Saint Cloud Area Planning Organization
Transportation Performance Monitoring Report

2023

Disclaimer and Title VI Assurance

Disclaimer

The preparation of this document was funded in part by the United States Department of Transportation with funding administered through the Minnesota Department of Transportation, the Federal Highway Administration, and the Federal Transit Administration. Additional funding was provided locally by the member jurisdictions of the Saint Cloud Area Planning Organization: Benton County, Sherburne County, Stearns County, City of Sartell, City of Sauk Rapids, City of Saint Cloud, City of Saint Joseph, City of Waite Park, LeSauk Township, and Saint Cloud Metropolitan Transit Commission. The United States Government and the State of Minnesota assume no liability for the contents or use thereof.

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A complaint may also be submitted to Minnesota Department of Transportation Office of Civil Rights by submitting an online complaint form (https://www.dot.state.mn.us/civilrights/nondiscrimination-complaint-form.html) or by calling 651-366-3071.

Ogaysiis Guud Ee Xuquuqda Xuquuqda VI

Ururka Qorsheynta Deegaanka ee Cloud Cloud (APO) wuxuu halkan ku siinayaa ogeysiis dadweyne in ay tahay sharciga APO in ay si buuxda u hoggaansanto Cinwaanka VI ee Xuquuqda Madaniga ee 1964 iyo Sharciga Soo-celinta Xuquuqda Madaniga ee 1987, Iyo qaynuunada iyo qawaaniinta la xiriira barnaamijyada iyo nashaadaadka. Cinwaanka VI wuxuu xaqiijinayaa in qofna, sabab asal, midab, ama asal qaran ah, laga reebi doonin kaqeybgalka, loo diidi doonin faa'iidooyinka, ama haddii kale lagula takoorin barnaamij kasta ama waxqabad ee APO ay ku hesho kaalmada maaliyadeed ee Federaalka . Qof kasta oo aaminsan inuu ka xanaaqay fal sharci darro ah oo takoor ay ku sameysay APO wuxuu xaq u leeyahay inuu dacwad rasmi ah u gudbiyo APO, MnDOT ama US DOT. Cabasho kasta oo kale waa inay ahaataa mid qoraal ah lagana xaraystaa maareeyaha u hoggaansamida cinwaankeeda ee 'APO' VI VI waa boqol iyo siddeetan (180) maalmood gudahood taarikhda dhacday markii la sheegay in ay dhacday midabtakoor. Macluumaad dheeri ah, ama si aad u hesho Foomka Cabashada Kala-Takoorida Cinwaan ee 'VI kalasooc Foom', fadlan ka eeg bogga internetka ee 'Cloud Cloud APO' (www.stcloudapo.org) ama waxaad ka arki kartaa

nuqul xafiiskayaga 1040 County Road 4, Saint Cloud, MN 56303.

Cabashada ayaa sidoo kale waxaa loo soo gudbin karaa Waaxda Gaadiidka ee Minnesota Xafiiska Xuquuqda Madaniga ah iyadoo la soo dirayo foom cabashada ee khadka internetka (https://www.dot.state.mn.us/civilrights/nondiscrimination-complaint-form.html) ama iyada oo la soo wacayo 651 -366-3071.

Aviso Pùblico De Derechos Bajo El Tìtulo VI

La Organización de Planificación del Área de Saint Cloud (APO en inglés) da un aviso público con la presente de que es política de la APO el cumplir plenamente con el Título VI de la Ley de Derechos Civiles de 1964 y de la Ley de Restauración de Derechos Civiles de 1987, y los estatutos y reglamentos relacionados en todos los programas y actividades. El Título VI asegura que ninguna persona, por motivos de raza, color o nacionalidad, podrá quedar excluida de la participación en, se le podrán negar los beneficios de, o de algún modo podrá ser objeto de discriminación en virtud de cualquier programa o actividad por la cual la APO recibe asistencia financiera Federal. Cualquier persona que cree que ha sido perjudicada por una práctica discriminatoria ilegal por la APO tiene el derecho de presentar un reclamo formal con la APO MnDOT o U.S. DOT. Cualquiera de estos reclamos debe ser por escrito y debe ser presentado ante el Gerente de Cumplimiento del Título VI de la APO dentro de los ciento ochenta (180) días naturales siguientes a la fecha en que la presunta ocurrencia discriminatoria. Para obtener más información, o para obtener un Formulario de Reclamo por Discriminación del Título VI, por favor, dirígete al Sitio web de la APO de Saint Cloud (www.stcloudapo.org) o puedes ver una copia en nuestra oficina en 1040 County Road 4, Saint Cloud, MN 56303.

También se puede presentar una queja a la Oficina de Derechos Civiles del Departamento de Transporte de Minnesota enviando un formulario de queja en línea (https://www.dot.state.mn.us/civilrights/nondiscrimination-complaint-form.html) o llamando al 651-366-3071.

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Title II Assurance

Ogaysiis Guud Ee Xuquuqda Xuquuqda II

Hay'adda Qorsheynta ee Saint Cloud Area Organisation (APO) waxay siisaa ogeysiis dadweyne inay tahay siyaasada APO inay si buuxda ugu hoggaansanto Sharciga Naafada Mareykanka ee 1990 (ADA) iyo Sharciga Baxnaaninta 1973 (Sharciga Baxnaaninta) iyo qawaaniinta iyo qawaaniinta la xiriira Dhammaan barnaamijyada iyo nashaadaadka. Qodobka II ee Sharciga Naafada Mareykanka (ADA) wuxuu u baahan yahay dhammaan hay'adaha gobolka iyo kuwa maxalliga ah inay qaadaan tillaabooyinka ku habboon si loo hubiyo in xiriirka lala yeesho codsadayaasha, ka qeybgalayaasha, iyo xubnaha bulshada naafada ah ay u la mid yihiin sida xiriirka lala yeesho kuwa kale. Qof kasta oo aaminsan inuu ka xanaaqay fal sharci darro ah oo takooris ah oo ay sameysay APO wuxuu xaq u leeyahay inuu dacwad rasmi ah u gudbiyo APO, MnDOT, ama US DOT. Cabasho kasta oo noocan oo kale ahi waa inay ahaataa mid qoraal ah oo ay kujirto macluumaad ku saabsan takoorida la soo sheegay sida magaca, cinwaanka, taleefan lambarka cabashada, iyo goobta, taariikhda, iyo faahfaahinta dhibaatada. Hab kale oo lagu xareeyo cabashada, sida wareysiyada shaqsiyeed ama cajalad duuban cabashada, ayaa loo heli doonaa sidii wax

looga badali karo macquul ahaan dadka naafada ah markii la codsado. Ashtakooyinka waa in ay soo gudbiyaan cabashada iyo / ama wakiilkiisa / wakiilkiisa sida ugu dhakhsaha badan ee suurtogalka ah laakiin aan ka dambayn lixdan (60) maalmood taariikhi ah ka dib dhacdada la xiriirta midab kala sooca waana in lagu fayl gareeyaa Agaasimaha Fulinta APO. Macluumaad dheeri ah, ama si aad u hesho Foomka Cabashada Kala-Takoorida, fadlan eeg bogga internetka ee 'Cloud Cloud APO' (www.stcloudapo.org) ama waxaad ka arki kartaa nuqul xafiiskayaga 1040 County Road 4, Saint Cloud, MN 56303.

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Common Acronyms

AADT: Average Annual Daily Traffic.

APO: Saint Cloud Area Planning Organization.

AQI: Air Quality Index.

ATAC: Active Transportation Advisory Committee.

CNG: Compressed Natural Gas.

DOT: Department of Transportation.

CR: County Road.

CSAH: County State-Aid Highway.

CRP: Carbon Reduction Program.

DAR: Dial-a-Ride.

DEED: Minnesota Department of Employment and Economic Development.

DIV: Digital Inspection Vehicle.

EDR: Economic Development Region.

FAST Act: Fixing America's Surface Transportation Act.

FHWA: Federal Highway Administration.

FR: Fixed Route.

FTA: Federal Transit Administration.

GPS: Global Positioning System.

HPMS: Highway Performance Monitoring System.

HSIP: Highway Safety Improvement Program.

IIJA: Infrastructure Investment and Jobs Act.

IRI: International Roughness Index.

MAP-21: Moving Ahead for Progress in the 21st Century Act.

MN: Minnesota.

MnDOT: Minnesota Department of Transportation.

MPCA: Minnesota Pollution Control Agency.

MPO: Metropolitan Planning Organization.

MTC: Saint Cloud Metropolitan Transit Commission (Saint Cloud Metro Bus).

MTP: Metropolitan Transportation Plan.

NCB: Northstar Commuter Bus.

NHS: National Highway System.

NHTSA: National Highway Traffic Safety Administration.

NPMRDS: National Performance Management Research Data Set.

NTD: National Transit Database.

PBP: Performance-Based Planning.

SEP: Stakeholder Engagement Plan.

SGR: State of Good Repair.

SOV: Single-Occupancy Vehicle.

STIP: State Transportation Improvement Program.

TAC: Saint Cloud APO's Technical Advisory Committee.

TERM: Transit Economic Requirements Model.

TH: Trunk Highway.

TIP: Transportation Improvement Program.

TPMR: Transportation Performance Management Report.

Tri-CAP: Tri-County Action Program.

TSM: Transportation System Management.

TTTR: Truck Travel Time Reliability.

VMT: Vehicle Miles Traveled.

Introduction
APO Planning Area

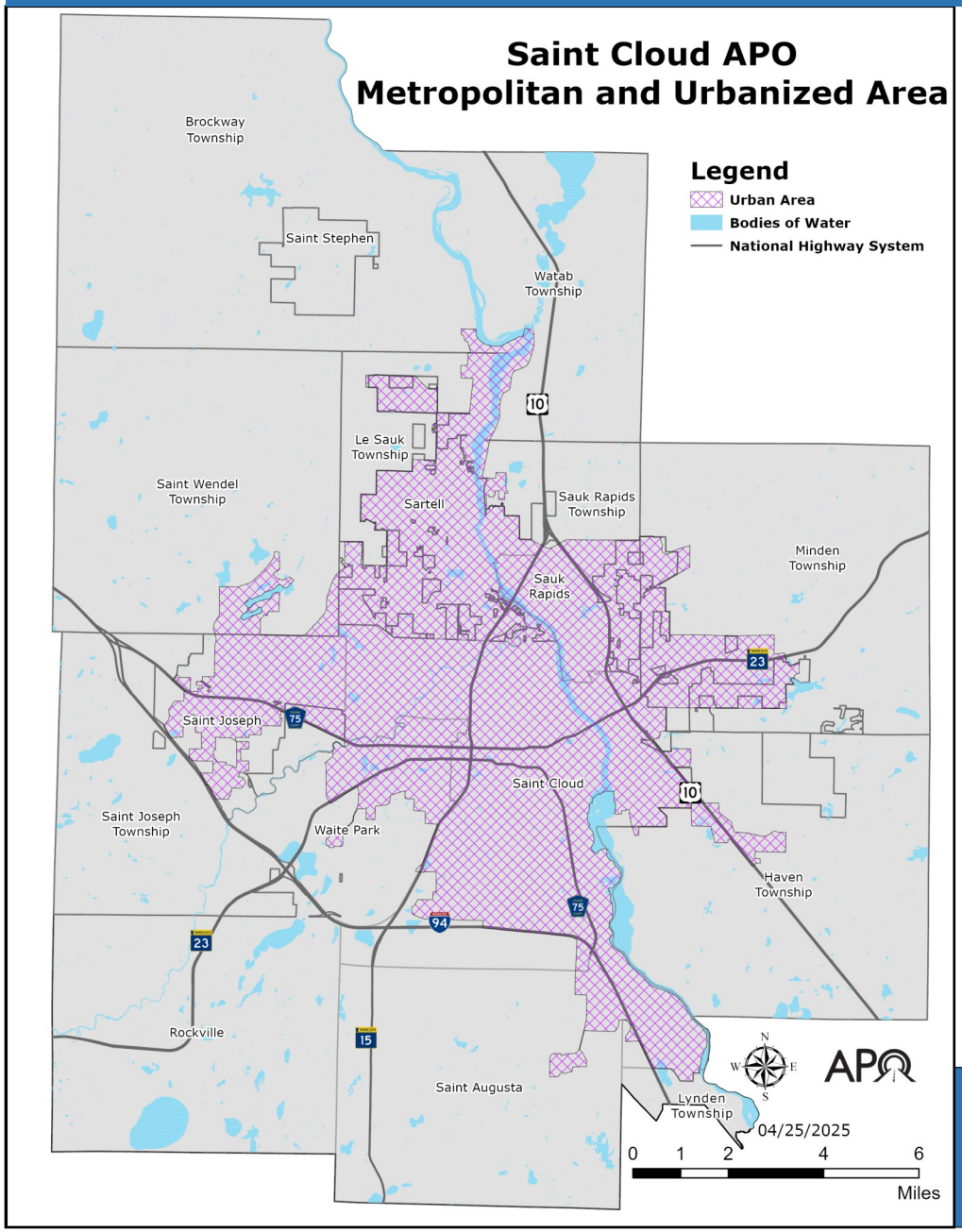


Figure 1.1: Saint Cloud APO Metropolitan and Urbanized Area

The Saint Cloud Area Planning Organization (APO) is an independent, regional body responsible for transportation planning for the Saint Cloud metropolitan area. The APO serves as the region's Metropolitan Planning Organization (MPO) - an organizational body created under the Federal Aid Highway Acts of 1962 and 1973 designed in part to coordinate transportation planning efforts for urban areas with a population of at least 50,000. MPOs, like the APO, assist local officials in collaboratively deciding how federal transportation funds will be allocated within the planning area.

The APO Urbanized Area is designated by the U.S. Census Bureau every census year. Criteria for defining this area includes population density and density of development. The APO approves a 20-year planning boundary that not only includes the Census-defined Urbanized Area, but also considers expected urbanized growth within that time period.

The APO is comprised of member jurisdictions and/or agencies: Stearns County, Benton County, Sherburne County, City of Saint Cloud, City of Sartell, City of Sauk Rapids, City of Waite Park, City of Saint Joseph, LeSauk Township, and Saint Cloud Metropolitan Transit Commission (MTC). The cities of Rockville, Saint Stephen, and Saint Augusta, along with Brockway Township, Haven Township, a part of Lynden Township, Minden Township, Sauk Rapids Township, Saint Wendel Township, Saint Joseph Township, and Watab Township are located within the designated APO planning boundary but are not formal member agencies. Instead they are represented through their respective counties. The APO works cooperatively with Minnesota Department of Transportation (MnDOT) in planning related activities in the region.

1966	**140,668**
Year the APO was incorporated.	Estimated population in the Saint Cloud APO planning area in 2023.

Data Source: U.S. Census Bureau, 2019-2023 American Community Survey five-year estimates

Introduction
Performance Measures

The APO and Performance Measures

The Transportation Performance Monitoring Report (TPMR) includes a set of performance measures that will track the region's progress toward achievement of transportation goals as defined in the APO's Metropolitan Transportation Plan (MTP). (http://bit.ly/3Ewy18j). Performance measures are designed to serve as a benchmark to evaluate and quantify progress. This performance-based approach is meant to improve accountability of Federal transportation investments, assess risks related to different performance levels, and increase transparency. This progress report serves as an annual snapshot of the region to help the APO and its planning partners better understand current and anticipated performance of the transportation system and how well it is moving towards achieving the goals stated in the APO's MTP.

The APO approved its 2050 MTP in October 2024. During that process, staff incorporated federally mandated performance measures into the MTP including but not limited to, those found within this report. In addition, APO staff have been working to develop a variety of other performance measures to assist in future planning and project implementation. The intent is to use the identified performance measures to further align current and future projects with the overall goals and objectives of the MTP.

Based on the Transportation Performance Management (TPM) assessment tool (https://bit.ly/3MIOV2P), the APO is currently working towards a maturity level four, also called the functioning phase. This means that transportation data is being regularly collected and analyzed to inform transportation investment decisions. All of the member jurisdictions of the APO use the performance data when prioritizing projects. Performance data may still have gaps and quality issues, but processes are in place to improve these over time. We are beginning to use transportation performance data to help predict future conditions and thus forecast the need for future transportation investments. Data are being gathered to evaluate the costs and effectiveness of actions taken.

Figure 1.2: Pavement in Poor Condition

Introduction
Performance Measures

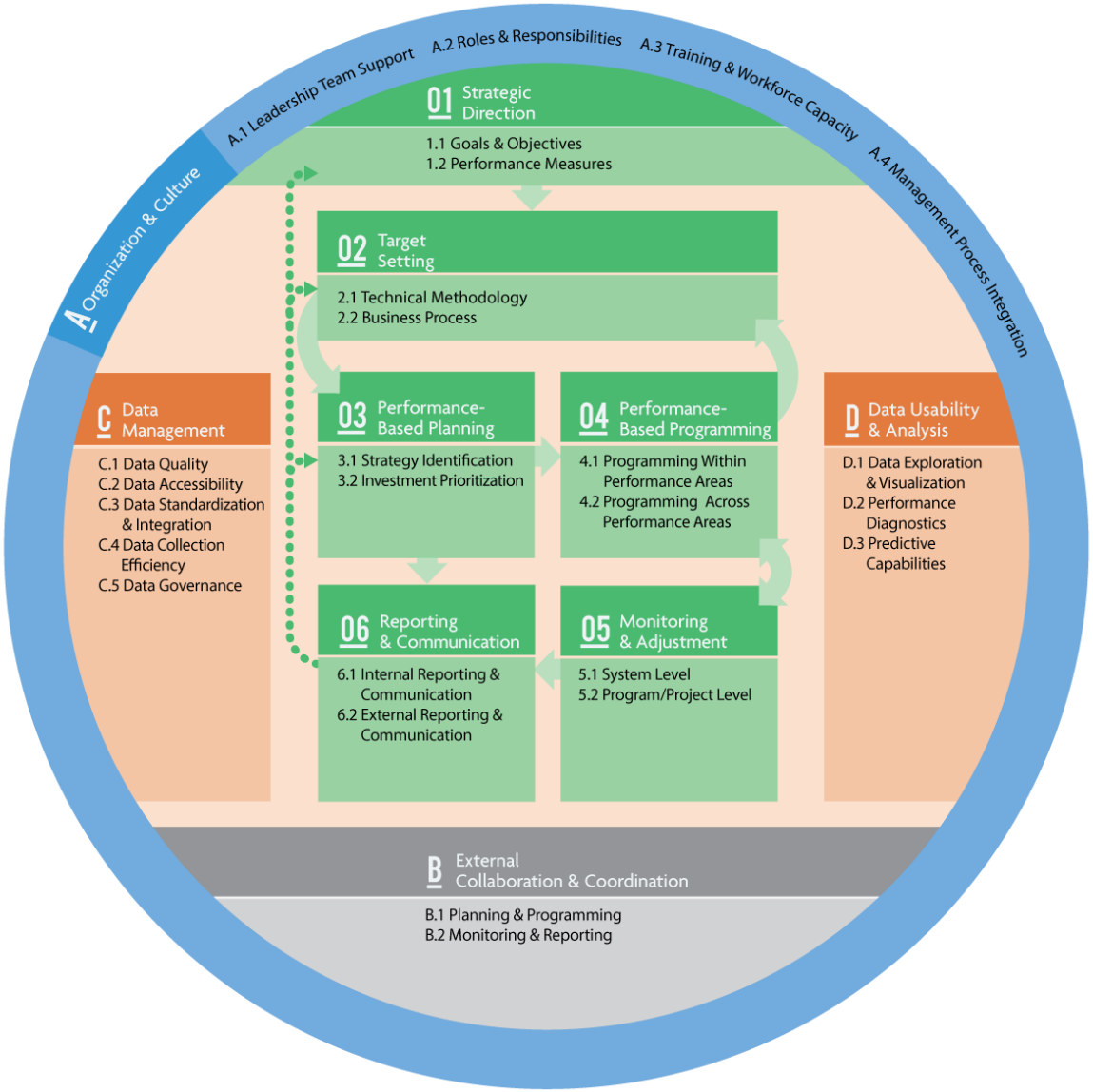


Figure 1.3: TPM Framework, graphic courtesy of tpmtools.org

Strategic Direction

The APO is using a collaborative process to set goals and objectives with linkages between agency functions and broader societal concerns still being clarified.

Target Setting

The APO is collaboratively using a methodology to understand baselines and set targets within agreed-upon performance areas.

Performance-Based Planning

The APO is defining a data-driven process for understanding current and future performance to identify and develop strategies.

Performance-Based Programming

The APO is using a performance-based programming methodology and process that will: enable project selection to reflect agency goals; determine priorities in planning documents; and identify funding constraints, risk factors, and relative needs across performance areas.

Monitoring and Adjustment

The APO is using a plan for system and program/project monitoring tied to its strategic direction. This will include: a definition of output, outcome measures, frequency of data collection, external influencing factors and users.

Reporting and Communication

The APO is defining requirements for internal reports to ensure consistency, alignment with strategic direction, and provision of actionable information.

Introduction
Performance Measures

What are Performance Measures?
Performance measures are indicators of progress toward attaining a goal, objective, or target (a desired level of future performance).

What is Transportation Performance Management?
Transportation Performance Management (TPM) is a strategic approach that uses system information such as performance measures to assist decision-makers in order to achieve performance goals.

What is Performance-Based Planning?
Performance-Based Planning (PBP) is the use of agency goals, objectives, and performance trends to drive the development of strategies and priorities in long-range planning documents like the MTP. The resulting documents, such as the Transportation Improvement Program (TIP), have become the blueprint for how an agency intends to achieve its desired performance outcomes.

How does the APO use performance measures?
Because the APO's transportation system improvement needs exceed available funding, resources are invested in the most strategic, effective, and efficient way possible. Performance measures provide useful "feedback" and are integrated into the APO's planning practice on three levels as indicated in the adjacent graphic.

Strategic Level

Performance measures help to establish and inform goals, objectives, and strategies as well as monitoring the APO's mission attainment. Performance measures also communicate progress toward achieving goals in transportation plans and programs such as the MTP and TIP.

Decision Making Level

Performance measures are used to inform the allocation of funds among programs such as highway preservation, system expansion, public transportation, multimodal trails, etc. These programs are defined in the TIP. Decision-makers also consider various trends impacting transportation system performance.

Project Delivery Level

After projects are selected, performance measures help to monitor the efficiency and effectiveness of projects and services. Performance measures also support organizational and operational improvements.

Introduction
Performance Measures

Why does the APO use performance measures?

- To assess how well the APO's multimodal transportation system is functioning—including feedback from and collaboration with key stakeholder organizations.
- To provide information to support and inform decision-making.
- To assess how effectively and efficiently transportation programs, projects, and services are being delivered.
- To demonstrate transparency and accountability to the APO's citizens and to foster collaboration between the transportation systems of APO member jurisdictions.

Why set targets?

Federal regulations require the APO to either 1) support MnDOT's performance targets for each performance measure, or 2) set its own regional target(s). The APO has decided to set its own targets for each of the performance measures.

Overall, the targets established by MnDOT have been determined to be of limited value to the APO, especially when compared with the APO's existing conditions and priorities. By adopting its own targets, the APO can focus on localized issues and target funding that will work toward achieving the goals established in the MTP.

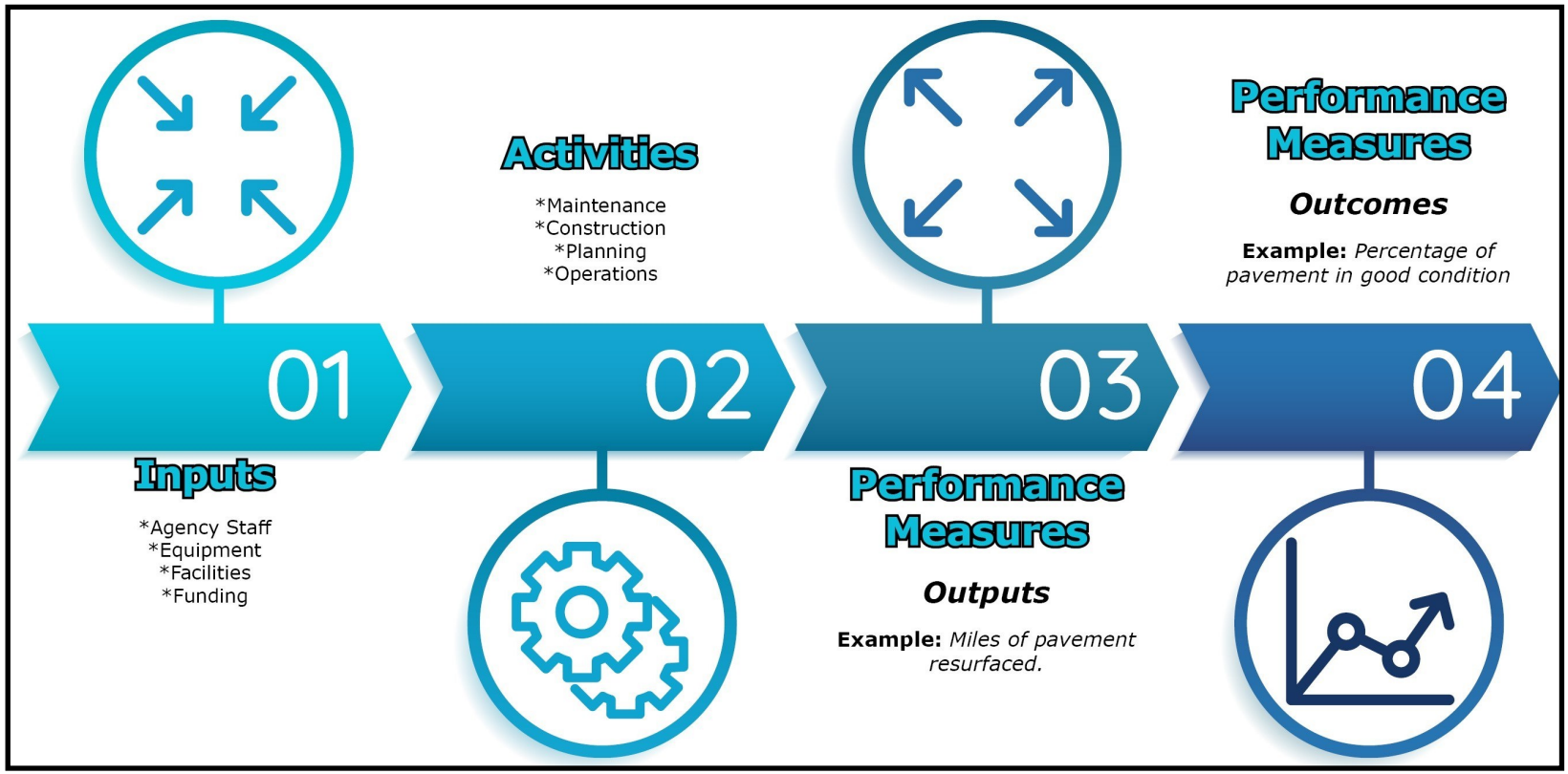


Figure 1.4: Performance Measures Design Process

Introduction
Performance Measures

Who sets the targets?
APO staff, along with planning partners, the APO's Technical Advisory Committee (TAC), the APO's Policy Board, and MTC have collaborated to establish targets.

The establishment of performance targets has also involves a continuing cooperative effort between all parties listed previously, MnDOT, and Federal planning partners.

What are the desired characteristics of performance measures?

- *Measurable data*—Data is quantifiable and able to be tracked year after year.
- *Forecastable*—Enables data-driven target setting based on future conditions.
- *Clear to the public and policymakers*—Allows performance storytelling to citizens and policymakers.
- *Agency has influence over results*—Measures agency activities rather than impact of external factors.

Figure 1.5: APO's Technical Advisory Committee Meeting

Figure 1.6: CSAH 133 in Saint Joseph

Introduction
Performance Measures

Federal performance measures
The Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law in 2012, included several provisions that are transforming the Federal surface transportation program to be focused on the achievement of performance outcomes.

The Fixing America's Surface Transportation (FAST) Act, signed in 2015, built on the MAP-21 changes and provided long-term funding certainty for surface transportation infrastructure planning and investment.

The Infrastructure Investment and Jobs Act (IIJA) was signed into law by President Biden in November 2021 as the transportation bill to replace the FAST Act. This five-year legislation is currently the largest long-term investment in the nation's infrastructure and economy, providing $550 billion between 2022 and 2026 in new Federal investment in infrastructure.

The graphic below contains the list of federally required performance measures:

The first federally required performance period began Jan. 1, 2018, and ended on Dec. 31, 2021. Exceptions to this time frame include roadway safety, transit management, and state of good repair which have an annual calendar year reporting period.

Targets established should be reasonable and based on the analysis of trends and projections of future efforts. These efforts include projects identified in the TIP, MTP, and general maintenance of existing infrastructure completed by the counties, municipalities, and townships in the APO planning area. Targets established in accordance with Federal Highway Administration's (FHWA's) performance measure rules should be considered as interim condition/performance levels that lead toward the accomplishment of longer-term performance expectations in transportation plans developed by state departments of transportation (DOTs) and MPOs.

Roadway Safety	Roadway Accessibility, Mobility, and Connectivity	Roadway Management and Preservation	Roadway Metropolitan Vitality and Economic Development
♦ Number of fatalities. ♦ Rate of fatalities per 100 million vehicle miles traveled (VMT). ♦ Number of serious injuries. ♦ Rate of serious injuries per 100 million VMT. ♦ Number of non-motorized fatalities and serious injuries.	♦ Annual percent of person-miles traveled on the Interstate and non-Interstate National Highway System (NHS) that are reliable. ♦ State of Good Repair for equipment, facilities, and rolling stock. ♦ Transit Economic Requirements Model (TERM) scale for transit.	♦ Interstate system pavement conditions. ♦ Non-Interstate NHS pavement conditions. ♦ Bridge conditions. ♦ Transit Mechanical Failures.	♦ Truck Travel Time Reliability Index.

