



Grand Forks – East Grand Forks

2050 Street and Highway Plan



The preparation of this document was funded in part by the United States Department of Transportation (USDOT) with funding administered through the North Dakota Department of Transportation (NDDOT), Minnesota Department of Transportation (MnDOT), the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA). Additional funding was provided through local contributions from the governments of Grand Forks, East Grand Forks, Grand Forks County, and Polk County. The United States Government and the States of Minnesota and North Dakota assume no liability for the contents or use thereof. The document does not constitute a standard specification or regulation.

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**A RESOLUTION ADOPTING
THE YEAR 2050
METROPOLITAN TRANSPORTATION PLAN
FOR THE
GRAND FORKS – EAST GRAND FORKS METROPOLITAN AREA**

WHEREAS, the U. S. Department of Transportation requires the development of a metropolitan transportation plan by a metropolitan planning organization for each urbanized area and area expected to have growth over a twenty year period; and

WHEREAS, the Grand Forks – East Grand Forks Metropolitan Planning Organization (MPO) has been designated as the policy body with the responsibility of performing transportation planning in the Grand Forks – East Grand Forks Metropolitan Area; and

WHEREAS, the MPO is designated by the Governors of North Dakota and Minnesota as the body responsible for making transportation planning decisions in the Grand Forks – East Grand Forks Metropolitan Area; and

WHEREAS, the existing metropolitan transportation plan was adopted in 2019 and, as in accordance with 23 U.S.C. 134 and 23 CFR 450.322, is being updated to remain current, maintain a twenty year horizon and comply with new requirements from Infrastructure Investment and Jobs Act (IIJA); and

WHEREAS, the long range transportation plan, in accordance with 23 CFR 450.322, is multi-modal in scope and accounts for all travel modes in the four sections of the plan: Street & Highway, Transit, Pedestrian, and Bicycle; and

WHEREAS, the MPO adopted a 2045 long range transportation plan in January 23, 2019; and

WHEREAS, the MPO has worked with the North Dakota Department of Transportation, which is its lead agency for metropolitan planning activities, to ensure compliance with IIJA; and

WHEREAS, the metropolitan transportation plan, in accordance with 23 CFR 450.322, shall be financially constrained to demonstrate that proposed projects have existing and/or reasonably projected sources of funds; and

WHEREAS, the MPO followed its adopted Public Participation Plan to proactively involve the public early and often in the transportation planning process and held a public hearing at the appropriate time for each action regarding the Metropolitan Transportation Plan; and

WHEREAS, the Executive Policy Board of the Grand Forks – East Grand Forks Metropolitan Planning Organization considered the actions taken by the local governmental agencies; and

NOW, THEREFORE, BE IT RESOLVED, by the Executive Policy Board of the Grand Forks – East Grand Forks Metropolitan Planning Organization hereby reaffirms all maps, information and data contained in the Year 2050 Street and Highway Element as presented with the following amendments:

NONE

FURTHER, BE IT RESOLVED, the Executive Policy Board of the Grand Forks – East Grand Forks Metropolitan Planning Organization hereby reaffirms all maps, information and data contained in the 2050 Transit Development Plan Element, which includes the Human Services Public Transportation Coordination Plan as presented with the following amendments;

NONE

FURTHER, BE IT RESOLVED, the Executive Policy Board of the Grand Forks – East Grand Forks Metropolitan Planning Organization hereby reaffirms all maps, information and data contained in the 2050 Bicycle and Pedestrian Modes Element as presented with the following amendments;

NONE

FURTHER, BE IT RESOLVED, the Executive Policy Board of the Grand Forks – East Grand Forks Metropolitan Planning Organization reaffirms the ITS Regional Architecture as presented with the following amendments:

NONE

FURTHER, BE IT RESOLVED, the Executive Policy Board of the Grand Forks – East Grand Forks Metropolitan Planning Organization reaffirms the Public Participation Plan as presented with the following amendments:

NONE

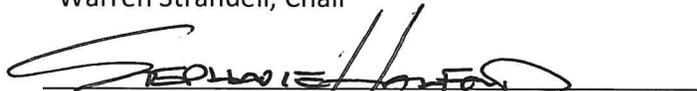
FURTHER, BE IT RESOLVED, that the Executive Policy Board of the Grand Forks – East Grand Forks Metropolitan Planning Organization hereby declares that the Year 2050 Street and Highway Element, the Year 2050 Transit Development Plan Modes Element (which incorporates the Human Services Public Transportation Coordination Plan), the Year 2050 Bicycle and Pedestrian Mode Element, the Public Participation Plan and the Regional Architecture together comprise the Year 2050 Metropolitan Transportation Plan, as contain in the Executive Summary.



Warren Strandell, Chair

12/20/2023

Date



Stephanie Halford, Executive Director

12/20/2023

Date

ORDINANCE NO. 4876

AN ORDINANCE AMENDING THE COMPREHENSIVE PLAN, AMENDING CHAPTER XVIII, ARTICLE 8, COMPREHENSIVE PLAN; SECTION 18-0802, ELEMENTS OF THE GRAND FORKS CITY CODE OF 1987, AS AMENDED, PERTAINING TO THE GRAND FORKS-EAST GRAND FORKS 2050 45 TRANSPORTATION PLAN UPDATE.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF GRAND FORKS, NORTH DAKOTA, THAT:

Section 1. Amending Clause

Section 18-0802 (1) is hereby amended as follows:

(C) The Grand Forks-East Grand Forks 2050 45-Metropolitan Long Range Transportation Plan Update, which contains the following sections.

1. 2018 2023 Street and Highway Element, together with all maps, information and data contained within.

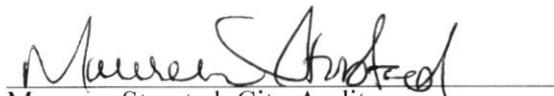
Section 2. Effective Date

This ordinance shall be in full force and effect after its passage and approval as provided by law.



Brandon Bochenski, Mayor

ATTEST:



Maureen Storstad, City Auditor

Introduction and first reading: 12/04/2023

Public Hearing: 12/18/2023

Second reading and final passage: 12/18/2023

Approved: 12/18/2023

Published: Not required by law.

Recorded:

255 NORTH 4TH STREET
PO BOX 5200
GRAND FORKS, ND
58206-5200



PLANNING DEPARTMENT
(701) 746.2661

A RESOLUTION UPDATING THE GRAND FORKS MASTER PLAN FOR THE CITY OF GRAND FORKS, NORTH DAKOTA, AND PROVIDING FOR THE AMENDMENT THEREOF, PURSUANT TO CHAPTER 40-48, NORTH DAKOTA CENTURY CODE, AND FOR THE REPEAL OF ALL SECTION CONFLICT HEREWITHIN.

WHEREAS, the governing body of the City of Grand Forks has created a Planning & Zoning Commission in accordance with state law, and

WHEREAS, Chapter 40-48, North Dakota Century Code, empowers the Planning & Zoning Commission to make and adopt an official Master Plan and to provide for its administration, enforcement, and amendment thereof, and

WHEREAS, the Grand Forks Year 2050 Transportation Plan Update was made with the general purpose of providing a program for the orderly growth of the City of Grand Forks and its environs in the future, which in accordance with present and future needs will provide amenities of life, health, safety, morals, order, convenience, prosperity, and general welfare, and

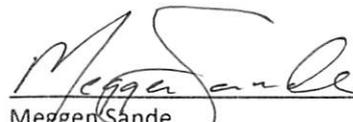
WHEREAS, the existing Street/Highways Modes element of the Grand Forks Master Plan is in need of an update due to the Federal transportation bill Infrastructure Investment and Jobs Act, and

WHEREAS, the Grand Forks City Planning & Zoning Commission has given due public notice of the hearing related to amending the Street/Highways Modes element of the Master Plan, and

WHEREAS, all requirements of Chapter 40-48, North Dakota Century Code, with regard to the preparation of the plan have been adhered to and met:

NOW, THEREFORE, BE IT ORDAINED BY THE GRAND FORKS CITY PLANNING & ZONING COMMISSION OF GRAND FORKS, NORTH DAKOTA, THAT WE DO ADOPT THE 2023 STREET/HIGHWAYS MODES ELEMENT OF THE GRAND FORKS – EAST GRAND FORKS 2050 METROPOLITAN TRANSPORTATION PLAN AS AN AMENDMENT TO THE GRAND FORKS MASTER PLAN.

Dated this 4th day of December, 2023



Meggen Sande
Secretary, Grand Forks Planning Commission



Steve Wasvick
President, Grand Forks Planning Commission

RESOLUTION NO. 23 – 12 - 81

Council member Vetter, supported by Council member Larson, introduced the following resolution and moved its adoption:

WHEREAS, the city of East Grand Forks has an adopted East Grand Forks Comprehensive Plan; and

WHEREAS, the proposed plan update is in general agreement with the other elements of the East Grand Forks Comprehensive Plan, those other elements being the following:

1. The Grand Forks – East Grand Forks 2009 Downtown Plan update Element, together with all Maps, information and data contained therein.
2. The Grand Forks – East Grand Forks 2045 Metropolitan Transportation Plan Update, which contains the following sections:
 - a. Bikeway Element, together with all Maps, information and data contained therein.
 - b. Pedestrian Element, together with all Maps, information and data contained therein.
 - c. Transit Element, together with all Maps, information and data contained therein.
 - d. Street and Highway Element, together with all Maps, information and data contained therein.
 - e. Intelligent Transportation Systems (ITS) Strategy Element, together with all Maps, information and data contained therein.
3. The 2000 Urban Design Plan, together with all Maps, information and data contained therein.
4. Greenway Plan Element, together with all Maps, information and data contained therein. And

WHEREAS, The Grand Forks – East Grand Forks Metropolitan Planning Organization with the City of East Grand Forks and Grand Forks has prepared a Year 2050 Plan Update of the Metropolitan Transportation Plan and Street & Highway Plan Element to the East Grand Forks Comprehensive Plan; and

WHEREAS, 2050 Plan Update of the Metropolitan Transportation Plan and Street & Highway Plan Element of the East Grand Forks Comprehensive Plan is a guide for future growth for the City of East Grand Forks; and

WHEREAS, the Metropolitan Transportation Plan Street & Highway Element may be amended to reflect changes to the community; and

WHEREAS, the Metropolitan Transportation Plan and Street & Highway Element is a representation of the transportation goals and values of the city; and

WHEREAS, the City Planning and Zoning Commission further held a public meeting at East Grand Forks City Hall at noon on **December 13, 2023** to get input from the citizens of the community; and

WHEREAS, the East Grand Forks Planning and Zoning Commission forwards a recommendation that the 2050 Plan Update to the Metropolitan Transportation Plan and Street & Highway Element to the East Grand Forks Comprehensive Plan, be hereby approved and adopted with any potential changes made by the City Council; now therefore

BE IT RESOLVED, By the City Council of the City of East Grand Forks, Minnesota, that the 2050 Plan Update to the Metropolitan Transportation Plan and Street & Highway Element of the East Grand Forks Comprehensive Plan, and proposed amendments, be hereby approved and adopted with any further amendments as stated:

Voting Aye: Larson, Peterson, Vetter, Pokrzywinski, Riopelle, Helms, and Olstad.
Voting Nay: None.
Absent: None.

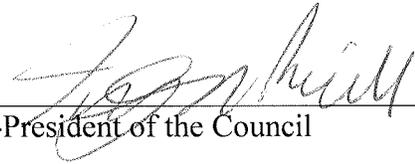
The President declared the resolution passed.

Passed: December 19, 2023

Attest:



City Administrator/Clerk-Treasurer



Vice-President of the Council

I hereby approve the foregoing resolution this 19th day of December, 2023.



Mayor

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INTRODUCTION

Overview of the Grand Forks-East Grand Forks MPO

The Grand Forks-East Grand Forks Metropolitan Planning Organization (MPO) was established in 1982 to serve as a forum for public officials and citizens representing the Grand Forks-East Grand Forks area. The MPO is the designated transportation planning agency for the urbanized area, constituted as an executive policy board with representation from the city of Grand Forks, city of East Grand Forks, Grand Forks County, and Polk County. The MPO Area is shown in **Figure 1**.

These communities work together to carry out a continuing, cooperative, and comprehensive transportation planning process for the region that is both performance-based and multimodal. This coordination between federal, state, and local agencies provides efficient use of federal transportation funding and encourages public participation in planning for the future of the area's transportation system.

The Metropolitan Transportation Planning Process

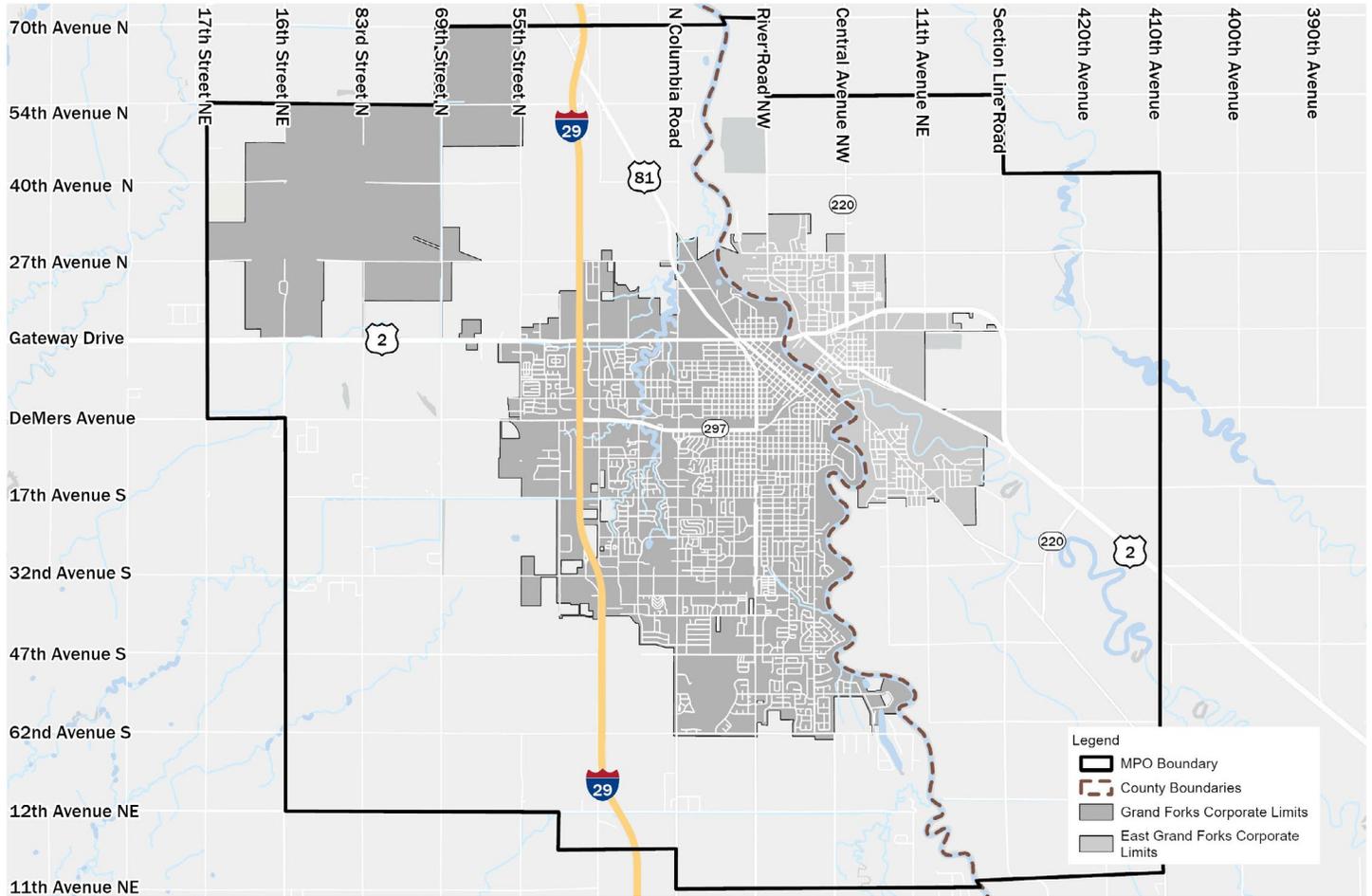
The Bipartisan Infrastructure Law (BIL), enacted as the Infrastructure Investment and Jobs Act (IIJA) in November 2021, carries forward the Metropolitan Planning Program established under the Fixing America's Surface Transportation Act (FAST Act) to provide a continuous, cooperative, and comprehensive framework for making transportation investment decisions in the nation's metropolitan areas.

Under the Metropolitan Planning Program, MPOs are required to develop a series of key transportation planning documents for their region, including those listed in **Table 1**:

Table 1: Grand Forks-East Grand Forks MPO Area

 Metropolitan Transportation Plan (MTP)	Identify how the metropolitan area will manage and operate its multimodal transportation system to meet the region's economic, transportation, development, and sustainability goals for the planning horizon while remaining fiscally constrained
 Transportation Improvement Program (TIP)	Annual listing of upcoming transportation projects that covers a period of at least 4 years, developed in coordination with state and public transit providers. The TIP shall include all projects receiving federal funds and locally significant and align with the MPO's MTP.
 Unified Planning Work Program (UPWP)	Annual or biennial statement of work that identifies the planning priorities and activities to be carried out within an MPO area. MPOs are required to develop a UPWP to govern work programs for the expenditure of federal funds.
 Public Participation Plan (PPP)	Outlines how the MPO will work to achieve public participation in all of its planning activities.

Figure 1: Grand Forks-East Grand Forks MPO Area



The Metropolitan Transportation Plan

The Grand Forks-East Grand Forks MPO’s approach to updating the region’s MTP looks at the multimodal transportation system as three related elements—Street and Highway, Bicycle and Pedestrian, and Transit—and updates each element every 5 years based on stakeholder input, issues identified, and forecasted future conditions to develop a series of strategies and investments that can address the issues identified while conforming to the region’s stated vision and goals. A performance-based planning approach that leverages the MPO’s performance targets is used to ensure progress is made toward the vision and goals.



Town Square in downtown Grand Forks

Given that the Street and Highway element is a central component of the MPO's MTP update, metropolitan planning requirements under IJA legislation requires that this Plan:

- Must be updated every 5 years;
- Must be fiscally constrained;
- Needs to plan for a horizon at least 20 years out;
- Consults local agencies, North Dakota Department of Transportation (NDDOT), Minnesota Department of Transportation (MnDOT), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA);
- Should be a performance-based plan that promotes the region's performance measures and targets and supports each state's performance targets.

This update to the Street and Highway Plan looks out to the year 2050 and builds off the 2045 MTP while incorporating the findings and recommendations of relevant plans and studies conducted in the region since the publication of the 2045 MTP.

GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

Federal Planning Requirements

Performance-based planning is a data-driven approach that ties data and outcomes to investment decisions. This framework for MTP development helps prioritize decision-making within the Plan and across all MPO functions. The process is flexible in that it allows the integration of local vision into federal requirements, such that locally generated transportation goals and objectives are measured, which allows evaluation of how well strategies and investments fit with the region’s overall transportation vision.

Goals and objectives for the MTP’s Street and Highway element were developed to guide the MPO toward realizing its vision for the future transportation system. These goals and objectives were developed based on existing system performance, previous planning efforts, and community input received during the Street and Highway Plan public engagement events.

Federal Metropolitan Planning Factors

The goals and objectives seek to align with metropolitan planning factors set forth under [23 U.S.C. 450.306\(b\)\(1\)](#). As this Plan serves as part of the MTP update, the MPO is federally required to develop the Plan through a performance driven and outcome-based approach that is continuous, cooperative, and comprehensive. The metropolitan planning factors are summarized in **Table 2**.

Table 2: Federal Metropolitan Planning Factors

Federal Metropolitan Planning Factors	
1	Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2	Increase transportation system safety for motorized and nonmotorized users.
3	Increase transportation system security for motorized and nonmotorized users.
4	Increase accessibility and mobility for people and freight.
5	Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth, housing, and economic development patterns.
6	Enhance transportation system integration and connectivity across and between modes for people and freight.
7	Promote efficient system management and operation.
8	Emphasize the preservation of the existing transportation system.
9	Improve transportation system resiliency and reliability and reduce or mitigate stormwater impacts to surface transportation.
10	Enhance travel and tourism.

Source: Federal Highway Administration CFR 450.306(b)

Federal Planning Emphasis Areas

FHWA and FTA first developed planning emphasis areas (PEA) in 2014 with the intent of encouraging state and metropolitan planning agencies to integrate these emphasis areas into their planning programs. A new series of PEAs were developed in 2021 that focus on the most pressing issues facing agencies responsible for transportation planning. FHWA and FTA seek to encourage state and metropolitan planning agencies to identify and develop tasks associated with the MPO's UPWP and other planning efforts, such as this update to the MTP, that address the PEAs described in **Table 3**.¹

Table 3: Federal Planning Emphasis Areas

Planning Emphasis Area	Description
Tackling the Climate Crisis – Transition to a Clean Energy and Resilient Future	Ensure transportation plans and infrastructure investments help achieve national greenhouse gas reduction and net-zero emissions goals while increasing system resilience.
Equity and Justice ⁴⁰ in Transportation Planning	Advance racial equity and support for underserved and disadvantaged communities.
Complete Streets	Plan, develop, and operate streets and networks that prioritize safety, comfort, and access to destinations for all street users.
Public Involvement	Increase meaningful public involvement in transportation planning.
Strategic Highway Network (STRAHNET)/US Department of Defense (DOD) Coordination	Coordinate with DOD for transportation planning and project programming process on infrastructure and connectivity needs for STRAHNET routes and public roads connecting to DOD facilities.
Federal Land Management (FLMA) Coordination	Coordinate with FLMA for the transportation planning and project programming process on infrastructure and connectivity needs related to access routes and other public roads and transportation services that connect to federal lands.
Planning and Environmental Linkages (PEL)	Implement PEL as part of the transportation planning and environmental review process.
Data in Transportation Planning	Incorporate data sharing and consideration into the transportation planning process.

Source: Federal Highway Administration

State Long Range Transportation Plan Vision

The MTP works to reinforce the overall transportation vision of each state. North Dakota's and Minnesota's Statewide Long Range Transportation Plans (SLRTP) were reviewed for MPO consistency with each state's goals.

North Dakota's Transportation Vision and Goals

The vision articulated by NDDOT in the SLRTP, known as *Transportation Connection*, describes a future statewide transportation system that delivers a **safe, innovative, and connected future**.

To achieve this vision, NDDOT identified a series of goals and objectives to keep transportation users safe and connected while balancing investment into maintenance of the existing transportation system with the consideration of future system needs.

¹ US Department of Transportation, [2021 Planning Emphasis Areas](#)

NDDOT's goals include:

- Keeping you safe—Safety is reflected in everything we do.
- Caring for what we have—Fixing what we have is our priority.
- Connecting North Dakota—Transportation matters.
- Helping you get there—Transportation should be easy.
- Investing for the future—We work for you.

You can read more about the vision and goals in NDDOT's SLRTP [here](#).

Minnesota's VISION and System Principals

The vision MnDOT articulated in the SLRTP identifies a future multimodal transportation system that maximizes the health of **the people**, **the environment**, and **the state's economy**.

The system principles developed by MnDOT as part of the SLRTP visioning process are:

- Connects Minnesota's primary assets—the people, natural resources, and businesses within the state—to each other and to markets and resources outside the state and country.
- Provides safe, convenient, efficient, and effective movement of people and goods.
- Is flexible and nimble enough to adapt to changes in society, technology, the environment, and our economy.

You can read more about MnDOT's SLRTP vision and system principals [here](#). Additional information on the state's multimodal transportation system goals codified in Minnesota State 174.01 can be viewed [here](#).

Street and Highway Goals and Objectives

The performance-based plan update process led to the development of a set of goals that form the framework through which the Street and Highway Plan was developed. The goals were developed to reflect:

- National priorities such as the national planning factors;
- State goals outlined in state transportation plans for North Dakota and Minnesota;
- Public and stakeholder input received through engagement.

The goals identified as part of the Plan are described in **Table 4**. The table also shows corresponding objectives, which act as measurable approaches to evaluating progress made toward each goal. **Appendix A** demonstrates how each objective aligns with the Federal Metropolitan Planning Factors and PEAs.

Table 4: Goals and Objectives

Goal	Goal Description	Objectives
 Efficient and Reliable	Supports the efficient movement of people and goods across a reliable multimodal transportation system	<ul style="list-style-type: none"> Limit recurring peak hour congestion Improve travel reliability on the non-Interstate National Highway System (NHS) Maintain high levels of freight reliability on the Interstate and non-Interstate NHS Identify event management strategies to improve traffic operations during major events Increase regional mode share for walking, biking, and transit Leverage emerging transportation technologies to improve operations of the multimodal system Work to manage traffic incidents and weather events safely and efficiently
 Safe	Reduces the risk of harm for all multimodal system users	<ul style="list-style-type: none"> Reduce the number and rate of vehicular crashes Reduce the number and rate of fatal and incapacitating crashes, and support statewide Vision Zero initiatives Reduce the number and rate of pedestrian and bicycle crashes Use the Safe System Approach to facility design Leverage emerging transportation technologies to improve safety conditions of the multimodal system
 Connected and Accessible	Facilitates high degrees of accessibility for system users by providing connections to the destinations they want to go	<ul style="list-style-type: none"> Increase system connectivity to housing and employment opportunities Incorporate bicycle, pedestrian, and transit-friendly infrastructure in new developments Increase bicycle, pedestrian, and transit access for disadvantaged populations Improve multimodal network connectivity to enhance viability of biking and walking modes Reduce barriers to freight access and mobility Identify strategies to improve system connectivity during train crossing events
 Preserved and Maintained	Maintains the existing system in a state of good repair	<ul style="list-style-type: none"> Preserve the condition of Interstate and non-Interstate NHS routes rated as being in Good condition Minimize the mileage of Interstate and non-Interstate NHS routes rated as being in Poor condition Preserve the condition of NHS bridges rated as being in Good condition Minimize the number of NHS bridges rated as being in Poor condition Identify financial and human resources to support the maintenance of critical transportation facilities Maintain and manage the condition of transit assets, including vehicles, equipment, and transit facilities

Goal	Goal Description	Objectives
 <p data-bbox="105 546 251 651">Sustainable and Resilient</p>	<p data-bbox="284 241 462 840">Reduces and/or eliminates negative impacts on environmental resources associated with the multimodal system while investing in improvements that enhance system resiliency associated with natural environmental events</p>	<p data-bbox="487 262 1469 325">Implement transportation improvements that limit negative impacts on the natural and built environment</p>
		<p data-bbox="487 399 1234 441">Distribute the benefits and impacts of transportation equitably</p>
		<p data-bbox="487 525 1347 567">Implement transportation improvements that enhance system resiliency</p>
		<p data-bbox="487 651 1161 693">Limit negative transportation impacts on neighborhoods</p>
		<p data-bbox="487 745 1453 840">Ensure that new construction and reconstruction of transportation infrastructure is designed to prioritize longevity, minimize carbon emissions, and use renewable resources.</p>

MTP Performance Measures and Targets

FHWA and FTA require a performance management approach for metropolitan planning that uses performance data to inform decision-making and outcomes. A series of national performance measures and targets were established under the Moving Ahead for Progress in the 21st Century Act (MAP21) and carried forward in the FAST Act and IIJA. States and MPOs have since been required to use these performance measures to document expectations for the future performance of their multimodal transportation systems.

National Performance Targets

The national performance targets to which states and MPOs are required to conform cover a broad range of transportation topics. Those related to the street and highway system include:

- Safety
- Bridge and pavement condition
- Congestion
- System reliability
- Freight movement
- Emissions

The federal requirements related to these performance measures require state DOTs to identify performance targets that align with the topics outlined above. MPOs are then able to adopt the same performance targets as their respective state(s) or develop locally tailored targets.

Achieving progress toward the stated performance targets is a major goal for each state DOT and MPO. Should NDDOT or MnDOT fail to meet their performance goals, they are required to expend their allocated federal safety funding on investments to help them progress toward meeting their goals. The MPO does not release funds, thus they do not have funding requirements tied to the achievement of meeting their goal targets.

Grand Forks-East Grand Forks MPO Performance Measures and Targets

Safety Performance Measures and Targets

The Grand Forks-East Grand Forks MPO adopted its own series of performance targets related to safety starting in 2018. The MPO tracks progress toward each safety performance measure on an annual basis through an analysis of safety data. Progress toward each safety performance measure is tracked on a 5-year rolling average. The current safety targets, as published in the MPO's current Performance Report, are summarized in **Table 5**.

Table 5: Safety Performance Measure Targets for 2022

Performance Measure	Target
Number of Fatalities	2.4 or fewer
Rate of Fatalities	0.734 per 100 million vehicle miles traveled
Number of Serious Injuries	12.92 or fewer
Rate of Serious Injuries	39.951 per 100 million vehicle miles traveled
Number of Nonmotorized Fatalities and Serious Injuries	2.84 or fewer

Source: Grand Forks-East Grand Forks, Performance Report

Bridge and Pavement Condition Performance Measures and Targets

The MPO's bridge and pavement condition performance targets look at infrastructure conditions of the region's Interstate and non-Interstate NHS. Targets established for the MPO's bridge and pavement assets are 2- and 4-year targets and were originally adopted in 2018. The MPO adopted each state DOT's respective targets for the bridge conditions and non-Interstate NHS pavement conditions while adopting their own for Interstate pavement conditions. The current pavement condition and bridge targets, as published in the current Performance Report, are summarized in **Table 6**.

Table 6: 2018-2021 Bridge and Pavement Condition Targets

Performance Measure	Target	
	2-Year (%)	4-Year (%)
Percent of NHS Bridges in Good Condition	ND 50; Mn 30	ND 50; Mn 35
Percent of NHS Bridges in Poor Condition	ND 10; Mn 5	ND 10; Mn 5
Percent of Interstate Pavements in Good Condition	75.6	75.6
Percent of Interstate Pavements in Poor Condition	3.0	3.0
Percent of Non-Interstate NHS Pavements in Good Condition	ND 58.3; Mn 55	ND 58.3; Mn 55
Percent of Non-Interstate NHS Pavements in Poor Condition	ND 3; Mn 2	ND 3; Mn 2

Source: Grand Forks-East Grand Forks, Performance Report

System Reliability and Freight Movement Performance Measures and Targets

The MPO’s system reliability and freight movement performance targets look at the consistency of travel times on the region’s Interstate and non-Interstate NHS. Targets established for the MPO’s system reliability and freight movement are 2- and 4-year targets and were originally adopted in 2018. The MPO adopted its own targets for these measures. The current system reliability and freight movement targets, as published in the MPO’s current Performance Report, are summarized in **Table 7**.

Table 7: Performance Management of the NHS and Interstate Freight Movement

Performance Measure	Target	
	2-Year	4-Year
Percent of Reliable Person Miles on the Interstate	90%	90%
Percent of Reliable Person Miles on the Non-Interstate NHS	85%	85%
Interstate Truck Travel Time Reliability Index	1.5	1.5

Source: Grand Forks-East Grand Forks, Performance Report

PLAN ENGAGEMENT

Input from citizens and stakeholders is critical to the region's transportation planning process, demonstrated by the MPO's Public Participation Plan (PPP) and history of engagement on all its transportation planning projects. This chapter summarizes the engagement used in developing the Street and Highway Plan.

To solicit feedback from community members, the Grand Forks-East Grand Forks MPO hosted a series of three open house and online milestone engagement opportunities. The three milestones were:

- Issues and Goals Input
- Strategies Input
- Draft Plan Input

At each milestone, residents and stakeholders provided their concerns and ideas related to opportunities in the region.

Public Open Houses

These open houses were held in November 2022, June 2023, and September 2023. Each open house milestone meeting was advertised across several platforms, including a newspaper advertisement in the Grand Forks Herald, a press release, and social media posts on platforms for the MPO, the city of East Grand Forks and the city of Grand Forks.

Public Open House 1: November 3, 2022

The first public open house for the Street and Highway Plan update was held at the Campbell Library in East Grand Forks on Thursday, November 3, 2022, from 5:00 to 7:00 p.m. The purpose of the meeting was to inform residents of the Plan development process, provide residents with an opportunity to offer input on transportation needs and issues, and identify Plan goals and direction. A total of eight people were in attendance. The stations for the public open house included:

- **Welcome Station** – attendee sign in and informational materials regarding the Plan development process and timeline.
- **Street and Highway Conditions Station** – boards with maps illustrating current transportation conditions, including existing traffic operations and highest crash intersections.
- **Plan Goals Station** – an interactive station with a board that asked attendees to select the top three out of eight potential goal areas they found most important for the Plan to address.
- **Mapping Station** – an interactive station asking attendees to leave comment notes on our area map.



Participants were asked to prioritize the Plan's goal areas, which are:

- Safety
- Accessibility
- Economic
- Resiliency
- Efficiency and Reliability
- Placemaking
- Innovative
- Bicycle and Pedestrian Connections

In Public Open House 1, most participants prioritized preserving and maintaining roads, improving traffic flows, bicycle and pedestrian connections, and safety.

Public Open House 2: June 21, 2023

The second public open house for the Street and Highway Plan update was held at the Empire Arts Center in Grand Forks on Wednesday, June 21, 2023, from 4:00 to 6:00 p.m. The purpose of the meeting was to gather input from residents on potential future transportation strategies and projects. Attendees were able to visit several stations to review the Plan's progress and provide input.

The display boards for the public open house included:

- Plan Development Timeline
- Meeting #1 Recap
- Growth Data
- Plan Focus Areas Interactive Board
 - Attendees were invited to vote on their highest priority goals.
- Congestion Strategies Interactive Boards
 - Attendees were invited to review a variety of strategies and then offer their input on a "thumbsup" or "thumbsdown" scale.
- Project Development Lifecycle

A study area map was also available for attendees to leave comments on regarding particular traffic issues in Grand Forks-East Grand Forks. A total of seven residents attended and participated in the interactive stations.



Public Open House 3: September 21, 2023

The third public open house for the Street and Highway Plan update was held at the River Cinema in East Grand Forks on Thursday, September 21, 2023, from 4:00 to 6:00 p.m. The purpose of the meeting was to receive input on the Street and Highway Plan project priorities and strategies. Attendees were invited to learn about the area's forecasted growth and proposed project areas. This public open house event had 16 total attendees.

The display boards at the open house included:

- Growth Data
- Project Development Lifecycle
- Strategies
- Projects Map
- Primary Project Areas
- Growth in Forecasted Traffic Volumes
- Area Priorities Interactive Board
 - Attendees were invited to complete a survey where they could rank project priorities.



Stakeholders and Community Focus Group

A total of three stakeholder group meetings were held to educate stakeholders on the Plan development process and provide an opportunity to collect feedback at the same milestones as the public open houses. Stakeholders represented the following organizations:

- City of Grand Forks
- City of East Grand Forks
- Visit Grand Forks
- Grand Forks Air Force Base
- Grand Forks Public Schools
- Northland Community and Technical College
- Global Friends Coalition
- Safe Kids Program
- Altru
- Emergency responders
- Others

The stakeholder meetings were planned as a supplement to the public open houses, and much of the content of the meetings reflected the activities of the public open houses. A summary of each stakeholder meeting can be found in **Appendix B**.

Online Survey

Online surveys were also available and promoted for at least 3 weeks during each of the three public engagement milestones.

Each survey allowed a broader cross-section of the community to participate in providing input during each engagement milestone. Hundreds of residents participated at each milestone. An example of survey input received is shown in **Figure 2**.



Figure 2: What areas of traveler safety are you most concerned about in the Grand Forks-East Grand Forks metro area? Select up to three.

City Council Engagement

The Street and Highway Plan study team made two rounds of presentations and answered questions from the City Councils for Grand Forks and East Grand Forks.

The first round of City Council engagement provided Plan updates and gave a summary of the traffic forecasting process to support the Street and Highway Plan. The Grand Forks City Council presentation was on June 12, 2023. The East Grand Forks City Council presentation was on June 27, 2023.

The second round of city council engagement provided a summary of the Draft Transportation Plan elements. The Grand Forks City Council presentation was on September 11, 2023 and the East Grand Forks City Council presentation was on September 12, 2023. The final round of presentations were for the Draft Transportation Plan for council approval in November and December 2023.

MPO TAC and Executive Policy Board

The MPO's Technical Advisory Committee (TAC) and Executive Policy Board were provided monthly updates on the Street and Highway Plan progress. TAC acted as the technical steering committee for Plan development by providing data and guidance on goals and objectives, reviewing public input received, and helping steer the resulting Plan content.

COMMUNITY PROFILE

Gaining a complete understanding of the current and future demographic landscape of the Grand Forks-East Grand Forks MPO Area is important to accurately predict future transportation needs and how travel demand may change as more people live and work in the area. By analyzing the shifts in employment and population trends, the MPO can allocate resources strategically to enhance infrastructure, transit, and alternative transportation solutions. Additionally, addressing changing demographic factors, such as age,

income, and cultural diversity, can assist with addressing changing transportation preferences and accessibility. Informed decision-making grounded in understanding the relationship between people and their travel habits will create a more resilient and effective transportation network that will serve both current and future residents. This chapter of the Plan summarizes demographic and socioeconomic data for the Grand Forks-East Grand Forks MPO Area.

Population

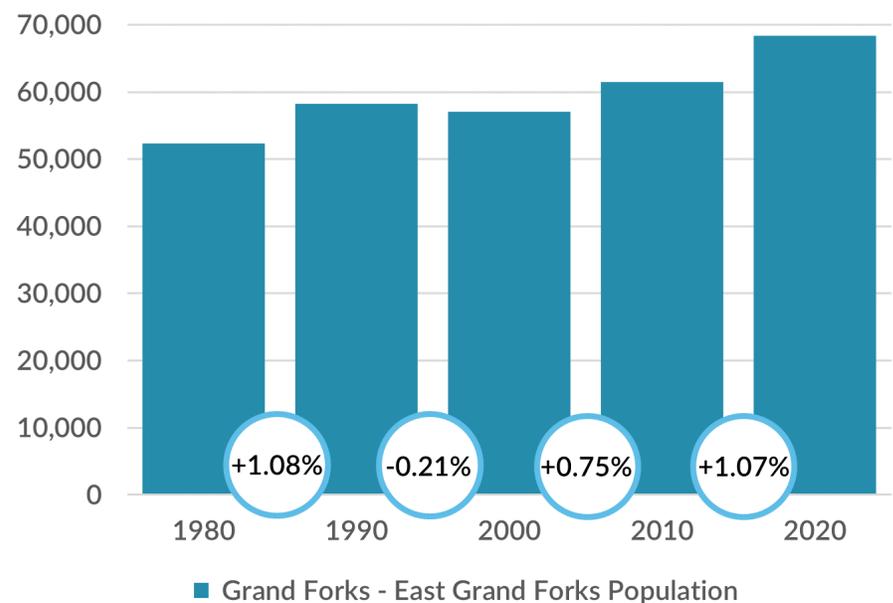
To assess current and future population trends, data was gathered from the US Decennial Census and American Community Survey (ACS). Decennial census surveys from 1990 to 2020 were used for historic population levels. The population data looks at the population for the cities of Grand Forks and East Grand Forks, which combined make up the Grand Forks-East Grand Forks area. Population factors such as growth and age are also discussed.

Population Growth

Figure 3 summarizes population growth for the Grand Forks-East Grand Forks area, which has seen an annual growth rate of 1.07 percent over the 10-year period between 2010 and 2020.

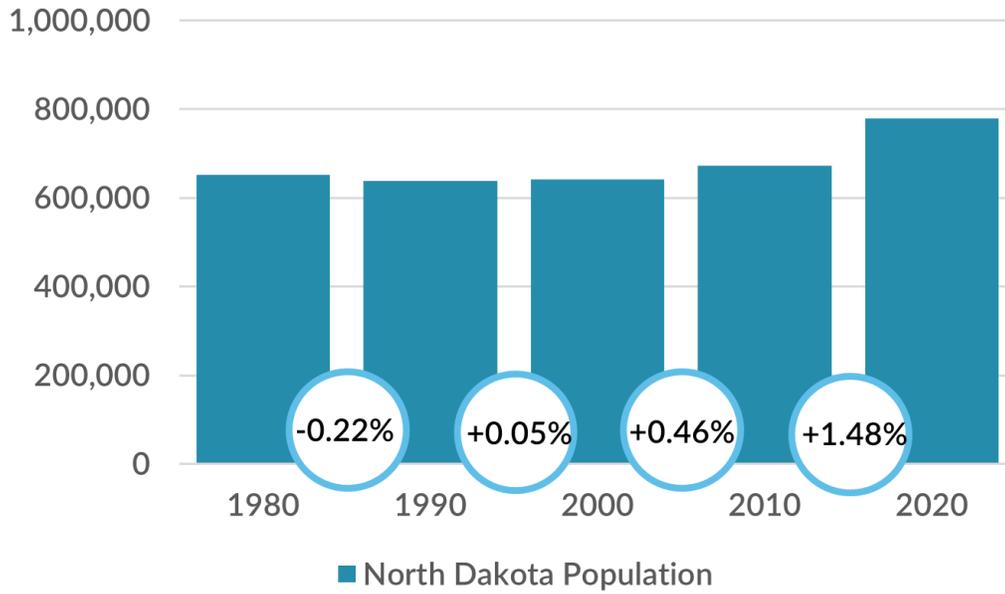
Figure 3, Figure 4, and Figure 5 provide historic population growth of the MPO Area and the states of North Dakota and Minnesota. Between 2010 and 2020, the state of North Dakota saw an annual growth rate of 1.48 percent, while Minnesota experienced an annual growth rate of 0.73 percent.

