DISTRICT 6 FREIGHT PLAN

February 2022

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Chapter 1: Vision for the Future

The Minnesota Department of Transportation's (MnDOT) District 6 is in Southeastern Minnesota and consists of the following counties: Dodge, Fillmore, Freeborn, Goodhue, Houston, Mower, Olmsted, Rice, Steele, Wabasha, and Winona.[1] The state's third largest city after the Twin Cities, Rochester, is in District 6. The city also contains the largest Mayo Clinic campus, a nationally recognized academic medical center. Other unique features include:

- The confluence of two interstate highways (I-35 and I-90)
- Two major Mississippi River Ports at Red Wing and Winona
- Combination or urban and rural freight needs and issues
- Major air cargo operations at Rochester International Airport second only to Minneapolis-St Paul International Airport (MSP) in Minnesota

The MnDOT team in District 6 plans, designs, constructs, and maintains the state and federal highway systems within district boundaries. The tam also manages the aid and assistance given to county and city systems that qualify for state and federal dollars and provides transit, trail, and rail transportation services.

About the District 6 Freight Plan

The District 6 Freight Plan studied the freight transportation system in Southeastern Minnesota to better understand the trends, issues and needs of the area. The District Freight Plan outlined how MnDOT District 6, and public and private sector freight stakeholders should move forward in freight planning, investment, and operations. Specifically, the plan looked at how to:

- Provide an understanding of the current multimodal freight system
- Expand on existing studies and plans using current data and analysis to identify area freight priorities
- Help MnDOT understand how local industries use the system and their needs and issues Identify opportunities for public and private stakeholders to give their input
- Guide MnDOT District investments to improve the multimodal freight system including roadways, railroads, regional airports, and pipelines.

The long-term objective of this plan is to identify opportunities to improve freight infrastructure for all modes that use the system in Southeast Minnesota. These future investments will increase the economic competitiveness of the region.

[1] Note that while the District 6 Area Transportation Partnership (ATP) boundary consists of these counties, the maintenance boundary for District 6 differs slightly and does not follow county lines.

Relationship to Other State and District Plans

In January 2018, MnDOT completed the Minnesota Statewide Freight System and Investment Plan (SFSP). Among the plan's key recommendations was for MnDOT to work with each region of the state to create more detailed regional plans that would identify improvements to better connect them to the Minnesota Highway Freight Program. Similarly, this plan is intended to build upon and support the 3C planning process undertaken by the Grand Forks-East Grand Forks Metropolitan Planning Organization.

The MnDOT District 6 Freight Plan outlines how the district, and its public and private sector freight stakeholders could improve freight mobility in Northwest Minnesota. Specifically, the plan will prioritize freight-related projects and develop conceptual design/cost estimates for high priority projects. The intent of the District 6 Freight Plan is to leverage, validate and expand upon existing studies and plans with the most recent and relevant data analysis. This plan will:

- Provide an up-to-date assessment of freight needs and issues specific to District 6,
- Identify a list of strategies to improve freight mobility in the district, and
- Roll up long-term planning and programming into the next Statewide Freight System Plan.

The District 6 Freight Plan also needs to integrate and align with statewide freight planning and the flow chart below depicts the steps to identify needs and ultimately recommendations advancing them to become part of the Minnesota Highway Freight Program.

Figure 1: MnDOT Freight Planning Process

Southeast Minnesota Area Transportation Partnership

The Southwest Minnesota Area Transportation Partnership (ATP) is a group of traditional and non-traditional transportation partners including representatives from MnDOT, Metropolitan Planning Organizations (MPOs), counties, cities, tribal governments, special interests, and the public. The ATP is responsible for developing a regional transportation improvement program for their area of the state. The ATP process was introduced in the early 1990's to ensure stakeholder participation in identifying the investments of federal transportation funding in the area. The ATP process provides for early and continuous involvement in the development of MnDOT's State Transportation Improvement Plan (STIP), a four year list of projects that are expected to start construction within that timeframe.

Metropolitan Planning Organizations

Unlike other public entities, a unique relationship exists between MnDOT and the two Metropolitan Planning Organization (MPO) in the District: Rochester-Olmstead Council of Governments and the La Cross Area Planning Committee. These MPO's have federally mandated transportation planning and programming responsibilities in the Rochester and La Crosse areas. Every 5 years, the MPO develops an integrated multi-modal performance-based long-range Metropolitan Transportation Plan (MTP) that includes both long-range and short-range strategies and actions to facilitate the safe and efficient movement of people and goods. The plan considers ten planning factors (or key issues) on how transportation works within the MPO. Two of those planning factors include freight. The MTP also integrates MnDOT's State Freight System Plan.

District 6 Freight Plan Development and Data Sources

The development of the District 6 freight plan leveraged past work undertaken by MnDOT and their partners, quantitative analysis, and stakeholder engagement.

Leveraging Past Work

A key component of this District Freight Plan is to capture existing relevant work undertaken by MnDOT and their partners. By doing so, the plan can build upon those past efforts and analyze already identified issues at greater depth. The planning effort reviewed over 15 documents but focused especially on the following documents. The complete list of reviewed documents is available in Appendix A.

Minnesota Statewide Freight System Plan

The 2018, Minnesota Statewide Freight System and Investment Plan describes the state's multimodal transportation system and its role in the state's economy, current and emerging industry trends, the performance of the freight transportation system, and current and future issues and needs.

Greater Minnesota Mobility Study

The Greater Minnesota Mobility Study evaluated mobility investment needs on the National Highway System throughout Greater Minnesota. Specifically, the study identified locations with the greatest mobility or reliability issues and identified low-cost spot mobility improvements to address the identified needs.

Southeast Minnesota Regional Freight Study

The Southeast Minnesota Regional Freight Study describes the unique industrial transportation characteristics and potential for economic growth in southeastern Minnesota. The study identified and explored broad trends and issues that impact the Southeastern region of Minnesota with respect to future freight mobility and economic development.

2018 District 6 Manufacturers' Perspectives Study

MnDOT is currently conducting a series of Manufacturers' Perspective Studies focused on interviewing freight dependent businesses and building relationships through coordinated outreach. The businesses were identified using a traded-industry cluster analysis, as well as input from local economic development organizations, with a focus on identifying manufacturers and related businesses. The goal was to get firsthand feedback and understand their specific freight transportation requirements. The District 6 Manufacturers' Study collected and analyzed input to:

- Better understand their perspectives and priorities,
- Build relationships to better align the transportation system in the long-term with shippers' needs, and
- Support continuous improvement at MnDOT with ongoing input from this customer segment.

The 2018 District 6 Manufacturers' Study interviewed 115 businesses. Overall, their feedback focused on the district's geographic characteristics and the resulting transportation challenges. Many interview themes relate to the safety of the district's infrastructure and speed limits, the operations, maintenance and communication regarding winter weather, truck parking policies, as well as their business and economic considerations. The specific needs from this study will be evaluated and included in further long-term capital planning analysis for inclusion in a ranked list of freight specific needs.

Data Analysis

Evaluations of safety, mobility, and state of good repair were completed using data provided by MnDOT and other public sources. These activities are detailed in Chapter 2 and Working Paper #3: Economic and Freight System Profiles.

Stakeholder Engagement

Stakeholder engagement was critical to defining district freight needs and validating the project's data analysis. The overall project was guided by a Project Advisory Committee, and featured stakeholder interviews, an online survey and public meeting. The public meeting was held online due to the COVID-19 pandemic.

Project Advisory Committee (PAC)

The Project Advisory Committee was formed of freight and public stakeholders designed to serve as advisors to the project team to learn about the study, review planning documents, and provide feedback on the plan development. The group also acted as ambassadors for sharing information about the study and encouraging participation. A complete list of PAC members is available in Appendix A.

Stakeholder Interviews

The project team facilitated nine stakeholder interviews with key freight stakeholders to identify current freight needs and issues in this area. Figure 2 lists the interviewed organizations.

Figure 2: Interviewed Organizations

Online Engagement

An online engagement platform was distributed publicly and included similar questions as the stakeholder. Viewers were also able to provide comments via and online comment map or MetroQuest survey, advertised on MnDOT's social media platforms.

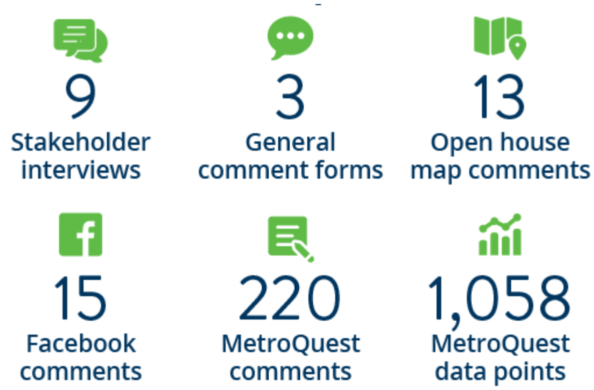

Figure 3: Online Engagement Results

Additional Resources

The MnDOT District 6 Freight Plan is supported by a series of Working Papers that provide more details on District 6's freight system, needs and priorities. The Working Papers are available on MnDOT's District 6 Freight Plan web site, at: http://www.dot.state.mn.us/ofrw/freight/districtfreightplan/d6.html.

These working papers include:

- Working Paper #1: Communications Plan
- Working Paper #2: Document Synthesis
- Working Paper #3: Economic and Freight System Profiles
- Working Paper #4: SWOT Analysis
- Working Paper #5: Implementation Plan

Chapter 2: Existing Freight Conditions

The Importance of Freight to District 6

The District 6 Freight Plan is designed to identify and prioritize freight projects that support the economy of Southeastern Minnesota. To do so, it is important to understand the region's economy and the role that freight plays in supporting it. This information provides a foundation for further discussions of freight transportation needs and issues in the District.

Minnesota's Economy

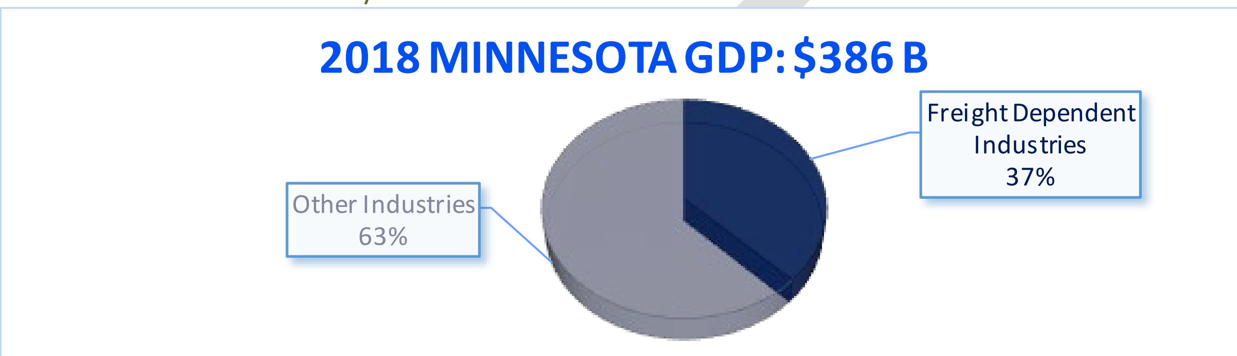

Figure 4: Minnesota Gross Domestic Product

In 2018, freight-dependent industries (defined as industries primarily focused on the manufacture or distribution of physical goods) created 37 percent of Minnesota's Gross Domestic Product (GDP) (Figure 4). These freight-dependent industries comprise the backbone of Minnesota's economy and have a multiplier effect on the broader economy by supporting other industries such as local restaurants and service businesses.

District 6 Employment

The District 6 economy supports approximately 233,000 jobs across all industries.[2] Approximately 37 percent of all District 6 jobs are in one of the freight-related industries. The majority of the 87,717 freight-related jobs in the district are associated with manufacturing industry (35,268 jobs), and retail trade (28,119 jobs). Freight-dependent employment density is shown in Figure 5. The highest employment density for these jobs is seen in Rochester, Owatonna, Red Wing, and Winona.

[2] Based on an analysis of 2019 Census Business Pattern data for full-time, year-round civilian employees

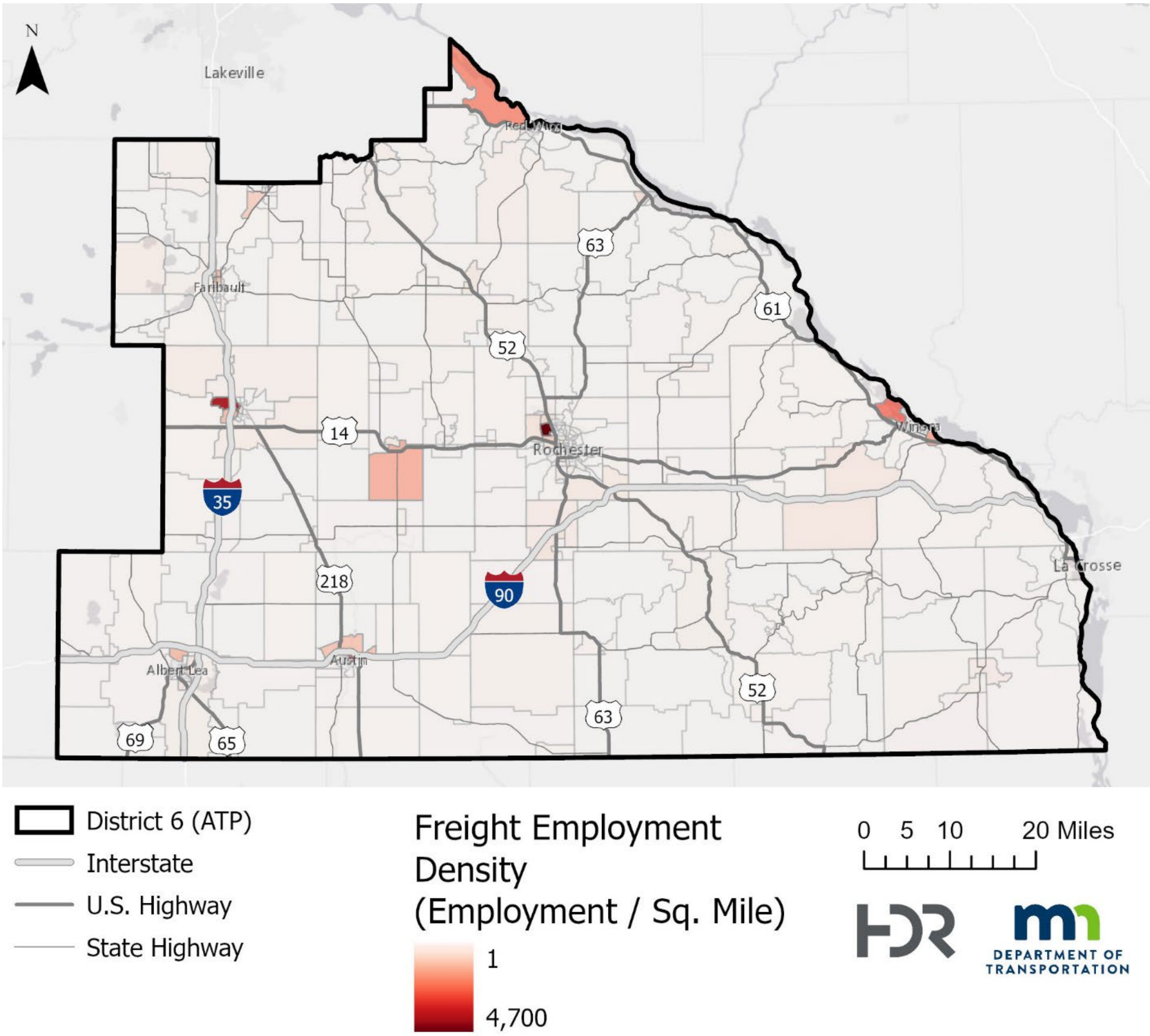

Figure 5: District 6 Freight-Related Employment Density

Economic Specialization

To evaluate the importance of each freight-related industry to the District 6 economy, the degree of specialization of that specific industry compared to the national degree of specialization was evaluated. For this purpose, location quotients (LQ) were used to calculate the ratio to the industry employment share within the region to the share of that industry on a national level.

$$\mathrm{LQ} = \frac{Industry\ Emp.\ in\ D6}{Total\ Emp.\ in\ D6} \Big/ \frac{Industry\ Emp.\ in\ US}{Total\ Emp.\ in\ US}$$

A location quotient of 1.0 means that District 6 has exactly as much employment for that industry as would be expected based on the national employment. A location quotient of 2.0 would indicate that District 6 has twice the expected level of employment for that industry. Economists assume that industries with a location quotient over 1.0 serve an export market (to other regions or countries). Within the region, several items stand out from the analysis displayed in Figure 6.

- The industry with the highest level of specialization by far is 54: Professional, Scientific, and Technical Services. This industry includes fields such as research, engineering, accounting, and legal assistance. Note that the CBP employment estimates may be inflated relative to other employment data sources (see discussion in previous section).
- The freight-related industry with the highest level of specialization is 31: Manufacturing. This industry includes all establishments engaged in the physical production or transformation of material goods.
- Only two other industries (61: Educational Services and 62: Health Care and Social Assistance) have a specialization location quotient above 1.0. The remaining industries are less specialized relative to US employment.

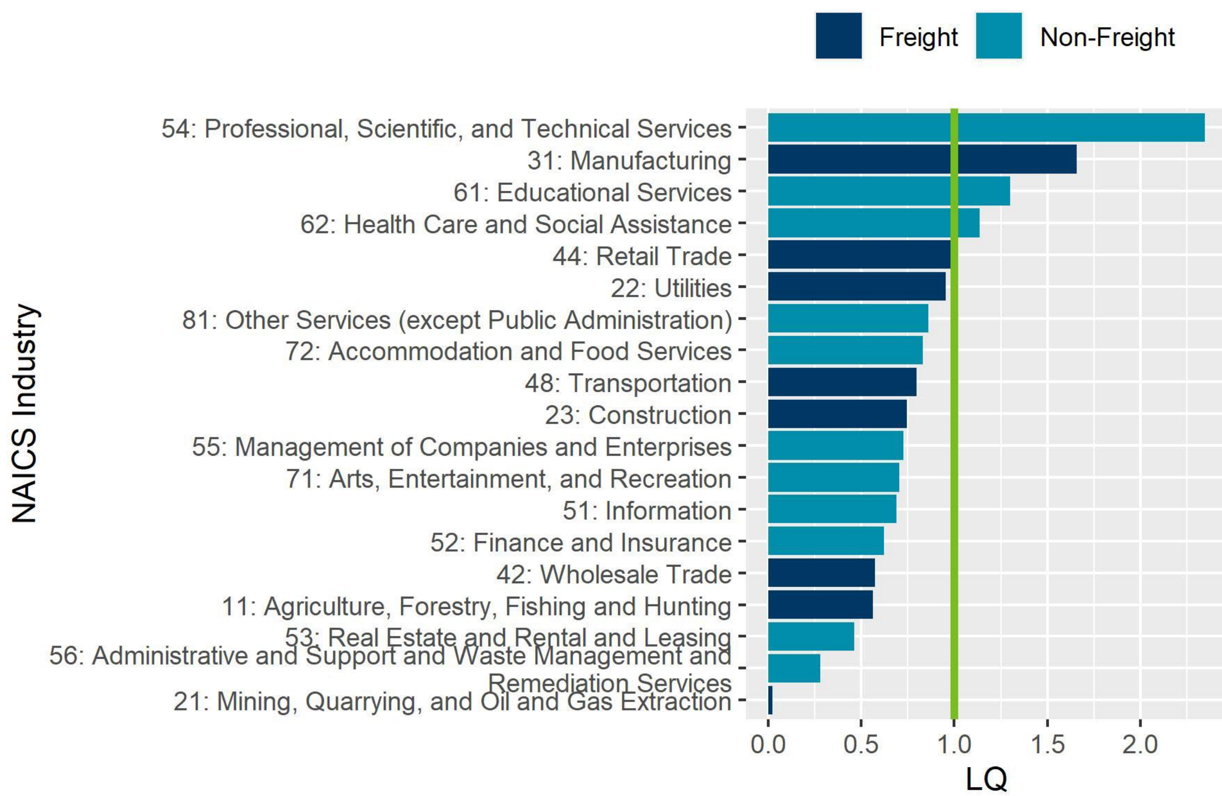

Figure 6: Location Quotient (2-digit)

A more detailed look at industry specialization can be assessed by performing similar analysis at the 6-digit NAICS level:

> The most specialized industry is 311230: Breakfast Cereal Manufacturing with an employment share 30 times higher than that of the US. This industry specialization is likely due to the presence of businesses in the district such as Post (formerly Malt-O-Meal) in Northfield.

District 6's Multimodal Freight System

MnDOT District 6 is served by all freight modes including highway, rail, pipeline, water, and air cargo. The locations of freight infrastructure within District 6 are shown in Figure 7.

Key highways for freight access include I-35, I-90, US 52, TH 42, and TH 44. Class I railroads in the district include CN, CP, and UP. They are predominantly parallel to the highways noted above. Class 3 railroads that operate in the district include Progressive Rail (PGR). A total of twelve intermodal terminals facilitates movements between air cargo, water cargo, rail, truck, and pipelines throughout the district.

Figure 7: District 6 Multimodal Freight System Summary

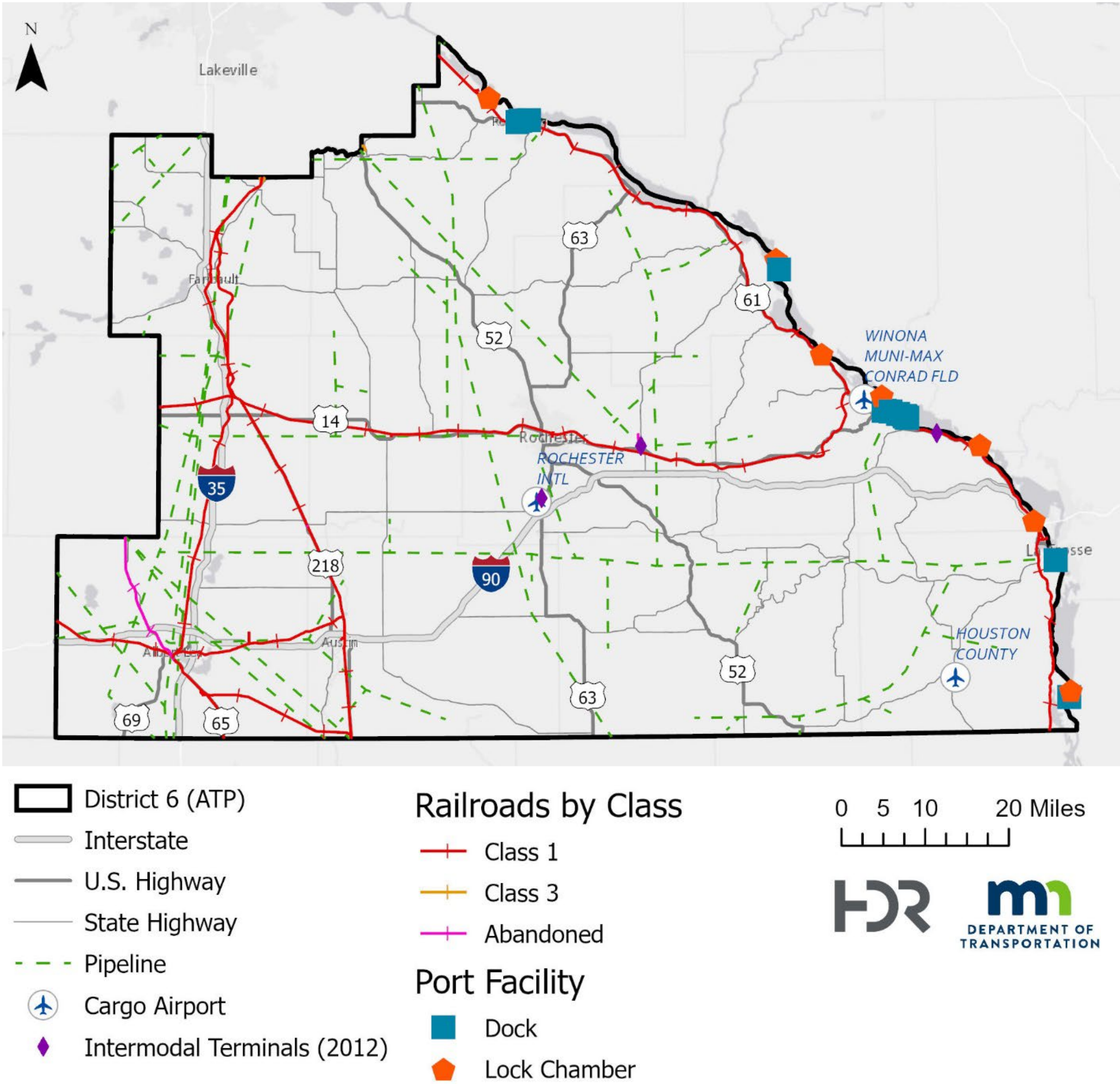

Figure 8: MnDOT District 6 Freight Transportation Assets

Multimodal Freight System – Modal Selection

All five freight modes are present in District 6 – air, water, highway/truck, rail, and pipeline. While this results in significant passthrough freight traffic, the complete multimodal system allows the district's freight users to select the most efficient mode – or combination of modes – to ship their goods. Often freight mode choice decisions are a factor of location, type of commodity, price of shipment, and connections to other modes (see Figure 9).