Figure 1.7: Federally Required Performance Measures

System and Environmental Stewardship Overview

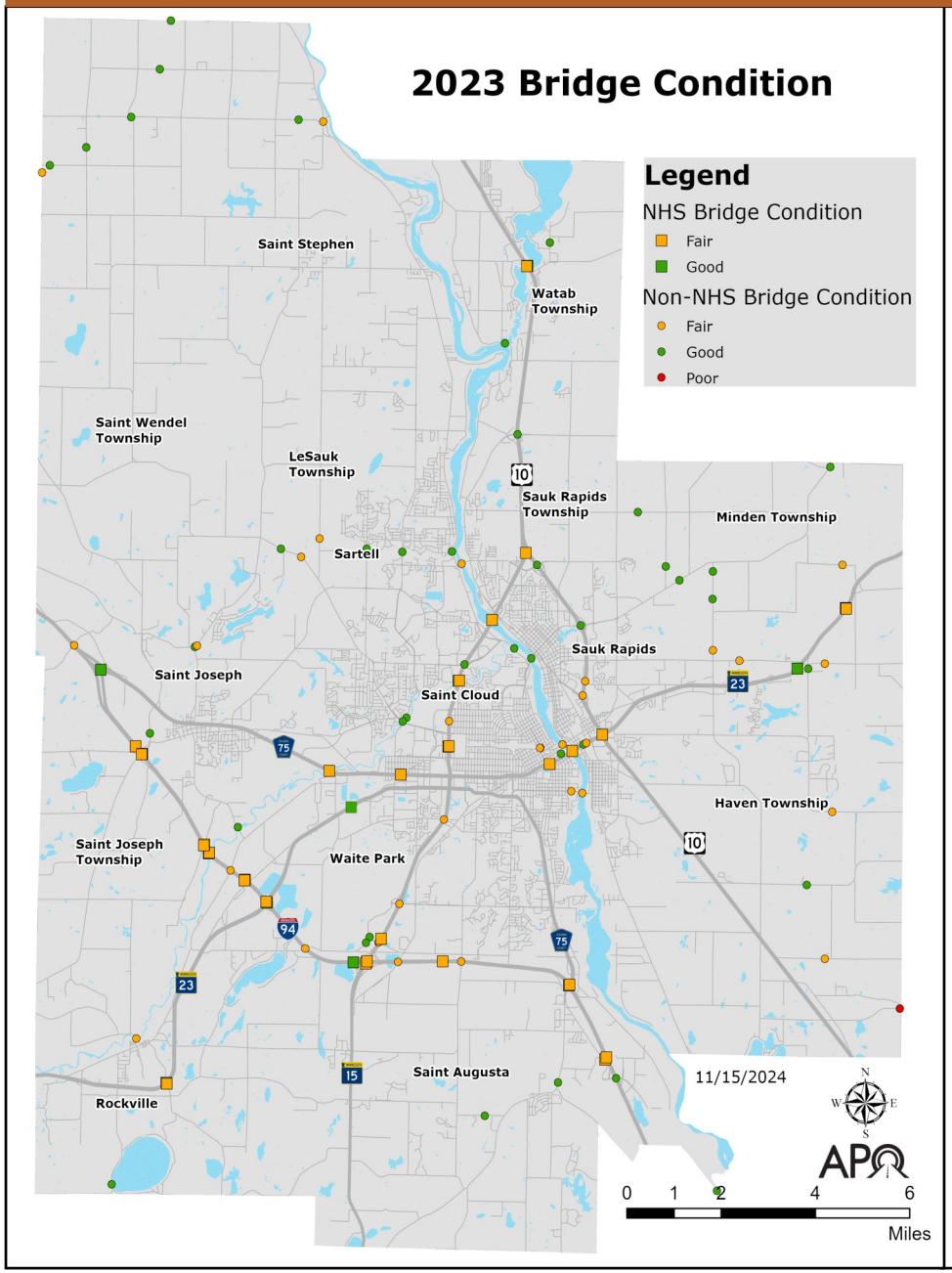


Figure 2.1: 2023 Bridge Condition, data courtesy MnDOT

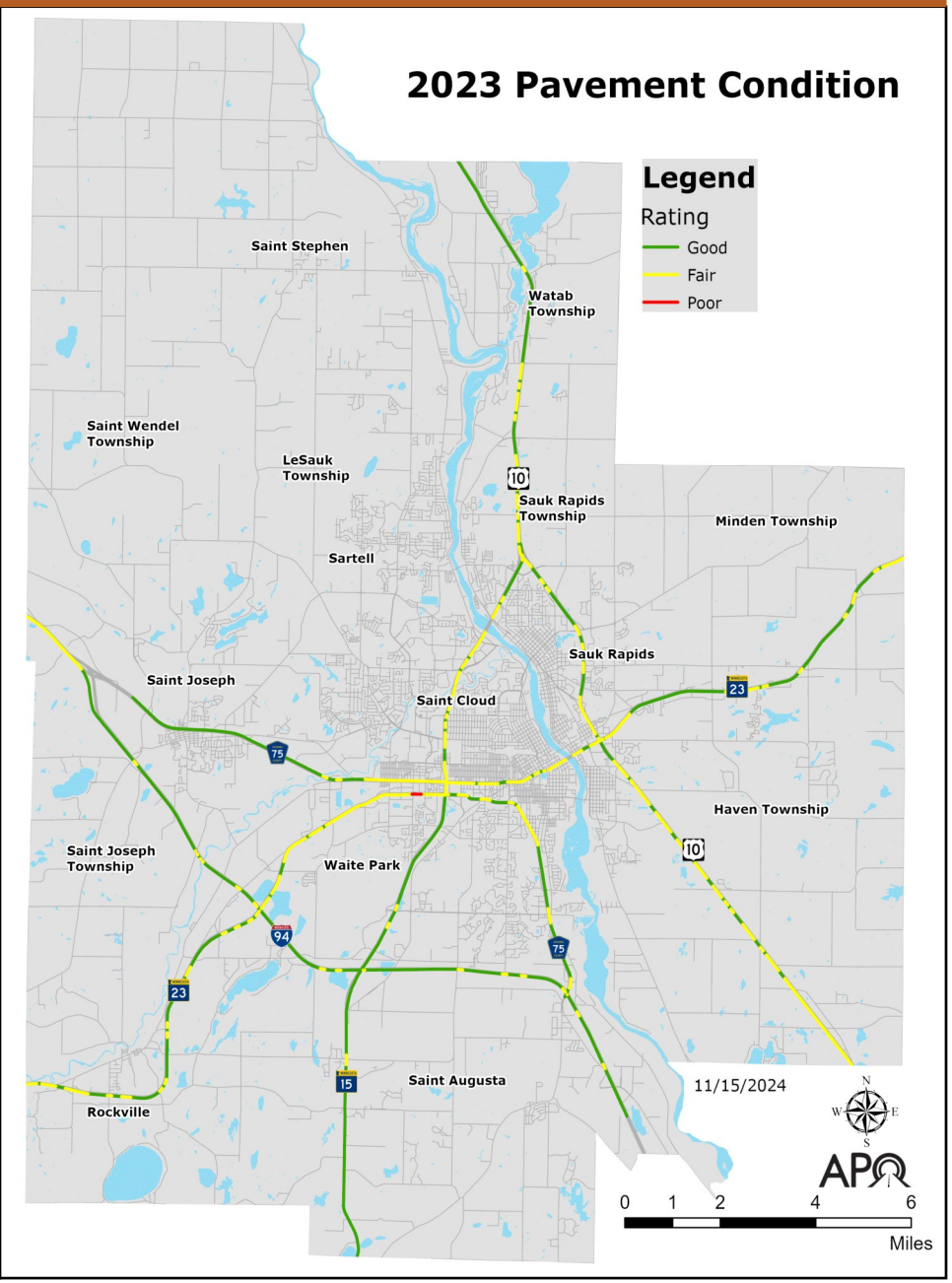


Figure 2.2: 2023 Pavement Condition, data courtesy MnDOT

System and Environmental Stewardship
Pavement

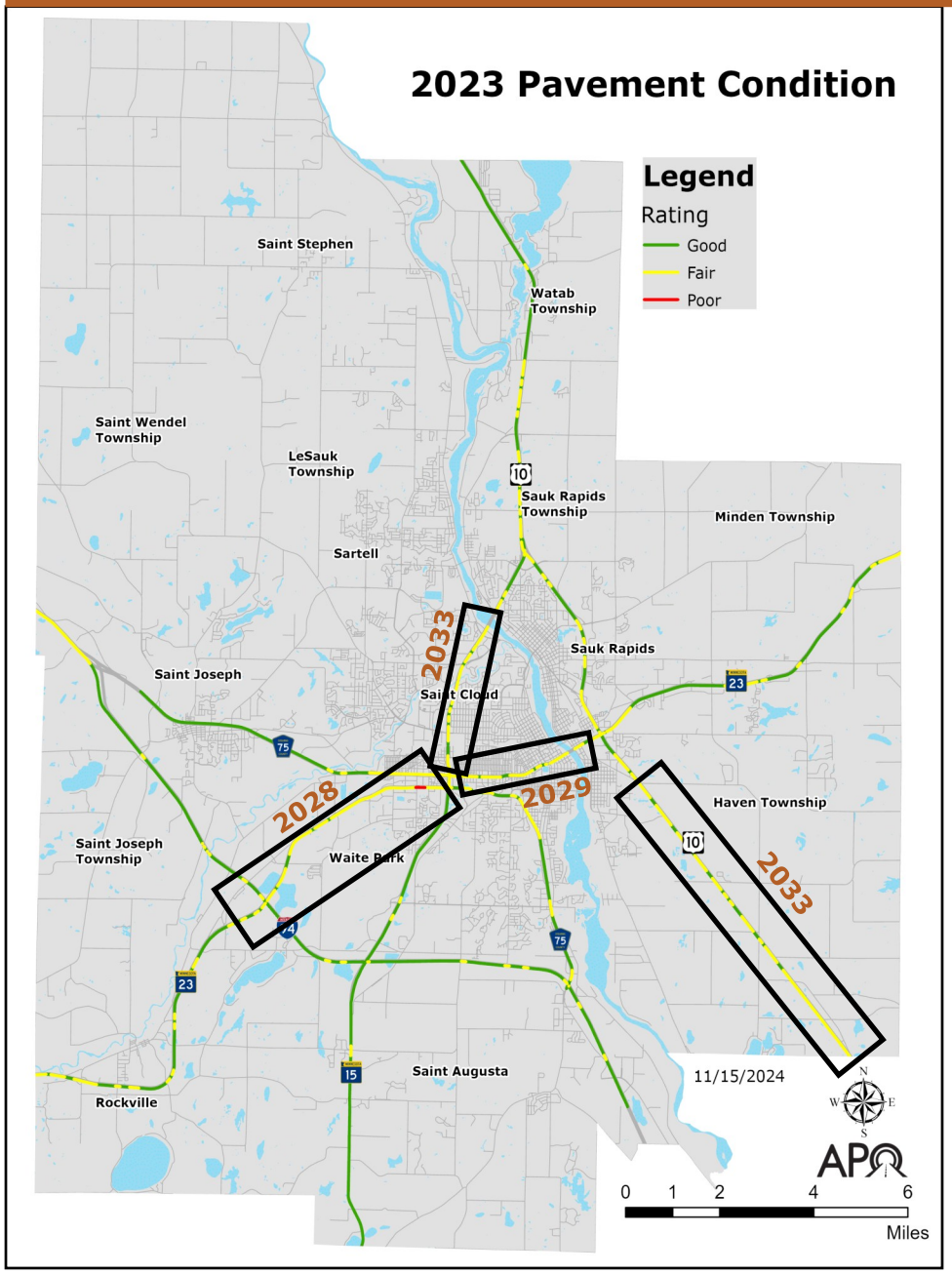


Figure 2.3: 2023 Pavement Condition, data courtesy MnDOT

Pavement Condition

In 2023, 63.5% of Interstate and NHS pavement within the APO planning area was in good condition, 36.3% in fair condition, and 0.2% in poor condition as displayed in Figure 2.3. The black boxes on the map highlight some sections of NHS roadways for which MnDOT is planning a pavement improvement projects, as noted in their Capital Highway Investment Plan (CHIP, https://bit.ly/43W6rvQ). A CHIP is a plan that includes an overview of the planned transportation improvement projects over the next ten years.

Pavement condition data is used to monitor the performance of the system, to aid in project selection, and to identify future pavement maintenance or rehabilitation needs. An effective pavement preservation program will address pavement while it is still in good condition and before serious damage occurs. By applying a cost-effective treatment at the right time, the pavement can be restored almost to its original condition: The right treatment to the right road at the right time.

International Roughness Index (IRI)

IRI is a mathematical simulation used to estimate the amount of vertical movement a standard vehicle would experience if driven down the road. In the past, MnDOT has taken a rating panel of 30 to 40 people into the field and driven them over hundreds of test sections to get their perception of the smoothness of various pavement sections. Following right behind them was the digital inspection vehicle. This provides MnDOT with a direct correlation between the IRI, as measured by the van, and the perceived roughness, as felt by the rating panel.

System and Environmental Stewardship
Non-Interstate NHS Pavement

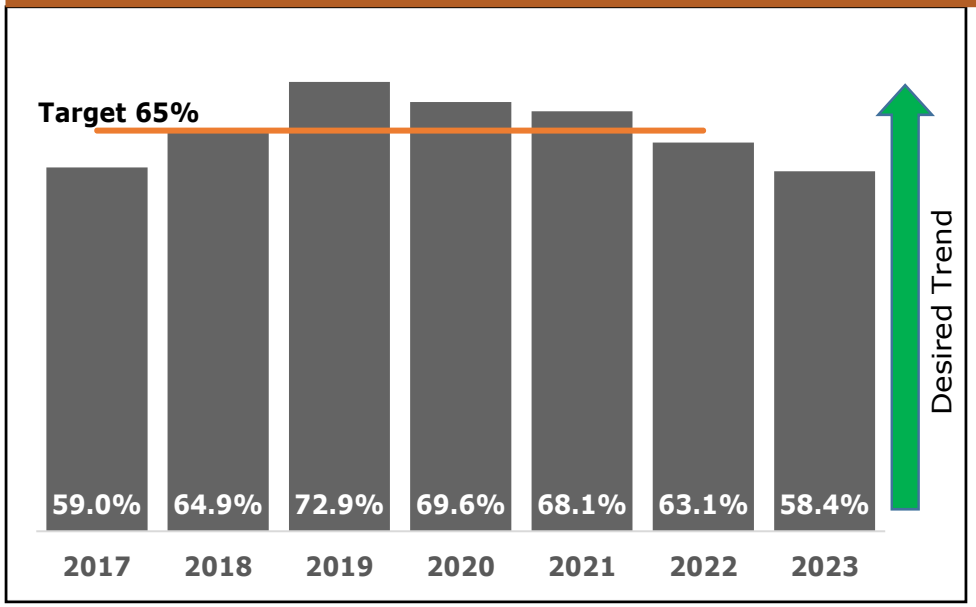


Figure 2.4: Non-Interstate NHS Pavement in good Condition, data courtesy MnDOT

Non-Interstate NHS Pavement in good Condition

Non-Interstate NHS pavement in good condition has been decreasing in recent years. This is decrease is largely seen in roadways going from good condition to fair. Per the map on the previous page, large sections of fair roadway are already included within a project detailed in MnDOT's CHIP. These improvement will help the APO to meet the pavement condition target.

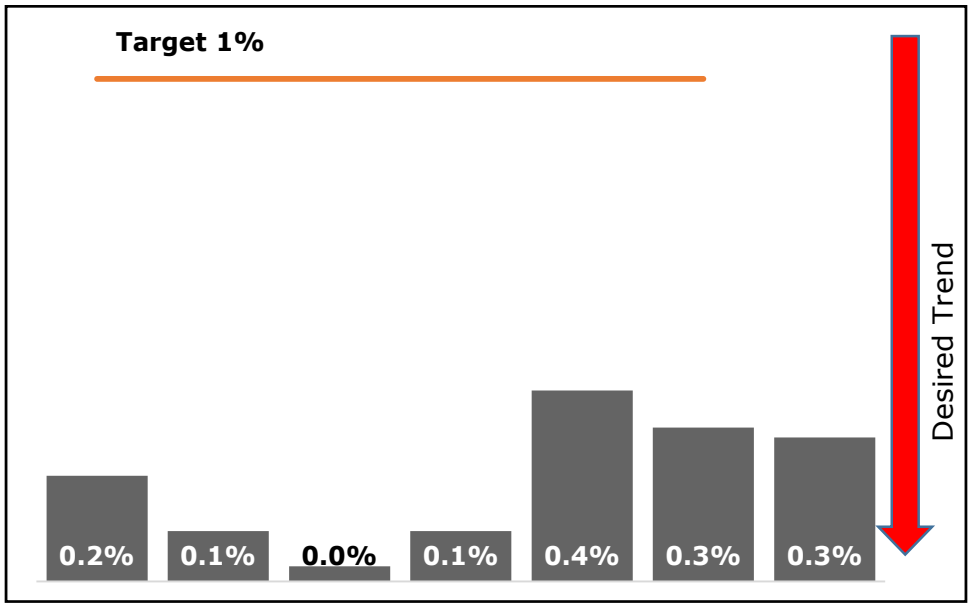


Figure 2.5: Non-Interstate NHS Pavement in poor Condition, data courtesy MnDOT

Non-Interstate NHS Pavement in poor Condition

Non-Interstate NHS pavement in poor condition remains very low. Roads do not tend to stay in poor quality on the NHS system in general as these roads typically carry more traffic than others and are prioritized for pavement improvement on a more regular basis.

System and Environmental Stewardship
Interstate NHS Pavement

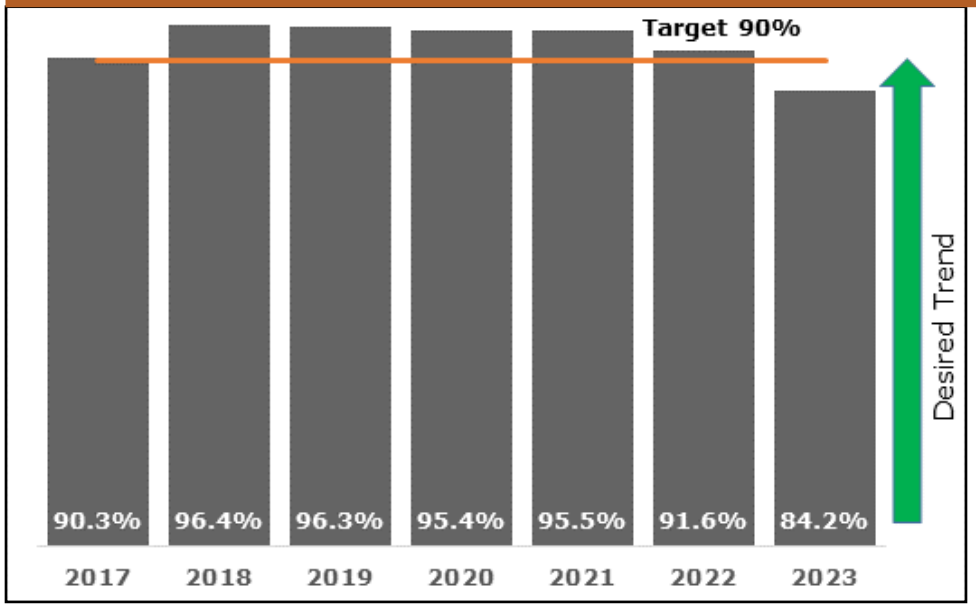


Figure 2.6: Interstate NHS Pavement in good Condition, data courtesy MnDOT

Interstate NHS Pavement in good Condition

Interstate NHS pavement in good condition has typically been around 90-95%.However, in 2023 the total Interstate pavement fell below our target. However, this decrease is mostly seen in pavement going to fair condition from good. Keeping all pavement in good condition at all times is ideal, but road maintenance is limited by both time and budget constraints. The section on I-94 west of Saint Joseph is the main contributor to this decrease in pavement condition on the Interstate.

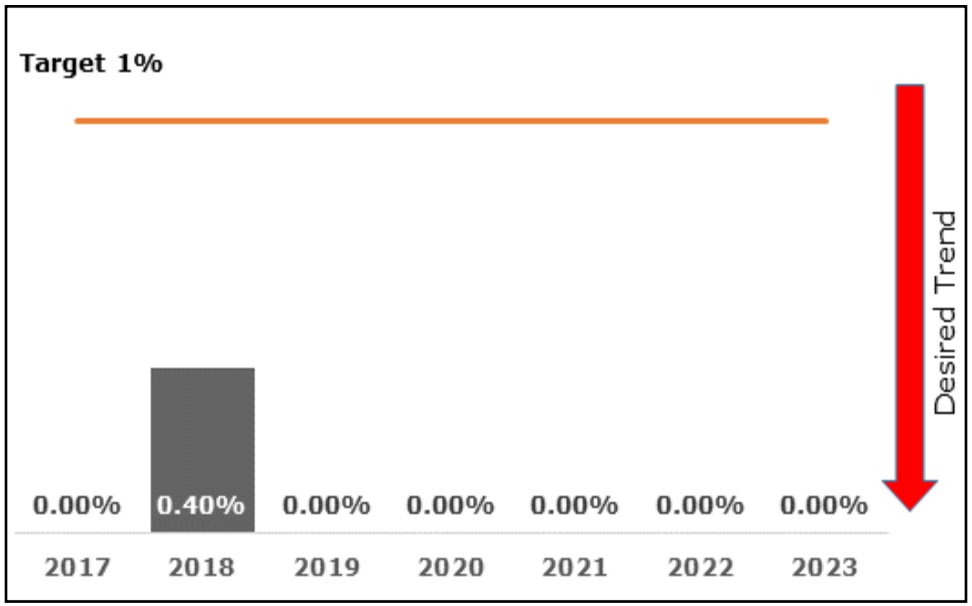


Figure 2.7: Interstate NHS Pavement in poor Condition, data courtesy MnDOT

Interstate NHS Pavement in poor Condition

Interstate NHS pavement is rarely in poor condition as it remains a high priority in part due to the large amount of travel use. I-94 within the planning area has not experienced any pavement in poor condition since 2018.

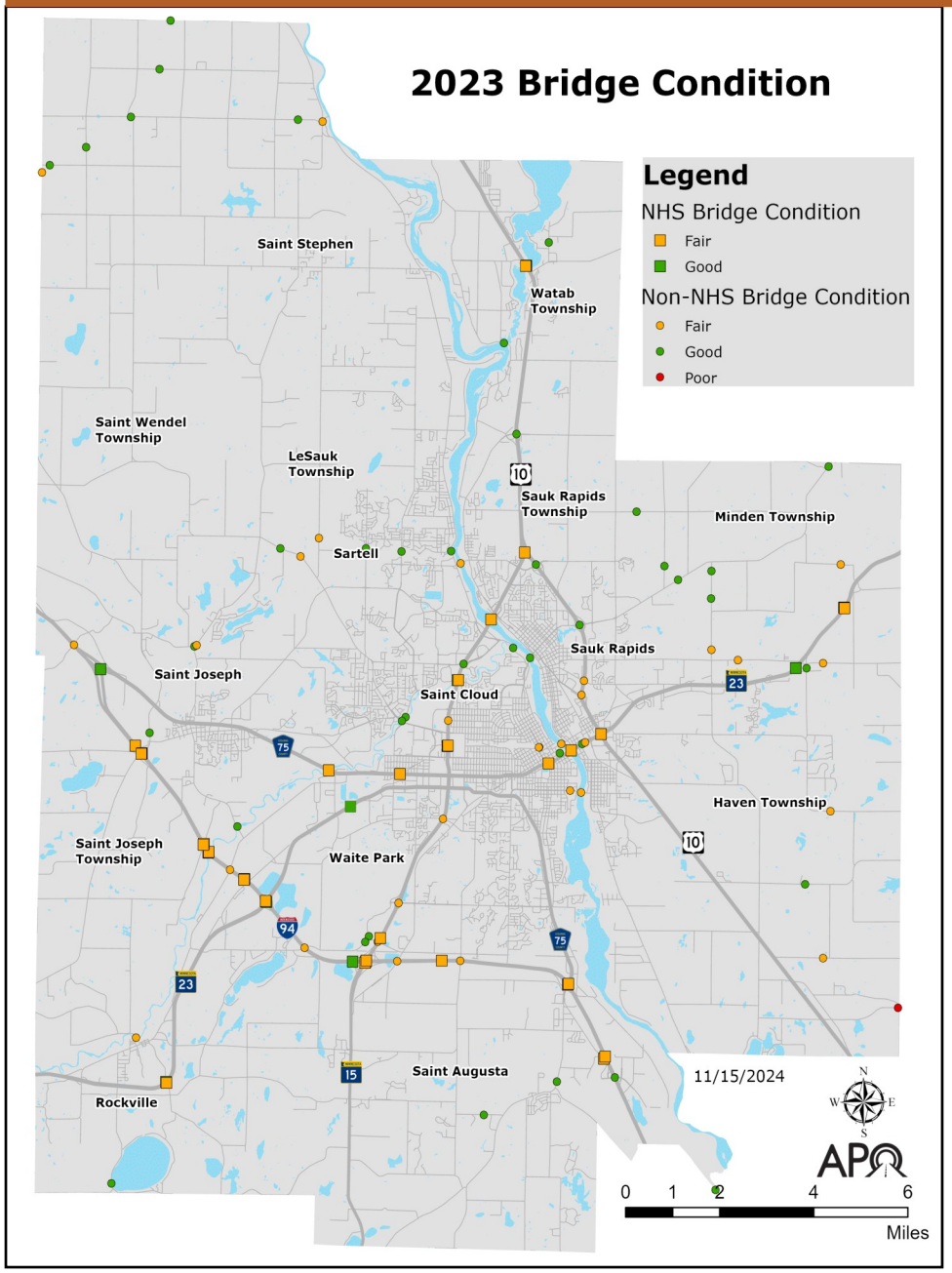


Figure 2.8: 2023 Bridge Condition, data courtesy MnDOT

Bridge Condition

Of the 113 bridges in the APO planning area, 51 are rated in good, 61 in fair and 1 in poor as shown in Figure 2.8. Bridges are routinely inspected and rated based off of 3 to 4 characteristics. These characteristics include the deck, superstructure, substructure, and, where applicable, culvert. Structural condition is based on the lowest rated component. Different components have different solutions with some being more involved than others.

Bridge components are rated on a scale out of 10. Components with a rating from 7-10 are rated good, 5-6 are rated fair or satisfactory, and 1-4 are rated poor.

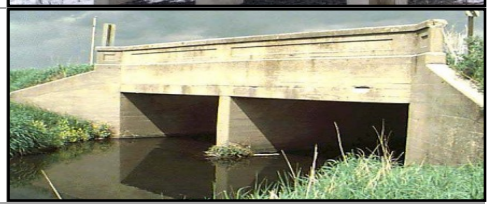
Bridge Components	Example
Deck - The deck is designed to provide a smooth and safe riding surface for traffic utilizing the bridge.	
Superstructure - The superstructure supports the deck or riding surface of the bridge, as well as the load applied to the deck.	
Substructure - The substructure includes all the elements which support the superstructure.	
Culverts - Culverts transport water flow efficiently. Any culvert 20 feet or greater is defined as a bridge according to FHWA standards.	

Figure 2.9: Bridge Components, data and photos courtesy MnDOT

System and Environmental Stewardship
Bridges

Individual Bridge Ratings

Bridges on the National Highway System (NHS) are assessed and scored at least every other year. Those scores are then entered into the National Bridge Inventory (NBI).

Scores are based on three components:

- **Deck:** The riding/driving surface of the bridge.
- **Superstructure:** Components of a bridge that aid in supporting the bridge load.
- **Substructure:** Piers or other support structures that help support the superstructure in distributing the weight of the bridge to its foundation.

The overall rating for an individual bridge is based on the ***LOWEST*** score of the three elements.

NBI Bridge Condition Ranges

- **Good:** 7-9
- **Fair:** 5-6
- **Poor:** 0-4

NHS Bridge Target Setting

Unlike individual bridge ratings, determining the percentage of bridges in the region that are in "Good" condition also considers the overall size of each bridge (deck area).

NHS Bridge Target Setting Calculation Example

Region Alpha contains five bridges.

- **Bridge A** = 10% of the region's bridge deck area.
- **Bridge B** = 15% of the region's bridge deck area.
- **Bridge C** = 20% of the region's bridge deck area.
- **Bridge D** = 5% of the region's bridge deck area.
- **Bridge E** = 50% of the region's bridge deck area.

Bridges A through D are in Good Condition. Bridge E is in Fair Condition.

While four bridges are in good condition, regional bridge targets are not only based on individual ratings, but the size of the bridges.

In this example, 50% of the bridges in Region Alpha would be in "Good" Condition. Significant improvements made to larger bridges would then have a much larger increase in a region's percentage of bridges in Good Condition as compared to significant improvements made to much smaller bridges.

However, it is important to note that considering ***BOTH*** the individual bridge rating and the regional impacts of bridge performance are critical in performance-based planning.

Figure 2.10: 2023 Bridge Condition, data courtesy MnDOT

System and Environmental Stewardship
All Bridges (includes NHS)

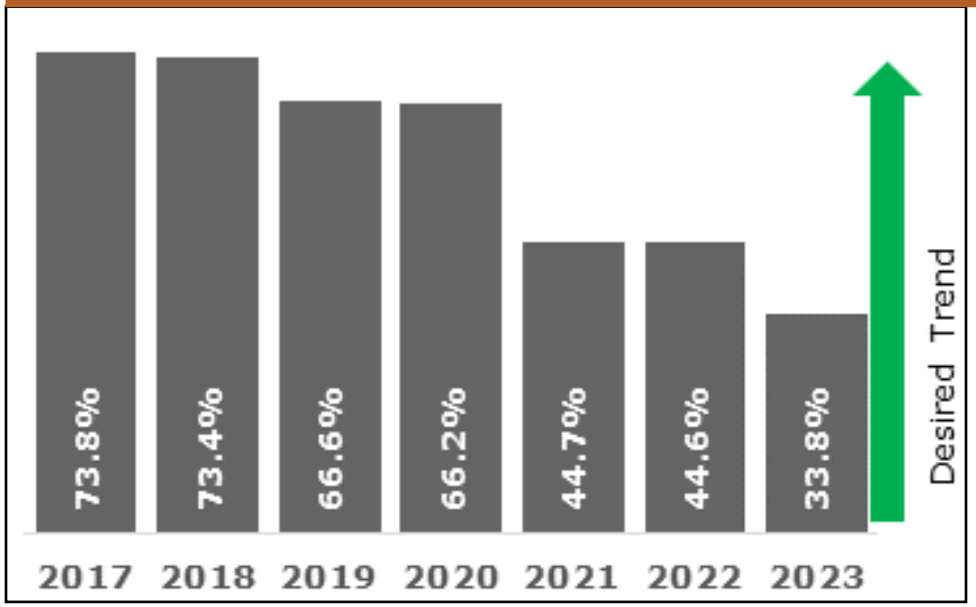


Figure 2.11: Bridge Condition for All Bridges in the APO Region (Good Condition), data courtesy MnDOT

Bridge Condition by Deck Area for All Bridges in the APO Region (Good Condition)
The percent of all bridges by deck area in the region that are in good condition is seeing a decrease. Most of these bridges are going from good to fair condition. Typically it does not make sense financially to maintain all infrastructure in good condition when in most cases fair condition causes little to no meaningful issues. The main concern is when bridges move from fair condition to poor condition at which point closer attention is important.

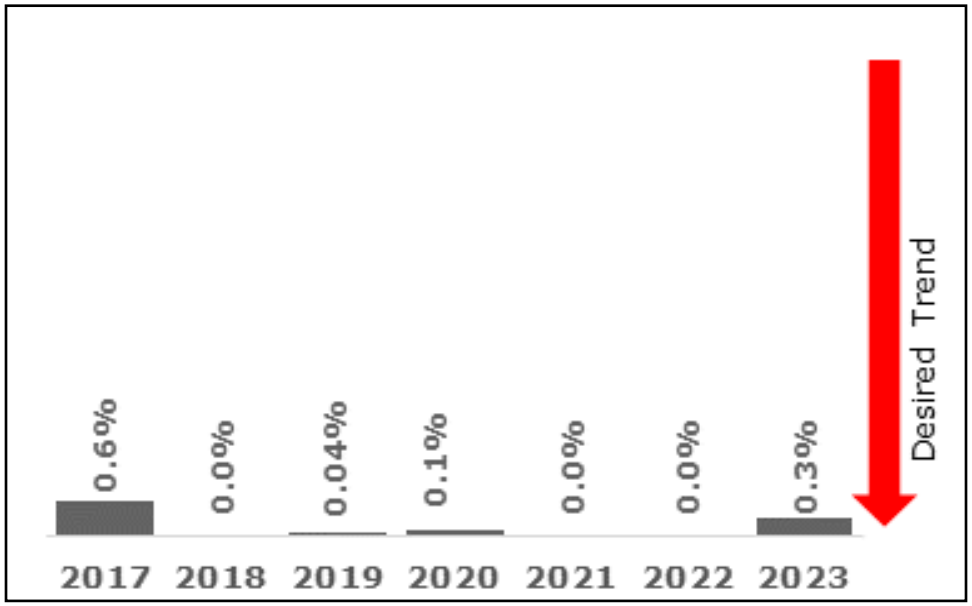


Figure 2.12: Bridge Condition for All Bridges in the APO Region (Poor Condition), data courtesy MnDOT

All Bridge Condition by Deck Area (Poor Condition)
The percent of all bridges by deck area in the region that are in poor condition has remained low. Bridges in poor condition are often load posted or have other restrictions placed on them. However, the region typically prioritizes fixing bridges before they are in poor condition. Bridges in poor condition are not necessarily an immediate problem. For example, a bridge could be rated as poor due to the deck surface which does not mean that the bridge is in dire need of repair. Recognizing why a bridge is in poor condition is important to prioritizing funds for fixing it.