Figure 3: Historic Population Growth for the Grand Forks-East Grand Forks Area, 1980-2020



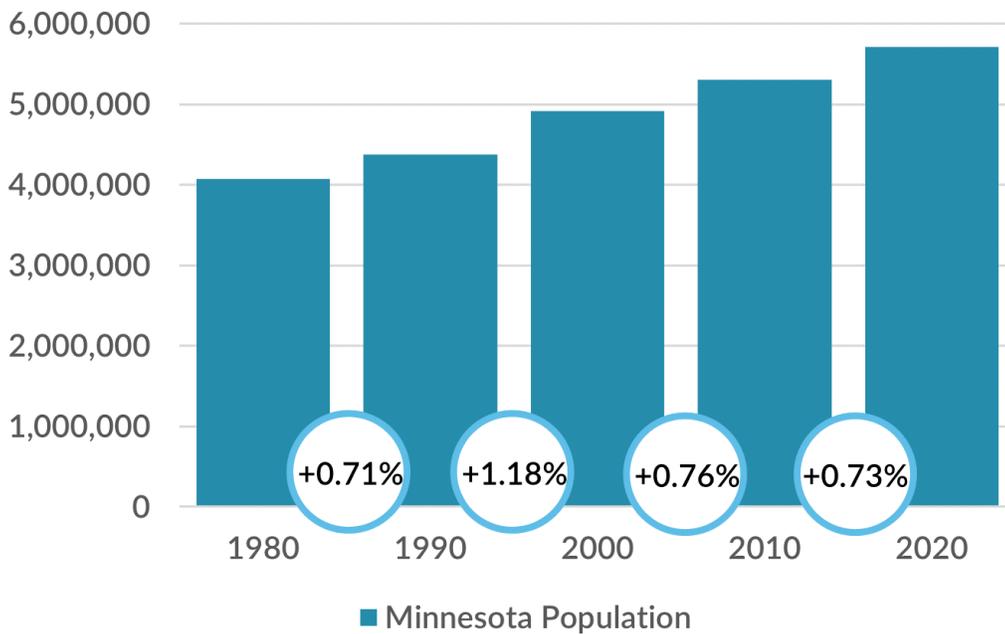
Source: US Decennial Census, 1980-2020

Figure 4: Historic Population Growth for the State of North Dakota, 1980–2020



Source: US Decennial Census, 1980–2020

Figure 5: Historic Population Growth for the State of Minnesota, 1980–2020



Source: US Decennial Census, 1990–2020

Figure 6: Grand Forks and East Grand Forks Populations, 2017–2021

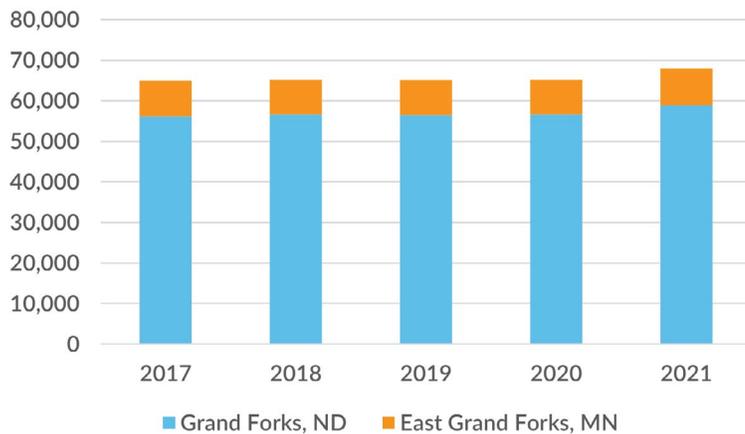


Figure 6 provides more context on recent population growth for the communities of Grand Forks and East Grand Forks. As **Figure 6** indicates, Grand Forks contains the largest proportion of the population within the MPO Area. While many transportation improvements may be concentrated on the North Dakota side, connections to the Minnesota side of the area will be important for connecting residents to jobs within both states, as well as providing access to housing and services.

Source: American Community Survey 5-Year Estimates, 2017–2021

Age

Grand Forks and East Grand Forks have a younger median age compared to their respective states and the United States.

Table 8 provides the median age for the city of Grand Forks, the city of East Grand Forks, North Dakota, Minnesota, and the United States. Out of all the geographies, Grand Forks has the youngest median age, which is likely influenced by the student population at the University of North Dakota (UND).

While there may be a low median age in Grand Forks, the transportation needs of the aging population in the area should still be addressed. According to **Table 9**, the percentage of the population over the age of 65 in the Grand Forks-East Grand Forks area saw a steady increase between 2010 and 2020.

Table 8: Median Age in 2021

Location	Median Age
Grand Forks	29.4
East Grand Forks	35.1
North Dakota	35.8
Minnesota	38.8
United States	38.8

Source: American Community Survey 5-Year Estimates, 2021

Table 9: Percentage of Population Over 65 for Grand Forks-East Grand Forks, North Dakota, and Minnesota, 2010–2020

Year	Grand Forks- East Grand Forks (%)	North Dakota (%)	Minnesota (%)
2010	11.2	14.6	12.6
2015	12.0	14.2	13.9
2020	13.3	15.3	15.8

Source: American Community Survey 5-Year Estimates, 2010–2020

Housing

The Grand Forks-East Grand Forks area offers plenty of opportunity for professionals and families alike, and the available housing choices should reflect the needs of current residents as well as potential residents that will live in the area. Given historic growth in population, a continuation of this trend would require a wide variety of housing options to be available for the future population. This section provides a discussion of existing housing conditions in the MPO Area.

Housing Characteristics

- The average household size in Grand Forks-East Grand Forks is **2.22 people per household**, as shown in **Figure 7**. For owner-occupied households, the average household size is 2.52. Renter-occupied households were smaller, with an average household size of 1.9.
- Roughly **eight percent of households** do not have access to a vehicle in the Grand Forks-East Grand Forks area.
- **Forty percent** of households in the Grand Forks-East Grand Forks area have access to only one vehicle.

Figure 7: Average Household Size (people per household) in Grand Forks-East Grand Forks, North Dakota, and Minnesota in 2020



Source: American Community Survey 5-Year Estimates, 2010–2020

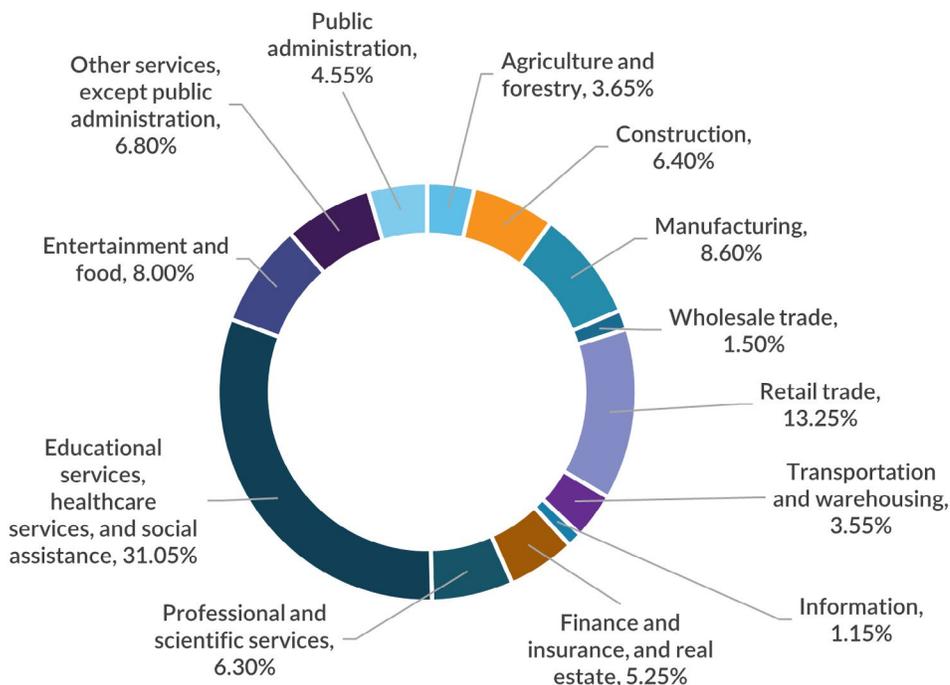
Employment

Travel to and from places of work is generally one of the main reasons for travel. Therefore, it is important to understand the employment characteristics of the Grand Forks-East Grand Forks area to identify patterns such as peak travel times, commute lengths, common trip destinations, and how employment patterns could attract more future residents.

Employment Characteristics

As shown in **Figure 8**, the largest employment sector in the Grand Forks-East Grand Forks area is Education and Health, which makes up just over 31 percent of employment in the area.

Figure 8: Employment by Industry in the Grand Forks-East Grand Forks Area



Source: American Community Survey 5-Year Estimates, 2021

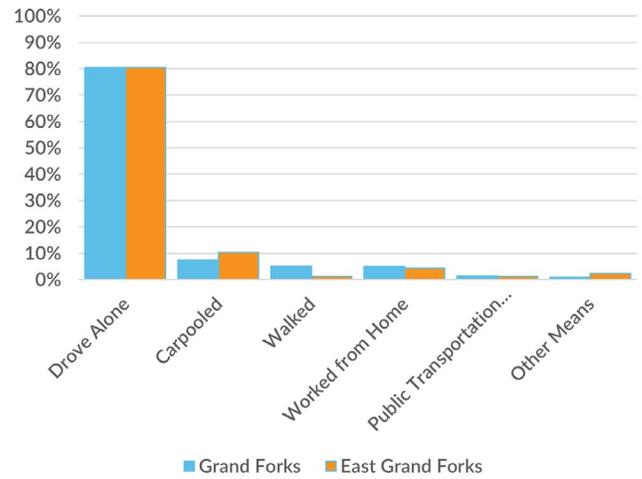
Commuting

Commuting characteristics can determine peak travel times and the number of road users on MPO Area streets. **Figure 9** shows the current mode share for commuting purposes for employees within the MPO Area. Most vehicles traveling to work have only one occupant, and other forms of travel—such as carpools, public transportation, and walking—are not common. This highlights an opportunity for the MPO Area to improve the accessibility of other travel modes, as they can address issues such as congestion and safety and create a higher quality of life.

Figure 10 summarizes time of departure for commuting trips for workers in Grand Forks and East Grand Forks. Within Grand Forks, nearly 61 percent of commutes begin between 6:00 a.m. and 8:59 a.m., while just under one third of commutes occur between 9:00 a.m. and 11:59 p.m. For East Grand Forks, just under 75 percent of commutes begin between 6:00 a.m. and 8:59 a.m. with 17 percent begin between 9:00 a.m. and 11:59 p.m.

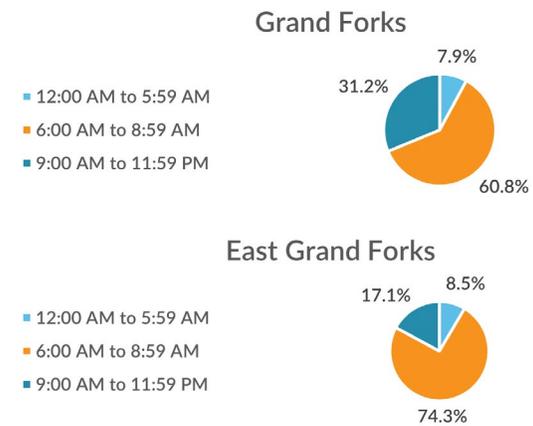
As shown above, most travel throughout the MPO Area occurs from 6:00 a.m. to 9:00 a.m., which correlates with the average start times for the workday. When considering that 80 percent of commuters drove alone, it can be inferred that there are many single-occupancy vehicles on the road between 6:00 a.m. and 9:00 a.m., leading to congestion issues. However, these congestion issues may not be severe considering most commuters average a 10- to 14-minute commute time, as shown in **Figure 11**.

Figure 9: Means of Commuting to Work



Source: American Community Survey 5-Year Estimates, 2021

Figure 10: Time of Departure



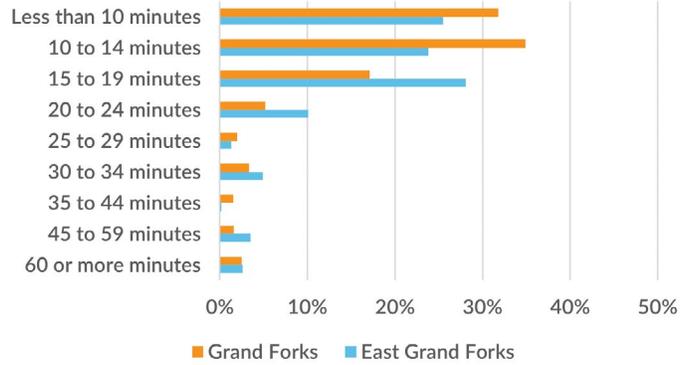
Source: American Community Survey 5-Year Estimates, 2021

In the Grand Forks-East Grand Forks area, over 22,000 people both live and are employed within the two cities while almost 13,000 people live outside the city limits but are employed within the area. Roughly 7,500 people live within the area but are employed in another location outside of the Grand Forks-East Grand Forks area. These regional commuting patterns are displayed in **Figure 12** and are based off 2019 data to account for the impact of the COVID-19 pandemic, which may have caused an abnormal shift in commuting patterns.

Figure 13 illustrates the top commuting corridors used by travelers within the MPO Area, per data sourced from Replica HQ. As the figure indicates, the top commuting corridors correlate with the corridors that demonstrate the highest average daily traffic volumes. These top commuting corridors include:

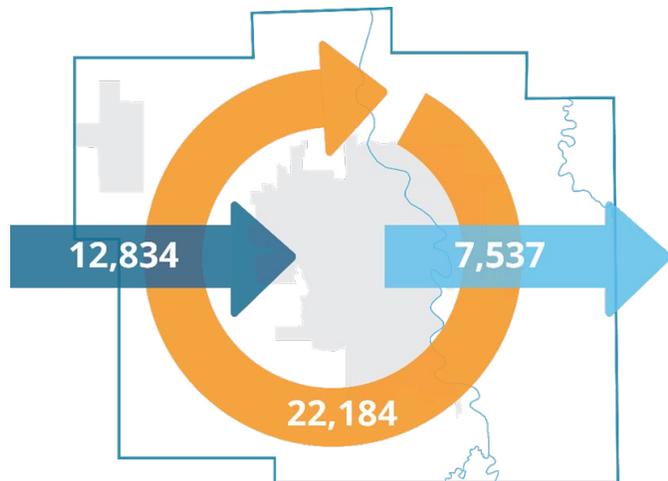
- I-29
- US 2/Gateway Drive
- Columbia Road
- Washington Street

Figure 11: Time to Work



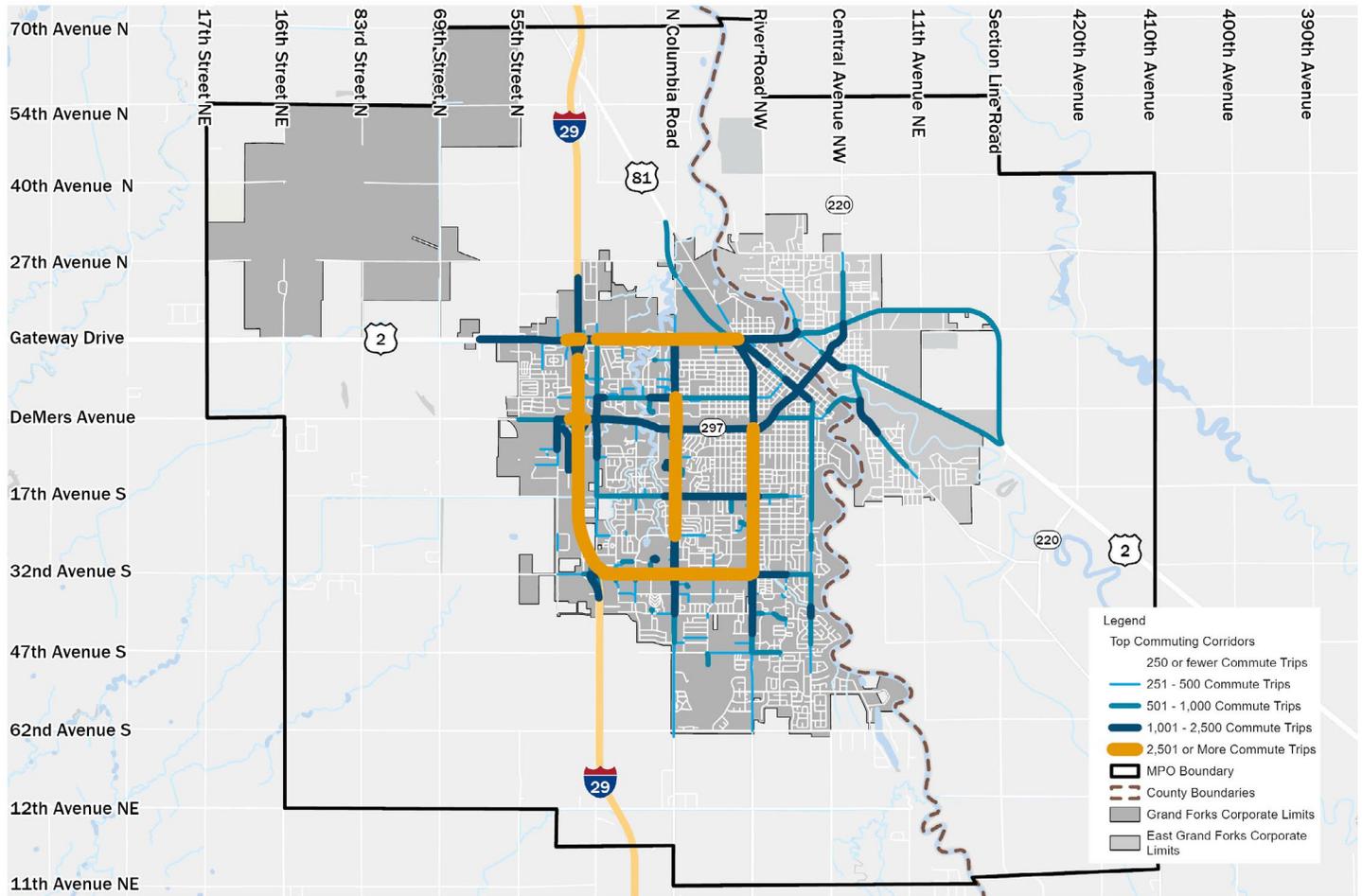
Source: American Community Survey 5-Year Estimates, 2021

Figure 12: Commuting Patterns in Grand Forks-East Grand Forks



Source: Census OnTheMap 2019

Figure 13: Most Popular Corridors for Commuting Purposes



Working From Home

As employment opportunities and gross domestic product (GDP) increases, travel demand does as well.² Additionally, shifts in where people work and how they work shapes travel demand. Historically, large numbers of people travel at once for their work commute, leading to peak travel times resulting in congestion.

However, some of those issues were reduced due to the COVID-19 health pandemic and local shelter-in-place orders, which led to a sharp increase in the number of individuals working from home.

As shown in **Table 10**, the number of workers in the Grand Forks-East Grand Forks area that worked remotely increased significantly between 2019 and 2021. Workers that have hybrid schedules are not accounted for within the available data. As more and more employees push for remote or hybrid work schedules, travel

demand during traditional peak times before and after working hours may decrease and could result in a decline in vehicle ownership rates.

The return to offices has also created a return to pre-COVID travel conditions, and congestion remains a challenge. Uncertainty over future trends related to remote work and daily traffic operations can lead to inefficiencies in transportation agencies being able to accurately predict system capacity and expansion needs. Additionally, land use dedicated to office buildings and parking facilities for employees will be impacted if remote work becomes a significant portion of employee work schedules. Grand Forks will likely face these issues alongside most communities in the United States, and it is a matter of understanding how a societal shift to more technology use will change not only working habits, but the physical landscape of cities.

Table 10: Number of People Working from Home

Year	Grand Forks-East Grand Forks	Percent Change (%)
2021	1,760	25
2020	1,411	44
2019	983	-4
2018	1,019	-10
2017	1,130	----

Source: American Community Survey 5-Year Estimates 2017-2021

2 Federal Highway Administration, [The Transportation Future: Trends, Transportation, and Travel](#)

EXISTING TRANSPORTATION SYSTEM

The MPO's street and highway system was reviewed to develop an understanding of the system's existing conditions, current needs, and opportunities. The existing conditions form the baseline for evaluating future street and highway system scenarios.

This section of the Street and Highway Plan, and in turn the MTP, describes the existing

street and highway system through a review of related topics including traffic operations, traffic safety, origin and destination analysis, pavement conditions, bridge conditions, and existing regional connections. A brief overview of the MPO Area's multimodal system, including the bicycle and pedestrian and transit systems, is also provided.



MPO Area Street and Highway Network

The MPO Area's street and highway network is the backbone of the region's multimodal transportation system. This network facilitates the movement of people, goods, and services throughout the region while connecting key destinations such as housing and employment centers.

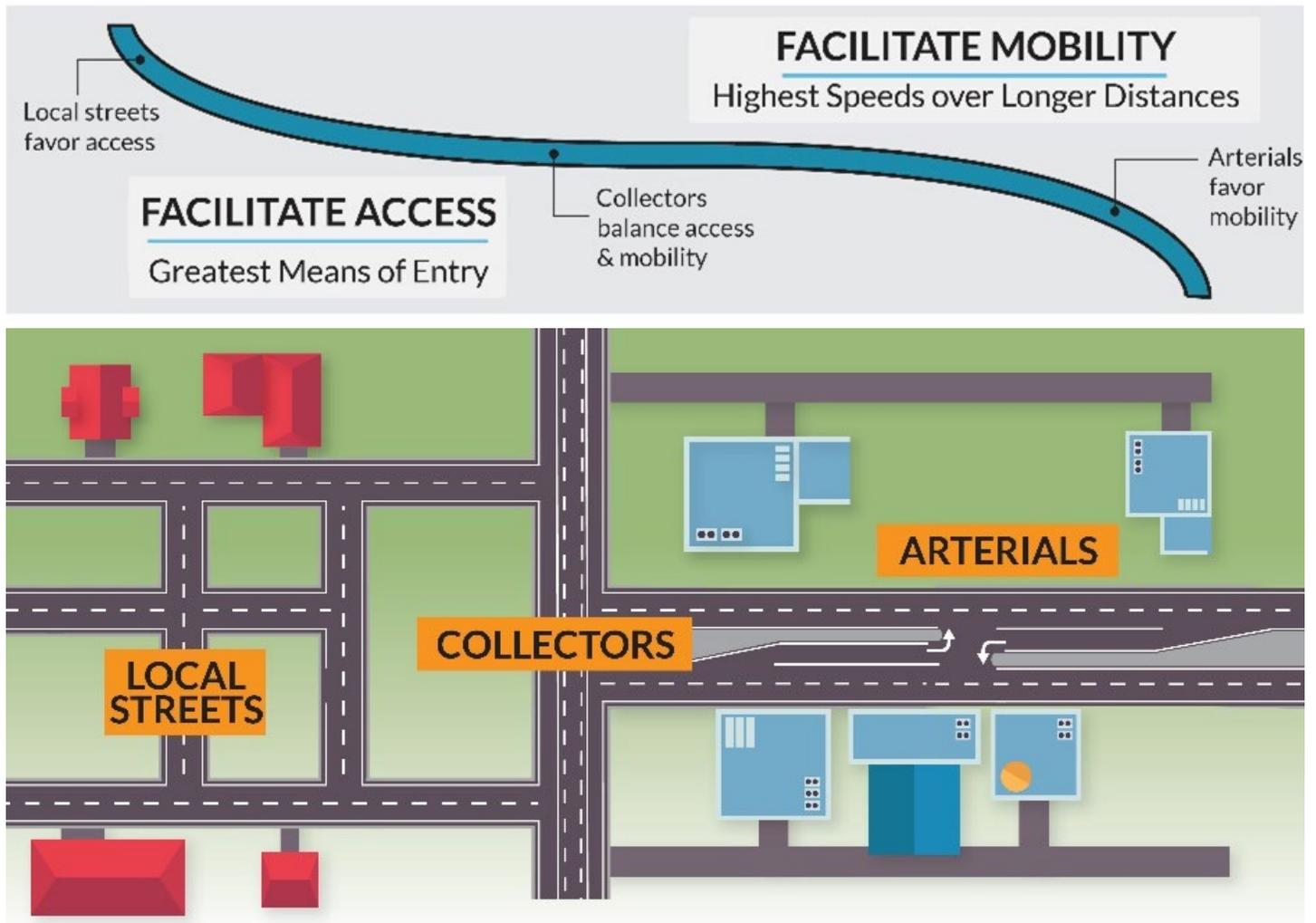
This section provides an overview of the existing street and highway network through a discussion of the current functional classification system, NHS routes, and the jurisdictions involved in managing the MPO Area's streets and highways.

Functional Classification

Functional classification refers to the system used to organize roadways based on the character of service they provide. The underlying basis for organizing roadways into functional classifications is the need to balance mobility and accessibility needs for travelers. Thus, the functional classification system provides for the provision of roadways that serve higher degrees of mobility via higher-speed, limited-access facilities, with roadways that serve higher degrees of accessibility to adjacent land uses. **Figure 14** demonstrates the balance of accessibility and mobility service associated with the functional classification system while **Figure 15** shows the MPO Area's functionally classified network.

Table 11 summarizes the MPO Area’s functionally classified network in terms of percentage of system lane-miles associated with each classification.

Figure 14: Accessibility and Mobility Characteristics of the Functionally Classified Roadway System



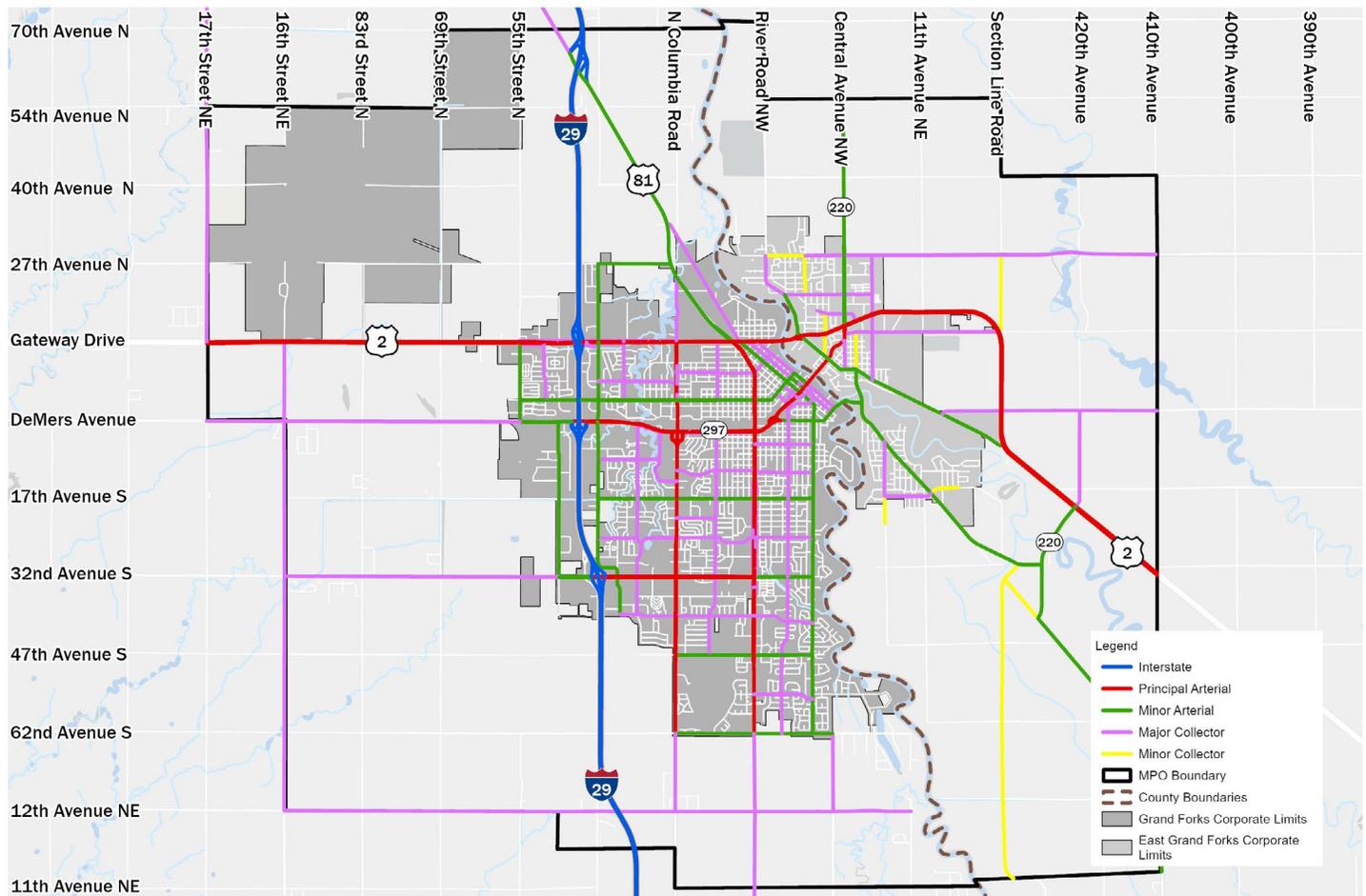
Source: HDR

Table 11: Summary of the MPO Area’s Functional Classification System

Functional Classification	North Dakota	Minnesota	Total Miles	Percent of Functional Classification System (%)
Interstate	16.2	0.0	16.2	8.6
Principal Arterial	24.4	8.0	32.4	17.2
Minor Arterial	33.5	18.4	51.9	27.6
Major Collector	63.0	16.1	79.1	42.0
Minor Collector	0.0	8.7	8.7	4.6
Total Miles	137.1	51.1	188.2	

Source: Grand Forks-East Grand Forks MPO

Figure 15: Functional Classification System



National Highway System

The NHS was designated by United States Department of Transportation (USDOT) and approved by Congress in 1995 with the intent of establishing a nationwide network of highways to serve critical mobility, economic, and defense purposes.³

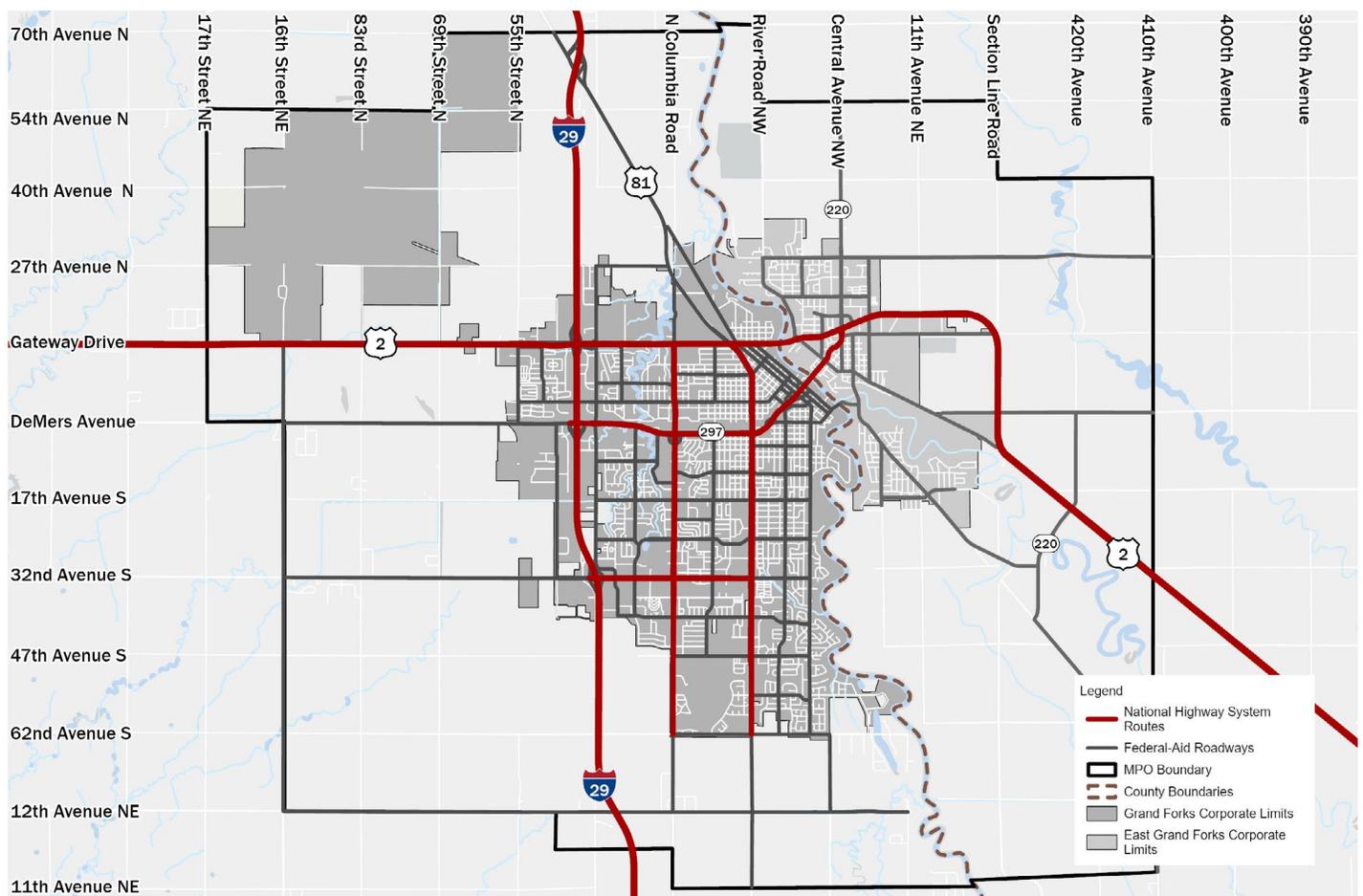
Several sub-systems comprise the NHS, and these subsystems include:

- **Interstate:** The Eisenhower Interstate System of highways.
- **Other Principal Arterials:** Rural and urban area highways providing access between an arterial road and another major transportation facility.
- **STRAHNET:** Network of highways with strategic defense access, continuity, and emergency capabilities.
- **Major Strategic Highway Network Connectors:** Highways providing access between major military installations and highways designated as part of the STRAHNET system.
- **Intermodal Connectors:** Highways providing access between major intermodal facilities and the other four subsystems.

³ Federal Highway Administration, [National Highway System](#)

Figure 16 shows the portion of MPO Area roadways designated as part of the NHS. Also shown is the federal-aid roadway network, which includes all Interstate, primary, and secondary highways that receive funds under the Federal-Aid Highway Program.

Figure 16: National Highway System and Federal-Aid Roads



Roadway Jurisdiction

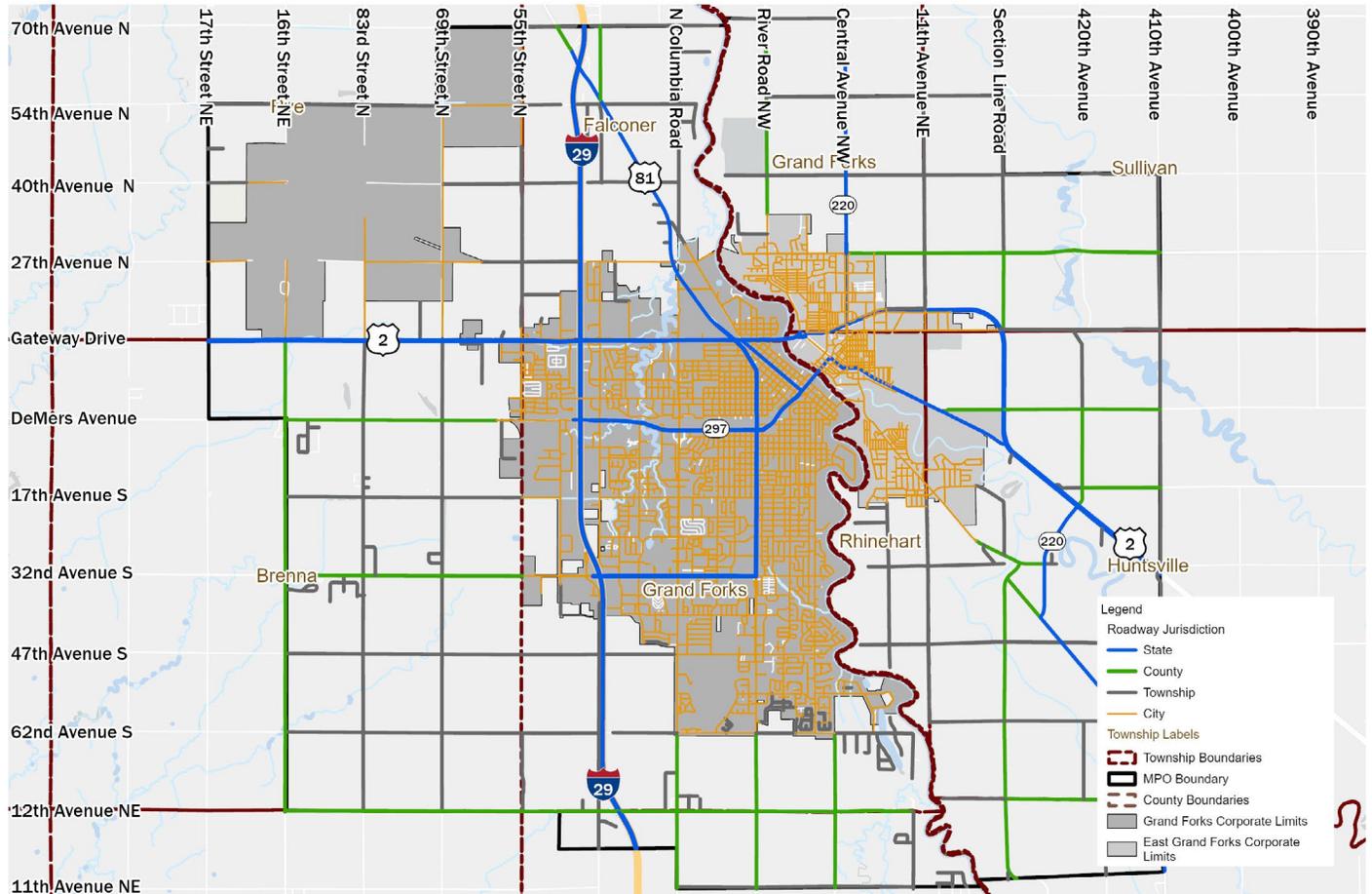
Roadway jurisdiction relates to the primary agency responsible for maintaining certain roadways. Within the MPO Area, roads fall under state, county, township, and local jurisdiction.

Figure 17 depicts the current jurisdictions responsible for MPO Area roadways. Local agencies are mainly responsible for all non-Interstate, non-US, and non-State highways within their incorporated limits. Townships and counties are generally responsible for the non-Interstate, non-US, and non-State highways located outside of incorporated limits.

Agencies responsible for roads within the MPO Area include:

- **State Agencies:** North Dakota DOT, Minnesota DOT
- **County Agencies:** Grand Forks County, Polk County
- **Townships:** Brenna, Falconer, Grand Forks, Rye, Walle, Bygland, Huntsville, Rhinehart, Sullivan
- **Local Agencies:** Grand Forks, East Grand Forks

Figure 17: Roadway Jurisdiction



Existing Traffic Operations

Traffic operations for the MPO Area were analyzed to understand where operational issues occur. Two approaches to analyzing operations were used:

- Planning Level-of-Service (LOS)
- Passenger and freight travel reliability

Planning LOS

A baseline evaluation of current traffic operations was based on combining:

- Traffic operations analysis results provided by previous studies;
- An original, planning-level approach to estimating LOS across the network where recent study results were not available.

A high-level planning approach to estimating LOS was used to evaluate traffic congestion during typical peak-hour travel conditions. This approach compares observed traffic volumes to estimated thresholds where traffic approaches or exceeds a typical capacity for the MPO's functionally classified street network. This comparison results in a volume-to-capacity (V/C) ratio, which is then described using a standard classification wherein LOS A represents free flow traffic while LOS F represents complete gridlock. **Figure 18** demonstrates the LOS classifications.

Figure 18: Planning LOS Classifications

The LOS analysis conducted for the MPO Area’s existing conditions incorporated findings from recently completed planning studies and then built off those findings using original analysis to review operations for streets not included in previous studies. **Figure 19** shows the complete planning LOS for the MPO Area, building off the operational analyses conducted for the previous planning efforts and supplemented with the planning LOS analysis for the Street and Highway Plan.