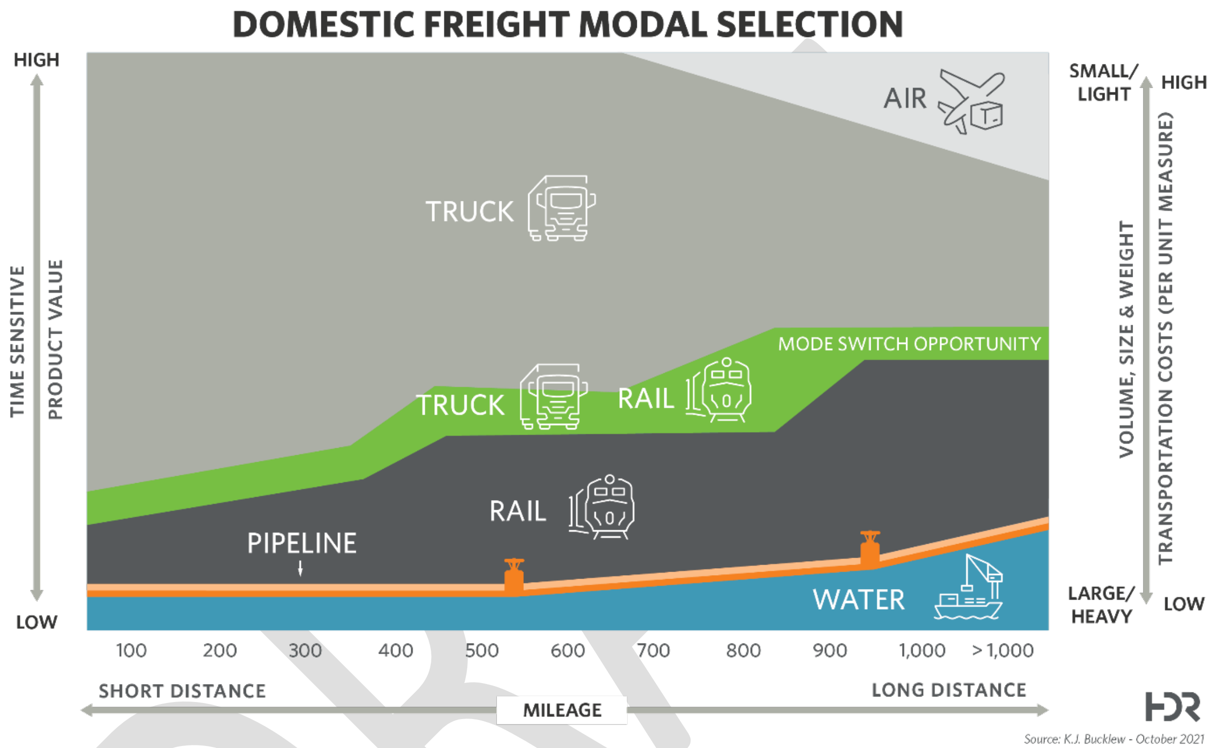

Figure 9: Domestic Mode Selection

Statewide Freight Trends

Most freight in Minnesota moves by truck (Figure 10). This is followed by pipeline mode for freight tonnage and by multiple modes for freight value. The category "multiple" includes all movements that consist of multiple freight modes but most commonly are comprised of truck-rail and truck-air combinations. The chart also highlights the fact that truck, multiple modes, and air make up a greater share of freight value relative to their share of freight tonnage, indicating their role in moving higher value, time sensitive products. Conversely, modes such as pipeline and rail make up a much smaller share of freight value relative to their share of freight tonnage, indicating their role in moving bulk commodities such as coal and lumber.

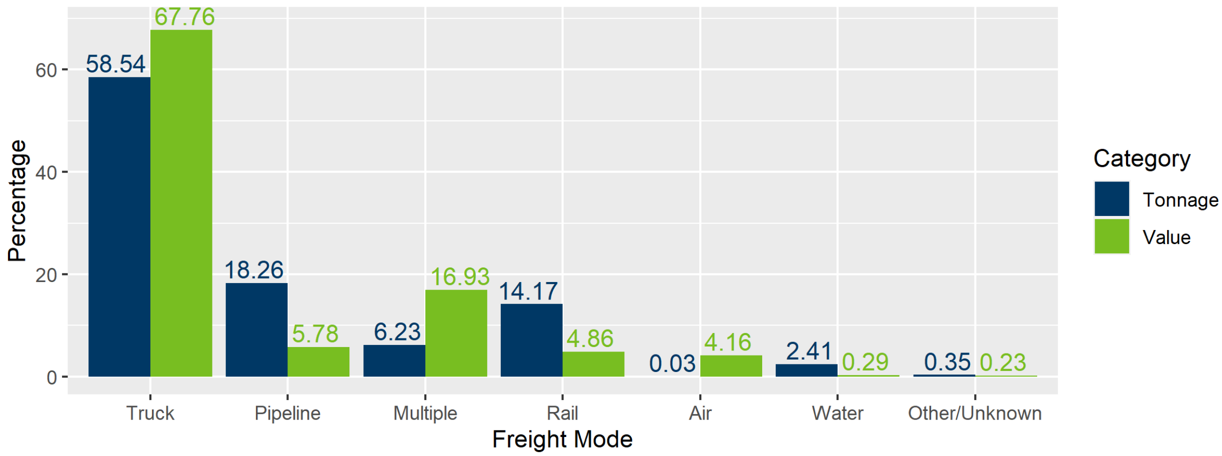

Figure 10: Minnesota Freight Movement by Tonnage and Value

Source: HDR analysis of Freight Analysis Framework (FAF5) data

The top ten commodities moved by freight transportation in Minnesota are summarized below for tonnage (Figure 11) and value (Figure 12). The two leading commodity categories for tonnage include cereal grains and other coal and petroleum products. The movement of cereal grains is particularly important to District 6 due to the specialization in both Grain and Oilseed Milling and Breakfast Cereal Manufacturing.

Many of the leading commodity categories for value are related to the production of electronics or precision instruments. Statewide, this commodity category is a specialized area that is growing in importance. The recently released Freight Analysis Framework Version 5 (FAF5) data does not yet include forecast freight volumes for future years. However, the previous version of the FAF estimated a near doubling of freight tonnage across all commodities between 2012 and 2040. A substantial proportion of this growth is due to the projected increase in exports of electronics and precision instruments. This statewide industry is supported by District 6 industries, particularly through the related industry of Scientific Research and Development Services. This industry has the highest degree of economic specialization in the district.

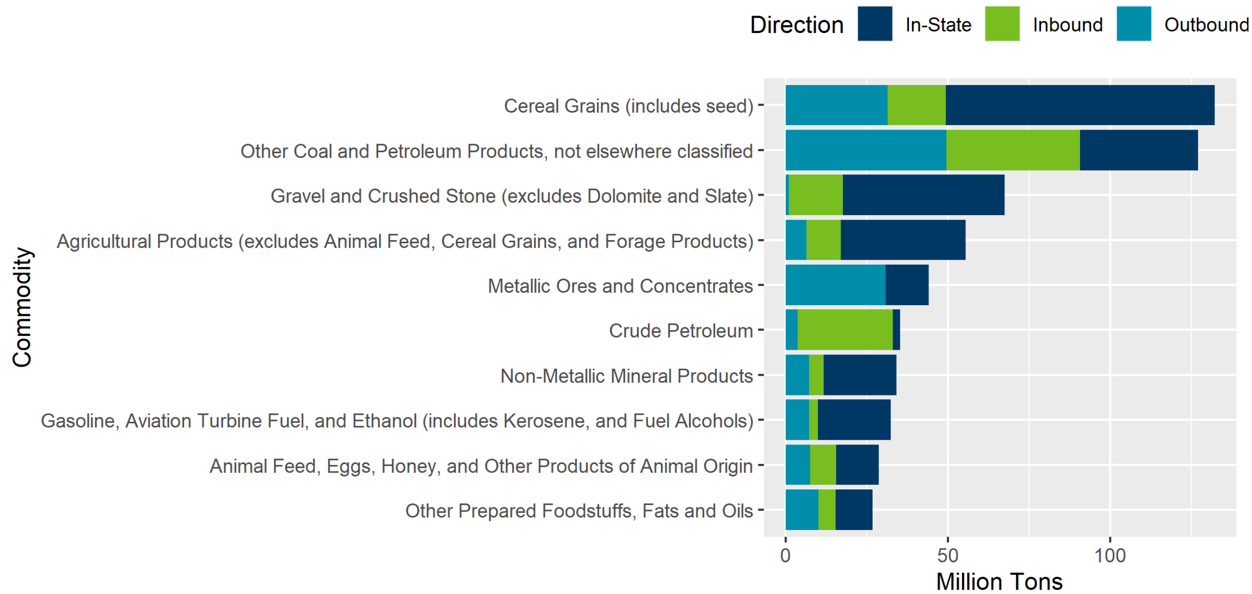

Figure 11: Minnesota Top 10 Commodities by Tonnage (2017)

Source: Freight Analysis Framework (FAF5)

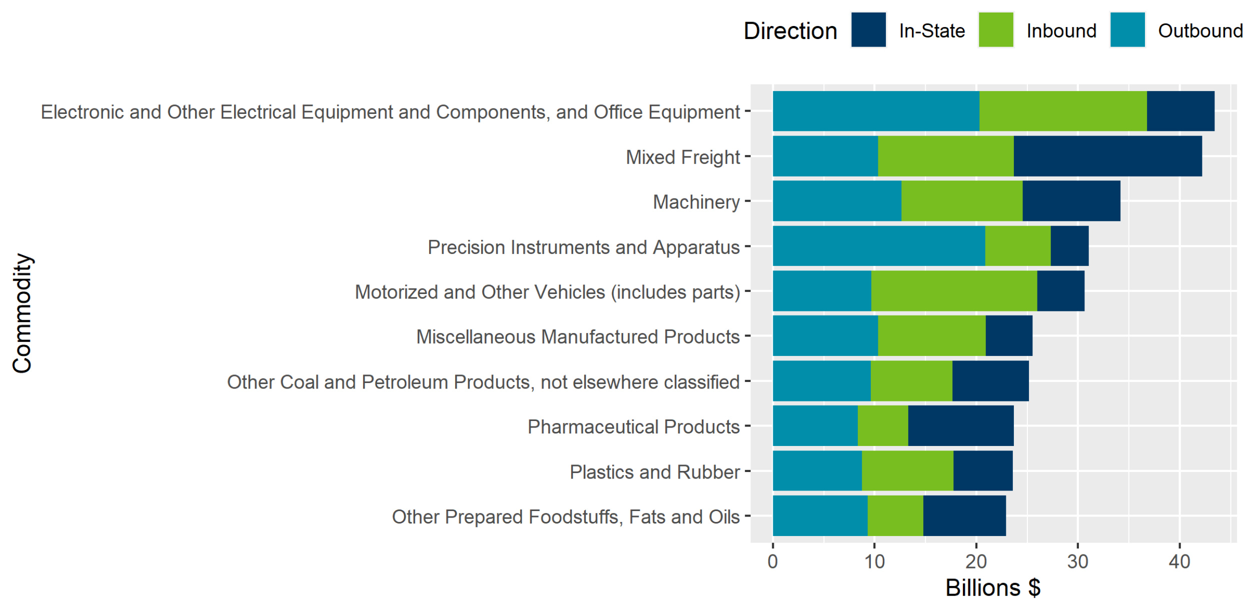

Figure 12: Minnesota Top 10 Commodities by Value (2017)

Source: Freight Analysis Framework (FAF5)

Freight Mode: Highway

The district includes approximately 1,400 centerline miles and 3,700 lane miles of trunk highways. In addition to serving trucking needs, these highways provide connectivity to twelve intermodal terminals distributed primarily along the Mississippi River corridor. Based on an analysis completed as part of the 2016 Statewide Freight System Plan, the volume of truck freight flows to, from, and within the district was a close third after Metro District and District 3 (Figure 14). The levels of inbound and outbound truck freight flows were approximately equal with only a small portion of these truck freight flows identified as intra-District travel.

Figure 13: District 6 Highway Freight System Summary

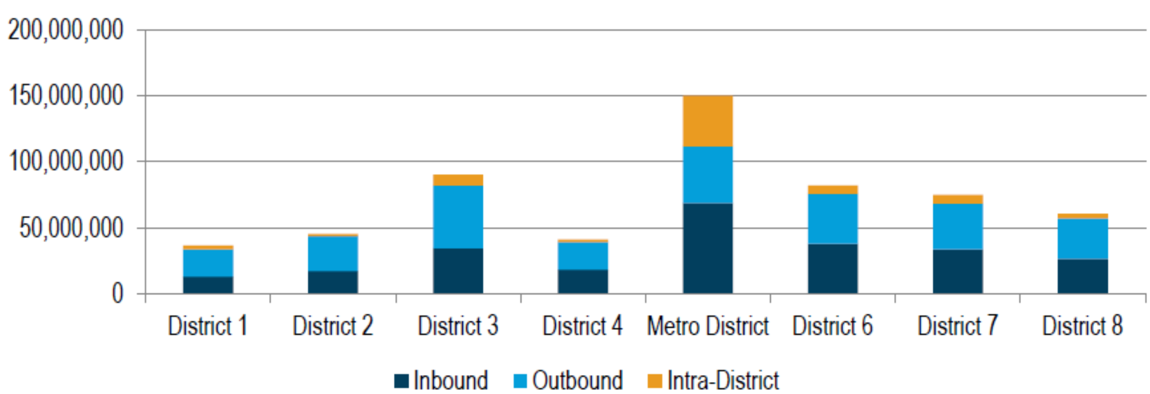

Figure 14: Truck Freight Flow by Direction, Tons, by District, 2012. Source: MnDOT "Statewide Freight System Plan" (2016)

Key Corridors

Highways in District 6 experience a significant amount of truck traffic in terms of both total truck volumes as well as truck percentages of all traffic. Table 1 highlights the top 10 freight corridors in the district as a measure of average Heavy Commercial Annualized Average Daily Traffic (HCAADT). I-35 tops this list with an average of more than 4,000 trucks per day, more than 50 percent higher than the next highest roadway, I-90. This list also includes all US Highways traversing the district and includes three Minnesota State Highways:

- MN 3 located east of I-35 between Faribault and Minneapolis-St. Paul
- MN 42 located to the northeast of Rochester
- MN 44 connecting the La Crosse area to US 52 near the Iowa border

Current MnDOT HCAADT counts are shown in Figure 15 on the following page. The map highlights many of the corridors noted in the table and further highlights the importance of the District's three major freight crossroads in Rochester, Albert Lea, and Faribault. The HCAADT percentages of all traffic are shown in Figure 16. Many of the same roads featured in the map of HCAADT also feature prominently in this map.

Table 1: Top Freight Corridors in District 6

Highway	Average Truck ADT	Truck ADT Range	Average All ADT	All ADT Range	Average Percent Truck
I-35	4,174	3,600 - 5,000	24,472	15,898 - 41,000	17.1%
I-90	2,697	1,100 - 8,500	14,268	5,400 - 24,400	18.9%
US 52	2,007	240 - 5,500	25,165	2,800 - 82,000	8.0%
MN 3	814	385 - 1,550	13,011	6,900 - 22,400	6.3%
US 14	776	165 - 2,100	12,749	3,950 - 30,000	6.1%
US 63	649	110 - 1,800	10,008	2,650 - 40,500	6.5%
US 61	608	225 - 970	11,252	3,649 - 24,900	5.4%
MN 42	559	275 - 790	4,659	2,900 - 8,400	12.0%
MN 44	510	165 - 1,050	4,465	2,000 - 7,000	11.4%
US 65	458	215 - 570	6,558	2,500 - 15,100	7.0%
MN 19	392	75-920	6,178	2,000 - 16,000	6.3%
MN 43	310	75-640	6,515	580 - 22,400	4.7%

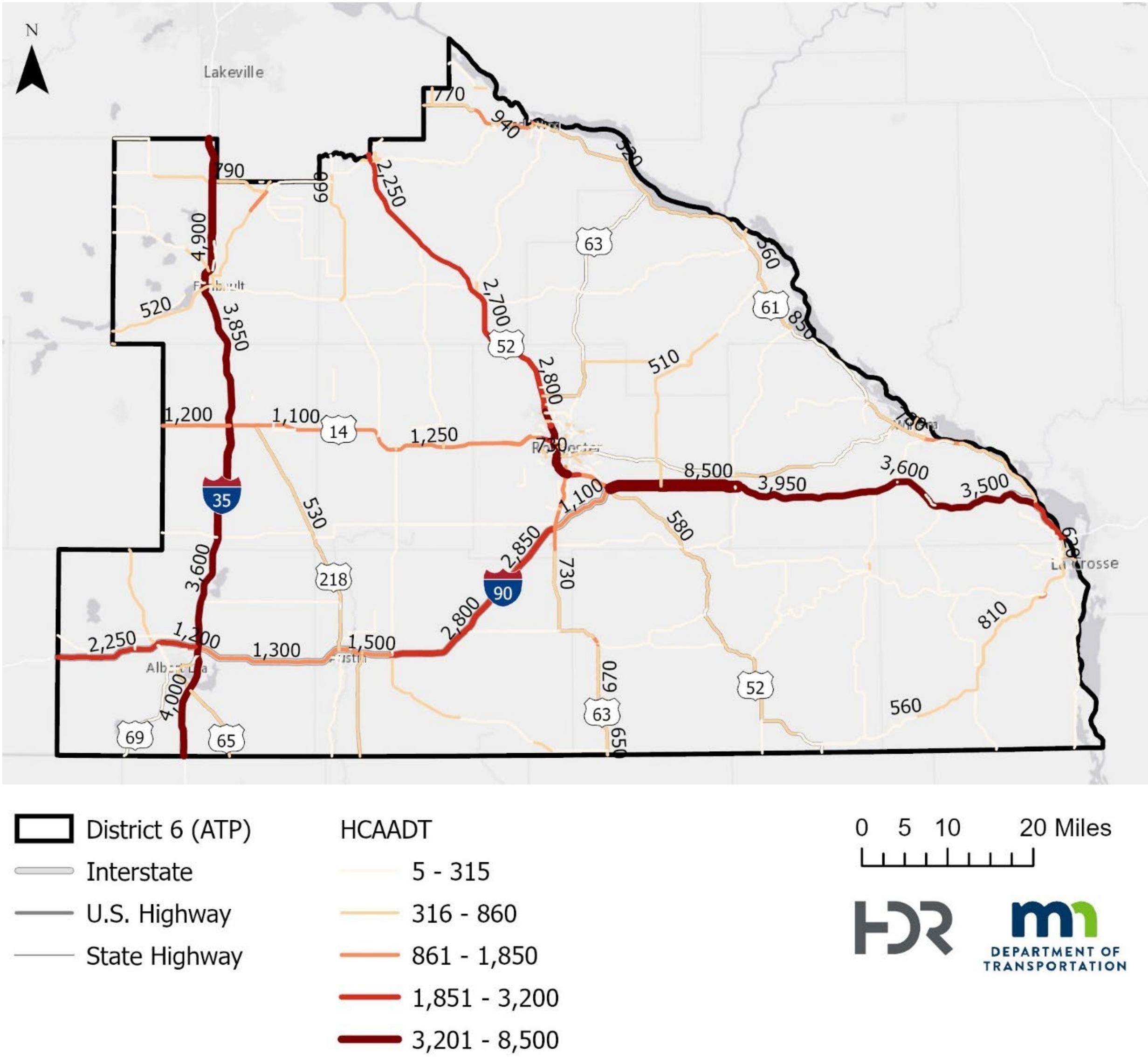

Figure 15: Heavy Commercial Average Annual Daily Traffic (HCAADT)[3]

[3] Of note are the extremely high truck volumes on I-90 immediately east of Rochester. According to the most recent counts, more than half of all traffic on this road segment is heavy commercial. Note that after further discussion with MnDOT District staff, it was determined that this high truck volume may be the result of a data error.

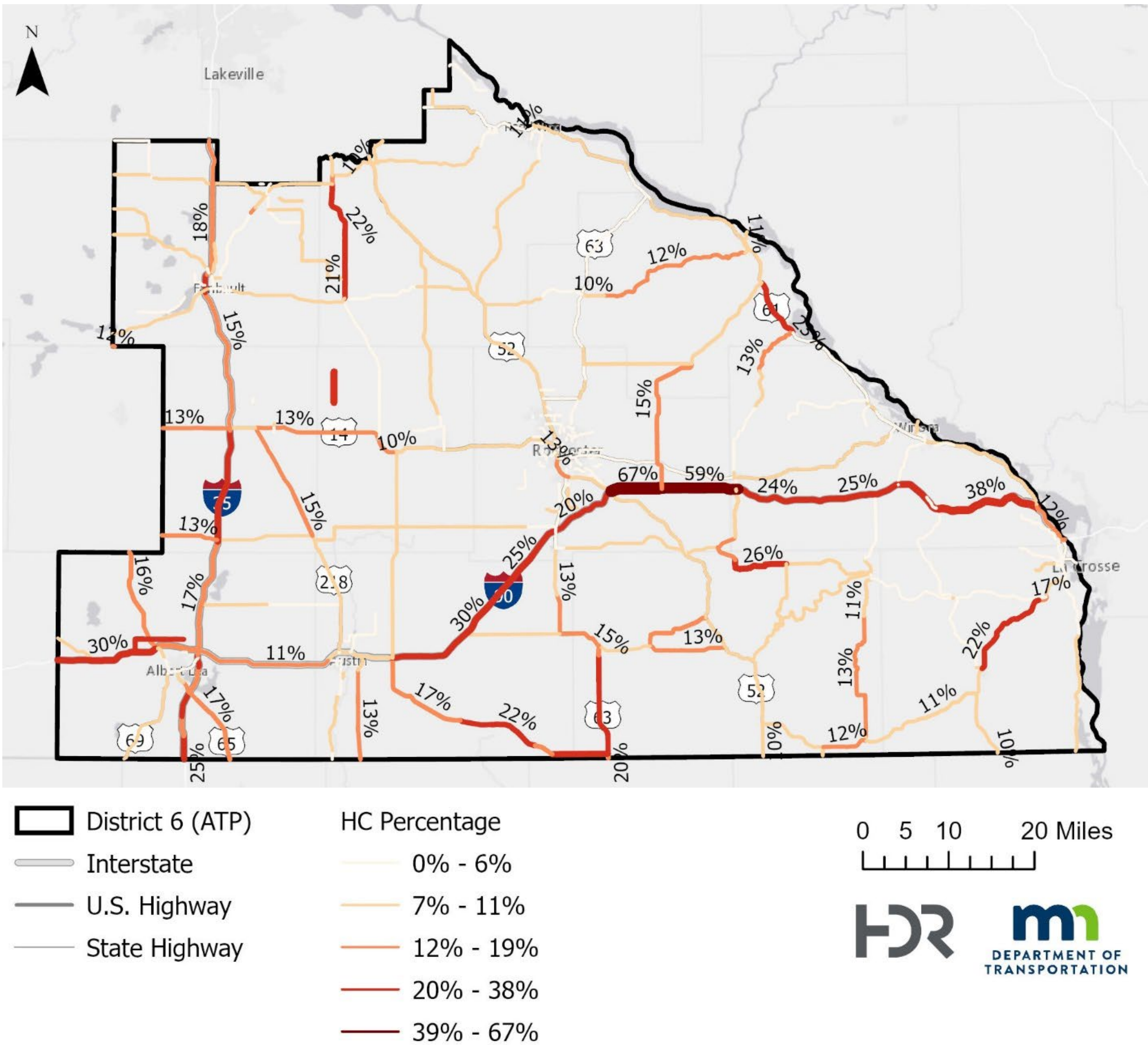

Figure 16: Heavy Commercial Percentages

Designated Freight Networks

Multiple highway corridors in District 6 are designated as part of national or state freight networks (Figure 17). The following sections provide an overview of these networks, their locations within District 6, and their importance to the operations and maintenance of the regional and national freight system.

National Highway Freight Network (NHFN)

The NHFN is a network of strategically important highway corridors for the movement of freight across the country. This network is expected to assist different states in strategically directing resources toward improved system performance for efficient movement of freight on highways, including the national highway system, freight intermodal connectors and aerotropolis transportation systems.

The NHFN is composed of the following four roadway sub-systems:

- **Primary Highway Freight System (PHFS):** The network of highways identified as most critical to freight movements based on an FHWA assessment of heavy commercial average daily traffic volumes. This network consists of 37,436 centerline miles of Interstate highways and 4,082 centerline miles of non-Interstate highways. In District 6, all of I-35 and the portion of I-90 west of I-35 are part of the PHFS.
- **Other Interstate Highways:** All other segments of Interstate not included in the PHFS are also included in the NHFN. Within the District 6, this includes the remaining portions of I-90.
- **Critical Urban and Rural Freight Corridors (CUFC, CRFC):** These highways provide critical connections between the PHFS and Interstate Highway System and freight-intensive areas. The designation of CUFCs is determined by state DOTs in coordination with local agencies such as MPOs while the designation of CRFCs is determined solely by the State DOT. One CRFC is in District 6 connecting the Port of Winona to I-90. No CUFCs are located within District 6.

National Highway System (NHS)

The NHS includes roadways that are considered important to the nation's economy, defense, and mobility. It consists of the Interstate Highway System, major principal arterial roadways, the Strategic Highway Network (STRAHNET), intermodal connectors, and other key strategic highway network connectors. In District 6, this includes both I-35 and I-90 as well as many US highways. Notably, MnDOT has designated the NHS as the Minnesota Principal Freight Network.

National Truck Network (NTN)

The National Truck Network is a national roadway designation that standardizes and truck weight and size regulations on the Interstate system and portions the highway system which connect cities and heavily populated areas to the Interstate system. While states can petition to have additional roadway, segments added or deleted from the system, the National Truck Network has not changed substantially since its establishment in 1982. The NTN in District 6 has a substantial overlap with the NHS, but also includes additional roads include Minnesota highways 56, 60, and 16.

Strategic Highway Network (STRAHNET)

Highway segments determined to be vital to United States defense or deemed necessary for maintaining domestic operations for emergency mobilization are included in the STRAHNET. These roadways provide "defense access, continuity, and emergency capabilities for movements of personnel and equipment in both peace and war." STRAHNET includes more than 62,000 miles of roadway throughout the United States. Portions of STRAHNET located within District 6 include the full extents of I-35 and I-90.