System and Environmental Stewardship
NHS Bridges

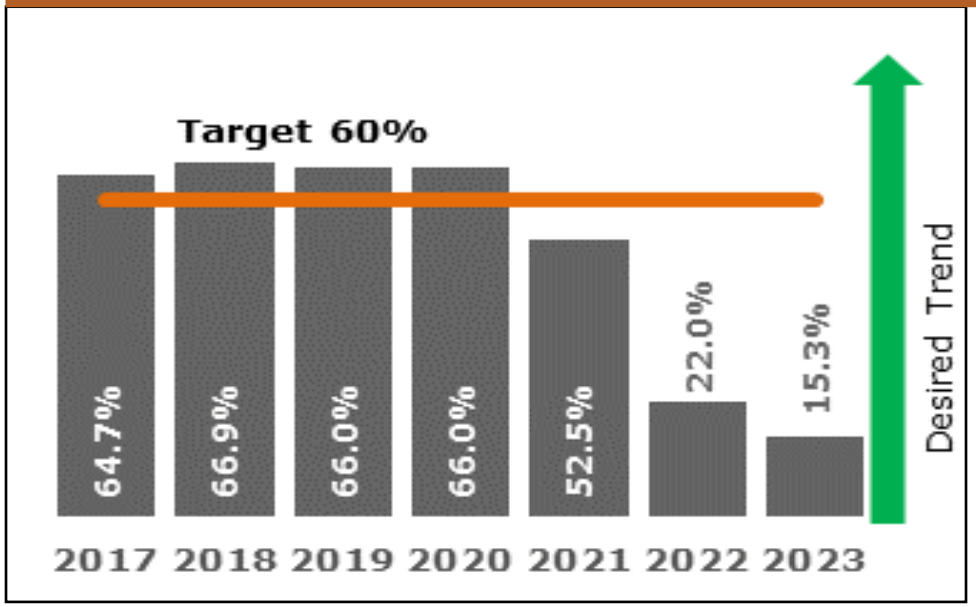


Figure 2.13: Bridge Condition for All Bridges in the APO Region (Good Condition), data courtesy MnDOT

NHS Bridge Condition by Deck Area

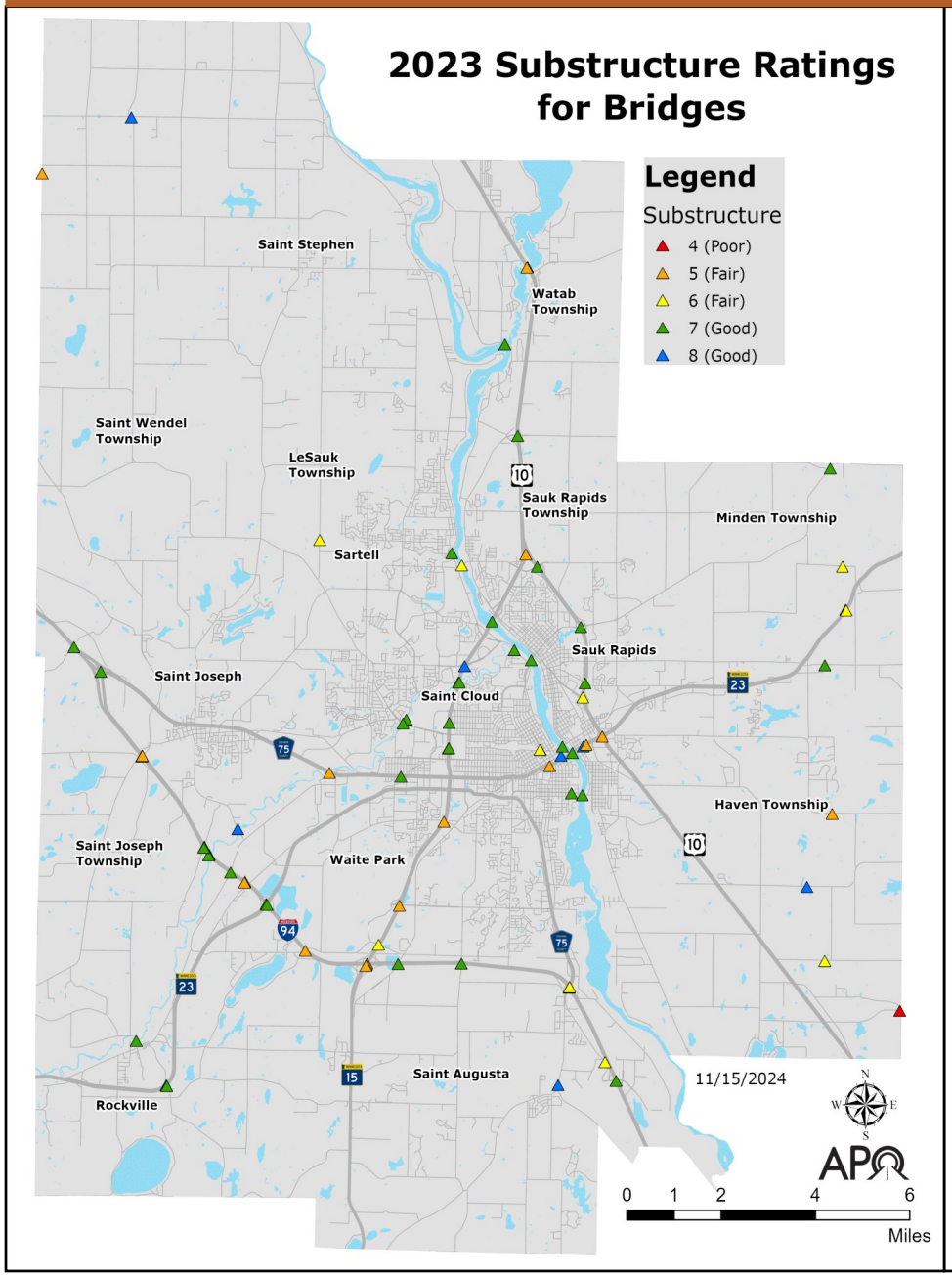
The percent of NHS bridges by deck area in good condition has continued to fall over the past couple years. At the State level, there is also a significant decrease in bridges in good condition. Similar to roadways, a majority of this decrease is bridges going from good to fair. Bridges in fair condition are not necessarily a cause for concern. The State has lowered their targets for bridge condition as they do not expect to reach the previous targets. Additional reporting at the State level will also be required as a result of the continued decrease in the number of bridges in good condition. One large contributor to this is the bridge on MN-15 crossing the Mississippi, which makes up around 25% of total bridge deck surface area for the APO region.

However, no NHS bridges are in poor condition. Since 2015, no NHS bridges were allowed to deteriorate to poor condition and it is likely that trend will continue.

Bridge Component Condition

The maps on the following pages highlight the different bridge components and their condition ratings. Condition ratings of poor and fair are not necessarily causes for concern. However they may indicate the need for load restrictions or some other restriction. The different components have different solutions and problems. Some components like the deck can be replaced without fully rebuilding a bridge while others may require a rebuilding of some or all of the bridge.

The figures on the following pages shows the bridges, the locations, the components condition ratings, and the age of the bridge. Typically as bridges age we would expect to see parts slowly degrade and ultimately be replaced (whether building a brand new bridge or just part), typically the deck degrades more quickly than the substructure or superstructure. The deck is often able to be replaced more easily than other components as it is sitting on top of them. The substructure supports the superstructure and ultimately the deck so it often requires a more complicated replacement than the deck alone. The bridges highlighted in green in figure 2.18 on page 24 are ones that have already been replaced following the base year of this data (2023). Those highlighted in yellow are newer bridges for which lower condition ratings are unexpected so soon after construction. Those highlighted in blue are noted in MnDOT's CHIP as bridges that will be having work done in the coming years.



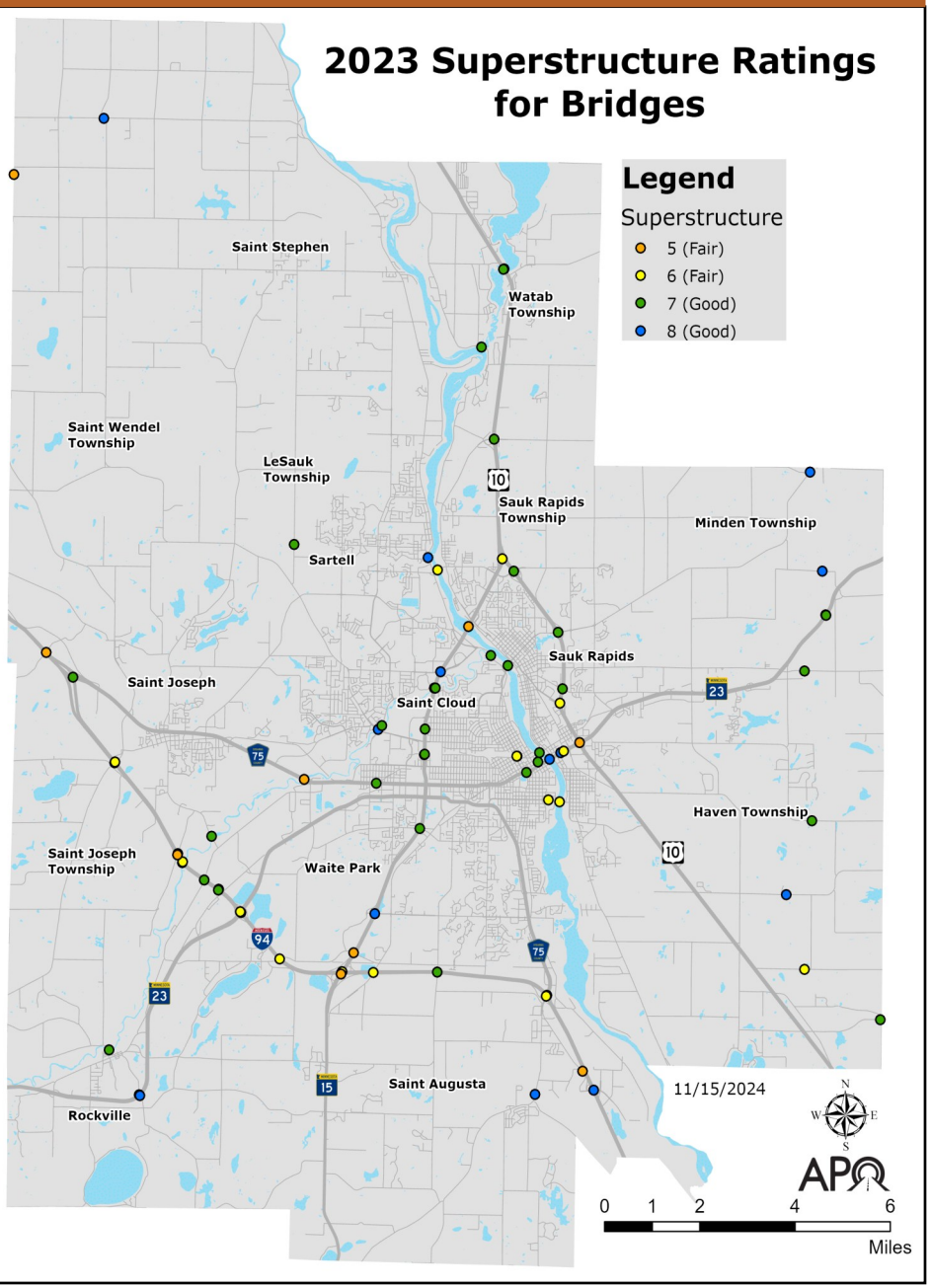


Figure 2.14: 2023 Substructure Ratings for Bridges, data courtesy MnDOT
The map above shows substructure ratings for bridges within the APO.

Figure 2.15: 2023 Superstructure Ratings for Bridges, data courtesy MnDOT
The map above shows superstructure ratings for bridges within the APO.

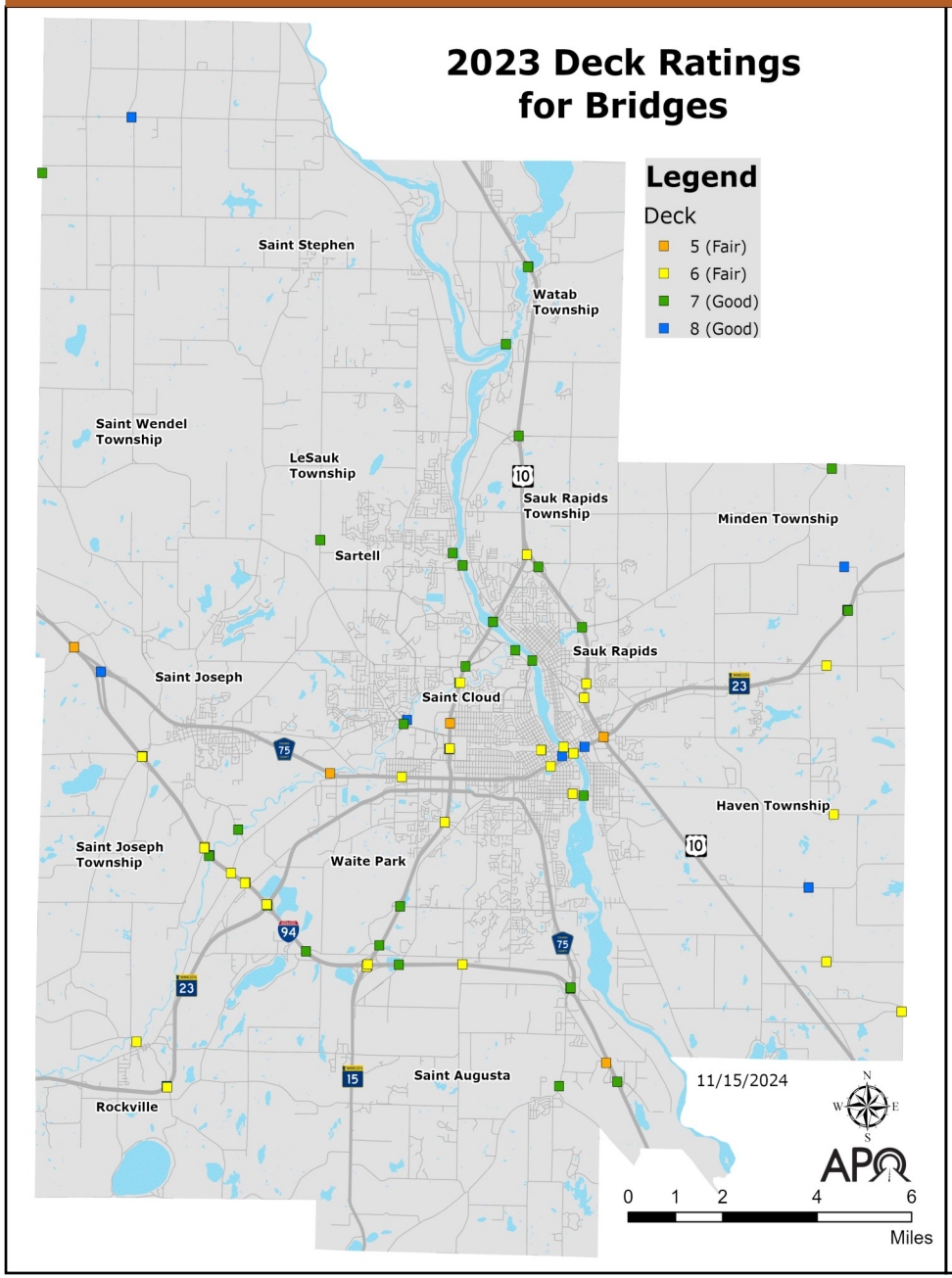


Figure 2.16: 2023 Substructure Ratings for Bridges, data courtesy MnDOT
The map above shows deck ratings for bridges within the APO.

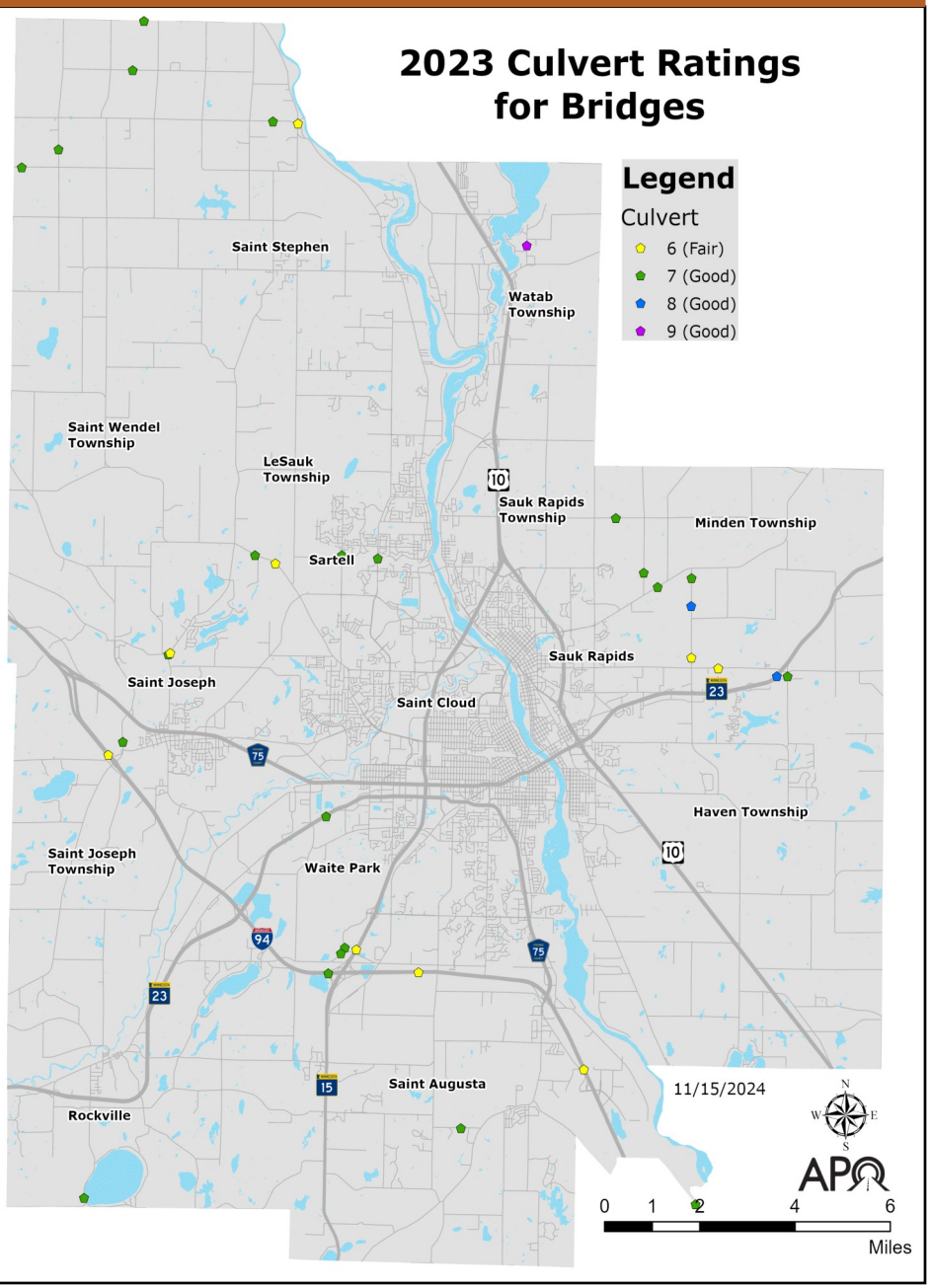


Figure 2.17: 2023 Substructure Ratings for Bridges, data courtesy MnDOT
The map above shows culvert ratings for bridges within the APO.

Bridges with at Least One Component in or Nearing Poor Condition

Bridge ID	Route	Deck	Superstructure	Substructure	Culvert	Structural Condition Rating	Structural Condition Rating	Age
71511	CSAH 16 over Elk River	6	7	4	N	4	Poor	53
4881	CSAH 3 over Spunk Creek	7	5	5	N	5	Fair	61
05003	TH 15 EB over US 10	6	6	5	N	5	Fair	56
05011	TH 15 over Benton DR, Miss RVR, RR	7	5	7	N	5	Fair	32
5417	CSAH 75 over St Augusta Creek	5	5	6	N	5	Fair	90
6846	BNSF over MN 23	N	6	5	N	5	Fair	67
9022	TH 23 NB over US 10	5	5	5	N	5	Fair	68
9462	US 10 EB over Little Rock Lake	7	7	5	N	5	Fair	63
71513	CR 62 over Elk River	6	7	5	N	5	Fair	47
73011	TH 23 over 10 AVE	6	7	5	N	5	Fair	16
73019	CSAH 137(18TH ST S over MN15)	6	7	5	N	5	Fair	47
73029	Pedestrian over MN 15	5	7	7	N	5	Fair	38
73046	CSAH 84 over TH 15	7	8	5	N	5	Fair	11
73581	CSAH 75 over Sauk River	5	5	5	N	5	Fair	71
73856	I 94 EB over TH 15	6	6	5	N	5	Fair	48
73858	CSAH 6 over MN 15	7	5	6	N	5	Fair	49
73860	CSAH 6 over I 94	7	6	5	N	5	Fair	49
73869	I 94 WB over CSAH 2	6	6	5	N	5	Fair	49
73871	Pedestrian over I 94	5	5	7	N	5	Fair	48
73873	I 94 EB Collector RD over MN 15	6	5	5	N	5	Fair	48
73876	I 94 EB over BNSF RR	6	7	5	N	5	Fair	49
73877	I 94 WB over TR 477	6	5	7	N	5	Fair	49
73878	I 94 EB over TR 477	6	5	7	N	5	Fair	49

Figure 2.18: Bridges with at least one component in or nearing poor condition

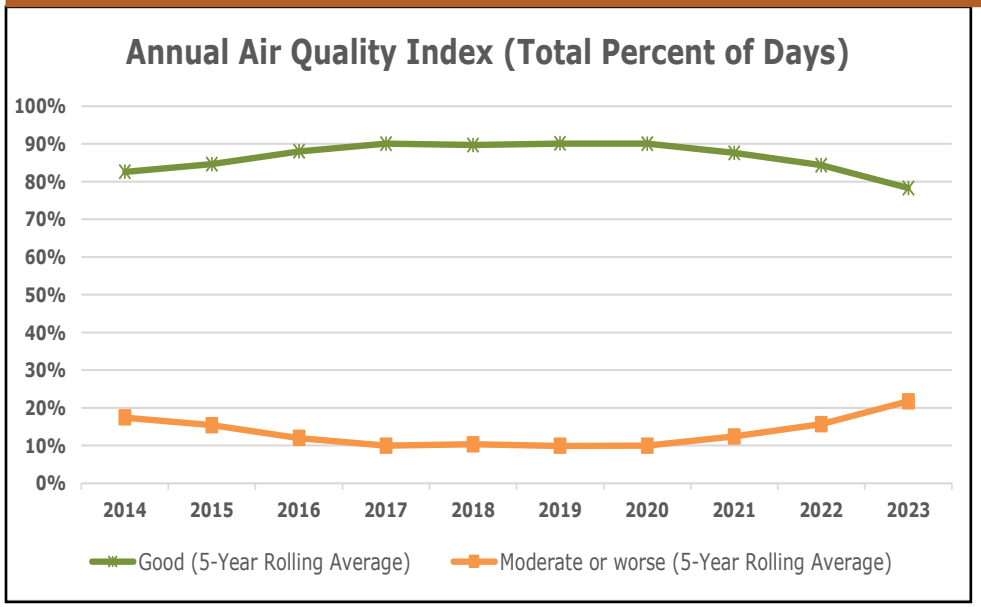


Figure 2.19: Annual Air Quality Index (Total Percent of Days), data courtesy Minnesota Pollution Control Agency (MPCA)

Annual Air Quality (AQI)

Air quality had been improving up to 2020 but has decreased in recent years. Across the state air quality got worse between 2022 and 2023.This measure looks at the percent of days in the year for which the air quality was good versus the percent of days the air quality was between moderate and unhealthy. Typically, in Minnesota, cities further north tend to have a higher number of good air quality days. The Saint Cloud region typically performs better than the Minneapolis-Saint Paul (MSP) Metro but the same or worse than other areas in Minnesota where air quality is monitored.

Figure 2.20: Centennial Park

Figure 2.21: Island View Park

System and Environmental Stewardship
Electric Vehicles

Electric Vehicles

In 2023 there were 539 registered electric vehicles (EVs) in the APO planning boundary compared to 372 in 2022. Of the 539 EVs, most were located in the cities shown in the table below, with almost 50% located in Saint Cloud. Minnesota had around 50,000 EVs in 2023. With increased access to charging and affordability of EVs these numbers are expected and encouraged to continue to grow.

An increase in EVs will help our region and the State of Minnesota to reduce greenhouse gas (GHG) emissions and provide an overall improvement in quality of life. MnDOT has designated I-94 as an alternative fuels corridor known as the Great Lakes Zero Emission Corridor. The goal of this type of alternative fuel corridor is to promote the electric vehicle charging infrastructure across Minnesota.

EV Registration by	2019	2020	2021	2022	2023
Saint Cloud	39	53	118	156	239
Sartell	20	27	50	73	111
Sauk Rapids	13	13	26	34	39
Saint Joseph	0	0	3	5	15
Saint Augusta	5	10	17	25	29
Waite Park	4	2	7	9	13
Other	16	12	44	70	93
Total	**97**	**117**	**265**	**372**	**539**

Figure 2.22: EV Registration by Location, data courtesy Minnesota Public Utilities Commission, 2025.

Note: Data is not collected at regular intervals.

Charging Terminology

Level 1: Charging a vehicle at "Level 1" means plugging into a standard 120-volt supply. On average, a Level 1 supply provides 2 to 5 miles of vehicle range per hour the vehicle is connected. The best use cases for a Level 1 charger is workplaces and homes.

Level 2: Charging a vehicle at "Level 2" means plugging into a 240-volt supply. On average, Level 2 stations provide 10 to 20 miles of range per hour the vehicle is connected. Locations where owners will be staying for two hours or more are great use cases for Level 2 chargers.

Direct Current Fast Charging (DCFC): Is only really available as an option for public charging, and are often installed along transportation corridors. DC Fast Chargers can deliver 60-80 miles of charge in only 20 minutes of the vehicle being connected. Locations where owners will be staying for about 20 minutes are great use cases for DCFC.

There are currently nine public and seven dealership EV charging stations in the Saint Cloud metro area. Most of these are level 2 ports however there are a number of DCFC ports. There are many resources online which can help locate charging stations along with the type of charger and availability. For example, the U.S. Department of Energy has a database of charging locations here (https://bit.ly/4jSScwm)

An additional station will be put in at the Stearns History Museum in 2025.

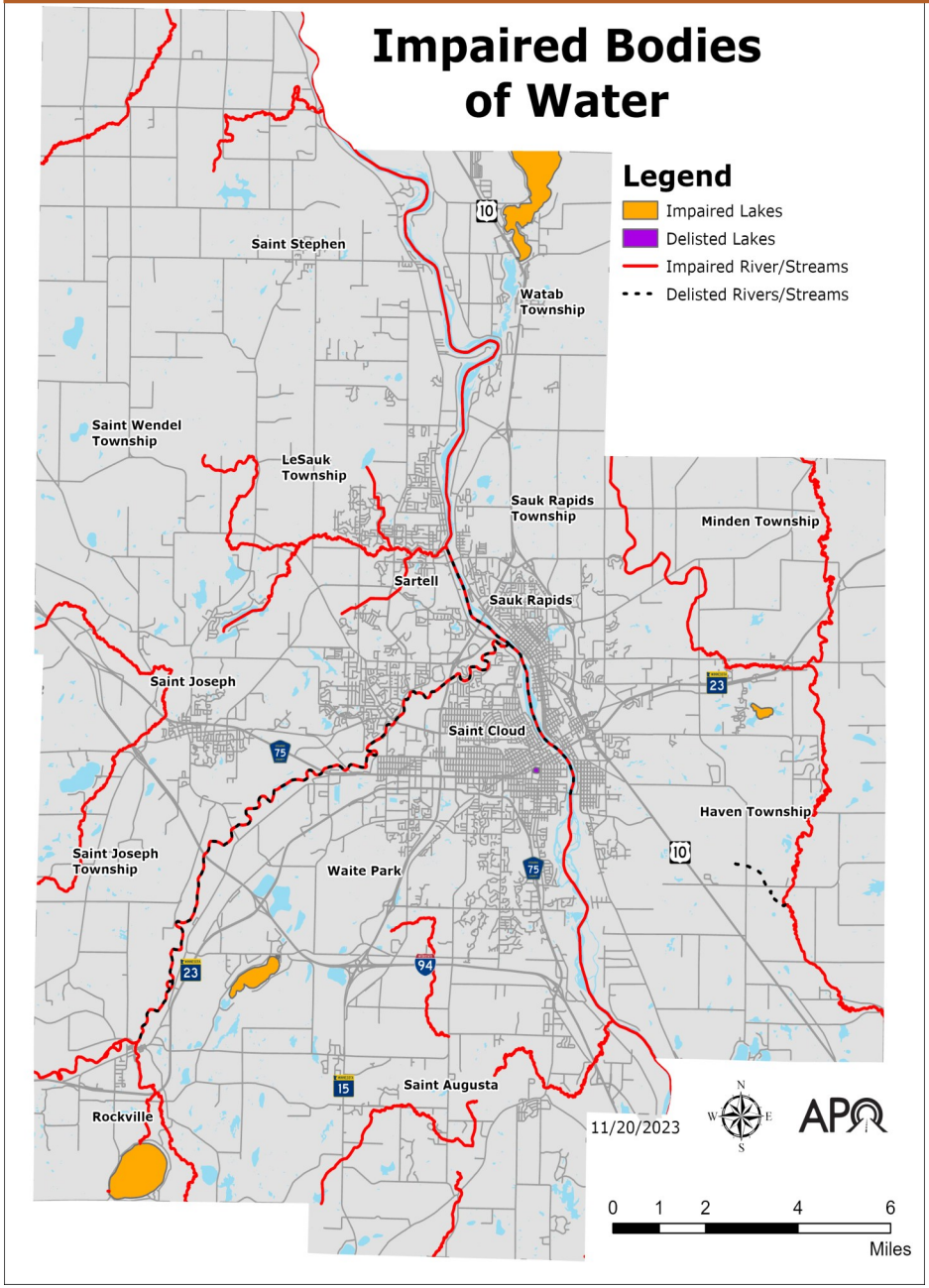


Figure 2.23: 2022 Impaired and Delisted Bodies of Water, data courtesy MPCA

Water Quality

As displayed in Figure 2.23, there are a total of five lakes that are being monitored for pollution in the APO planning area: Donovan, Little Rock, Grand, Sagatagan, and Pleasant Lake. Lake George has been delisted due to restoration efforts.

There are 16 rivers or streams being monitored for pollution within the APO planning area: County Ditch 12, 13, and 16; Elk River; Johnson Creek (Meyer Creek); Mayhew Creek; Mill Creek; Mississippi River; Plum Creek; Sauk River; Spunk Creek; Stony Creek; Watab River (North and South fork); and three unnamed creeks.

Parts of the Mississippi River and Sauk River were previously listed as impaired but have since been delisted and meet current water quality standards.

The most common pollutants in the APO planning area are Escherichia Coli (E. Coli), mercury in fish tissue (Hg-F), and Fecal Coliform (FC).

This data is updated every even year.