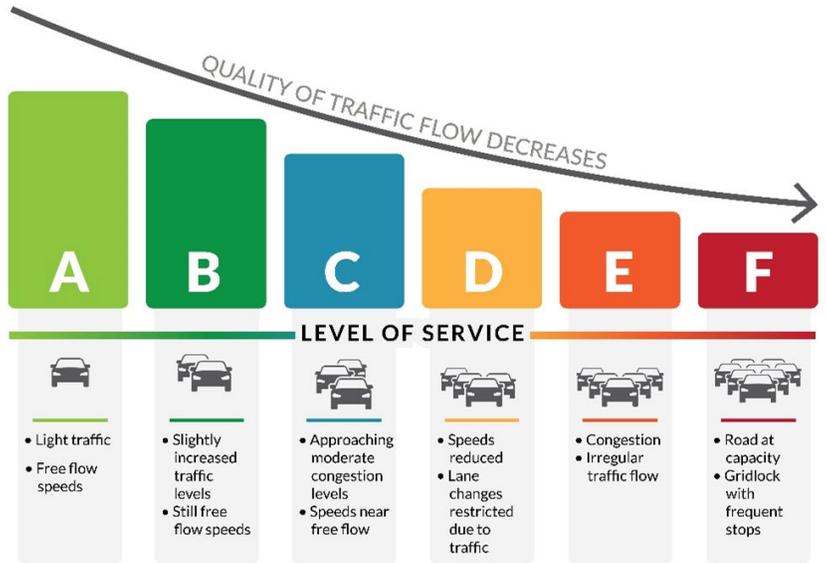
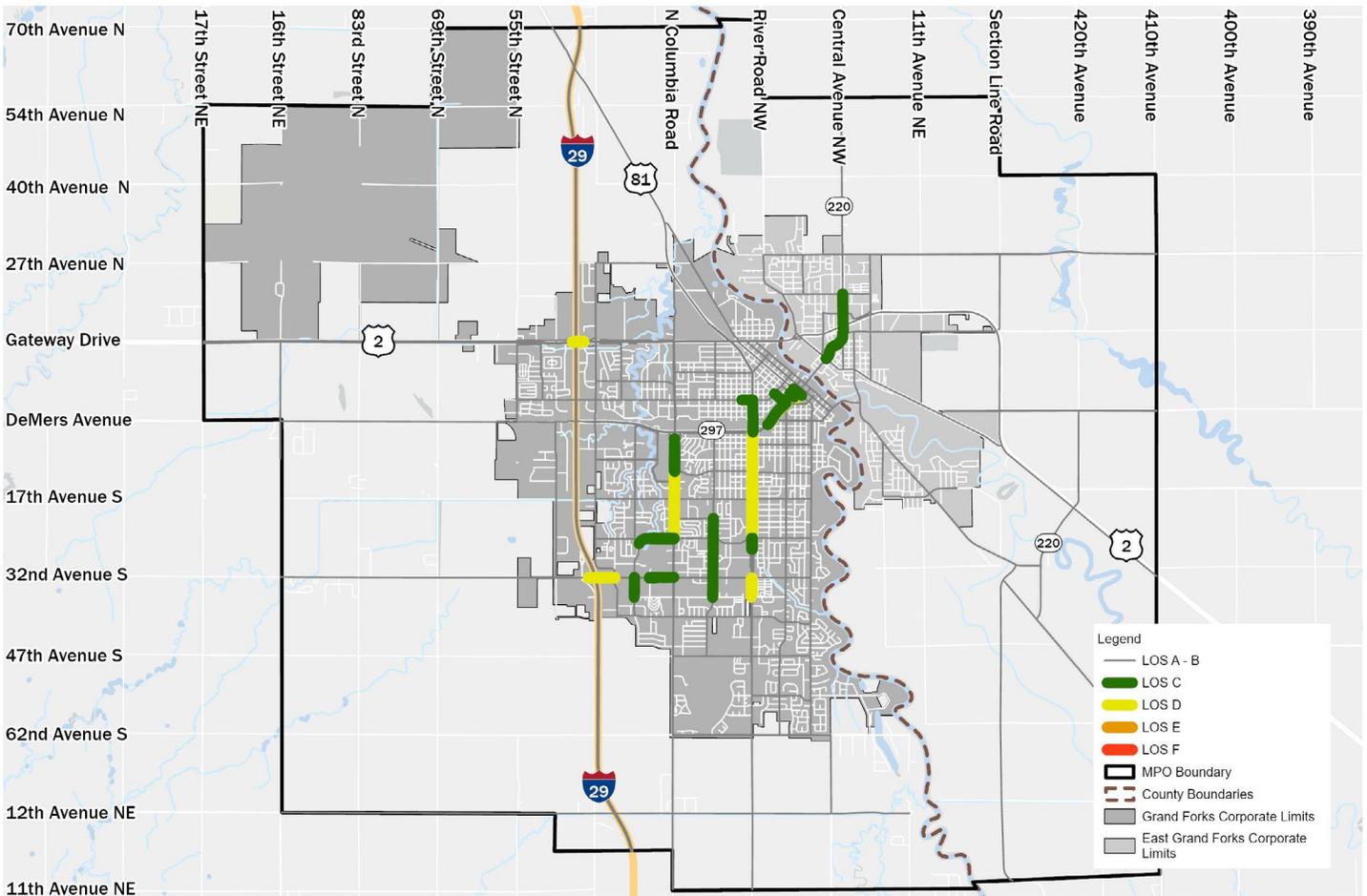


Figure 19: Existing Traffic Operations Based on 2021 Daily Traffic Volumes



Travel Reliability

Travel reliability is a measure of how predictable travel times are across a corridor or an entire system and pertains to both passenger and freight truck traffic. A corridor can experience travel delays, but if it experiences the same level of peak period travel delays consistently it is predictable and therefore “reliable.” Reliability is described using a metric referred to as Level of Travel Time Reliability (LOTTR) when reporting conditions for passenger traffic while the Truck Travel Time Reliability (TTTR) Index is used to report freight truck reliability conditions.

Figure 20 through Figure 22 summarize the MPO’s progress toward meeting the adopted performance targets for passenger and freight truck travel reliability. It is noted that the system-wide target assumed for passenger travel reliability on the non-Interstate NHS is 90 percent of person miles traveled, despite the target being 85 percent for the MPO Area within North Dakota and 90 percent for the MPO Area within Minnesota. **Meeting the target is being at target or above.**

Passenger travel reliability conditions for the Interstate (**Figure 20**) found within the MPO Area exceed the target of 90 percent or more of reliable person miles each month during 2021, demonstrating that travel times along the I-29 corridor are predictable, and users are typically able to anticipate how traffic will flow when using the corridor.

Reliability conditions along the non-Interstate NHS (**Figure 21**) exhibited much more monthly variation than the Interstate system, as the assumed passenger reliability target was only met during 6 months of 2021.

Freight truck reliability for the MPO’s Interstate system has a TTTR target of 1.5 for the Interstate system. **Meeting the target is a TTTR less than or equal to 1.5.** As shown in **Figure 22**, the target was met each month during 2021 and reflects passenger reliability conditions for the

Figure 20: Monthly Interstate LOTTR for the MPO Area, 2021

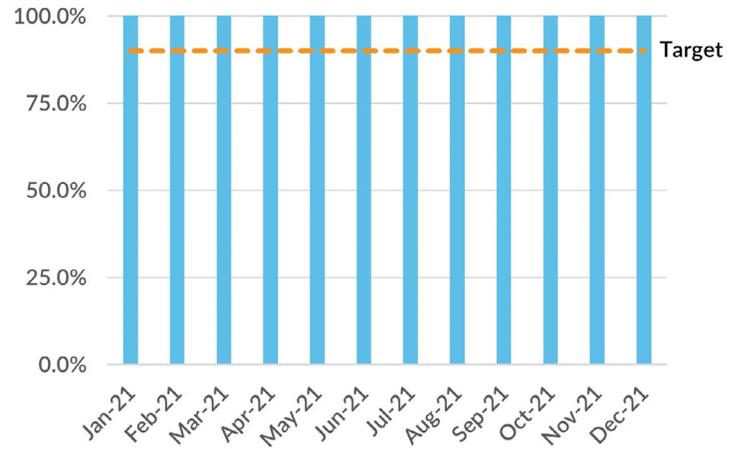


Figure 21: Monthly non-Interstate NHS LOTTR for the MPO Area, 2021

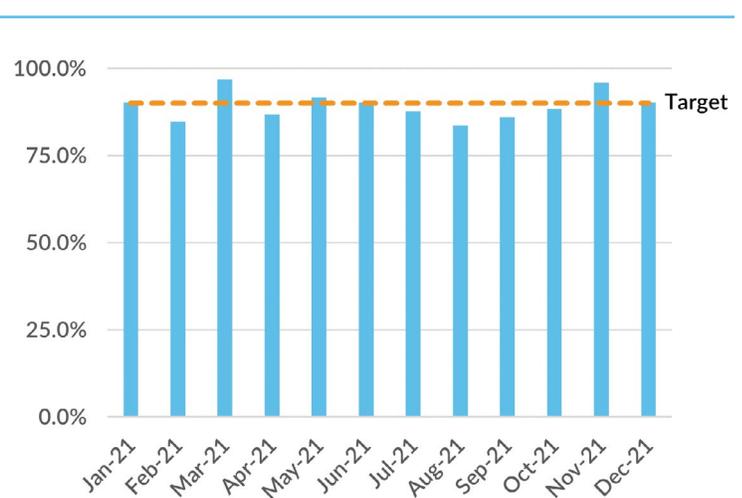
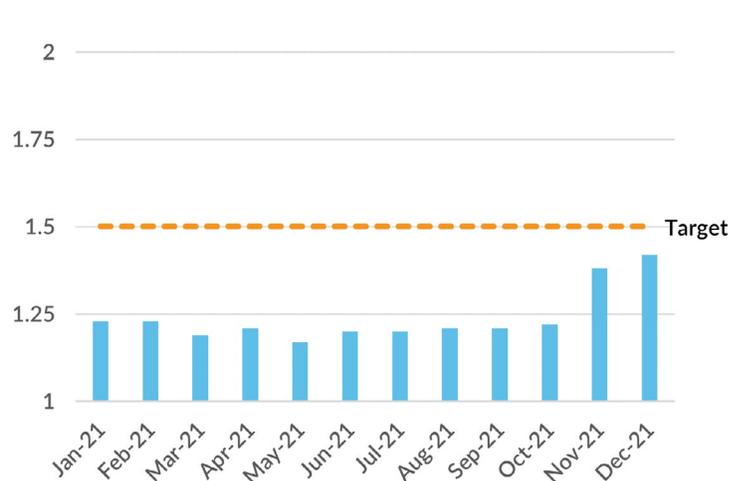


Figure 22: Monthly Interstate TTTR for the MPO Area, 2021



I-29 corridor. Similar to passenger vehicle traffic, freight truck operators can generally anticipate travel times along the I-29 corridor in the MPO Area.

Figure 23 and **Figure 24** illustrates passenger and freight truck reliability conditions for the Interstate and non-Interstate NHS corridors within the MPO Area. **Figure 23** demonstrates LOTTR for the Interstate and non-Interstate NHS system in which the majority of the corridor recorded a LOTTR at or below 1.25. I-29 southbound at US 2 recorded the highest Interstate LOTTR which was 1.30.

Freight truck reliability for the Interstate system is shown in **Figure 24**. TTTR for I-29 south of DeMers Avenue was below 1.35 but increased to over 1.5 between DeMers Avenue and US 2/Gateway Drive. North of Gateway Drive, TTTR dropped to 1.30.

Figure 23: Interstate and non-Interstate NHS Passenger Level of Travel Time Reliability, 2021

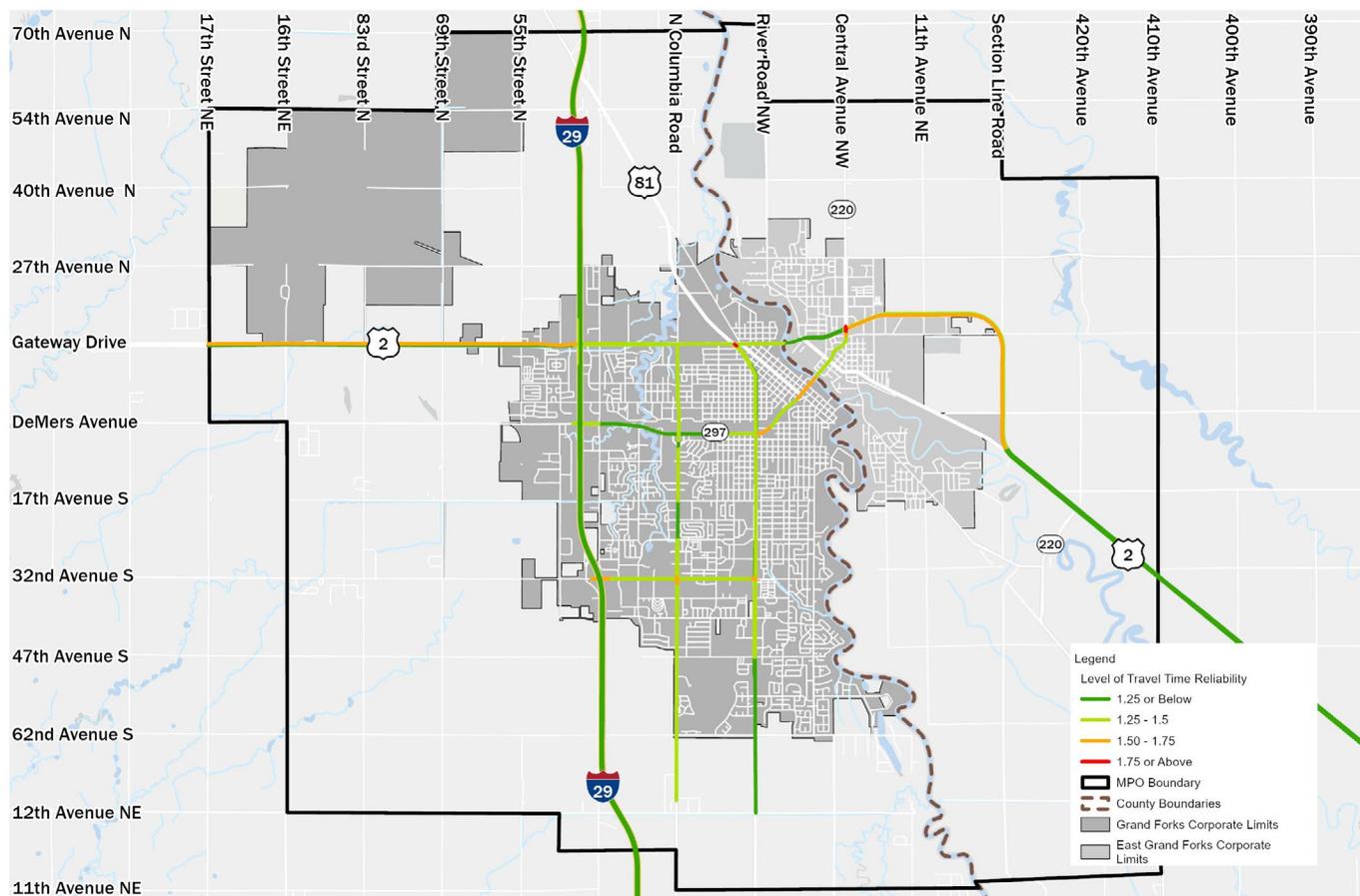
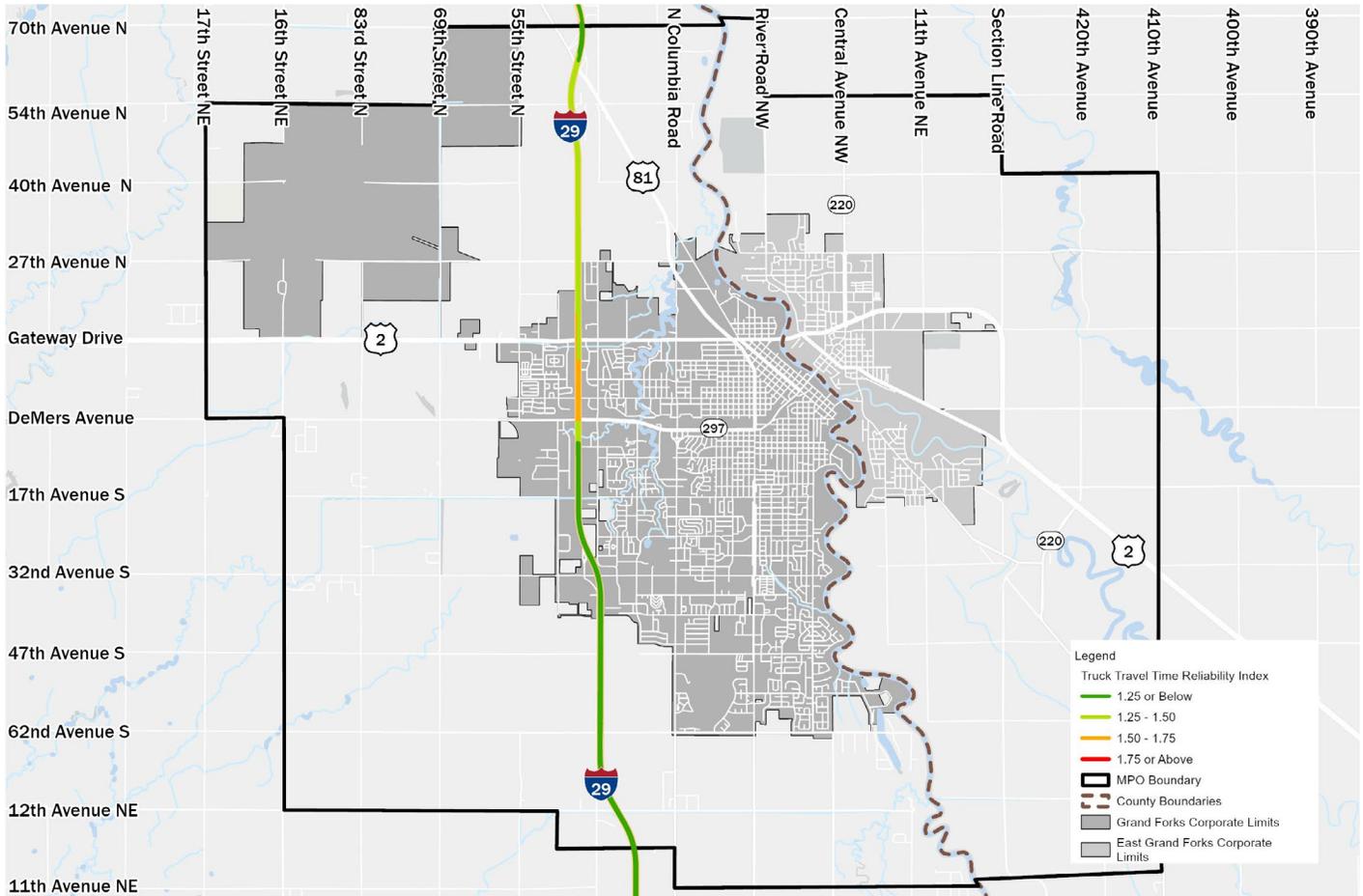


Figure 24: Interstate Truck Travel Time Reliability Index, 2021



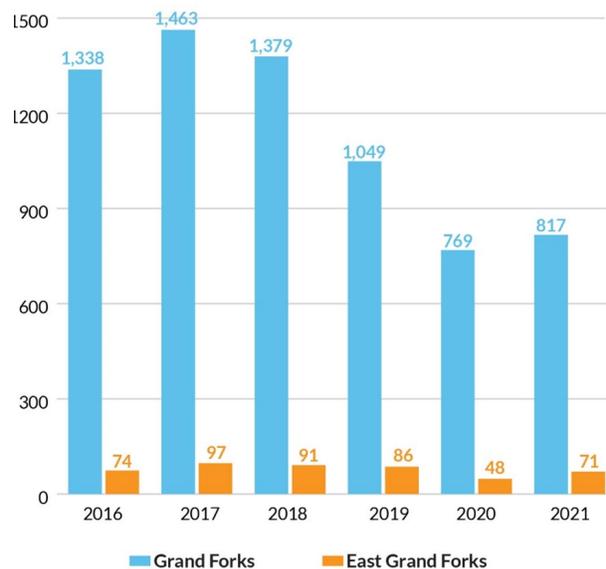
Traffic Safety

Traffic safety conditions for the Grand Forks-East Grand Forks area were analyzed using historic crash data for the years 2016 through 2021. Crash data for the MPO Area within North Dakota was sourced from NDDOT while crash data covering the MPO Area within Minnesota was sourced from MnDOT.

Figure 25 shows the annual number of crashes that occurred in the MPO Area between 2016 and 2021. The number of crashes that occurred in Grand Forks rose between 2016 and 2017 before declining in 2018. Note two different factors that led to a sharp decline after 2018:

- Starting in 2019, the North Dakota classification of Property Damage Only crashes changed from \$1,000 damage to \$4,000 damage. This change eliminated many minor crashes that were reported previously from being included.

Figure 25: Crashes by Year for the MPO Area, 2016-2021



Source: North Dakota DOT, Minnesota DOT

- A major factor influencing the decrease in crashes in 2020 was the COVID-19 public health pandemic in which local shelter-in-place ordinances limited opportunities for travel thereby reducing vehicle miles traveled; this drop in travel resulted in fewer crashes.

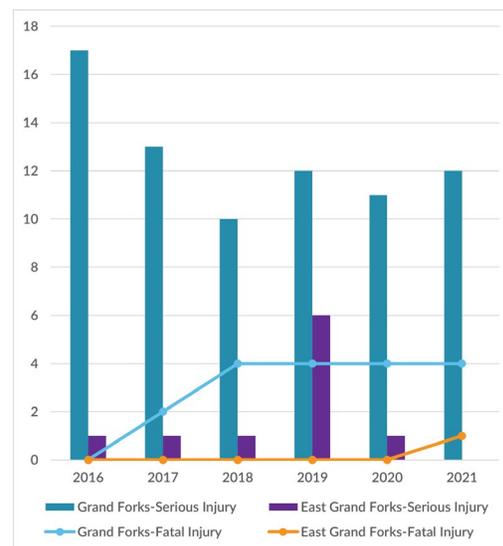
The year 2021 represented an increase in crash levels again as shelter-in-place ordinances began to be lifted and travel started a return toward pre-pandemic levels. The annual crash trend in East Grand Forks followed a similar pattern, although far fewer crashes occurred in East Grand Forks compared to Grand Forks.

Fatal and Serious Injury Crashes

Fatal and serious injury crashes that occurred within the MPO Area between 2016 and 2021 are summarized in **Figure 26**. The fatal crash trend within the MPO Area saw a general increase during the 5-year analysis period with zero fatal crashes occurring in 2016 and five occurring in 2021. Between 2018 and 2020, four fatal crashes were recorded within the MPO Area during each year. Overall, 19 fatal crashes were recorded in the MPO Area between 2016 and 2021.

The serious injury crash trend saw much more variation during the 5-year period. A total of 18 serious injury crashes were recorded in 2016 before declining each year after until 2019, when 18 serious injury crashes were recorded. The years 2020 and 2021 witnessed serious injury crashes decline to an annual level of 12 for both years. Overall, 85 serious injury crashes were recorded in the MPO Area between 2016 and 2021.

Figure 26: Fatal and Serious Injury Crashes, 2016-2021



Source: North Dakota DOT, Minnesota DOT

Defining Crash Severities	
Fatal Crash	Any motor vehicle or other vehicle crash that results in fatal injuries to one or more persons.
Serious Injury Crash	Any injury, other than a fatality, which prevents the injured person from walking, driving, or normally continuing the activities the person was capable of performing before the injury occurred. Often defined as “needing help from the scene.”

Source: Federal Highway Administration, [KABCO Injury Classification Definitions](#)

Intersection Crash Frequency

Intersection crash frequency is a useful metric for identifying potential candidates for safety improvements. This metric looks at the number of crashes associated with an intersection during a given period—crashes that occurred within 150 feet of an intersection were considered to be associated with that intersection. Based on NDDOT and MnDOT crash data for the years 2016

through 2021, the 20 intersections summarized in **Table 12** and shown in **Figure 27** were identified as the top crash frequency intersections within the MPO Area. Those intersections in **Table 12** that are found within the city of Grand Forks are in blue while intersections found within East Grand Forks are shown in orange.

The overall trend associated with these top crash frequency intersections is most clearly seen in **Figure 27** where the intersections exhibiting the highest crash frequencies are located on corridors with the highest traffic volumes throughout the MPO Area—nearly every top crash frequency intersection involved at least one of the following corridors:

- Washington Street
- Columbia Road
- 32nd Avenue
- Gateway Drive

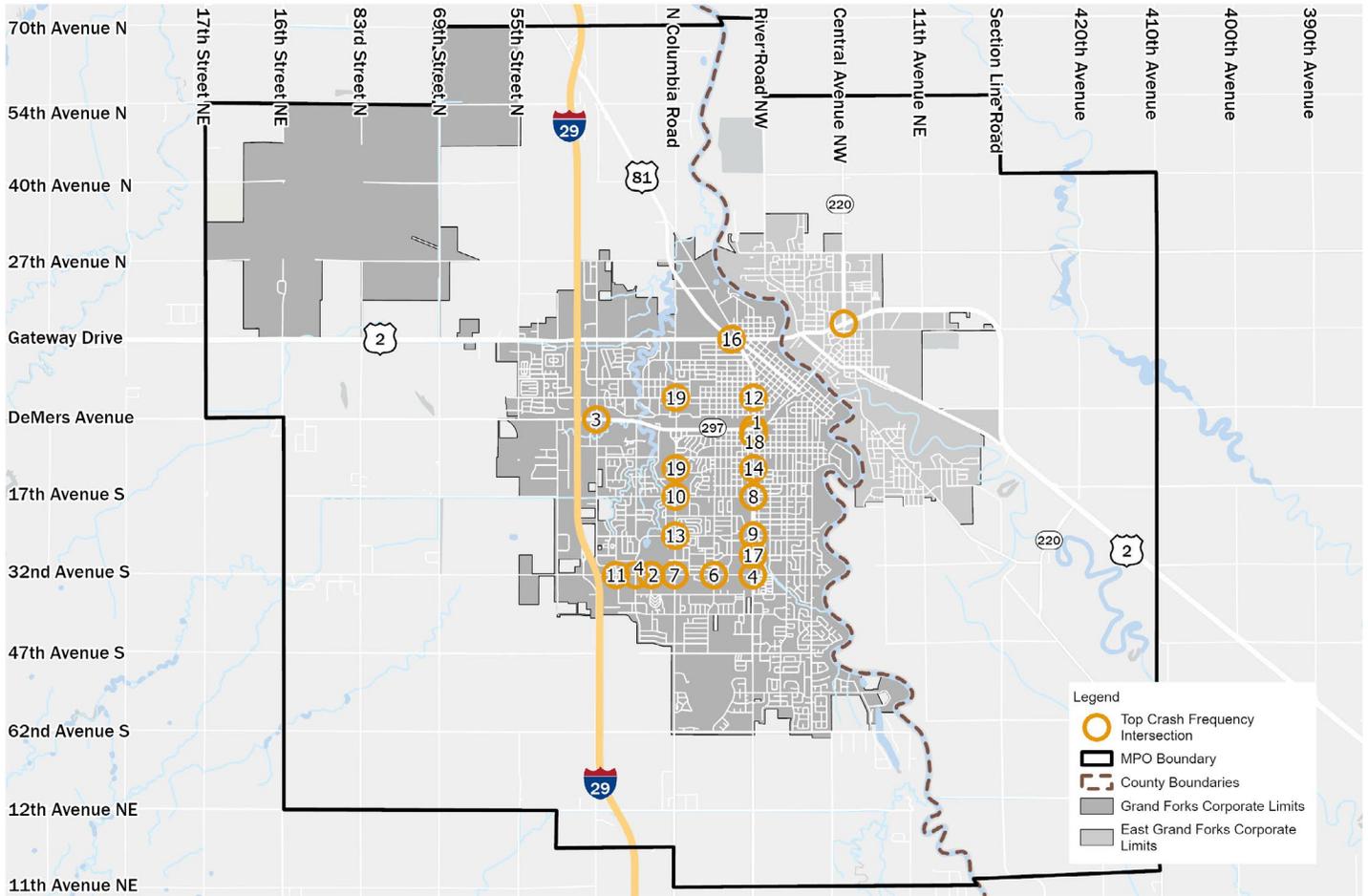
Table 12: Top Crash Frequency Intersections, 2016–2021

Intersection	Crash Frequency (2016-2021)	Crash Frequency Rank
S Washington Street & DeMers Avenue	119	1
32nd Avenue S & S 31st Street	95	2
S 42nd Street & DeMers Avenue	78	3
32nd Avenue S & S 34th Street	77	4
S Washington Street & 32nd Avenue S	77	4
32nd Avenue S & S 20th Street	76	6
S Columbia Road & 32nd Avenue S	72	7
S Washington Street & 17th Avenue S	69	8
S Washington Street & 24th Avenue S	68	9
S Columbia Road & 17th Avenue S	65	10
32nd Avenue S & S 38th Street	58	11
N Washington Street & University Avenue	57	12
S Columbia Road & 24th Avenue S	55	13
N Washington Street & 13th Avenue S	52	14
US 2 & Central Avenue NE	49	15
S Washington Street & Gateway Drive	46	16
S Washington Street & 28th Avenue S	44	17
S Washington Street & 7th Avenue S	39	18
N Columbia Road & University Avenue	38	19
S Columbia Road & 13th Avenue S	38	19

Intersections in East Grand Forks are denoted in orange

Source: Grand Forks-East Grand Forks MPO

Figure 27: Top Crash Frequency Intersections, 2016–2021



Intersection Crash Rates

While intersection crash frequencies assess how often crashes occur at a location, crash rates take this analysis a step further by normalizing crashes according to the level of entering traffic volumes. For instance, a location with a high crash frequency and high entering traffic volume may be relatively safer (in terms of crash rate) than an intersection with a similar frequency of crash events but lower entering traffic volume.

The highest crash rates for intersections in the MPO Area are summarized in **Table 13** per 1 million entering vehicles, and their locations are shown in **Figure 28**.⁴ Those intersections in **Table 13** that are found within the city of Grand Forks are in blue while intersections found within East Grand Forks are shown in orange.

⁴ A threshold of 18 or more crashes over 6 years was applied.

Table 13: Top Crash Rate Intersections, 2016–2021

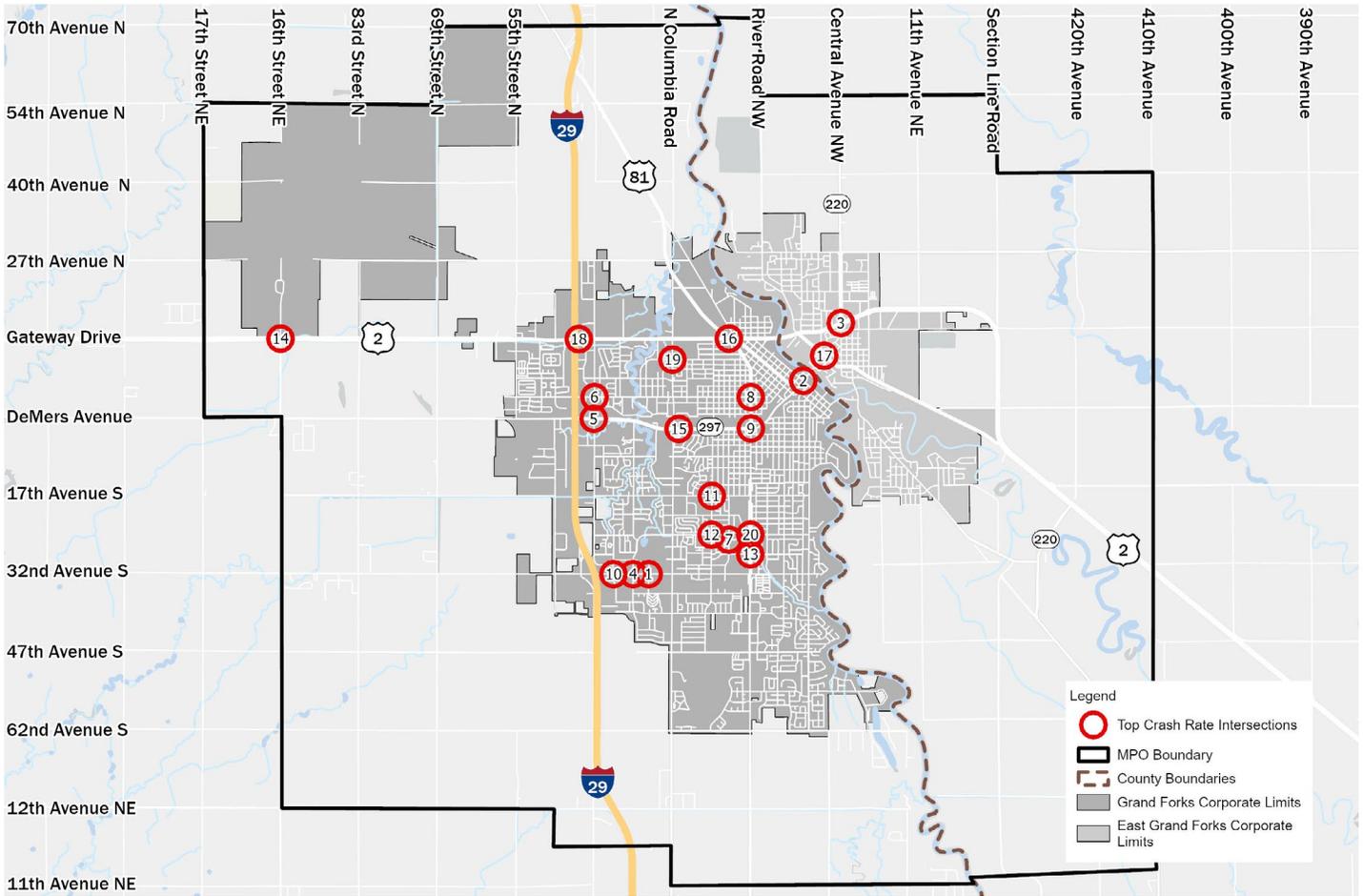
Intersection	Crash Rate (2016-2021)	Crash Rate Rank
32nd Avenue S & S 31st Street	1.78	1
DeMers Avenue & N 3rd Street	1.52	2
US 2 & Central Avenue NE	1.34	3
32nd Avenue S & S 34th Street	1.20	4
DeMers Avenue & S 42nd Street	1.19	5
University Avenue & S 42nd Street	1.14	6
24th Avenue S & S 17th Street	1.14	7
N Washington Street & University Avenue	1.07	8
DeMers Avenue & S Washington Street	1.02	9
32nd Avenue S & S 42nd Street	1.00	10
17th Avenue S & S 20th Street	0.95	11
24th Avenue S & S 20th Street	0.92	12
S Washington Street & 28th Avenue S	0.89	13
US 2 & 16th Street NE	0.87	14
DeMers Avenue & N Columbia Road	0.83	15
N Washington Street & Gateway Drive	0.79	16
DeMers Avenue & 4th Street NW	0.76	17
Gateway Drive & I-29	0.75	18
Columbia Road & 10th Avenue N	0.74	19
S Washington Street & 24th Avenue S	0.73	20

Intersections in East Grand Forks are denoted in orange

Source: Grand Forks-East Grand Forks MPO

As seen in **Figure 28**, of the top 20 crash rate intersections, most are found within Grand Forks, with two intersections found in East Grand Forks. Overall, the top crash rate intersections coincide with the top crash frequency intersections. The intersection of US 2 and 16th Street NE in Grand Forks County is on the top crash rate list, but not the crash frequency list.

Figure 28: Top Crash Rate Intersections, 2016–2021



Bicycle and Pedestrian Safety

Providing safe bicycle and pedestrian infrastructure is a critical component of a well-functioning, multimodal transportation system. Walkable and bikeable infrastructure support local, state, and national toward zero deaths and safe system goals.

Table 14 summarizes the total number of pedestrian and bicycle-involved crashes that occurred in Grand Forks and East Grand Forks. A total of 105 crashes occurred over the 6 years, with 53 of these crashes involving a bicyclist and 52 involving a pedestrian.

Pedestrian- and bicycle-involved crashes decreased each year between 2016 and 2018, before peaking with 27 total crashes in 2019.

Table 14: Pedestrian and Bicycle-Involved Crashes, 2016-2021

	2016	2017	2018	2019	2020	2021	TOTAL
GRAND FORKS	9	7	5	13	5	10	49
EAST GRAND FORKS	1	0	0	0	0	1	3
TOTAL	20	16	10	27	10	22	105

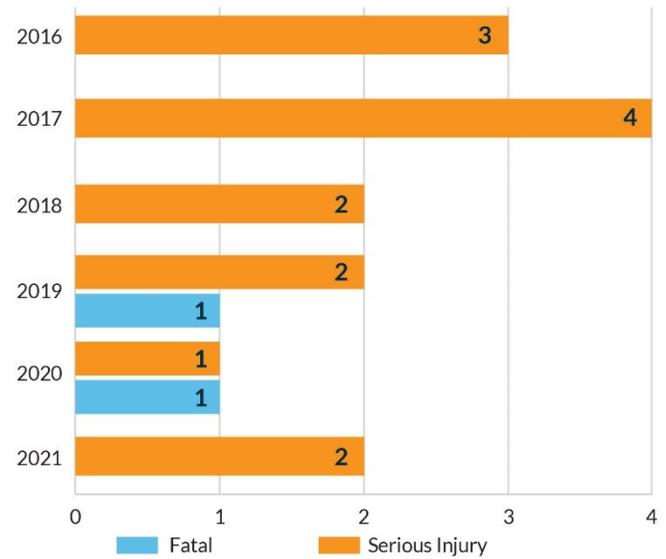
Source: Grand Forks-East Grand Forks MPO

Crashes decreased in 2020, which coincided with the COVID-19 public health pandemic, before increasing back to a pre-pandemic level in 2021.

The locations of all pedestrian- and bicycle-involved crashes that occurred in the MPO Area are shown in **Figure 30**.

Figure 29 summarizes the pedestrian- and bicycle-involved crashes that resulted in a fatality or serious injury. A total of three pedestrian- and bicycle-involved crashes resulted in a fatality, with two of these crashes occurring in 2019 and one occurring in 2020. Crashes resulting in serious injuries peaked in 2017 before decreasing each year through 2020. Pedestrian- and bicycle-involved crashes rose in 2021. The locations of fatal and serious injury pedestrian- and bicycle-involved crashes are shown in **Figure 31**.

Figure 29: Fatal and Serious Injury Pedestrian and Bicycle-Involved Crashes, 2016–2021



Source: Grand Forks-East Grand Forks MPO

Figure 30: Pedestrian- and Bicycle-Involved Crashes, 2016–2021

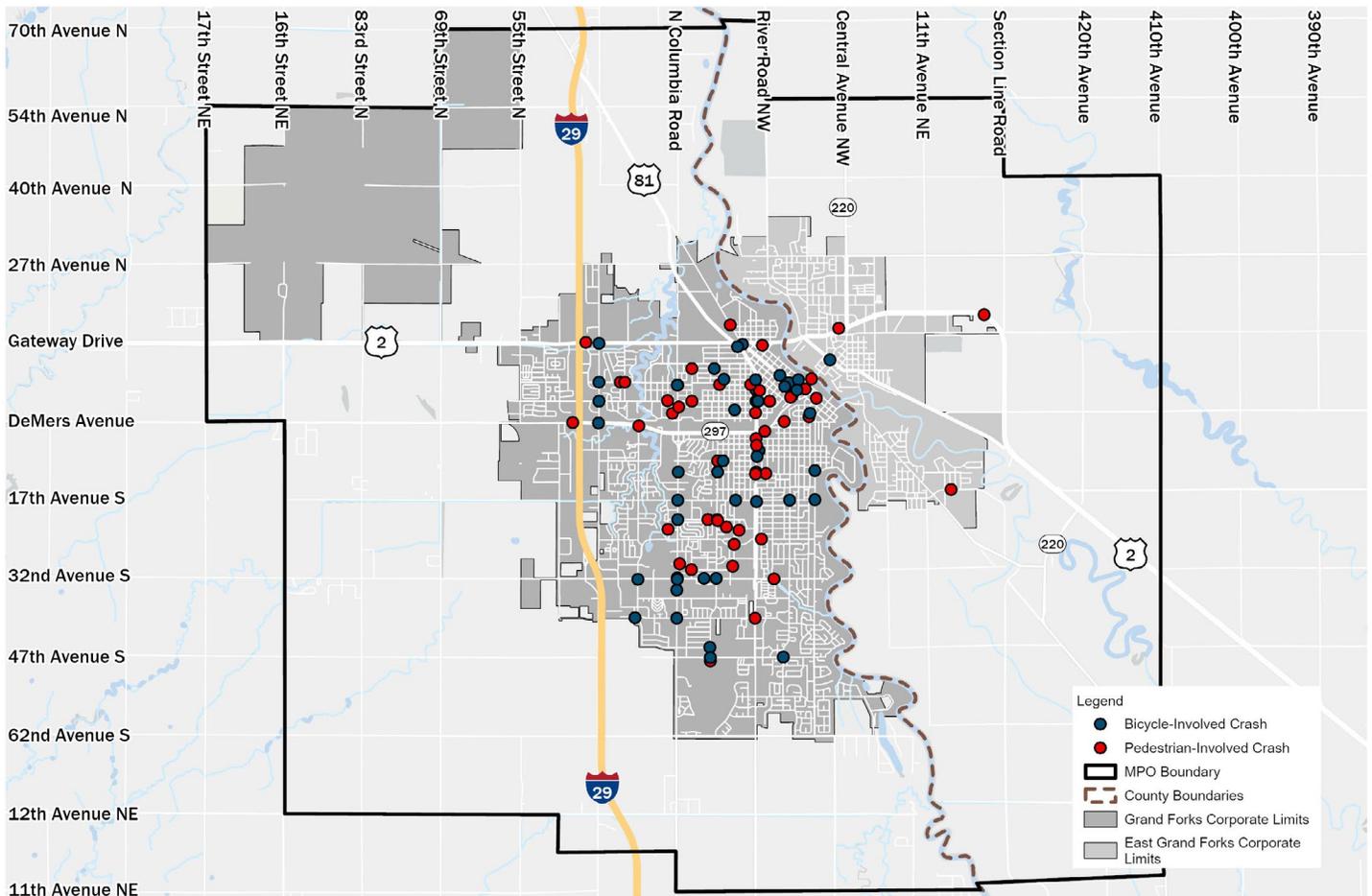
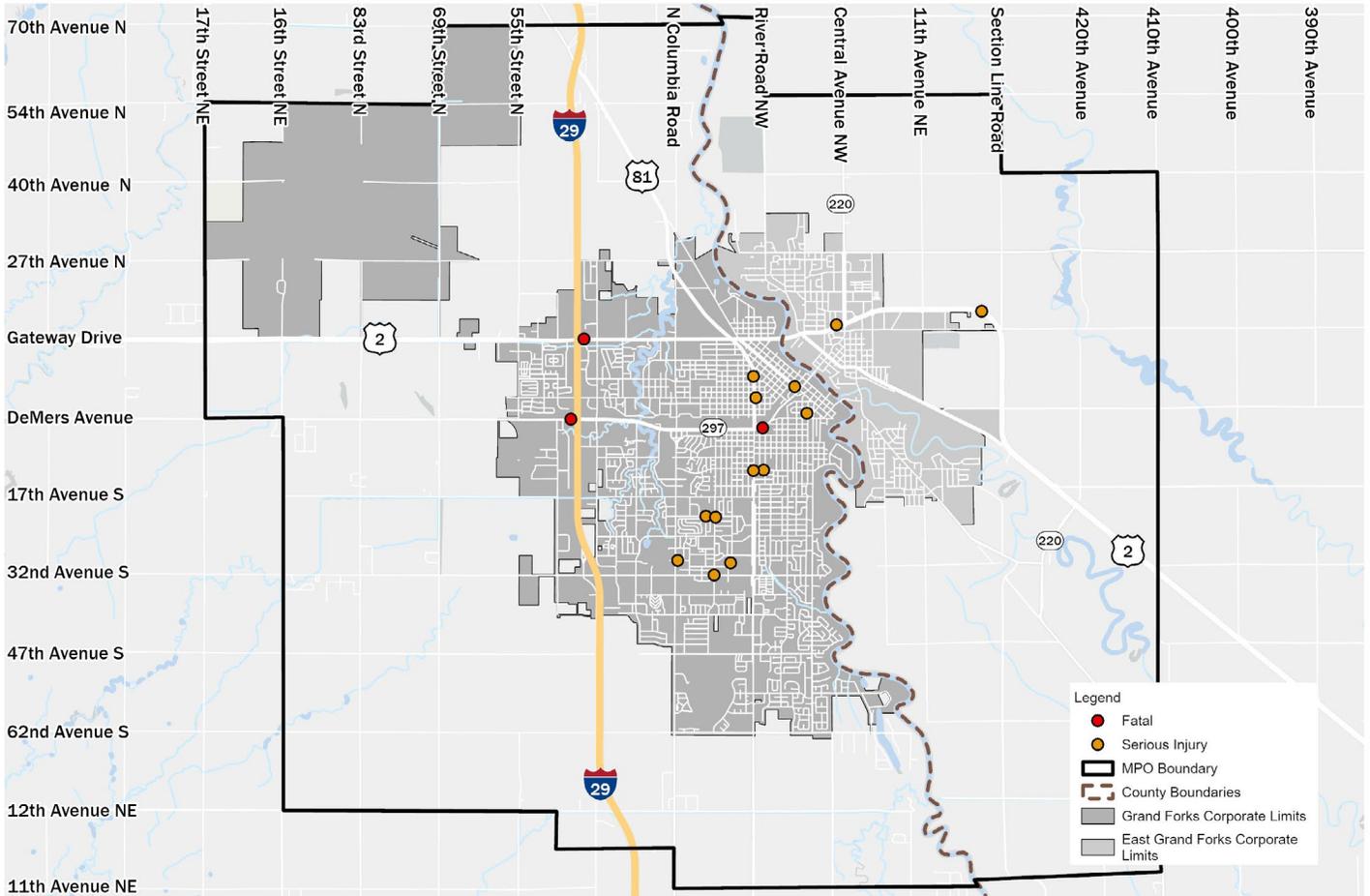


Figure 31: Pedestrian- and Bicycle-Involved Fatal and Incapacitating Crashes, 2016-2021



Pavement Conditions

Preserving existing transportation infrastructure is a key performance element of the multimodal system. The MPO monitors pavement conditions to support this performance measure. Evaluation of Interstate and non-Interstate pavement conditions was conducted using FHWA's Highway Performance Management System (HPMS) data for the year 2020. This dataset is developed by state DOTs on an annual basis.