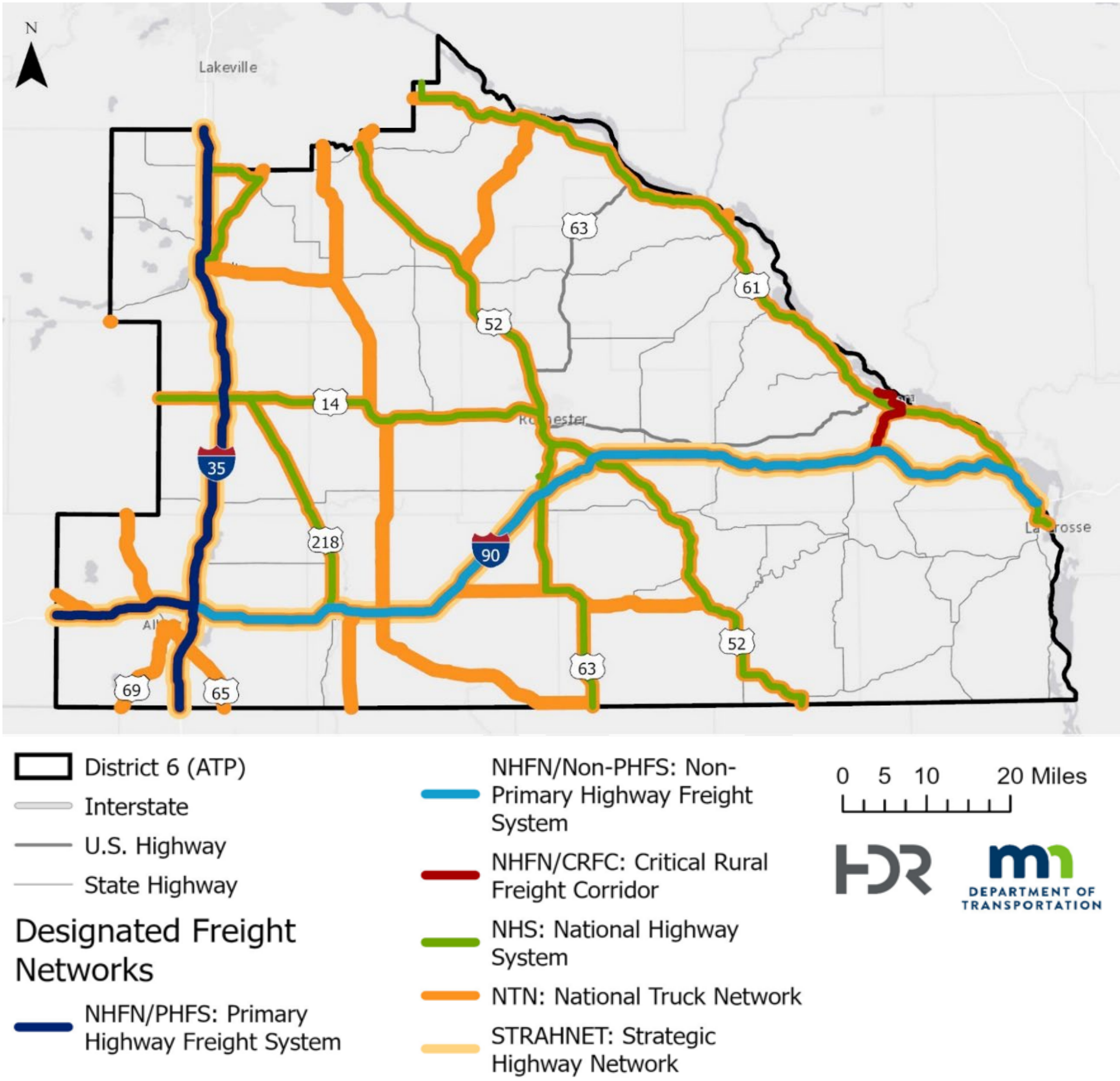

Figure 17: Designated Freight Networks

Truck Origin/Destination Analysis

MnDOT's StreetLight Insight subscription was used to analyze truck trip origins and destinations for trips starting or ending within District 6. StreetLight utilizes cell phone location-based services data for personal vehicle traffic and INRIX truck GPS navigational data for truck trips. Trucks are defined by INRIX as vehicles weighing more than 14,000 pounds.

The results of the origin-destination analysis for District 6 are shown in Figure 18. The figure highlights the fact that a large proportion of truck trips that start within the district also end within the district. Nearly two-thirds of the district's truck trips are "in-District" trips. Key connecting areas for inbound and outbound District 6 truck trips include Sioux Falls, Lincoln, Des Moines, Kansas City, and Madison. Note that StreetLight considers a truck's trip to be ended if it has not moved more than five meters in five minutes. Because of this, the origin-destination points do not necessarily represent final trip destinations.

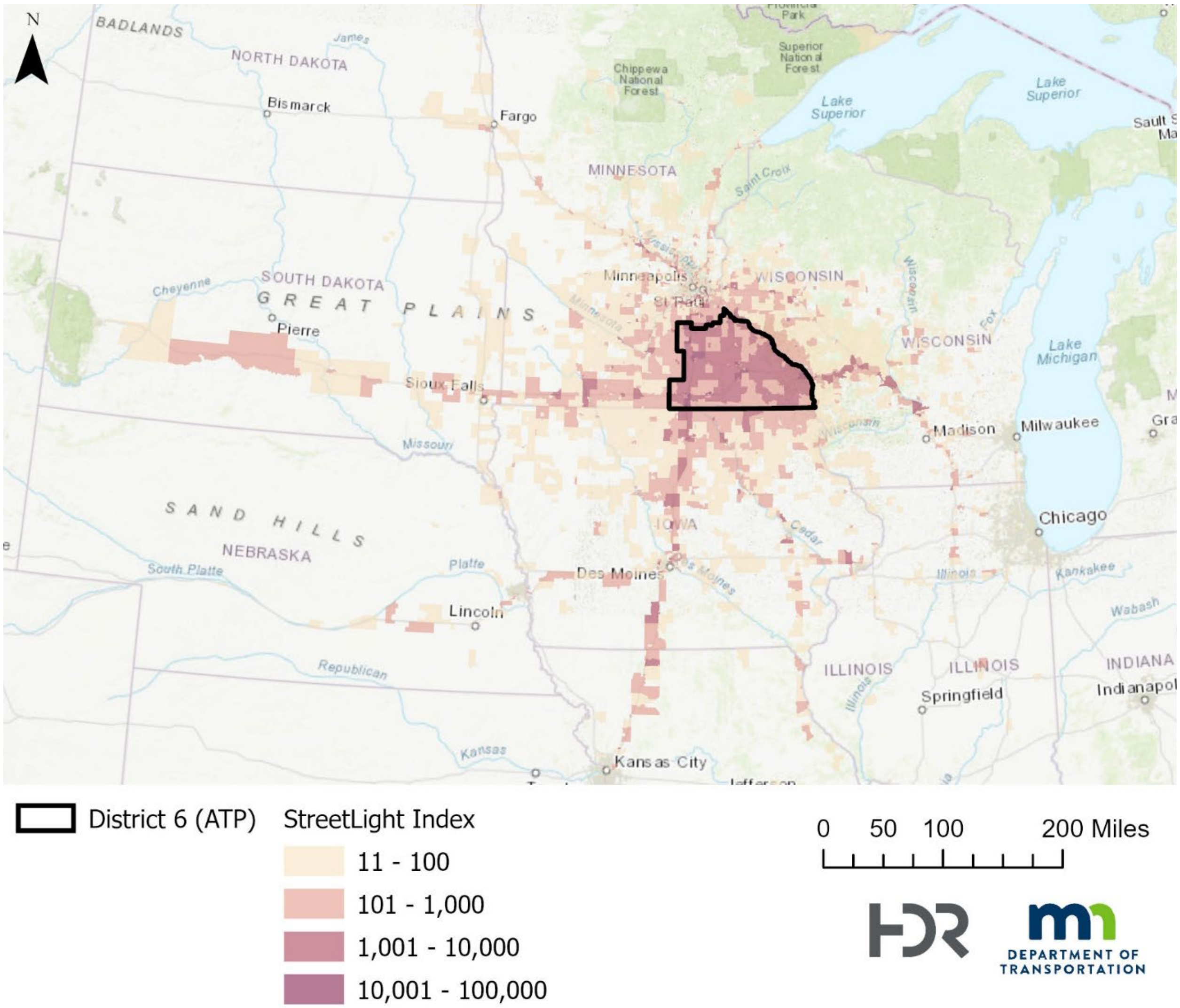

Figure 18: StreetLight Truck Origin-Destination Analysis

Truck Congestion and Travel Time Reliability

Two measures that are important for understanding truck mobility are congestion and travel time reliability. Analysis of these measures for District 6 was completed using the StreetLight Insight platform.

Free Flow Factor (FFF)

StreetLight measures the average travel speed on each roadway segment over the course of a 24-hour period. The maximum average speed among those 24 hours is the free flow speed, or the speed at which vehicles will travel without impediments such as congestion. The FFF is calculated by dividing the average vehicle speed over the course of the day by the free flow speed. A FFF value near 1.0 indicates that vehicle speeds change relatively little over the course of the day. A FFF value of 0.5 indicates that vehicle speeds on average are half of what they would be under free flow conditions and points to severe congestion issues.

The distribution of FFF compared to truck volumes on D6 roadways is shown in Figure 19. The densest cluster of roadways is in the top right of the chart exhibiting both high truck volumes and high FFF values. As the truck volumes decrease, there is a wider spread of FFF values, with many outliers beginning to show values below 0.8. For the purposes of this study, the primary segments of interest are those that are more than ¼-mile in length, have a relatively high truck volume (in the top 50 percent) while also exhibiting low FFF scores. These areas are highlighted in Figure 19 with the green square.

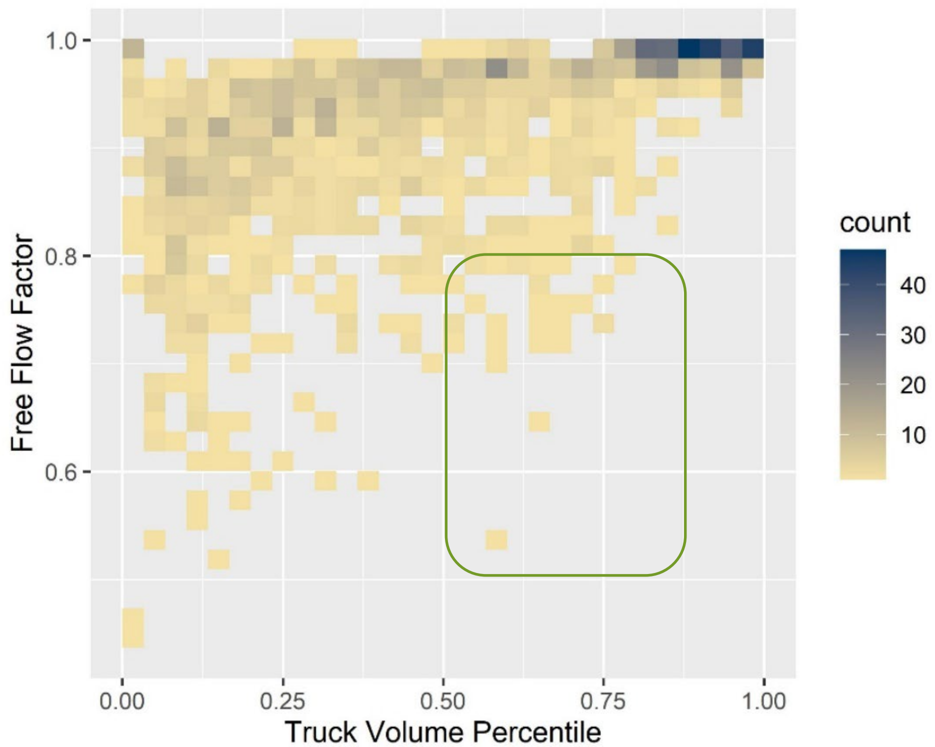

Figure 19: Free Flow Factor vs Truck Volumes on Roadway Segments

Note: Green square denotes focus area.

The locations of roadway segments and their FFF score are shown in Figure 20. Segments are highlighted in purple if they are in the top 50 percent for volume, and the bottom 10 percent for FFF score. As noted above, the highlighted segments also include only roadway segment at least ¼-mile in length. While segments highlighted for low FFF scores are in nearly every urban location in the district, they are most prominent in the Rochester area, followed by long stretches of US 61 through Winona. Each of these areas is shown in greater detail in an inset map in the figure.

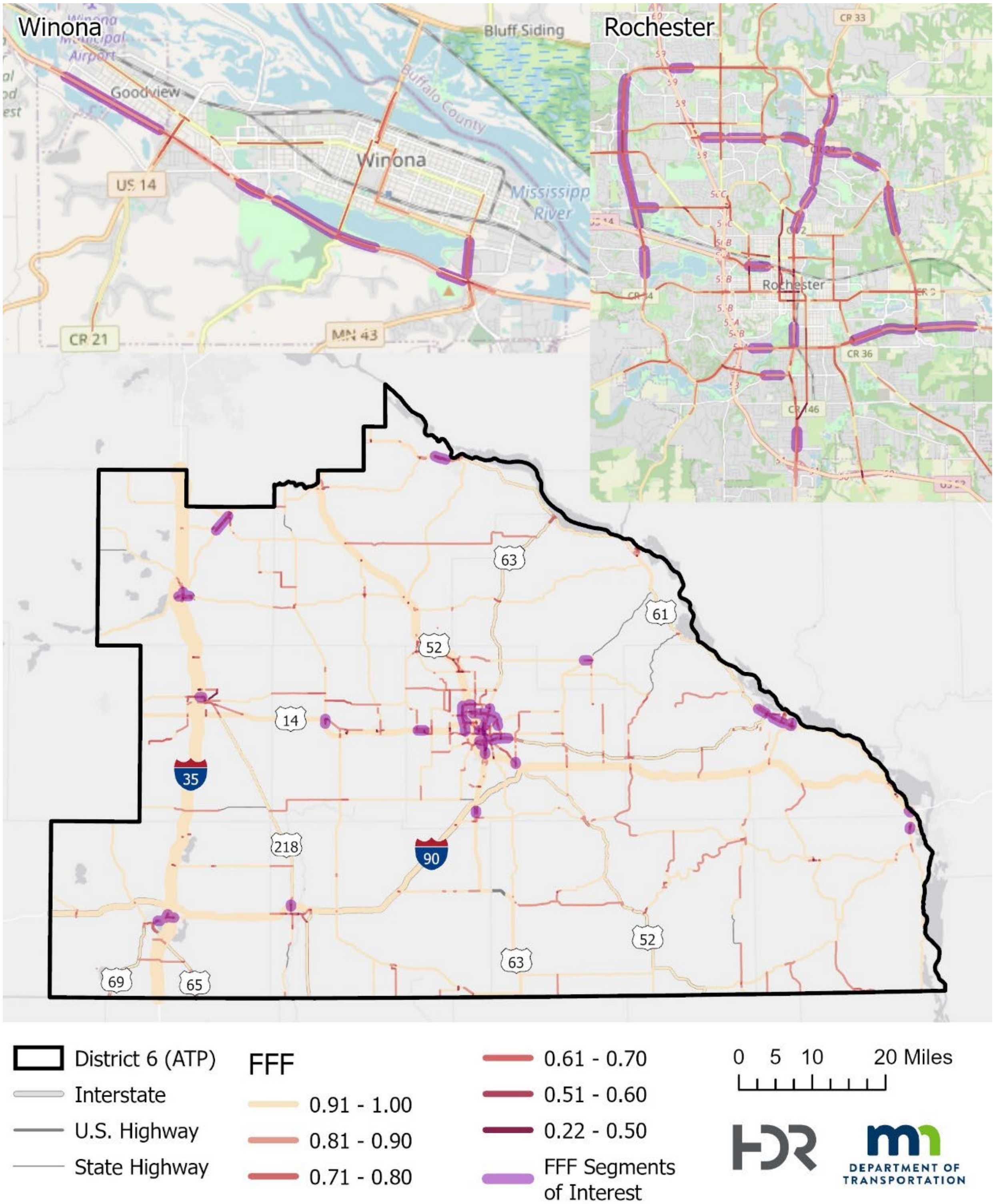

Figure 20: Truck Free Flow Factor

Note: Segment line widths are scaled proportionately to truck volumes.

Truck Travel Time Reliability Index (TTRI)

An alternative measure of truck mobility is the travel time reliability index (TTRI). This federal performance measure is defined as the ratio between the 95th percentile travel time (representing traffic when it is slow and congested) and the 50th percentile time (representing average traffic conditions)[4]. A higher TTRI value indicates more variability in travel time, and therefore less reliability. A TTRI of 1.0 indicates a roadway segment that never varies in travel time (very reliable) while a TTRI of 2.0 indicates a roadway segment where the travel times during the slowest conditions are twice as slow as on average (less reliable). The federal measure requires that the TTRI value be calculated for a range of days and times as follows:

- Weekday AM Peak (6am-10am)
- Weekday Midday (10am-4pm)
- Weekday PM Peak (4pm-8pm)
- Weekend All Day (6am-8pm)
- All Days Overnight (8pm-6pm)

The overall road segment TTRI measure is determined by the highest TTRI calculated among this grouping of five distinct time periods.

Travel time reliability is an especially important performance measure for commercial truck trips, in some cases being more important than overall travel speeds. If a truck travels on a roadway segment that is not reliable, this often means the trucking company will have to choose between leaving "on-time" and risking a late delivery or leaving early and potentially wasting potentially productive time while they wait for their destination location to open for business.

The StreetLight Insight platform was also used to assess Truck TTRI along roadways throughout District 6. The platform allows percentile speed categories to be defined for roadway segment analyses. The distribution of Truck TTRI compared to truck volumes on D6 roadways is shown in Figure 21. The densest cluster of roadways is in the top right of the chart exhibiting both high truck volumes and low TTRI values. Relative to the similar FFF chart, there is not as strong of a correlation between truck volumes and TTRI with multiple roadway segments exhibiting a wide range of TTRI across nearly the entire roadway volume range.

Like the FFF analysis, this TTRI analysis included only roadway segment longer than ¼-mile. The analysis also identified all roadway location with relatively high truck volume (in the top 50 percent), while also exhibiting high TTRI scores. These areas are highlighted in the figure with the green square.

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[4] Note: StreetLight maintains travel time information in minutes as the lowest time increment which can lead to inaccurate results for TTRI calculations. As an alternative, the TTRI values were calculated by dividing the 50th percentile travel speed by the 5th percentile travel speed. The approach is mathematically consistent with the standard measure.

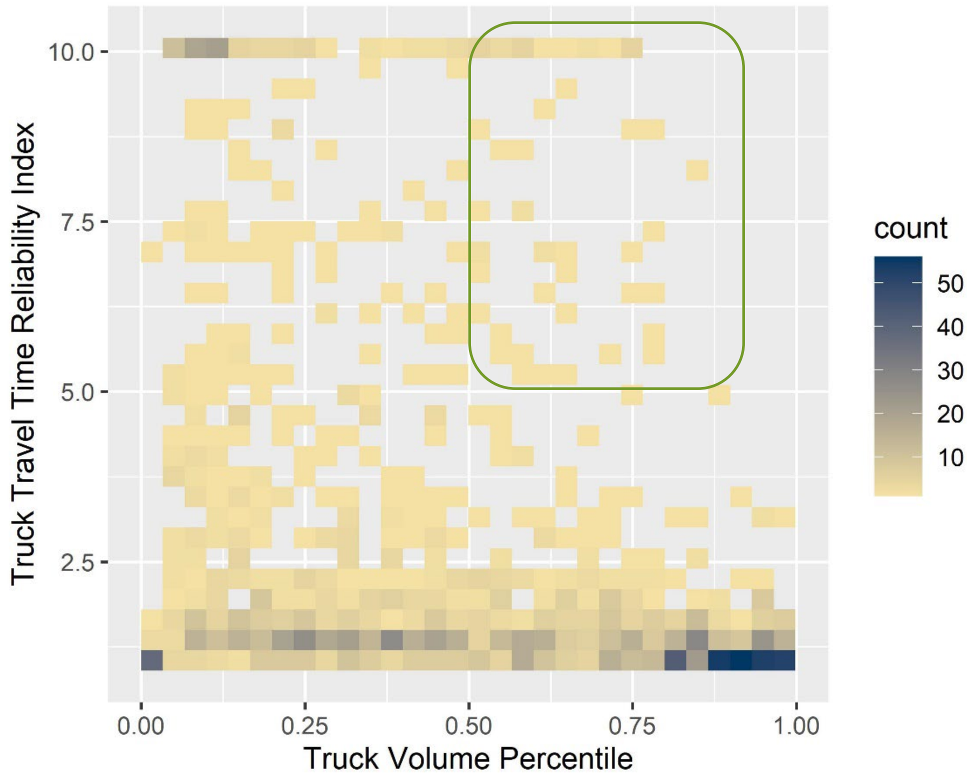

Figure 21: TTRI vs. Truck Volumes on Roadway Segments

Note: Green square denotes focus area.

The locations of roadway segments and their TTRI score are shown in Figure 22. Segments are highlighted in green if they are in the top 50 percent for volume, and the top 10 percent for TTRI score. As noted above, the highlighted segments also include only roadway segment at least ¼-mile in length. There is a high degree of overlap between the top FFF segments and the top TTRI segments. Notably, these areas are most prominent in the Rochester area, but are also located along US 61 in Red Wing, Winona, and La Crescent.

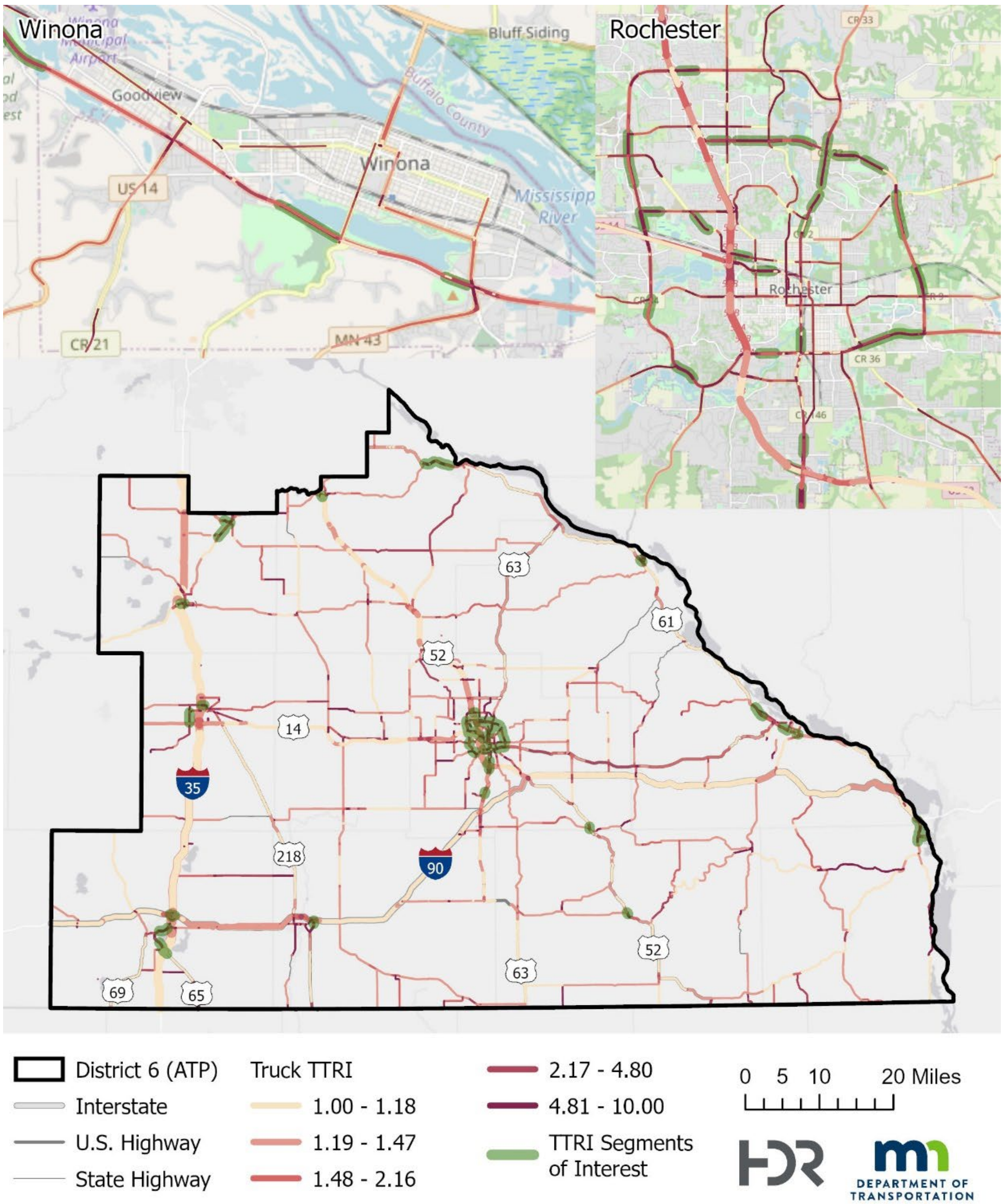

Figure 22: Truck Travel Time Reliability

Note: Segment line widths are scaled proportionately to truck volumes.

Bridges and Superload Corridors

Bridges can potentially pose an impediment to truck trips if the vertical underclearance is not a sufficient height. The normal height (maximum allowable height) of a truck is 13' 6". USDOT recommends that minimum bridge underclearance be set at 14' to allow safe passage. For this analysis, bridges in District 6 were categorized as either:

- Low (< 14' 6"),
- Average (14' 6" – 16' 6") or
- High (High: > 16' 6")

Most of the bridges in District 6 have a relatively high underclearance, making them ideal for handling oversize/overweight (OSOW) and superloads. However, there are three bridges that have been categorized as having a low underclearance. Their locations are:

- MN 14 underpass west of Winona
- 2nd Avenue NW over Division Street W in Faribault
- Roads under MN 43 near the Mississippi (Note that it is unclear from the NBI data which road experiences these clearance issues. It is assumed that the location is the underpass on the south side of the island between the Minnesota and Wisconsin sides of the river.)

MnDOT's designated Superload Corridors are also shown in Figure 23. These corridors are located mainly around US 52 and US 63, providing key connections from the City of Rochester for oversized loads going north to the Twin Cities. Corridors identified as "Best" are those that have no identified issues handling most oversize/overweight loads. Corridors identified as "With Restrictions" may have some areas with limited weight, height, or width that require additional review before selecting for OSOW routing.