Figure 2.24: Pedestrian Bridge at Klinefelter Park

Multimodal Connections

Overview

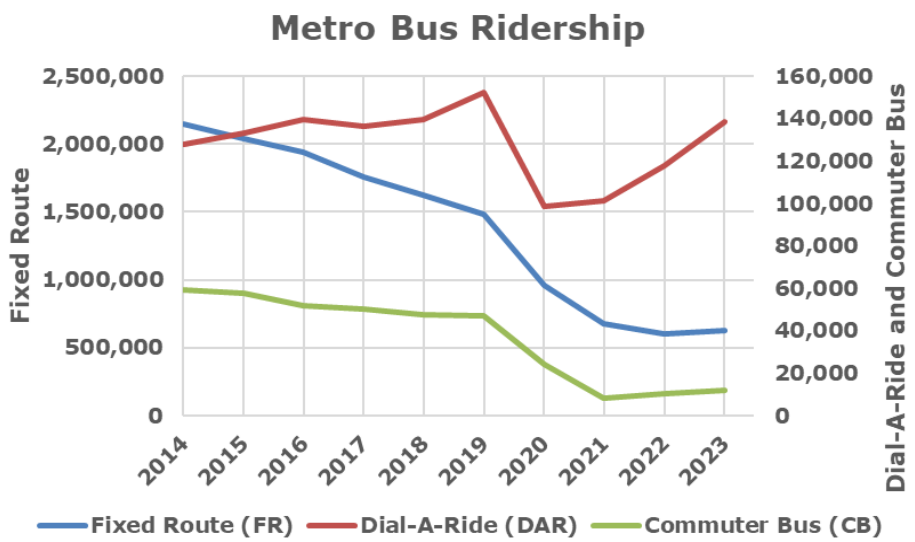


Figure 3.1: Metro Bus Ridership; Ridership in general is down, but Dial-A-Ride has seen a resurgence (see page 29 for more details).

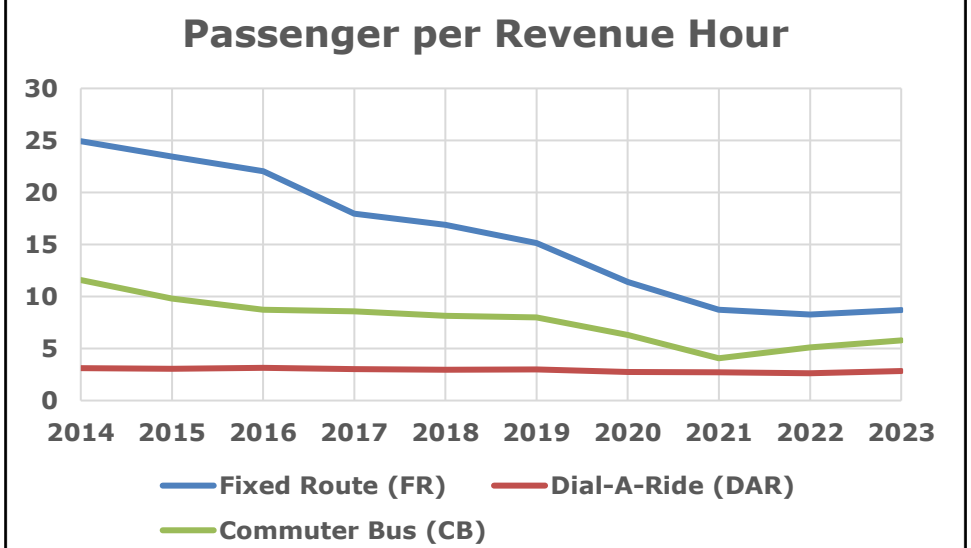


Figure 3.2: Metro Bus Passenger per Revenue Hour; Passengers per revenue hour has been decreasing as ridership has (see page 30 for more details).

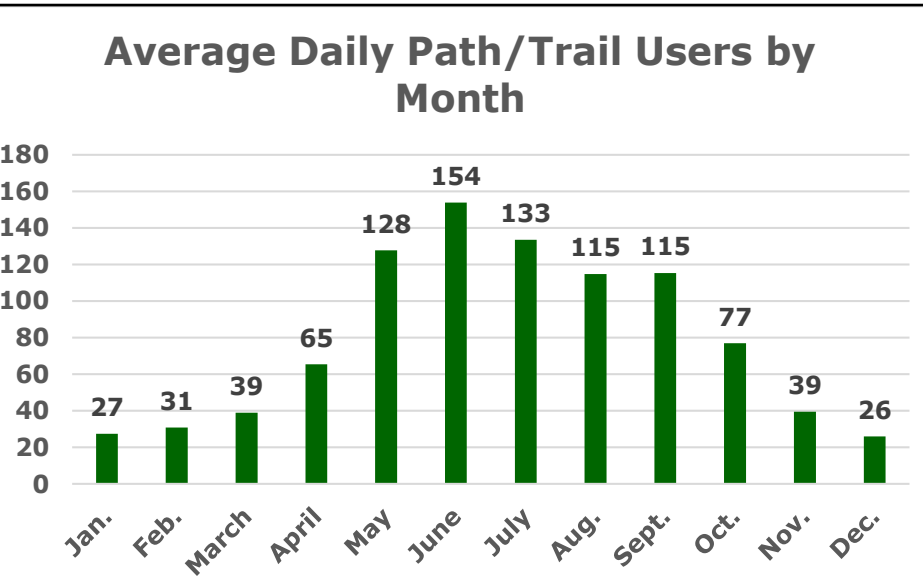


Figure 3.3: Average Daily Path/Trail Users by Month; Of collected paths/trails from summer 2019 to the end of 2023, June typically sees the highest average number of users.

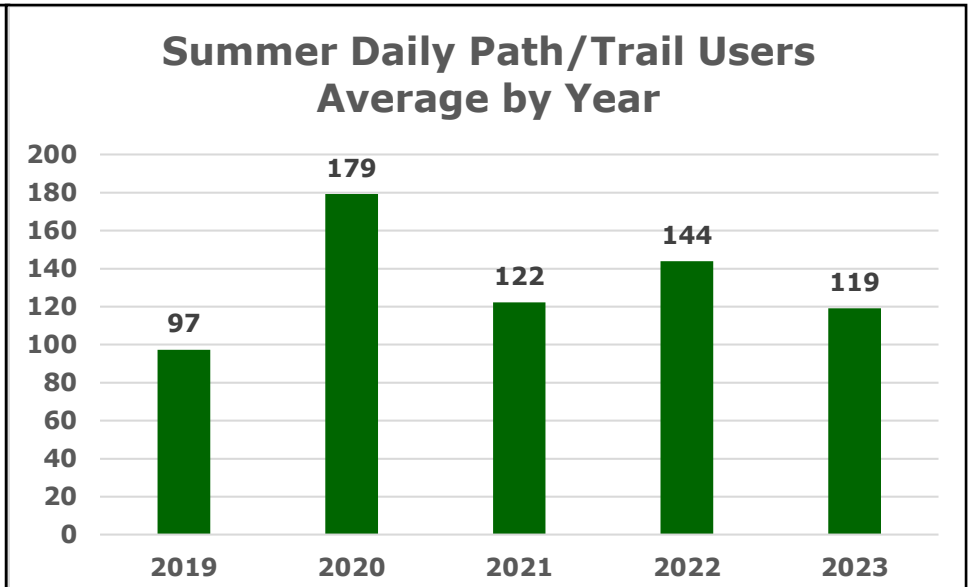


Figure 3.4: Summer Daily Path/Trail Users Average by Year; Of collected paths/trails from summer 2019 to the end of 2023, the number of users has increased since 2019 but saw its peak in 2020.

Multimodal Connections

Transit

Transit Asset Management

Below is a table showing the state of good repair for Metro Bus's assets. This is done by measuring the percent of assets that have exceeded their useful life benchmark (ULB), which is the expected lifecycle of an asset or the acceptable period of use in service. Funding for new buses is distributed across the state and priority is given to the vehicles most in need of replacement. Metro Bus is planning multiple vehicle replacement projects over the next several years to work to keep up with and/or possibly even catch up in regard to the state of good repair (SGR). However, unless there is a substantial influx in federal funding to be used toward purchasing vehicles, Metro Bus is anticipated to continue falling below SGR targets as buses continue to age and delays and/or lack of resources are available for timely vehicle replacement. Further, units that have exceeded their ULB can still perform properly without issue, however often experience added costs for maintenance and decrease in reliability.

Figure 3.5: Bus with a bike rack

Transit Asset Management SGR	2023 Metro Bus exceeded ULB	Metro Bus 2023 Targets	2023 Performance Percentage Point	Metro Bus 2024 Target
Equipment (non-revenue service vehicles)	0.00%	0.00%	0.00	0.00%
Rolling Stock (revenue vehicles) - Class 700 buses (Fixed Route bus)	20.51%	13.89%	-6.62	8.00%
Rolling Stock (revenue vehicles) - Class 400 buses (Dial-A-Ride bus)	37.14%	16.67%	-20.47	0.00%
Rolling Stock (revenue vehicles) - MCI buses	0.00%	0.00%	0	0.00%
Facilities (passenger and parking facilities)	0.00%	0.00%	0	0.00%
Facilities (administrative and maintenance facilities)	33.33%	33.33%	0.00	33.33%

Figure 3.6: Metro Bus State of Good Repair

Multimodal Connections

Transit

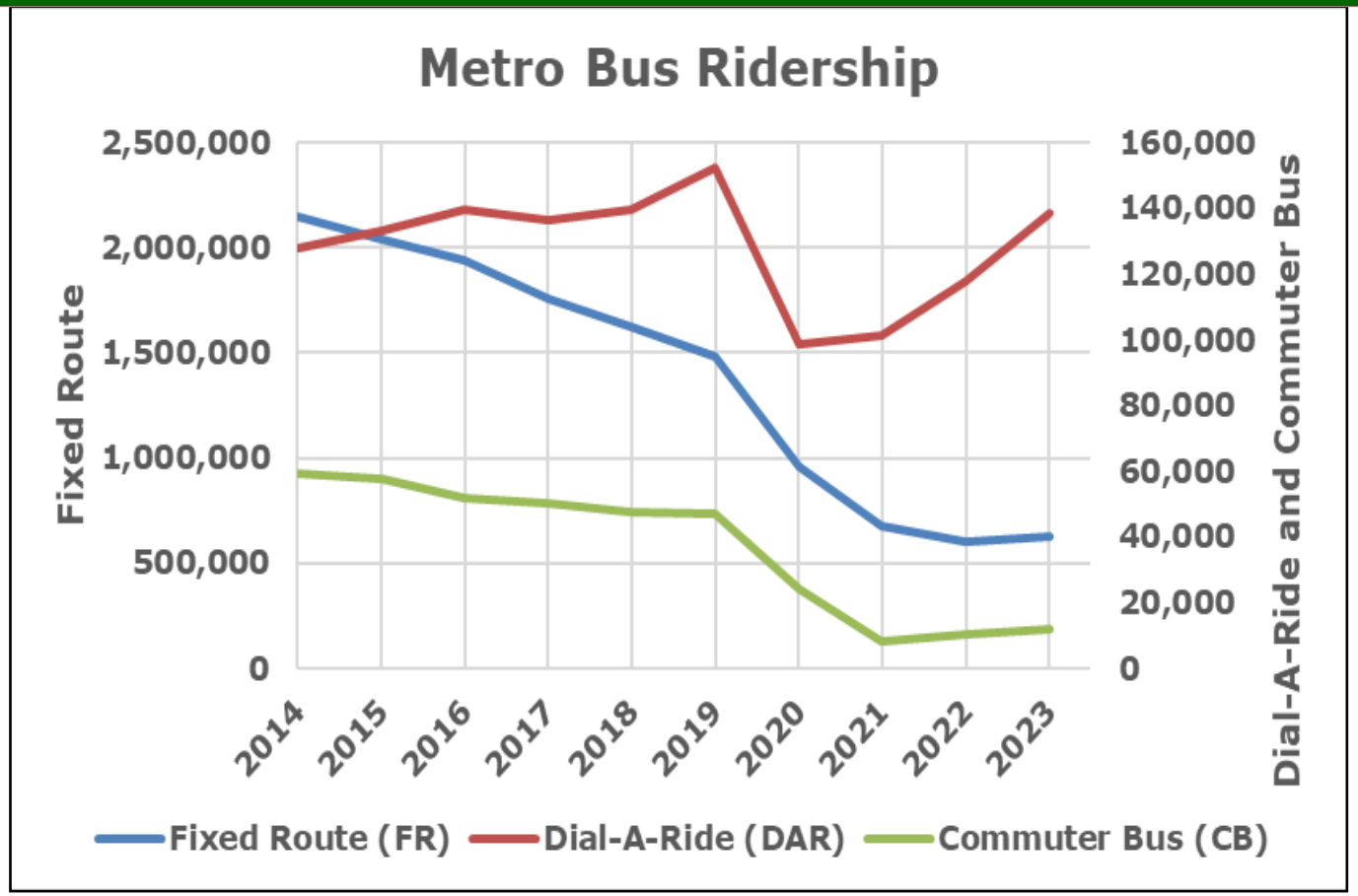


Figure 3.7: Metro Bus Ridership, data courtesy National Transit Database (NTD)

Metro Bus Ridership
Above is a graph showing the annual ridership for Metro Bus in the last 10 years split by service.

There has been a decline in fixed route (FR) ridership over time, however there was a small increase from 2022 to 2023. Metro Bus has cut service in response to decreased demand. In 2020 the worldwide COVID-19 pandemic resulted in severe decrease for public transit. So far, Dial-A-Ride service has been recovering, but fixed route and commuter bus have not.

Commuter Bus ridership service has not fully returned to pre-pandemic levels.

Multimodal Connections

Transit

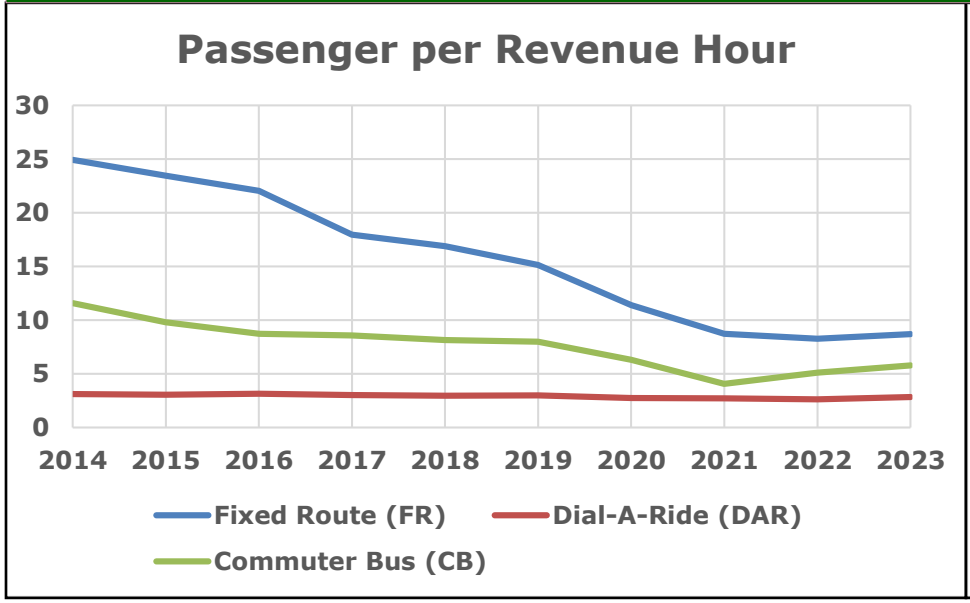


Figure 3.8: Metro Bus Passengers per Revenue Hour, data courtesy NTD

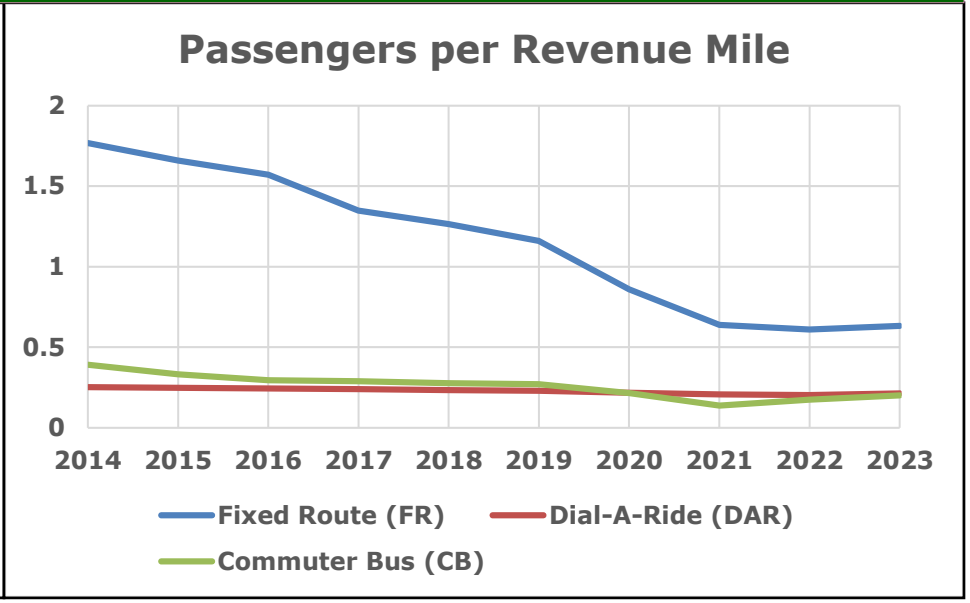


Figure 3.9: Metro Bus Passengers per Revenue Mile, data courtesy NTD

Passengers per Revenue Hour
Above is a graph showing the number of passengers per revenue hour over time for each service. This can be seen as a measure of how many people are getting moved per hour that revenue is being made. Vehicle revenue hours have actually continued to decrease meaning that while more people were riding in 2023, less service was available/provided.

Fixed Route passengers per revenue hour has been decreasing over time as ridership decreased. However, similar to the slight increase in FR ridership in the past couple years, passengers per revenue hour has seen a slight increase as well.

For the DAR service, this measure has remained relatively flat as DAR extends to a larger range than fixed route and includes many longer more individualized trips.

For the CB service, this has been decreasing over time but with the slight increase in ridership this measure has also improved.

Passengers per Revenue Mile
Above is a graph showing the passengers per revenue mile for each service. This can be seen as a measure of how much distance is being covered per passenger. Vehicle revenue miles are still significantly lower than pre-pandemic. Typically transit trips are shorter trips.

For the FR service, revenue miles and ridership have both seen a decrease. The decrease in ridership has been larger than the decrease in revenue miles. This could indicate that while fewer people are riding those who are riding are taking longer or more frequent trips.

For the DAR service, there is a similar level over time. This is due to the type of trips covered within the DAR service. DAR buses are not out constantly running fixed routes so they often make fewer, more specialized trips.

For the CB service, with the decrease in Northstar demand, the passengers per revenue mile is down 49% from 2014.

Interregional Connections

Overview

39,112

Number of total passengers at the St. Cloud Airport in 2023. ***An increase of 11.7% from 2022.***

A quick look at

Interregional Connections

within the Saint Cloud APO

1.20*

Truck Travel Time Reliability on I-94 in 2023. ***This is a performance decrease of 0.06 points from 2022 due to road construction.***

**Federally required performance measure*

8,169

Number of total passengers boarding Amtrak at the Saint Cloud station in 2023. ***An increase of 32.7% from 2022.***

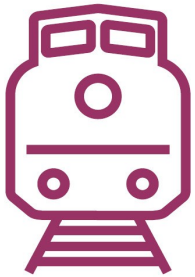


Figure 4.1: Interregional connections Overview, data courtesy MnDOT and NPMRDS

Interregional Connections
Truck Travel

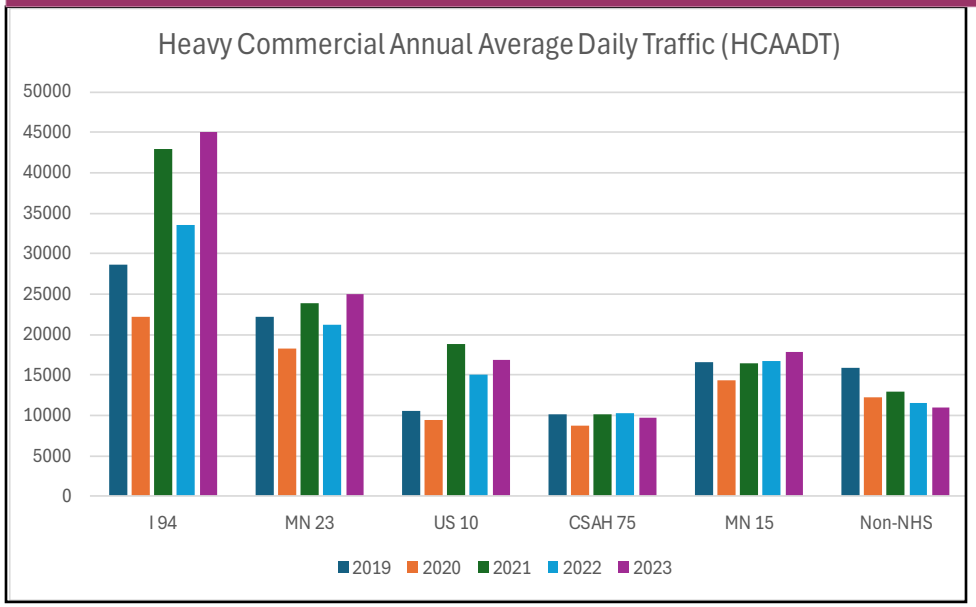


Figure 4.2: Heavy Commercial Annual Average Daily Traffic (HCAADT), data courtesy MnDOT

Heavy Commercial Annual Traffic

Measured truck traffic volumes have seen a notable increase on most NHS roadways from 2019 to 2023. To note, MnDOT did change the way data was collected on high speed high volume roadways. Axle based tube data was switched to vehicle length radar based data. Per MnDOT, this could account for around a 20-30% increase in HCAADT. MN 15 and CSAH 75 have seen more consistent volumes. US 10 and I-94 both saw large changes between 2019 and 2023, nearly doubling, and 2021 to 2022 with both having around a 20% decrease in truck traffic volumes.

This increase in truck traffic occurred while seeing an increase in GDP for the St. Cloud Metropolitan Statistical Area per GDP data from the BEA. (U.S. Bureau of Economic Analysis, "CAGDP1 County and MSA gross domestic product (GDP) summary")

Heavy Duty Vehicle Trips to the APO Region

On the right is a map showing the modeled truck trips stopping/ ending in the region. While many truck trips pass through the region, those with destinations in the Saint Cloud APO area primarily use I-94. Nearly 50% of truck trips going to the region are following I-94 northwest into the planning area, and I-94 overall makes up nearly 65% of the total truck trips stopping in the region. This helps to highlight how impactful this corridor is for the region.

Of the nearly 50% of trips following I-94 North to the region, 15% of that is originating from outside of the Twin Cities Metro and passing through there on the way. About 25% originates from around the Twin Cities Metro while the remaining 10% is picked up along I-94 between the two metro areas.

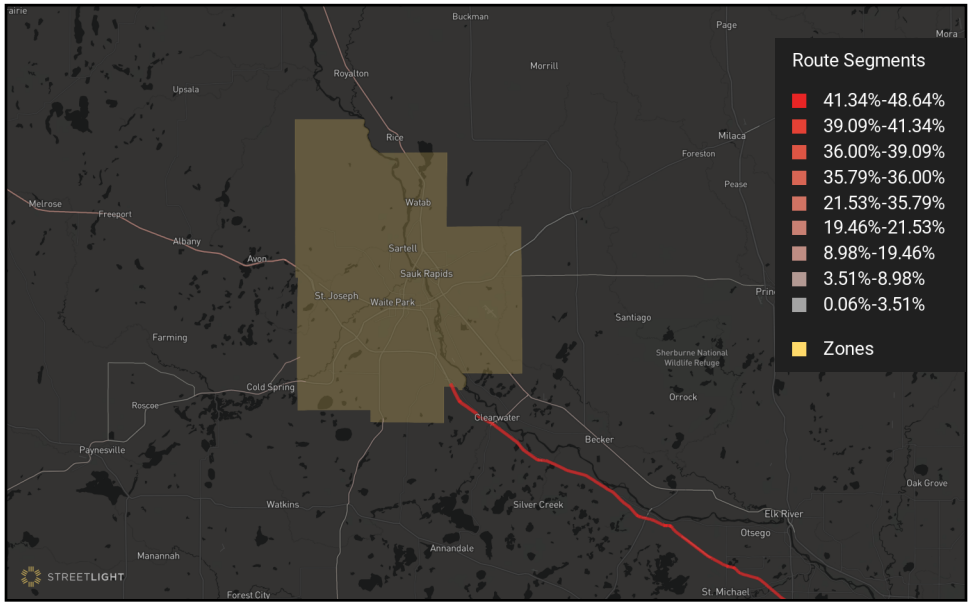


Figure 4.3: Heavy Duty Vehicles trips to APO Region, data courtesy Streetlight

Interregional Connections
Interstates and Highways

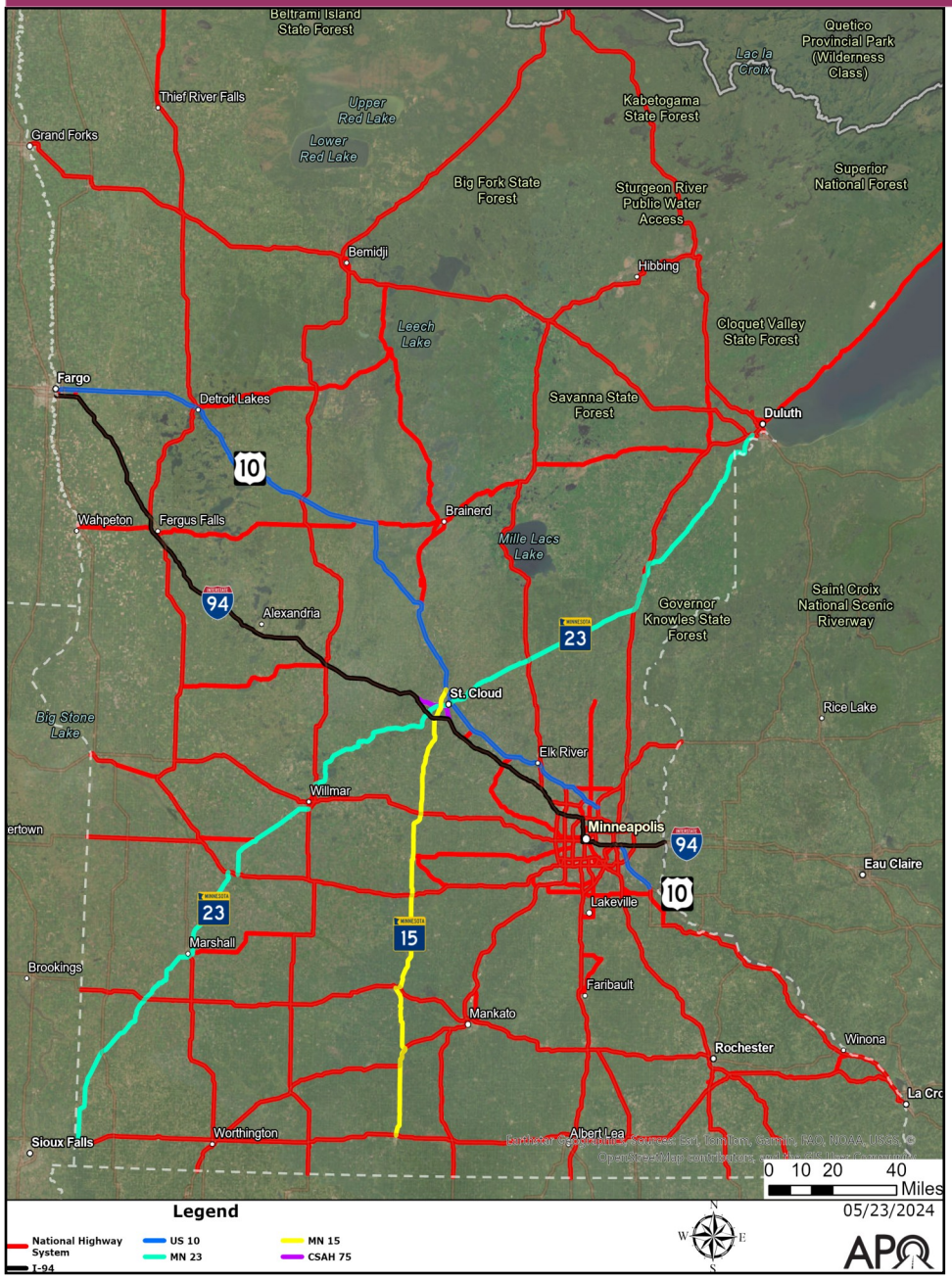


Figure 4.4: Minnesota National Highway and Interstate System, data courtesy MnDOT

Interregional Connections

The Saint Cloud Metro Area has much historical, economic, and geographic importance. It serves as a regional hub connecting various parts of outstate Minnesota, the broader Midwest, and the Minneapolis-Saint Paul Metro area. The Saint Cloud Metro Area has a diverse economy with some major sectors including manufacturing, healthcare, education, and retail. CentraCare specifically employs around 6,500 employees and a medical staff of more than 550 physicians. (https://bit.ly/3YEsBio) Saint Cloud also has a significant shopping center in the Crossroads Center.

Interstates and Highways

Interstates and highways play a vital role in connecting regions. Two of the most significant roads that fulfill this role are Interstate 94 (I-94) and US Highway 10 (US 10). I-94, in black on the map, runs east-west through Saint Cloud and connects from Fargo to the MSP metro area. This is especially an important corridor for freight and passenger travel because of this. While US 10, in blue on the map, runs parallel to I-94 for much of the distance between Saint Cloud and MSP, and then runs north once it reaches the Saint Cloud area. Minnesota State Highway 15 (MN 15), in yellow on the map, connects St. Cloud to southern Minnesota. It provides a vital north-south route for local and regional travel. Minnesota State Highway 23, in teal and running somewhat perpendicular of I-94, connects the southwest areas to the northern areas such as Duluth. County State Aid Highway 75 (CSAH 75), in purple through the Saint Cloud area, runs from I-94 on the south edge of the region up to and through the cities of Saint Cloud and Waite Park and further through Saint Joseph to connect back up to I-94 on the western side of the region. Freight traffic benefits greatly from these NHS roads as they typically allow people to move long distances easily and efficiently.