Pavement along 11th Ave NE in East Grand Forks

HPMS data reports pavement conditions using the International Roughness Index (IRI) measure, which estimates pavement conditions by expressing the condition of the pavement surface and the resulting impact on ride quality for road users. A low IRI value indicates minimal surface roughness and a smoother ride, while a higher value denotes a rougher surface and a less comfortable ride. Good, Fair, and Poor pavement condition thresholds based on IRI values are:

- **Good:** IRI less than 95 inches/mile
- **Fair:** IRI between 95 and 170 inches/mile
- **Poor:** IRI greater than 170 inches/mile

Figure 32 shows the pavement condition ratings for the Interstate and non-Interstate NHS routes within the MPO Area, while **Figure 33** shows the resulting PCI for the MPO Area’s non-NHS routes.

Figure 32: Pavement Conditions for the Interstate and Non-Interstate NHS, 2020

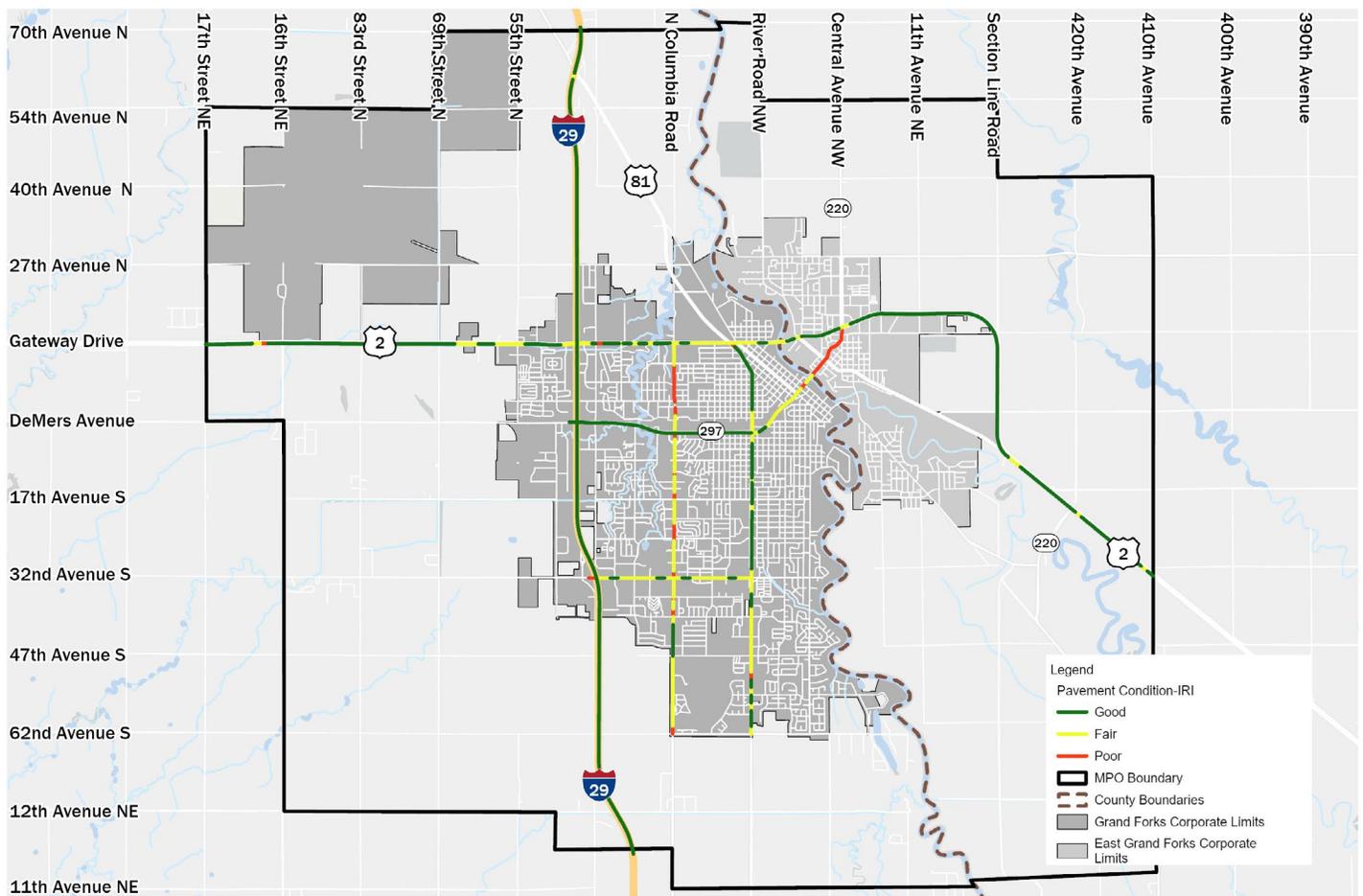
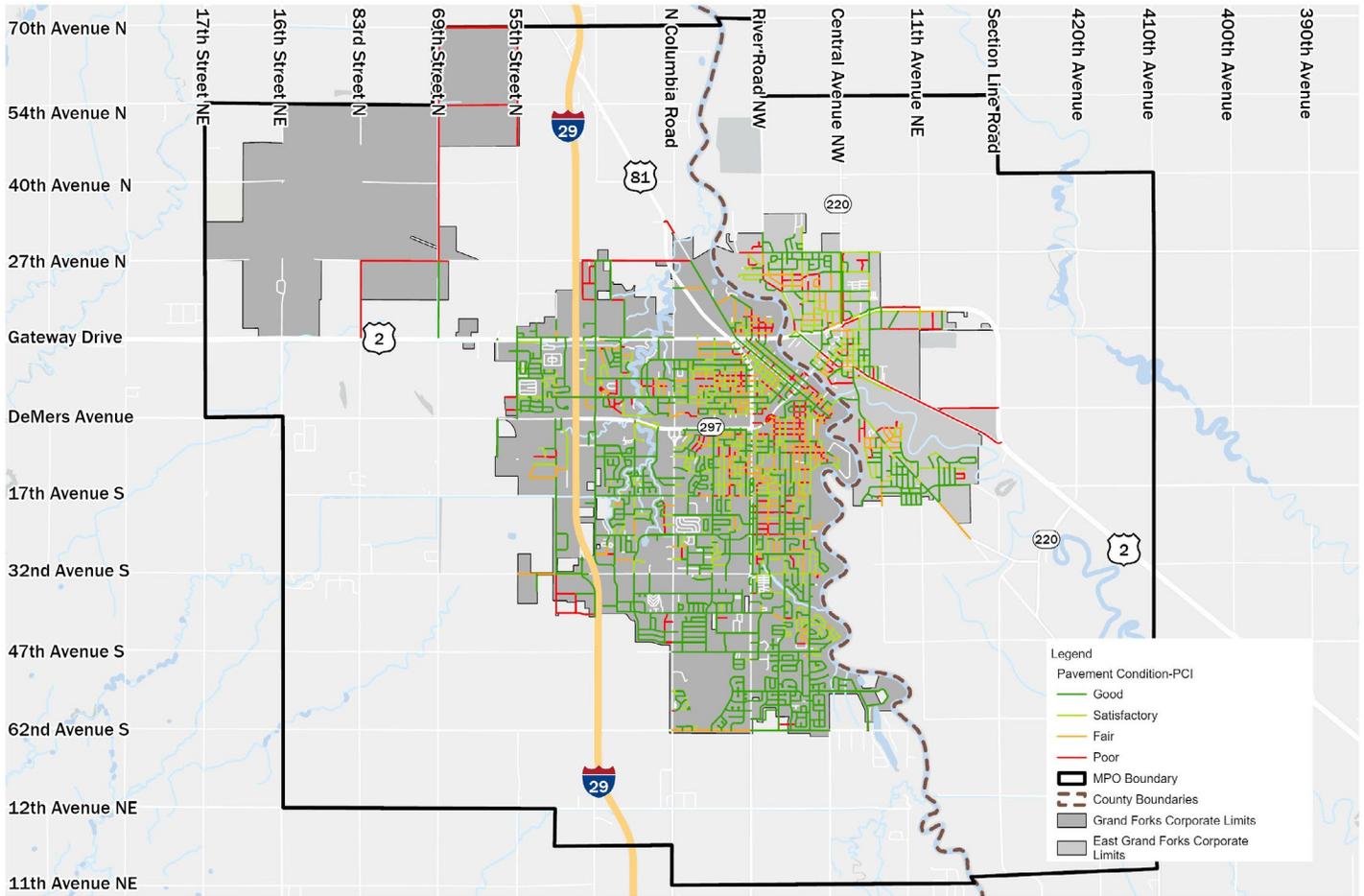


Figure 33: Pavement Conditions for the Local Road Network, 2022



Bridge Conditions

Bridges are vital transportation assets, and it is important for the MPO to report on the condition of bridges managed by state and local agencies. Currently, there are 63 bridges and culverts found within the MPO Area, and 15 of those structures are located on the NHS.

Bridge condition evaluations were conducted using National Bridge Inventory (NBI) data that is maintained by FHWA. This dataset is updated each year and records a number of characteristics for all bridges located on public roads throughout the country. NBI data provides a condition rating for each bridge based on recent inspection



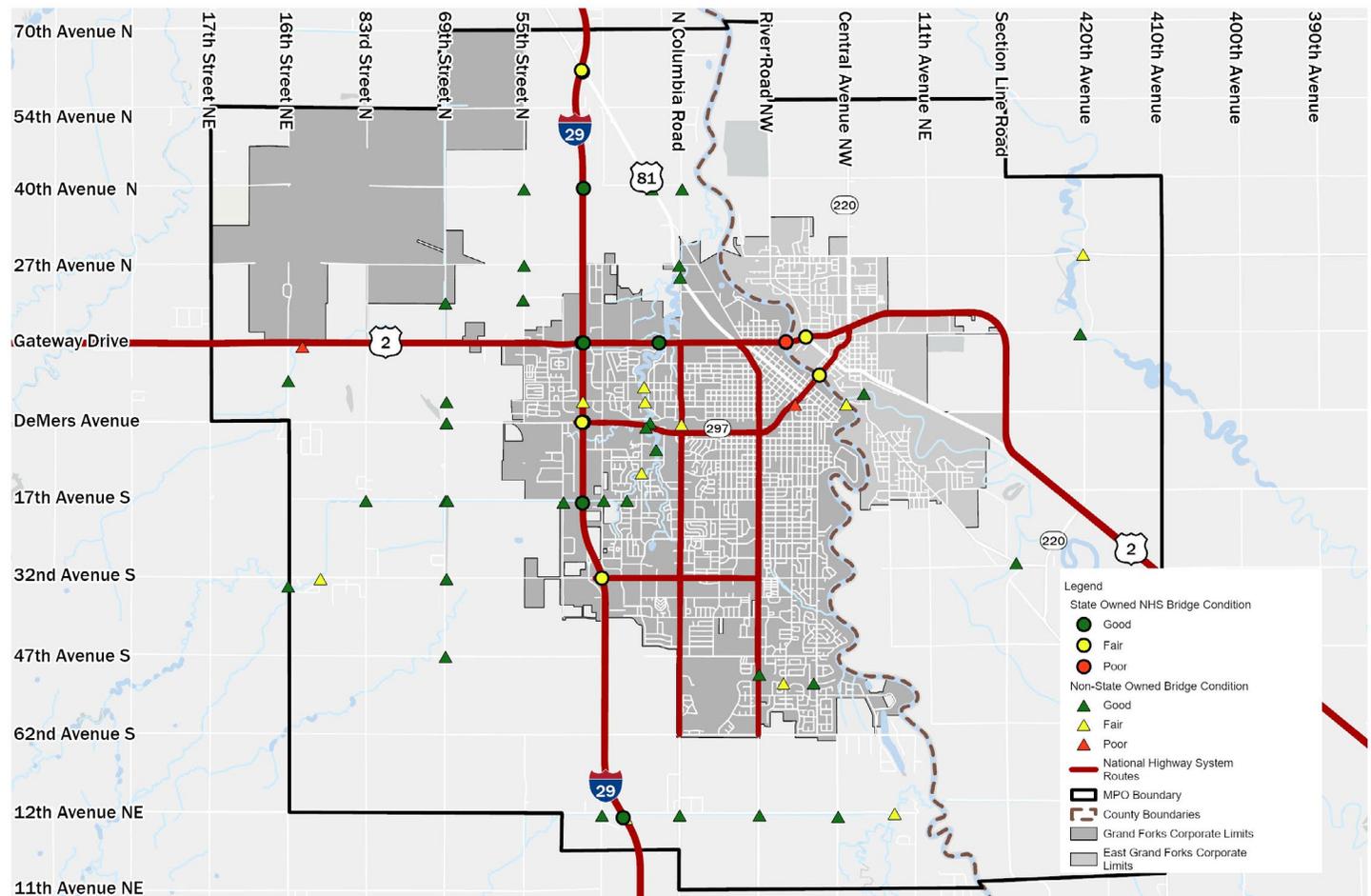
Source: Grand Forks Herald

reports. The condition is then classified into one of the following categories.⁵

- **Good:** Lowest rating of any structural element is 7 or higher. All structural elements are in good condition, but may show minor deterioration.
- **Fair:** Lowest rating of any structural element is between 5 and 6. All primary structural elements are sound but may have minor section loss, deterioration, spalling, or scour.
- **Poor:** Lowest rating of any structural element is 4 or lower. Advanced section loss, deterioration, spalling, or scour.

Figure 34 shows the bridge condition ratings for the 15 MPO Area bridges located on the NHS.

Figure 34: Bridge Ratings for MPO Area NHS Bridges, 2022



Existing Freight System

Freight is a major component of the MPO Area’s transportation system, as the movement of goods supports the region’s economy. Freight assets found within the MPO Area include I29, US 2, State highway routes, freight rail lines, and the Grand Forks International Airport.

5 Federal Highway Administration, [Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation’s Bridges](#)

Key Freight Highway Assets

Federally Designated Routes

The FAST Act, signed in 2015, established the National Highway Freight Network (NHFN) to strategically direct federal resources and policies toward improving the performance of the highway portion of the nation’s freight transportation system.⁶ This network includes subsystems that play distinct roles in freight highway operations and includes:

States—and in certain cases MPOs—are charged with designating public roads as CRFCs and CUFCs. Each state is allowed to designate a maximum of 300 miles of highway or 20 percent of state PHFS mileage as CRFCs while designation of CUFCs is limited to 150 miles of highway or 10 percent of PHFS mileage. With the passage of the IIJA in 2022, rural states can designate a maximum of 600 miles or 20 percent of PHFS mileage for CRFCs. **Figure 35** shows the PHFS and CUFC systems for the MPO Area. Currently, there are no non-PHFS Interstate or CRFC routes within the MPO Area.

Primary Highway Freight System (PHFS):

Highways identified as the most critical highway portions of the U.S. freight transportation system.

Other Interstate portions not on the PHFS:

Remaining portions of the Interstate system not included in the PHFS but provide important continuity and access to freight transportation facilities.

Critical Rural Freight Corridors (CRFCs):

Public roads not in an urbanized area that provide access and connection to the PHFS and Interstate system with freight transportation facilities.

Critical Urban Freight Corridors (CUFCs):

Public roads in urbanized areas that provide access and connection to the PHFS and Interstate system with freight transportation facilities.

State Designated Routes

NDDOT published its current [State Freight and Rail Plan](#) (SFRP) in 2023. The 2015 State Freight and Rail Plan established a Strategic Freight System Index that classified freight-related transportation infrastructure based on a hierarchy relating to roadway characteristics; this Strategic Freight System Index was updated in the current SRFP as shown in **Table 15**. **Figure 36** shows the Strategic Freight System Index classifications for the state of North Dakota.

MnDOT’s current [Statewide Freight System Plan](#) was published in 2018. It identified statewide routes designated as part of the National Highway Freight System within Minnesota. No routes within East Grand Forks were identified as part of this system. While no routes within East Grand Forks are designated as part of the National Highway Freight System, US 2, MN 220/Central Avenue, and several local routes see daily truck usage and are considered to play an important role in supporting the regional freight system.

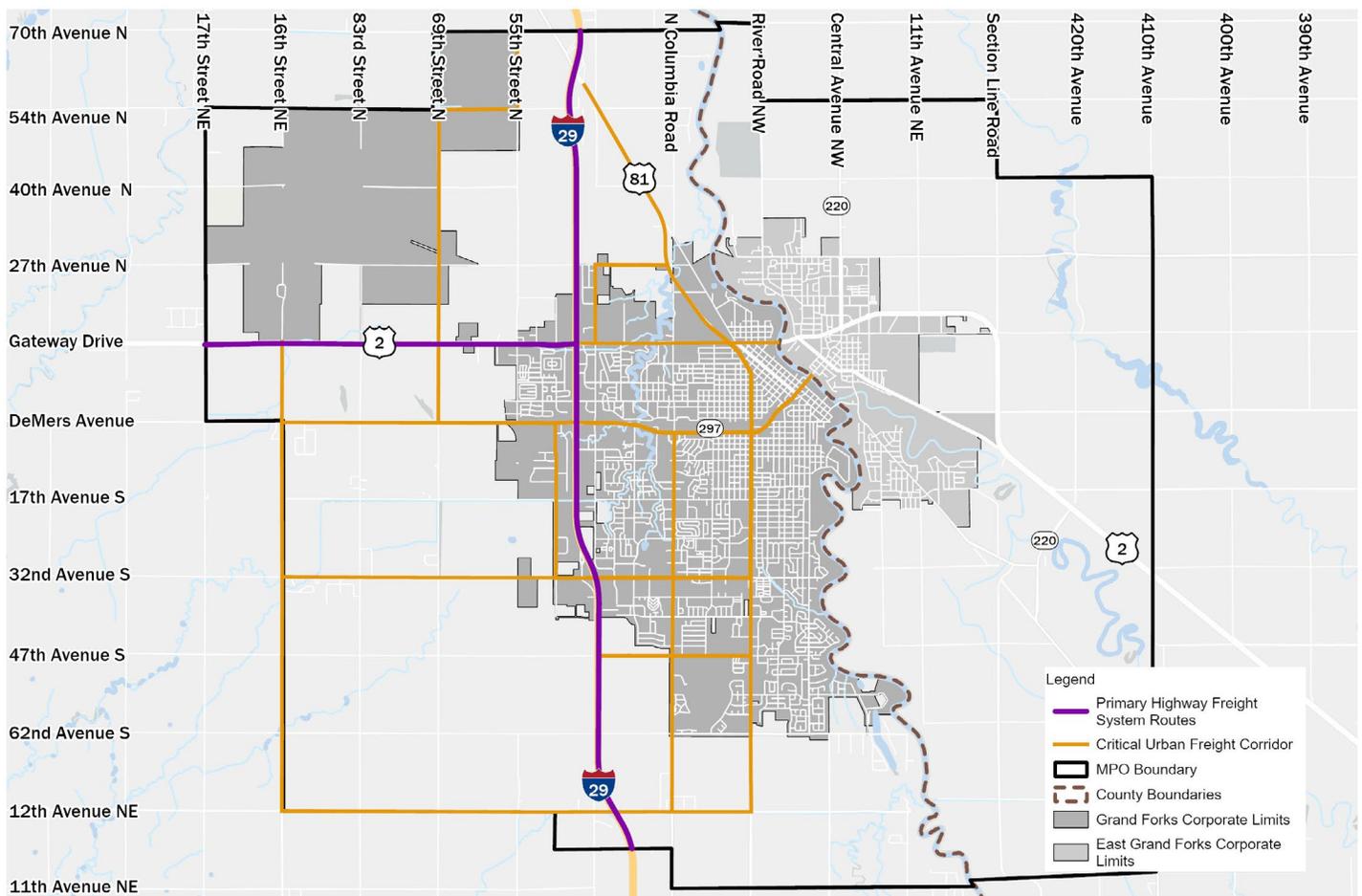
6 Federal Highway Administration, [National Highway Freight Network](#).

Table 15: North Dakota Strategic Freight System Index

	Level One Critical Rural Freight Corridors International/Interstate	Level Two Regional/Interstate	Level Three Local
Roadway Characteristics	<ul style="list-style-type: none"> • Interstate and Interregional Highways • Congressional Designated High Priority Corridors • STRAHNET • National Truck Network • Energy/Agricultural Access Corridors • High Truck Volume Principal Arterials • 24-hour Border Crossings and Commercial Facilities Processing More than 40,000 Trucks per Year 	<ul style="list-style-type: none"> • State Corridors • District Corridors • Limited County Major Collectors • City Principal Arterials • Border Crossings Processing Between 5,000 and 39,999 Trucks per Year and With Opening Hours of at Least 12 Hours 	<ul style="list-style-type: none"> • District Collectors • Some County, City, Township and Tribal Roads • Border Crossings Processing Fewer than 5,000 Truck Crossings per Year

Source: North Dakota DOT

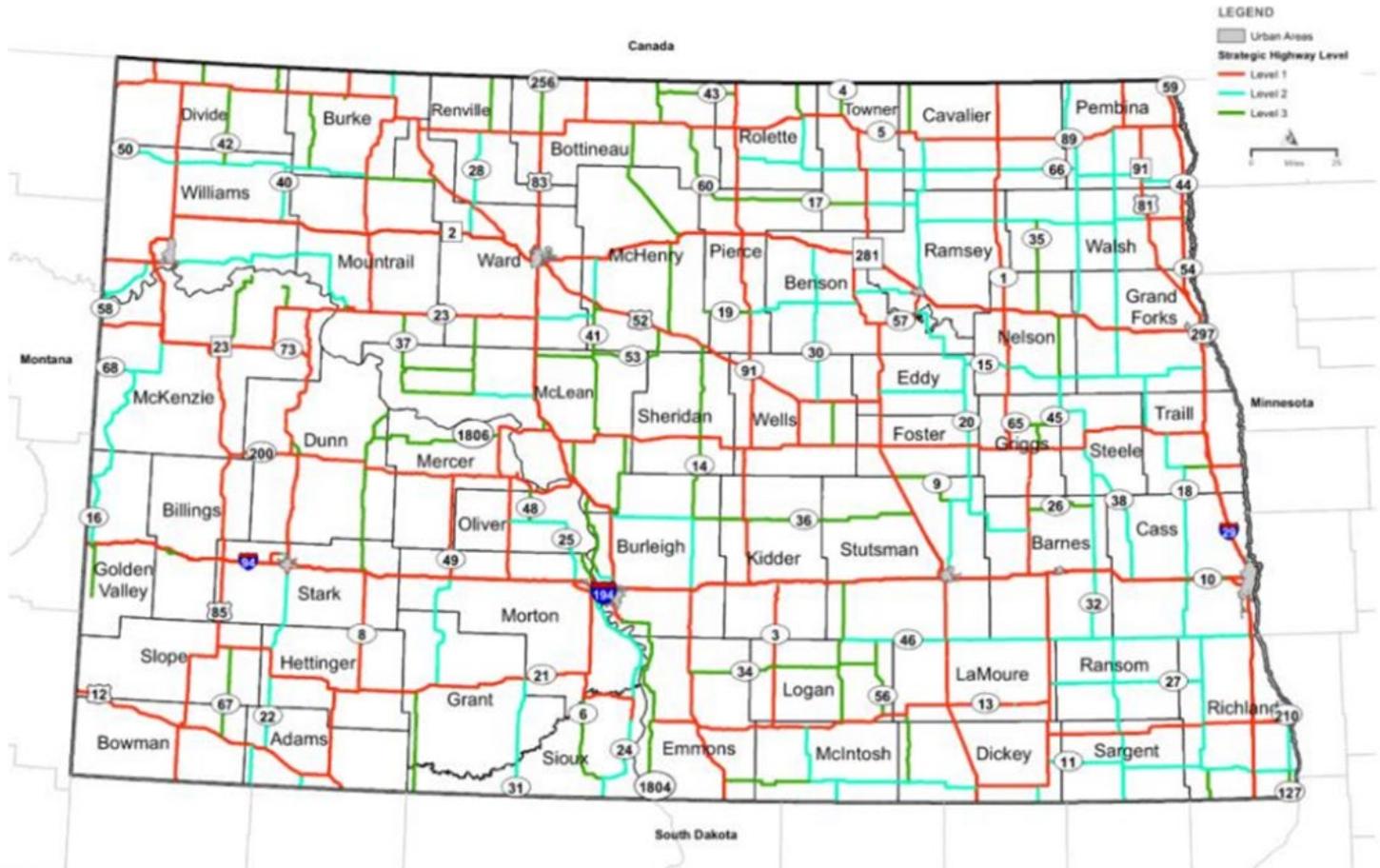
Figure 35: MPO Area PHFN and CUFC Routes



Locally Designated Routes

Several locally designated freight routes exist in addition to the federally and state-designated routes discussed. North Dakota law allows local agencies to designate specific routes while any roadway in Minnesota designated as part of the Municipal State Aid (MSA) system is considered a truck route.

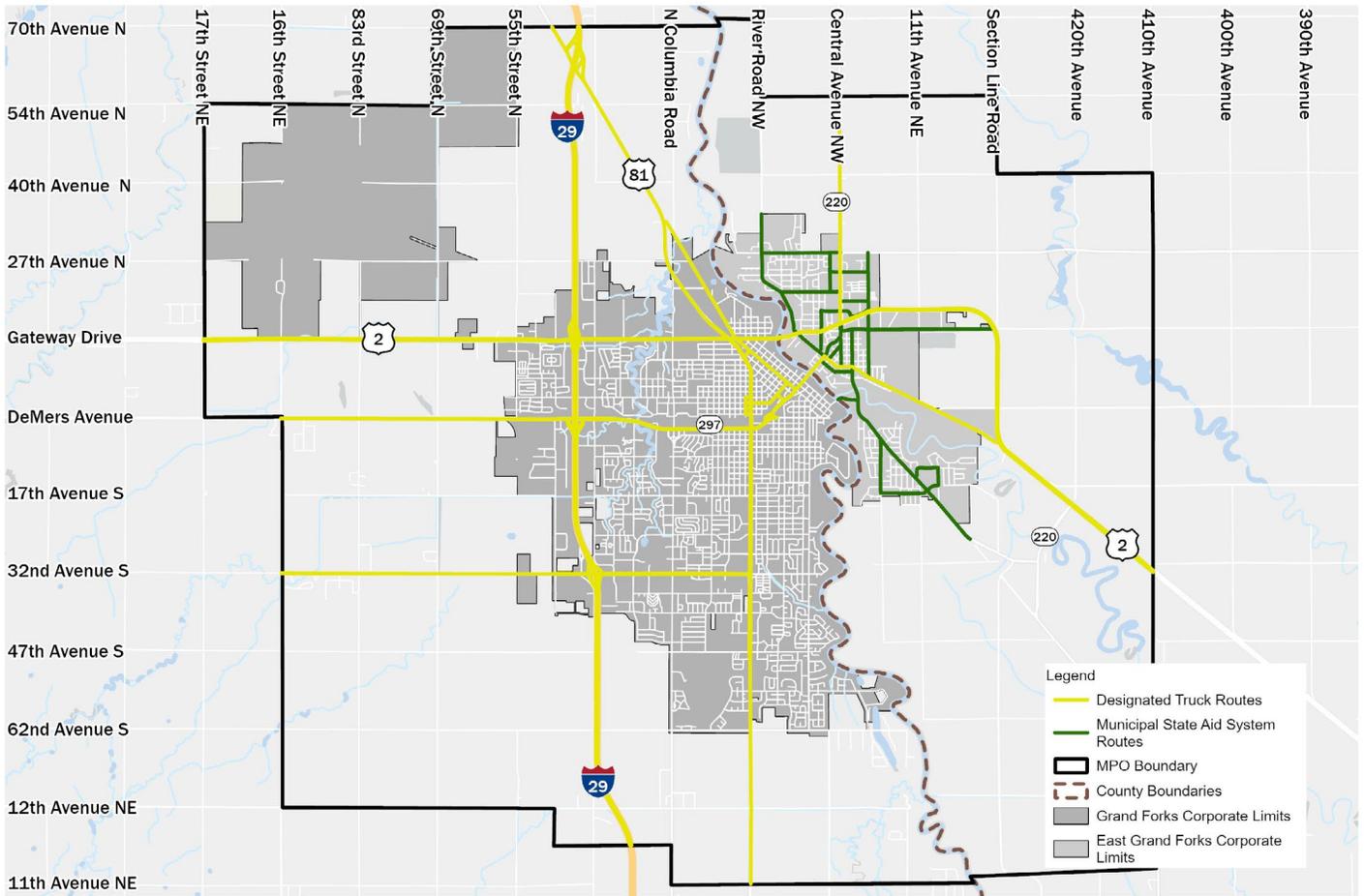
Figure 36: NDDOT Strategic Freight Routes



Source: North Dakota DOT

Within the North Dakota portion of the MPO Area, trucks may travel off a designated route so long as the non-truck route is at an intersection to their destination, and the same route is followed on the return trip. The city of Grand Forks also implemented weight limits, by ordinance, for trucks traveling on the Columbia Road overpass and Point Bridge; the posted limit for the Columbia Road overpass is 20,000 pounds gross weight while the limit for Point Bridge is 40,000 pounds gross weight. Locally designated truck routes are shown in **Figure 37**.

Figure 37: Locally Designated Truck Routes



Freight Generation

To better understand the relationship between existing land use and freight truck activity, freight generation rates reflecting approximated heavy truck activity was estimated. Travel Analysis Zones (TAZ) developed as part of the 2010 Census were used for the analysis.

Figure 38 shows the estimated daily truck generation rates for the MPO Area. As seen in the Figure, there are several TAZs representing areas with high truck generation rates within the limits of Grand Forks along 32nd Avenue S. Additional areas with higher generation rates were found along I-29 and US 2, which highlights freight demand and the desire for accessibility to major freight routes. TAZs in East Grand Forks with the highest truck generation rates are along US 2 and along Business 2 adjacent to American

Crystal Sugar. It should be noted that the American Crystal Sugar traffic varies significantly by time of year, with very high truck volumes during the beet harvest.

Daily Truck Trips

Daily truck trips for routes within the MPO Area were sourced from FHWA’s Freight Analysis Framework 5 (FAF 5) dataset (base year 2017) and are shown in Figure 39. The routes demonstrating the highest levels of daily trips include I-29 and US 2 west of I-29. The portion of US 2 in East Grand Forks also shows a relatively high number of daily truck trips. The route from DeMers Avenue to S 48th Street is estimated to carry a high number of trucks between the industrial area located there and I-29, which highlights a critical connection served by these roadways.

Figure 38: Daily Truck Generation Rates

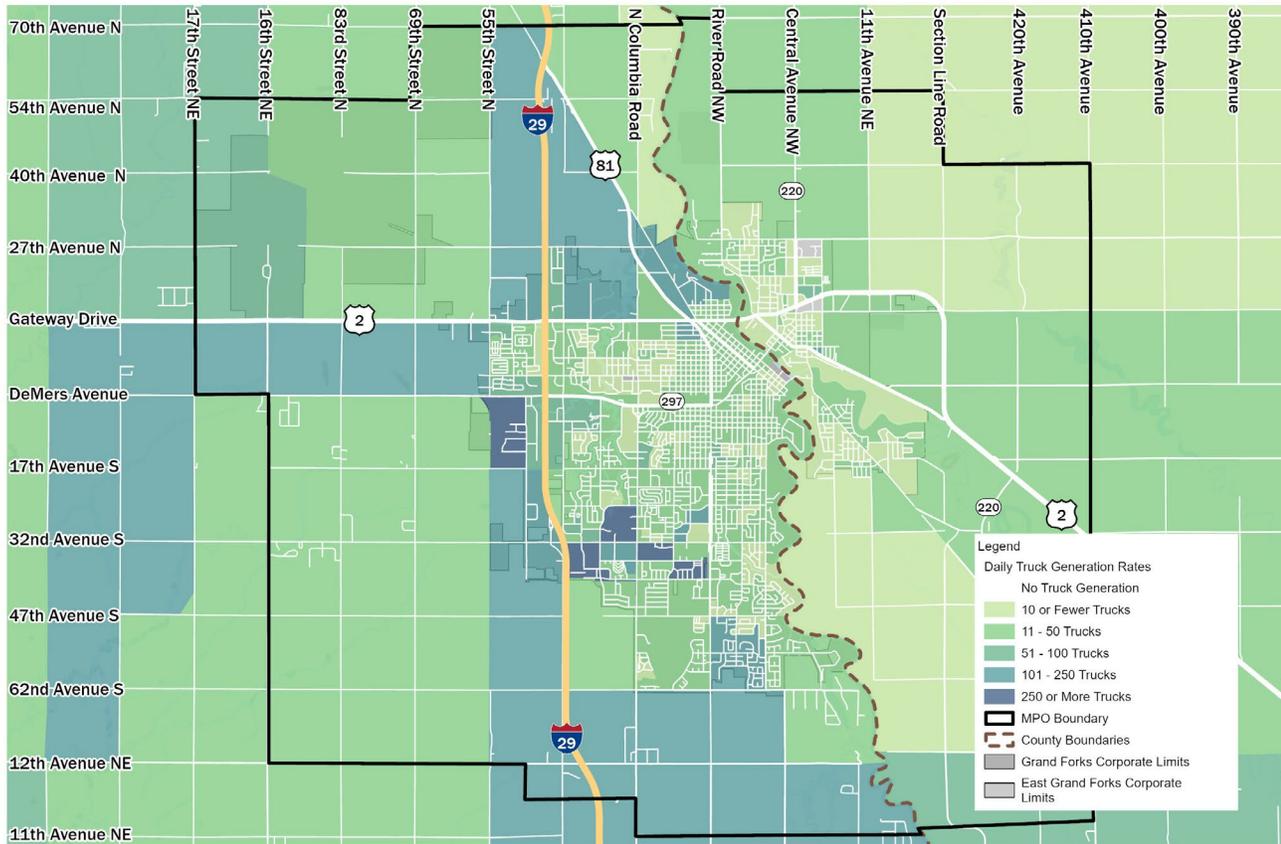
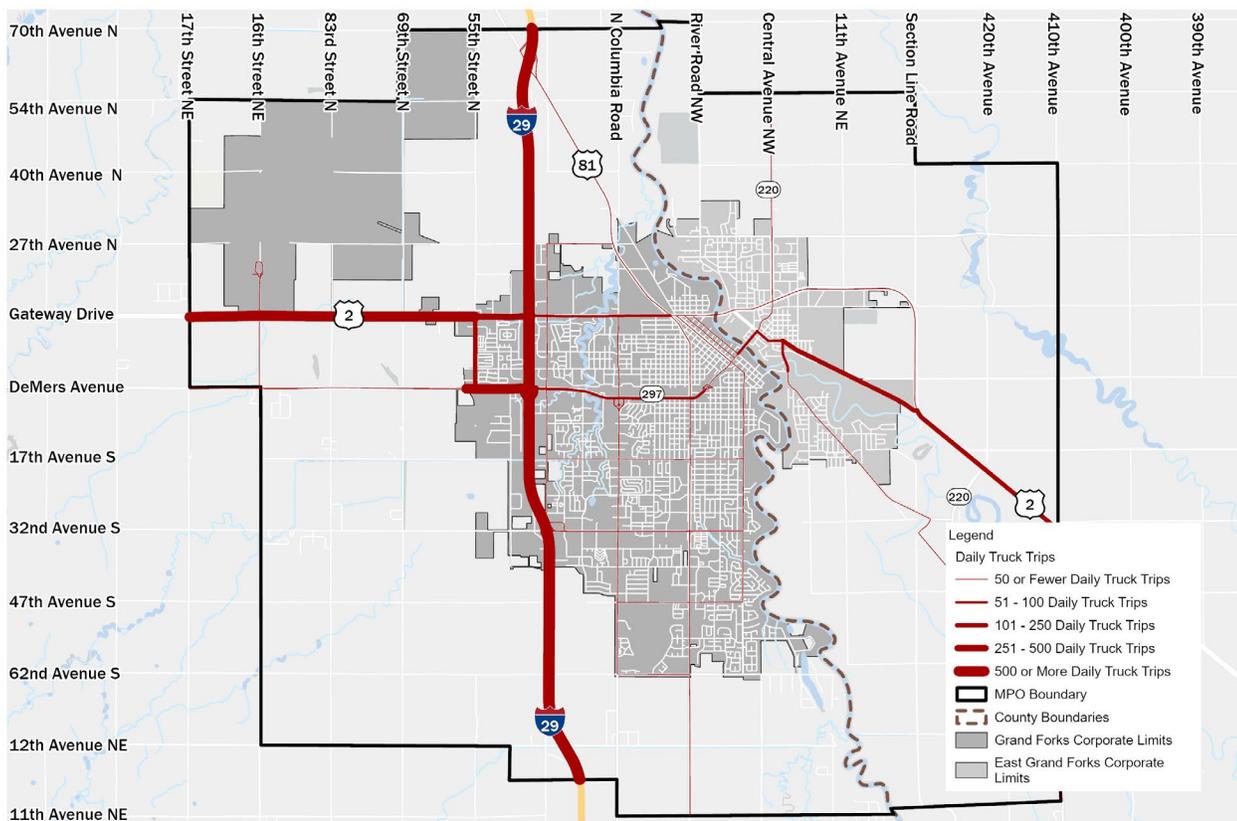


Figure 39: Daily Truck Trips, 2017



Daily Freight Tonnage

Annual tonnage moved by trucks is a second data item the FAF5 dataset estimated. **Figure 40** shows the estimated annual tonnage for MPO Area routes for the year 2017.

As seen in **Figure 40**, there is a strong relationship between daily truck trips and annual tonnage moved. I-29 and US 2 west of I-29 are estimated to carry some of the highest levels of tonnage in the MPO Area, while US 2 in East Grand Forks carries the highest level of annual tonnage on the Minnesota side of the MPO Area. DeMers Avenue/ND 297 carries a relatively high level of annual tonnage within the region.

Freight Rail System

Freight rail is an important component of the MPO Area's regional freight system, as this mode is used to carry large quantities of goods long

distances, especially agricultural goods and other commodities. However, the presence of freight rail networks can pose issues related to crossings with road facilities. This issue is prevalent in the MPO Area as at grade train crossing events contribute to traffic congestion as vehicles are forced to wait for trains to pass. Safety can be another issue posed by at-grade crossings as the potential for a train-vehicle collision can result in a severe crash and an incapacitating injury or fatality.

The majority of rail lines within the MPO Area are owned and operated by BNSF. BNSF also operates the DeMers railyard located in Grand Forks, which is one of the major railyards found in North Dakota. Figure 41 shows the rail lines and public crossings found within the MPO Area. Public crossings shown include those that are grade-separated and those that are at-grade.