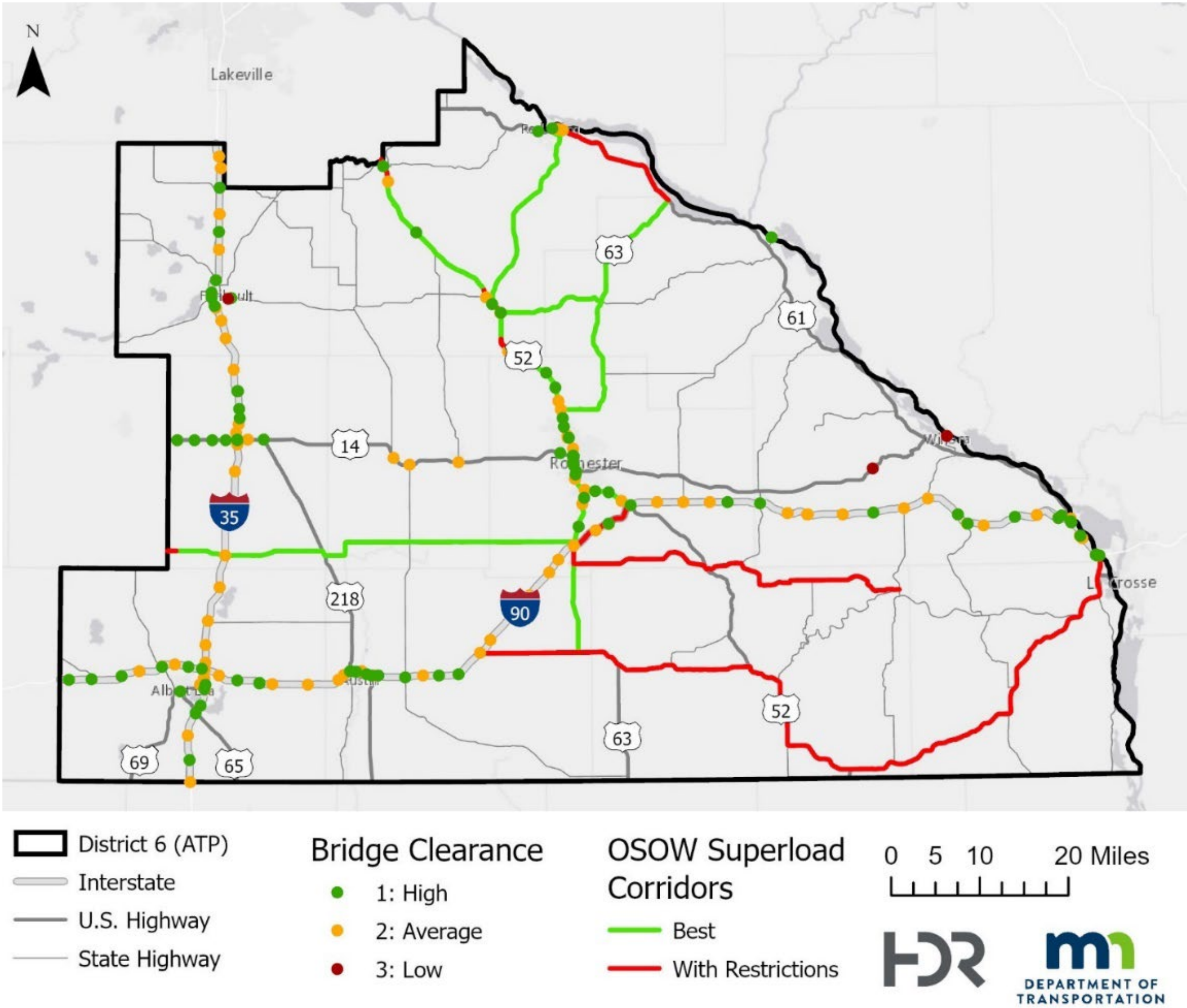

Figure 23: Bridge Clearance and OSOW/Superload Corridors

Oversize/Overweight Vehicles

MnDOT considers a vehicle to be oversize if any part of it is greater than 8'-6" wide or 13'-6" tall, or if it is longer than 75' for combination vehicles or 45' for single vehicles. A vehicle is overweight if it is greater than 80,000 lbs. To transport goods that exceed these measurements – such as windmill blades, heavy machinery, or prefabricated houses – carriers must obtain a permit from the MnDOT Office of Commercial Vehicle Operations.

To better understand the movement of OSOW vehicles through District 6, this study reviewed the results of the MnDOT Metro District's Urban Freight Perspectives Study analysis of MnDOT OSOW permit data from 2010 through 2019. That analysis was summarized in an interactive dashboard allowing the user to select and visualize the origin and destination locations of permitted freight as well as a summary of the key roads listed in the permit.

Figure 24 highlights screenshots from this dashboard showing origin and destination locations for OSOW trips starting or ending within District 6 (not including the Minnesota border crossings). The figure shows that I-35 to the south, I-90 to the east, and I-94 to the northwest are key Minnesota border crossing locations for OSOW vehicles travelling to/from District 6. Within District 6, the biggest origins/destinations for OSOW shipments include Rochester, Wanamingo, and Grand Meadow.

Key highways used to transport OSOW shipments to/from District 6 include I-35, I-90, US highways 52, 14, and 63, and MN highways 19, 56, and 60.

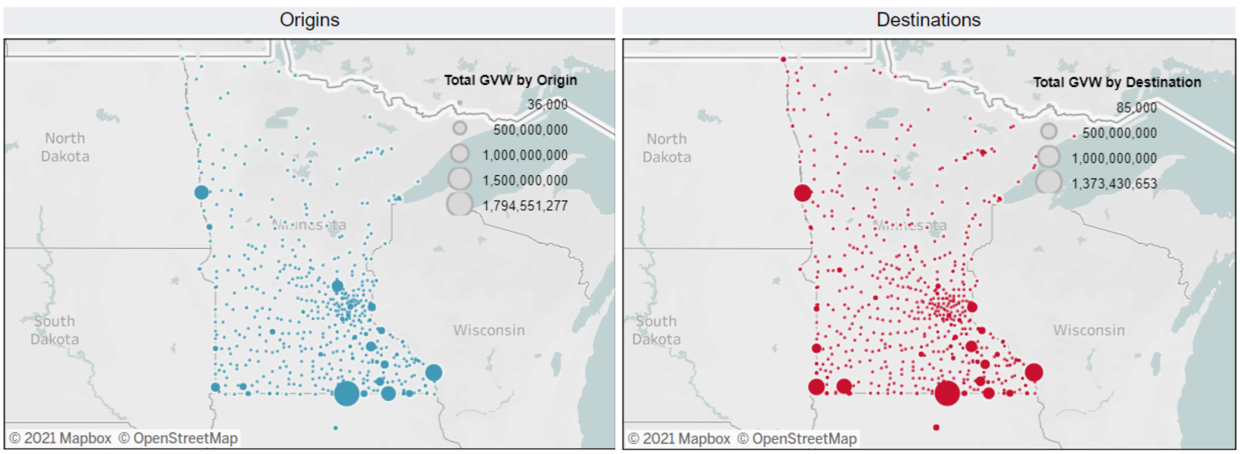

Figure 24: Origin and Destinations for OSOW Trips Starting/Ending in District 6

Pavement Condition

MnDOT's asset management group maintains annual reporting on pavement condition throughout the state. In District 6, only one portion of roadway (Highway 21 West of Faribault) is in "poor" condition for Pavement Quality Index (PQI), a composite measure based on both Ride Quality Index (RQI) and Surface Rating (SR). Most of the roadways are in "good" condition, with some segments falling into the "fair" condition category, including MN 21, MN 22, MN 30, MN 42, MN 43, MN 105, and MN 250.

Motor Carrier Enforcement Location

District 6 includes two pairs of MnDOT-owned pull-off sites used by State Patrol personnel for commercial vehicle enforcement inspection activities, which often include the use of portable wheel-weigh scales or portable weigh-in-motion sensors. One of the pairs is located on I-35 in Clark's Grove in Fremont County, and the other on I-90 in Nodine in Winona County.

Truck Parking

District 6 includes ten public rest areas along I-35 and I-90. MnDOT recently completed a Statewide Truck Parking Study in 2019. The study identified existing public and private truck parking facilities and estimated demand for truck parking by hour, by day of week, and by season.

Some of the highest density of truck parking capacity in the state is at the intersection of I-35 and I-90 near Albert Lea, with the Petro Albert Lea alone containing more than 300 truck parking spaces. The study also found that the geographic area where truck parking demand most exceeded truck parking capacity was in District 6 in the area adjacent to I-35 between Faribault and Northfield.

Highway Crash Analysis

Collisions involving trucks have the potential to cause significantly more impact in terms of both property damage and injury and death. This section reviews five years of fatal and severe injury crashes in District 6 to better understand trends and crash types. This freight system highway crash analysis was based on MnDOT data from a 5-year period from 2015-2019. Out of the 863 fatal or severe injury crashes in District 6 during this period, 101 (11.7 percent) involved a truck (Table 2). Annual truck-related fatal and severe injury crashes have trended steady, averaging 20 crashes per year, and ranging between a low of 17 crashes in 2015 and a high of 24 crashes in 2016.

Table 2: Fatal and Severe Injury Crash Summary (2015-2019)

Crash Type	Crashes
Total Crashes (Fatal and Severe Injury)	863
Total Truck-Related Crashes	101
Severe Injury Truck-Related Crashes	63
Fatal Truck-Related Crashes	38

Crashes commonly fall into multiple crash type categories. Table 3 shows the count of crashes by type for truck-related crashes in District 6. Nearly half of all truck-related crashes are intersection related, and nearly one quarter are related to older drivers. Other commonly related categories include speed, unlicensed drivers, and younger drivers.

Table 3: Related Crash Types for Truck-Related Crashes (2015-2019)

Crash Type	Crashes
Intersections	47
Older Drivers	24
Speed	19
Unlicensed Drivers	14
Younger Drivers	11
All other Truck-Related Crashes	26
Total Truck-Related Crashes in District 6	**101**

The locations of fatal and severe injury crashes in District 6 are shown in Figure 25. The highest concentration of these crash types is in Owatonna adjacent to I-35. This is followed by concentrations in Rochester, Stewartville (south of Rochester), Red Wing, and areas adjacent to I-35 north of Faribault.

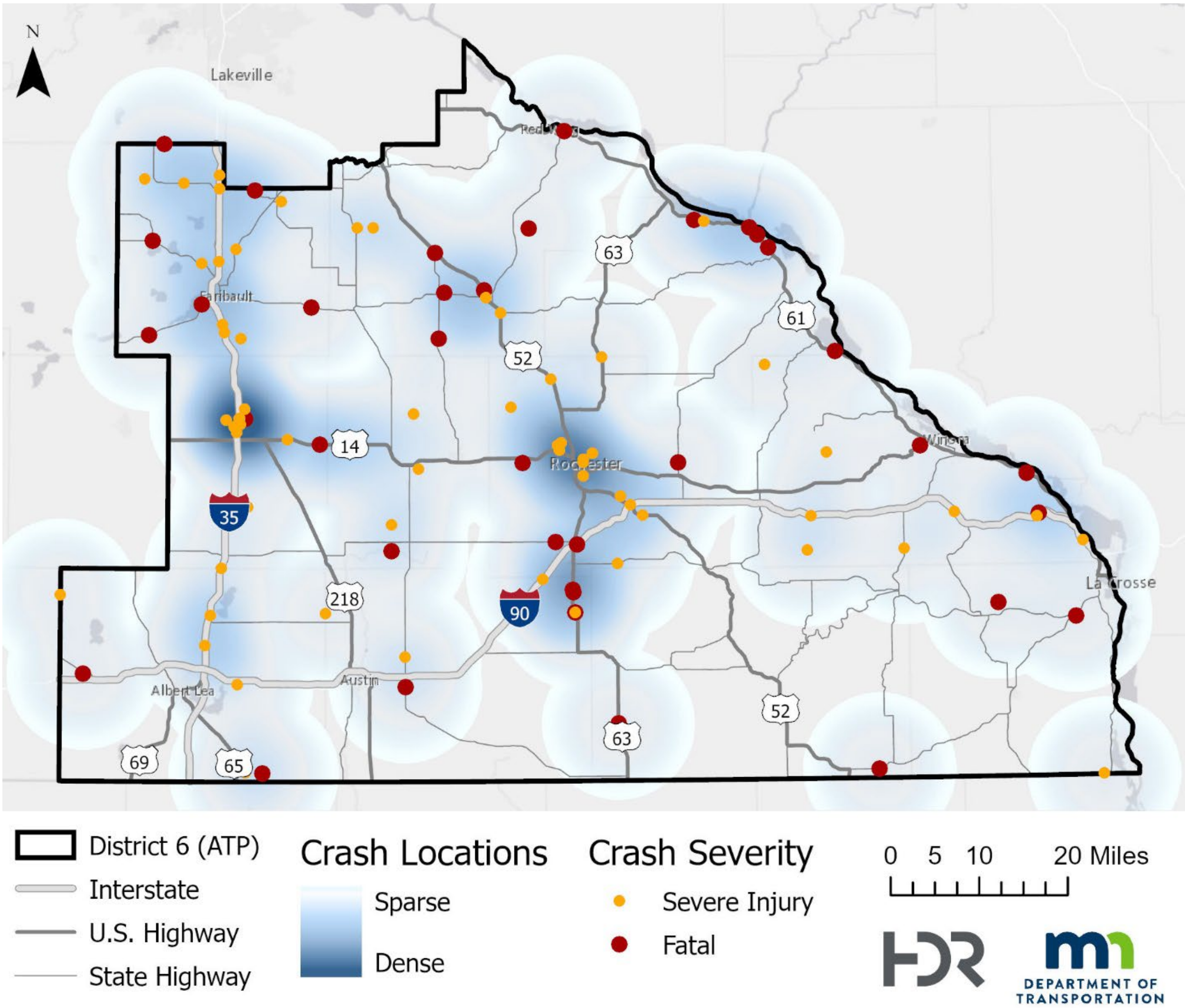

Figure 25: Truck-Related Crashes Locations and Severity

Freight Mode: Railroad

Rail plays a critical role in District 6's freight system, connecting ports on the Mississippi River with major industrial centers around the state. There are three Class 1 operators in District 6: Canadian Pacific (CP), Union Pacific (UP) and Canadian National (CN), and one Class 3 operator: Progressive Rail (PGR). The UP line runs parallel to I-35. One of the CP lines runs adjacent to the Mississippi River parallel to US 61, and most of the other CP lines run parallel to US 14 and US 218 (Figure 27).

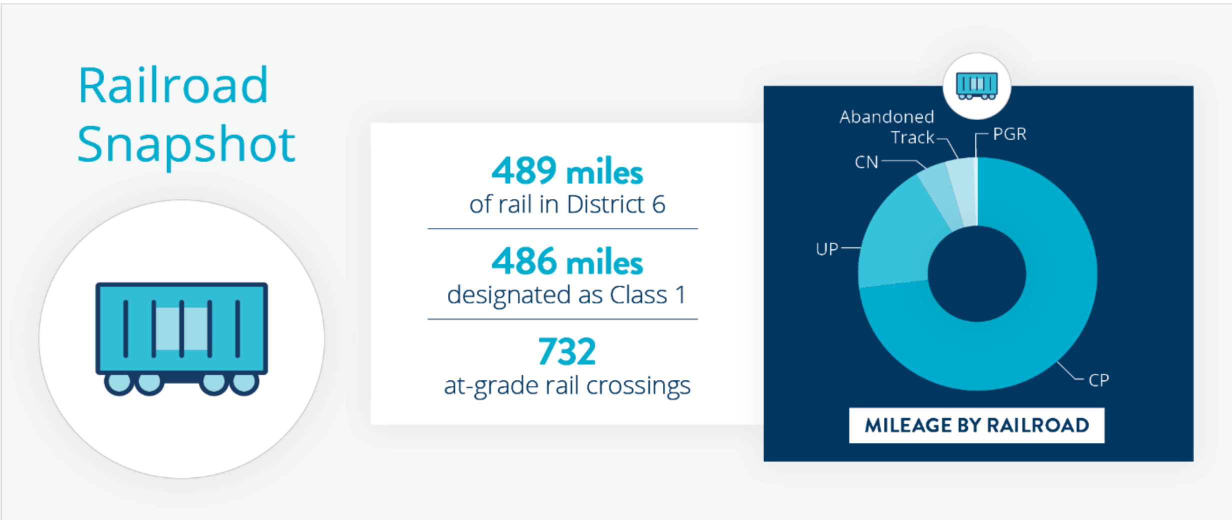

Figure 26: District 6 Railroad Freight System Summary

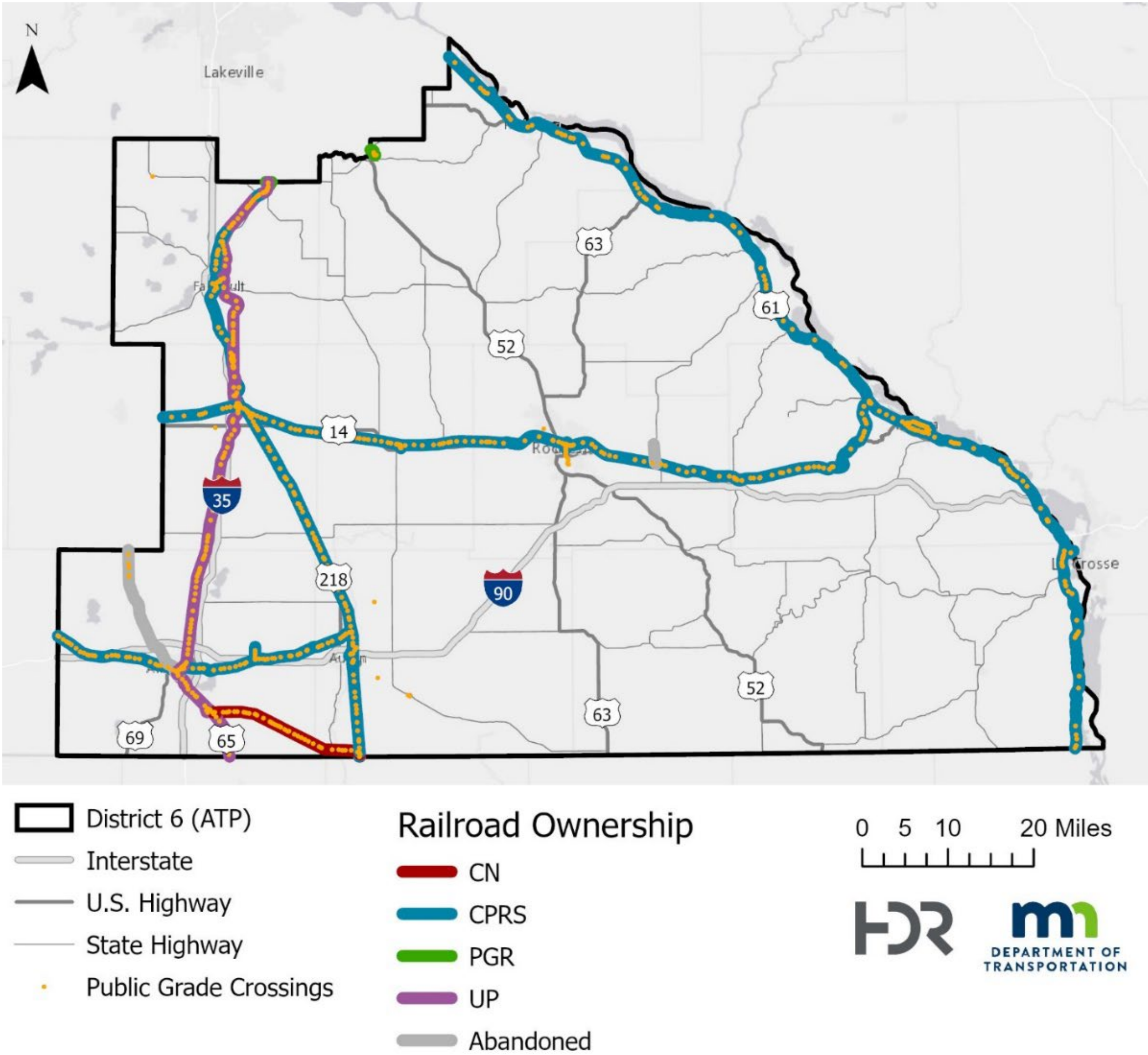

Figure 27: Railroad Lines in District 6

Of the 732 at-grade rail crossings, the highest volume is concentrated on both CP lines. The CP line that runs adjacent to the Mississippi River accommodates up to 20 trains per day and has the highest speeds, with trains traveling up to 80 mph through crossings (Figure 28).

Six fatal grade crossing crashes have occurred within the district in the past five years. Four occurred on the CP line in Winona. Of note is the Winona pedestrian crossing at Carimona Street, which has had two fatal crashes in this period.

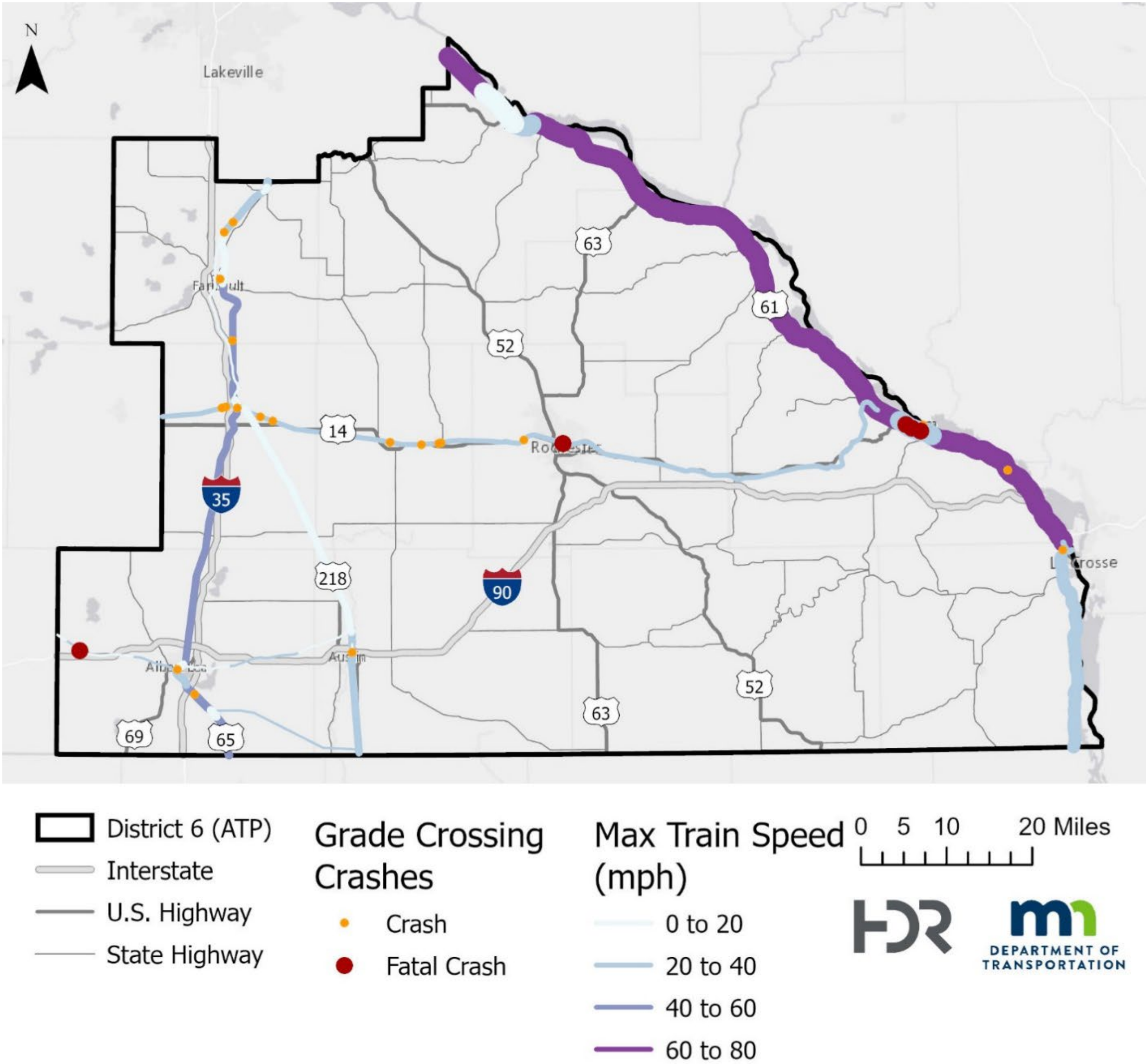

Figure 28: Railroad Volumes, Speed, and Grade Crossing Crashes

Freight Mode: Water

The Mississippi River is a uniquely important freight resource for District 6. The water cargo system along this stretch of the Mississippi River consists of 15 individual freight-handling docks and 7 lock chambers. Of these dock locations, three are located across the river in Wisconsin at Genoa, La Crosse, and Alma. The Mississippi River at this location is designated as Marine Highway M-35. There are 4 terminals that provide key connections between water cargo and the CP rail line that runs adjacent to the Mississippi River along US 61.

Water cargo movement in District 6 is highly concentrated around the ports at Red Wing and Winona. Freight activity at these ports is highly seasonal, with most of the activity occurring between July and November. In 2019, more than 600,000 tons of freight were moved through the Red Wing port. Approximately 82 percent and 58 percent of the freight activity was in the outbound direction at the ports of Red Wing and Winona, respectively.

Figure 29: District 6 Water Freight System Summary

This portion of the Mississippi River accommodates large volumes of major commodities shipped via barge. The largest single commodity group being shipped down river is Farm Products at more than three million tons per year. The largest commodity groups being shipped upriver include Chemicals, Crude Materials, and Manufactured Goods.

Freight Mode: Aviation

Three airports in District 6 currently handled freight in the previous five years. These include the Rochester International Airport, Houston County Airport, and Winona Municipal Airport. Nearly all the District's air cargo freight and passenger service is handled at the Rochester International Airport. A small amount of mail service is provided by the Houston County Airport. Relative to the other airports, the Winona Municipal Airport handles very small volumes of freight, mail, and passengers.

The key origin and destination for air cargo is the FedEx Express's air cargo hub in Memphis (10,000 tons per year). Other connecting cities include Indianapolis (another FedEx Hub), Minneapolis-St. Paul, and Fort Wayne (a medical device center).

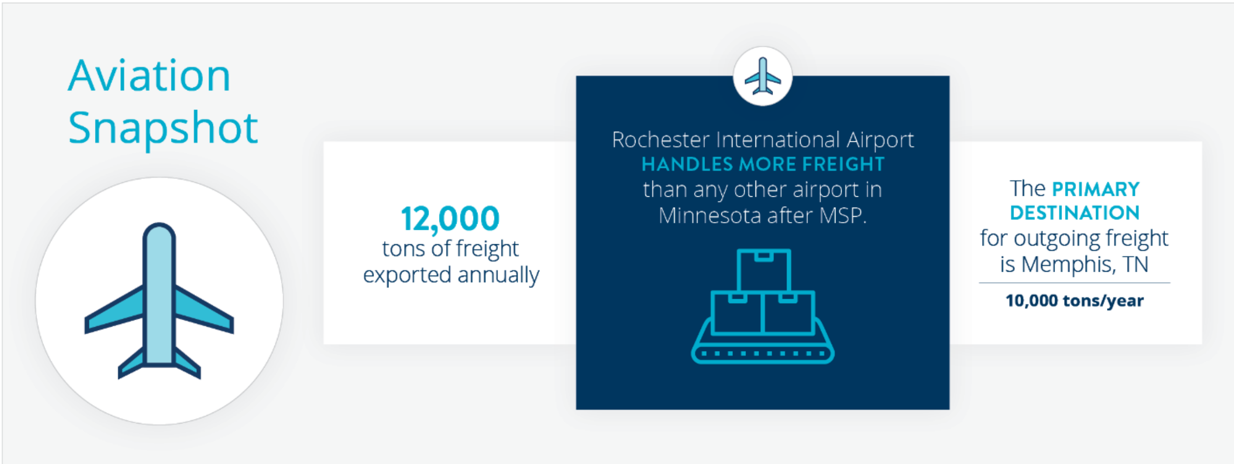

Figure 30: District 6 Aviation Freight System Summary

Freight Mode: Pipelines

Four categories of pipelines extend through District 6, totaling approximately 1,000 miles. These categories include Crude Oil, Hydrocarbon Gas Liquid (HGL), Natural Gas and Petroleum Products. The locations of pipelines and pipeline terminals in District 6 are shown in Figure 32.