Truck Travel Time Reliability

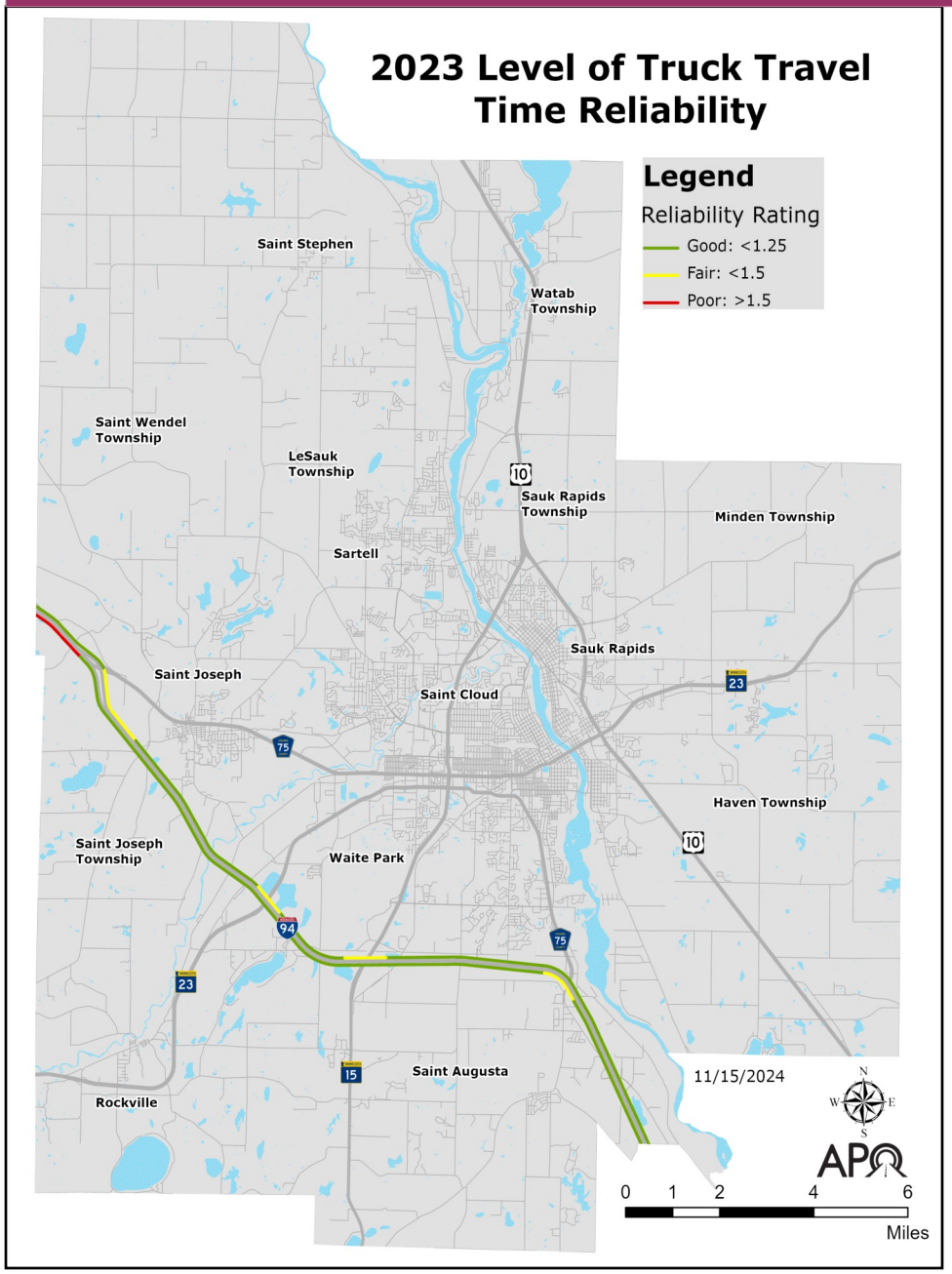


Figure 4.5: 2023 Truck Travel Time Reliability Index in the APO Region, data courtesy NPMRDS

Truck Travel Time Reliability

Truck travel time reliability ratings consider the average amount of time it would take for a truck (95th percentile) to travel at an average speed (50th percentile) on a stretch of roadway. For example, if a one-mile stretch of roadway with a 60 mph average speed has a truck time travel reliability rating of 1.5 it would take the average truck 1 minute 30 seconds to travel that roadway on a "very bad day" when normally (50% percentile) it would take 1 minute. A time travel reliability rating above 1.5 is deemed unreliable by FHWA standards. The closer this measure is to 1 the more reliable the roadway. However it cannot be below 1.

The overall rating for the Interstate for truck travel time reliability in 2023 was 1.20 as shown in Figure 4.6 below. The worse overall reliability is primarily due to the section of I-94 entering the region from the west which saw poor reliability. This appears to be largely related to construction on I-94 near the interchange with CSAH 75, as the impacts are seen on the eastbound lane.

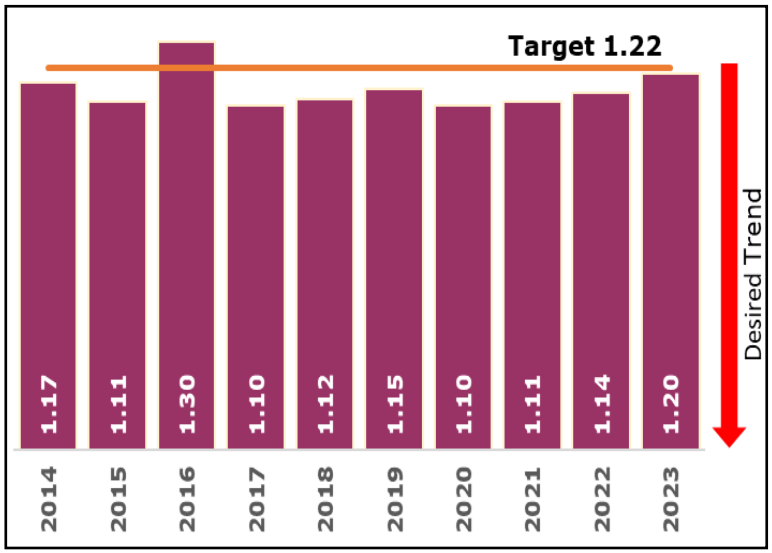


Figure 4.6: Truck Travel Time Reliability, data courtesy NPMRDS

Interregional Connections/Congestion Management
Travel Time Reliability

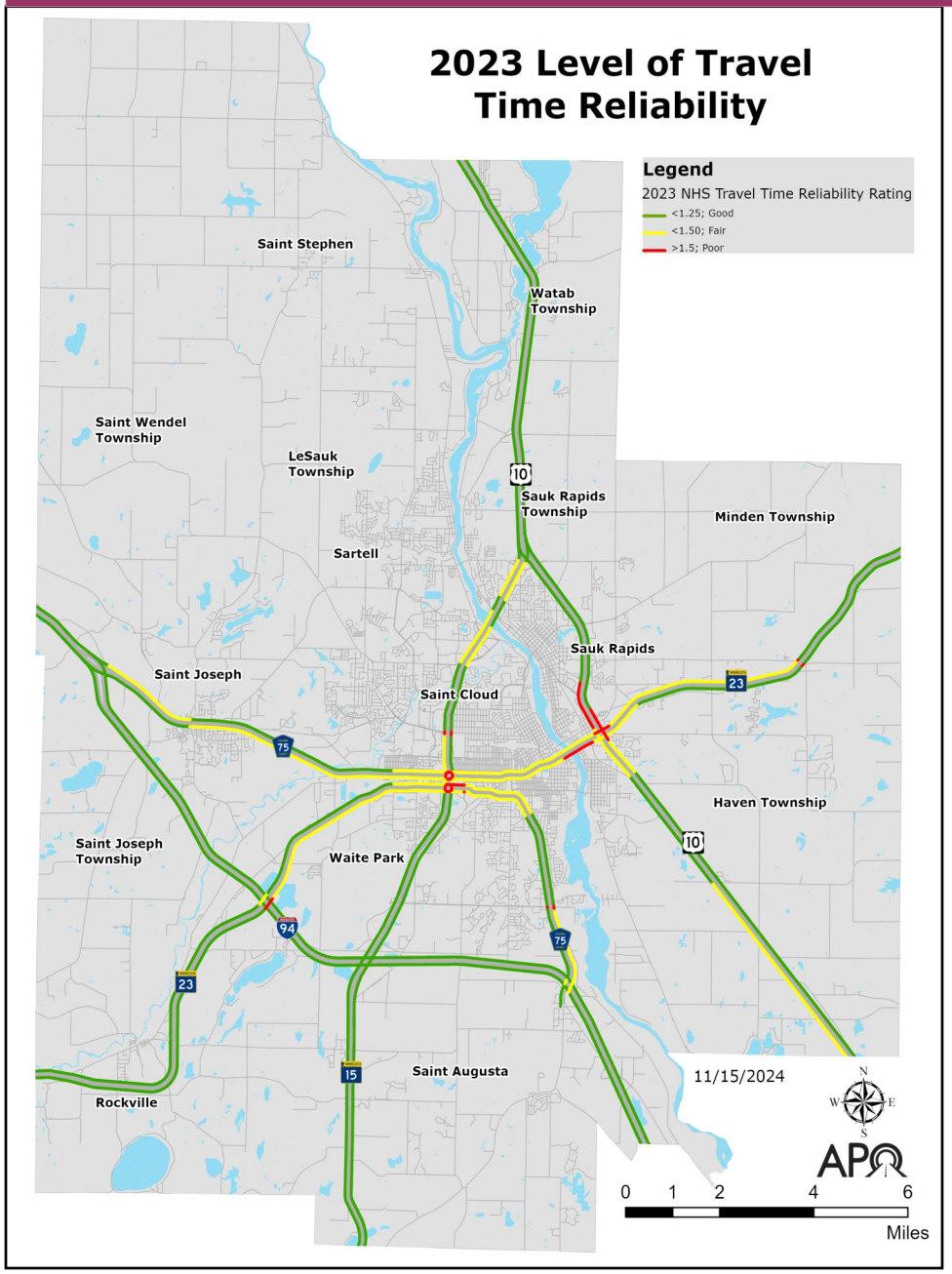


Figure 4.7: 2023 Travel Time Reliability Index in the APO Region, data courtesy NPMRDS

Travel Time Reliability

Travel time reliability ratings consider the average amount of time it would take for a vehicle to travel at an average speed (50th percentile) on a stretch of roadway. For example, if a one-mile stretch of roadway with a 60 mph average speed has a time travel reliability rating of 1.5 it would take the average vehicle 1 minute 30 seconds to travel that roadway on a "very bad day" when normally (50% percentile) it would take 1 minute. A time travel reliability rating above 1.5 is deemed unreliable by FHWA standards. The closer this measure is to 1 the more reliable the roadway. However it cannot be below 1.

Non-Interstate NHS Reliability

The percentage of person-miles traveled that are reliable on the non-Interstate NHS has continued to remain high overall, though there was a slight decrease in 2023. This decrease appears to be largely due to construction, particularly around the US 10 and MN 23 interchange reconstruction. Additionally, small clusters of unreliable segments are present near the MN 15, MN 23, and CSAH 75 intersections.

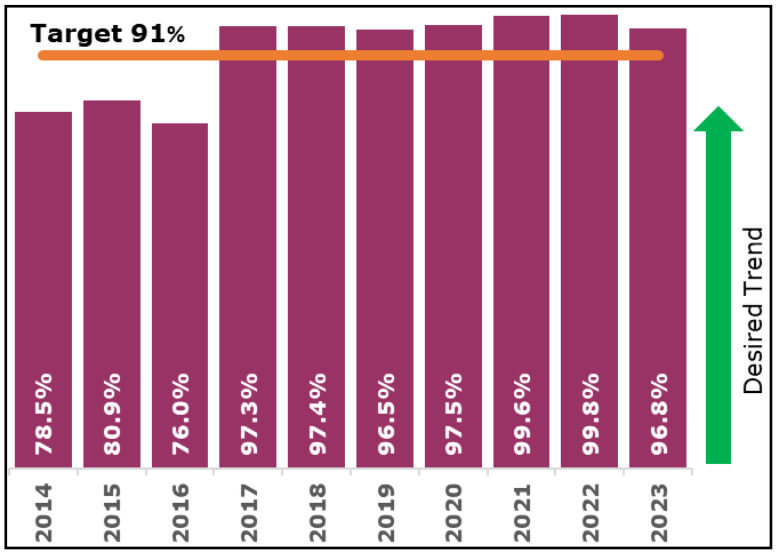


Figure 4.8: Non-Interstate NHS Reliability, data courtesy NPMRDS

Interregional Connections

Rail

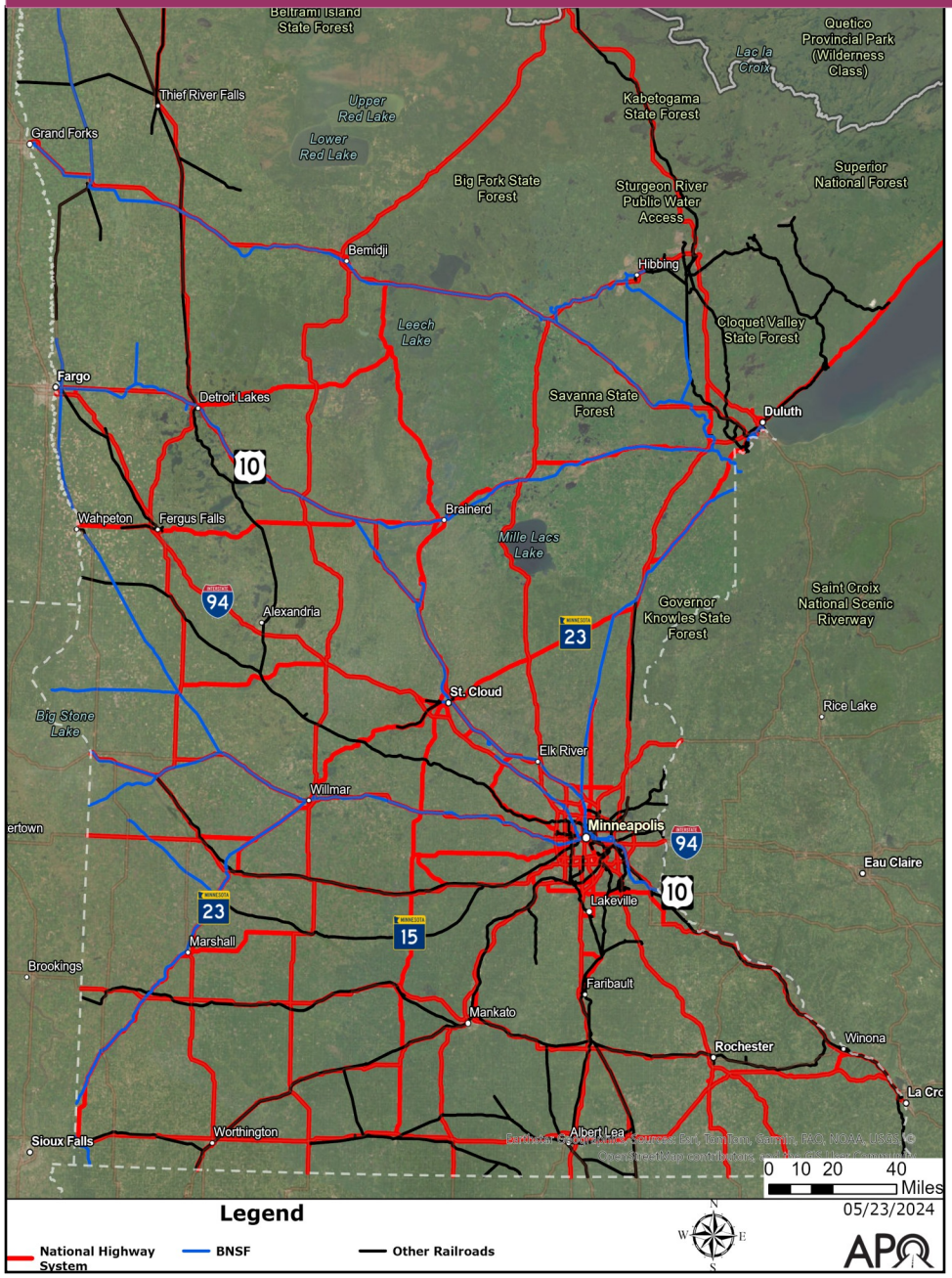


Figure 4.9: Rail Systems in Minnesota, data courtesy MnDOT

Freight Rail

Rail is another important method of connecting goods and people between regions. Burlington Northern Sante Fe Railway (BNSF) is a large operator of freight services in the Saint Cloud area. Much of the railway in the Saint Cloud region runs along US 10. The other freight railroad operator in the area is Northern Lines Rail (NLR). NLR is a short-line railroad operator and operates primarily between Saint Joseph, Saint Cloud, Rockville, and Cold Springs. It connects to the BNSF railway in Saint Cloud. Per the City of Saint Cloud's Economic Development Department, many of these trains carry local ore as well as Bakken crude oil from North Dakota.

Passenger Rail

Amtrak offers passenger rail services across much of the United States; however, it relies heavily on the tracks of other rail companies which Amtrak does not own. One route, the Empire Builder, travels from Seattle, WA to Chicago, IL with a stop in Saint Cloud and follows the BNSF railroad along US 10 until it transitions to Canadian Pacific Kansas City (CPKC) track in the Twin Cities. Amtrak saw ridership numbers decrease during and following the pandemic, however there was a 32.7% increase in ridership at the Saint Cloud facility from 6,156 in 2022 to 8,169 in 2023. Amtrak is also currently in the design stages to provide a new platform and provide further upgrades to their services in Saint Cloud, with construction expected to begin in FY 2024 and end in FY 2026. (https://bit.ly/3GjqD0H)

Interregional Connections

Rail and Air Travel

Location	2023 Passengers	Revenue	Revenue per passenger
Detroit Lakes, MN	4,182	$ 407,004.00	97.32
Red Wing, MN	5,609	$ 603,895.00	107.67
MSP, MN	77,597	$ 9,635,842.00	124.18
Staples, MN	5,931	$ 545,077.00	91.90
Winona, MN	10,847	$ 814,664.00	75.11
St. Cloud, MN	8,169	$ 1,000,060.00	122.42

Figure 4.10: 2023 Amtrak Ridership and Revenue, data courtesy Amtrak

Amtrak

The table above displays the number of passengers, total revenue, and revenue per passenger for each Amtrak station in Minnesota. As expected, MSP has the highest passenger count, given that it serves the state's largest metro area. Consequently, MSP also generates the most revenue, primarily due to its high ridership. Interestingly, while Saint Cloud station ranks third in total passengers, it holds the second highest revenue. This could be attributed to several factors, including higher ticket prices, the cost of operating the facility, cost of living in the origin or destination areas, or the overall desirability of the location.

The Northstar Line offers service between Big Lake and downtown Minneapolis, and it stops at several cities along the way. It works in conjunction with the Northstar Link buses for service to/from Saint Cloud.

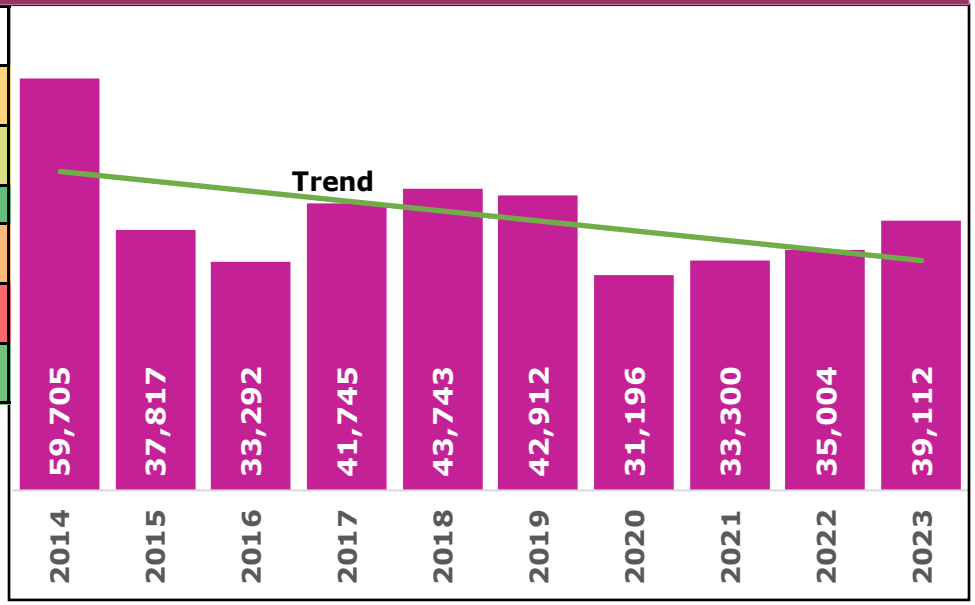


Figure 4.11: Passenger Boarding for the Saint Cloud Regional Airport, based on data from the Federal Aviation Administration

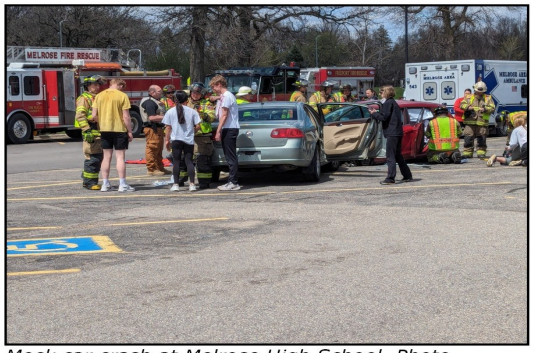
Air Travel

The Saint Cloud Regional Airport (STC) provides private and commercial flights. Air service provided by Allegiant Airlines travels to Mesa, Arizona year round. STC served around 39,112 passengers in 2023. The Minnesota National Guard also operates a maintenance base as the airport. Following COVID, the airport has been seeing a constant increase in passengers.

Transportation Safety
Overview

33

The five year average number (2019-2023) of serious injury crashes within the APO. ***This is an increase of 43.5% between 2018 and 2023.***



Mock car crash at Melrose High School. Photo courtesy of Melrose High School.

8.1

The average number of fatal crashes per year (2014-2023). ***This has remained consistent over the past 10 years.***

Stearns-Benton TZD Cardinal vehicle. Photo courtesy of Stearns-Benton TZD.

A quick look at
Transportation Safety
within the Saint Cloud APO

Bikes parked at Riverview Intermediate School in Sartell. Photo courtesy of Saint Cloud APO.

11

The number of fatal and suspected serious injury crashes involving active transportation users reported in 2023. ***Overall, fatal crashes have been decreasing, but suspected serious injury crashes have been increasing.***

Student using fatal vision goggles at Saint John's Prep. Photo courtesy of Saint John's Prep.

1/3

Out of the six fatal crashes reported in 2023, chemical impairment was a contributing factor in two of them. ***On average, chemical impairment accounts for 4% of total crashes in the region.***

Figure 5.1: Transportation Safety Overview, data courtesy MnDOT

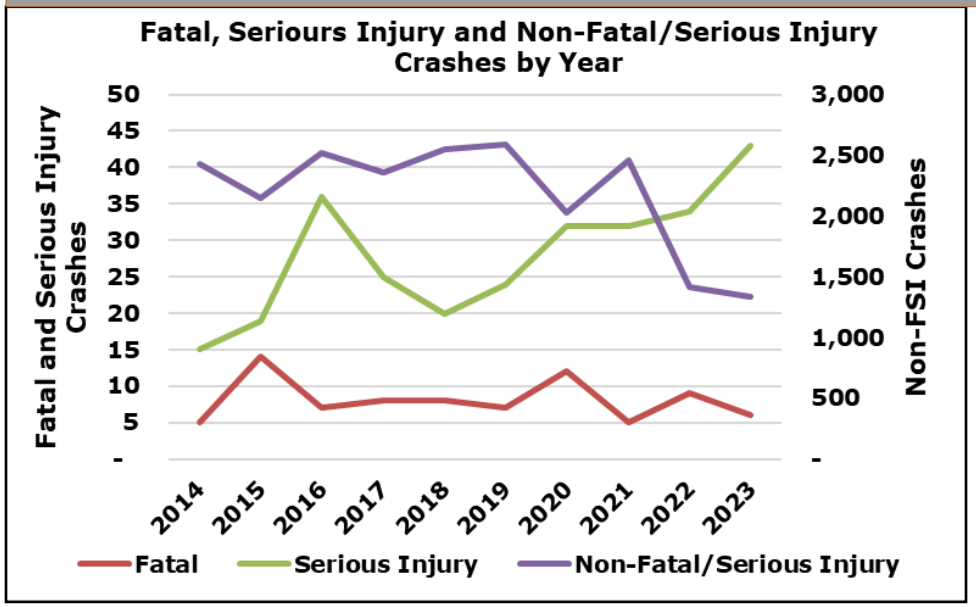


Figure 5.2: Fatal, Serious Injury, and Non-Fatal/Serious Injury Crashes by Year, data courtesy MnDOT

Crash Severity

Figure 5.2 shows the number of fatal, serious injury, and non-fatal/ serious injury (non-fsi) crashes occurring within the Saint Cloud APO planning area by year. The number of fatal crashes within the region has remained relatively constant, however the number of serious injury crashes occurring within the planning area has continued to increase. A significant amount of fatal and serious injury crashes involve active transportation users, such as pedestrians or bicyclists.

Reported non-fsi crashes are down in 2022 and 2023 as a result of a state statute that made reporting standards unclear for officers. This resulted in fewer lower crashes being reported, primarily property damage only crashes. Lower severity crashes are expected to be at similar levels to previous years. These property damage only crashes made up nearly 75% of reported crashes between 2014 and 2023 even with the decrease in reporting.

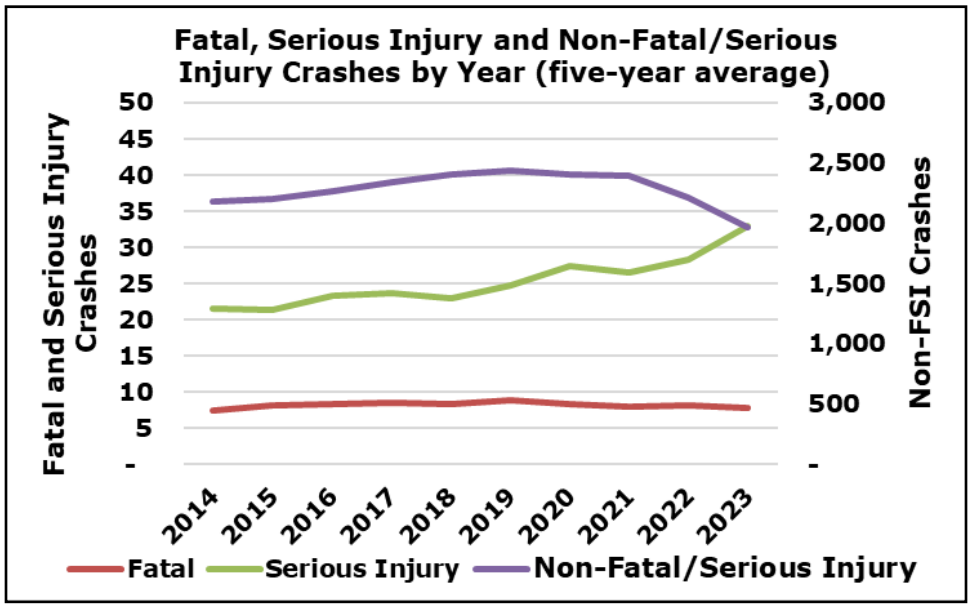


Figure 5.3 Fatal, Serious Injury, and Non-Fatal/Serious Injury Crashes by Year (five-year average), data courtesy MnDOT

Crash Severity (five-year average)

A five-year average is typically used as crashes can fluctuate from year to year.

Figure 5.3 shows the five-year average (for 2014, the average is taken over years 2010-2014) number of fatal, serious injury, and non-fsi crashes occurring within the Saint Cloud APO planning area by year. Similar to the yearly totals for crash types, fatal crashes look fairly consistent, while serious injury crashes are increasing over time.

Non-fsi crashes appear to be decreasing; however data from 2022 and 2023 is underreported and is expected to align more closely with previous years.

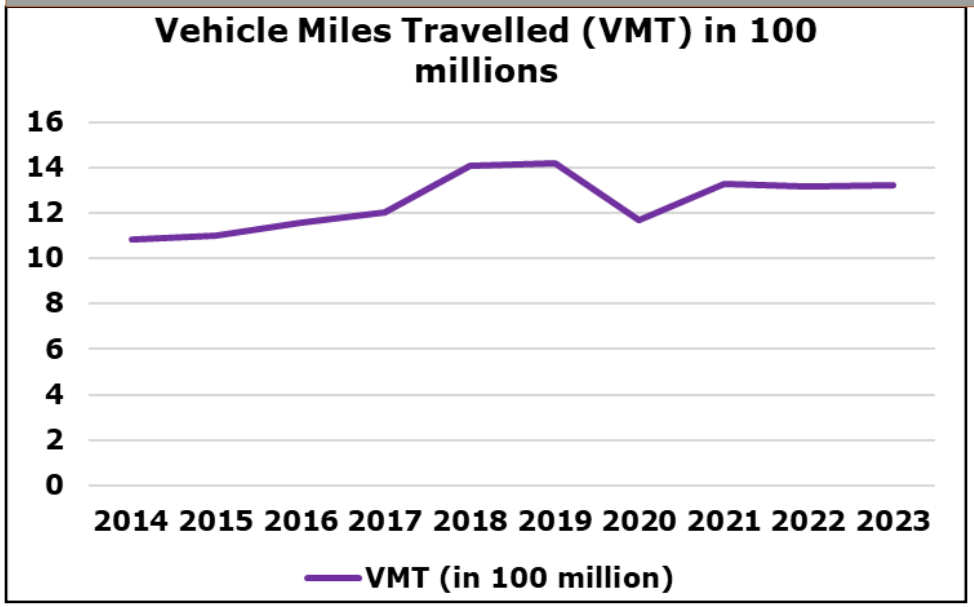


Figure 5.4: Vehicle Miles Travelled (VMT) in 100 millions, data courtesy MnDOT

Vehicle Miles Travelled (VMT)
Figure 5.4 shows the VMT within the APO planning area for the given year. VMT can be used to represent the amount of travel being done in an area, when VMT increases more travel is typically being done. While not quite at pre-pandemic levels VMT has recovered from 2020. VMT has also remained somewhat constant between 2021 and 2023 with only a slight increase in that time frame. When more travel is done one might expect to see more crashes due to more people being on the road.

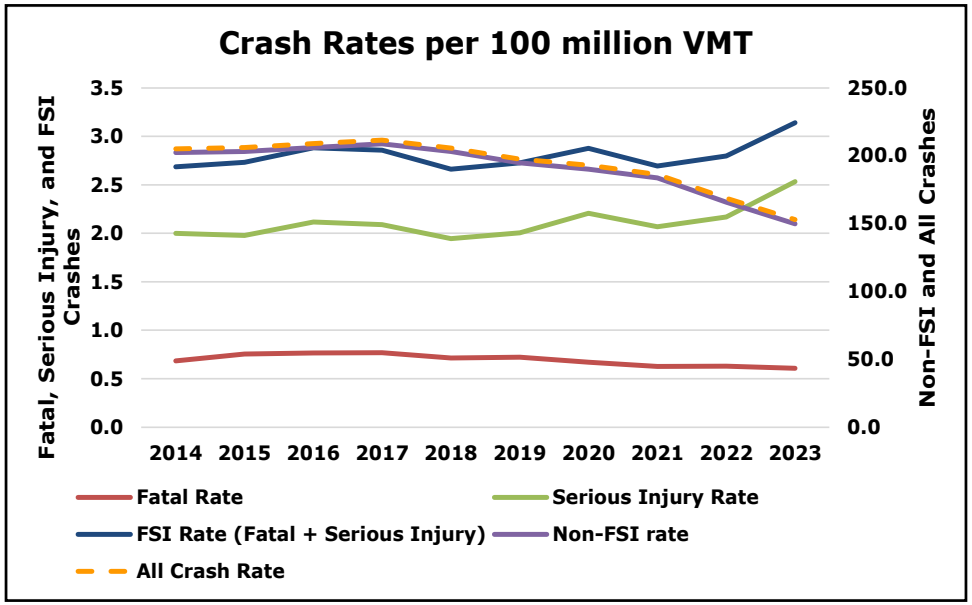


Figure 5.5: Crash Rates per 100 million VMT (five-year average), data courtesy MnDOT

Crash Rates per 100 million VMT (five-year average)
Figure 5.5 takes the five year average of crash rates per 100 million VMT for the different subsets of crashes. These crash rates should look similar to the number of crashes. However, crash rates can be used to identify changes in the number of crashes relative to the amount of travel being done. The crash rate line and non-fsi crash rate line are nearly identical because such a large amount of non-fsi crashes occur relative to fsi crashes.