Figure 40: Annual Truck Tonnage, 2017

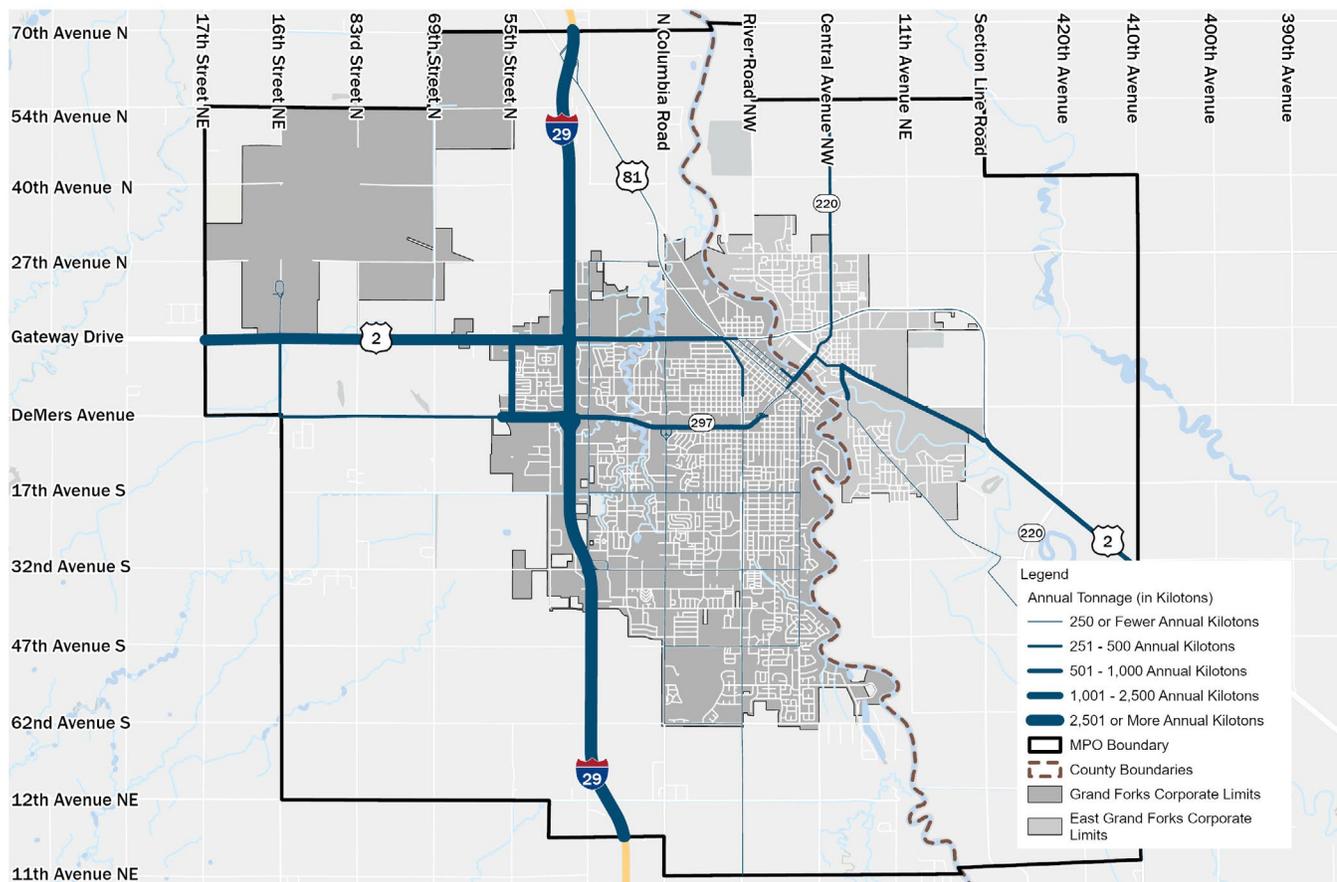
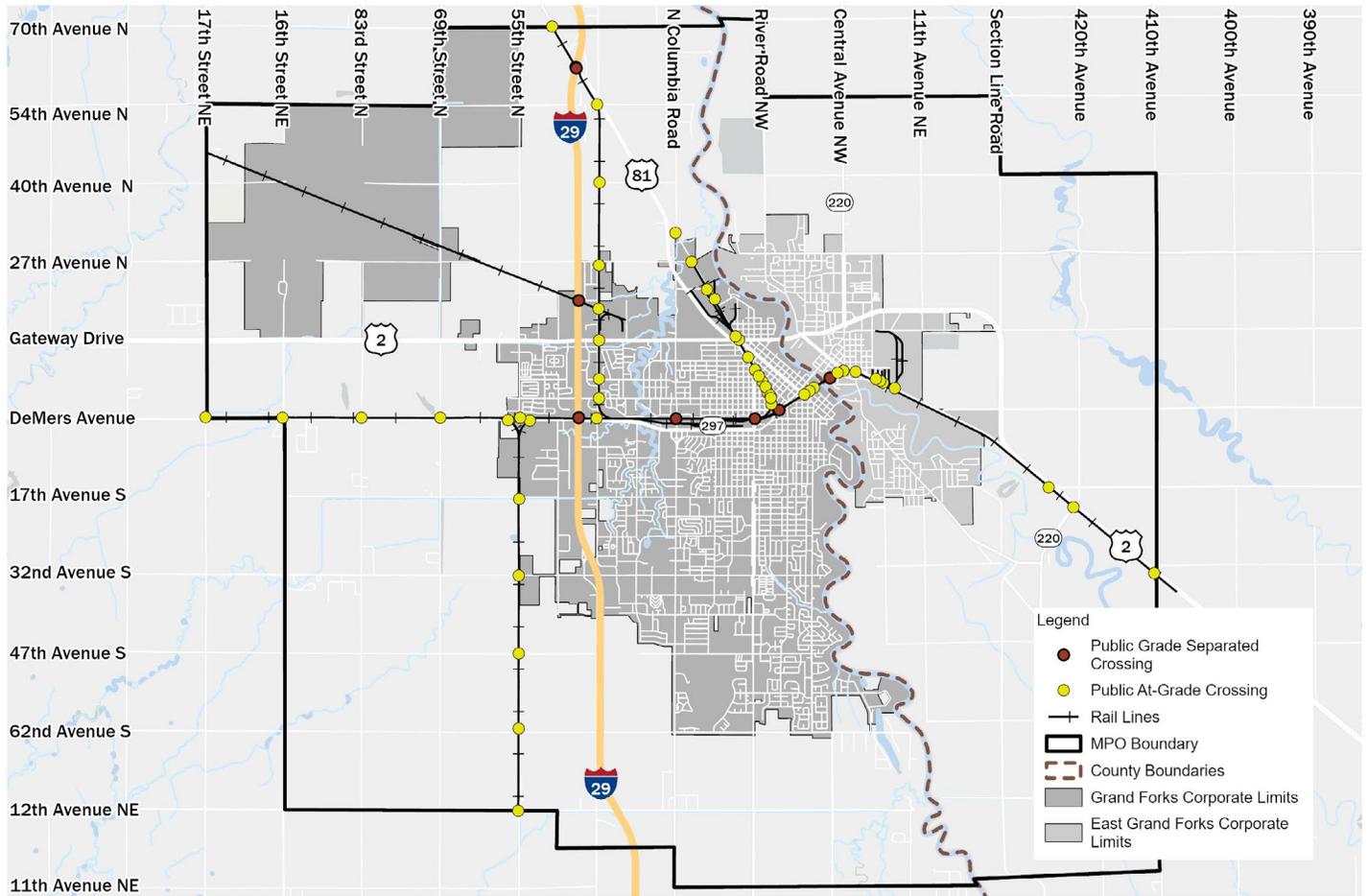


Figure 41: MPO Area Freight Rail Network



Existing Regional Connections

The roadway network within the MPO Area serves as the backbone of the region’s transportation system. While the local roadway network is critical in serving the needs of the MPO Area’s residents, additional transportation modes exist that facilitate travel into and out of the region. These regional connections, which include intercity bus service, passenger rail service, aviation, and alternate mobility providers, all play a role in providing a balanced regional transportation system. This section of the Street and Highway Plan provides a brief overview of the existing regional connections.



Source: Jefferson Lines

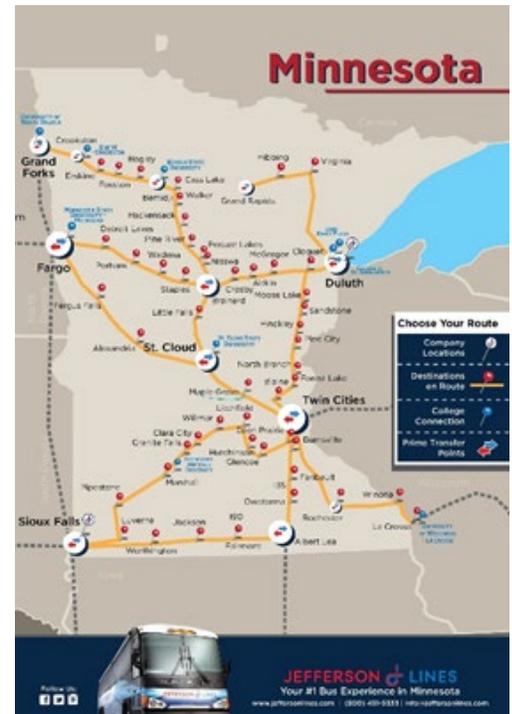
Intercity Bus Service

Intercity bus service operating in the Grand Forks area is provided by [Jefferson Lines](#). Jefferson Lines currently operates two routes in North Dakota:

- **North-south route:** I-29, from the South Dakota border to Grand Forks
- **East-west route:** I-94, from Fargo to the Montana border

A transfer point for the two routes is located in Fargo, allowing passengers more opportunity to find a route that meets their travel needs. The City of Grand Forks is home to two stops for Jefferson Lines' north-south route. These stops are:

- Cities Area Transit Metro Transit Center (MTC) in downtown Grand Forks
- UND's Memorial Union

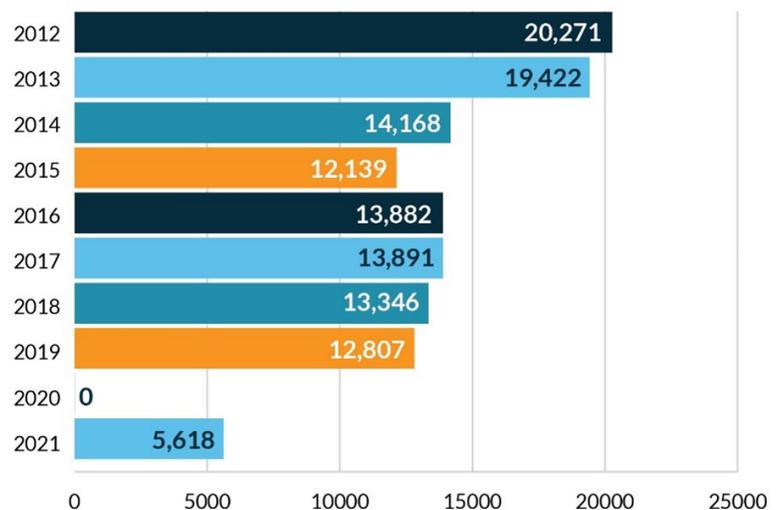


Source: Jefferson Lines

Passenger Rail

Passenger rail service within the region is provided by Amtrak, which operates the Empire Builder line that travels through the state. Connecting Chicago to Seattle, the Empire Builder line traverses over 2,200 miles as it winds through the northwest United States. Amtrak has a station in western Grand Forks, where users can board the westbound train each day at 5:34 a.m., or the eastbound train at 2:10 a.m.⁷ Ridership for the Grand Forks station for fiscal years 2012 through 2021 is summarized in **Figure 42**. The stops along the Empire Builder line nearest to the MPO Area can be found in Fargo and Devils Lake.

Figure 42: Amtrak Boardings and Alightings for the Grand Forks Station, 2012-2021*



*Due to the COVID-19 pandemic, there were no boardings or alightings in 2020

Source: North Dakota DOT, State Freight and Rail Plan

7 North Dakota Department of Transportation, [State Freight and Rail Plan](#)

Aviation

The MPO Area is served by the Grand Forks International Airport (GFK), which is located approximately 5 miles west of Grand Forks incorporated limits. Commercial air service is provided by Delta Air Lines and Allegiant, which offer service to the following locations:⁸

- **Delta Air Lines:** Connecting flights to Minneapolis-St. Paul International Airport
- **Allegiant:** Direct service to Las Vegas, Phoenix/Mesa, and Orland/Sanford (seasonal)

GFK publishes historic enplanement data on the airport website, which represents the number of commercial passengers boarding flights (including charters). Enplanement data for the years 2015 through July of 2023 are shown in **Figure 43**.

In addition to commercial airline service, GFK offers general aviation services through AVflight. The UND Aerospace program uses GFK to train student pilots and has over 110 fleet aircraft with the majority of these based at GFK.⁹ Due largely in part to the UND Aerospace program and associated pilot training, GFK consistently ranks in the top 20 busiest airports in the country. Historic operational statistics, which track take-offs and landings, demonstrate the high usage of GFK. Operational statistics published by GFK for the years 2015 through July of 2023 are shown in **Figure 44**.



Source: Grand Forks International Airport

Figure 43: Grand Forks Airport Annual Commercial Enplanements, 2015–2023

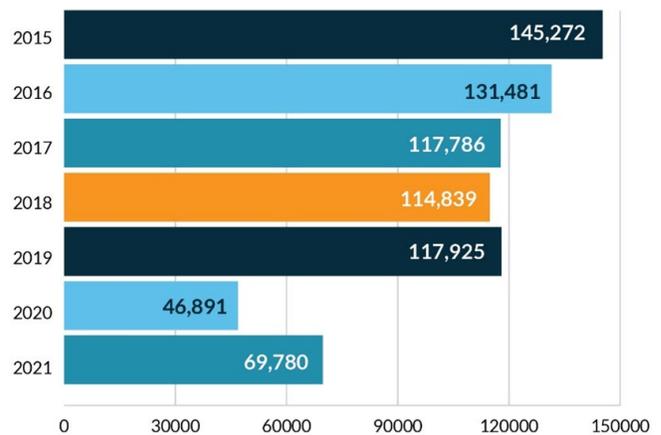
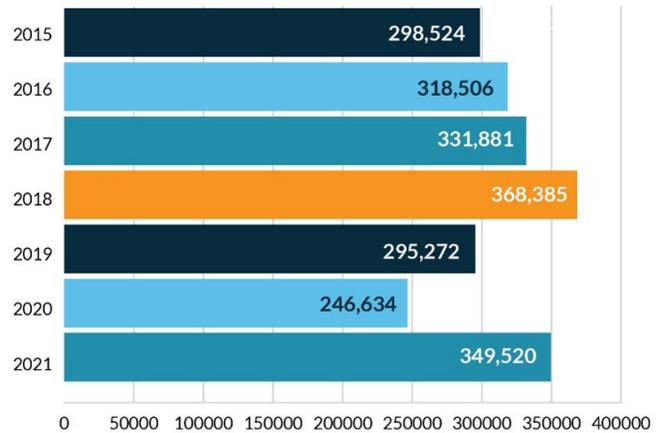


Figure 44: Grand Forks Airport Annual Operations, 2015–2023



Source: Grand Forks Airport

8 Grand Forks International Airport, [Airline Information](#)

9 Grand Forks Airport, [UND Aerospace](#)

Waterways

The Red River, which forms the border between the cities of Grand Forks and East Grand Forks, is an important source of recreation for the region. The river's importance has been recognized by MnDOT, as evidenced by the river's designation as an official canoe and boating waterway. Numerous river access points can be found in both Grand Forks and East Grand Forks, which highlights opportunities for local jurisdictions to coordinate and manage access that allows for all community members to use this treasured waterway.

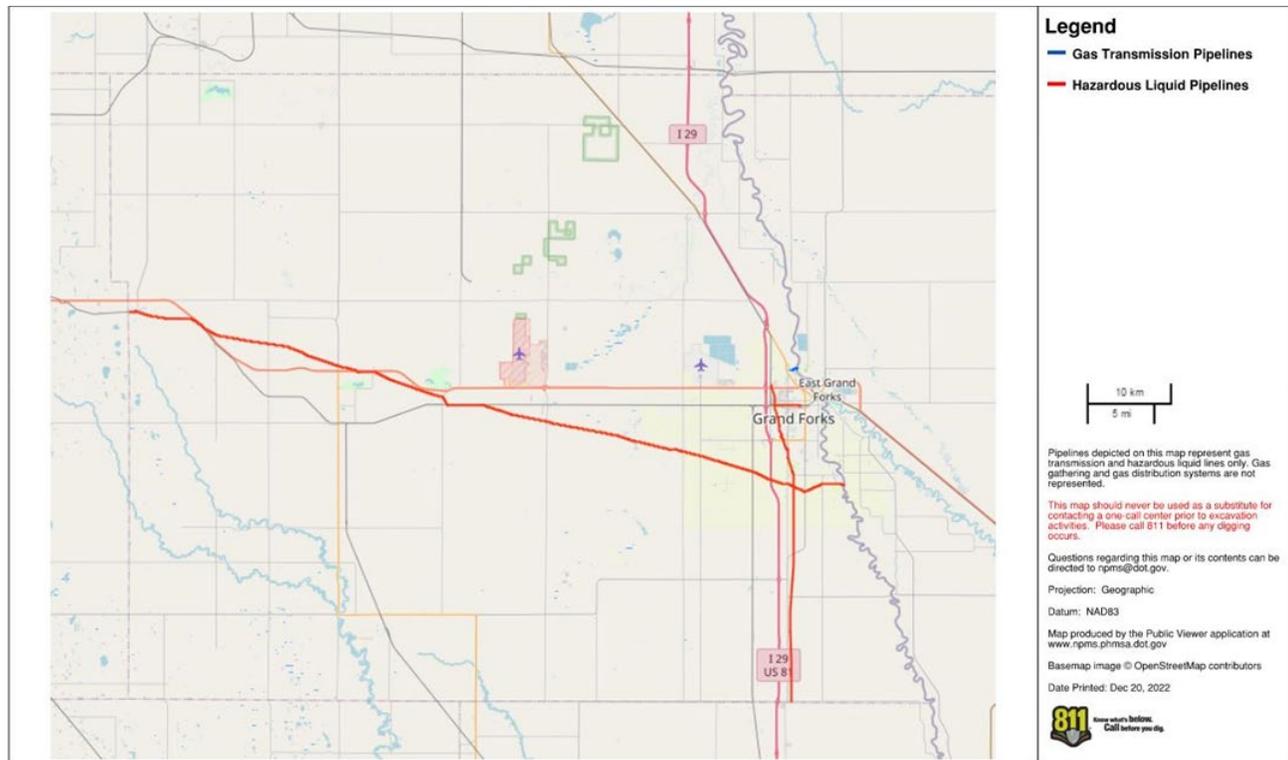
Pipelines

Several active pipelines are found within the MPO Area, facilitating the transportation of gas, petroleum, and other substances. The pipelines found in the Grand Forks-East Grand Forks area are described in **Table 16**. **Figure 45** and **Figure 46**, sourced from the National Pipeline Mapping System (NPMS) Public Viewer, show the approximate locations of pipelines found within Grand Forks County and Polk County, respectively.

Table 16: MPO Area Pipelines

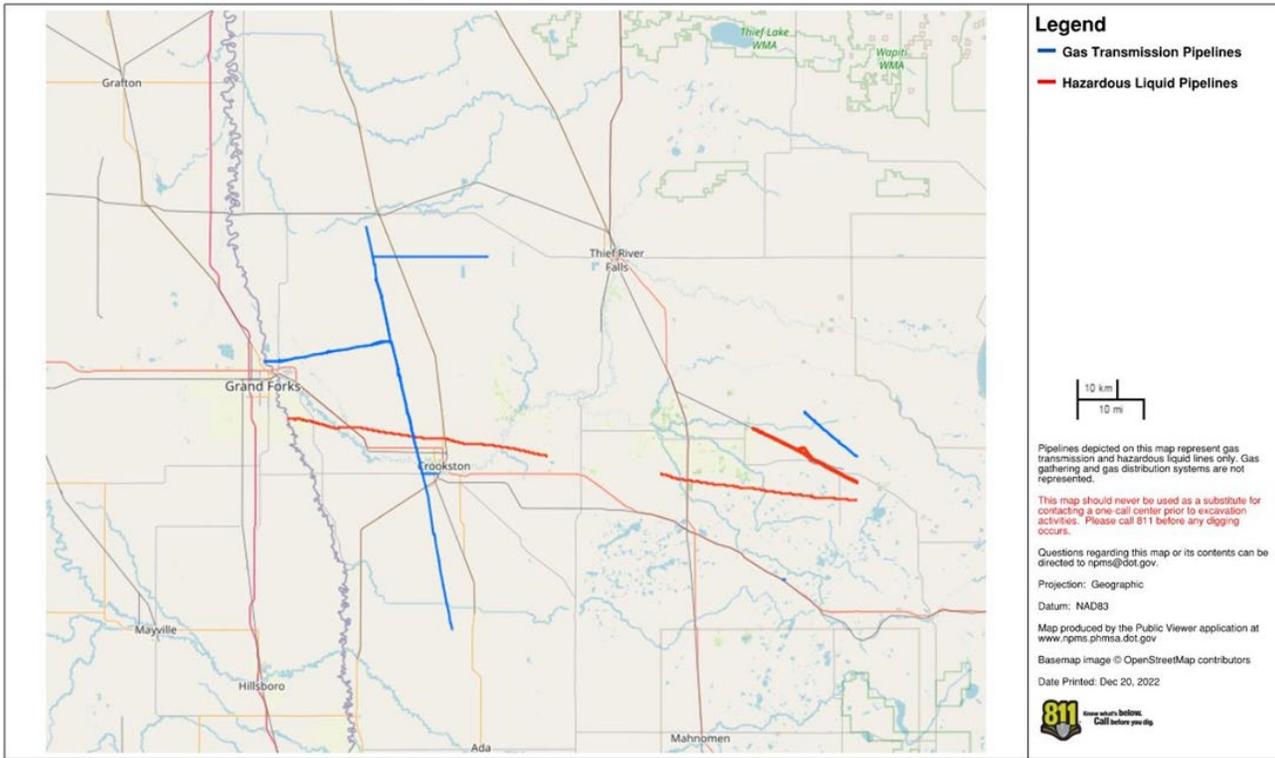
Pipeline Operator	Type	Location
Magellan Pipeline Company	Hazardous Liquid Pipeline	Grand Forks/Grand Forks County
North Dakota Pipeline Company	Hazardous Liquid Pipeline	Grand Forks/Grand Forks County
Viking Gas Transmission Company	Gas Transmission Pipeline	East Grand Forks/Polk County

Figure 45: Pipelines within Grand Forks County, North Dakota



Source: USDOT, [National Pipeline Mapping System](#)

Figure 46: Pipelines within Polk County, Minnesota



Source: USDOT, [National Pipeline Mapping System](#)

Alternate Mobility Providers

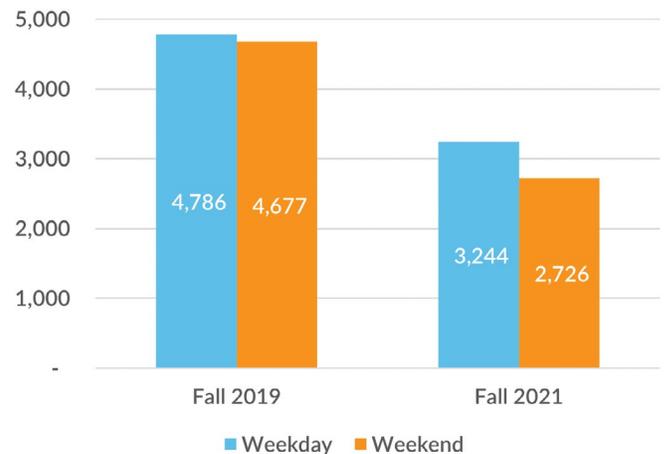
Alternate mobility providers refer to emerging transportation services that typically offer lower-cost, on-demand transportation for users. Examples of alternate mobility providers include Transportation Network Companies (TNC) like Uber and Lyft, as well as shared mobility services like bikeshare and e-scooter systems.

Transportation Network Companies

Uber and Lyft are two TNCs currently operating in the MPO Area. Users are able to request a ride via smart phone application by inputting the desired pickup and drop-off location. Once this information is provided, the app matches the user with an available driver to complete the trip.

TNC ridership data sourced from Replica for the years 2019 and 2021 was reviewed to understand TNC usage within the MPO Area. The

Figure 47: TNC/Taxicab Trips Originating Within the MPO Area



Source: Replica

data presented here represents TNC usage for a typical weekday and weekend day during fall months (September, October, and November). **Figure 47** shows the total number of trips taken

via TNC or taxicab that originated within the limits of Grand Forks or East Grand Forks during Fall 2019 and Fall 2021. Between 2019 and 2021 there was a decrease of 32 percent for weekday TNC usage and 41 percent for weekend day TNC usage.

Shared Mobility Services

Shared mobility services are defined as transportation resources and services that are shared by users, either concurrently or at the same time. Bikeshare and e-scooter systems are currently operating in the MPO Area and comprise the shared mobility landscape found within the region.

BIKE SHARE

Grand Rides, the current bike share service within the MPO Area, was launched in August 2020. The current fleet consists of 60 bicycles, and these bicycles can be found through Grand Forks, East Grand Forks, Altru, and the UND campus.

The bike share service uses Movatic software, which allows users to locate a bicycle via smart phone application. Users are then able to check out the bicycle for use and return it to a bike share zone to check in once their trip is completed.

To use the service, riders are required to sign up for a membership using the smart phone application. Memberships are free, and users may rent a bicycle at no charge for up to 6 hours.



Source: University of North Dakota

2023 BIKE SHARE USAGE

538 Riders

12,186 Miles Biked

41 Average Riders per Day

Source: Grand Rides

E-SCOOTERS

E-scooters are an emerging mobility mode that provide an additional option for users to complete shorter trips. Similar to bike share, users are able to locate an e-scooter via smart phone application and rent the e-scooter to complete their trip. Users then check the scooter back in using the smart phone application when they are done.

The City of Grand Forks partnered with Bird, an electric mobility company, to launch an e-scooter service within the community. Once users download the Bird application to a smart phone device, they are able to create an account and begin using the service. Once their trip is complete, users return the e-scooter to a designated zone to check it back in.



Source: Grand Forks Herald

Bicycle and Pedestrian System

The MPO Area’s bicycle and pedestrian system provides an additional transportation option with ample opportunity to walk or bike for work, retail, entertainment, or recreational purposes.

The existing bicycle and pedestrian system is comprised mainly of shared use paths located adjacent to roadways and offer users a separated facility for bicycling and walking. The system also includes on-street infrastructure that provides connections to the regional shared use path system.

Grand Forks-East Grand Forks adopted the Bicycle and Pedestrian element of the MTP update in January 2023. The intent of the Bicycle and Pedestrian element is to guide the development of a safe, effective, and well-connected network of bicycle facilities to encourage walking and bicycling for transportation, recreation, and economic development objectives while improving the quality of life for MPO Area residents.

Figure 48 shows the MPO Area’s existing bicycle and pedestrian system.

Example of a Shared Use Path in the MPO Area



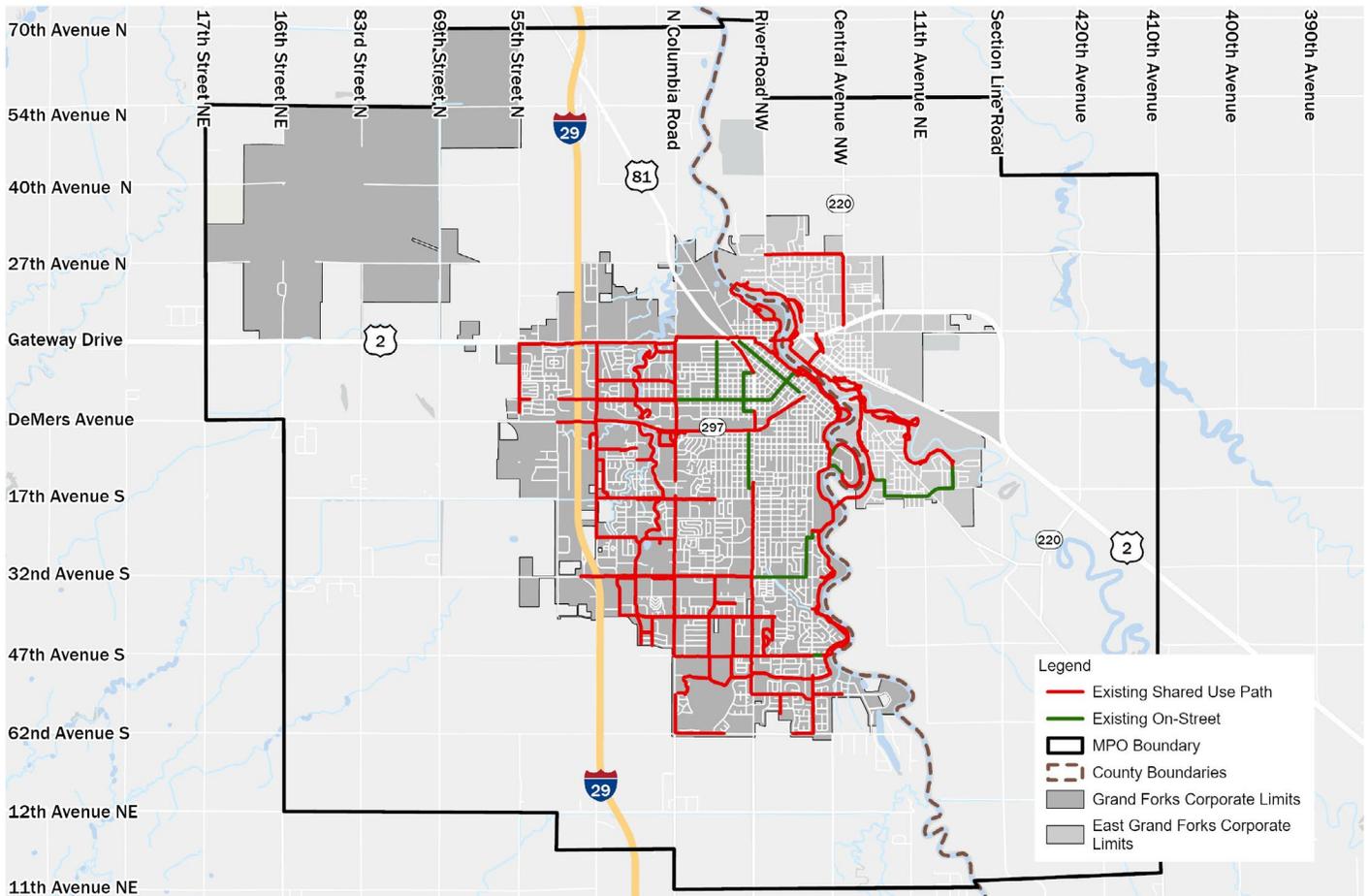
Source: Trail Link

Example of an On-Street Facility (Sharrow) in the MPO Area



Source: Street View

Figure 48: Existing Bicycle and Pedestrian System, 2021



Transit System

Transit operations within the MPO Area are currently provided by Cities Area Transit (CAT). CAT operates fixed-route and demand-response transit services within the incorporated limits of Grand Forks and East Grand Forks.

The fixed-route service is comprised of 12 routes that operate between the hours of 6:00 a.m. and 10:00 p.m. Monday through Friday and 8:00 a.m. to 10:00 p.m. on Saturdays. Service is not currently provided on Sundays. Demand-response service is operated during the same hours, and rides are scheduled by calling CAT at least one day in advance.

Grand Forks-East Grand Forks adopted the Transit element of the MTP update in January

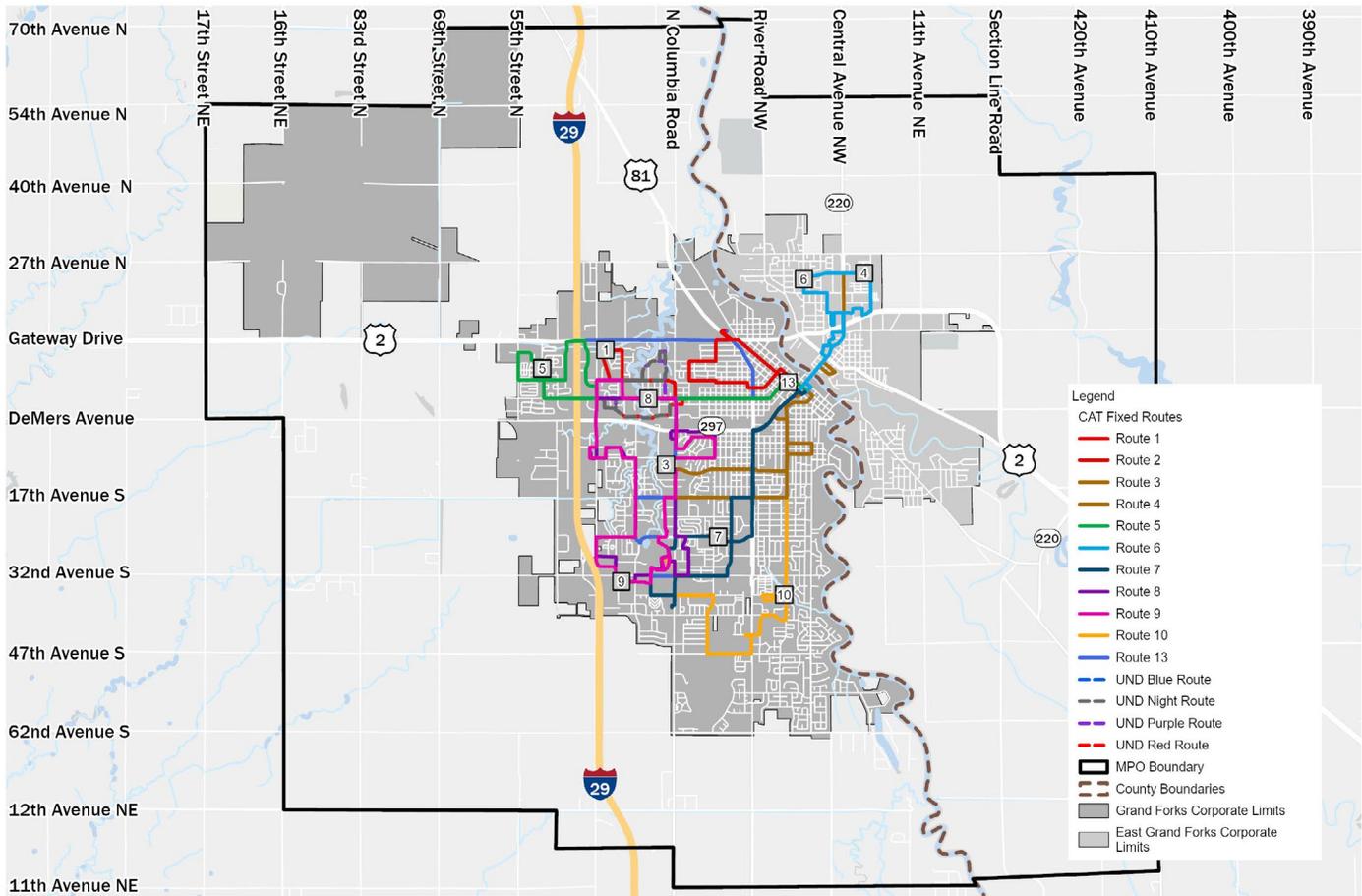
2023. The intent of the Transit element is to provide a 10-year plan and vision for transit within the MPO Area, including short- and long-term recommendations for fixed-route and demand-response services.

Figure 49 shows the existing fixed-route system operated by CAT.



Source: University of North Dakotaw

Figure 49: Existing CAT Fixed-Route Transit Routes



Environmental Resources

Archaeological and Historical Resources

There is potential for historic and cultural resources to be present within the MPO study area. Historic and cultural resources are regulated under Section 106 of the National Historic Preservation Act and may require coordination with NDDOT and MnDOT and consultation with the North Dakota and Minnesota State Historic Preservation Offices (SHPO). The Cultural Resources Map (Figure 50) identifies areas listed on the National Register of Historic Places or known historic districts. In addition to known listed sites, other cultural resources may be present and regulated under Section 106.

Four cultural resource districts are present within the northern half of Grand Forks city limits and are in close proximity to each other. The historic districts include Grand Forks Near Southside, Downtown Grand Forks, Grand Forks Riverside Neighborhood, and UND. There are numerous cultural resource buildings found downtown within the study area. A few include Grand Forks County Fairgrounds, North Dakota Vision Services/School for the Blind, Grand Forks City Hall, Dakota Block, Masonic Lodge-Kem Temple, Dr. Henry Wheeler house, and several other blocks, houses, buildings, schools, and apartments.

Early in project planning, the jurisdictional entity should notify the DOT and SHPO of its intent to proceed with a particular roadway improvement project and request that these agencies advise

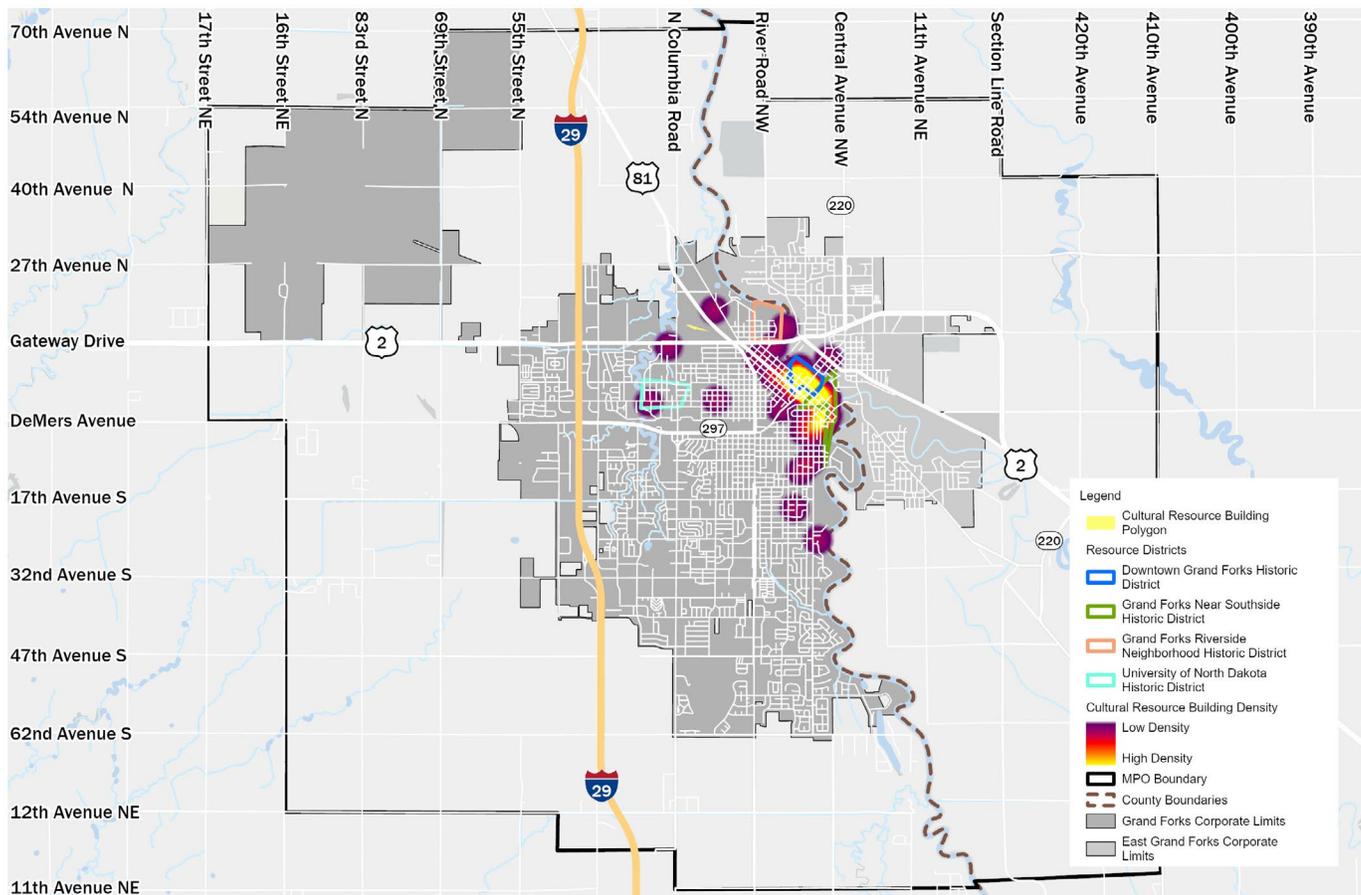
the jurisdiction on the applicability of Section 106, the need to identify consulting parties, and for a cultural resource literature search to identify cultural resources within the study area. When appropriate, the jurisdiction should anticipate if a field identification effort would be conducted, including identification of archaeological, architectural, and traditional cultural properties subject to the effects of the project. When historic properties are identified, the jurisdiction should anticipate that avoidance or mitigation of adverse effects to such properties may be required. Clarification of these procedures and the expectations of other participants in consultation can be addressed under the terms of a Programmatic Agreement among the parties that tailors the review process to the needs of the Grand Forks Street and Highway Plan.

Wetlands and Waters of the US

Wetlands and other waters of the US (WOUS) will need to be considered for any project during the progression from the planning stages to construction. Wetland/WOUS delineations are recommended in the initial stages of roadway improvement projects to confirm the types and boundaries of wetlands and WOUS within the project area and to coordinate with the US Army Corps of Engineers (USACE) for jurisdictional determinations of the aquatic resources.

The National Wetlands Inventory (NWI) provides an estimate of wetlands based on soil type and aerial photography. These boundaries are utilized as guidance for identifying potential wetland areas, and a field delineation would be required for projects within the vicinity of these wetland boundaries. If any impacts to wetlands are expected from proposed projects, mitigation of those impacts would be required in accordance with DOT and USACE requirements.

Figure 50: Cultural Resources Map



For this Street and Highway Plan, NWI and aerial photography were reviewed within the MPO study area to determine potential project impacts. The Red River (a large perennial river) runs south to north through the center of the study area. Several Red River tributaries flow out of the study area including English Coulee, Red Lake River, Wilson Creek, Cole Creek, and Grand Marais Creek (**Figure 51**). These creeks and rivers are likely jurisdictional and any work in their vicinity would require a Section 404 permit.

Several smaller wetland areas also occur throughout the study area. Most of the larger wetlands are located in the northwest area of the city limits on the North Dakota side. These mostly include freshwater emergent wetlands and a few lakes. The Minnesota side contains streams that pass through city limits, as well as reservoirs and smaller lakes and ponds. Scattered freshwater emergent wetlands and forested/shrub wetlands are found dispersed throughout the Grand Forks-East Grand Forks MPO Area (**Figure 51**). Areas with the least amount of stream or wetland presence include the northeast and southwest corners of the MPO study area.

Floodplains

There are regulated floodways, 100-year floodplains, and 500-year floodplains located within the study area. Executive Order 11988, Floodplain Management, outlines measures to reduce the risk to floodplains and requires agencies to identify whether a project would cause an encroachment into a floodplain, evaluate alternatives to such an encroachment, and analyze potential floodplain impacts.

The Aquatic Resource Map identifies regulatory floodways, the 100-year floodplains, and 500-year floodplains occurring within the study area (**Figure 51**). There is no floodplain dataset for the Minnesota side since it was last mapped in 1985. However, FEMA's National Flood Hazard Layer online viewer was used to locate 100-year and 500-year floodplains surrounding the

city limits (**Figure 51**). The Red River bisects the study area and has a history of frequent flooding. Regulatory floodway is found along the west and east sides of the Red River from the northern city limits and travels southeast out of the MPO Area. The 100-year floodplain is found within the northern and southern areas of the MPO study area. The 500-year floodplain occurs along the northwestern corner of the MPO Area and in the southeastern portion. If any roadway improvement would encroach into the 100-year floodplain or regulated floodway, coordination would be required to secure the appropriate local floodplain permits.