While MnDOT has little direct influence on the development of pipeline infrastructure, this mode can have tangible impacts on other freight modes. For example, the shipment of crude oil through Minnesota is typically handled by a combination of pipelines and railroads. Policies and infrastructure conditions that limit the volume of crude oil that can be handled by either mode has the potential to increase the volume of crude oil on the other mode.

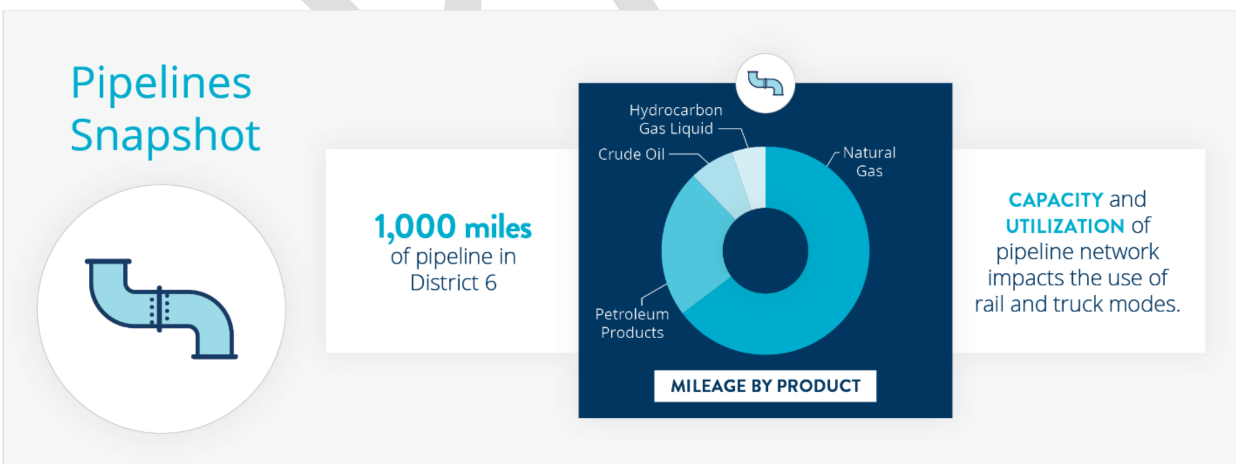

Figure 31: District 6 Pipeline Freight System Summary

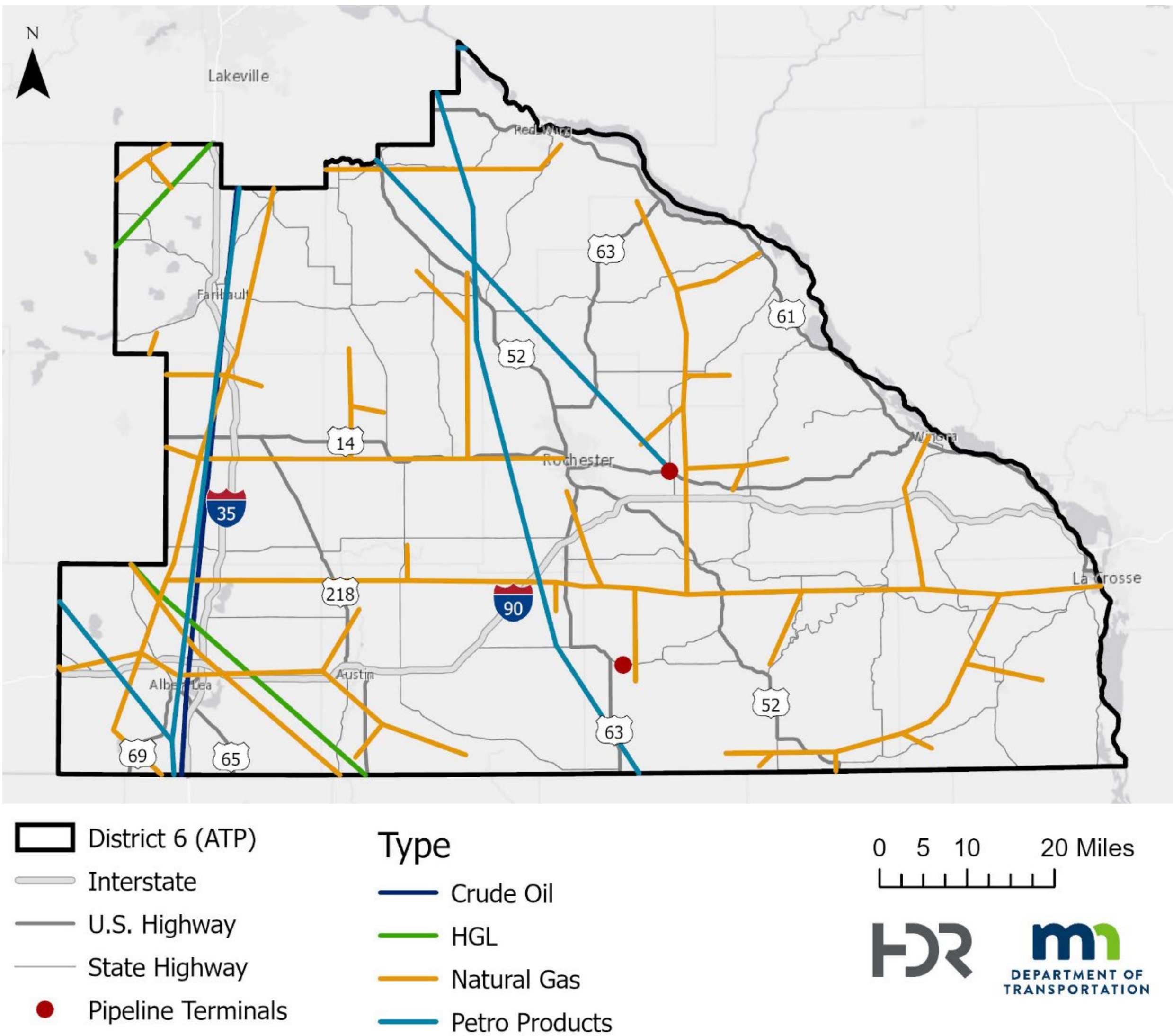

Figure 32: Pipelines in District 6

Chapter 3: Key Needs, Issues and Challenges

District 6 Freight System Needs and Issues

The identification of freight needs in District 6 relies on a variety of sources including the work completed and summarized in Working Papers 3 through 5, interviews with freight businesses throughout the district, and coordination with the Project Advisory Committee (PAC). The intended purpose of this approach is to combine a quantitative data-driven methodology with more qualitative methods to develop a comprehensive list of freight needs and issues within the district.

- **Data-Identified Needs:** Freight needs in this category were determined through a detailed analysis of data collected and summarized in the *Economic and Freight System Profile* document. This included an assessment of crash data, truck GPS data, and freight infrastructure condition data for District 6.
- **Stakeholder-Identified Needs:** Freight needs in this category were determined through coordination with the PAC, interviews with select freight shippers and carriers operating in District 6, and the results of previous plans and studies, particularly the findings of the *District 6 Manufacturers' Perspectives Study* completed by MnDOT in 2018.

Freight Need Categories

To better understand the scope of freight needs within the context of District 6's other transportation infrastructure, the list of freight needs identified through this exercise was categorized into three distinct categories:

- **Safety:** Needs in this category were determined primarily based on crash history over the past five years for highway-related crashes and the past 10 years for crashes at highway-rail grade crossings. Needs were also identified using risk factor analysis developed by MnDOT in previous studies.
- **Mobility:** This category relates to the ability of freight carriers to move freight throughout the district and includes factors such as travel time reliability, congestion, bridge weight limits, and low bridge vertical clearance issues.
- **Condition:** Maintaining freight infrastructure at an adequate condition level is critical to ensuring the long-term viability and trust in the freight transportation system. This category includes freight needs based on MnDOT's bridge condition and pavement quality data.

A full list of the needs identified through this analysis is included in Appendix C.

Data-Identified Needs

The first step in identifying freight needs was the application of a series of freight-related metrics and performance measures based on the safety, mobility, and condition categories discussed above. This needs identification and scoring methodology was developed by MnDOT staff for the purpose of standardizing the approach used in each district freight plan. The methodology identifies thresholds for the identification of freight-related needs through measures such as crash history, infrastructure condition below a specific level, and low travel time reliability scores as measured during the system profile analysis.

As much as possible, these thresholds should remain consistent between district freight plans. However, some thresholds have been adjusted to reflect the unique conditions of District 6. For example, the measures of free flow factor (FFF) and truck travel time reliability (TTRI) will show varying levels of congestion as compared to the neighboring districts of Metro District (higher levels of congestion) and District 7 (lower levels of congestion). For these metrics, thresholds were chosen that represented the range of FFF and TTRI factors specific to District 6. A discussion of the methodology and results applied to each data-identified freight need is provided below.

Maps for the Data Related Needs detailed below are available in Working Paper 5.

Safety and Crash History

Safety issues pose a risk to both human life and property. Crashes involving the movement of freight are often more likely to result in sever injury and death due to the size of the vehicles involved. Freight crashes also impact the economy by disrupting supply chain operations and delaying the delivery of goods. This section identifies freight safety need by reviewing highway truck crash frequency at intersections and roadway segments as well as safety issues at highway-rail grade crossings.

Truck Crash History

This analysis used a 10-year crash history including years 2011 through 2020. Note that for year 2020 crashes, the MnDOT Office of Traffic Engineering considers this data to be preliminary. A total of 5,742 truck-related crashes occurred within District 6 during this period. Separate analyses were conducted for intersection/interchange-related crashes and roadway segment-related crashes.

Intersection/Interchange

A total of 2,667 crashes were identified as either intersection or interchange related. Of these, 334 occurred at highway interchanges and the remaining 2,333 crashes occurred at non-interchange intersections. Interchanges were identified by querying the locations of "motorway-link" segments from the OpenStreetMap roadway geometry file. Segments within the same interchange were grouped and merged into a single spatial feature class. In total, 104 individual interchanges were identified through this process, primarily located on I-90, I-35, US 52, and US 14. Interchange-related crashes were joined to the nearest defined interchange to tally the number of crashes at each. Finally, the MnDOT HCAACT was used to calculate a total daily volume for each interchange. This was used to calculate a crash rate in terms of crashes per million entering vehicles (MEV) for each location.

The location with the highest crash rate is the interchange between I-35 and I-90 with a crash rate of 2.03 crashes/MEV. This is followed by the interchange between I-35 and CR 46 (1.55 crashes/MEV), and the interchange between I-90 and US 52 (1.01 crashes/MEV).

For the non-interchange-related intersection crashes, the 2,333 crashes occurred at 1,700 unique intersections. These intersections were identified by grouping together all intersection crash points located within 100 feet of each other. Since daily truck volumes are not available at many of the lower functional class roadways throughout the district, this approach used raw crash counts rather than crash rates for the intersection crashes. Intersections with more than three crashes over this 10-year period were identified as safety issues. Using this threshold results in 70 individual intersections and a total of 372 truck-related crashes, representing 16 percent of all truck-related crashes in the district.

Segment

A total of 3,075 crashes were identified as not related to intersection or interchange crashes. As noted above, daily truck volumes were not available at each roadway segment. As an alternative to calculating crash rates in terms of crashes per vehicle-miles travelled, the segments were evaluated by evaluating crashes per mile. Each segment crash location was joined to the nearest OpenStreetMap roadway segment (the segments included the OpenStreetMap functional class definitions of motorway, trunk, primary, secondary, and tertiary). Roadway segments less than ¼-mile in length were excluded from the analysis. The threshold used to identify segments with safety issues was 6 or more truck-related crashes per mile or roadway. Additional information about these issues can be found in Working Paper 5.

Highway-Rail Grade Crossing Risk Rating and Crash History

This analysis builds on the results of MnDOT's *Rail Grade Crossing Safety Project Selection* study completed in 2016. This study included a systematic assessment of risk factors associated with increased crash rates at highway-rail grade crossings. A result of the study was the calculation of risk ratings for each crossing in Minnesota measured on a scale of 0 to 10 for active crossings (with gates and/or flashing lights) and 0 to 9 for passive crossings (crossbucks with stop or yield signs). MnDOT's recent rail safety focus has been the upgrading of high-risk passive crossings to include gates and flashing lights.

For this analysis, public rail grade crossings were identified as a freight safety need if they were a passive crossing that scored equal to or higher than a rating of 7. This threshold identifies 9 crossings with a rating of 7 and one crossing with a rating of 8. Most of these crossings are located on the UP and CP rail lines in Owatonna and near Albert Lea. Additionally, ***this analysis identified grade crossings which experienced more than one crash in the five-year crash history as high-risk safety needs. Only one crossing—a pedestrian-only crossing in Winona—met this criterion.***

Freight Mobility

Multiple factors influence the ability of freight carriers to transport goods across the roadway system. The factors included in this analysis include Free Flow Factor (FFF), a measure of average congestion levels, Truck Travel Time Reliability (TTRI), a measure of the variability in traffic congestion, and bridge vertical clearance and bridge weight limit. These bridge limitations may affect the efficiency of truck routing if the ideal route is blocked by a low bridge or a low weight limit.

FFF

The FFF measures were created using MnDOT's StreetLight Insight platform. StreetLight measures the average travel speed on each roadway segment over the course of a 24-hour period. The maximum average speed among those 24 hours is the free flow speed, or the speed at which vehicles will travel without impediments such as congestion. The FFF is calculated by dividing the average vehicle speed over the course of the day by the free flow speed. A FFF value near 1.0 indicates that vehicle speeds change relatively little over the course of the day. A FFF value of 0.5 indicates that vehicle speeds on average are half of what they would be under free flow conditions and points to severe congestion issues. As discussed in the Economic and Freight System Profile, roadway segments were identified as areas of concern if they showed a FFF value of 0.8 or less, the segment was in the top 50th percentile for truck volume, and the segment was at least ¼-mile in length.

TTRI

An alternative measure of truck mobility is the travel time reliability index (TTRI). This federal performance measure is defined as the ratio between the 95th percentile travel time (representing traffic when it is slow and congested) and the 50th percentile time (representing average traffic conditions). A higher TTTR value indicates more variability in travel time, and therefore less reliability. A TTTR of 1.0 indicates a roadway segment that never varies in travel time (very reliable) while a TTTR of 2.0 indicates a roadway segment where the travel times during the slowest conditions are twice as slow as on average (less reliable). These measures were also created using MnDOT's StreetLight Insight platform and are discussed in more detail in the Economic and Freight System Profile. Roadway segments were identified as areas of concern if they showed a TTRI of 5.0 or more, the segment was in the top 50th percentile for truck volume, and the segment was at least ¼-mile in length.

Bridge Vertical Clearance

In some cases, the presence of low bridge vertical clearances requires trucking carriers to travel a more circuitous and inefficient route. National Bridge Inventory (NBI) data was reviewed to identify bridges with low clearance (vertical clearance less than 14 feet, 6 inches). In District 6, there are three bridges that have been categorized as having a low underclearance. Their locations are:

- MN 14 underpass west of Winona
- 2nd Avenue NW over Division Street W in Faribault
- Roads under MN 43 near the Mississippi (Note that it is unclear from the NBI data which road experiences these clearance issues. It is assumed that the location is the underpass on the south side of the island between the Minnesota and Wisconsin sides of the river.)

In addition to the road-over-road bridges, this assessment also evaluated railroad-over-road bridges for clearance issues. Note that this type of bridge is not included in the NBI data. To assess this bridge type, FRA crossing inventory data was reviewed to identify the locations of railroad bridges with low vertical underclearance (less than 14 feet, 6 inches). Due to the high cost and structural requirements related to railroad-over-roadway bridges, it is very common for these bridge types to have low clearance issues. A total of nine locations in District 6 were identified as railroad-over-bridge crossing types in the current FRA crossing inventory data. Of these, six were identified as having low vertical underclearance. The remaining three bridges either had adequate clearance, were miscategorized as the incorrect bridge type, or were unable to be located.

Bridge Weight Limit

Like bridge vertical clearance issues, bridges with low weight limits have the potential to impact the efficiency of truck routing. For this analysis, bridges in District 6 were identified as being a freight need if they have an operating weight limit of 80,000 pounds or less. ***Within District 6, there are seven weight limited bridges.***

Infrastructure Condition

Insufficient maintenance of freight infrastructure can have substantial impacts to the movement of freight. Deteriorating bridges and roadways pose a safety risk to all transportation system users and have the potential to damage goods. Roads and bridges may also deteriorate to the point that weight limits are put in place further impacting freight movement.

Bridge Condition Rating

MnDOT bridges are routinely inspected to identify issues that require immediate or long-term repair. Each bridge is measured on a condition scale of 0-10 for three categories: Deck, Superstructure, and Substructure. For this analysis, any bridge with a condition rating of 4 or less was identified as a freight need. The description of the conditions warranting a rating of 4 are summarized below for each category.

- **Deck:** Deck has advanced deterioration (replacement or overlay should be planned).
- **Superstructure:** Superstructure has advanced deterioration. Members significantly bent or misaligned. Connection failure may be imminent. Bearings severely restricted.
- **Substructure:** Substructure has advanced deterioration - repairs may be necessary to maintain stability. There may be extensive scour, erosion, or undermining. There may be significant settlement, movement, misalignment, or loss of bearing area.

Six bridges within District 6 meet these criteria. Most bridges meet these criteria due to low ratings for deck condition.

Pavement Quality

MnDOT routinely monitors pavement quality and condition on interstate highways and state roads in Minnesota. The Pavement Quality Index (PQI) is a measure of overall pavement quality measured on a rating scale between 0.0 and 4.5. The PQI is further grouped into rating ranges of Poor (0.0 – 1.8), Fair, (1.9 – 2.7), and Good (2.8 – 4.5). For this analysis, any roadway segments with a PQI rating of Poor were identified as a freight system need. In District 6, three roadway segments meet these criteria.

Stakeholder-Identified Needs

The identification of needs through stakeholder outreach is intended to both supplement and compliment the data-identified needs discussed in the previous section. While the data-driven needs identification provides a quantitative and objective approach, there are many potential freight issues that would not come to light through a data-driven approach alone such as problematic intersection geometry, the need for roadway expansion, or potential safety concerns that have not yet resulted in crashes.

This section includes the results needs identification exercises through reviews of previous plans and studies, a series of stakeholder interviews, an online stakeholder survey, and feedback from the Project Advisory Committee.

Previous Plans and Studies

One of the primary sources of information on freight needs comes from the District 6 Manufacturers' Perspectives Study, completed in 2018. The study involved interviews with 115 freight-related businesses within the district with the goals of better understanding business needs and priorities, building relationships between MnDOT and the private sector, and supporting continuous improvement at MnDOT with input from this customer segment.

One focus of the interviews was to identify needs and issues experienced by the manufacturers' to better understand how MnDOT can help improve the freight transportation system. ***Feedback included policy issues such as concern about truck size and weight consistency between Minnesota and neighboring states and operational issues such as needing to have snow plowing completed earlier in the morning to ensure smooth and safe morning deliveries. For this study, feedback related to requests for upgraded or modified infrastructure were collected and categorized.***

A total of 46 issues and needs were collected from the Manufacturers' Perspectives Study. Each issue has been designated a unique issue ID. The locations of these needs are shown in Figure 33. Additional information about these issues can be found in Appendix C. Each issue was broadly categorized as related to safety, condition, or mobility. While many of these issues could be identified in more than one category (i.e., a signalized intersection that could improve both mobility and safety), each was assigned a single category according to the primary driver of the issue.

- **Safety:** 12 issues were related to safety. These included issues such as general requests for safety improvements at interchanges and intersections, requests for shoulder widening, and request for installation of advance warning signage and electronic dynamic message signs.
- **Condition:** Only 3 issues were related to infrastructure condition. All these issues were related to request for paved shoulders on various US and MN highways.
- **Mobility:** 31 issues were related to freight mobility. The most prevalent comments are requests were for the addition of signals at intersections, the addition of bypass, acceleration, or turn lanes, and the upgrade of two-lane highways to four lanes.

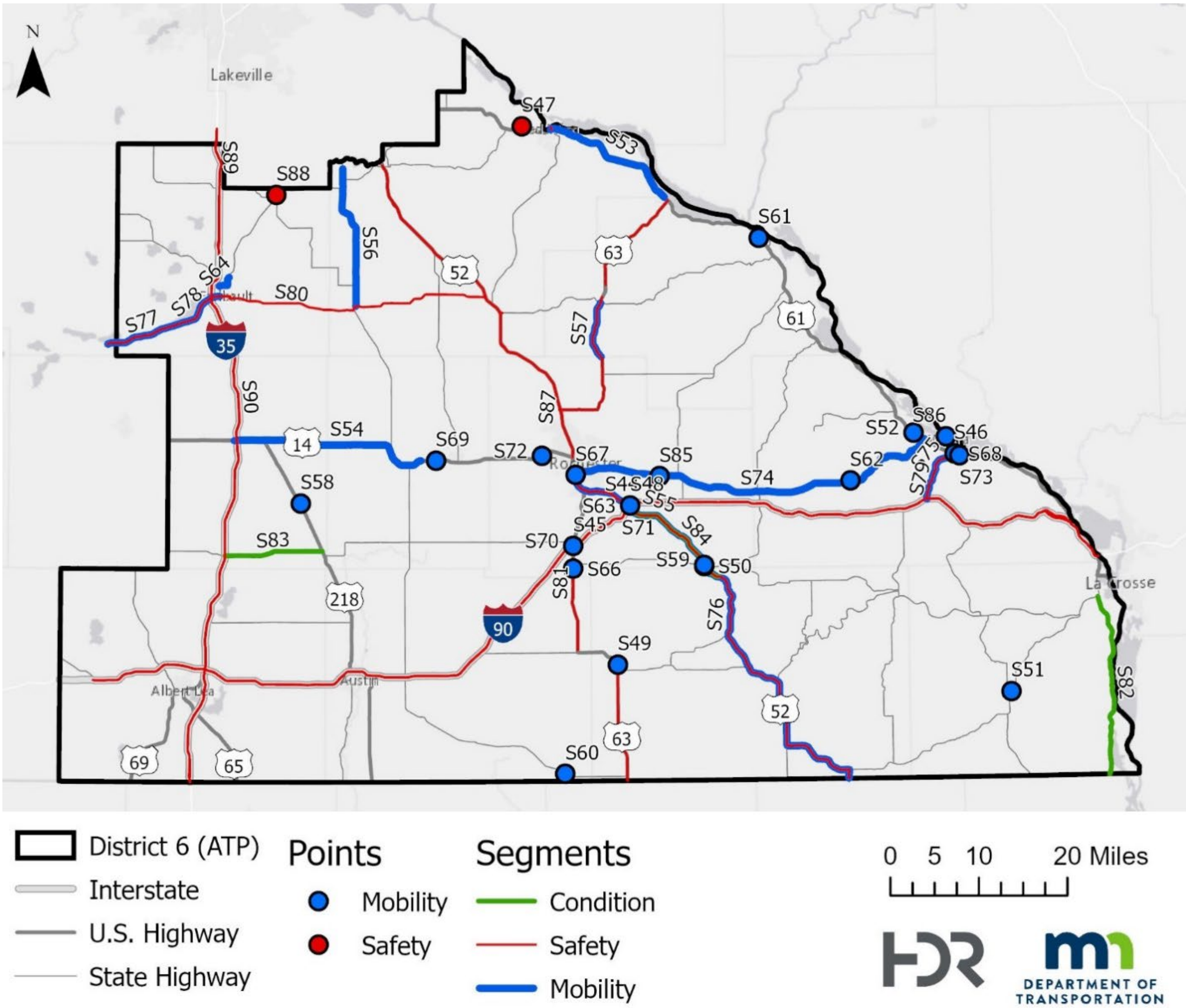

Figure 33: Previous Plans and Studies Identified Needs

Stakeholder Interviews and Online Survey

A series of stakeholder interviews were conducted as part of this study to identify current freight needs and issues related to freight movement through District 6. For each interviewee, questions were asked regarding the type of industry they represent and how their business uses and relies on the freight system in the district. Questions focused on economic factors of the business such as the types of good they ship, the types of vehicles they use, and the locations of their most heavily used shipping routes. Questions also focused on the identification of freight system issues that most impact their business, including policy-related issues such as truck size and weight restrictions as well as infrastructure issues such as pavement conditions or truck route restrictions.

In addition to these interviews, a supplementary online survey was distributed including a similar series of questions. Responses were collected from 65 distinct respondents, and 43 distinct issue locations were identified. Note that the number of identified issues is lower than the number of unique respondents due to instances of redundant or similar comments.

Like the Previous Plans and Studies section, each comment was identified as either a Safety, Mobility, or Condition freight issue. Note that in one instance, a comment related to noise issues along a specific roadway segment was categorized as “other”. The locations of the needs identified during stakeholder interviews and the online survey are shown in Figure 34. Each issue has been designated a unique issue ID. Additional information about these issues can be found in Appendix C.

Some of the issues that appeared most frequently during comment review were the upgrading of two-lane highways to four-lane highways, requests for additional or extended overnight parking for commercial vehicles (Elko New Market, Red Wing, Winona, and I-35), and requests for reduced speed limits on specific segments.