As a result of VMT remaining somewhat similar following 2021, the large increase in serious injury crashes is driving the serious injury crash rate, and similarly the fsi crash rate, up.

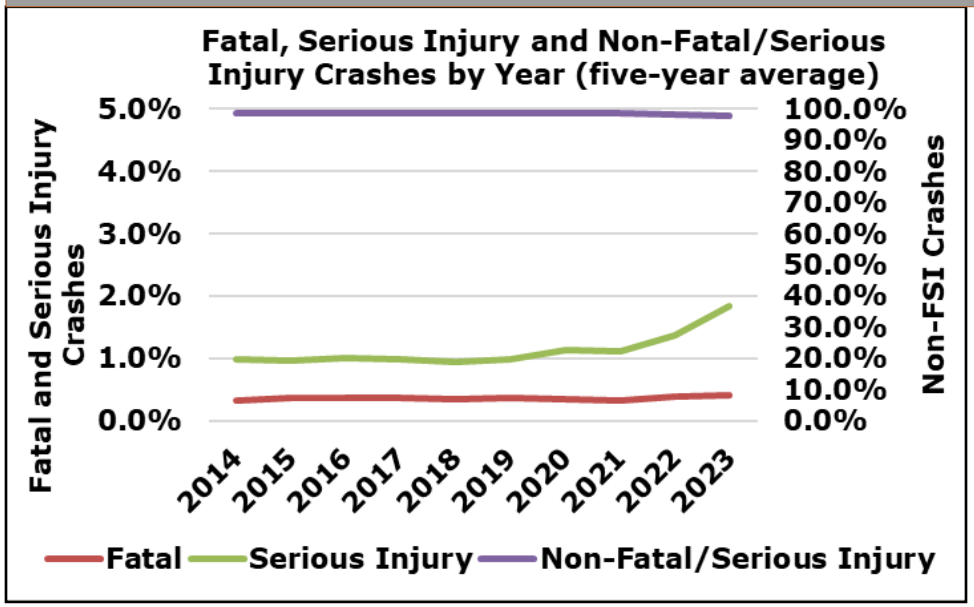


Figure 5.6: Fatal, Serious Injury, and Non-Fatal/Serious Injury Percent of Crashes by Year (five-year average), data courtesy MnDOT

Crash Severity Percentages (five-year average)
Figure 5.6 shows the five-year average (for 2014, the average is taken over years 2010-2014) percent of crashes involving a fatal, serious injury, and non-fsi occurring within the Saint Cloud APO planning area by year. The majority of crashes are non-fsi crashes. Figure 5.3, on page 40, shows an increase in serious injury crashes which can also be seen here with those crashes making up a larger percentage of all crashes, although this percentage change would not be as large if all non-fsi crashes were reported in 2022 and 2023. Fatal crashes continue to make up a small percentage of crashes as the number of them occurring isn't changing much.

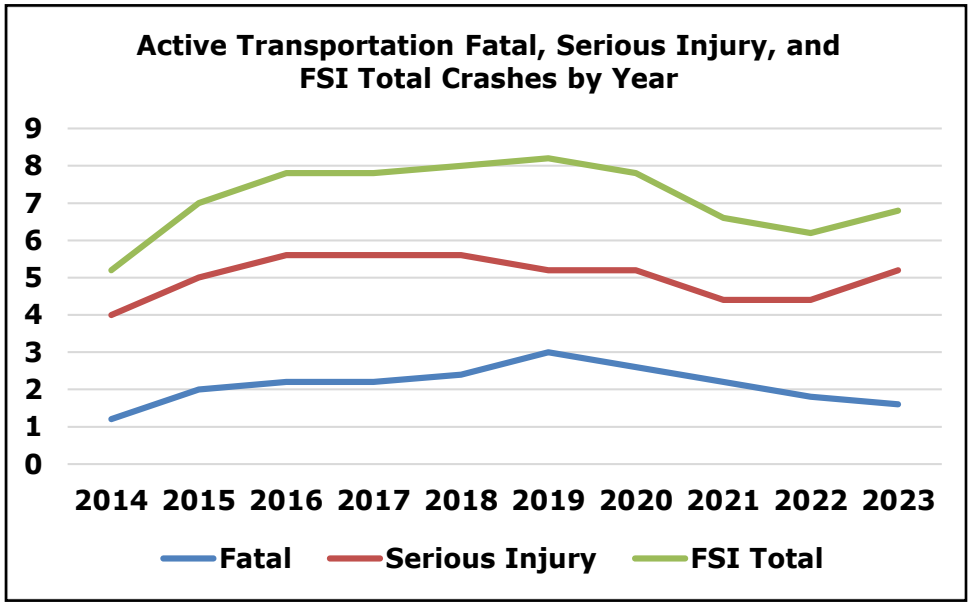


Figure 5.7: Active Transportation Fatal, Serious Injury, and FSI Total Crashes by Year (five-year average), data courtesy MnDOT

Non-Motorized Fatalities and Suspected Serious Injuries (five-year average)
Figure X.X shows the five-year average number of crashes involving a non-motorized individual, this would be people walking, biking, etc. While these measures aren't changing too much between years, there was an increasing trend until recent as 2021 and 2022 saw fewer severe crashes involving active transportation. Unfortunately 2023 is shying away from that trend and had 11 total FSI crashes involving active transportation users, the highest since 12 in 2012. Infrastructure and education can help play a large role in safety for active transportation users.

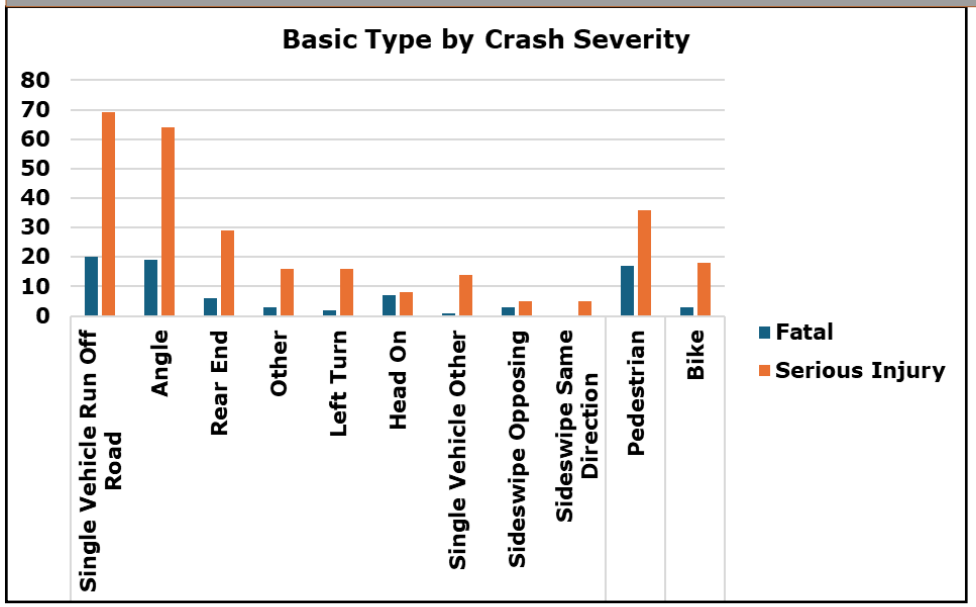


Figure 5.8: Basic Type by Crash Severity, data courtesy MnDOT

Basic Type by Crash Severity (2014-2023)
Figure 5.8 shows the basic type by crash severity. The basic types are sectioned off by motor vehicle based (single vehicle run off road through sideswipe same direction) and non-motor vehicle based (pedestrian and bike). The highest number of both fatal and serious injury crashes result from a single vehicle running off the road, followed closely by angle (specifically right angle) crashes. Active transportation users, grouped as pedestrian or bike, make up a large number of FSI crashes.

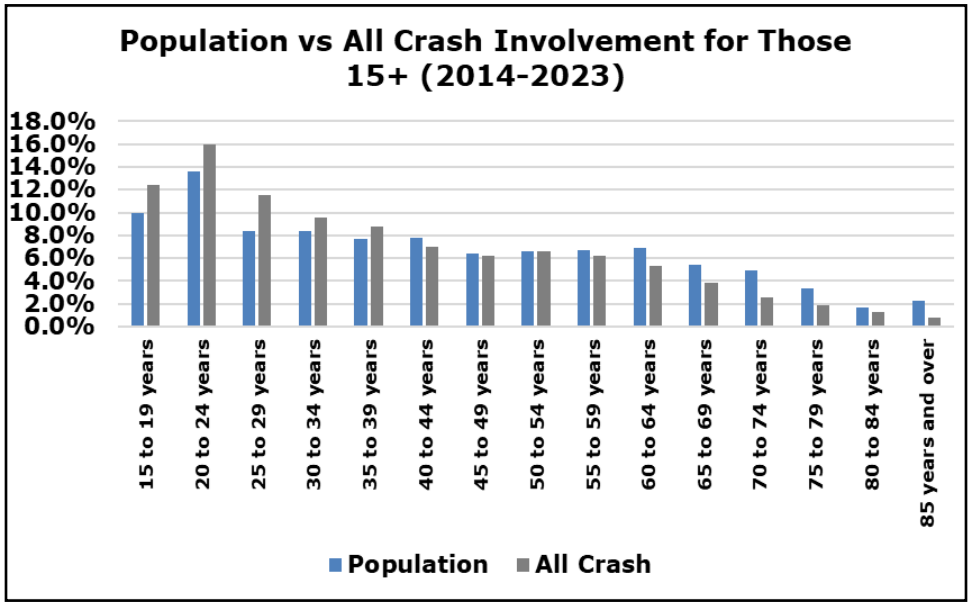


Figure 5.9: Population vs All Crash Involvement for Those 15+ (2014-2023), data courtesy MnDOT and U.S. Census Bureau, 2023 American Community Survey 5-Year Estimates

Age Comparison between Planning Area and Crash Involvement (2014-2023)
Figure 5.9 shows the age of all individuals within the planning area next to the ages of both drivers and non-motorists involved in roadway crashes. Instances where the "All Crash" grey bar is larger than the "Population" blue bar show age ranges where people in that age range make up a larger share of crashes (not necessarily at fault) than the percentage of population that demographic makes up. So, around 10% of the population in the planning area falls between the ages of 15 and 19, however that same age range is involved in 12.5% of all crashes. Younger people tend to drive more miles annually than older drivers. (https://bit.ly/3YDEd5e)

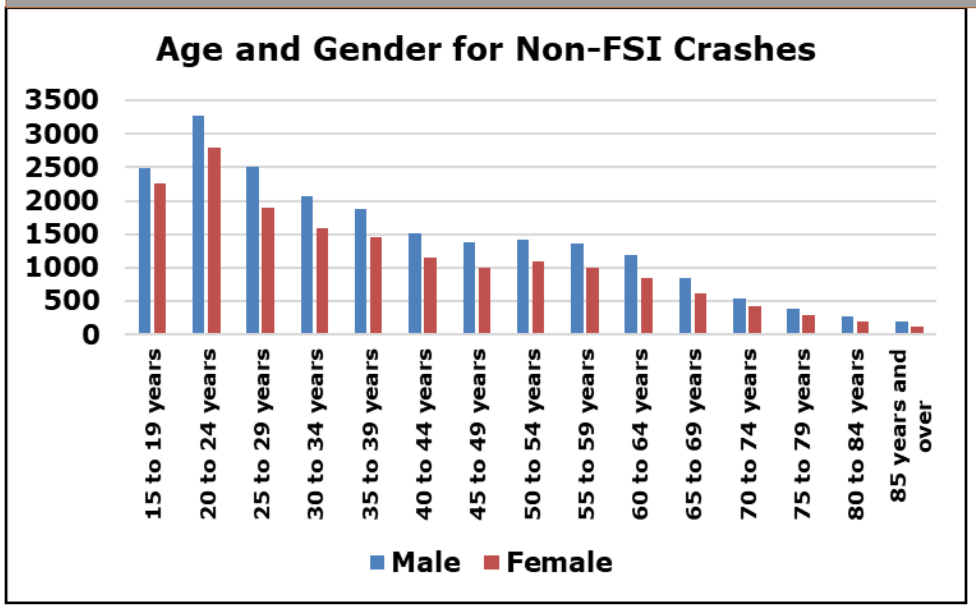


Figure 5.10: Age and Gender for Non-FSI Crashes, data courtesy MnDOT

Age and Gender for Non-FSI Crashes (2014-2023)
The figure on the left shows the age and gender for individuals involved in non-fsi crashes. At every age group males are involved in more crashes than females. The difference between the number of males and females involved at each age tends to decrease as individuals get older. From the age ranges starting at 24-29 and onwards, the number of males is between 10% and 20% higher than females. The largest difference between the two groups is seen at the 25-29 age range with smaller but still large differences from 20-24, 30-34, and 35-39. There were around 21,350 males involved in non-FSI crashes and 16,750 females, this is a difference of 4,600 individuals or 12.1%.

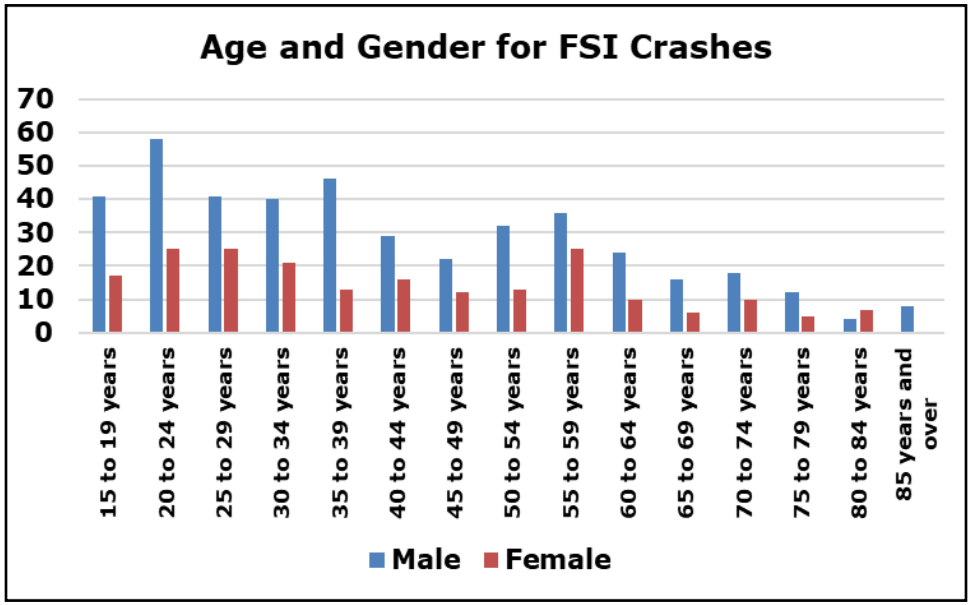


Figure 5.11: Gender and Age for Individuals involved in FSI Crashes, data courtesy MnDOT

Gender and Age for FSI Crashes (2014-2023)
The figure on the left shows the age and gender for individuals involved in fsi crashes. Similar to the previous graph, males are more frequently involved in these crashes. This is even more apparent when looking at just fsi crashes. In most age ranges, the number of males who were involved in a fsi crash more than doubles that of females involved.

Transportation Safety
Fatal and Serious Injury Crashes

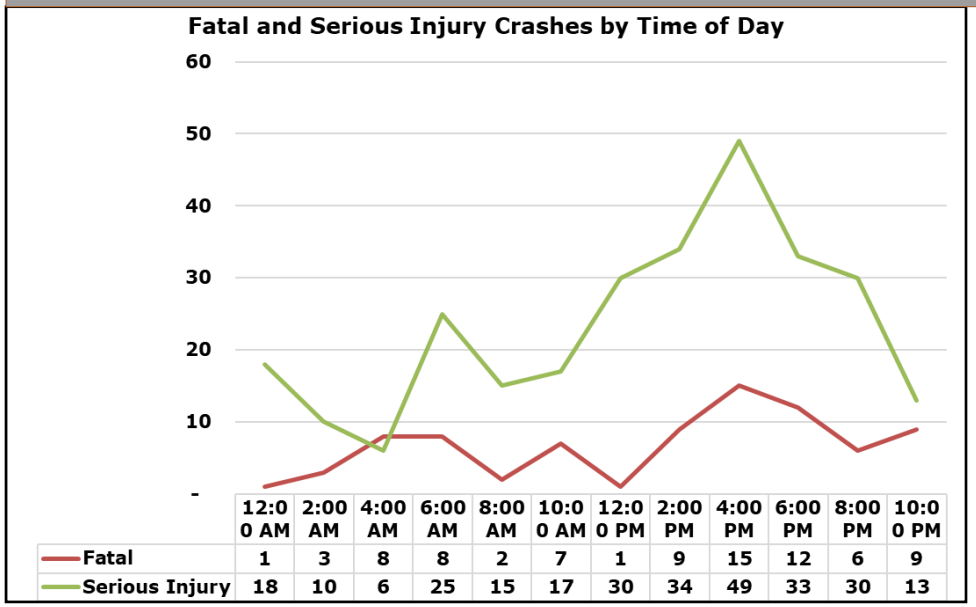


Figure 5.12: Fatal and Serious Injury Crashes by Time of Day, data courtesy MnDOT

When are Fatal and Serious Injury Crashes Occurring (2014 -2023)

Figure 5.12 shows the number of fatal crashes and serious injury Crashes and what times of day they occur most often. Serious injury crashes are occurring more often as the day goes on and peaks around 4 p.m. Fatal crashes stays more consistent however there is that similar spike around 4 p.m. One cause for this difference could be that people are more often driving later in the day than very late at night or very early in the morning. Based off of the automatic traffic recorder #28 in Saint Cloud, traffic tends to spike around 8 a.m. and then maintain/increase until a peak at 5 pm and then decrease as the night progresses.

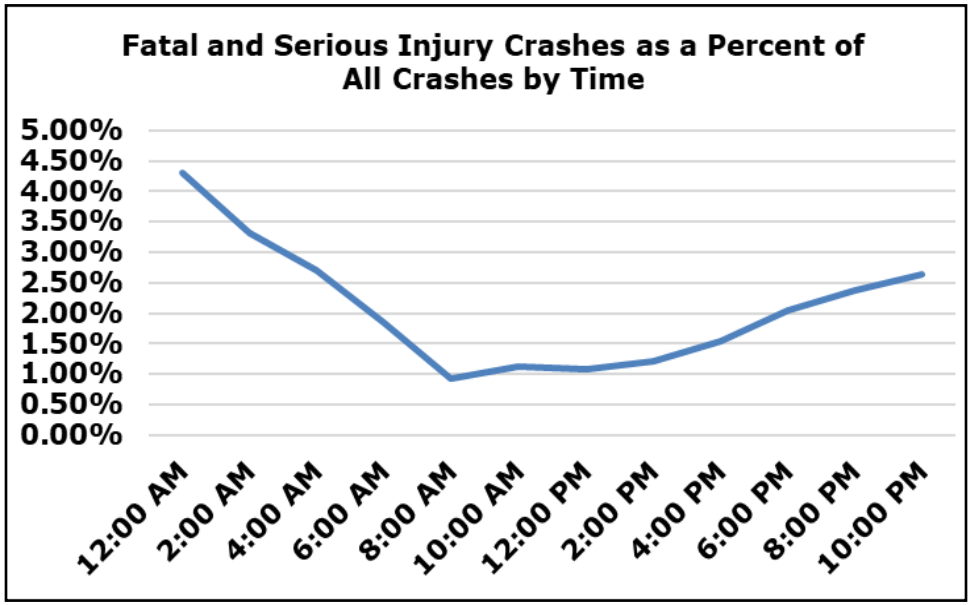


Figure 5.13: Fatal and Serious Crashes as a Percent of All Crashes by Time, data courtesy MnDOT

When are Fatal and Serious Injury Crashes Occurring compared to All Crashes (2014-2023)

Figure 5.13 shows the percent of fatal and serious injury crashes as a percent of all crashes that occur at that time of day. Fatal and serious injury crashes make up a much larger share of early morning crashes compared to other times of day. A large share of crashes involving chemically impaired individuals, a significant contributing factor in severe crashes, occur at or around this same time. More information on chemical impairment crashes begins on page 51.

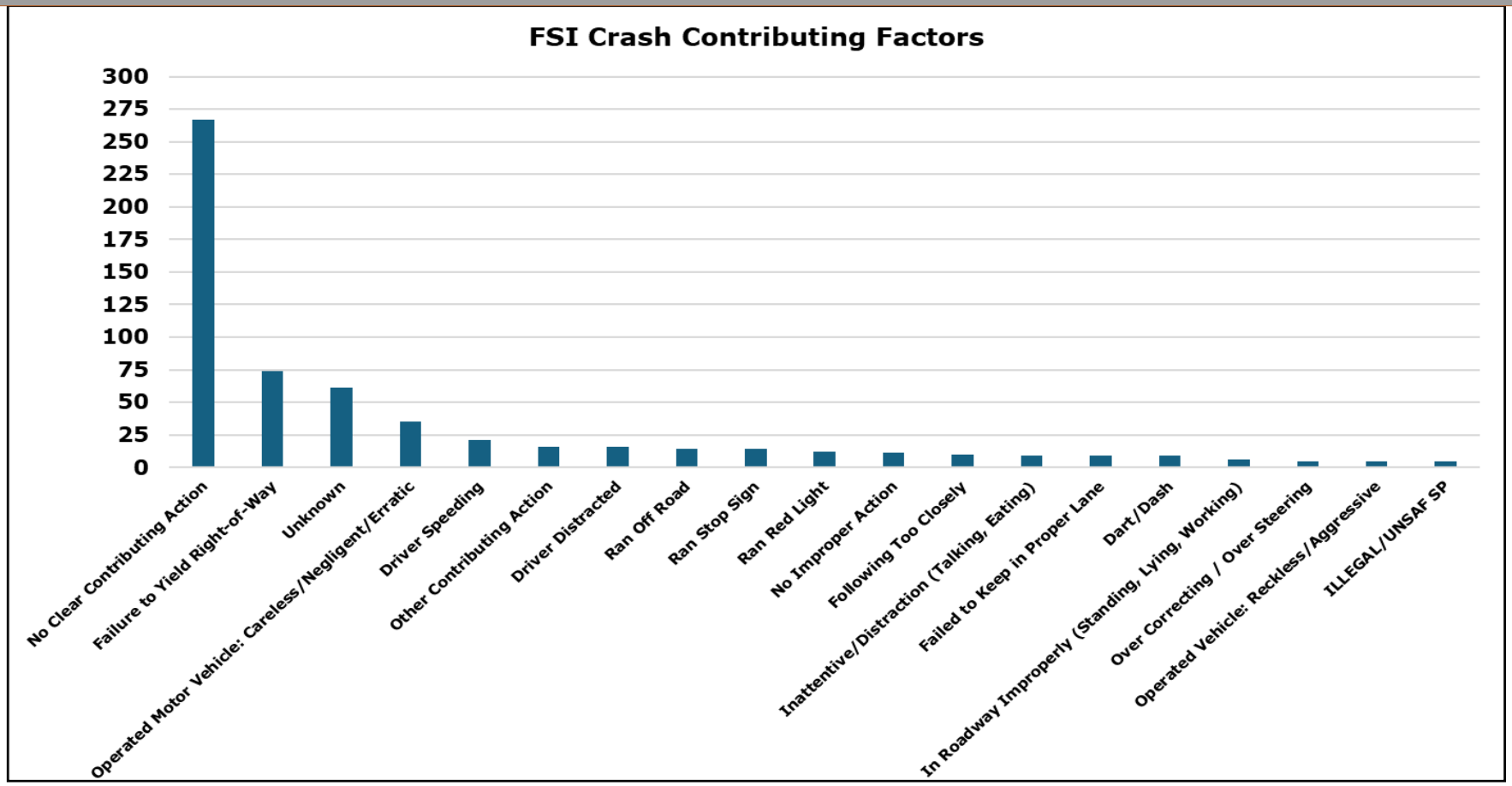


Figure 5.14: FSI Crash Contributing Factors, data courtesy MnDOT

FSI Crash Contributing Factors (2014-2023)

Figure 5.14 shows the primary contributing factor for fsi crashes. Factors with less than five total entries were removed. Individuals with no clear contributing action make up a majority of these fsi crashes. Having no clear contributing factor does not necessarily mean that an individual is free from fault. Nearly 43% of individuals who were involved with an fsi crash had no clear contributing action. Most of the primary contributing factors are related to fixable behavior as opposed to other factors such as weather. Chemical impairment is distributed between a few different factors, but makes up much of the operated motor vehicle: careless/negligent/erratic column along with several smaller columns. Distracted driving, while being underreported and typically less severe, makes up a fairly large amount of the contributing factors. Individuals with an unknown contributing factor are often cases where individuals cannot be located, such as a hit-and-run, or where individuals have died.

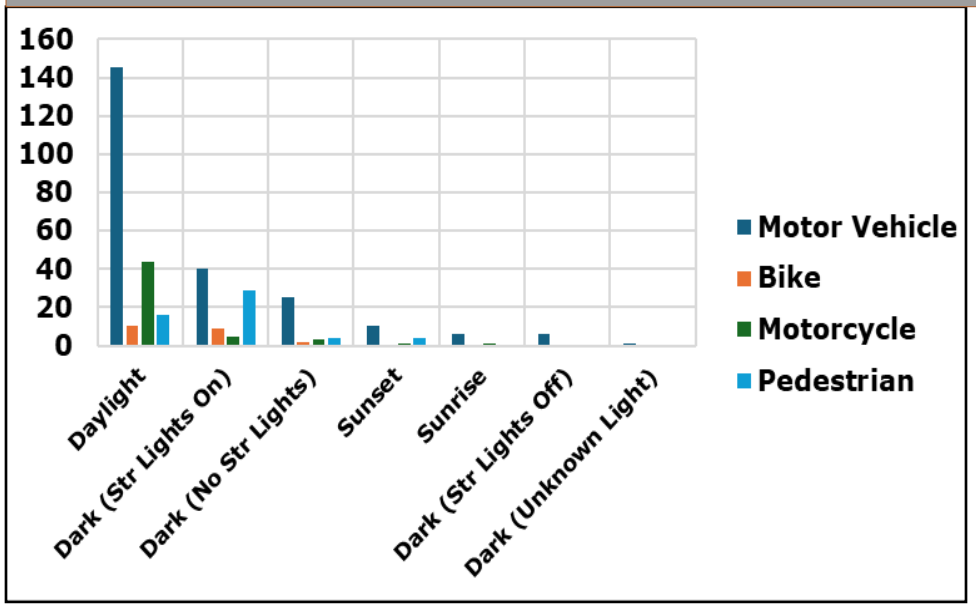


Figure 5.15: Light Conditions for Fatal and Serious Injury Crashes, data courtesy MnDOT

Light Conditions for Fatal and Serious Injury Crashes (2014-2023)

Figure 5.15 shows the light condition for fsi crashes. This lines up with the previous figure showing at what time of day these crashes are occurring. Non-motorists involved fsi crashes are occurring most often when it is dark out, even with streetlights on.

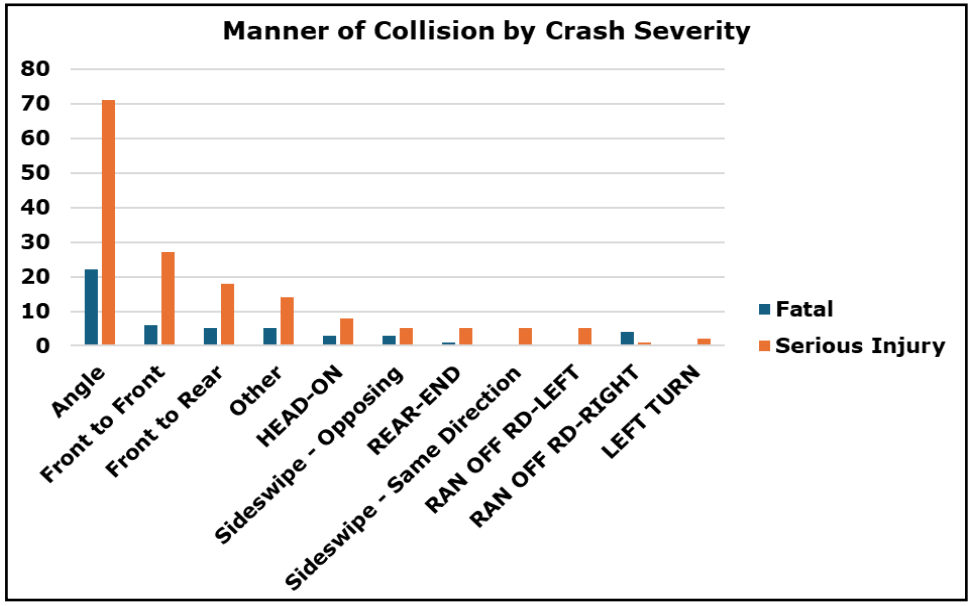


Figure 5.16: Manner of Collision by Crash Severity, data courtesy MnDOT

Manor of Collision by Crash Severity (2014-2023)

Figure 5.16 shows the manner of collision by crash severity. Angle crashes, specifically right angle crashes, make up the majority of fsi crashes. This manner of collision is the deadliest in the region. Front to rear crashes see a surprising amount of representation in these fsi crashes due to how this type of crash could occur.

Transportation Safety
Chemical Impairment Crashes

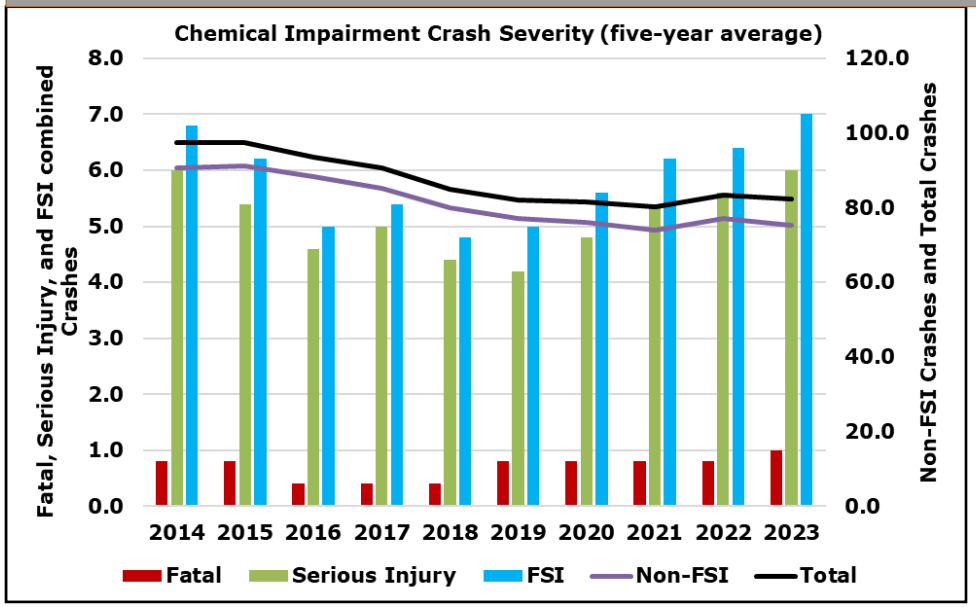


Figure 5.17: Chemical Impairment Crash Severity (5-year averages), data courtesy MnDOT

Number and Severity of Crashes involving Chemical Impairment (5-year averages)

Crashes involving chemical impairment include people who have been drinking alcohol, taking illicit drugs, or who have been taking medications. Overall the number of chemical impairment crashes occurring within the region has been decreasing over time. However the number of FSI crashes related to chemical impairment has seen a small steady increase since around 2018.