Flood Protection

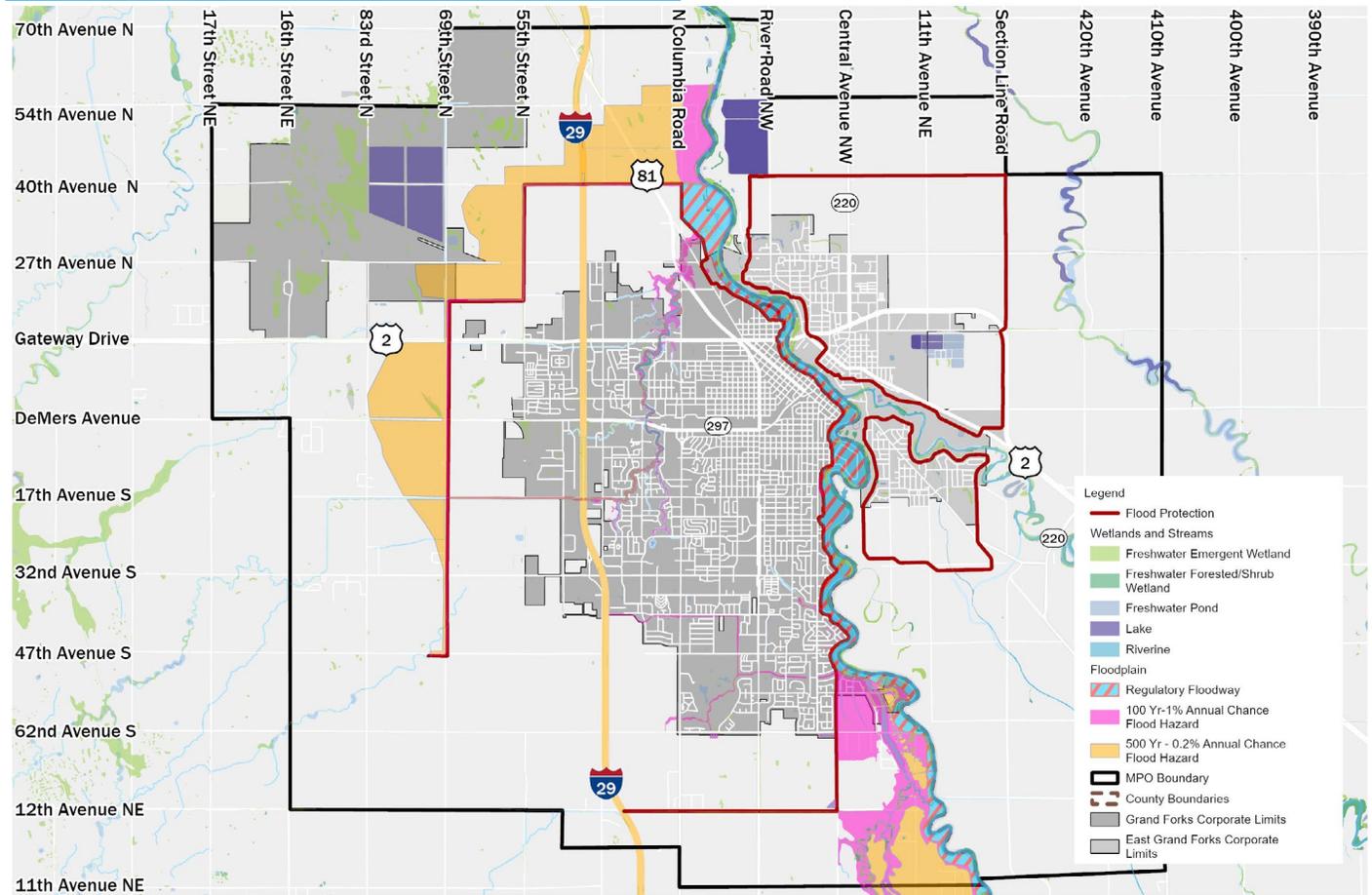
Flooding has been a historic concern for the communities within the MPO Area given their proximity to the Red River and Red Lake River. As such, a system of flood protection structures, including dikes, floodwalls, and levees, have been constructed within Grand Forks and East Grand Forks. These structures are shown in **Figure 51**.



Floodwall in Grand Forks

Source: Minnesota Public Radio

Figure 51: Aquatic Resource and Floodplain Map



Threatened and Endangered Species

Fish and wildlife species listed under the Federal Endangered Species Act (ESA) would need to be considered for each project. Consultation with US Fish and Wildlife Service (USFWS) would be required to determine which ESA-listed species have the potential to occur within each project area.

A review was completed using the USFWS Information for Planning and Consultation (IPaC) for the study area (Project Code: 2023-0032046). Federally listed threatened and endangered species in the study area include the northern long-eared bat (listed as endangered) and monarch butterfly (listed as a candidate species). No critical habitats are designated for either species in the MPO Area.

The Minnesota Department of Natural Resources (MnDNR) online Formal Natural Heritage Review report did not document any state-listed endangered or threatened species in the MPO Area. Additionally, there are no North Dakota state-listed endangered or threatened species documented in the MPO Area.

Habitat for northern long-eared bats includes caves and mines for winter hibernation and bark or crevices of living trees or snags in spring, summer, and fall. The species has also been found roosting in human-made structures, such as abandoned buildings and bridges, but the species appears to prefer tree roosts if they are available. Monarch butterflies need milkweed and flowering plants for feeding, breeding, and migration. This habitat is commonly found in roadside ditches, open and wetland areas, or urban gardens.

Northern long-eared bats and monarch butterflies have potential to occur in portions of the study area. Although habitat for some of these species could be present in the MPO Area, the urban nature of most of the existing habitat would deter most of these species from using habitats where roadway improvement projects would occur. Further review should be completed to confirm the presence or absence of threatened and endangered species and their habitats prior to construction of roadway improvement projects.

Section 4(f) and Section 6(f) Resources

The Department of Transportation Act (DOT Act) of 1966 included a special provision—Section 4(f)—which is intended to protect publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites. Similarly, Section 6(f) protects state and locally sponsored projects that were funded as part of the Land and Water Conservation Fund (LWCF).

Publicly owned parks and recreation areas are present within the MPO Area. The Red River State Recreation Area is located along the Red River in East Grand Forks, along with Sherlock Park, the Greenway, and Bob Zavoral Memorial Park. The west side of Grand Forks has Jaycees Park (among many other public neighborhood parks), Japanese Gardens, and Veterans Memorial Park. Public and private historical sites also occur in the downtown area (see Archaeological and Historical Resources section above, **Figure 50** for locations). If the projects proposed in these alternatives receive FHWA funds, the projects will be subject to Section 4(f) consultation. No wildlife and waterfowl refuges are within the study area or in proximity the MPO Area.

Public spaces within the study area that have received LWCF grant money are subject to Section 6(f) regulations. Several grant funded parks are within Grand Forks (**Figure 50**). It is recommended that consultation occur early with each project to determine the location

of improvements and whether any park areas impacted will be subject to Section 6(f) regulations. In North Dakota, the appropriate contact for LWCF impacts would be the North Dakota Parks and Recreation. In Minnesota, the contact would be MnDNR.

Environmental Justice

The EPA's Environmental Justice Screening and Mapping Tool Version 2.1 (EJScreen) was used to determine socioeconomic indicators, pollution, and environmental justice indices that occur within the MPO Area. Socioeconomic indicators evaluated using the tool include a demographic index, low-income populations, and unemployment rates.

Table 16 summarizes the average proportion of socioeconomic indicators for the MPO Area, states of North Dakota and Minnesota, and the US. According to the EJScreen tool, approximately 34 percent of the population of Grand Forks-East Grand Forks MPO is considered low income, which is higher than the state average of 25 percent. It is anticipated the higher low income population percentage may be a result of the number of college students living within the Grand Forks-East Grand Forks MPO compared to the state. The MPO Area population is 17 percent people of color/minorities, which is roughly the same as the state average of 16 percent.

Based on this information, it is not anticipated that future projects would cause adverse impacts to minority populations. Additionally, the MPO Area has an unemployment rate of 4 percent. This is slightly higher than the state average of 3 percent, but lower than the national average of 5 percent. Further review should be completed to confirm the presence of EJ populations during future project planning. EJ populations are shown in **Figure 52**.

Justice40 Populations

The federal government established the Justice 40 Initiative to direct funding for historically disadvantaged communities across the nation. As part of the initiative, a Climate and Economic Justice Screening Tool (CEJST) was developed to identify disadvantaged communities at the census tract level. CEJST determines historically disadvantaged tracts based on climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development factors.

The tool was reviewed to identify historically disadvantaged communities within the MPO Area. Based on the review, there are two tracts within the MPO identified as being historically

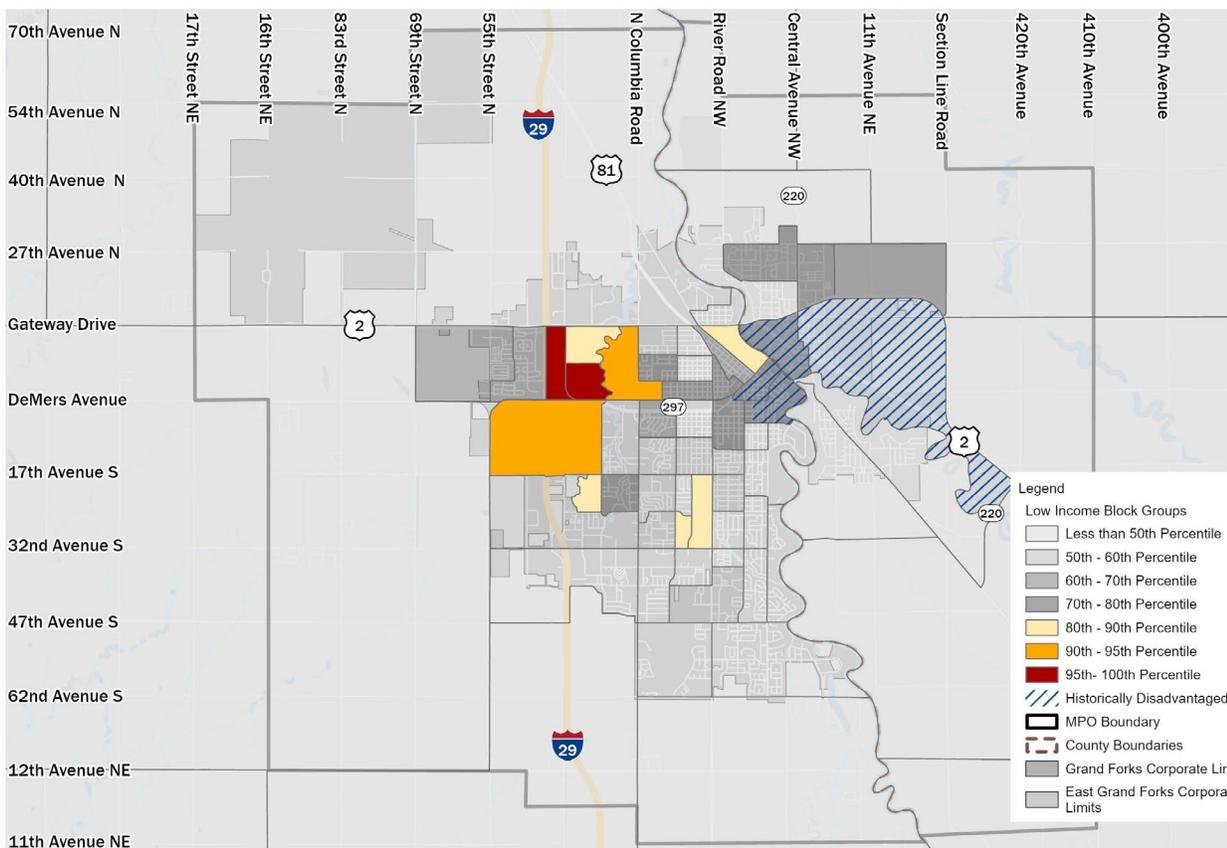
disadvantaged. One tract is located within the incorporated limits of Grand Forks, near downtown, while the second tract is located across the river within East Grand Forks. The Grand Forks tract was designated as historically disadvantaged based on climate change, legacy pollution, and water and wastewater factors while the East Grand Forks designation is due to historic health, legacy pollution, and water and wastewater factors. These tracts are shown in **Figure 52**.

Table 17: Average Socioeconomic Percentages for the MPO Area, North Dakota, Minnesota, the United States

Socioeconomic Indicators	Grand Forks-East Grand Forks MPO (%)	North Dakota (%)	Minnesota (%)	United States (%)
Low Income	34	25	23	39
Minority Population	17	16	22	31
Unemployment Rate	4	3	4	5

Source: EJSreen Community Report

Figure 52: EJ Populations and Historically Disadvantaged Census Tracts



FUTURE TRENDS AND NEEDS

Future System Performance

The forecasted growth in the MPO Area’s household and employment levels was analyzed to understand its impacts on the performance of the future street and highway network. The future system performance analysis was based on the update made to the MPO’s Travel Demand Model (TDM) that forecasts future traffic levels regional travel demand in the interim (2035) and planning horizon (2050) years.

Future Growth in the MPO Area

Future growth in MPO Area households and employment through 2050 is projected to occur at a higher rate than historical rates for the Grand Forks-East Grand Forks area. The growth rates used in this analysis are sourced from the future land use plans for the cities of Grand Forks and East Grand Forks. While this forecasted growth is not indicative of future land use and zoning, it is an important component of analyzing the performance of the future transportation system.

Table 18: Forecasted Growth in MPO Area Households, 2020-2050

AGENCY	2020	2050	Households Added	Annual Growth
GRAND FORKS	26,994	48,563	21,569	2.0%
EAST GRAND FORKS	4,303	4,912	609	0.4%
MPO AREA	31,297	53,475	22,178	1.8%



Table 18 illustrates the forecasted growth in households expected to occur within the MPO Area through 2050, which is anticipated to grow on at an annual rate of 2 percent or just over 21,500 new households by 2050. Households within the city of East Grand Forks are expected to see a much lower growth rate of 0.4 percent per year, adding 609 households by 2050. Overall, the MPO Area is forecasted to add 22,178 households through 2050, which marks an annual growth rate of 1.8 percent. **Figure 53** demonstrates where household growth is expected to occur within the MPO Area.

Forecasted employment growth through the year 2050 is shown in **Table 19**. The city of Grand Forks forecasts an annual employment growth rate of 1.4 percent, with 18,290 new jobs added by 2050. The City of East Grand Forks expects lower growth of 1,103 new jobs, or an annual job growth rate of 0.8 percent. Overall, the MPO Area is forecasted to add 19,393 jobs through 2050 at an annual growth rate of 1.4 percent. **Figure 54** shows where employment growth is expected to occur within the MPO Area.

Table 19: Forecasted Growth in MPO Area Jobs, 2020-2050

AGENCY	2020	2050	Jobs Added	Annual Growth
GRAND FORKS	34,728	53,018	18,290	1.4%
EAST GRAND FORKS	3,816	4,919	1,103	0.8%
MPO AREA	38,544	57,937	19,393	1.4%



Figure 53: Forecasted Household Growth, 2050

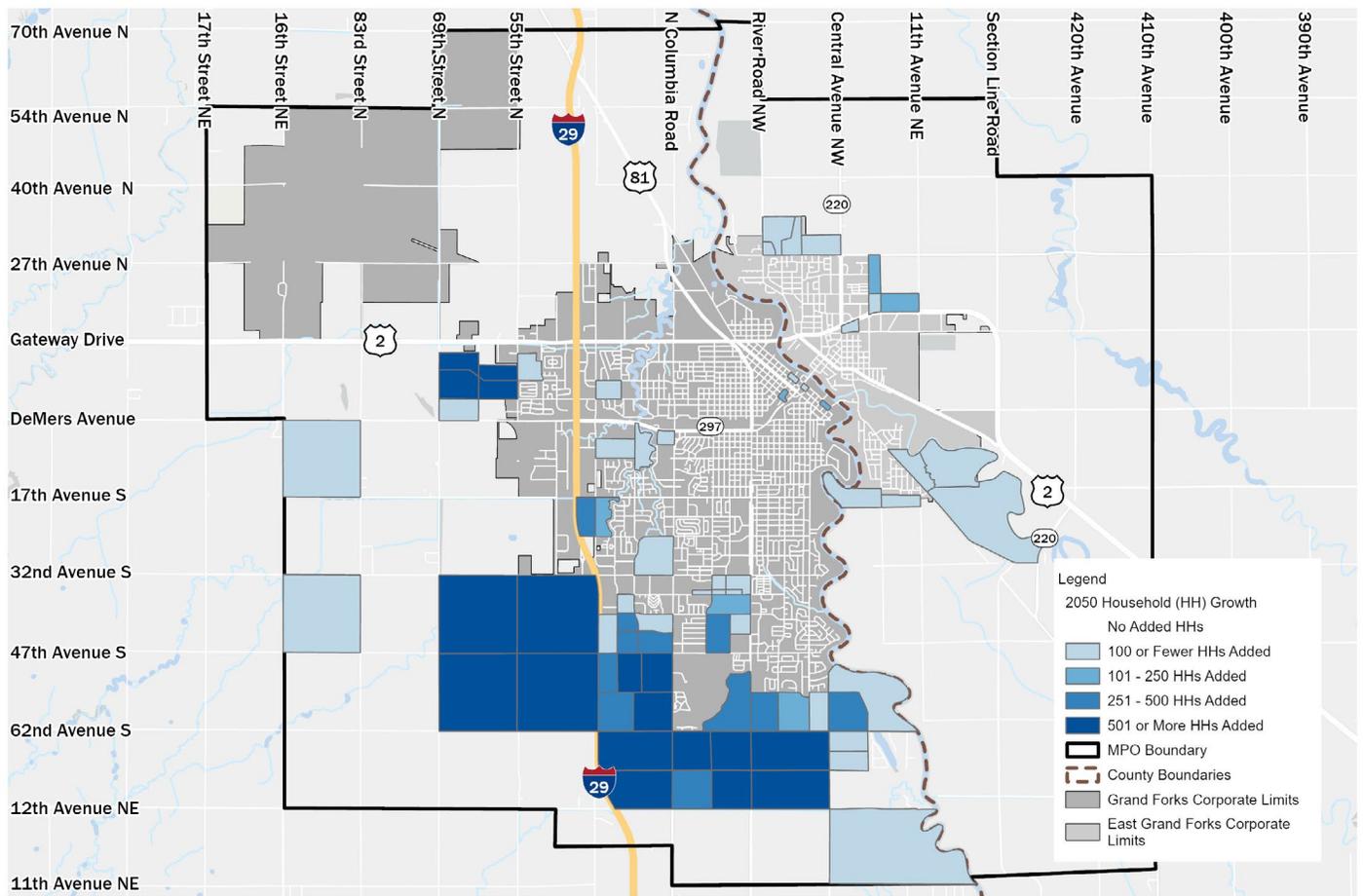
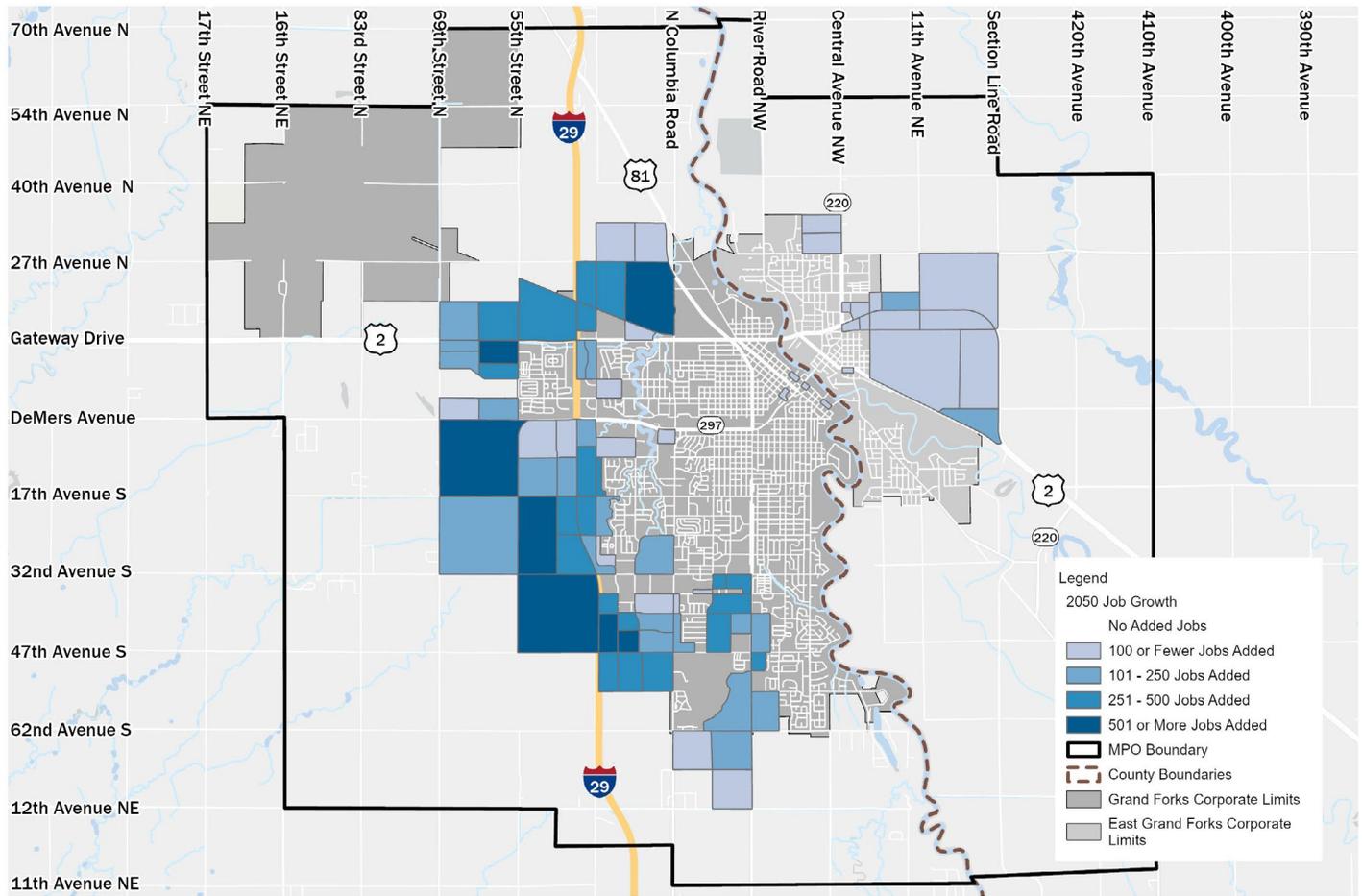


Figure 54: Forecasted Job Growth, 2050



Travel Demand Model

The TDM is a set of mathematical procedures and parameters calibrated to simulate observed daily travel within the Grand Forks-East Grand Forks area. It can then project future travel patterns using forecasted household and employment growth levels and locations. The TDM is the primary tool the MPO used to assess the performance and condition of the future street and highway network by predicting the number, purpose, origin and destination, and route of daily trips made on the system.

The TDM is also used to evaluate street system alternatives and how much each might influence the future system.

Future Traffic Operations

Future traffic volumes were forecasted using the TDM through the year 2050 based on an “Existing Plus Committed” (E+C) scenario that implements all improvements currently programmed for the street and highway network. The purpose of developing the E+C scenario is to evaluate travel behavior given “business-as-usual” conditions that do not include improvements to the network beyond those in current capital programs. The purpose of this approach is to assess a “no build” scenario reflecting how the future street and highway network would perform with increased travel demand associated with the forecasted household and employment growth described previously.

Forecasted Growth in Traffic Volumes

The forecasted growth in traffic volumes resulting from the E+C scenario analysis is shown in **Figure 55**. Based on the TDM output, several corridors see an increase of 10,000 or more ADT by 2050.

These corridors include:

- I-29 from 47th Avenue S to US 2/Gateway Drive
- Columbia Road from 62nd Avenue S to 26th Avenue S
- Washington Street from 62nd Avenue S to 28th Avenue S
- US 2/Gateway Drive from N 52nd Street to River Road NW
- 32nd Avenue S from S 42nd Street to S 31st Street
- 47th Avenue S from S 42nd Street to Columbia Road

Forecasted Level of Service

Increased peak period congestion is anticipated to come with significant growth in traffic by 2050. The forecasted LOS resulting from the E+C scenario analysis is shown in **Figure 56**. The forecasted LOS was developed by comparing the forecasted 2050 traffic volumes provided by the TDM to the existing roadway design capacities to develop an estimated V/C ratio for each roadway.

The resulting forecasted LOS demonstrates an overall decline in traffic operations for the segments currently operating at, or below, LOS C today. Under the E+C scenario, several corridors are expected to operate at LOS F by 2050. These corridors include:

- Columbia Road from 62nd Avenue S to 47th Avenue S
- Washington Street from 62nd Avenue S to 48th Avenue S
- DeMers Avenue, from N 55th Street to N 42nd Street
- 47th Avenue S, from I-90 east ramp terminal to Columbia Road

Several corridors in 2050 are forecasted to experience LOS D and LOS E conditions, including:

- 32nd Avenue between I-29 and Washington Street
- Columbia Road between 17th Avenue S and 24th Avenue S
- Washington Street between 40th Avenue S and Demers Avenue
- 4th Avenue S/Minnesota Avenue between Demers Avenue and Bygland Road
- Demers Avenue between 6th Street and the Red River
- Gateway Drive between Demers Avenue and River Road

Figure 55: Forecasted Growth in Traffic Volumes, 2050

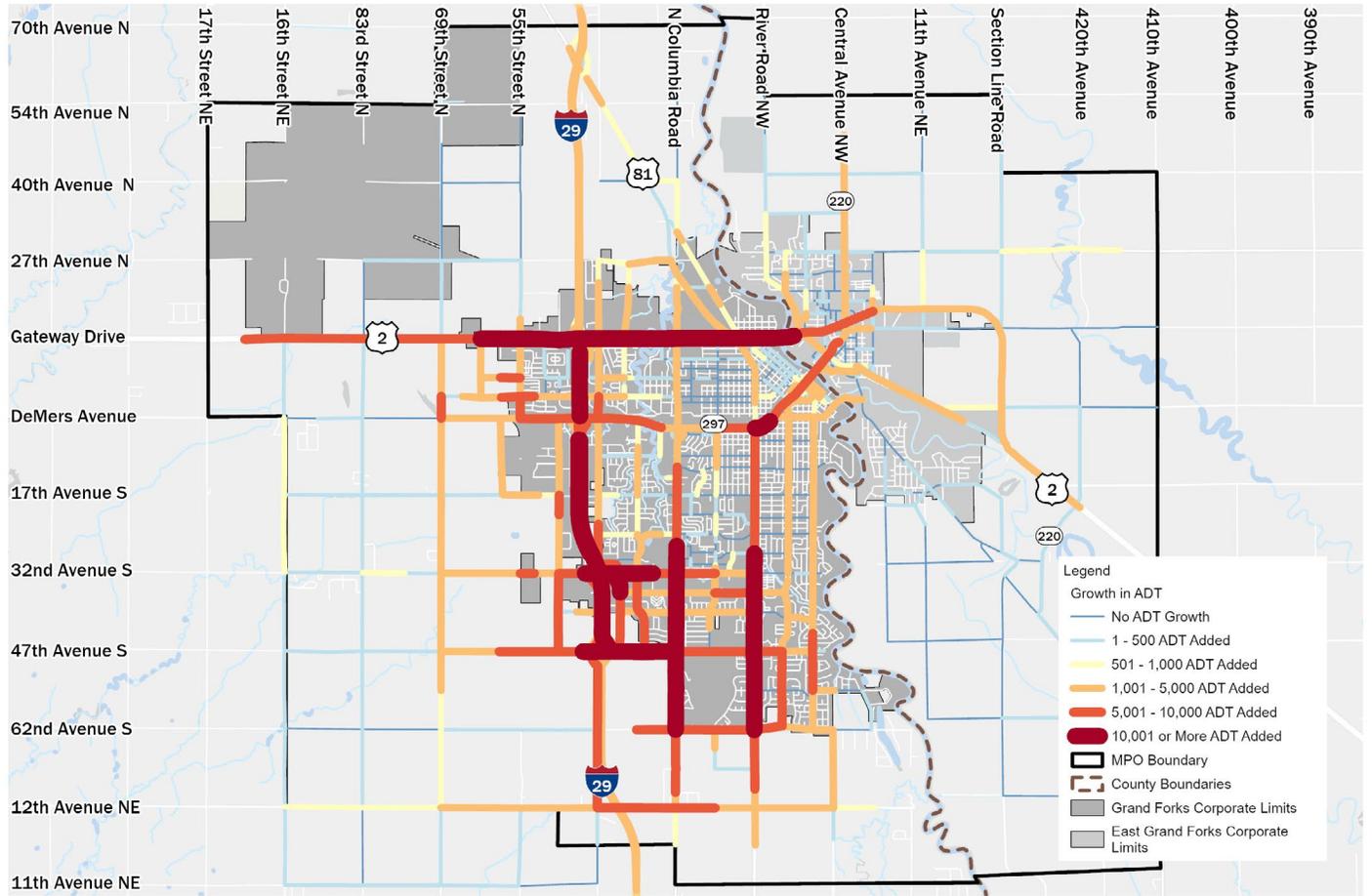
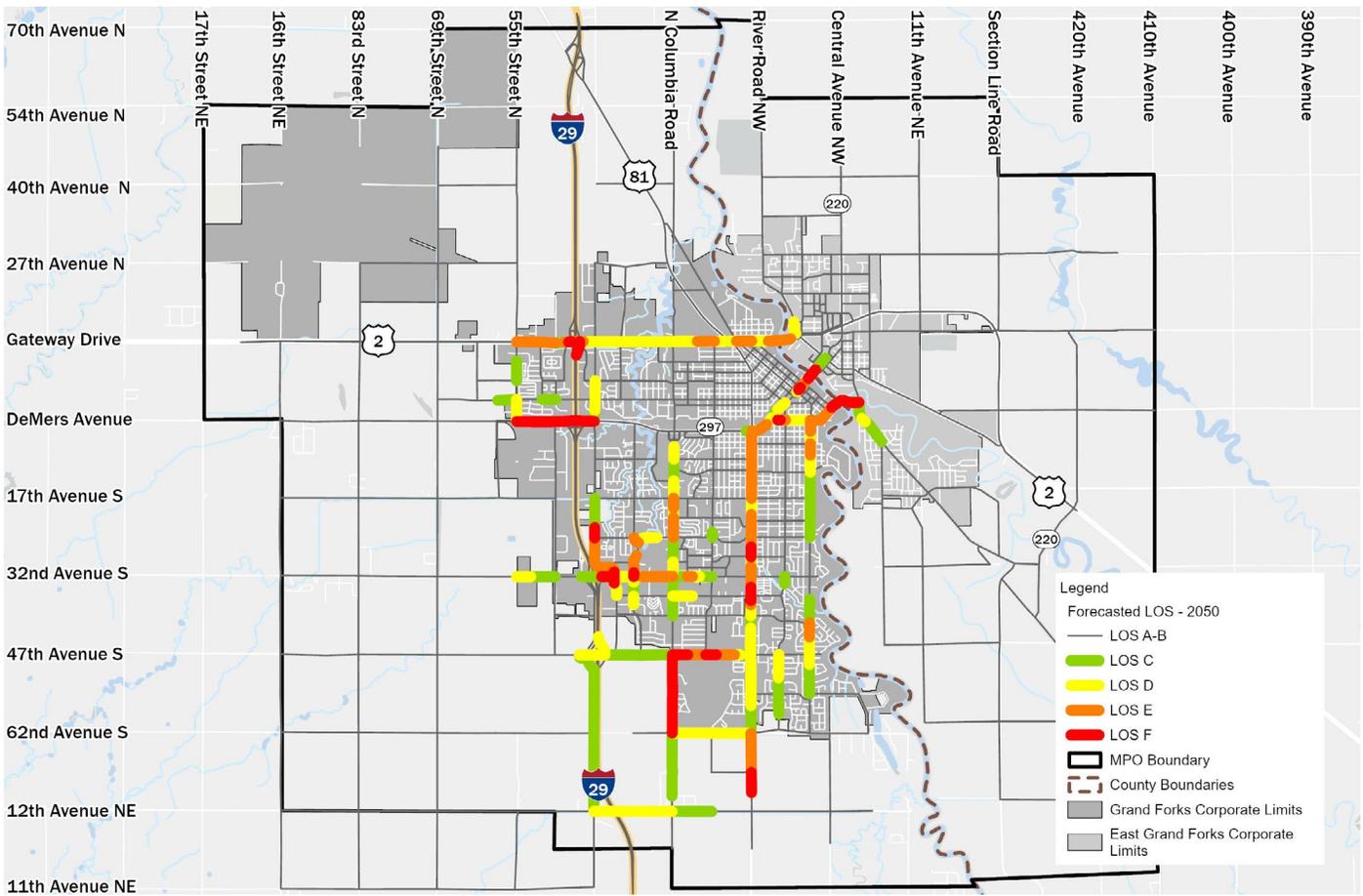


Figure 56: Forecasted Traffic Level of Service, 2050



Emerging Trends and Technologies Impacting Transportation

The accelerating pace of emerging transportation technologies continues to change how people and goods travel. From autonomous vehicles to shared mobility, these technologies address safety, mobility, and service issues. Users and industries are adapting to these technological changes, which will continue to pose challenges as well as opportunities for transportation planning. In order to stay current with changing demand and transportation modes, public agencies must plan for technological changes and adopt new technologies.

In addition to growing technology use in transportation, the recent federal IIJA, passed in

2021, has had significant impact on funding for transportation projects at the state and local level and has outlined the priorities for modernizing and innovating a future transportation system in the United States.

This section provides an overview of emerging transportation trends and technologies that will affect the MPO Area, as well as potential trends that will impact the community in the future. Because technology is everchanging, it is difficult to capture the exact impact it will have on transportation issues. However, proactive planning with available data and evidence can equip the region to handle any future technological challenges.

This section will describe the technological trends impacting state and local transportation agencies.

Demographic Trends

Technology is not the only factor influencing changes in transportation and the movement of goods. To effectively plan our transportation system, it is important to understand changes in population. Estimating future population levels and associated travel demand will become necessary for the prioritization of system projects, including opportunities to integrate emerging technology into the transportation system.

Planning for an Aging Population

Age can have a large influence on travel behavior, such as the ability to drive a personal vehicle, increased personal vehicle use due to commuting to work, or more active transportation. The US population continues to get older, as evidenced by the average age of 38.8 years in 2021, which is up from 36.9 years of age in 2010, per ACS data. Age trends were discussed in further detail in the [Community Profile chapter](#).

With an aging population, planners must consider that the demand for transit and Mobility as a Service (MaaS) will likely increase as an older



population will need access to transportation services due to driving limitations. Furthering this shift in transportation habits, an older population will no longer generate the same level of travel as today, which may lead to

overinvestment in car infrastructure for future demand. The age shift may lead to operational challenges for the current transit system, which may not be extensive enough to meet increasing demand.

Another issue is residential location. Most people over 65 tend to locate in suburban and rural areas. These areas are not optimal for efficient, fixed-route public transit due to their low-density development. However, with the rise of autonomous vehicle (AV) technology and an increased national interest in

cycling, options such as AV shared mobility and bike routes could provide solutions for older populations in less dense areas.

Technological Progress

As technology continues to progress rapidly, new modes of transportation are emerging and innovating traditional travel methods. Connected and autonomous travel is a newer technology that will likely continue to progress into a common travel method. As new breakthroughs are made, new transportation planning challenges are created.

During the 20th century, the rise of the automotive industry and transportation and land use policies encouraged personal vehicle use, resulting in low usage of other travel modes such as walking, transit, and bicycling. Much of Grand Forks and East Grand Forks was developed during this period. New technologies now offer a changing interface with how users interact with transportation, encouraging smarter travel and the use of a variety of travel modes besides personal vehicles. With the emergence of Big Data, the nature of planning will shift as agencies now have the ability to develop new metrics and planning principles based on automobile and transit user data. Even the progression of the dissemination of traveler information, from the radio, to television, to now real-time data in personal cellphones, illustrates the large shifts in traveler habits, and what the future could bring.

New Mobility

With the intersection of new technologies, infrastructure, and business, the phrase “new mobility” has come into use to describe the revolutionary relationship between transportation and technology. More specifically, new mobility refers to transportation modes that use data and digital communications platforms to connect users to transportation options. The effects of new mobility could create more efficient transportation, better air quality, and

improved quality of life. However, the scope of its impact on other sectors, such as labor, equity, and transportation costs, is yet to be determined.

While the facets of new mobility, such as public transit, vanpools and high-occupancy vehicle lanes, have existed for decades, today’s definition is related to the integration of technology into these existing modes. With current accessibility to real-time data, transportation assets now have improved automation and connectivity capabilities, which can create a cleaner and safer transportation system by correcting issues such as congestion and traffic delays.

New mobility has already entered the transportation landscape of the Grand Forks-East Grand Forks area. With transportation modes such as bikeshare, shared e-scooters, the transit system, and other TNC services such as Uber and Lyft, communities within the area can anticipate further changes regarding data, infrastructure, and transportation. Therefore, it is essential to plan for technology as it progresses into all day-to-day use.

Drivers of Technological Progress

The four major, emerging trends in new mobility and technological progress are Autonomous, Connected, Electric, and Shared (ACES), which was coined by the Center for Automotive Research. These four trends are impacting transportation and accelerating technological advancement. According to the Center for Automotive Research, transportation technologies falling under the ACES umbrella include:

- Battery electric vehicles, including hybrid vehicles
- Vehicles with connectivity capabilities for vehicle-to-everything (V2X) communication, over-the-air (OTA) updates, and in-vehicle customer services
- Automated vehicles with Society of Automotive Engineers (SAE) Level 4 or 5 capability (see **Figure 57**), OTA updates, in-vehicle customer service, etc.
- Shared vehicles that are managed by service providers and offer short-term access to vehicles on demand—third party (Uber), driven by the customer (ZipCar), or by a computer

Each component of ACES is discussed further in the following sections.

Figure 57: Society of Automotive Engineers Driving Automation Levels



Autonomous

AV refers to vehicles that, to varying degrees, do not require operation from a driver due to integrated technology that allows the vehicle to communicate and coordinate amongst itself and surrounding infrastructure and vehicles. AVs are a breakthrough not only for transportation but also safety, as they remove the likelihood of driver error, which contributes to more than 90 percent of vehicle-related crashes.

While realworld data for AVs is not available yet, early testing done by Google and Waymo provides evidence that the at-fault incident rate of driverless vehicles is significantly lower than a standard driver-operated car.

According to **Figure 58**, the Waymo autonomous vehicle had 206 fewer crashes per million miles of driving compared to the average teenage driver. AVs could unlock potential for saving many lives from car crashes, especially when young drivers are behind the wheel.

It should be noted that many effects of AV implementation are still unknown. While it may

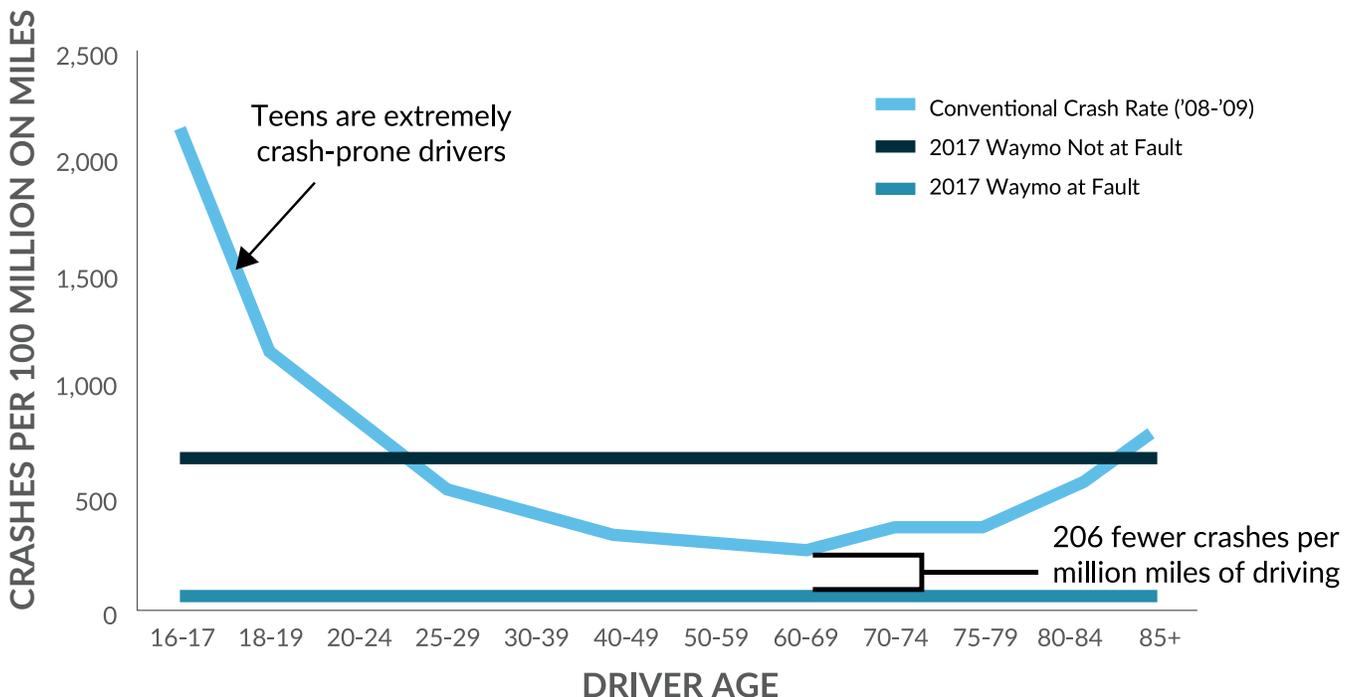
be a useful tool for commuters, it could negatively impact the livelihoods of freight operators, bus drivers, and taxi drivers whose jobs could be replaced with the use of autonomous technology.

However, a possible tradeoff borne by this technology is the creation of jobs that will likely ensue through this potentially trillion-dollar industry, such as vehicle operator and support jobs.

Additionally, there are concerns that the use of AVs could impact public transit use and divert operational funding away from public transportation. However, AVs could support public transit through creating opportunities to improve system performance by lowering operating costs as well as providing first- and last-mile solutions for users.