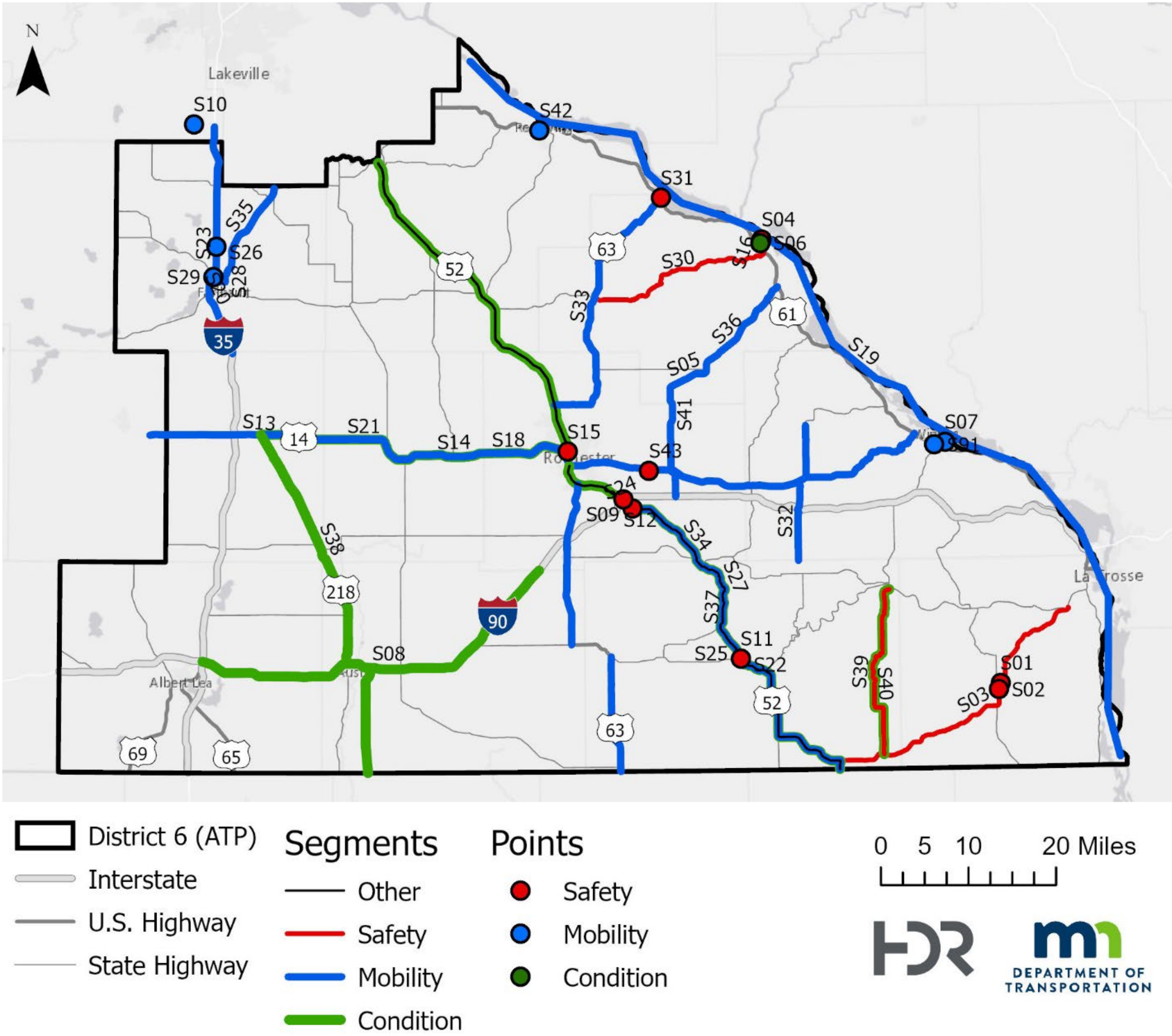

Figure 34: Stakeholder Interview and Online Survey Identified Needs

Future Challenges

While this plan identified specific freight needs and improvements, the analysis and outreach effort also captured much larger long-term challenges that must be addressed to enhance freight mobility in District 6. While some of these issues are not in MnDOT's direct control, they pose impediments to economic development in the region. Specifically:

Importance of Air Cargo: Rochester International Airport supports the Mayo Clinic's air cargo needs. The airports continued investment in air cargo facilities, runways, etc. will be key to supporting this need but also attracting high value manufacturing to the region.

Truck Parking: Albert Lea has the highest concentration of truck parking activity and capacity in the state. Truck parking needs are greatest in the area between Faribault and Northfield.

Manufacturing is critical to the economy: Manufacturing and freight-related businesses make up the large share of District 6 employment (37 percent). Ensuring these industries transportation needs are adequately met is a key part of retaining and expanding those industries.

Limited Mississippi River Crossing Options: Extended river crossing closures result in long detours that are detrimental to industries who supply chains and employees span into Wisconsin.

Increase in Truck Volumes: An increase in truck volumes from manufacturing and agriculture will require additional infrastructure improvements on the freeway system. Oversized loads also accelerate the deterioration of the district's pavements and bridges' conditions.

E-commerce and urban delivery: A surge in e-commerce and urban deliveries is causing issues in residential areas around Rochester and smaller communities like Caledonia.

Rail Grade Crossings: Winona is a hotspot for highway-rail grade crossing crashes with four fatal crashes in five years.

SWOT Analysis

Based on the results of the quantitative economic and freight system profile analysis and stakeholder feedback, a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis was conducted to frame the development of the project's prioritization efforts. The table below summarizes internal (Strengths and Weaknesses) and external (Opportunities or Threats) issues that should be considered when planning for District 6's economic future. A thorough SWOT analysis is detailed in Working Paper #4.

Table 4: District 6 Freight SWOT Analysis

Strengths	Weaknesses
• Strong industries and local communities • Air cargo facilities/investments • Port facilities in Minnesota and Wisconsin • Investment in air cargo • Proper and clear signage, generally good placement for advance warning • Investment in innovative safety projects • Many issues identified by this plan were already in the project development pipeline.	• Narrow industry specialization • Aging port infrastructure • Limited river crossings and rail facilities • Significant unmet truck parking demand • Rural intersections/segments issues during harvest • Substantial congestion/reliability issues in Rochester • Deterioration of rural roadway pavements • Short freeway entrance ramps • Winter weather response and road maintenance • Increased rail grade crossing incidents • Conflicts between trucks/active transportation users • Speed differentials in communities
Opportunities	**Threats**
• Air cargo service (that supports Mayo Clinic) could be a catalyst for economic development • Increased focus on the inland waterways by the federal government • District investments align with freight needs • Multimodal synergies between the Twin Cities and Rochester • New funding opportunities for grade crossing safety • Partnerships with local delivery companies • Future “main street” redesign projects could integrate freight	• Limited access to intermodal shipping containers • Reliance on railroad intermodal yards elsewhere • Mississippi River levels and infrastructure • Connected vehicles could reduce air cargo volumes • Limited funding opportunities for multimodal projects • Overweight trucks accelerating the deterioration of road and bridges • Increased e-commerce related deliveries in residential and downtown areas • Insufficient shoulder widths threatening bicycle traffic

Chapter 4: Project Funding and Prioritization

Funding Sources for Freight Improvements

Minnesota State Highway Investment Plan

Previous transportation plans – nationally and in Minnesota – have identified an overall funding shortfall that constrains the ability of State DOTs to respond adequately to ongoing maintenance, operations, and capacity needs. In Minnesota, this gap is documented in the Minnesota State Highway Investment Plan (MnSHIP).

The 2018 MnSHIP estimated an $18 billion funding gap through 2037.

District 6 Capital Highway Investment Plan

More locally, the 2020 District 6 Capital Highway Investment Plan (CHIP) details how the district plans to invest over $970 million in highway infrastructure improvements over the next decade. The CHIP is updated annually and feeds into the larger Minnesota State Highway Investment Plan (MnSHIP). Investment decisions are based on the following overall strategies. Figure 35 highlights four overall objectives and specific areas of focus while Figure 36 represents how future programming plans align with those strategies and the relative investments dedicated to them.

System Stewardship	• Continue to asess pavement condition • Continue to coordinate roadside infrastructure investments • Pursue turnbacks of non-NHS roadways
Transportation Safety	• Implement strategies eligible for funding • Maintain the flexibility to react to changing conditions • Coordinate safety investments with other preservation projects
Critical Connections	• Contintue District Municipal Agreements program • Implement bicycle accomodations • Continue addressing identified ADA needs in communities
Healthy Communities	• Coordinate bicycle and pedestrian improvements with local planning efforts
Project Delivery	• Anticipate and provide funding for supplemental agreements, cost overruns, incentives, right-of-way, and consultants

Figure 35: District 6 CHIP Investment Strategies and Highlighted Initiatives

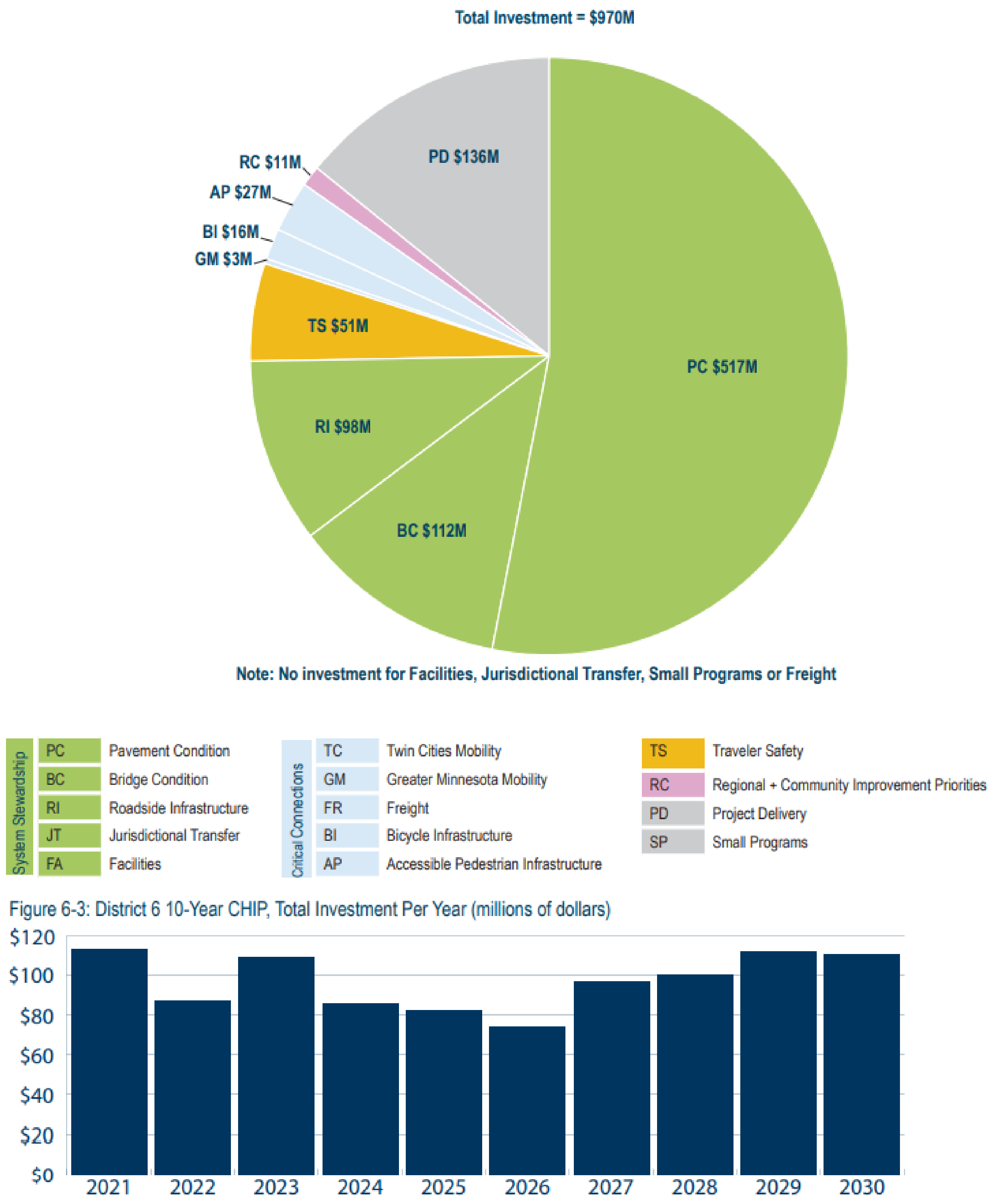

Figure 36: District 6 CHIP Investment Plan Summary

Freight Specific Funding

The Fixing America's Surface Transportation (FAST) Act created a dedicated freight formula program, the National Highway Freight Program. While the program establishes basic eligibility criteria and some funding limitations, it allows each state to allocate the funding as they see fit. Recently, the Infrastructure Investment and Jobs (IIJA) Act reauthorized this program through 2026.

In 2017, MnDOT established the Minnesota Highway Freight Program (MHFP) as a competitive grant program to award the federal freight allocation. The process was updated in 2020. There are currently two major MHFP categories: Roadway Projects and Intermodal Projects. Within the Roadway Projects category there are three subcategories: Safety Projects, Freight Mobility Improvements and First/Last Mile Connections.

Table 5 summarizes the maximum number of points for each criterion under each category. The + sign indicates extra points can be awarded for the category or measure. Projects cannot exceed 1,000 points or the maximum points for any category.

Table 5: 2020 Minnesota Highway Freight Program Selection Criteria

Criteria	Main Measure	Category: Safety	Category: Freight Mobility	Category: First/Last Mile
Truck Volume	Heavy Commercial Annual Average Daily Traffic (HCAADT)	250	250	250
Safety	Crash rate reduction	350	100	100
Mobility	Truck Travel Time Reliability	100	350	150
Facility Access	Number of Trucks Entering and Exiting Project Area	+25	+25	200
Cost-Effectiveness	Divide number of points awarded above by amount of requested funds	150	150	150
Project Readiness	Various measures	150	150	150

Approach to Freight Project Selection and Prioritization

The first step in the freight project selection and prioritization effort was to compare the identified needs against the planned and programmed transportation infrastructure projects to be completed over the next few years to identify any gaps or areas of need that are not currently being addressed. This approach reviewed programmed improvements for MnDOT's State Transportation Improvement Program/Southeast Minnesota MPO Regional Freight Study and MnDOT's Capital Highway Investment Plan. Figure 37 overlays the locations of all identified freight needs with the locations of programmed transportation improvements.

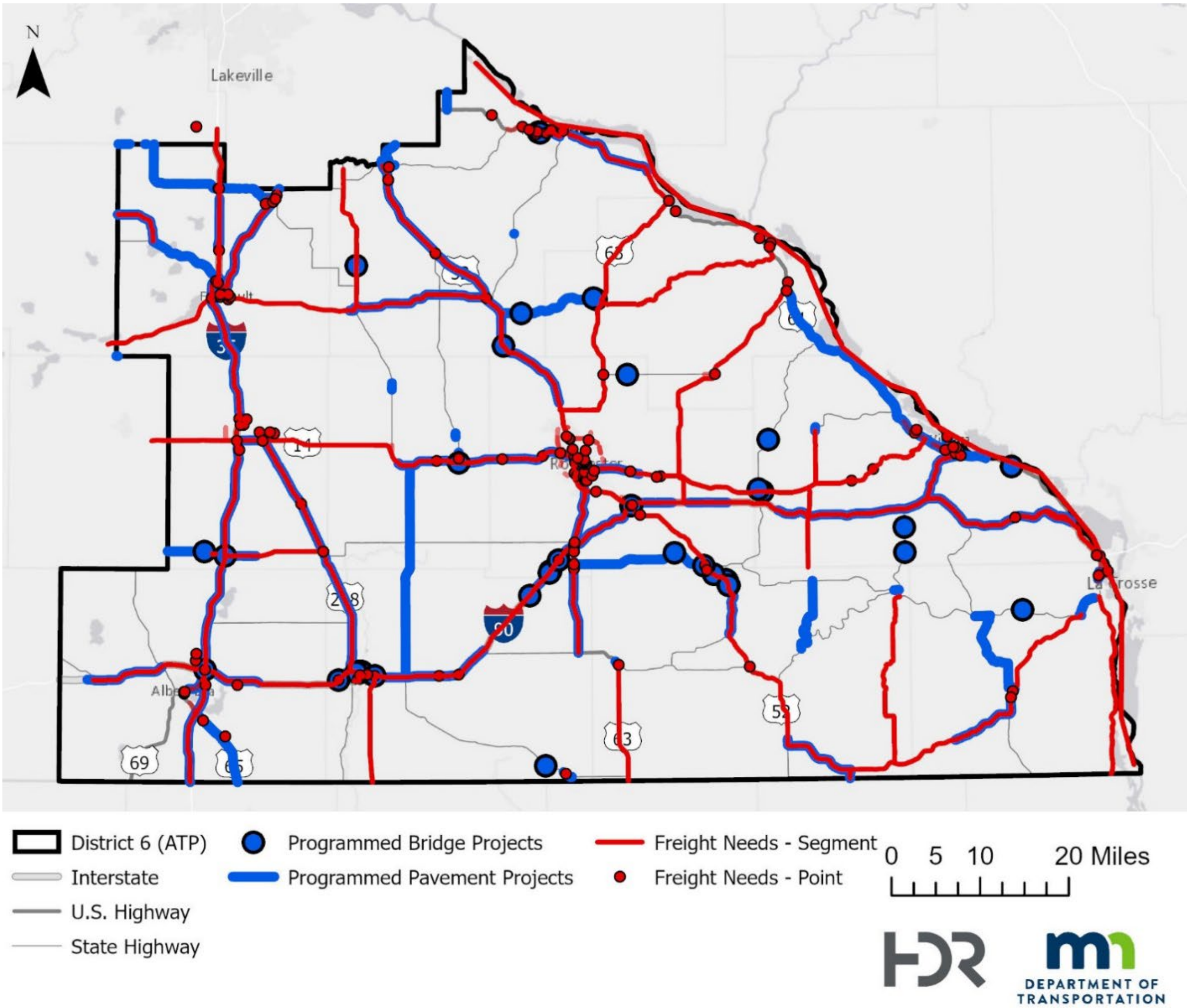

Figure 37: Needs vs. Programmed Projects

Prioritization Process

To identify and prioritize projects that will have the greatest impact on the District 6 freight system, this analysis used a project scoring approach using a variety of scoring measures. These included scores related to truck volume, truck percentage, crash history, grade crossing safety, travel time reliability, and bridge conditions. Each scoring category assigns a range of values between 0 and 5 based the individual measures which have been tailored to match the relative scale of freight conditions in District 6. Additional information about the prioritization process and specific criteria are available in Working Paper 5.

While the needs were prioritized using a data-driven process, District 6 and key stakeholders decided what projects to progress to the next phase of the project – preliminary conceptual design. The Pure Ranking of the evaluated needs is available in Appendix C.

Chapter 5: Recommended Actions

Recommendations

Chapter 3 identified key freight system needs, issues and challenges. The chapter evaluated District 6's strengths and opportunities to improve the economic competitiveness of the area. To support MnDOT's continued investment in the district's freight network, the plan has identified recommendations organized into:

- **Projects** to physically improve the district's freight system.
- **Policies** to improve the governance and efficiency of the district's freight system.
- **Programs** to improve freight mobility in the area.
- **Partnerships** to collaboratively address system and operational challenges.

Projects

Chapter 4 identified over 391 freight needs (see Figure 33). The complete list of identified gaps is available in Appendix C. Generally, the gaps fell into three categories: safety, mobility, and conditions. These categories also correspond with the MHFP project categories.

Safety

A total of 162 locations were identified as having a freight safety need. Nearly 75 percent of these locations were identified based on the analysis of MnDOT truck-related crash data. Another 5 percent were identified based on FRA accident/incident data and the MnDOT Rail Crossing prioritization score. The remaining needs were identified through a review of previous plans and studies, stakeholder interviews, and online surveys. Many programmed projects overlap with the locations of freight needs. However, the extent to which these projects will address safety concerns is unknown. Therefore, these needs were categorized as gaps.

Mobility

A total of 216 locations were identified as having a freight mobility need. The majority (70 percent) of these locations were identified based on a review of FFF and TTRI measures. Approximately 22 percent of the locations were identified through stakeholder engagement or previous plans and studies. The remining issues were identified through a review of bridge vertical underclearance and operating limit. As with the safety needs, the extent to which the programmed projects overlapping with these issues will address freight mobility issues is unclear. These needs are also categorized as gaps.

Condition

A total of 12 locations were identified as having a freight condition need. As noted above, many of the needs identified based on a review of bridge and pavement condition will be addressed by upcoming programmed projects. Three of the final needs' locations were based on bridge condition ratings while the remaining nine locations are based on stakeholder feedback or previous plans and studies.

Project Feasibility and Conceptual Analysis

From this prioritized list, the 50 top ranked locations were then reviewed to assess whether they should be considered for conceptual analysis and preliminary cost estimation. Working with the Project

Management Team, each freight need location was discussed to determine whether the freight need had already been addressed through recent projects or if the need made a good candidate for further review and development of conceptual design layouts and cost estimates. A total of 11 issues were selected from this list. These 11 locations will be reviewed in more detail by the project team to more thoroughly understand the issues driving the freight needs and conceptual improvement layouts and cost estimates will be developed for consideration by MnDOT staff. In some cases, multiple concepts may be developed for a single location.

The table below summarizes the issue locations selected for additional analysis and provides additional notes relevant to each issue. The full conceptual analysis and layouts are provided in Appendix C.

Table 6: Issues Selected for Conceptual Design and Analysis (To be Updated When Conceptual Design is Complete)

Issue ID	Roadway	Issue	Conceptual Design and Review Notes
D46	MN 42	Safety - Intersection	TBD
S59	US 52/MN 30	Stakeholder Issue	Add bypass lane at intersection
D87	I 35	Safety - Segment	TBD
D110	US 52	Safety - Segment	TBD
D257	US 63	TTRI	TBD
D65	MN 3	Safety - Intersection	TBD
D54	I 35	Safety - Intersection	TBD
D108	I 35	Safety - Segment	TBD
D98	I 35	Safety - Segment	TBD
S49	US 63	Stakeholder Issue	Add signals/other intersection improvements
D292	US 52	TTRI	TBD
D112	US 63	Safety - Segment	TBD
D64	MN 3	Safety - Intersection	TBD
D93	US 63	Safety - Segment	TBD
D177	MN 3	FFF	TBD

Policies, Programs, and Partnerships

The 2018 Statewide Freight System and Investment Plan (SFSP) identified five specific goals designed to guide MnDOT's efforts to support freight mobility.

- Support Minnesota's Economy
- Improve Minnesota's Mobility
- Preserve Minnesota's Infrastructure
- Safeguard Minnesotans
- Protect Minnesota's Environment and Communities

To ensure the District 6 Freight Plan's recommended policies, programs and partnerships align with the current SFSP, the recommendations were structured by SFSP goal. The recommendations address issues identified by the SWOT analysis and stakeholders and are focused on initiatives MnDOT and/or their partners could undertake to improve freight mobility.

SFSP Goal 1: Support Minnesota's Economy

The ability of businesses and industries in Minnesota to compete in the marketplace relies in part on an efficient freight transportation system that effectively moves goods and raw materials. The freight system that these businesses depend on is multimodal, transports products not only within Minnesota but also throughout the U.S. and provides connections to trading partners throughout the world. Minnesota's freight system needs to respond and adjust to changing state, U.S., and world economic conditions.

Table 7: Policies, Programs and Partnerships to Support Minnesota's Economy

Type	Description
Policies	• Incorporate the District Freight Plan's results into other MnDOT and MPO plans. • Support the long-term expansion of Rochester International Airport • Continue to focus on reliable travel to the Twin Cities and Chicago • Maintain focus on the transportation needs of freight dependent industries
Programs	• Update Manufacturers Perspective Study on a regular basis
Partnerships	• Continued partnership with the area's two MPOs and the State of Wisconsin • Explore maritime investment opportunities with local, state, and federal partners • Continued outreach to the freight stakeholders

SFSP Goal 2: Improve Minnesota's Mobility

Freight system mobility can be described in several ways. Delay, slow travel speeds, and congestion are ways to measure mobility, and each translates into a freight transportation system that may have limited maneuverability, be unreliable, have chokepoints, and not provide a competitive advantage to industry. A freight system that has limited mobility may be unattractive for industries, especially where "just-in-time" delivery is critical. Minnesota's freight system needs to offer access for all freight users and reliable service with minimal chokepoints.

Table 8: Policies, Programs and Partnerships to Improve Minnesota's Mobility

Type	Description
Policies	• Continue improving winter storm preparation and response along key freight corridors. • Explore improved connectivity between CSAH, Trunk Highways and National Highway System. • Develop incident clearance procedures for Mississippi River bridges.
Programs	• Long term investment/development of new Mississippi River bridges • Hardening of existing Mississippi River bridges (to prevent prolonged closures) • Develop a district freight planning program
Partnerships	• Multi-state oversized/overweight harmonization • Assistance to county governments with freight planning • Work/Partner with the MPOs to address freight planning needs in their area. • Further develop partnership with Wisconsin DOT.

SFSP Goal 3: Preserve Minnesota's Infrastructure

In 2012, one billion tons of freight moved over Minnesota's transportation system, and by 2040 that volume is expected to rise to 1.8 billion tons – an increase of 80 percent overall. In 2012, trucks carried 63 percent of all freight tonnage, while rail (carload and intermodal) carried about 25 percent. This growth in freight transportation will stress Minnesota's transportation infrastructure. Strategic improvements in multimodal freight system infrastructure to ensure critical segments and connections are both available and in a state of good repair are essential for Minnesota to meet expected demand.

Table 9: Programs, Policies and Partnerships to Preserve Minnesota's Infrastructure

Type	Description
Policies	• Improved signage – both directional and dynamic messaging signs • Focus on maintaining of existing freight infrastructure as freight volumes increase
Programs	• Work to improve truck parking availability on I-35 • Share information with aligned organizations and elected officials
Partnerships	• Work with local governments and counties to improve pavement conditions on key freight corridors

SFSP Goal 4: Safeguard Minnesotans

Safety is a high priority for both public and private organizations involved in freight transportation. In Minnesota, a multifaceted approach to enhance safety has resulted in a historic trend of decreasing fatalities for both passenger and commercial vehicles. However, there are increased safety concerns in some Minnesota communities due to increased transport of hazardous materials, in particular crude oil from the Bakken region of North Dakota transported by rail. Minnesota needs to enhance freight system safety and ensure plans are in place to protect areas where freight activity and the public interface.

Table 10: Policies, Programs and Partnerships to Safeguard Minnesotans

Type	Description
Policies	• Improved signage near past crash locations, left hand turn lanes, bypass lanes, or two-way left turn lanes, which may help eliminate these risks during harvest • Develop district freight safety program • Explore ways to improve rail grade crossing safety • Explore how to integrate freight more fully into the HSIP program
Programs	• Create a shoulder improvement program for key freight corridors • Explore MnDOT Weight Enforcement Plan improvements in the district
Partnerships	• Partner with counties to increase response times to winter weather on local roads • Increase partnership with other organizations to improve rail grade crossing safety • Work with partners to integrate freight into their safety planning efforts

SFSP Goal 5: Protect Minnesota's Environment and Communities

Minnesota's residents and businesses rely on freight transportation to support their economies; however, freight facilities and services sometimes negatively impact communities and the environment. Some of these impacts relate to air quality and noise, the presence of trucks in neighborhoods, and land use conflicts. Freight may affect Minnesota's traditionally underrepresented communities, such as racial and ethnic minorities, households without vehicles, and persons who are low-income. It is necessary to plan, design, develop, and preserve the freight system in a way that respects and complements the natural, cultural, and social context and is consistent with the principles of context sensitive solutions.