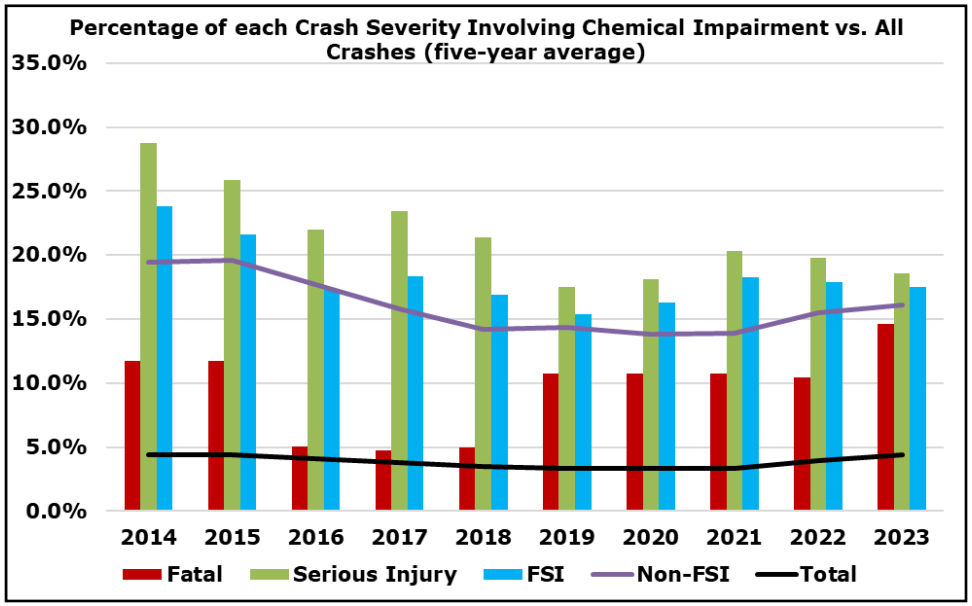


Figure 5.18: Percentage of each Crash Severity Involving Chemical Impairment vs All Crashes (5-year averages), data courtesy MnDOT

Percentage of each Crash Severity Involving Chemical Impairment vs All Crashes (5-year averages)

Figure 5.18 illustrates the percentage of crashes at each severity level that involve chemical impairment. A significant portion of FSI crashes typically involve chemical impairment. While the percentage of fsi crashes linked to chemical impairment has decreased, this is due to a general increase in fsi crashes rather than a decline in impairment-related crashes.

In 2023 alone, chemical impairment was a factor in two of the six fatal crashes. For non-fsi crashes the percentage involving chemical impairment declined by nearly five percentage points between 2014 and 2018. However, changes in reporting standards have contributed to an increase in 2022 and 2023. On average, impairment-related crashes have accounted for around 4% of total crashes, following a similar trend to non-fsi impairment related crashes.

Transportation Safety
Chemical Impairment Crashes

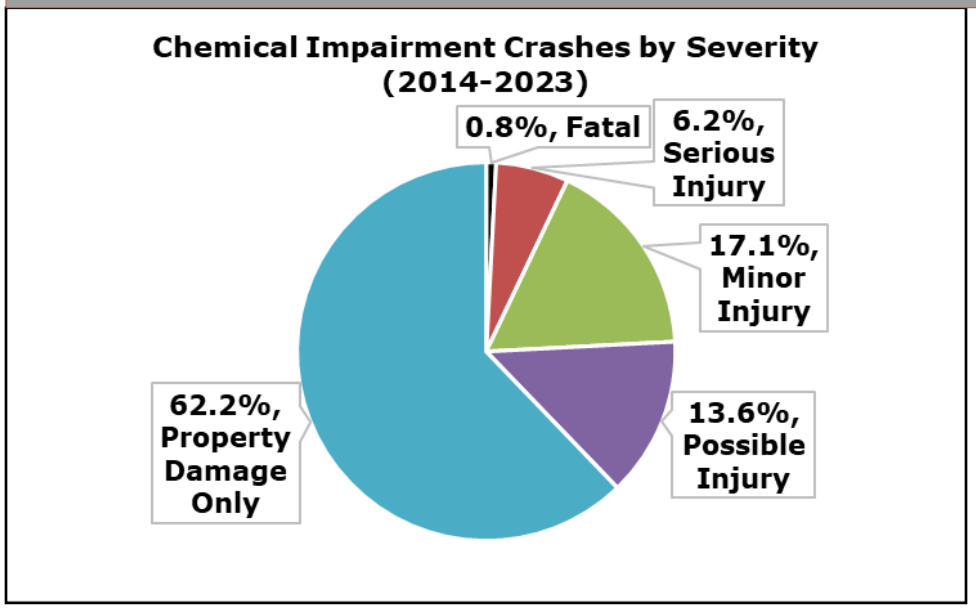
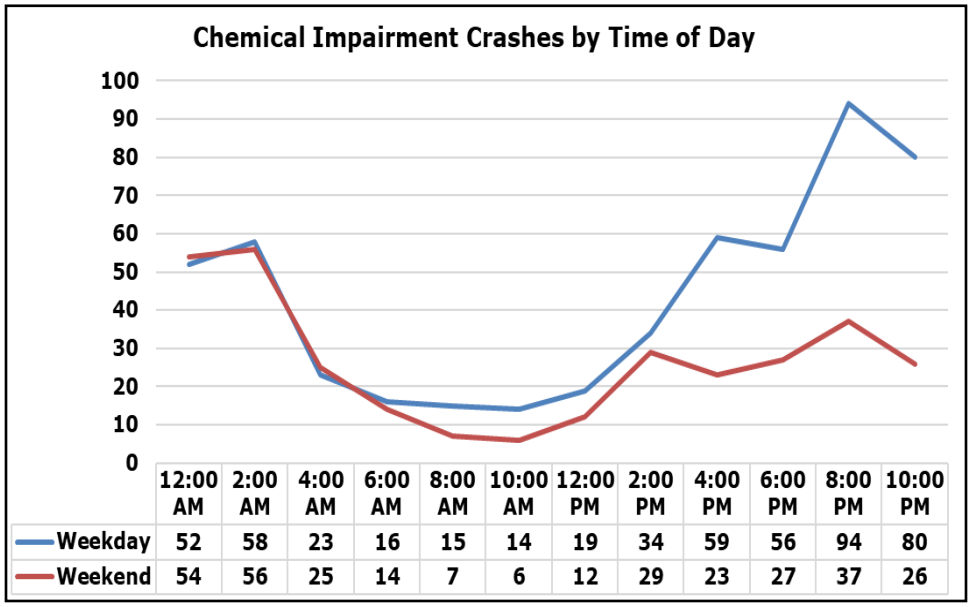


Figure 5.19: Chemical Impairment Crash Severity (5-year averages), data courtesy MnDOT

Severity of Crashes involving Chemical Impairment (2014-2023)

Crashes involving chemical impairment include people who have been drinking alcohol, taking illicit drugs, or who have been taking medications. While non-FSI crashes make up 93% of chemical impairment crashes, the remaining 7% resulted in a death or serious injury. There were at least 70 chemical impairment crashes that occurred in 2023 alone.



	12:00 AM	2:00 AM	4:00 AM	6:00 AM	8:00 AM	10:00 AM	12:00 PM	2:00 PM	4:00 PM	6:00 PM	8:00 PM	10:00 PM
Weekday	52	58	23	16	15	14	19	34	59	56	94	80
Weekend	54	56	25	14	7	6	12	29	23	27	37	26

Figure 5.20: Chemical Impairment Crash Severity (5-year averages), data courtesy MnDOT

When are Chemical Impairment Crashes Occurring (2014-2023)

Figure 5.20 shows the number of crashes involving chemical impairment and what times of day they occur most often. These crashes occur less often during the day but increase as the night goes on. There is a huge number of these chemical impairment crashes occurring in the early morning hours. This lines up fairly well with people tending to drink later in the evening/night. While Friday is not broken out it sees a similar number of crashes as Saturday and Sunday. Tuesday has seen the lowest amount of crashes involving chemical impairment while the rest of the weekdays (excluding Friday) are similar. The weekend is closely split, with 18.7% of these crashes occurring on a Saturday and 18.4% on a Sunday. Friday had 17.4% of crashes involving chemical impairment.

Transportation Safety
Chemical Impairment Crashes

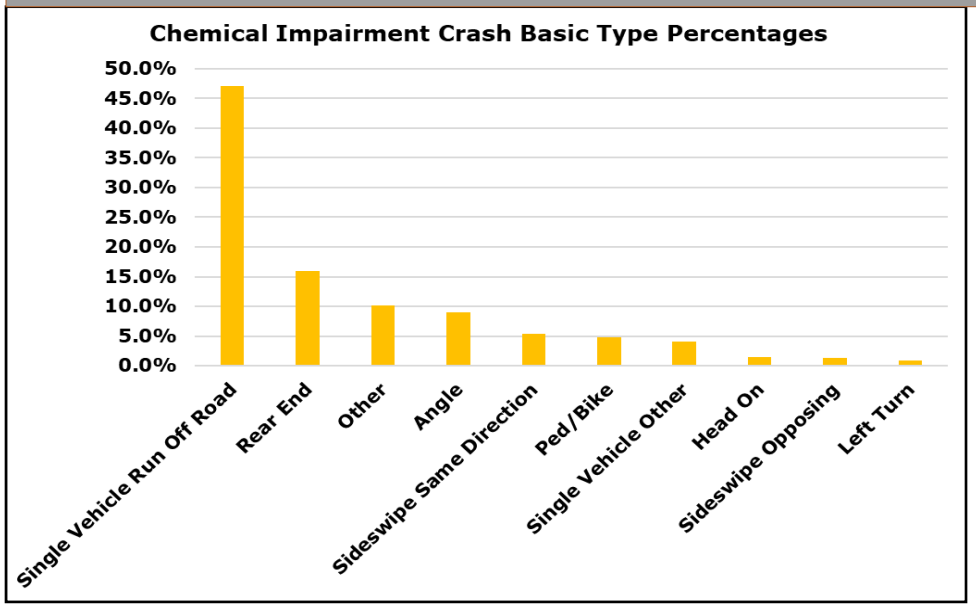


Figure 5.21: Chemical Impairment Crash Basic Type Percentage, data courtesy MnDOT

Chemical Impairment Crash Basic Type Percentages (2014-2023)

From 2014 to 2023, over 45% of crashes involving chemical impairment were single-vehicle crashes where a driver ran off the road. While these crashes often involve only the impaired driver, they can and often do still impact others– whether through damage to property, road disruptions, or secondary crashes.

Rear end crashes are also common, as impairment affected motor skills and judgement, making it harder for drivers to react or stop in time. Angle crashes, particularly right angle collisions, tend to result in more severe injuries compared to rear end crashes, which are generally less severe. However, crash severity is influenced by multiple factors beyond just the type of collision.

BLOOD ALCOHOL CONCENTRATION (BAC) IN G/DL	TYPICAL EFFECTS	PREDICTABLE EFFECTS ON DRIVING
.02	Some loss of judgment; relaxation, slight body warmth, altered mood	Decline in visual functions (rapid tracking of a moving target), decline in ability to perform two tasks at the same time (divided attention)
.05	Exaggerated behavior, may have loss of small-muscle control (e.g., focusing your eyes), impaired judgment, usually good feeling, lowered alertness, release of inhibition	Reduced coordination, reduced ability to track moving objects, difficulty steering, reduced response to emergency driving situations
.08 (the legal limit in MN)	Muscle coordination becomes poor (e.g., balance, speech, vision, reaction time, and hearing), harder to detect danger; judgment, self-control, reasoning, and memory are impaired	Concentration, short-term memory loss, speed control, reduced information processing capability (e.g., signal detection, visual search), impaired perception
.10	Clear deterioration of reaction time and control, slurred	Reduced ability to maintain lane position and brake ap-
.15	Far less muscle control than normal, vomiting may occur (unless this level is reached slowly or a person has devel-	Substantial impairment in vehicle control, attention to driving task, and in necessary visual and auditory infor-

Figure 5.22: Blood Alcohol Concentration (BAC) in Grams/Deciliter (G/DL) info courtesy NHTSA

Transportation Safety
Chemical Impairment Crashes

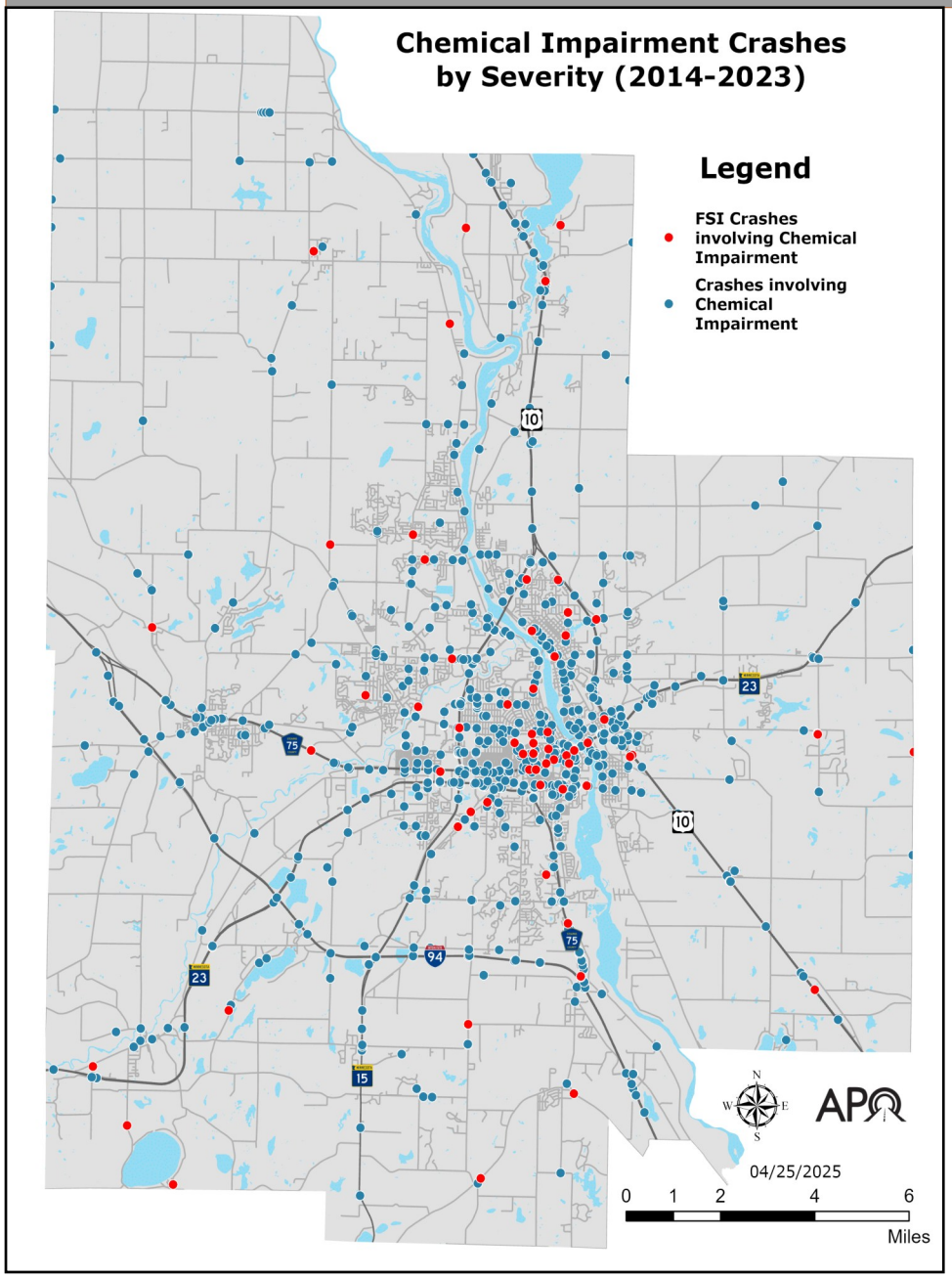


Figure 5.23: Chemical Impairment Crashes By Severity, data courtesy MnDOT

Chemical Impairment Crashes by Severity (2014-2023)
Figure 5.23 shows the locations of chemical impairment crashes between 2014 and 2023. The red dots indicate fsi crashes while the blue ones indicate non-fsi crashes. A large grouping of these fsi crashes occur around MN 23, specifically between Ninth Ave and Cooper Ave in Saint Cloud. Downtown Saint Cloud sees a large number of chemical impairment crashes adjacent to and flowing north of MN 23. Each city has small clumps however the majority of these crashes are happening within Saint Cloud, which could be a result of where people live as well as where food/drink establishments are.

Figure 5.24: Car Crash at Ninth Ave N and Northway Drive

Transportation Safety
Active Transportation Crashes

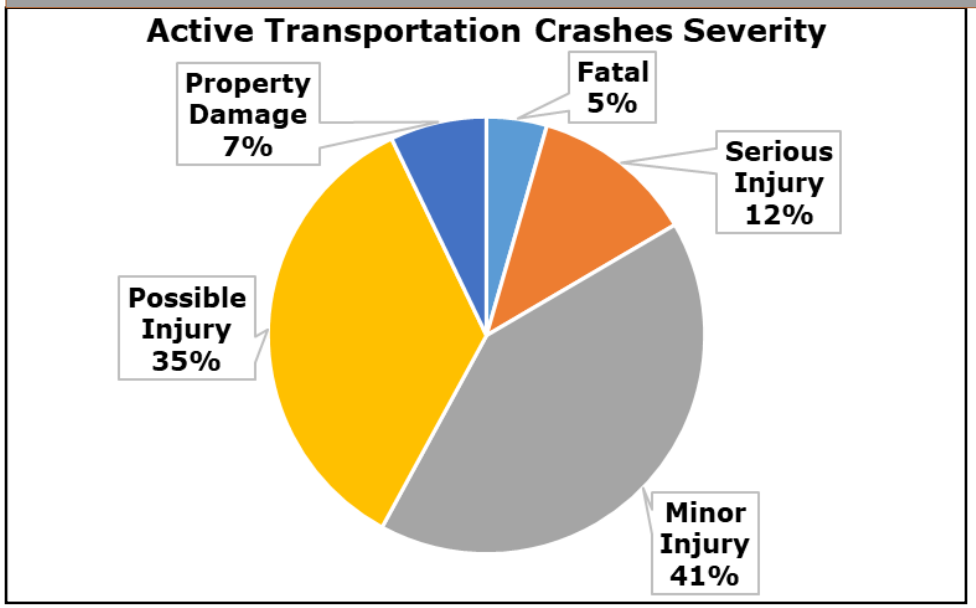


Figure 5.25: Active Transportation Crashes Severity, data courtesy MnDOT

Severity of Crashes involving Active Transportation (2014-2023)

The number of crashes involving active transportation users has been decreasing over time, but they remain among the most vulnerable roadway users. Approximately 17% of all crashes involving active transportation users result in a fatality or serious injury, while only 7% of these incidents result in property damage alone.

Contributing Factors for FSI Crashes Involving Active Transportation Users (2014-2023)

Figure 5.26 illustrates the contributing factors associated with fsi crashes involving an active transportation user. Individuals who had no clear contributing action are not omitted from fault. Individuals with an unknown contributing factor are not necessarily at or free from fault. While there are actions individuals can take to reduce the risk of these crashes, many of the contributing factors are related to the non-motorist behavior and actions. Simple measures, such as wearing brighter clothing in low visibility conditions or properly following right-of-way rules can significantly reduce the likelihood of these crashes occurring.

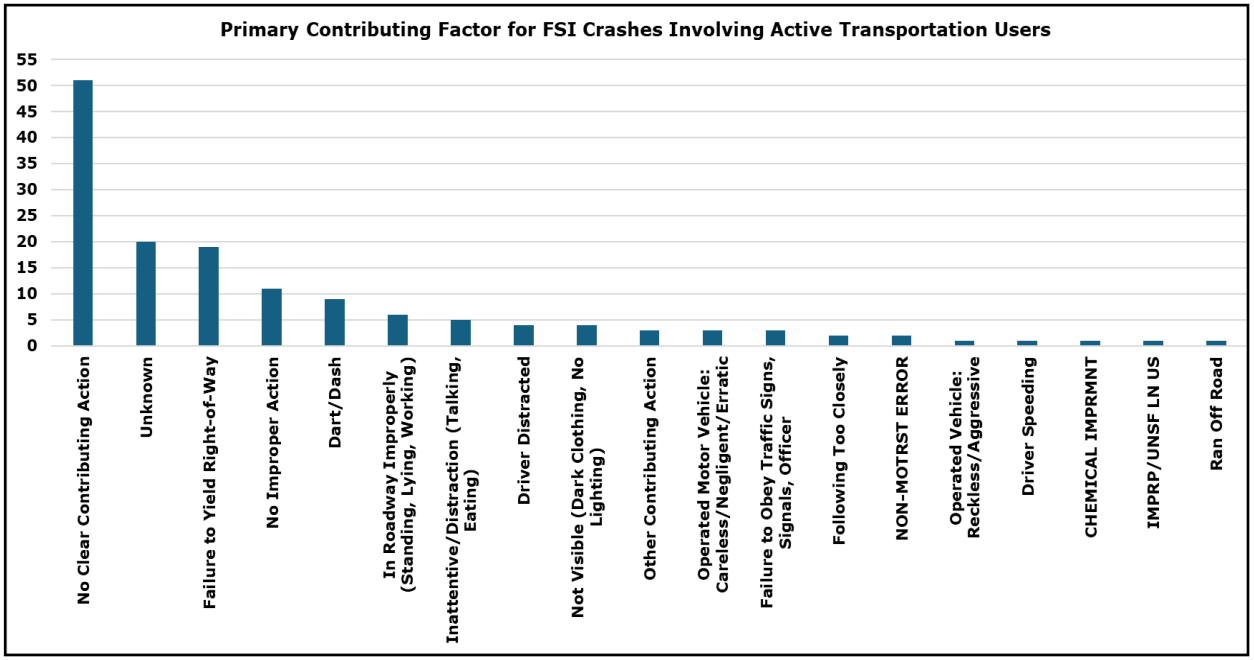


Figure 5.26: Primary Contributing Factor for FSI Crashes Involving Active Transportation Users, data courtesy MnDOT

Transportation Safety
Active Transportation Crashes

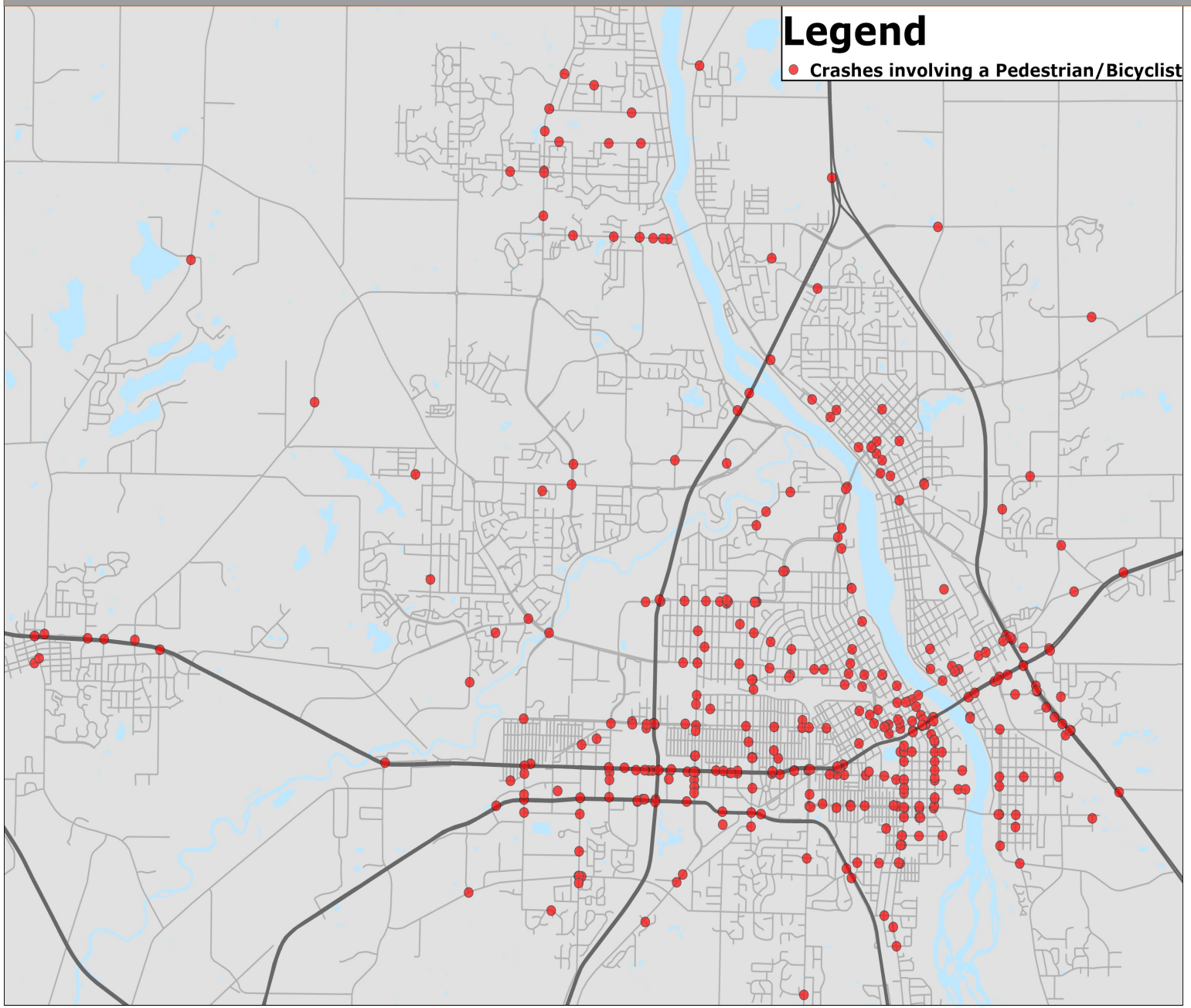


Figure 5.27: Crashes involving Active Transportation Users, data courtesy MnDOT

Crashes involving Active Transportation Users

Figure 5.27 shows the locations of crashes involving people walking/biking. This map focuses on the cities as the more rural areas have few of these crashes due to less infrastructure related to walking/biking. Again, MN 23 and the areas adjacent to it going through Saint Cloud see a lot of the crashes involving active transportation. Some streets to note that see a number of these crashes along them include Fifth Ave, Ninth Ave, and University Dr.

Transportation Safety
Active Transportation Crashes

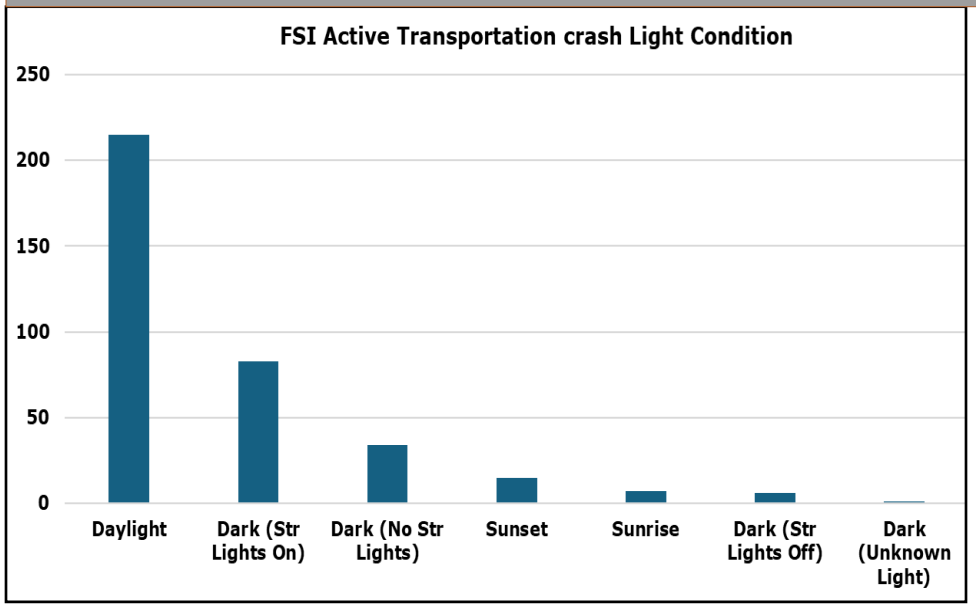


Figure 5.28: Non-Motorized Fatalities and Suspected Serious Injuries, data courtesy MnDOT

Non-Motorized Fatalities and Suspected Serious Injuries

Figure 5.28 shows the number of fsi crashes involving an active transportation user and the light condition at the time of the crash. A majority of these crashes are occurring when it is dark even with streetlights present. Nearly 60% of these crashes are occurring when it is dark out.

Figure 5.29: Intersection Crossing

Figure 5.30: Diverging Diamond Interchange Crossing

Transportation Safety
Severe Lower Speed Crashes

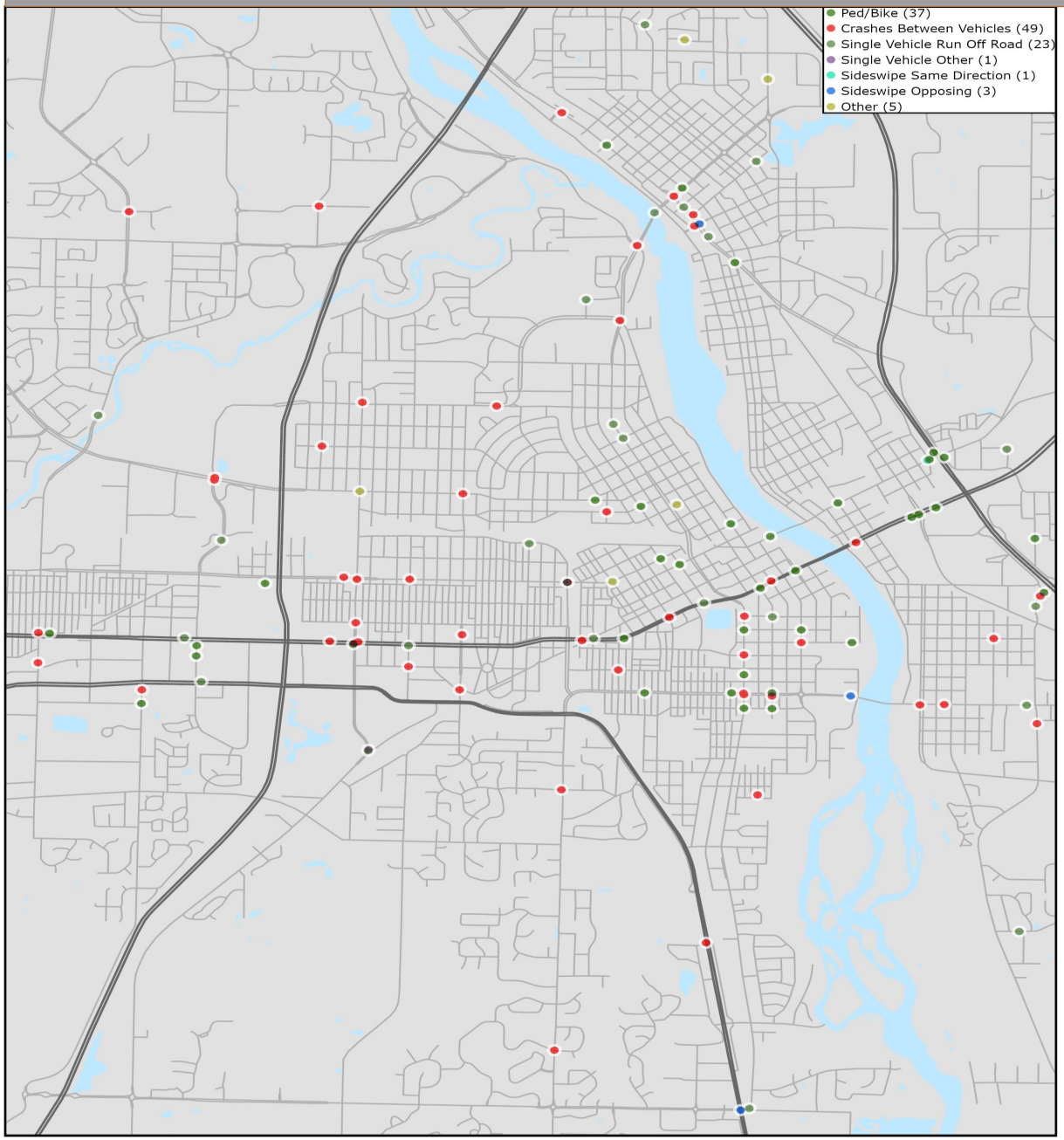


Figure 5.31: Severe Lower Speed Crashes by Basic Type, data courtesy MnDOT

Severe Lower Speed Crashes

Figure 5.31 shows the locations of crashes in which at least one direction of travel had a noted speed limit of 35 or less, resulted in a fatal or serious injury, and the type of crash. Pedestrians and cyclists made up 37 of the 119 crashes shown here, about 31%. Crashes between vehicles include right angle, rear end, head on, and left turn crashes. These types of crashes made up 49 of the 119 crashes, about 41%. The third most common was crashes involving a single vehicle running off the road, 23 of the 119 or about 19%.