Figure 58: Self-Driving Crash Rate of Google Car Per 100 million miles



Although the current trajectory of AVs and when they will become publicly available is unknown, transportation agencies should not fail to plan due to uncertainty. Communities can prepare for the impacts related to the deployment of AV technology by incorporating AV policies into planning efforts and predict how AVs could refigure streets by allowing more road diets, additional right-of-way for alternative transportation, and opportunities for improved transit service. It is estimated that one shared AV could replace between 9 and 11 privately owned vehicles, which could allow less land use and fewer costs dedicated to parking and street right-of-way (Crute et al. 2018).

Autonomous Technology in Grand Forks-East Grand Forks

Autonomous technology has already found its way to the region through a highly robust and innovative Unmanned and Autonomous Systems (UAS) program through UND.

An autonomous technology startup named Thread is also headquartered in Grand Forks and embeds unmanned aerial systems with software to allow infrastructure to be inspected. While these technologies are not currently impacting how the region's transportation system operates, they demonstrate the economic benefits that arises from the deployment of autonomous technology. As AVs become more widespread in the community, Grand Forks will have many opportunities to leverage technology in freight, the local transit system, and to decongest major corridors.

Connected

The Connected Vehicle (CV) component of ACES refers to the sharing of real-time data between infrastructure, modes, and users. The tiers of connectedness are Vehicle-to-Vehicle (V2V), Vehicle-to-Infrastructure (V2I), and Vehicle-to-Everything (V2X). This technology is expected to reduce vehicle crashes by 80 percent and

reduce the additional 7 billion extra hours that Americans spend in traffic.

Additional CV benefits include a reduction in crash frequency and transportation-related impacts on the environment while providing efficient traffic operations and enhanced safety. **Figure 59** portrays an example of V2V technology.

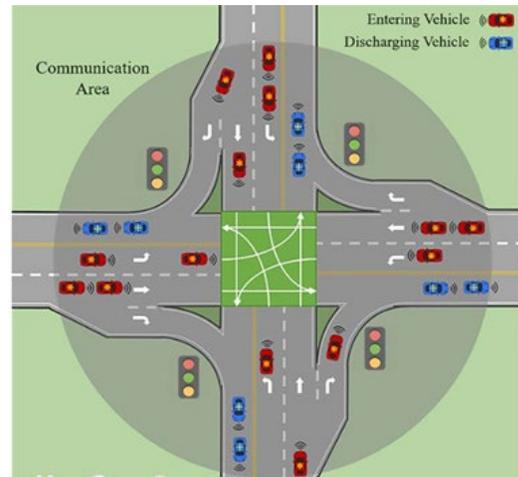


Figure 59: Example of V2V Technology

Source: USDOT

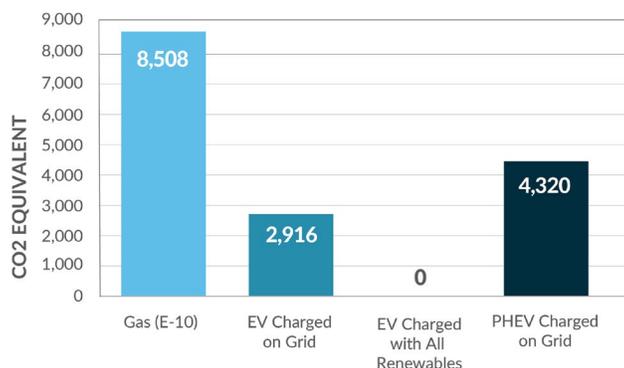
The rate of CV adoption will be difficult to determine as it will be dependent on factors such as consumer preferences, infrastructure development, government regulation, and technological advancement. However, an increase in the deployment of CVs can still be expected across the nation within the next 20 years. Current forecasts estimate that 95 percent of new vehicles sold globally will be connected by 2030. Roughly 45 percent of these CVs will have an intermediate or advanced connectivity capability. Due to the expected increase in CVs, large sums of vehicle data will become available and contribute to better connectivity, smoother operations, and improved data for planners. In addition, on a per-vehicle level, car connectivity could generate up to \$310 in revenue and \$180 in cost savings per vehicle each year, on average, by 2030.

Due to the expected increase in connected vehicle ownership, communities everywhere will likely face the need to improve their connected infrastructure. This will require investments in robust communication networks, such as high-speed internet access and cellular coverage, to support the exchange of V2I information. Communities in the region may need to upgrade or implement traffic management systems and intelligent traffic signals for connected vehicles to operate smoothly. Focusing on technological CV investments can promote smart city development, which uses technology to address urban issues and sustainability challenges.

Electric

Electric vehicles (EV) use electric motors rather than a traditional internal combustion engine (ICE) that burns fossil fuels to propel the vehicle. Electric vehicles are considered more sustainable due to having zero tailpipe emissions; however, there are potential environmental impacts related to the generation of the energy used to charge them. Given that passenger vehicles produce roughly 16 percent of US greenhouse gas emissions, the deployment of electric vehicles charged with renewable resources creates a potential to bring the United States closer to becoming carbon neutral. Figure 60 illustrates the average pounds per year from a single vehicle for ICE vehicles, EVs, and plug-in hybrid-electric vehicles (PHEVs) which contain an electric motor for lower distance travel (15-60 miles, depending on vehicle model), and an ICE for longer distance travel.

Figure 60: 2030 Annual Well-to-Wheel Emissions



The recent shift in vehicle sales toward EVs can be attributed to the fact that many electric vehicles offer a better driving experience and performance than ICE vehicles and are beginning to have lower operating costs than ICE vehicles due to the decreasing production costs of batteries and government subsidies for EVs. Electrification is also spreading beyond passenger vehicles and is seeing deployment in transit systems and freight fleets.

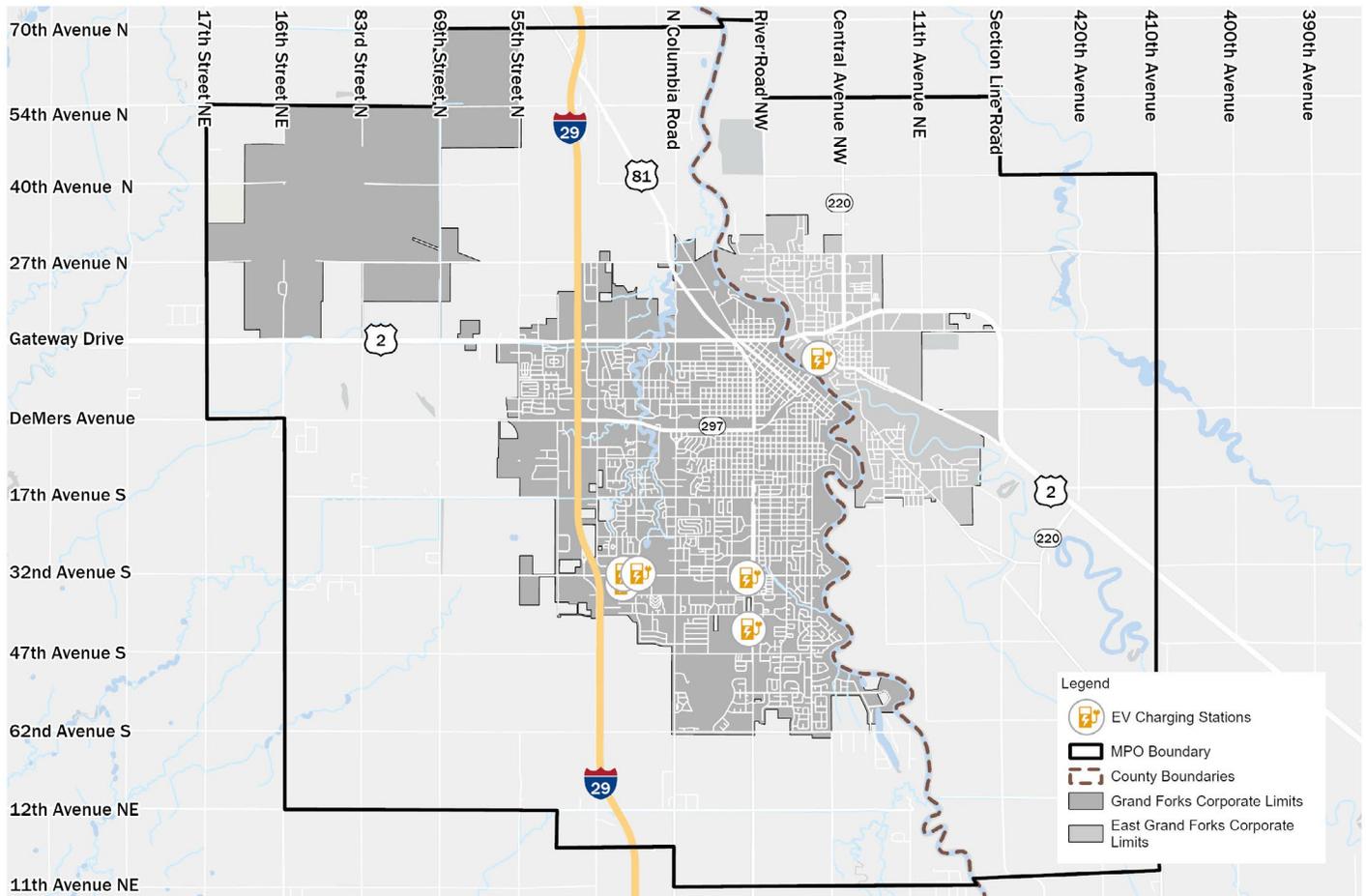
Electric Vehicles in Grand Forks

Electric vehicles have lagged in North Dakota as the state ranks last for electric vehicle sales. Minnesota has demonstrated a much higher preference for EVs, with roughly 15,000 vehicles registered in the state. However, both states exhibit a much lower rate of adoption when compared to the US as a whole. Nonetheless, the Grand Forks-East Grand Forks area stands to benefit from being competitive with EV demand elsewhere, as travelers from across the nation use I-29, which runs through Grand Forks. Figure 61 shows the existing charging stations for electric vehicles in Grand Forks and East Grand Forks. By implementing EV charging infrastructure along the I-29 corridor, many drivers from both the United States and Canada will make longer stops to charge their vehicles, and in turn could provide opportunities for the local economy and for Grand Forks.

Existing EV Chargers in south Grand Forks



Figure 61: Electric Vehicle Charging Stations in Grand Forks-East Grand Forks



Impact of Electric Vehicles on Fuel Tax Revenue

Many state and local agencies are concerned about the deployment of EVs as they reduce the ability to collect critical transportation revenues, such as gasoline taxes, which provide an important source of funding for transportation infrastructure. However, other equitable solutions are being explored by transportation agencies,

such as mileage-based user fee pricing.

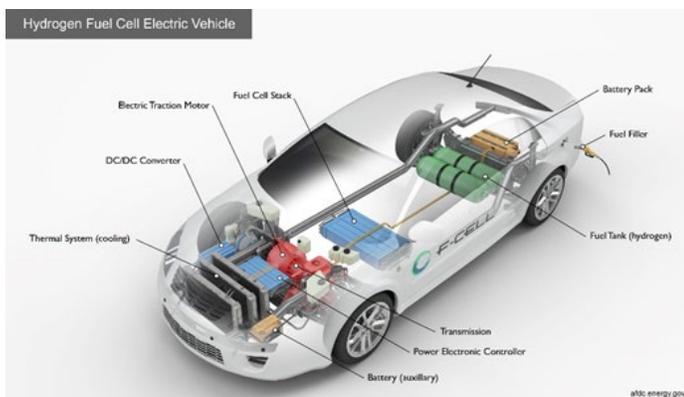
Charging road users based on the number of miles they travel either through GPS devices or on-board diagnostic systems would allow for more revenue stability than conventional fuel taxes, can have better cost recovery, and incentivizes efficient travel choices. An additional option could be monetizing access to public parking facilities for private EV chargers, which could offset the declining parking revenues as shared mobility and automation advance.

HYDROGEN FUELED VEHICLES

Another vehicle type that is yet to be adopted for production is fuel cell electric vehicles (FCEVs), which produce electricity through a hydrogen-powered fuel cell to power the motor. Rather than traditional gasoline vehicles, FCEVs only emit warm water vapor and are more energy efficient than a combustion engine. Figure 62 shows the internal components of a FCEV. This technology is not widespread yet, as the hydrogen infrastructure required to fuel FCEVs is still in the early stages on implementation.

However, to expedite the implementation process, the federal government announced in the fall of 2023 a large-scale project to construct Regional Clean Hydrogen Hubs across the nation to deliver hydrogen fuel and generate clean energy production, delivery, and storage, in an effort to decarbonize transportation and heavy industry. Grand Forks-East Grand Forks will be an important partner, as the University of North Dakota's Energy & Environmental Research Center (EERC) will assist in implementing the Heartland Hydrogen Hub to help decarbonize local industries across North Dakota, South

Figure 62: Components of a Hydrogen Fuel Cell Vehicle



Shared

Shared-use vehicles are a mode of transportation that allows users to have short-term access to transportation and are shared among users either simultaneously or separately. The Grand Forks-East Grand Forks MPO will have an important role in ensuring that negative effects

are addressed as shared-use mobility is adopted, such as limited switch to shared rides from single-occupant trips and parking. For example, shared-use vehicles may require more curb space for pick-up and drop-off sites, and designated curb spaces for these uses can provide safe storage and operating areas. Additionally, shared-use trips may occur with a single passenger, and may not always be a “shared” service, leading to less travel efficiency.

Dakota, and Minnesota The hub will help to reduce an estimated 1 million metric tons per year of carbon emissions, meanwhile offering profit-sharing opportunities for disadvantaged communities.

However, many benefits can be expected from a shift to shared-use vehicles, which are highlighted in Figure 63.

Currently, shared-use vehicles consist of options such as bikeshare, carshare, microtransit, and on-demand rideshare such as Uber and Lyft. Shared electric scooters, which can also be seen scattered throughout Grand Forks, provide mobility solutions for residents and students at UND alike. These transportation services use smartphones and cellular networks to provide users with on-demand mobility options that allow for payment and booking within one platform.

As a result, MaaS has increased in popularity as an alternative to car ownership and single-mode transportation. As MaaS becomes more accessible and in-demand, it could enhance urban mobility to pave the way for more efficient and sustainable transportation systems.

Shared technology in Grand Forks

Grand Forks-East Grand Forks has come to embrace shared-use vehicles in the local transportation system, including car-sharing with Uber and Lyft, a local bike-sharing program, and e-scooters. Transportation has become not only more cost-effective, but efficient as the demand for parking decreases and access to jobs and recreation increases.

In recent years, Grand Forks launched a docked bike share program that allows people to rent bikes through an app and drop them off at the dock closest to their destination. Since the deployment of the bike share program, it has evolved to a dockless system that does not require users to return the bicycles to specific locations.

Students at UND have access to the bike share program at no-cost, and other residents have been able to use the bikes for free as well. Additionally, an e-scooter company named Bird has launched a scooter share program in the region, which addresses transportation gaps between the university campus and the Grand Forks community. The scooters are not available during the winter season due to safety concerns; however, they still are a useful tool for addressing first and last-mile transportation needs for part of the year.

Figure 63: Key Takeaways of the Future of ACES Technology

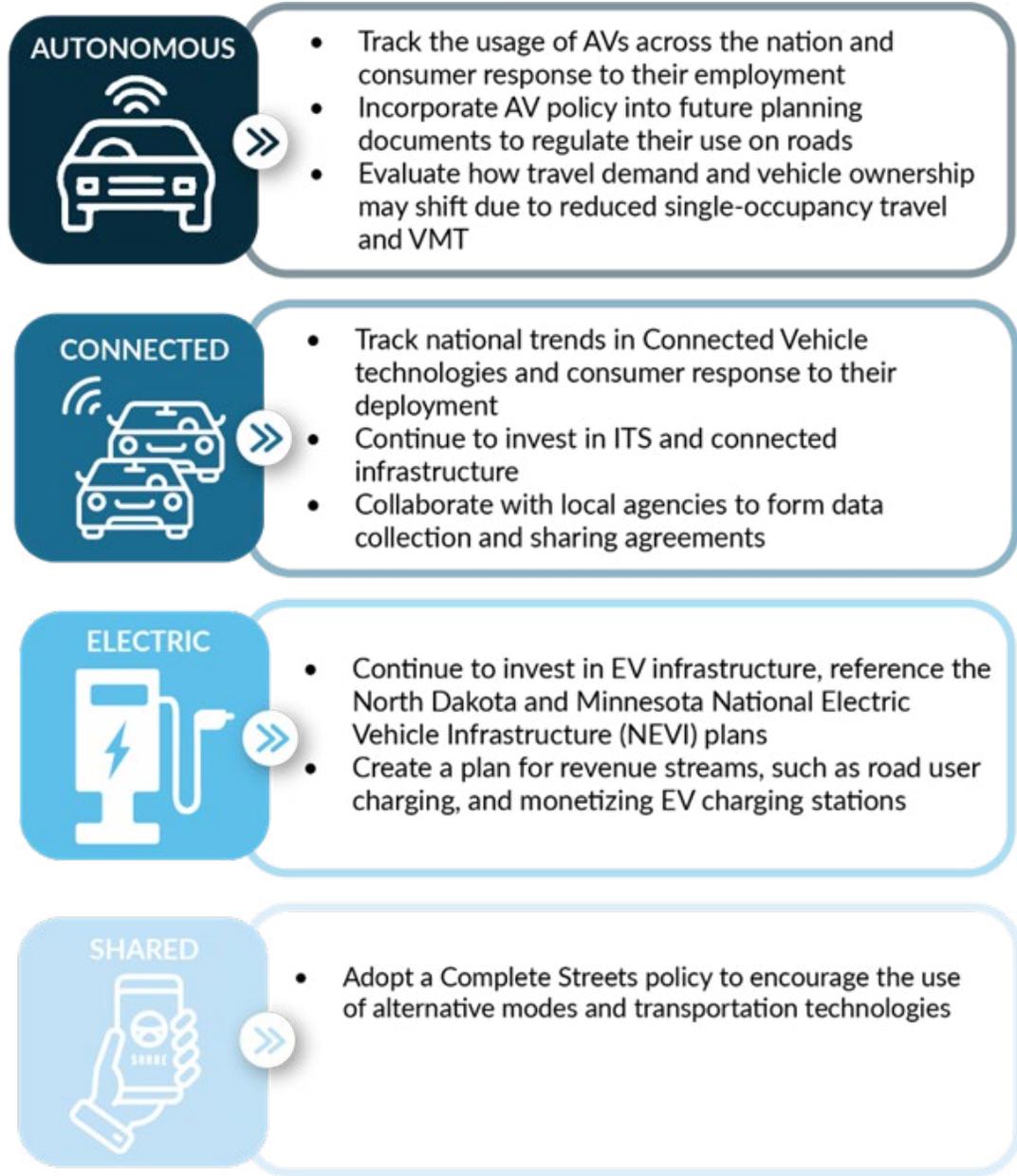


The Future of Transportation in Grand Forks-East Grand Forks

As transportation technologies continue to evolve and emerge, Grand Forks-East Grand Forks should position itself to adapt to these changes so that it can better serve the demands and needs of moving people and goods around the region. While these technologies are seeing continuous improvement, it still may take years for their capabilities to be adopted widely. However, it is anticipated that AVs and CVs hold great potential for optimizing traffic efficiency and safety for all users. In the meantime, the Grand Forks-East Grand Forks MPO can take proactive action by understanding key trends and strategizing to address the impacts of technology on the transportation system.

The main takeaways of transportation technologies in the region are shown in **Figure 64**. By taking these recommendations into consideration, the area will be poised to transition seamlessly into an automated and electric transportation future, while also addressing demographic and employment trends and demands.

Figure 64: Key Takeaways of the Future of ACES Technology



STREET AND HIGHWAY STRATEGIES

A range of locally tailored strategies were developed based on the issues identified through the technical analysis, public input, and other, more-detailed transportation studies in the region. The strategies were the set of future transportation system improvements considered for implementation. This chapter summarizes the range of strategies that were considered given the issues and trends identified.

Corridor Approach to Planning

The Street and Highway Plan used a corridor approach to identify potential strategies for future implementation. This approach allows agencies within the region to evaluate and consider transportation improvements as part of a connected and integrated network. This approach also allows potential improvements and investments to be analyzed within the context of the corridor as a whole. A corridor planning approach acknowledges existing system performance issues by detailing representative corridor concepts and investment plans to define long-term project investment planning needs expected to emerge between today and 2050. This approach also acknowledges that a regional plan like this Street and Highway Plan is the first step in the project development process, understanding that this plan can identify the need for future improvements, but a more detailed operational assessment and public involvement process is required for implementable project-level solutions.

A corridor plan typically identifies a long-range investment concept to assist agencies in planning and coordinating for future improvements. Specific project details, such as geometry and intersection type, would be explored as part of a corridor plan

approach but would be reevaluated and ultimately defined as part of specific project development.

Strategy Types Considered



Maintenance / State of Good Repair

- Keep current streets in a state-of-good-repair (SOGR)



Operations / Safety

- Focus on intersections (signal timing, safer geometry, roundabouts, etc)
- Limited / no widening



Widenings

- Adding travel lanes in growth corridors
- Current 2-lane rural to 3-lane and 4-lane divided streets



New Streets / Bridges

- New streets in growth areas
- New Red River crossings
- New railroad grade separations



Pave Gravel Roads

- Current rural gravel roads paved
- In growth areas and industrial parks

Intersection Recommendations

The Street and Highway Plan is able to identify emerging safety and congestion issues over the planning horizon that will likely require some sort of intersection control or improvement to intersection treatment. The specifics of how a future intersection issue might be addressed depend on how traffic flow and corridor conditions evolve between today and the project implementation year.

Intersection treatment decisions prioritize safety strategies to reduce intersection crashes and fatalities. Safety is considered along with the need to maintain mobility and corridor operations as well as the overall context of the corridor. For example, intersection treatment decisions consider safety including crash history and proactive geometric needs, initial and long-term cost, right-of-way impacts, existing and forecasted traffic, context existing or planned density of development, density and proximity of access points, and existing and projected pedestrian and bicycle traffic.

Traffic Signals Compared to Roundabouts

Traffic signals are a well-established traffic control approach across the MPO Area (and across the United States), particularly at intersections with higher traffic volumes. Roundabouts have been implemented in a small number of intersections in the area and have been broadly adopted in many American cities for the past 20 or more years. There are several considerations when deciding the type of intersection control to implement. **Figure 65** illustrates some of the pros and cons of considering roundabouts at an intersection.

Figure 65: Pros and Cons of Roundabouts

Pros of Roundabouts:

- Significantly safer than traffic signals with 90 percent fewer fatal crashes and 76 percent fewer injury crashes
- Can result in lower overall delay and reduced vehicle emissions
- Generally lower maintenance costs compared to traffic signals, and have longer service life

Cons of Roundabouts:

- Can be less efficient in some high-traffic or imbalanced traffic intersections
- Can require more right-of-way, resulting in higher initial construction costs
- Less familiar for drivers when initially deployed



Operations Approach on Mature Corridors

When considering operational strategies for corridors that are already four-lane divided roadways, the trade-offs between additional widening and investing in corridor management strategies should be considered. Long-term system capacity improvements such as widening to six lanes should be considered judiciously. These impactful projects can meet long-term traffic needs, but the investment should be weighed against:

- Potential right-of-way impacts to adjacent properties and neighborhood quality
- Potential to induce travel, where providing additional capacity on major regional routes can create new trips that otherwise would not have happened
- The environmental impacts in terms of long-term emissions from peak period congestion
- Overall project costs to project benefits

A corridor operations approach focuses on low-impact or spot safety and mobility improvements to achieve improved outcomes. These corridor operations projects include:

- Spot improvements to intersection geometry for safety
- Potential adjustments to intersection control (signals or roundabouts)
- Retiming traffic signals across the corridor for improved operations and safety

Corridor operations improvements often have higher benefit-cost ratios and can be scaled to be context sensitive to development and multimodal needs. Additionally, the congestion issues are often present for less than an hour a day. Thus, when considering a highway corridor expansion to six-lanes, there can be diminishing capacity benefits for the short peak hour congestion. Another concern is a six-lane highway section with turn lanes introduces a significant barrier to pedestrian travel across the street. These areas of consideration led to recommendations for Gateway, Columbia, Washington, and 32nd Avenue South to consider operation and spot improvement approach to address long-term traffic growth as a sustainable solution for corridor operations and safety.

New Connections and Improved Parallel Corridors

In some mature corridors with limited potential for widening, improvements in other corridors can have the impact of moving traffic from the existing, “built out” corridor to the improved corridor. Improvements along parallel, supporting arterial corridors can draw traffic from these congested corridors and better facilitate local trips and alleviating capacity need on these major regional transportation corridors.

Safe System Approach

USDOT’s guiding principle of traffic safety is the Safe System Approach, which reinforces safety as the most important element of transportation. The Safe System Approach focuses on eliminating crashes that lead to death or serious injury and addresses all transportation system users, including people walking, biking, and rolling. Principles and objectives of the Safe System Approach, shown in **Figure 66**, lead to street design that:

1. Acknowledges human physical limits for tolerating crashes by improving protection and reducing crash severity,
2. Manages vehicle speeds through context-sensitive design,
3. Separates different modes of travel in time and space.

A Safe System Approach for the region considers proactive safety solutions targeted toward high-risk locations, based on geometric and contextual factors. This approach would implement proven

safety system strategies through investment across the transportation system at high-risk locations. Safe System planning is different than a reactive safety approach, which primarily prioritizes locations with a high crash history. Safe System planning makes proactive investments across the transportation system, regardless of crash history, which is not always predictive of future crash sites. For example, low-cost treatments across the bicycle and pedestrian system can have a significant impact on reducing fatal and serious injury crashes to those vulnerable system users.

Figure 66: Safe System Approach Principles and Objectives



Source: U.S. DOT

Complete Streets Approach

A Complete Streets approach provides a safe, convenient, and context sensitive transportation system for users of all ages and abilities. Under this approach, street connectivity is enhanced to comfortably accommodate all users, including motorists, pedestrians, bicyclists, and transit users. Incorporating a Complete Streets approach into regional transportation system improvements means projects are implemented to include bicycle, pedestrian, and transit facilities, as appropriate for the corridor.

Local agencies can adopt Complete Streets policies to establish a commitment to provide a connected, multimodal transportation system. The National Complete Streets Coalition, a program of Smart Growth America, provides a Complete Street Policy Framework with 10 elements to include in an ideal policy:

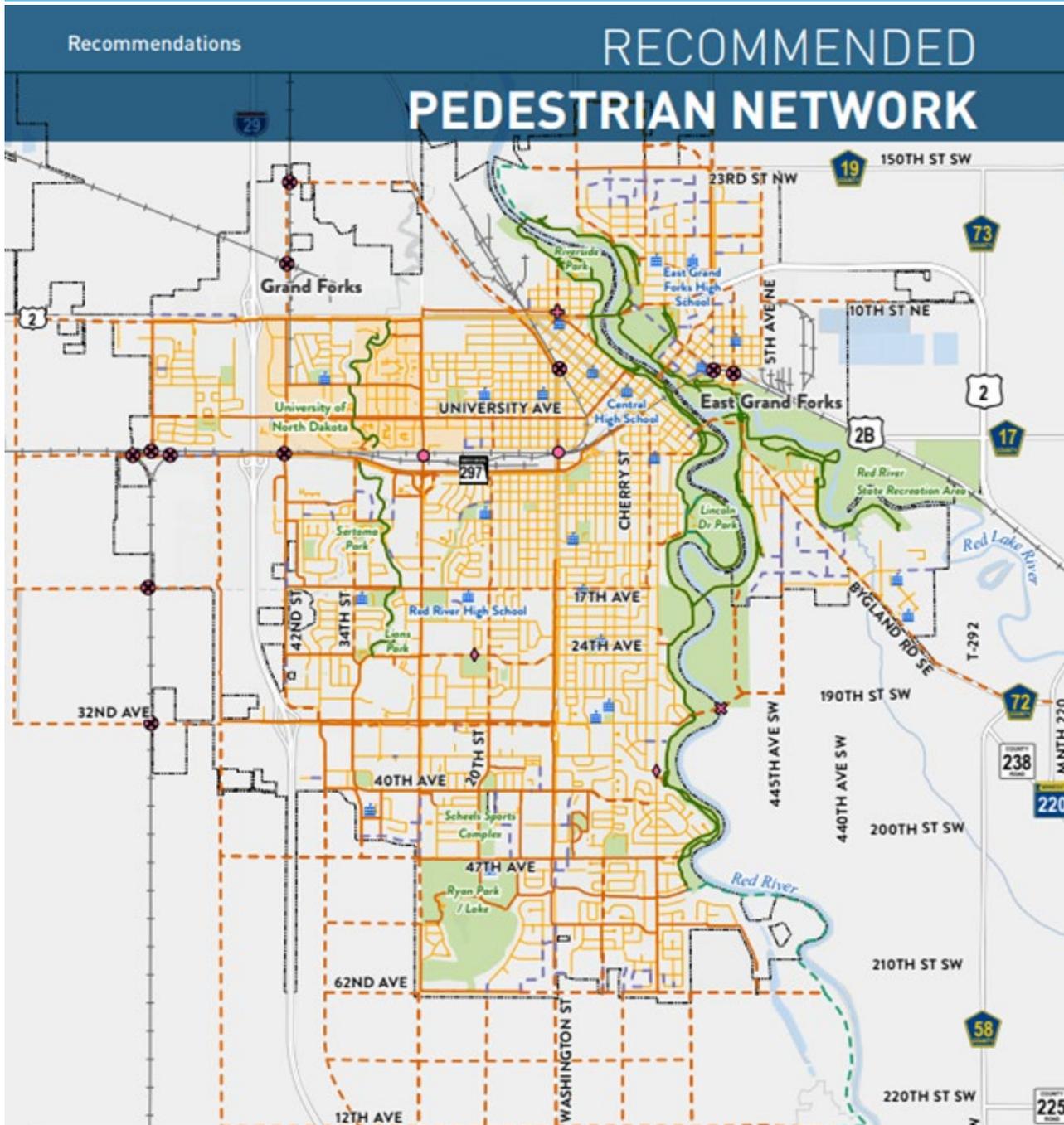
1. Establish commitment and vision
2. Prioritize underinvested and underserved communities
3. Applies to all projects and phases
4. Allows only clear exceptions
5. Mandates coordination
6. Adopts excellent design guidance
7. Requires proactive land use planning
8. Measures progress
9. Sets criteria for choosing projects
10. Creates a plan for implementation

The MPO could consider developing a model Complete Streets Policy for adoption by local jurisdictions that do not currently have one.

The City of Grand Forks currently has adopted a Complete Streets policy that could be leveraged to inform a model policy maintained by the MPO. The MPO could also evaluate projects for funding based, in part, on appropriate complete streets elements.

When implementing Complete Streets, communities benefit from a plan that addresses biking and walking facility needs. The *Greater Grand Forks Bike/Ped Plan* provides recommendations for specific facility types for biking and walking within the region. For most future biking or walking facilities, the plan recommends sidepaths or separated bike lanes with sidewalks, as shown in **Figure 67** and **Figure 68**. Where these corridors overlap with proposed projects in this plan, such as paving gravel roads or constructing new roadway segments, the recommended bicycle and pedestrian facility types should be integrated with the project, including appropriately spaced corridor crossings. Additionally, street projects recommended in this plan but not identified in the Bike/Ped Plan should be evaluated for inclusion of Complete Streets elements from the initiation of concept development. To ensure sufficient right-of-way for future road segments and development corridors, the need for separated bike lanes, shared use paths, or sidewalks should be evaluated prior to platting.

Figure 67: Recommended Pedestrian Network, Greater Grand Forks Bike/Ped Plan



Legend

Recommended Bike Facilities

- Buffered Bike Lane
- Conventional Bike Lane
- Greenway
- Sidewalk or Separated Bike Lane with Sidewalk

Existing Bike Facilities

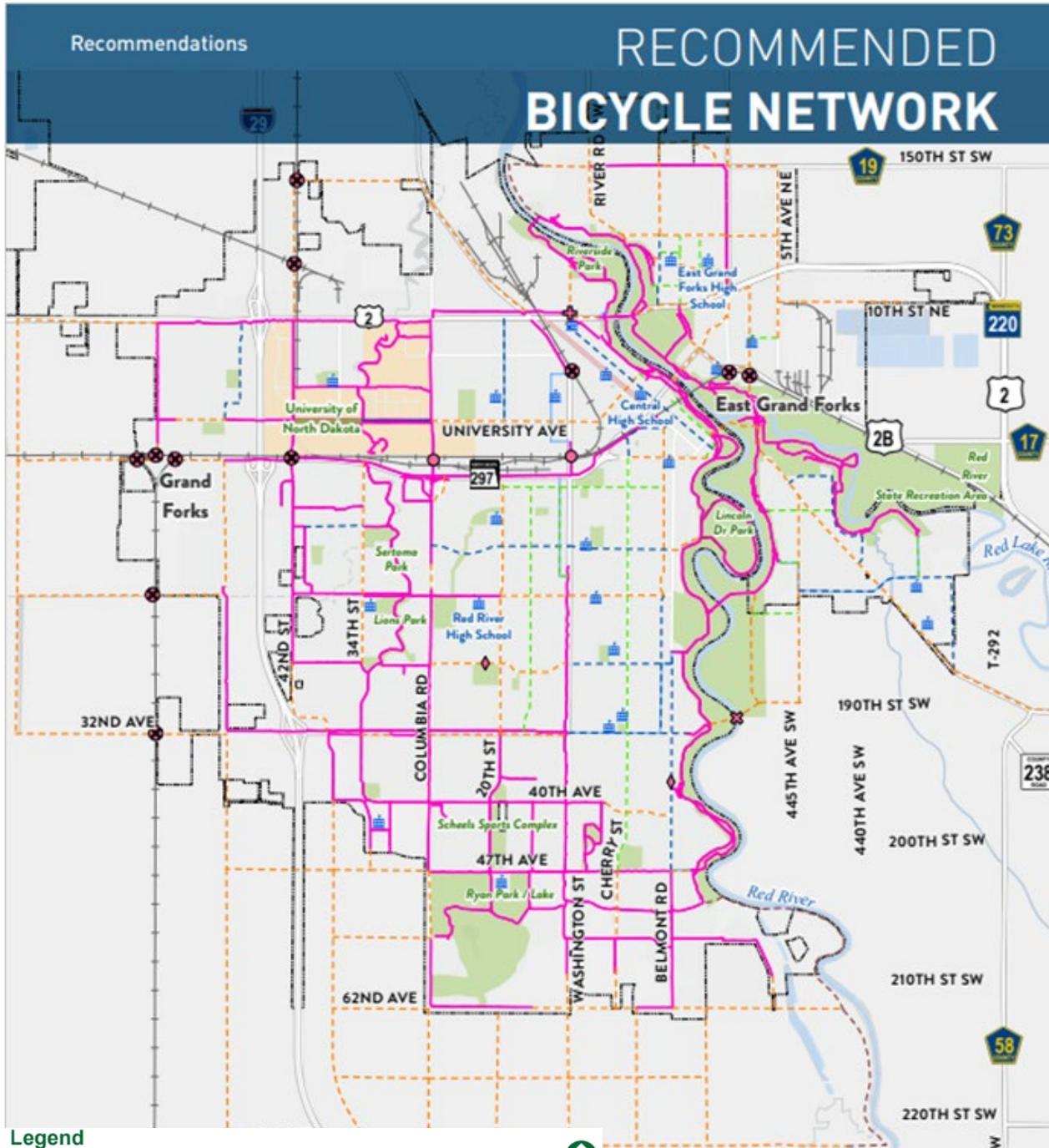
- Multi-Use Path
- Bike Route
- Bike/Bus Lane
- Sharrow
- Conventional Bike Lane

- ◆ Beacon Crossing
- ▲ Bicycle and Pedestrian Bridge
- ✕ Future Bridge Crossing
- Improve Shared Use Path on Bridge
- + Midblock Crossing
- ⊕ Railroad Crossing Improvement

0 1.5 Miles

Source: City of Grand Forks, Esri, GF-EGF MPO, MnDNR, MnDOT, NDDOT

Figure 68: Recommended Bicycle Network, Greater Grand Forks Bike/Ped Plan



Legend

Multi-Use Path	Recommended Facility Type	Railroad Crossing Improvement
Existing Shared Use Path	Greenway	Beacon Crossing
Existing sidewalks	Sidepath or Separated Bike Lane with Sidewalk	Bicycle and Pedestrian Bridge
	Sidewalk	Future Bridge Crossing
		Improve Shared Use Path on Bridge
		Midblock Crossing

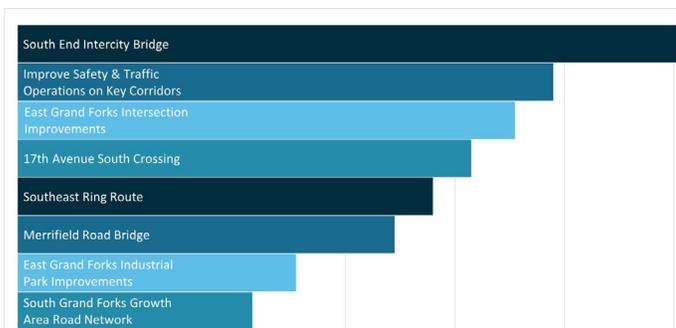
0 1.5 Miles

Source: City of Grand Forks, Esri, GF-EGF MPO, MnDNR, MnDOT, NDDOT

Public Feedback on Strategies

At the final round of public input September 21 through October 13, 2023, generalized input on strategies was solicited. The feedback received from those that responded to the survey indicated that respondents prioritize constructing the South End Intercity Bridge, and building a South Grand Forks Growth Area Road Network was of least importance to the public. The results of the strategy ranking from the survey is shown in Figure 69.

Figure 69: Public Survey Results



Alternatives Development

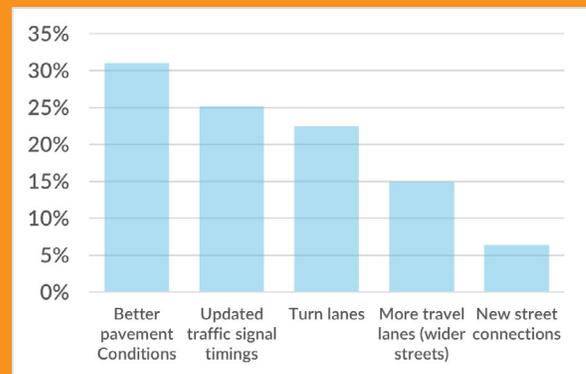
The development of alternatives for the Street and Highway element of the 2050 MTP was based on input received during public engagement, system needs identified during technical analysis, and projects identified in past plans and studies. These alternatives are the list of potential investments that address existing and future street and highway network issues through 2050.

Alternatives that are promoted into the recommended plan meet the region’s maintenance, safety, and mobility performance goals for the system. The range of alternatives are included in **Figure 70**. **Appendix D** provides a detailed description of each alternative along with a corresponding project cost estimate.

Prioritizing System Preservation

Projects that met the region’s pavement and bridge condition performance needs were given priority for inclusion in the fiscally constrained project list.

This priority reflects the need to meet system preservation performance targets. This priority is also consistent with feedback received during plan development. The results from a public survey during the first open house period in November 2022 indicated that better pavement condition was the top priority for respondents.



State-of-Good-Repair Projects

The funding approach used to develop the Street and Highway Plan recognized that funding maintenance for the current street system is a primary system requirement. The alternatives list does not include all of the preservation and state-of-good-repair projects that will be required between the writing of the Plan and 2050. The Street and Highway Plan instead focused on setting aside a sufficient level of future funding to meet the long-term pavement performance needs of the region. Thus, the fiscally constrained project list included in this plan is predominantly a preservation-based list of projects, while the list of alternatives shown in **Figure 70** reflects mostly expansion and system operations projects. **Table 20** reflects the projects currently considered part of the committed network, including:

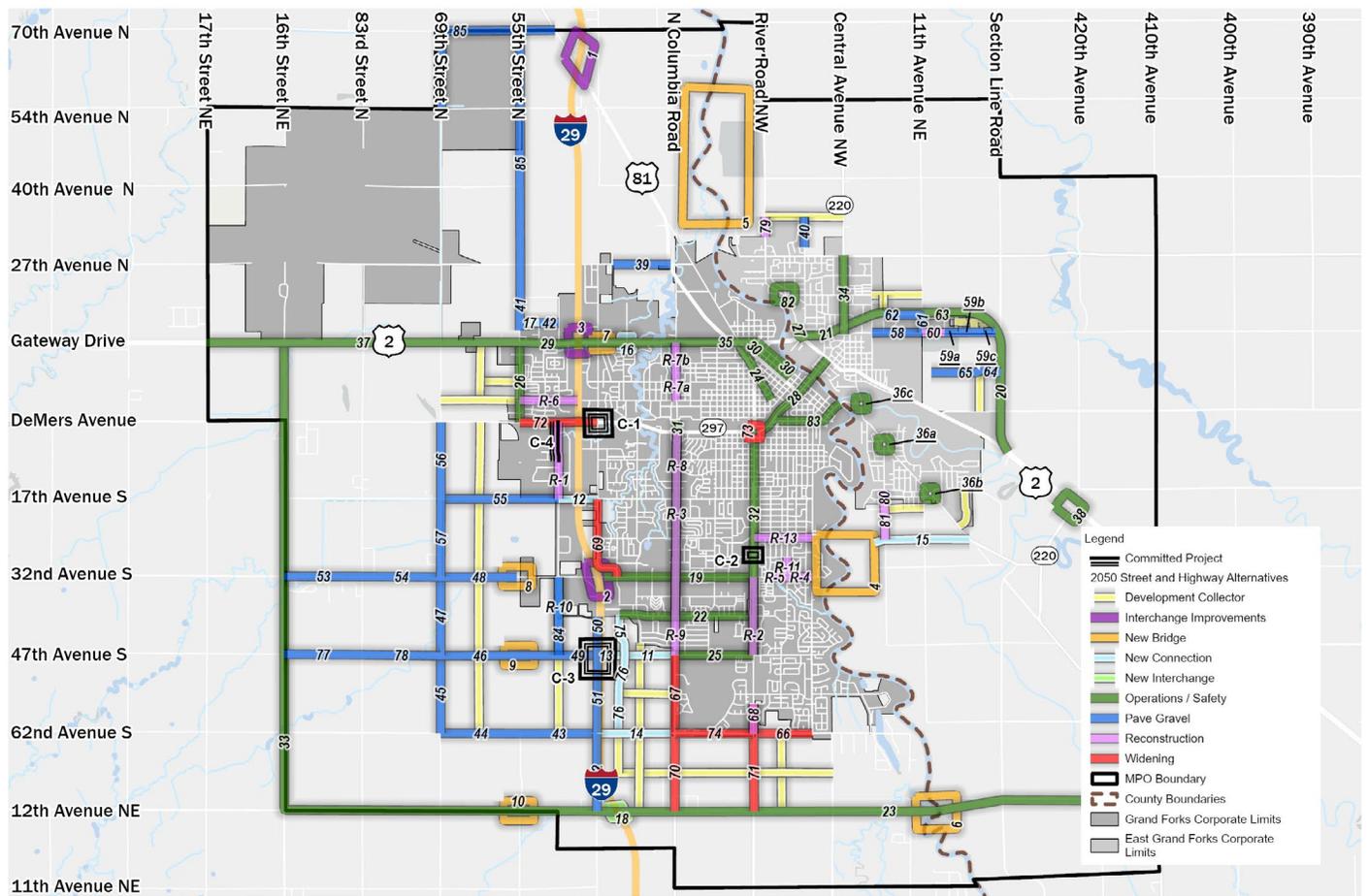
- 42nd Street and Demers Avenue/Railroad Underpass
- Washington Street and 28th Avenue South intersection improvements
- Interstate 29 and 47th Avenue South interchange

Table 20: 2050 Street and Highway Committed Projects

ID	Corridor	Extent	Project Type	Project Description
C-1	42nd Street	at DeMers Avenue	New Bridge	Railroad grade separation
C-2	S Washington Street	at 28th Avenue S	Operations/ Safety	Intersection improvements at 28th Avenue S. Adding length to left turn lane.
C-3	I-29	at 47th Avenue S	New Interchange	New interchange south of Grand Forks
C-4	S 48th Street	DeMers Ave to 11th Ave S	Reconstruction	Reconstruct S 48th Street

The table describing the projects included in **Figure 70** is available in the **Appendix D**.