Table 11: Policies, Programs and Partnerships to Protect Minnesota's Environment and Communities

Type	Description
Policies	• Develop programs that minimize the environmental impacts of freight, specifically: pollution, greenhouse gas emissions, stormwater impacts, noise, and wildlife habitat loss • Work to incorporate freight into complete streets policies • Analyze the impact of freight on environmental justice populations
Programs	• Balance community needs when designing future complete streets projects
Partnerships	• Work with private sector partners and local agencies, study and address urban delivery issues in downtowns. • Partnerships with local delivery companies to address curb space/parking issues

Appendix A: Previous Plans

A key component of this District Freight Plan is to capture existing relevant work undertaken by MnDOT and their partners. By doing so, the plan can build upon those past efforts and analyze already identified issues at greater depth.

The review of previous plans undertaken for this District Freight Plan identified several relevant past efforts, with the five most relevant documents summarized below. This chapter explores and syntheses key takeaways from these documents. A complete review of all these documents is available in Working Paper 2.

- Statewide Freight System & Investment Plan
- State Rail Plan
- Statewide Ports & Waterways Plan
- Statewide Truck Parking Study
- Minnesota Weight Enforcement Investment Plan
- Minnesota State Highway Investment Plan
- Freight Rail Economic Development Study
- Rail Grade Crossing Safety Project Selection Study
- Connected and Automated Vehicle Strategic Plan
- MAASTO Connected and Automated Vehicle eSummit
- Develop MN: Comprehensive Development Strategy for Greater Minnesota
- Greater Minnesota Mobility Study
- Southeast Minnesota Regional Freight Study
- Manufacturers’ Perspectives on Minnesota’s Transportation System (District 6)
- Capital Highway Investment Plan (District 6)
- Advancing Transportation Equity (District 6)
- ROCOG Long Range Transportation System Plan
- LaCrosse Area Planning Committee Metropolitan Transportation Plan
- Destination Medical Center Strategic Plan & Integrated Transit Studies

Appendix B: Project Advisory Committee

Table 12: Project Advisory Committee List

Name	Organization
Hal Gray	*FedEx Express*
John Reed	*Rochester International Airport*
Louie Byrne	*Lawrence Transportation*
Ray Talamantes	*Pro Trucking*
Neal Drescher	*McFarland Truck Lines*
Michael McDonough	*McDonough Truck Lines*
Brad Nelson	*McNeilus Truck and Manufacturing*
Shelley Latham	*Perkins STC*
Jim H Krieger	*CP*
Nik Shephard	*Progressive Rail*
Randall Doyal	*Al-Corn*
Chris Hanson	*Poet*
Rick Schwarck	*Absolute Energy*
Eric Seebeck	*Mayo Clinic*
Matthew Wood	*Mayo Clinic*
Tom Griffin	*Mayo Medical Laboratories*
Mark Coffey	*Hormel Foods*
Peter Kolb	*Fastenal*
Mike Ross	*Faribault Foods*
Peter Doherty	*All-American Co-op*
Phil Wacholz	*Freeborn County*
Gregory Ilkka	*Steele County*
Lucy McMartin	*City of Winona*
Brian DeFrang	*City of Winona*
Steven Lang	*City of Austin*
Dillon Dombrovski	*City of Rochester*
Nick Larson	*Port Authority of Winona*
Shari Chorney	*Red Wing Port Authority*
Muhammad Khan	*Rochester-Olmsted Council of Governments*
Ben Griffith	*Rochester-Olmsted Council of Governments*
Peter Fletcher	*La Crosse Area Planning Committee*
Heather Lukes	*MnDOT District 6*
Mark Schoenfelder	*MnDOT District 6*
Kurt Wayne	*MnDOT District 6*
Michael Dougherty	*MnDOT District 6*

Appendix C: Pure Project Ranks

Table 13: Identified Freight Needs

Issue ID	Source	Roadway	Category	Details
D3	NBI or MnDOT PQI	I 90	Condition	Condition Threshold Exceeded
D4	NBI or MnDOT PQI	I 90	Condition	Condition Threshold Exceeded
D5	NBI or MnDOT PQI	US 52	Condition	Condition Threshold Exceeded
D7	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D8	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D9	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D10	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D11	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D12	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D13	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D14	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D15	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D16	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D17	MnDOT 10-Year Crash Data	US 63	Safety	Crash Rate Threshold Exceeded
D18	MnDOT 10-Year Crash Data	MN 30; MN 74	Safety	Crash Rate Threshold Exceeded
D19	MnDOT 10-Year Crash Data	US 63	Safety	Crash Rate Threshold Exceeded
D20	MnDOT 10-Year Crash Data	US 63; MN 30	Safety	Crash Rate Threshold Exceeded
D21	MnDOT 10-Year Crash Data	US 63; MN 30	Safety	Crash Rate Threshold Exceeded
D22	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D23	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D24	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D25	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D26	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D27	MnDOT 10-Year Crash Data	US 14	Safety	Crash Rate Threshold Exceeded
D28	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded

D29	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D30	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D31	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D32	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D33	MnDOT 10-Year Crash Data	MN 16	Safety	Crash Rate Threshold Exceeded
D34	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D35	MnDOT 10-Year Crash Data	US 14	Safety	Crash Rate Threshold Exceeded
D36	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D37	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D38	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D39	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D40	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D41	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D42	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D43	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D44	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D45	MnDOT 10-Year Crash Data	US 61	Safety	Crash Rate Threshold Exceeded
D46	MnDOT 10-Year Crash Data	MN 42	Safety	Crash Rate Threshold Exceeded
D47	MnDOT 10-Year Crash Data	US 61; US 63	Safety	Crash Rate Threshold Exceeded
D48	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D49	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D50	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D51	MnDOT 10-Year Crash Data	I 35 Business; US 65	Safety	Crash Rate Threshold Exceeded
D52	MnDOT 10-Year Crash Data	I 35 Business; US 65	Safety	Crash Rate Threshold Exceeded
D53	MnDOT 10-Year Crash Data	I 35 Business; US 65	Safety	Crash Rate Threshold Exceeded
D54	MnDOT 10-Year Crash Data	I 35	Safety	Crash Rate Threshold Exceeded
D55	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D56	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D57	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D58	MnDOT 10-Year Crash Data	MN 60	Safety	Crash Rate Threshold Exceeded

D59	MnDOT 10-Year Crash Data	MN 60	Safety	Crash Rate Threshold Exceeded
D60	MnDOT 10-Year Crash Data	MN 60	Safety	Crash Rate Threshold Exceeded
D61	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D62	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D63	MnDOT 10-Year Crash Data	I 35 Business; MN 21	Safety	Crash Rate Threshold Exceeded
D64	MnDOT 10-Year Crash Data	MN 3	Safety	Crash Rate Threshold Exceeded
D65	MnDOT 10-Year Crash Data	MN 3	Safety	Crash Rate Threshold Exceeded
D66	MnDOT 10-Year Crash Data	MN 57	Safety	Crash Rate Threshold Exceeded
D67	MnDOT 10-Year Crash Data	US 14	Safety	Crash Rate Threshold Exceeded
D68	MnDOT 10-Year Crash Data	US 61	Safety	Crash Rate Threshold Exceeded
D69	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D70	MnDOT 10-Year Crash Data	US 52	Safety	Crash Rate Threshold Exceeded
D71	MnDOT 10-Year Crash Data	US 52	Safety	Crash Rate Threshold Exceeded
D72	MnDOT 10-Year Crash Data	MN 19	Safety	Crash Rate Threshold Exceeded
D73	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D74	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D75	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D76	MnDOT 10-Year Crash Data	CR 22	Safety	Crash Rate Threshold Exceeded
D77	MnDOT 10-Year Crash Data	MN 247	Safety	Crash Rate Threshold Exceeded
D78	MnDOT 10-Year Crash Data	I 35 Business; MN 21	Safety	Crash Rate Threshold Exceeded
D79	MnDOT 10-Year Crash Data	MN 19	Safety	Crash Rate Threshold Exceeded
D80	MnDOT 10-Year Crash Data	MN 19; CR 46	Safety	Crash Rate Threshold Exceeded
D81	MnDOT 10-Year Crash Data	US 61	Safety	Crash Rate Threshold Exceeded
D82	MnDOT 10-Year Crash Data	US 61	Safety	Crash Rate Threshold Exceeded
D83	MnDOT 10-Year Crash Data	US 61	Safety	Crash Rate Threshold Exceeded
D84	MnDOT 10-Year Crash Data	MN 58	Safety	Crash Rate Threshold Exceeded
D85	MnDOT 10-Year Crash Data	US 61	Safety	Crash Rate Threshold Exceeded
D86	MnDOT 10-Year Crash Data	US 61	Safety	Crash Rate Threshold Exceeded
D87	MnDOT 10-Year Crash Data	I 35	Safety	Crash Rate Threshold Exceeded
D89	MnDOT 10-Year Crash Data	US 52; US 63	Safety	Crash Rate Threshold Exceeded

D90	MnDOT 10-Year Crash Data	US 63; MN 30	Safety	Crash Rate Threshold Exceeded
D91	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D92	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D93	MnDOT 10-Year Crash Data	US 63	Safety	Crash Rate Threshold Exceeded
D94	MnDOT 10-Year Crash Data	I 90	Safety	Crash Rate Threshold Exceeded
D95	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D96	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D97	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D98	MnDOT 10-Year Crash Data	I 35	Safety	Crash Rate Threshold Exceeded
D99	MnDOT 10-Year Crash Data	I 35	Safety	Crash Rate Threshold Exceeded
D102	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D106	MnDOT 10-Year Crash Data	US 61	Safety	Crash Rate Threshold Exceeded
D107	MnDOT 10-Year Crash Data	MN 58	Safety	Crash Rate Threshold Exceeded
D108	MnDOT 10-Year Crash Data	I 35	Safety	Crash Rate Threshold Exceeded
D109	MnDOT 10-Year Crash Data	US 14	Safety	Crash Rate Threshold Exceeded
D110	MnDOT 10-Year Crash Data	US 52	Safety	Crash Rate Threshold Exceeded
D112	MnDOT 10-Year Crash Data	US 63	Safety	Crash Rate Threshold Exceeded
D113	MnDOT 10-Year Crash Data	US 63; MN 30	Safety	Crash Rate Threshold Exceeded
D115	MnDOT 10-Year Crash Data	I 90	Safety	Crash Rate Threshold Exceeded
D116	MnDOT 10-Year Crash Data	US 52	Safety	Crash Rate Threshold Exceeded
D117	MnDOT 10-Year Crash Data	US 52	Safety	Crash Rate Threshold Exceeded
D118	MnDOT 10-Year Crash Data	US 14; US 52; US 63	Safety	Crash Rate Threshold Exceeded
D119	MnDOT 10-Year Crash Data	MN 58	Safety	Crash Rate Threshold Exceeded
D120	MnDOT 10-Year Crash Data	US 52; MN 60	Safety	Crash Rate Threshold Exceeded
D121	MnDOT 10-Year Crash Data	I 90	Safety	Crash Rate Threshold Exceeded
D124	MnDOT 10-Year Crash Data	I 90	Safety	Crash Rate Threshold Exceeded
D125	MnDOT 10-Year Crash Data	I 35	Safety	Crash Rate Threshold Exceeded
D126	MnDOT 10-Year Crash Data	I 35	Safety	Crash Rate Threshold Exceeded
D127	MnDOT 10-Year Crash Data	I 35	Safety	Crash Rate Threshold Exceeded
D129	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded

D130	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D131	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D132	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D133	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D134	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D135	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D136	MnDOT 10-Year Crash Data	US 65	Safety	Crash Rate Threshold Exceeded
D137	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D138	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D139	MnDOT 10-Year Crash Data	Missing/Unavailable	Safety	Crash Rate Threshold Exceeded
D140	StreetLight Analysis	US 61; US 63	Mobility	TTRI or FFF Threshold Exceeded
D141	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
D142	StreetLight Analysis	MN 43	Mobility	TTRI or FFF Threshold Exceeded
D143	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D144	StreetLight Analysis	US 61	Mobility	TTRI or FFF Threshold Exceeded
D145	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D146	StreetLight Analysis	I 90	Mobility	TTRI or FFF Threshold Exceeded
D147	StreetLight Analysis	I 90	Mobility	TTRI or FFF Threshold Exceeded
D148	StreetLight Analysis	I 90	Mobility	TTRI or FFF Threshold Exceeded
D149	StreetLight Analysis	MN 43	Mobility	TTRI or FFF Threshold Exceeded
D150	StreetLight Analysis	US 61; US 63	Mobility	TTRI or FFF Threshold Exceeded
D151	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D152	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D153	StreetLight Analysis	MN 60	Mobility	TTRI or FFF Threshold Exceeded
D154	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D155	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D156	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D157	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D158	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D159	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded

D160	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D161	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D162	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D163	StreetLight Analysis	MN 16	Mobility	TTRI or FFF Threshold Exceeded
D164	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D165	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D166	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D167	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D168	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D170	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D171	StreetLight Analysis	MN 43	Mobility	TTRI or FFF Threshold Exceeded
D172	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D173	StreetLight Analysis	US 218	Mobility	TTRI or FFF Threshold Exceeded
D174	StreetLight Analysis	US 14; US 61	Mobility	TTRI or FFF Threshold Exceeded
D175	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D176	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
D177	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D178	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D179	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D181	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D182	StreetLight Analysis	I 35 Business; US 65	Mobility	TTRI or FFF Threshold Exceeded
D183	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D184	StreetLight Analysis	US 63; MN 30	Mobility	TTRI or FFF Threshold Exceeded
D185	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D186	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D187	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D188	StreetLight Analysis	MN 56	Mobility	TTRI or FFF Threshold Exceeded
D189	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D190	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D191	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded

D192	StreetLight Analysis	US 61	Mobility	TTRI or FFF Threshold Exceeded
D193	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
D194	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D195	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D196	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D197	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D198	StreetLight Analysis	I 35 Business; US 65	Mobility	TTRI or FFF Threshold Exceeded
D199	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D200	StreetLight Analysis	CR 22	Mobility	TTRI or FFF Threshold Exceeded
D201	StreetLight Analysis	MN 60	Mobility	TTRI or FFF Threshold Exceeded
D202	StreetLight Analysis	CR 22	Mobility	TTRI or FFF Threshold Exceeded
D203	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D204	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
D205	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D206	StreetLight Analysis	US 14; US 61	Mobility	TTRI or FFF Threshold Exceeded
D207	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D208	StreetLight Analysis	CR 22	Mobility	TTRI or FFF Threshold Exceeded
D209	StreetLight Analysis	US 14; US 61	Mobility	TTRI or FFF Threshold Exceeded
D210	StreetLight Analysis	US 61; US 14; I 90 Alt	Mobility	TTRI or FFF Threshold Exceeded
D211	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D212	StreetLight Analysis	MN 16	Mobility	TTRI or FFF Threshold Exceeded
D213	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D214	StreetLight Analysis	US 14; US 61	Mobility	TTRI or FFF Threshold Exceeded
D215	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D216	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
D217	StreetLight Analysis	I 35 Business; US 65	Mobility	TTRI or FFF Threshold Exceeded
D218	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
D219	StreetLight Analysis	MN 247	Mobility	TTRI or FFF Threshold Exceeded
D221	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
D222	StreetLight Analysis	I 35 Business; MN 21	Mobility	TTRI or FFF Threshold Exceeded

D223	StreetLight Analysis	US 14; US 61	Mobility	TTRI or FFF Threshold Exceeded
D224	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D225	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D226	StreetLight Analysis	MN 60	Mobility	TTRI or FFF Threshold Exceeded
D229	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D230	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D231	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D232	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D233	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D234	StreetLight Analysis	CR 22	Mobility	TTRI or FFF Threshold Exceeded
D235	StreetLight Analysis	US 218	Mobility	TTRI or FFF Threshold Exceeded
D236	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D237	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D238	StreetLight Analysis	US 65	Mobility	TTRI or FFF Threshold Exceeded
D239	StreetLight Analysis	I 35 Business; US 65	Mobility	TTRI or FFF Threshold Exceeded
D240	StreetLight Analysis	US 61	Mobility	TTRI or FFF Threshold Exceeded
D241	StreetLight Analysis	US 61	Mobility	TTRI or FFF Threshold Exceeded
D242	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D243	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D244	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D245	StreetLight Analysis	US 14; US 61; I 90 Alt	Mobility	TTRI or FFF Threshold Exceeded
D246	StreetLight Analysis	US 61; US 14; I 90 Alt	Mobility	TTRI or FFF Threshold Exceeded
D247	StreetLight Analysis	US 61; US 14; I 90 Alt	Mobility	TTRI or FFF Threshold Exceeded
D248	StreetLight Analysis	US 61	Mobility	TTRI or FFF Threshold Exceeded
D249	StreetLight Analysis	US 61	Mobility	TTRI or FFF Threshold Exceeded
D250	StreetLight Analysis	CR 22	Mobility	TTRI or FFF Threshold Exceeded
D251	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D252	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
D253	StreetLight Analysis	US 14; US 61; I 90 Alt	Mobility	TTRI or FFF Threshold Exceeded
D254	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded

D255	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D256	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D257	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D258	StreetLight Analysis	US 63	Mobility	TTRI or FFF Threshold Exceeded
D259	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D260	StreetLight Analysis	I 35 Business; US 65	Mobility	TTRI or FFF Threshold Exceeded
D261	StreetLight Analysis	US 14; US 61; I 90 Alt	Mobility	TTRI or FFF Threshold Exceeded
D262	StreetLight Analysis	MN 19	Mobility	TTRI or FFF Threshold Exceeded
D263	StreetLight Analysis	MN 16	Mobility	TTRI or FFF Threshold Exceeded
D264	StreetLight Analysis	US 61	Mobility	TTRI or FFF Threshold Exceeded
D265	StreetLight Analysis	US 52; MN 30	Mobility	TTRI or FFF Threshold Exceeded
D266	StreetLight Analysis	US 52; MN 30	Mobility	TTRI or FFF Threshold Exceeded
D267	StreetLight Analysis	US 218	Mobility	TTRI or FFF Threshold Exceeded
D269	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D270	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D271	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D272	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D273	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D274	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D275	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D276	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D277	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
D278	StreetLight Analysis	US 14; US 61; I 90 Alt	Mobility	TTRI or FFF Threshold Exceeded
D279	StreetLight Analysis	US 14; US 61	Mobility	TTRI or FFF Threshold Exceeded
D280	StreetLight Analysis	MN 16	Mobility	TTRI or FFF Threshold Exceeded
D281	StreetLight Analysis	I 35 Business; US 65	Mobility	TTRI or FFF Threshold Exceeded
D282	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D283	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D284	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D285	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded

D286	StreetLight Analysis	US 63	Mobility	TTRI or FFF Threshold Exceeded
D287	StreetLight Analysis	I 35 Business; US 65	Mobility	TTRI or FFF Threshold Exceeded
D288	StreetLight Analysis	MN 19	Mobility	TTRI or FFF Threshold Exceeded
D289	StreetLight Analysis	CR 22	Mobility	TTRI or FFF Threshold Exceeded
D290	StreetLight Analysis	US 52; MN 16	Mobility	TTRI or FFF Threshold Exceeded
D292	StreetLight Analysis	US 14; US 61; MN 16	Mobility	TTRI or FFF Threshold Exceeded
D293	StreetLight Analysis	US 52	Mobility	TTRI or FFF Threshold Exceeded
D294	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D295	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D296	StreetLight Analysis	MN 16	Mobility	TTRI or FFF Threshold Exceeded
D297	StreetLight Analysis	Missing/Unavailable	Mobility	TTRI or FFF Threshold Exceeded
D298	StreetLight Analysis	MN 60	Mobility	TTRI or FFF Threshold Exceeded
D300	StreetLight Analysis	I 90	Mobility	TTRI or FFF Threshold Exceeded
D301	StreetLight Analysis	US 52; US 63	Mobility	TTRI or FFF Threshold Exceeded
D302	StreetLight Analysis	US 52; US 63	Mobility	TTRI or FFF Threshold Exceeded
D303	StreetLight Analysis	I 35	Mobility	TTRI or FFF Threshold Exceeded
D304	StreetLight Analysis	I 90	Mobility	TTRI or FFF Threshold Exceeded
D305	StreetLight Analysis	MN 3	Mobility	TTRI or FFF Threshold Exceeded
D306	StreetLight Analysis	US 14; US 61	Mobility	TTRI or FFF Threshold Exceeded
D307	StreetLight Analysis	US 14	Mobility	TTRI or FFF Threshold Exceeded
S24	Online Open House	I 90	Safety	Request to improve safety at USTH 52 interchange
S28	MetroQuest	MN 3	Mobility	Request to review traffic control
S87	D6 Manufacturers' Perspectives Study	Missing/Unavailable	Safety	Install advanced warning or other signage
S01	Stakeholder Interviews	MN 44; MN 76	Safety	Request for signalization at intersection with Ersch Dr
S02	Stakeholder Interviews	MN 44; MN 76	Safety	Request to improve sight lines and grade at intersection with MNTH 44
S04	Stakeholder Interviews	MN 60	Safety	Increase turning radius at intersection with Hiawatha Dr

S06	Stakeholder Interviews	MN 60	Condition	Flooding at grade-separated crossing over Pembroke
S07	Stakeholder Interviews	Missing/Unavailable	Mobility	Crossing Blockage
S09	Stakeholder Interviews	US 52	Safety	Improve safety at intersection with 19th St
S10	Stakeholder Interviews	Missing/Unavailable	Mobility	After hours truck parking
S11	Stakeholder Interviews	MN 16	Safety	Congestion, speed limits and visibility issues at intersection with MNTH 16
S12	Stakeholder Interviews	I 90	Safety	High commercial crash rate at USTH 52 interchange
S15	Stakeholder Interviews	Missing/Unavailable	Safety	Request for safety improvements at Civic Center Dr interchange
S22	Online Open House	MN 16	Safety	Request to reduce speed at intersection with MNTH 16
S25	Online Open House	MN 16	Safety	Request to improve safety at intersection
S26	Online Open House	I 35	Mobility	Add freeway access in Rice County
S29	MetroQuest	I 35	Mobility	Request to improve exit movement at MNTH 21 intersection
S31	MetroQuest	US 61; US 63	Safety	Request to increase turning radius at intersection for trucks
S42	MetroQuest	US 61	Mobility	Request to add CV designated parking near Red Wing
S43	MetroQuest	Missing/Unavailable	Safety	Request to improve safety measures at intersection with CR 102
S44	D6 Manufacturers' Perspectives Study	I 90	Safety	Improve safety at interchange
S45	D6 Manufacturers' Perspectives Study	I 90	Safety	Improve safety at interchange
S46	D6 Manufacturers' Perspectives Study	US 14; US 61	Safety	Improve safety at interchange
S47	D6 Manufacturers' Perspectives Study	US 61	Safety	Improve safety at intersection
S48	D6 Manufacturers' Perspectives Study	I 90	Mobility	Traffic levels often prevent southbound travel for trucks coming from the west
S49	D6 Manufacturers' Perspectives Study	US 63	Mobility	Add signals or other intersection improvements

S50	D6 Manufacturers' Perspectives Study	US 52; MN 30	Mobility	Add signals or other intersection improvements
S51	D6 Manufacturers' Perspectives Study	MN 44; MN 76	Mobility	Add signals or other intersection improvements
S52	D6 Manufacturers' Perspectives Study	US 61	Mobility	Add signals or other intersection improvements
S58	D6 Manufacturers' Perspectives Study	US 218	Mobility	Add bypass lane at intersection
S59	D6 Manufacturers' Perspectives Study	US 52; MN 30	Mobility	Add bypass lane at intersection
S60	D6 Manufacturers' Perspectives Study	MN 56	Mobility	Add bypass lane at intersection
S61	D6 Manufacturers' Perspectives Study	US 61	Mobility	Add bypass lane at intersection
S62	D6 Manufacturers' Perspectives Study	US 14	Mobility	Add turn lanes at intersection
S63	D6 Manufacturers' Perspectives Study	I 90	Mobility	Add turn lanes at intersection
S66	D6 Manufacturers' Perspectives Study	US 63	Mobility	Add turn lanes at intersection
S67	D6 Manufacturers' Perspectives Study	Missing/Unavailable	Mobility	Add turn lanes at intersection
S68	D6 Manufacturers' Perspectives Study	US 14; US 61	Mobility	Lengthen turn lane
S69	D6 Manufacturers' Perspectives Study	US 14	Mobility	Lengthen turn lane
S70	D6 Manufacturers' Perspectives Study	I 90	Mobility	Add acceleration lane
S71	D6 Manufacturers' Perspectives Study	I 90	Mobility	Add acceleration lane
S72	D6 Manufacturers' Perspectives Study	US 14	Mobility	Add acceleration lane
S73	D6 Manufacturers' Perspectives Study	US 14; US 61	Mobility	Add acceleration lane
S85	D6 Manufacturers' Perspectives Study	Missing/Unavailable	Mobility	Bridge is functionally obsolete, conflict between structure and truck sizes
S86	D6 Manufacturers' Perspectives Study	MN 43	Mobility	Steepness of bridge causes issues for trucks
S88	D6 Manufacturers' Perspectives Study	MN 3	Safety	Install advanced warning or other signage
S91	MetroQuest	US 14; US 61	Mobility	Request to add CV designated parking near Winona

The following table provides the final scoring output for each identified issue based on the scoring criteria described in Section 4. The projects have been sorted according to the final adjusted total score after accounting for whether the issue was stakeholder-identified or data-identified. Individual ranks are also provided for each scoring criteria. In all cases, ranking tie-breaks are determined according to proportion of truck traffic at each issue where data is available.