Many of these crashes did occur near roads with much higher speed limits than 35. This indicates that these crashes are involving, but not necessarily resulting from, non-motorists crossing the road and motorists both crossing and turning from a lower speed road on to the higher speed road.

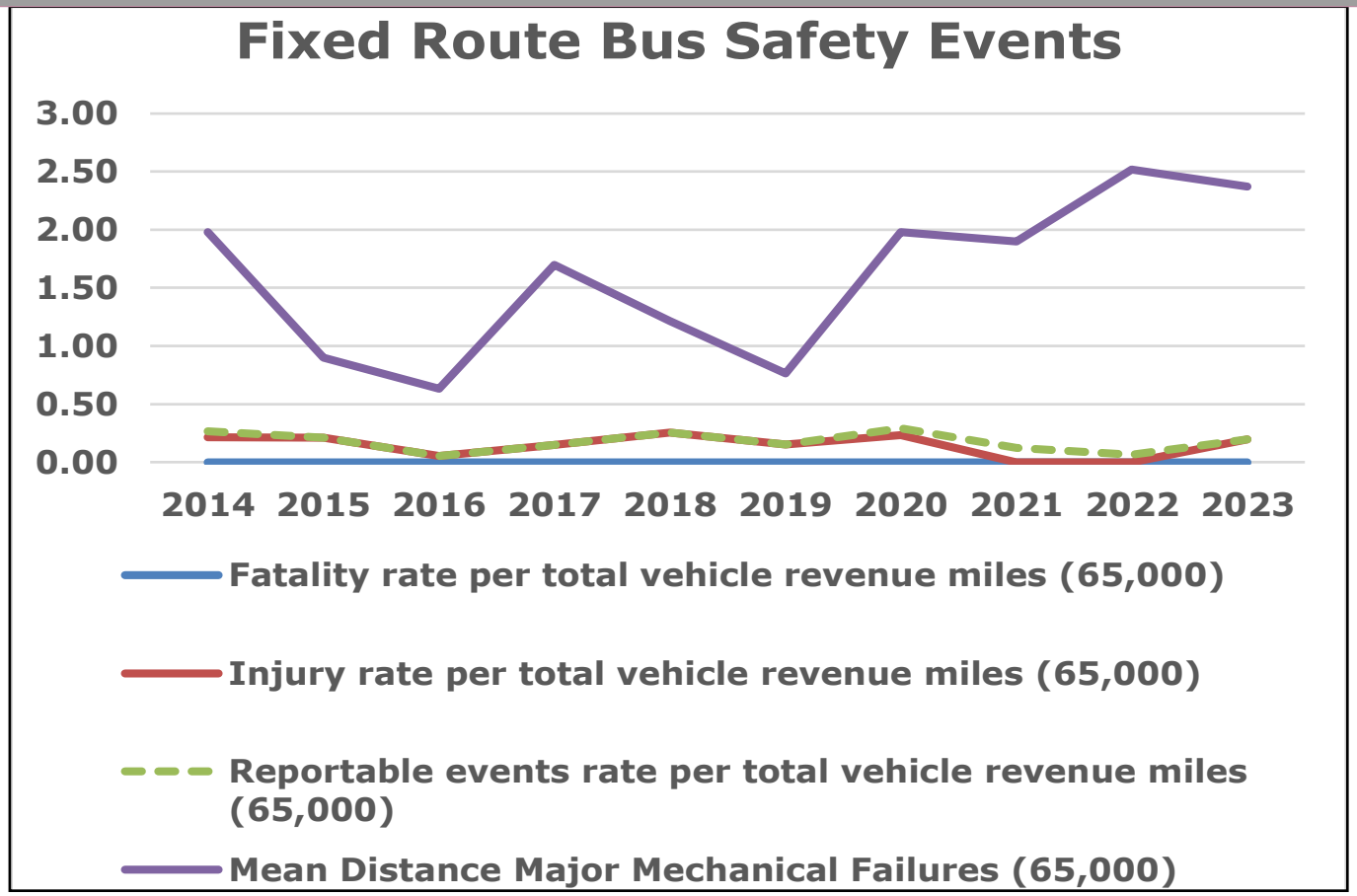


Figure 5.32: Metro Bus Fixed Route Bus Safety Events, data courtesy National Transit Database (NTD)

Fixed Route Bus Safety Events
Above is a graph showing the number of each individual safety event per 65,000 vehicle revenue miles.

There have been no fatalities associated with the FR Bus service.

There have been a fairly consistent number of injuries across the years for the FR Bus service. However, there were no injuries in 2021 or 2022.

There have been a fairly constant number of reportable events across the years for the FR Bus service. These are primarily made of injuries.

A major mechanical failure can be loosely defined as a failure of some mechanical element that prevents the vehicle from it's service whether a limitation in actual movement or a safety concern. The number of mechanical failures relative to the miles driven has been worsening. Getting new buses has become more difficult and this is likely a result.

Transportation Safety
Dial-A-Ride Bus Safety

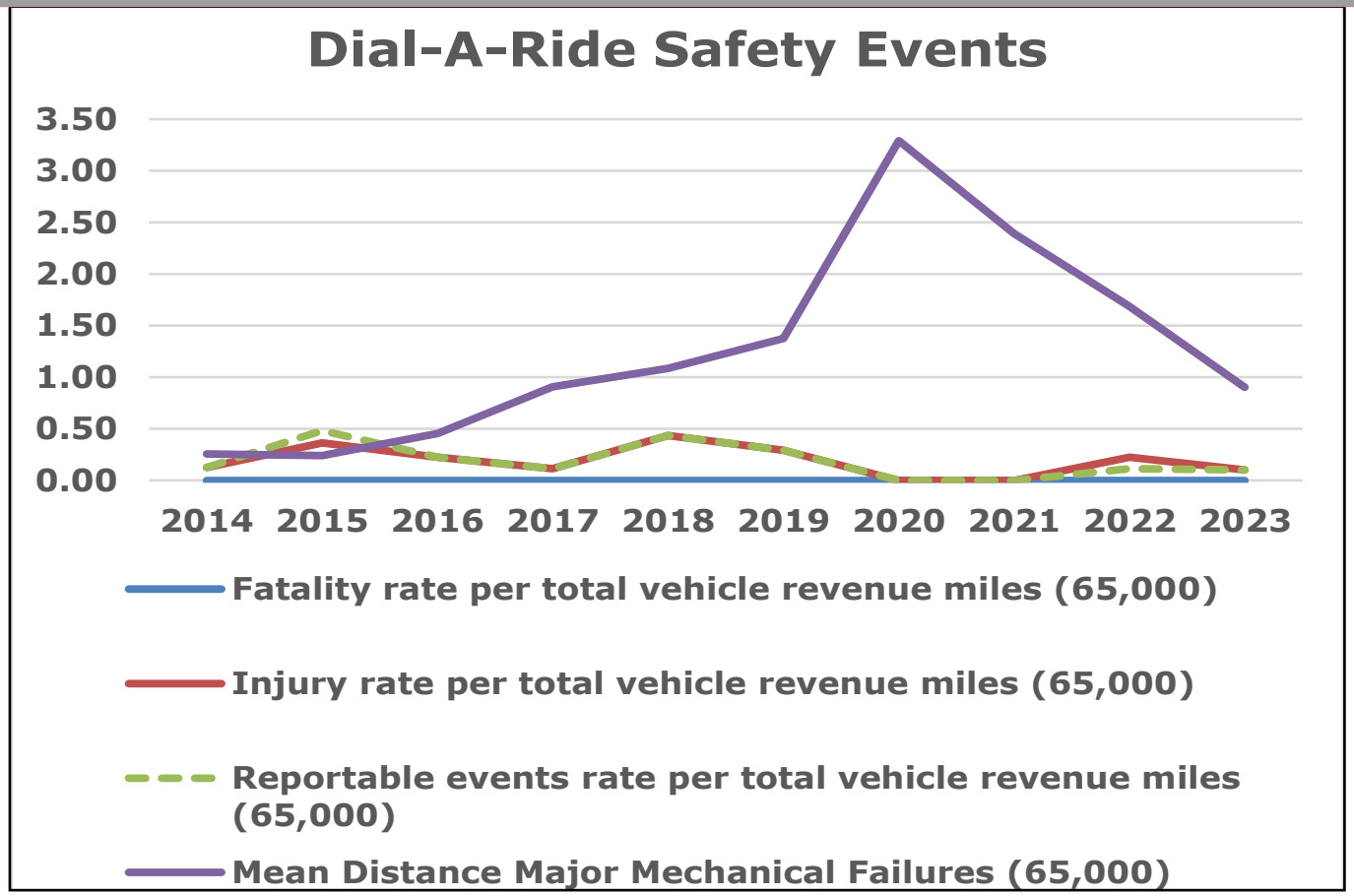


Figure 5.33: Metro Bus Dial-A-Ride Bus Safety Events, data courtesy National Transit Database (NTD)

Dial-A-Ride Safety Events
Above is a graph showing the number of each individual safety event per 65,000 vehicle revenue miles.

There have been no fatalities associated with the DAR service.

There have been few injuries in the last five years associated with the DAR service, one in 2023, two in 2022 and three in 2019.

There have been few reportable events in the last five years associated with the DAR service and these line up with the injury reports.

A major mechanical failure can be loosely defined as a failure of some mechanical element that prevents the vehicle from it's service whether a limitation in actual movement or a safety concern. There have been a number of major mechanical failures for the DAR service, however as new vehicles are acquired the number and frequency of these decreases. The amount of miles driven between these mechanical failures is improving.

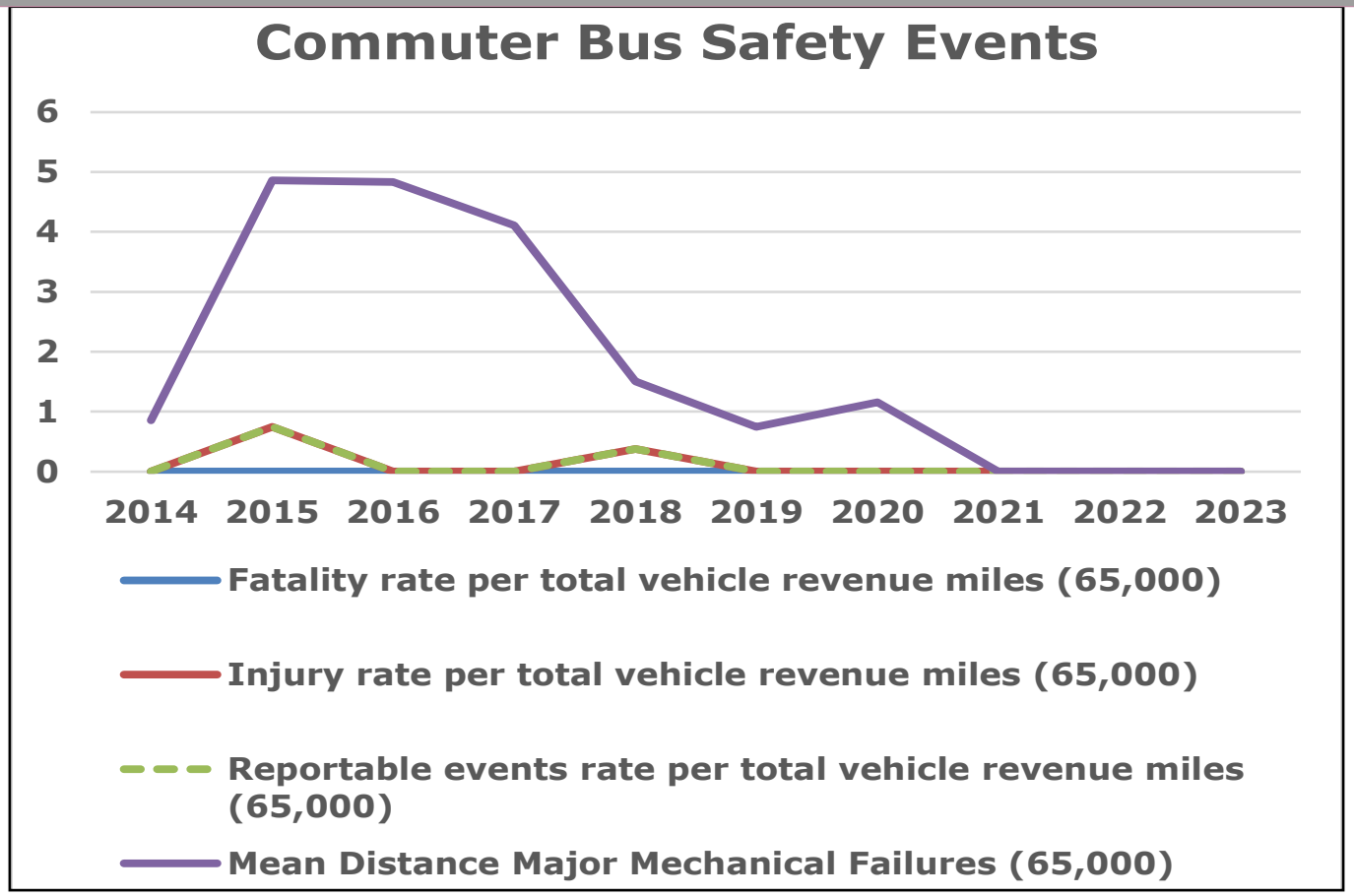


Figure 5.34: Commuter Bus Safety Events, data courtesy National Transit Database (NTD)

Commuter Bus Safety Events
Above is a graph showing the number of each individual safety event per 65,000 vehicle revenue miles.

There have been no fatalities associated with the Commuter Bus service.

There have been no injuries in the last five years associated with the CB service.

There have been no reportable events in the last five years associated with the CB service.

A major mechanical failure can be loosely defined as a failure of some mechanical element that prevents the vehicle from it's service whether a limitation in actual movement or a safety concern. There are few major mechanical failures seen in the CB service since 2018 and none in that past 3 years.

Transportation Safety
Fast Facts (better name welcome)

Unlicensed Driver	Was one involved?	
Crash Severity	**Yes**	**No**
Fatal Crash	3.02%	1.33%
Suspected Serious Injury Crash	6.19%	4.81%
Suspected Minor Injury Crash	33.17%	30.80%
Possible Injury Crash	57.62%	63.06%
Grand Total	**100.00%**	**100.00%**

Figure 5.35: Unlicensed Driver Crashes

Crashes involving an unlicensed driver tend to be more severe than those with licenses.

Unbelted Driver	Was one involved?	
Crash Severity	**Yes**	**No**
Fatal Crash	4.00%	1.29%
Suspected Serious Injury Crash	6.95%	4.78%
Suspected Minor Injury Crash	33.26%	30.87%
Possible Injury Crash	55.79%	63.06%
Grand Total	**100.00%**	**100.00%**

Figure 5.36: Unbelted Driver Crashes

Crashes involving an unbelted driver tend to be much more severe than those with all motorists buckled in.

Older Driver (age 65 or older)	Was one involved?	
Crash Severity	**Yes**	**No**
Fatal Crash	1.91%	1.43%
Suspected Serious Injury Crash	5.23%	4.90%
Suspected Minor Injury Crash	31.29%	31.02%
Possible Injury Crash	61.57%	62.64%
Grand Total	**100.00%**	**100.00%**

Figure 5.37: Older Driver Crashes

Crashes involving an older driver tend to be slightly more severe than those without.

Younger Driver (age 14 to 20)	Was one involved?	
Row Labels	**Yes**	**No**
Fatal Crash	0.61%	1.84%
Suspected Serious Injury Crash	3.91%	5.33%
Suspected Minor Injury Crash	28.66%	31.92%
Possible Injury Crash	66.82%	60.90%
Grand Total	**100.00%**	**100.00%**

Figure 5.38: Younger (age 14 to 20) Driver Crashes

Crashes involving a younger driver tend to be less severe than those without.

Commercial Vehicles	Was one involved?	
Crash Severity	**Yes**	**No**
Fatal Crash	5.38%	1.32%
Suspected Serious Injury Crash	3.94%	5.01%
Suspected Minor Injury Crash	34.05%	30.91%
Possible Injury Crash	56.63%	62.76%
Grand Total	**100.00%**	**100.00%**

Figure 5.39: Commercial Vehicle Crashes

Crashes involving a commercial vehicle tend to result in a much higher number of fatalities than those without.

Inattentive Driver	Was one involved?	
Row Labels	**Yes**	**No**
Fatal Crash	0.83%	1.66%
Suspected Serious Injury Crash	2.69%	5.43%
Suspected Minor Injury Crash	24.82%	32.35%
Possible Injury Crash	71.66%	60.56%
Grand Total	**100.00%**	**100.00%**

Figure 5.40: Inattentive Driver Crashes

Crashes involving an inattentive driver tend to be less severe, however inattention while driving a motor vehicle is a very fixable behavior.

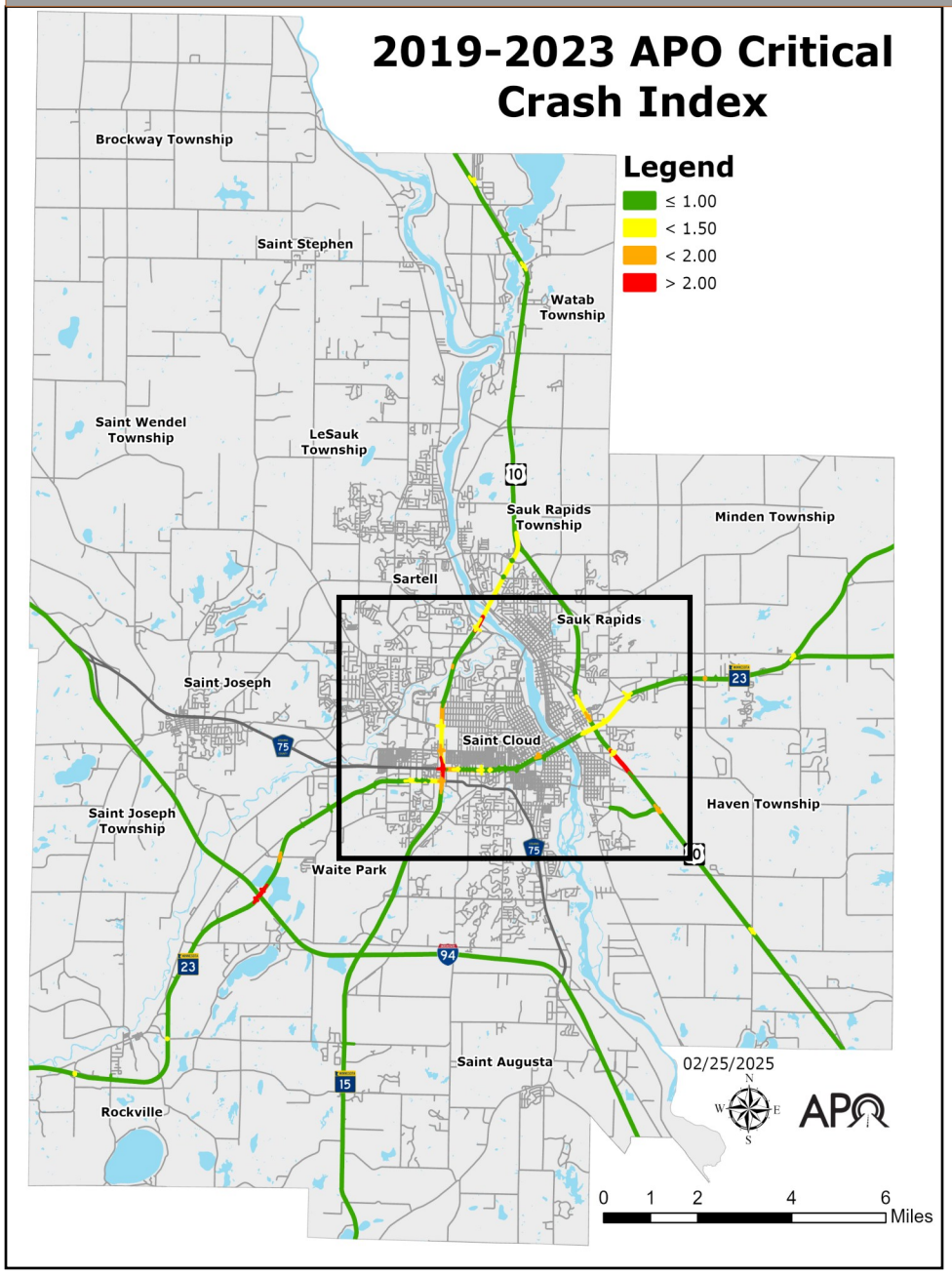


Figure 5.41: 2019-2023 APO Critical Crash Index, data courtesy MnDOT

2019-2023 APO Critical Crash Index

Figure 6.34 shows the critical crash index for intersections and roadways on the Trunk Highway System. This measure compares the crash rate (the number of fsi crashes occurring at an intersection per 1,000,000 entering vehicles) for intersections and roadways to similar locations in the state. Most of the roadways outside of the more urban area perform well in this measure. Noticeably the MN 23, MN 15, CSAH 75 intersections perform poorly in terms of the number of crashes. This issue can be seen not just at the intersections but expanding out and including the roadway segments leading into this area. The segments of MN 15 leading south from US 10 are seeing a higher than normal amount of crashes. The areas around the US 10 MN 23 interchange also are seeing higher than normal crashes. Much of the regions crash issues are locating in and around these crossings of major roadways.

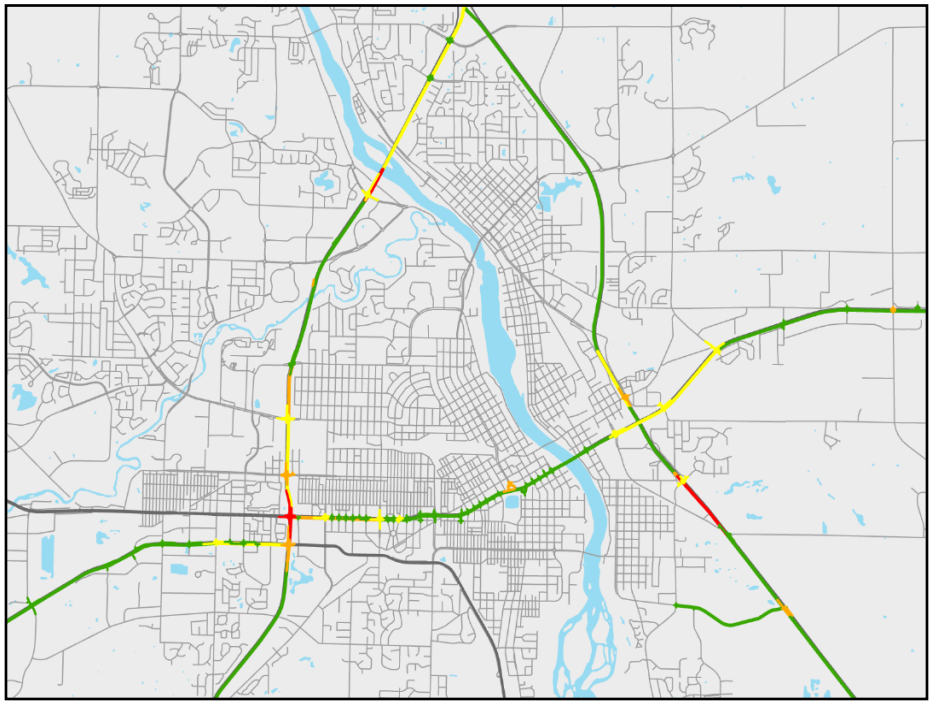


Figure 5.42: Zoom in of 2019-2023 APO Critical Crash Index, data courtesy MnDOT

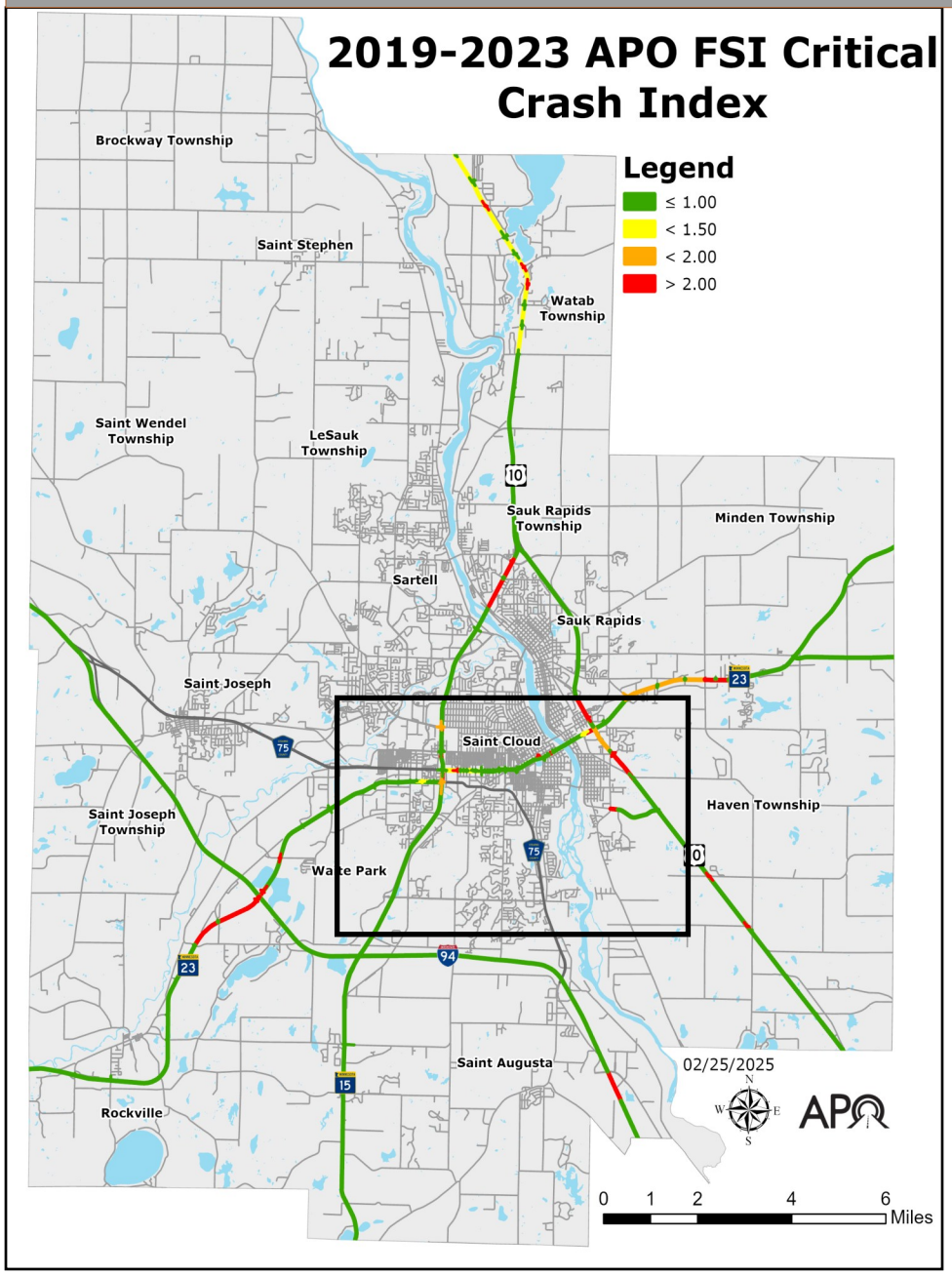


Figure 5.43: 2019-2023 APO FSI Critical Crash Index, data courtesy MnDOT

2019-2023 APO Fatal and Serious Injury Critical Crash Index

Figure 5.43 shows the fsi critical crash index for intersections and roadways on the Trunk Highway System. This measure compares the FSI crash rate (the number of fsi crashes occurring at an intersection per 100,000,000 entering vehicles) for intersections and roadways to similar locations in the state. Much of the region performs at or better than similar locations across the state. There are noticeable stretches of MN 23 and US 10 that are seeing higher than average fsi crashes. The roadways near the US 10 and MN 23 Interchange are seeing worse crash issues. US 10 north of Sauk Rapids and Sartell is seeing more fsi crashes than normal given the roadway type. The interchange for MN 23 and I-94 sees an abnormally high amount of crashes relative to the number of vehicles using those roads.

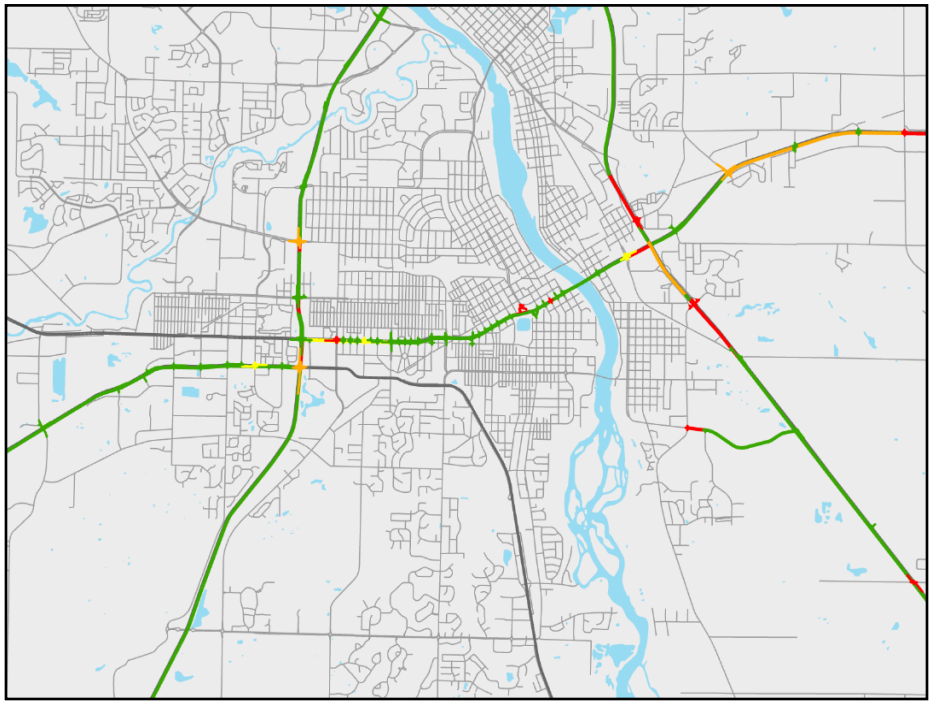


Figure 5.44: Zoom in of 2019-2023 APO FSI Critical Crash Index, data courtesy MnDOT