24	CMV Crash Data	N German St; 1st St N	82	60			More than 2 truck crashes at this location between 2018-2019
D25	CMV Crash Data	MNTH 15; Center St	82	60			More than 2 truck crashes at this location between 2018-2019
D47	CMV Crash Data	E Lafayette St; N 4th St	82	60			More than 2 truck crashes at this location between 2018-2019
D53	CMV Crash Data	James Ave; Lilly St	82	60			More than 2 truck crashes at this location between 2018-2019
D59	CMV Crash Data	MNTH 22; Madison Ave	82	60			More than 2 truck crashes at this location between 2018-2019
D81	CMV Crash Data	N Riverfront Dr	82	60			Segment with high density crash rates
S105	Manufacturer's Survey	US 169 NB from Cambria Plant near Le Sueur Rest Area	83	33			Lack of acceleration lane.
S46	Other Consultation	USTH 14	84	47			Acceleration lane would be beneficial for trucks to safety enter traffic.
D90	CMV Crash Data	S 2nd St	85	61			Segment with high density crash rates
S152	Other Consultation	3rd Avenue (CSAH 5)	86	62			Upgrade existing signal system
D52	CMV Crash Data	W Pleasant St; Willard St	87	60			More than 2 truck crashes at this location between 2018-2019



ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
D54	CMV Crash Data	Warren St; Stadium Rd	87	60			More than 2 truck crashes at this location between 2018-2019
D73	CMV Crash Data	Cherry St	87	60			Segment with high density crash rates
D93	CMV Crash Data	Power Dr	87	60			Segment with high density crash rates
S39	MetroQuest Survey	Golf Course Rd	87		26		N/A
S41	MetroQuest Survey	Tiell Dr	87	60			Slow down through town.
D119	Rail Crossing Risk Data	MUN 12	88	55			Grade crossing risk rating of 7 or 8
S17	MetroQuest Survey	491st Ave	88			1	Not safe driving a semi when it's bouncing all over the road!
S2	MetroQuest Survey	MNTH 22	88		1		Rail to highway / road connections are one of the way to reduce wear and tear on highways. By expanding rail infrastructure and constructing rail to highway terminals / connections, we can build a more interconnected system which has some level of freight.
S24	MetroQuest Survey	60th St	88			1	N/A
S33	MetroQuest Survey	130th St	88	55			N/A
S35	MetroQuest Survey	330th Ave	88		1		N/A
S63	Other Consultation	USTH 14	88		1		Truck parking problem area - congestion with parked trucks.
D26	CMV Crash Data	MNTH 15; 20th St S	89	64			More than 2 truck crashes at this location between 2018-2019
D51	CMV Crash Data	E Cherry St; S Broad St	89	64			More than 2 truck crashes at this location between 2018-2019
S22	MetroQuest Survey	Edgewater Rd	89			5	Many poor pavement conditions in general.
S25	MetroQuest Survey	110th St	89	60			N/A

ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
S126	Manufacturer's Survey	MN 4 S of Dunnell	90		27		Bridge too narrow.
D122	Rail Crossing Risk Data	CSAH 5	91	62			Grade crossing risk rating of 7 or 8
D117	Rail Crossing Risk Data	FARM	92	57			Grade crossing risk rating of 7 or 8
D120	Rail Crossing Risk Data	MUN 38	92	57			Grade crossing risk rating of 7 or 8
D58	CMV Crash Data	MNTH 22; Adams St	93	54			More than 2 truck crashes at this location between 2018-2019
S36	MetroQuest Survey	850th Ave	94		28		N/A
S154	Other Consultation	Sibley Parkway	95	58			Expand railroad bridge to allow roadway expansion and new trail
D116	Rail Crossing Risk Data	CSAH 37	96	62			Grade crossing risk rating of 7 or 8
D118	Rail Crossing Risk Data	CSAH 10	97	55			Grade crossing risk rating of 7 or 8
D50	CMV Crash Data	E Cherry St; S Front St	97	60			More than 2 truck crashes at this location between 2018-2019
S16	MetroQuest Survey	478th St	97			5	Road is in poor shape.
S40	MetroQuest Survey	CSAH 10	97			5	N/A
S55	Other Consultation	N Riverfront Dr	97		29		Localized congestion caused by railroad switching operations.
D123	Rail Crossing Risk Data	CSAH 4	98	62			Grade crossing risk rating of 7 or 8
D124	Rail Crossing Risk Data	CSAH 13	98	62			Grade crossing risk rating of 7 or 8
S153	Other Consultation	CR 117 (547th Ave)	99	62			Install gates and lights
S1	MetroQuest Survey	Poplar St	100		30		N/A

ID	Source	Highway	Rank				Additional Information
			Pure	Safety	Mobility	Condition	
S50	Other Consultation	USTH 169	100	60			Riverfront Drive issues – difficult for EB to NB Riverfront Drive movements due to heavy conflicting WB to NB movements and yield condition.
D101	Bridge Condition Data	'0.6 MI N of Jct TH 90'	101			6	Bridge Condition < 50%
D106	Bridge Condition Data	'0.3 MI S of Jct CSAH 32'	101			6	Bridge Condition < 50%
D107	Bridge Condition Data	'2.8 MI W of Jct CR. 107'	101			6	Bridge Condition < 50%
D112	Bridge Condition Data	'At W CO line'	101			6	Bridge Condition < 50%
D114	Bridge Condition Data	'0.7 MI N of CSAH 3'	101			6	Bridge Condition < 50%
D99	Bridge Condition Data	'0.9 MI E of Jct CSAH 13'	101			6	Bridge Condition < 50%
D55	CMV Crash Data	N Victory Dr; Adams St	102	63			More than 2 truck crashes at this location between 2018-2019
D111	Bridge Condition Data	'0.1 MI S of Jct CSAH 15'	103			8	Bridge Condition < 50%
D100	Bridge Condition Data	'0.2 MI E of Jct CSAH 25'	104			7	Bridge Condition < 50%
D110	Bridge Condition Data	'1.5 MI E of Jct CSAH 7'	104			7	Bridge Condition < 50%