Table 14: Issue Scoring and Prioritization

	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
Issue ID	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
S49	1	24	1	17	0	195	0	69	1	1	1	1
D17	1	24	1	17	0	195	0	69	1	1	1	2
D126	1	12	1	9	0.9	21	0	61	0.96	3	0.96	3
D300	1	38	1	26	0.9	26	0	83	0.96	4	0.96	4
S72	0.9	81	1	49	0	212	0	117	0.933333	8	0.96	5
D70	0.9	61	1	32	0	201	0	94	0.933333	5	0.933333	6
D46	0.9	64	1	36	0	203	0	98	0.933333	6	0.933333	7
D71	0.9	65	1	37	0	204	0	99	0.933333	7	0.933333	8
D121	1	1	1	1	0.8	72	0	57	0.92	9	0.92	9
D94	1	3	1	2	0.8	73	0	58	0.92	10	0.92	10
D108	1	9	1	6	0.8	75	0	59	0.92	11	0.92	11
D124	1	11	1	8	0.8	76	0	60	0.92	12	0.92	12
D98	1	28	1	21	0.8	81	0	72	0.92	16	0.92	16
D127	1	32	1	23	0.8	83	0	75	0.92	18	0.92	18
D109	1	36	1	25	0.8	84	0	81	0.92	19	0.92	19
D293	0.9	65	1	37	0.9	30	0	99	0.92	20	0.92	20
D120	0.9	74	1	45	0.9	31	0	106	0.92	21	0.92	21
S59	0.8	95	1	51	0	219	0	124	0.866667	37	0.92	22
D51	0.8	86	1	40	0	205	0	102	0.9	22	0.9	23
S24	1	4	1	3	0.85	67	0.2	10	0.825	52	0.86	24
D87	1	33	1	24	0.7	143	0	77	0.88	23	0.88	25
D116	0.9	61	1	32	0.8	93	0	94	0.88	24	0.88	26

Issue ID	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
D110	0.9	67	1	39	0.8	95	0	101	0.88	26	0.88	28
D117	0.9	69	1	42	0.8	96	0	104	0.88	27	0.88	29
D235	0.7	137	1	55	1	9	0	151	0.88	28	0.88	30
D267	0.7	137	1	55	1	9	0	151	0.88	28	0.88	30
D112	0.7	162	1	79	1	16	0	208	0.88	30	0.88	32
D258	0.7	162	1	79	1	16	0	208	0.88	30	0.88	32
D54	1	9	1	6	1	6	0.2	13	0.866667	32	0.866667	34
D89	1	44	1	27	0.9	28	0.2	26	0.85	33	0.85	35
D52	0.8	86	1	40	0	205	0	102	0.866667	34	0.866667	40
D72	0.8	90	1	48	0	208	0	113	0.866667	35	0.866667	41
D18	0.8	93	1	50	0	217	0	122	0.866667	36	0.866667	42
D73	0.8	101	1	52	0	230	0	143	0.866667	38	0.866667	43
D74	0.8	101	1	52	0	230	0	143	0.866667	38	0.866667	43
D64	0.8	103	1	54	0	232	0	145	0.866667	40	0.866667	45
D19	0.8	107	1	57	0	234	0	154	0.866667	41	0.866667	46
D68	0.8	109	1	60	0	240	0	162	0.866667	42	0.866667	47
D67	0.8	112	1	64	0	241	0	165	0.866667	43	0.866667	48
D65	0.8	113	1	65	0	243	0	170	0.866667	44	0.866667	49
D20	0.8	114	1	66	0	244	0	171	0.866667	45	0.866667	50
D304	1	38	0.4	119	0.9	26	0	83	0.84	46	0.84	55
D93	0.8	89	1	46	0.8	100	0	107	0.84	47	0.84	57
D178	0.9	75	1	47	0.7	146	0	108	0.84	48	0.84	58
S15	0.9	80	0.4	128	0	211	0	116	0.733333	101	0.84	59
D288	0.8	99	0.4	140	1.1	1	0	141	0.84	49	0.84	60
D262	0.8	100	0.4	141	1.1	2	0	142	0.84	50	0.84	61
D113	0.7	153	1	71	0.9	45	0	176	0.84	51	0.84	62
S31	0.6	195	1	72	0	247	0	177	0.733333	103	0.84	63
D115	1	48	1	31	0.85	69	0.2	30	0.825	53	0.825	64

	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
Issue ID	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
D118	0.8	111	1	63	0.9	43	0.2	47	0.8	59	0.8	66
S26	1	17	0	178	0	193	0	66	0.666667	141	0.8	70
S29	1	17	0	178	0	193	0	66	0.666667	141	0.8	70
D303	1	20	0	180	1	7	0	68	0.8	60	0.8	72
S66	0.8	107	0.4	144	0	234	0	154	0.666667	143	0.8	73
D216	0.8	110	1	61	0.7	149	0	164	0.8	61	0.8	74
D90	0.7	152	1	68	0.8	109	0	173	0.8	62	0.8	75
D248	0.6	206	1	76	0.9	49	0	193	0.8	63	0.8	76
D249	0.6	206	1	76	0.9	49	0	193	0.8	63	0.8	76
D45	0.7	116	1	35	0	202	0	97	0.8	65	0.8	80
D79	0.7	139	1	58	0	238	0	160	0.8	66	0.8	81
D80	0.7	139	1	58	0	238	0	160	0.8	66	0.8	81
D21	0.7	154	1	73	0	248	0	178	0.8	68	0.8	83
D81	0.7	168	1	86	0	254	0	215	0.8	69	0.8	84
D82	0.7	179	1	87	0	257	0	225	0.8	70	0.8	85
D86	0.7	179	1	87	0	257	0	225	0.8	70	0.8	85
D99	1	8	1	5	0.75	127	0.2	12	0.775	73	0.775	88
S28	0.7	146	0.4	150	0.8	105	0	166	0.68	132	0.771429	93
D58	0.7	145	1	62	1	11	0.2	46	0.766667	82	0.766667	102
D238	0.9	58	0.4	118	0.9	25	0.2	25	0.75	83	0.75	103
S60	0.9	52	0	183	0	198	0	74	0.6	193	0.76	104
D301	1	34	0	184	0.9	22	0	79	0.76	84	0.76	105
D302	1	34	0	184	0.9	22	0	79	0.76	84	0.76	105
S58	0.9	59	0	186	0	200	0	82	0.6	194	0.76	107
D219	0.8	84	0.4	122	0.9	29	0	93	0.76	87	0.76	109
S69	0.9	72	0	193	0	207	0	105	0.6	195	0.76	110
S04	0.7	117	0.4	129	0	213	0	118	0.6	196	0.76	111
S02	0.7	120	0.4	130	0	216	0	121	0.6	197	0.76	112

Issue ID	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
S11	0.7	129	0.4	135	0	226	0	136	0.6	198	0.76	113
S22	0.7	129	0.4	135	0	226	0	136	0.6	198	0.76	113
S25	0.7	129	0.4	135	0	226	0	136	0.6	198	0.76	113
D184	0.8	114	1	66	0.6	186	0	171	0.76	88	0.76	116
D278	0.6	198	0.4	159	1.1	3	0	184	0.76	89	0.76	117
D106	0.7	164	1	81	0.7	157	0	210	0.76	90	0.76	118
D161	0.7	165	1	83	0.7	158	0	212	0.76	91	0.76	119
D197	0.7	165	1	83	0.7	158	0	212	0.76	91	0.76	119
D295	0.7	165	1	83	0.7	158	0	212	0.76	91	0.76	119
D198	0.5	235	1	98	0.9	58	0	249	0.76	94	0.76	122
D239	0.5	235	1	98	0.9	58	0	249	0.76	94	0.76	122
D260	0.5	235	1	98	0.9	58	0	249	0.76	94	0.76	122
D4	1	5	0	177	0.9	20	0.6	1	0.733333	97	0.733333	132
D3	1	7	0.4	108	0.8	74	0.4	4	0.733333	98	0.733333	133
D47	0.6	194	1	69	0	245	0	174	0.733333	102	0.733333	134
D83	0.6	205	1	75	0	250	0	191	0.733333	104	0.733333	135
D33	0.6	211	1	78	0	252	0	200	0.733333	105	0.733333	136
D78	0.6	217	1	82	0	253	0	211	0.733333	106	0.733333	137
D183	1	40	0	187	0.8	88	0	85	0.72	109	0.72	139
D282	1	40	0	187	0.8	88	0	85	0.72	109	0.72	139
S01	0.8	91	0	198	0	209	0	114	0.533333	225	0.72	141
S51	0.8	91	0	198	0	209	0	114	0.533333	225	0.72	141
S50	0.8	93	0	202	0	217	0	122	0.533333	227	0.72	143
S73	0.8	98	0	205	0	220	0	128	0.533333	228	0.72	144
S62	0.6	187	0.4	139	0	229	0	140	0.533333	229	0.72	145
D247	0.6	198	0.4	159	1	12	0	184	0.72	113	0.72	147
D261	0.6	198	0.4	159	1	12	0	184	0.72	113	0.72	147
S45	0.7	154	0.4	154	0.8	110	0.2	50	0.6	177	0.7	150

Issue ID	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
S70	0.7	154	0.4	154	0.8	110	0.2	50	0.6	177	0.7	150
D168	1	40	0	187	0.7	144	0	85	0.68	124	0.68	153
D284	1	40	0	187	0.7	144	0	85	0.68	124	0.68	153
S06	0.7	117	0	200	0	213	0	118	0.466667	250	0.68	155
D265	0.8	96	0	203	0.9	32	0	125	0.68	126	0.68	156
D266	0.8	96	0	203	0.9	32	0	125	0.68	126	0.68	156
S09	0.7	123	0	207	0	221	0	131	0.466667	252	0.68	158
S12	0.7	123	0	207	0	221	0	131	0.466667	252	0.68	158
S48	0.7	123	0	207	0	221	0	131	0.466667	252	0.68	158
S63	0.7	123	0	207	0	221	0	131	0.466667	252	0.68	158
S71	0.7	123	0	207	0	221	0	131	0.466667	252	0.68	158
D165	0.8	103	0	215	0.9	36	0	145	0.68	129	0.68	163
D230	0.8	103	0	215	0.9	36	0	145	0.68	129	0.68	163
D244	0.8	103	0	215	0.9	36	0	145	0.68	129	0.68	163
S86	0.7	134	0	218	0	233	0	150	0.466667	257	0.68	166
D245	0.6	198	0	231	1.1	3	0	184	0.68	134	0.68	167
D253	0.6	198	0	231	1.1	3	0	184	0.68	134	0.68	167
D264	0.6	206	0.4	162	0.9	49	0	193	0.68	136	0.68	169
S42	0.7	168	0	243	0	254	0	215	0.466667	259	0.68	174
S91	0.7	171	0	245	0	256	0	217	0.466667	260	0.68	175
S46	0.5	231	0.4	173	0	269	0	244	0.466667	261	0.68	176
S68	0.5	231	0.4	173	0	269	0	244	0.466667	261	0.68	176
D77	0.5	219	1	70	0	246	0	175	0.666667	144	0.666667	182
D59	0.5	226	1	89	0	259	0	230	0.666667	145	0.666667	183
D63	0.5	227	1	90	0	260	0	231	0.666667	146	0.666667	184
D66	0.5	230	1	97	0	268	0	243	0.666667	147	0.666667	185
D76	0.5	238	1	101	0	271	0	252	0.666667	148	0.666667	186
D38	0.5	241	1	102	0	272	0	257	0.666667	149	0.666667	187

Issue ID	Truck Volume Score	Truck Volume Rank	Safety Score	Safety Rank	Mobility Score	Mobility Rank	Condition Score	Condition Rank	Total Score	Total Rank	Adjusted Total Score	Adjusted Total Rank
D39	0.5	241	1	102	0	272	0	257	0.666667	149	0.666667	187
D41	0.5	243	1	104	0	274	0	259	0.666667	151	0.666667	189
D75	0.5	246	1	105	0	275	0	263	0.666667	152	0.666667	190
D35	0.5	252	1	106	0	277	0	273	0.666667	153	0.666667	191
D27	0.5	254	1	107	0	278	0	275	0.666667	154	0.666667	192
S44	0.7	123	0	207	0.8	102	0.2	38	0.533333	223	0.65	193
D132	0.9	51	0.4	111	0	197	0	71	0.65	156	0.65	195
D136	0.9	54	0.4	113	0	199	0	78	0.65	157	0.65	196
D199	0.9	75	0	194	0.7	146	0	108	0.64	160	0.64	197
S61	0.6	189	0	221	0	236	0	156	0.4	272	0.64	198
S52	0.6	196	0	228	0	249	0	179	0.4	274	0.64	200
D217	0.5	220	0.4	157	0.9	46	0	182	0.64	163	0.64	201
D210	0.6	198	0	231	1	12	0	184	0.64	164	0.64	202
D246	0.6	198	0	231	1	12	0	184	0.64	164	0.64	202
D286	0.7	157	0	235	0.9	48	0	192	0.64	166	0.64	204
S47	0.6	206	0	236	0	251	0	193	0.4	275	0.64	205
D174	0.7	171	0.4	167	0.7	162	0	217	0.64	167	0.64	206
D306	0.7	171	0.4	167	0.7	162	0	217	0.64	167	0.64	206
D192	0.7	179	0.4	170	0.7	165	0	225	0.64	169	0.64	208
D107	0.4	261	1	91	0.7	167	0	235	0.64	170	0.64	209
D148	1	1	0	176	0.7	138	0.2	9	0.6	173	0.6	212
D146	1	30	0	181	0.7	140	0.2	19	0.6	174	0.6	213
D147	1	30	0	181	0.7	140	0.2	19	0.6	174	0.6	213
D5	0.6	186	0.4	138	0.8	104	0.4	7	0.6	176	0.6	215
D125	0.5	220	1	74	0.7	152	0.2	52	0.6	179	0.6	216
D172	0.9	75	0	194	0.6	179	0	108	0.6	180	0.6	217
D187	0.9	75	0	194	0.6	179	0	108	0.6	180	0.6	217
D305	0.9	75	0	194	0.6	179	0	108	0.6	180	0.6	217

Issue ID	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
D290	0.7	129	0	213	0.8	103	0	136	0.6	184	0.6	220
D240	0.6	191	0	223	0.9	39	0	158	0.6	185	0.6	221
D241	0.6	191	0	223	0.9	39	0	158	0.6	185	0.6	221
D263	0.6	211	0	238	0.9	52	0	200	0.6	187	0.6	223
D296	0.6	211	0	238	0.9	52	0	200	0.6	187	0.6	223
D206	0.7	171	0	245	0.8	116	0	217	0.6	189	0.6	225
D209	0.7	171	0	245	0.8	116	0	217	0.6	189	0.6	225
D223	0.7	171	0.4	167	0.6	188	0	217	0.6	189	0.6	225
D279	0.7	171	0	245	0.8	116	0	217	0.6	189	0.6	225
S88	0.5	229	0	256	0	264	0	239	0.333333	276	0.6	229
D60	0.4	263	1	93	0	263	0	237	0.6	201	0.6	230
D53	0.4	265	1	94	0	265	0	240	0.6	202	0.6	231
D84	0.4	266	1	95	0	266	0	241	0.6	203	0.6	232
D85	0.4	266	1	95	0	266	0	241	0.6	203	0.6	232
D182	0.5	220	0	230	0.9	46	0	182	0.56	208	0.56	234
D214	0.7	171	0	245	0.7	162	0	217	0.56	209	0.56	235
D226	0.5	224	0	250	0.9	54	0	228	0.56	210	0.56	236
D298	0.5	224	0	250	0.9	54	0	228	0.56	210	0.56	236
D119	0.4	261	1	91	0.5	191	0	235	0.56	212	0.56	238
D281	0.5	233	0	257	0.9	56	0	246	0.56	213	0.56	239
D287	0.5	233	0	257	0.9	56	0	246	0.56	213	0.56	239
D200	0.5	238	0	260	0.9	61	0	252	0.56	215	0.56	241
D234	0.5	238	0	260	0.9	61	0	252	0.56	215	0.56	241
D271	0.4	268	0	262	1	18	0	255	0.56	217	0.56	243
D186	0.5	243	0	264	0.9	63	0	259	0.56	218	0.56	244
D232	0.5	243	0	264	0.9	63	0	259	0.56	218	0.56	244
D218	0.5	247	0	270	0.9	65	0	268	0.56	220	0.56	246
D252	0.5	247	0	270	0.9	65	0	268	0.56	220	0.56	246

	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
Issue ID	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
D140	0.7	149	0	226	0.8	108	0.2	49	0.533333	224	0.533333	248
D163	0.6	211	0	238	0.7	154	0	200	0.52	232	0.52	250
D212	0.6	211	0	238	0.7	154	0	200	0.52	232	0.52	250
D280	0.6	211	0	238	0.7	154	0	200	0.52	232	0.52	250
S43	0.3	276	0	253	0	261	0	233	0.2	277	0.52	253
S85	0.3	276	0	253	0	261	0	233	0.2	277	0.52	253
D144	0.7	168	0	243	0.7	161	0.2	54	0.5	235	0.5	255
D173	0.6	210	0	237	0.6	187	0	197	0.48	237	0.48	256
D222	0.5	227	0	252	0.7	166	0	231	0.48	238	0.48	257
D208	0.4	271	0	267	0.8	122	0	264	0.48	239	0.48	258
D250	0.4	271	0	267	0.8	122	0	264	0.48	239	0.48	258
D289	0.4	274	0	269	0.8	124	0	267	0.48	241	0.48	260
D176	0.5	247	0	270	0.7	171	0	268	0.48	242	0.48	261
D193	0.5	247	0	270	0.7	171	0	268	0.48	242	0.48	261
D277	0.5	247	0	270	0.7	171	0	268	0.48	242	0.48	261
D204	0.5	254	0	276	0.7	174	0	275	0.48	245	0.48	264
D307	0.5	254	0	276	0.7	174	0	275	0.48	245	0.48	264
D292	0.4	275	0	278	0.8	125	0	278	0.48	247	0.48	266
D142	0.7	134	0	218	0.6	183	0.2	40	0.466667	248	0.466667	267
D149	0.7	134	0	218	0.6	183	0.2	40	0.466667	248	0.466667	267
D153	0.7	117	0	200	0	213	0	118	0.466667	250	0.466667	269
D155	0.7	149	0	226	0	242	0	168	0.466667	258	0.466667	270
D201	0.4	264	0	255	0.7	168	0	238	0.44	264	0.44	271
D221	0.4	269	0	263	0.7	169	0	256	0.44	265	0.44	272
D202	0.4	270	0	266	0.7	170	0	262	0.44	266	0.44	273
D171	0.5	253	0	275	0.6	189	0	274	0.44	267	0.44	274
D141	0.6	187	0	214	0.6	182	0.2	39	0.433333	268	0.433333	275
D150	0.7	143	0	225	0.4	192	0.2	44	0.4	269	0.4	276

	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
Issue ID	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
D188	0.2	278	0	259	0.8	121	0	248	0.4	270	0.4	277
D129	0.4	273	0.4	175	0	276	0	266	0.4	271	0.4	278
D22	0	279	1	279	0	279	0	279	1	279	1	279
D23	0	280	1	280	0	280	0	280	1	280	1	280
D24	0	281	1	281	0	281	0	281	1	281	1	281
D25	0	282	1	282	0	282	0	282	1	282	1	282
D26	0	283	1	283	0	283	0	283	1	283	1	283
D28	0	284	1	284	0	284	0	284	1	284	1	284
D29	0	285	1	285	0	285	0	285	1	285	1	285
D30	0	286	1	286	0	286	0	286	1	286	1	286
D31	0	287	1	287	0	287	0	287	1	287	1	287
D32	0	288	1	288	0	288	0	288	1	288	1	288
D34	0	289	1	289	0	289	0	289	1	289	1	289
D36	0	290	1	290	0	290	0	290	1	290	1	290
D37	0	291	1	291	0	291	0	291	1	291	1	291
D40	0	292	1	292	0	292	0	292	1	292	1	292
D42	0	293	1	293	0	293	0	293	1	293	1	293
D43	0	294	1	294	0	294	0	294	1	294	1	294
D44	0	295	1	295	0	295	0	295	1	295	1	295
D48	0	296	1	296	0	296	0	296	1	296	1	296
D49	0	297	1	297	0	297	0	297	1	297	1	297
D50	0	298	1	298	0	298	0	298	1	298	1	298
D55	0	299	1	299	0	299	0	299	1	299	1	299
D56	0	300	1	300	0	300	0	300	1	300	1	300
D57	0	301	1	301	0	301	0	301	1	301	1	301
D61	0	302	1	302	0	302	0	302	1	302	1	302
D62	0	303	1	303	0	303	0	303	1	303	1	303
D69	0	304	1	304	0	304	0	304	1	304	1	304

	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
Issue ID	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
D102	0	305	0.8	305	0	305	0	305	0.8	305	0.8	305
D160	0	307	0.4	307	0.7	307	0	307	0.6	307	0.6	307
D179	0	308	1	308	0.7	308	0	308	0.8	308	0.8	308
D189	0	309	1	309	0.7	309	0	309	0.8	309	0.8	309
D205	0	310	1	310	0.9	310	0	310	0.933333	310	0.933333	310
D225	0	311	1	311	0.9	311	0	311	0.933333	311	0.933333	311
D231	0	312	1	312	0.9	312	0	312	0.933333	312	0.933333	312
D237	0	313	1	313	0.9	313	0	313	0.933333	313	0.933333	313
D269	0	314	1	314	0.7	314	0	314	0.8	314	0.8	314
D270	0	315	1	315	0.9	315	0	315	0.933333	315	0.933333	315
D272	0	316	0.4	316	0.7	316	0	316	0.6	316	0.6	316
D275	0	317	1	317	0.9	317	0	317	0.933333	317	0.933333	317
D297	0	318	1	318	0.7	318	0	318	0.8	318	0.8	318
D91	0	319	1	319	0.8	319	0	319	0.866667	319	0.866667	319
D92	0	320	1	320	0.7	320	0	320	0.8	320	0.8	320
D95	0	321	1	321	0.7	321	0	321	0.8	321	0.8	321
D96	0	322	1	322	0	322	0	322	1	322	1	322
D97	0	323	1	323	0	323	0	323	1	323	1	323
S87	0	325	1	325	0.8	325	0	325	0.866667	325	0.92	325
D130	0	326	0.4	326	0	326	0	326	0.4	326	0.4	326
D131	0	327	0.5	327	0	327	0	327	0.5	327	0.5	327
D133	0	328	0.4	328	0	328	0	328	0.4	328	0.4	328
D134	0	329	0.4	329	0	329	0	329	0.4	329	0.4	329
D135	0	330	0.5	330	0	330	0	330	0.5	330	0.5	330
D137	0	331	0.4	331	0	331	0	331	0.4	331	0.4	331
D138	0	332	0.4	332	0	332	0	332	0.4	332	0.4	332
D139	0	333	0.4	333	0	333	0	333	0.4	333	0.4	333
S07	0	334	0	334	0	334	0	334	0	334	0.666667	334

	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
Issue ID	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
D157	0	335	0	335	0.7	335	0	335	0.466667	335	0.466667	335
D158	0	336	0	336	0.6	336	0	336	0.4	336	0.4	336
D159	0	337	0	337	0.7	337	0	337	0.466667	337	0.466667	337
D162	0	338	0	338	0.6	338	0	338	0.4	338	0.4	338
D164	0	339	0	339	0.8	339	0	339	0.533333	339	0.533333	339
D166	0	340	0	340	0.8	340	0	340	0.533333	340	0.533333	340
D167	0	341	0	341	0.8	341	0	341	0.533333	341	0.533333	341
D170	0	342	0	342	0.6	342	0	342	0.4	342	0.4	342
D175	0	343	0	343	0.9	343	0	343	0.6	343	0.6	343
D177	0	344	0	344	0.8	344	0	344	0.533333	344	0.533333	344
D181	0	345	0	345	0.6	345	0	345	0.4	345	0.4	345
D185	0	346	0	346	0.8	346	0	346	0.533333	346	0.533333	346
D190	0	347	0	347	0.6	347	0	347	0.4	347	0.4	347
D191	0	348	0	348	0.7	348	0	348	0.466667	348	0.466667	348
D194	0	349	0	349	0.9	349	0	349	0.6	349	0.6	349
D195	0	350	0	350	0.7	350	0	350	0.466667	350	0.466667	350
D196	0	351	0	351	0.7	351	0	351	0.466667	351	0.466667	351
D203	0	352	0	352	0.8	352	0	352	0.533333	352	0.533333	352
D207	0	353	0	353	0.7	353	0	353	0.466667	353	0.466667	353
D211	0	354	0	354	0.7	354	0	354	0.466667	354	0.466667	354
D213	0	355	0	355	0.9	355	0	355	0.6	355	0.6	355
D215	0	356	0	356	0.7	356	0	356	0.466667	356	0.466667	356
D224	0	357	0	357	0.8	357	0	357	0.533333	357	0.533333	357
D229	0	358	0	358	0.8	358	0	358	0.533333	358	0.533333	358
D233	0	359	0	359	0.9	359	0	359	0.6	359	0.6	359
D236	0	360	0	360	0.7	360	0	360	0.466667	360	0.466667	360
D242	0	361	0	361	1	361	0	361	0.666667	361	0.666667	361
D243	0	362	0	362	0.9	362	0	362	0.6	362	0.6	362

	Truck Volume		Safety		Mobility		Condition		Total		Adjusted Total	
Issue ID	**Score**	**Rank**	**Score**	**Rank**	**Score**	**Rank**	**Score**	**Rank**	**Score**	**Rank**	**Score**	**Rank**
D251	0	363	0	363	0.9	363	0	363	0.6	363	0.6	363
D254	0	364	0	364	0.8	364	0	364	0.533333	364	0.533333	364
D255	0	365	0	365	0.8	365	0	365	0.533333	365	0.533333	365
D256	0	366	0	366	1	366	0	366	0.666667	366	0.666667	366
D257	0	367	0	367	0.9	367	0	367	0.6	367	0.6	367
D259	0	368	0	368	0.7	368	0	368	0.466667	368	0.466667	368
D273	0	369	0	369	0.6	369	0	369	0.4	369	0.4	369
D274	0	370	0	370	0.8	370	0	370	0.533333	370	0.533333	370
D276	0	371	0	371	0.9	371	0	371	0.6	371	0.6	371
D283	0	372	0	372	1	372	0	372	0.666667	372	0.666667	372
D285	0	373	0	373	0.8	373	0	373	0.533333	373	0.533333	373
D294	0	375	0	375	0.7	375	0	375	0.466667	375	0.466667	375
D10	0	376	0	376	0.9	376	0.2	376	0.5	376	0.5	376
D11	0	377	0	377	1	377	0.2	377	0.55	377	0.55	377
D12	0	378	0	378	1	378	0.2	378	0.55	378	0.55	378
D13	0	379	0	379	0.8	379	0.2	379	0.45	379	0.45	379
D14	0	380	0	380	0.8	380	0.2	380	0.45	380	0.45	380
D143	0	381	0	381	0.2	381	0.2	381	0.15	381	0.15	381
D145	0	382	0	382	0.2	382	0.2	382	0.15	382	0.15	382
D15	0	383	0	383	0.9	383	0.2	383	0.5	383	0.5	383
D7	0	384	0	384	0.7	384	0.2	384	0.4	384	0.4	384
D8	0	385	0	385	1	385	0.2	385	0.55	385	0.55	385
D9	0	386	0	386	0.8	386	0.2	386	0.45	386	0.45	386
D151	0	387	0	387	0	387	0	387	0	387	0	387
D152	0	388	0	388	0	388	0	388	0	388	0	388
D154	0	389	0	389	0	389	0	389	0	389	0	389
D156	0	390	0	390	0	390	0	390	0	390	0	390