Figure 70: 2050 Street and Highway Alternatives and Committed Projects



Priorities for the Street and Highway Plan

Projects that were screened during the alternatives development process were given higher priority if they better aligned with Street and Highway Plan goals and objectives. The prioritization approach was developed to reflect engagement received during plan development and the MPO's performance measure requirements, framed by the goals and objectives outlined earlier in this document.

The prioritization approach is intended to identify the projects that most broadly reflect the transportation system's wide range of performance goals. The prioritization approach is imperfect in that:

- It does not reflect the focus of maintaining current transportation infrastructure first before expanding the system.
- It can overlook critical project links and timing needs that would necessitate some alternatives be implemented ahead of alternatives that had scored higher due to hitting more key performance areas.

It focuses on street system investments despite the multimodal nature of some funding sources that could be flexed to bicycle/pedestrian and

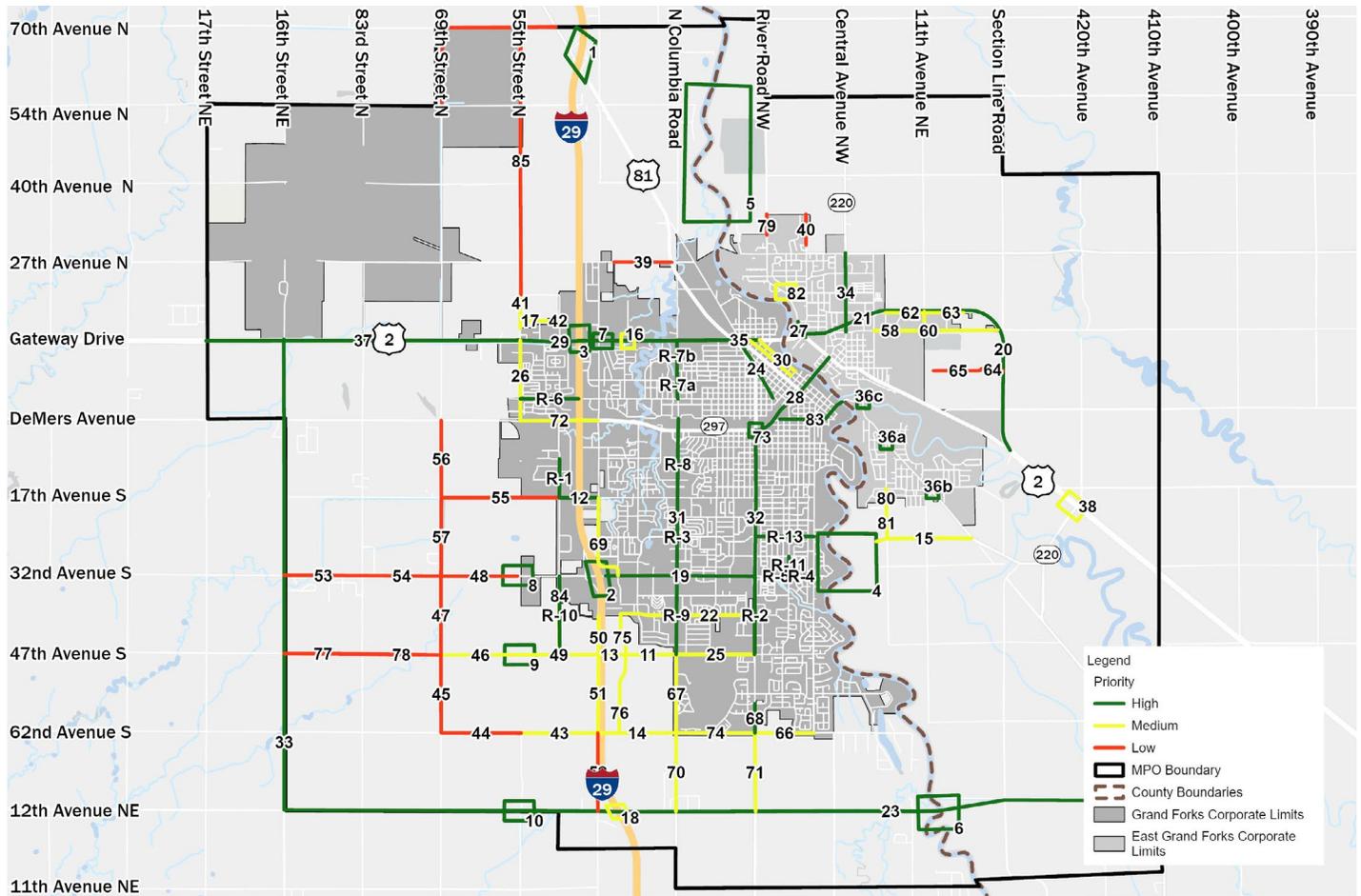
transit projects. When identifying the network's existing issues in the area, projects were scored using a point system that awards a greater number of points if the project would help achieve a Street and Highway Plan goal. Scoring metrics are outlined in **Table 21**. In general, projects are given higher priority if they improve transportation network capacity, create more traffic flow, increase accessibility for all users, and have minimal negative impact on people and the environment. These areas make up most of the federal performance measures, as shown in **Table 1** of the Federal Compliance chapter. Additionally, projects were considered a higher priority if they would make sense in the context of the existing natural and built environment, as well as if it would improve transportation service levels and safety.

Because the prioritization is imperfect, the projects were placed into score categories that reflect high, medium, and low performance priority scores. **Figure 71** demonstrates the results of the alternatives prioritization process. More details on the scoring approach are provided in **Appendix D**.

Table 21: Project Planning Priority Scoring based on Goals and Objectives

Goal	Scoring Metric
Efficient and Reliable	Corridor Level of Service
	Non-Interstate Travel Reliability
	Interstate Truck Travel Time Reliability
	Event Management Traffic Operations
	Multimodal Connectivity
	Project Technology Assessment
Safe	Project Incorporates Traffic Incident Management or Related Elements
	Vehicular Safety Assessment
	Non-motorized Safety Assessment
	Project Incorporates Safe Systems Approach to Facility Design
Connected and Accessible	Project Technology Assessment
	Connection to Residential or Employment Nodes
	Multimodal Facility Assessment
	Multimodal Connection to EJ, Historically Disadvantaged Census Tracts
	Multimodal Connectivity Assessment
Preserved and Maintained	Freight Generator and Key Freight Route Connectivity Assessment
	Project or Strategy Separates Vehicle and Train Traffic
	Project Improves Pavement Condition
	Project Improves Bridge Condition
	Project Life-Cycle
Sustainable and Resilient	Project Maintains or Improves Transit Assets
	Disadvantaged Population Accessibility
	System Resiliency
	Neighborhood Impacts
	Sustainability

Figure 71: Preliminary Alternatives Performance Priority



STREET AND HIGHWAY FUNDING

MPO Funding

As outlined in 23 CFR 450.324, the MTP needs to provide an understanding of reasonable transportation funding levels to demonstrate that the Plan is fiscally constrained while ensuring the federal-aid transportation system is in adequate operation and well-maintained. This section of the report will summarize:

- Current federal, State, and local revenue sources for the Grand Forks-East Grand Forks Area MPO;
- Historical funding trends;
- Forecasted future street and highway revenues.

Federal Revenue Sources

Overview of Federal Funding Programs

Multiple federal programs have been used to fund past transportation projects in the MPO Area. North Dakota and Minnesota differ in how they disperse federal funds; these differences are explained in the following section.

The following federal funding programs have been used for transportation projects within the MPO Area.

Surface Transportation Block Grant Program

The Surface Transportation Block Grant (STBG) program provides funds to states and localities for projects that improve the performance and/or condition of the federal-aid highway system, bridges, tunnels, pedestrian and bicycle facilities, and transit capital projects. Grand Forks-East Grand Forks MPO does not receive any STBG funding directly.

Surface Transportation Block Grant Program funding for Transportation Alternatives

The Surface Transportation Block Grant Program Funding for Transportation Alternatives (STBG-TA) program provides funding for a range of smaller-scale projects, such as pedestrian and bicycle facilities, recreational trails, safe routes to school, historic preservation, vegetation management, and environmental mitigation. A portion of STBG-TA funds are awarded to local jurisdictions for eligible projects on a competitive basis.

National Highway Performance Program

The National Highway Performance Program (NHPP) provides funds for projects that support NHS condition and performance, such as new NHS facilities that support progress toward performance measure targets. All NHPP funding in the Grand Forks-East Grand Forks MPO Area is directed by the state DOTs.

Highway Safety Improvement Program

The Highway Safety Improvement Program (HSIP) provides funds for highway safety projects that achieve significant reductions in traffic fatalities and serious injuries. Non-State-owned roads and tribal roads are eligible for HSIP funds. A portion of HSIP projects are awarded by the state on a competitive basis.

New Federal Funding Programs Impacting the MPO Area

The passage of the BIL in November 2022 introduced a series of new formula and discretionary grant programs intended to address four key areas:

- Safety
- Modernization
- Climate
- Equity

Within the MPO Area, several new federal formula funding programs are anticipated to provide additional annual revenues for transportation improvements. These programs include the following.

Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation

The Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) program provides formula funding to states to help make surface transportation more resilient to natural hazards.

Carbon Reduction Program

The Carbon Reduction Program (CRP) provides funding for projects designed to reduce transportation emissions, defined as carbon dioxide emissions, from on-road highway sources.

State Revenue Sources

North Dakota State Programs

Many of the North Dakota federal funds are directed into specific transportation funding programs. Some of those programs are included in this section.

Urban Program

Urban funding at the state level is balanced evenly between the regional and urban road system.

- **Urban roads** funds are distributed to local jurisdictions based on population. The match for federal funds on the urban roads system is typically covered by the local jurisdiction.
- **Regional system** funds are discretionary and allocated to projects statewide based on need. The match for federal funds on the primary regional system are typically provided by NDDOT. The match for the federal funds on the secondary regional system are typically provided by both NDDOT and the local jurisdiction(s).

County Road Program

Federal funding for county roads is allotted to counties on a formula basis. The formula is based on a combination of rural population, land area, major collector mileage, and the county's mill levy collections for road and bridge improvements. The match for federal funds on county projects is covered by the counties.

Bridge Program

Bridges that qualify for the Bridge Program can be awarded funds on a statewide discretionary basis. Bridges on the primary regional system have the match for federal funds covered by the state. On the secondary regional system, they are covered by the state and local government. On service, locally owned, and maintained roads, the match is covered by the local government.

TRANSPORTATION ALTERNATIVES PROGRAM

Transportation Alternatives (TA) Program funds are distributed to urban areas and counties through a competitive process. TA Program eligible projects include pedestrian and bicycle facilities, safe routes to school projects, and community improvement activities. The match for federal funds on county projects is covered by local jurisdictions.

URBAN GRANT PROGRAM

The Urban Grant Program provides transportation funding for Local Public Agencies (LPA) with populations of 5,000 or more on a competitive annual basis. The program uses federal dollars and the amount of federal funding available is determined annually by NDDOT's Director. Eligible projects are those that are federal aid eligible within an LPA's corporate limits, and are intended to be projects that support revitalization, development of vacant or underutilized parcels within existing urban areas, or redevelopment of the established build environment. Examples of eligible projects include pedestrian, bicycle, or public transportation friendly corridor improvements, projects that improve safety, traffic calming measures, road diets, bus stops or other eligible public transportation facilities, bike lanes, landscaping and street improvements, lighting, pedestrian controlled signalization, improvements to transportation system connectivity, and asset preservation projects such as pavement overlays.

Minnesota State Programs

For Minnesota federal funding, jurisdictions work with the Northwest Minnesota Area Transportation Partnership (NWATP) to fund transportation projects with state and federal funds. Federal funds come from those sources listed in the preceding section, while state transportation funds come primarily through the Motor Fuel Excise Tax, Motor Vehicle Registration Tax, and Motor Vehicle Sales Tax (MVST).

State and NWATP programs that provide funding to the MPO Area include the following.¹⁰

Statewide Performance Program

The Statewide Performance Program (SPP) allocates federal funding provided under the NHPP and is directed by MnDOT for projects located on the NHS.

10 Northwest Area Transportation Partnership, [Operations and Policy Manual](#)

District Risk Management Program

The District Risk Management Program (DRMP) allocates federal funding provided under the STBG program and is directed by MnDOT for pavement, bridge, and roadside infrastructure projects located on lower-volume roads.

Area Transportation Partnership Managed Program

The Area Transportation Partnership (ATP) Managed Program allocates federal funding provided under the STBG program. NWATP distributes these funds through a formula based on ATP population and the average of the ATP's county and municipal state aid needs as calculated by MnDOT's State Aid for Local Transportation process.

NWATP City Sub-Target Funding

The City Sub-Target Funding program allocates funds to cities within the NWATP area. Each city receives funds on a rotating basis every 4 years. Funding for the City Sub-Target Funding program is sourced from MnDOT's STBG Program.

Local Revenue Sources

City of Grand Forks

The city of Grand Forks leverages several local funding sources to invest in the city's transportation system. These sources include:¹¹

- **HIGHWAY USERS TAX:** The Highway Users Tax is a fuel tax collected by the State of North Dakota. Grand Forks receives an apportionment of the Highway Users Tax collected by the State to fund street repair and maintenance.
- **SALES AND USE TAX:** Sales and use tax levied on purchases made within the city. A portion of the Sales and Use Tax go toward debt obligations related to the construction and capital needs of the Alerus Center, while the remaining revenues are invested in infrastructure, economic relief, and property tax relief.
- **ADDITIONAL 0.5 PERCENT SALES TAX:** The City of Grand Forks passed an additional 0.5 percent sales tax to fund water and road improvements in 2017. Collection of the tax began in 2018 and has a 20-year sunset date.
- **SPECIAL ASSESSMENTS:** Special Assessment fees are determined by taking the amount to be special assessed per the City of Grand Forks Cost Share Policy and dividing that cost based on the benefit as determined by the Special Assessment Commission
- **BONDS:** Debt obligations assumed by the city of Grand Forks to repay loans taken to fund infrastructure improvements.

11 City of Grand Forks, Annual Budgets 2017–2023

City of East Grand Forks

The city of East Grand Forks uses the following local sources to fund transportation improvements¹²:

- General Fund: Revenues gained primarily through property taxes that are used to fund city services and infrastructure improvements.
- Snow Removal Fee: Fee assessed to residents for snow removal service.
- Street Lights: Revenues obtained from street light service fees
- Other-Streets Fund

Revenues from special assessments and bonds were not included in future revenue forecasts as they are not considered to be reasonably consistent future revenue streams. The Minnesota side of the MPO also receives some funding in the form of Polk County Aid.

Historic Street and Highway Revenues

A review of the MPO's past TIPs published between 2017 and 2023 was conducted to establish a baseline for forecasting anticipated revenue levels that will be available to the MPO through the year 2050.

Historic Average Federal and State Revenues for the North Dakota Side of the MPO

Table 22 illustrates the average annual historic revenue levels for the North Dakota side of the MPO Area. As indicated in Table 22, an average of \$330,000 was received annually from the HSIP program while an average of \$100,000 was received each year from the Interstate Maintenance Program. TA Program revenues averaged \$280,000 per year in competitive awards.

The majority of revenues received during the 2017–2023 period were from NDDOT urban programs, which included an annual average of \$4.3 million in Urban Local Roads revenues, \$5.4 million in Urban Regional Primary Program revenues, and \$2.9 million in Urban Regional Secondary Roads and Bridge Program revenues.

Revenues received under the County Road Program averaged \$21,000 per year while Bridge Program Revenues averaged approximately \$1.1 million annually.

12 City of East Grand Forks, Annual Budgets 2017–2023

Table 22: Average Historic Federal and State Revenue Levels for the North Dakota Side of the MPO, 2017–2023

Funding Source	2017–2023 Average
Highway Safety Improvement Program	\$330,000
Interstate Maintenance Program	\$100,000
Transportation Alternatives Program	\$280,000
Urban Grant Program	\$230,000
Urban Local Roads Program	\$4,280,000
Urban Regional Primary Program	\$5,430,000
Urban Regional Secondary Roads and Bridge Program	\$2,880,000
County Road Program	\$21,000
Bridge Program	\$1,070,000

Source: Grand Forks-East Grand Forks MPO Transportation Improvement Programs, 2017–2023

Historic Average Federal and State Revenues for Minnesota Side of the MPO

Table 23 illustrates the average annual historic revenues for the Minnesota side of the MPO Area. As indicated in Table 23, an annual average of \$2.6 million was received in NHPP funding.

Revenues received under the District Managed Program averaged \$1.4 million annually while TA Program revenues averaged \$30,000 in annual awards during the analysis period.

Historic Local Revenues

Table 24 summarizes the average annual historic revenue levels for the cities of Grand Forks and East Grand Forks between 2017 and 2023.

For the City of Grand Forks, an average of \$3.2 million in revenue was available from the City’s Highway Users Tax allocation. Sales Tax revenues, including the Additional 0.5 Percent Sales Tax that began collection in 2018, averaged nearly \$5.2 million per year while Use Tax revenues saw an average annual level of \$610,000.

The city of East Grand Forks recorded an annual average of \$1.7 million in General Fund revenues that were made available for transportation investments. Street Lights averaged \$180,000 per year, snow removal fees averaged \$10,000 per year, and Other-Streets revenues averaged \$1,800 annually. Historic revenue data for Polk County Aid was not available.

Table 23: Average Historic Federal and State Funding Levels for the Minnesota Side of the MPO, 2017–2023

Funding Source	2017–2023 Average
National Highway Performance Program	\$2,570,000
District Managed Program	\$1,442,500
Mn State Aid	\$720,000
NWATP City Sub-target	\$210,000
NWATP TA Program funds	\$30,000

Source: Grand Forks-East Grand Forks MPO Transportation Improvement Programs, 2017–2023

Table 24: Average Historic Revenue Levels for the Cities of Grand Forks and East Grand Forks, 2017–2023

Funding Source	2017–2023 Average
Grand Forks	
Highway Users Tax	\$3,150,000
Sales Tax Revenue	\$5,190,000
Use Tax	\$610,000
East Grand Forks	
General Fund	\$1,670,000
Street Lights	\$180,000
Snow Removal Fees	\$10,000
Other-Streets	\$1,800

Source: Cities of Grand Forks and East Grand Forks, Annual Budgets 2017–2023

Future Anticipated Revenues for the MPO Area’s Streets and Highways

Baseline Federal and State Levels for Forecasting Future Revenues

Baseline revenue levels used to forecast future anticipated street and highway revenues were developed based on the historic trends identified in the MPO’s TIPs and the baseline used to forecast future revenues in the 2045 MTP. These baseline levels were then reviewed by the MPO, State DOTs, and cities of Grand Forks and East Grand Forks and refined based on input from these agencies. The baseline year used for launching the forecasts was 2023. **Table 25** summarizes the baseline levels for the North Dakota side of the MPO Area while **Table 26** provides a summary for the Minnesota side.

Baseline Local Levels for Forecasting Future Revenues

Baseline levels used to forecast future local revenues were sourced from the latest budgets for the cities of Grand Forks and East Grand Forks and are shown in **Table 27**. These baseline levels reflect the amount each city anticipates in revenue for each funding source in 2023.

Baseline levels for the MnDOT CRP are based on the allocations received by the MPO for 2024.

Table 25: 2023 Baseline Revenue Levels by Funding Source for North Dakota

Funding Source	2023 Revenue Baseline
Highway Safety Improvement Program	\$300,000
Interstate Maintenance Program	\$210,000
Transportation Alternatives Program	\$200,000
Carbon Reduction Program	\$420,000
PROTECT	\$730,000
Urban Grant Program	\$330,000
Urban Local Roads Program	\$3,000,000
Urban Regional Primary Program	\$3,000,000
Urban Regional Secondary Roads & Bridge Programs	\$2,880,000

Table 26: 2023 Baseline Revenue Levels by Funding Source for Minnesota

Funding Source	2023 Baseline Revenue
National Highway Performance Program	\$2,570,000
Carbon Reduction Program	\$20,000
PROTECT	\$29,000
District Managed Program	\$1,440,000
Mn State Aid	\$720,000
NWATP City Sub-Target	\$1,200,000
NWATP TA Program funds	\$60,000

Table 27: Baseline Revenue Levels by Funding Source for the Cities of Grand Forks and East Grand Forks

Funding Source	2023 Baseline Revenue
Grand Forks	
Highway Users Tax	\$3,150,000
Sales Tax Revenue ¹³	\$5,190,000
Use Tax	\$610,000
East Grand Forks	
General Fund	\$1,670,000
Snow Removal Fees	\$10,000
Street Lights	\$180,000
Other-Streets	\$1,800
Polk County Aid	\$100,000

13 This includes the 0.5 Percent Sales Tax that went into effect in 2018.

Revenue Growth Rates

Federal and State Funding Sources

The revenue growth rates used to forecast future revenue levels for federal and state sources were developed by averaging historic trends and revenue growth rates sourced from the 2045 MTP, which were then refined based on input from the MPO, State DOTs, and City staff. These revenue growth rates were applied to the baseline revenue levels shown in **Tables 25** and **26** to forecast reasonably expected revenue levels available to the MPO through 2050.

Local Funding Sources

The revenue growth rates used to forecast future revenue levels for local sources were developed based on revenue growth assumptions stated in budget documents (for the city of Grand Forks) and an analysis of historic growth trends (for the city of East Grand Forks). **Table 30** illustrates the assumed revenue growth rates for the local revenue sources.

Annual budgets for the city of Grand Forks stated a revenue growth assumption of 2 percent per year for the Highway Users Tax, Sales Tax, and Use Tax sources. A revenue growth assumption was not stated for the Additional 0.5 Percent Sales Tax, so forecasted revenues for this source were assumed to grow at 2 percent per year.

An analysis of historic revenue growth trends for the city of East Grand Forks local funding sources saw that these sources of revenue grew between 2 and 2.6 percent per year, as shown in **Table 30**.

Table 28: Revenue Growth Rates for Federal and State Sources on the North Dakota Side of the MPO Area

Funding Source	Revenue Growth Rate (%)
Highway Safety Improvement Program	2.0
Interstate Maintenance Program	2.7
Transportation Alternatives Program	3.4
Carbon Reduction Program	1.5
PROTECT	1.5
Urban Grant Program	1.6
Urban Local Roads Program	1.8
Urban Regional Primary Program	1.8
Urban Regional Secondary Roads & Bridge Programs	1.6

Table 29: Revenue Growth Rates for Federal and State Sources on the Minnesota Side of the MPO Area

Funding Source	Revenue Growth Rate (%)
National Highway Performance Program	3.4
Carbon Reduction Program	1.5
PROTECT	1.5
District Managed Program	1.6
Mn State Aid	1.5
NWATP City Sub-Target	1.6
NWATP TA Program funds	1.6

Table 30: Revenue Growth Rates for Local Sources

Funding Source	2023 Baseline Revenue
Grand Forks	
Highway Users Tax	2.0
Sales Tax Revenue ¹⁴	2.0
Use Tax	2.0
East Grand Forks	
General Fund	2.2
Snow Removal Fees	2.6
Street Lights	2.3
Other-Streets	2.0
Polk County Aid	2.0

Forecast Time Bands

Future revenue levels are categorized into time bands in order to group these future-year dollars into distinct time periods reflective of their year of expenditure (YOE) values for the purpose of demonstrating fiscal constraint. The time bands developed for the 2050 MTP are:

- Current TIP: 2024–2027
- Short-Term: 2028–2032
- Mid-Term: 2033–2041
- Long-Term: 2042–2050

The use of these time bands is a key component of developing an MTP that is fiscally constrained and accounts for the impact of inflation on costs for construction, operations, and maintenance through the life of the Plan.

14 This includes the ½ Percent Sales Tax that went into effect in 2018.

Future Revenue Forecasts

Federal Revenues-North Dakota Side

Forecasted revenues from federal sources that are anticipated to be available to the MPO Area through 2050 are shown in **Table 31** and **Table 32**. These tables represent funds forecasted for the short-, mid-, and long-term.

The North Dakota side of the MPO Area is anticipated to receive approximately \$59 million in federal funding through 2050. Just over \$10 million in short-term revenues (2028–2032) are expected to be available to the MPO while mid-term revenues (2031–2042) are forecasted to be \$22 million. Anticipated revenues from federal sources for the long-term period (2042–2050) were forecasted to equal roughly \$26 million.

Of the nearly \$59 million in federal revenues forecasted for the North Dakota side of the MPO Area, \$10.3 million are expected to come from HSIP, \$7.5 million from the Interstate Maintenance Program, \$8 million from the TA Program, \$12 million from the CRP, and \$21.1 million from PROTECT.

Federal Revenues-Minnesota Side

Forecasted federal revenues for the Minnesota side of the MPO Area are estimated to equal \$23 million through 2050, with \$3.5 in federal revenues for the short-term, \$8.5 million in federal revenues for the mid-term, and nearly \$11 million in federal revenues for the long-term.

The largest share of federal revenues for the Minnesota side of the MPO Area through 2050 is expected to come from the NHPP, which is estimated to account for just over \$22 million. The CRP is anticipated to bring in \$35,500 in total funding during the life of the MTP, while revenues from the MPO’s share of NWATP PROTECT funding is estimated to total \$838,200.

Given the discretionary nature of NHPP funding in Minnesota, revenues for this program are assumed to be received by the MPO on a non-annual basis. The forecasting approach for this funding source assumed the MPO would receive NHPP funds every 4 years beginning in 2027.

Table 31: Forecasted Revenue Levels for Federal Funding Sources, North Dakota Side of the MPO Area

Time Band	Highway Safety Improvement Program	Interstate Maintenance Program	Transportation Alternatives Program	Carbon Reduction Program	PROTECT	Total
Short-Term (2028–2032)	\$1,860,000	\$1,270,000	\$1,260,000	\$2,280,000	\$4,000,000	\$10,670,000
Mid-Term (2033–2041)	\$3,840,000	\$2,740,000	\$2,880,000	\$4,560,000	\$7,990,000	\$22,010,000
Long-Term (2042–2050)	\$4,590,000	\$3,510,000	\$3,860,000	\$5,220,000	\$9,120,000	\$26,300,000
Total	\$10,290,000	\$7,520,000	\$8,000,000	\$12,060,000	\$21,110,000	\$58,980,000

Table 32: Forecasted Revenue Levels for Federal Funding Sources, Minnesota Side of the MPO Area

Time Band	National Highway Performance Program	Carbon Reduction Program	PROTECT	Total
Short-Term (2028–2032)	\$3,350,000	\$109,300	\$158,600	\$3,617,900
Mid-Term (2033–2041)	\$8,180,000	\$218,700	\$317,200	\$8,715,900
Long-Term (2042–2050)	\$10,660,000	\$249,900	\$362,400	\$11,272,300
Total	\$22,190,000	\$577,900	\$838,200	\$23,606,100

State Revenues – North Dakota Side

A total of \$281.1 million in forecasted revenues from state sources are estimated to be available for the North Dakota side of the MPO Area through 2050, as shown in **Table 33**. Of this \$281.1 million, approximately \$54.6 million is expected in the short-term, \$107 million is expected in the mid-term, and \$119.6 million is expected in the long-term.

NDDOT’s Urban Grant Program is estimated to bring in almost \$1.7 million in revenues for the MPO Area. When forecasting these revenues, it was assumed that the MPO would receive Urban Grant Program funding every 4 years beginning in 2027. Forecasts for the other urban funding programs include:

- \$69 million from Urban Local Roads,
- Nearly \$93 million from Urban Regional Primary Program,
- \$86.5 million from Urban Regional Secondary and Bridge Programs.

Bridge Program funding is estimated to total almost \$30 million between 2032 and 2050, while forecasted revenue levels from the county program are anticipated to equal just under \$1.5 million through 2050.

State Revenues – Minnesota Side

A total of \$97 million in forecasted revenues from state sources are estimated to be available for the Minnesota side of the MPO Area through 2050, as shown in **Table 34**. Of this \$97 million, approximately \$17.8 million is expected in the short-term, \$36 million is expected in the mid-term, and \$43 million is expected in the long-term.

Most state revenues are anticipated to come from the District Managed program, with forecasts equaling \$43.2 million through 2050. State aid revenues are forecasted to equal \$35.2 million and serve as a second revenue source through the life of the MTP. City Sub-Target Funding revenues sourced from NWATP are assumed to be collected by the MPO every 4 years beginning in 2030 and are estimated to total almost \$9 million through 2050. Future TA Program funds are anticipated to equal \$1.7 million.

It is noted that several of the funding sources identified as being state sources disseminate federal dollars. Their designation as state sources is due to MnDOT being the organization through which these dollars are allocated to Minnesota's ATPs and MPOs.

Table 33: Forecasted Revenues for State Funding Sources, North Dakota Side of the MPO Area

Time Band	Urban Grant Program	Urban Local Roads Program	Urban Regional Primary Program	Urban Regional Secondary Roads & Bridge Programs	Bridge Program	County Program	Total
Short-Term (2028–2032)	\$330,000	\$15,000,000	\$17,020,000	\$16,140,000	\$5,800,000	\$280,000	\$54,570,000
Mid-Term (2033–2041)	\$660,000	\$27,000,000	\$34,790,000	\$32,590,000	\$11,360,000	\$560,000	\$106,960,000
Long-Term (2042–2050)	\$660,000	\$27,000,000	\$40,930,000	\$37,730,000	\$12,610,000	\$650,000	\$119,580,000
Total	\$1,650,000	\$69,000,000	\$92,740,000	\$86,460,000	\$29,770,000	\$1,490,000	\$281,110,000

Table 34: Forecasted Revenues for State Funding Sources, Minnesota Side of the MPO Area

Time Band	District Managed Program	Mn State Aid	NWATP City Sub-Target	NWATP TAP Funds	Total
Short-Term (2028–2032)	\$8,070,000	\$3,970,000	\$1,270,000	\$320,000	\$13,630,000
Mid-Term (2033–2041)	\$16,290,000	\$7,950,000	\$2,780,000	\$640,000	\$27,660,000
Long-Term (2042–2050)	\$18,850,000	\$9,070,000	\$4,860,000	\$740,000	\$33,520,000
Total	\$43,210,000	\$20,990,000	\$8,910,000	\$1,700,000	\$74,810,000

Local Funding-North Dakota Side

Local funding revenues for the city of Grand Forks are estimated to equal approximately \$285. million between 2032 and 2050, as shown in **Table 35**. Of this \$285.2 million, \$51.4 million is expected in the short-term, \$106.5 million is expected in the mid-term, and \$127 million is expected in the long-term.

The largest source of local revenues is expected to come from sales tax revenues, which are estimated to be just over \$165 million through the life of the MTP. This forecast accounts for the sunset date of 2038 for the collection of the Additional 0.5 Percent Sales Tax. Highway User Tax revenue estimates see a total of \$18.1 million in the short-term, \$37.5 million in the mid-term, and \$44.8 million in the longterm.

Sales tax revenue forecasts anticipate a collection of \$29.8 million in the short-term, \$61.8 million in the mid-term, and just over \$73 million in the long-term. User Tax revenues are anticipated to provide \$3.5 million in available funding for transportation investments in the short-term, \$7.3 million in the mid-term, and \$8.7 million in the long-term.

Local Funding-Minnesota Side

Local funding revenues for the city of East Grand Forks are estimated to equal \$64.4 million between 2032 and 2050. Local funding revenues for the city of East Grand Forks are estimated to equal approximately \$64.4 million between 2032 and 2050, as shown in **Table 36**. Of this \$64.4 million, \$11.4 million is expected in the short-term, \$24 million is expected in the mid-term, and \$29 million is expected in the long-term.

The majority of local revenues for the city of East Grand Forks are expected to come from the City's General Fund, which is estimated to equal \$54.8 million through 2050. Street Lights revenues forecasts are anticipated to equal \$6 million during the MTP while Snow Removal Fees and Other-Streets revenues are expected to total \$350,000 and \$57,400, respectively. Polk County Aid is forecasted to amount to \$3.1 million through 2050.

Table 35: Forecasted Revenues for Local Funding Sources, North Dakota Side of the MPO Area

Time Band	Highway Users Tax	Sales Tax Revenue	Use Tax	Total
Short-Term (2028–2032)	\$18,100,000	\$29,840,000	\$3,500,000	\$51,440,000
Mid-Term (2033–2041)	\$37,460,000	\$61,760,000	\$7,250,000	\$106,470,000
Long-Term (2042–2050)	\$44,760,000	\$73,810,000	\$8,670,000	\$127,240,000
Total	\$100,320,000	\$165,410,000	\$19,420,000	\$285,150,000

*Assumes collection of Additional 0.5 Percent Sales Tax ends in 2048

Table 36: Forecasted Revenues for Local Funding Sources, Minnesota Side of the MPO Area

Time Band	General Fund	Snow Removal Fees	Street Lights	Other-Streets	Polk County Aid	Total
Short-Term (2028–2032)	\$9,720,000	\$60,000	\$1,050,000	\$10,300	\$570,000	\$11,410,300
Mid-Term (2033–2041)	\$20,360,000	\$130,000	\$2,220,000	\$21,400	\$1,190,000	\$23,921,400
Long-Term (2042–2050)	\$24,720,000	\$160,000	\$2,720,000	\$25,600	\$1,420,000	\$29,045,600
Total	\$54,800,000	\$350,000	\$5,990,000	\$57,300	\$3,180,000	\$64,377,300

2050 MTP Revenue Forecast Summary

Revenue forecasts for federal, state, and local sources for the North Dakota and Minnesota sides of the MPO Area are summarized in **Table 37**.

Table 37: Summary of Revenue Forecasts for the 2050 MTP

Time Band	North Dakota				Minnesota			
	Federal	State	Local	Total	Federal	State	Local	Total
Short-Term (2028–2032)	\$10,670,000	\$54,570,000	\$51,440,000	\$116,680,000	\$3,617,900	\$13,630,000	\$11,410,300	\$28,658,200
Mid-Term (2033–2041)	\$22,010,000	\$106,960,000	\$106,470,000	\$235,440,000	\$8,715,900	\$27,660,000	\$23,921,400	\$60,297,300
Long-Term (2042–2050)	\$26,300,000	\$119,580,000	\$127,240,000	\$273,120,000	\$11,272,300	\$33,520,000	\$29,045,600	\$73,837,900
Total	\$58,980,000	\$281,110,000	\$285,150,000	\$625,240,000	\$23,606,100	\$74,810,000	\$64,377,300	\$162,793,400

Operations and Maintenance Funding

Operations and maintenance (O&M) funding represents an annual expenditure incurred by the MPO related to the routine, daily services and repair that supports the transportation system. The cities of Grand Forks and East Grand Forks currently have agreements in place with NDDOT and MnDOT, respectively, that delineate system O&M responsibilities. Both cities are responsible for the O&M needs of their federal-aid and local roadway networks, except for I-29 in Grand Forks, whose O&M needs are managed by NDDOT.¹⁵ O&M responsibilities for the MPO roadway network outside of the Grand Forks and East Grand Forks limits are overseen by the state DOTs.

Historic Operations and Maintenance Revenues

Table 38 details historic O&M revenues for Grand Forks, East Grand Forks, NDDOT, and MnDOT for the years 2017 through 2023. Historic O&M revenues for the city of Grand Forks grew by 2.1 percent over the 7-year analysis period, from a 2017 level of \$520,956 to \$622,048 in 2023. A similar growth rate, of 2.0 percent, was observed for NDDOT O&M revenues, which were just under \$500,000 in 2017 and grew to \$596,000 in 2023.

The city of East Grand Forks and MnDOT also observed historic O&M growth rates of 2.0 percent each between 2017 and 2023. O&M revenues for the city of East Grand Forks were \$194,443 in 2017 and grew to \$232,175 by 2023. MnDOT O&M revenues were recorded as \$238,429 in 2017 and grew to \$284,696 by 2023.

15 Grand Forks-East Grand Forks MPO, [Transportation Improvement Program FY2023-2026](#)

Historic Operations and Maintenance Expenditures

Table 38 summarizes historic O&M expenditures for the cities of Grand Forks and East Grand Forks as well as NDDOT and MnDOT from 2017 through 2023. Historic O&M expenditures were observed to match the O&M revenues for each year of the analysis period for the city of Grand Forks, NDDOT, and MnDOT. However, the city of East Grand Forks consistently recorded O&M expenditures below the corresponding revenue levels each year between 2017 and 2023. The O&M revenue surplus for the city of East Grand Forks presents an opportunity for the community to use these dollars for additional O&M needs, or to flex these dollars to support nonO&M transportation improvements.

Table 38: Historic O&M Revenues, 2017–2023

Year	Grand Forks	East Grand Forks	NDDOT	MnDOT
2017	\$520,956	\$194,443	\$499,310	\$238,429
2018	\$536,585	\$200,276	\$514,290	\$245,582
2019	\$520,956	\$206,284	\$529,718	\$252,949
2020	\$569,262	\$212,473	\$545,610	\$260,537
2021	\$586,340	\$218,847	\$561,978	\$268,353
2022	\$603,930	\$225,412	\$578,837	\$276,404
2023	\$622,048	\$232,175	\$596,202	\$284,696

Source: Grand Forks-East Grand Forks MPO Transportation Improvement Programs, 2023–2026

Forecasted Operations and Maintenance Funding

Historic O&M revenues and expenditures were forecasted through 2050 to estimate the expected amount of funding that will be available to the cities of Grand Forks and East Grand Forks as well as NDDOT and MnDOT through the life of this MTP. The O&M revenues and expenditures were grown at the rates detailed in the Historic O&M Revenues section. The baseline revenue and expenditure levels used for forecasting are based on the levels published in the MPO’s 2023 TIP for the year 2026, which are shown in **Table 40**.

Table 39: Historic O&M Expenditures, 2017–2023

Year	Grand Forks	East Grand Forks	NDDOT	MnDOT
2017	\$520,956	\$183,281	\$499,310	\$238,429
2018	\$536,585	\$189,838	\$514,290	\$245,582
2019	\$552,682	\$194,443	\$529,718	\$252,949
2020	\$569,262	\$200,276	\$545,610	\$260,537
2021	\$586,340	\$206,284	\$561,978	\$268,353
2022	\$603,930	\$212,473	\$578,837	\$276,404
2023	\$622,048	\$218,847	\$596,202	\$284,696

Source: Grand Forks-East Grand Forks MPO Transportation Improvement Programs, 2023–2026

Table 40: Baseline O&M Revenue and Expenditure Forecast Levels

Agency	2026 O&M Revenue	2026 O&M Expenditure
City of Grand Forks	\$679,729	\$679,729
City of East Grand Forks	\$253,704	\$239,140
NDDOT	\$651,486	\$651,486
MnDOT	\$311,095	\$311,095

Source: Grand Forks-East Grand Forks MPO Transportation Improvement Programs, 2023–2026

Table 41 shows the forecasted O&M revenues and expenditures by time band. As historic revenues were observed to match historic expenditure for each agency, the revenue and expenditure forecast levels match through the short-, mid-, and long-term. Expected O&M revenues and expenditures total \$20.5 million for the city of Grand Forks, \$7.63 for the city of East Grand Forks, \$19.6 million for NDDOT, and \$9.4 million for MnDOT.

Table 41: Forecasted O&M Revenues and Expenditures by Time Band

Time Band	Grand Forks	East Grand Forks	NDDOT	MnDOT	Total
Short-Term (2028–2032)	\$3,680,000	\$1,370,000	\$3,530,000	\$1,690,000	\$10,290,000
Mid-Term (2033–2041)	\$7,640,000	\$2,850,000	\$7,320,000	\$3,500,000	\$21,380,000
Long-Term (2042–2050)	\$9,150,000	\$3,410,000	\$8,770,000	\$4,190,000	\$25,680,000
Total	\$20,470,000	\$7,630,000	\$19,620,000	\$9,380,000	\$57,350,000

FISCALLY CONSTRAINED PLAN

Federal requirements for MTPs state that they should be fiscally constrained, meaning the MTP demonstrates that the identified projects can be implemented using committed, available, or reasonably available revenue sources. The fiscally constrained plan should also plan for the federally supported transportation system to be operated and maintained adequately.

Street and Highway projects included in the fiscally constrained plan were identified based on their ability to meet the current needs of the MPO Area as well as how their estimated YOE costs align with the revenue levels anticipated to be available to the MPO through the year 2050.

System Maintenance Requirements

As noted in the Street and Highway Strategies section, a primary focus is placed on meeting the system's pavement and bridge condition performance requirements. There were two different sources used to identify the anticipated level of investment required to maintain the current street system. The two sources are:

- The information available in the MPO's 2022 *Pavement Management Report*. The report looks out for 5 years of needs and sets a trend for short-term needs and local funding levels to cover maintenance targets.
- Anticipated street system maintenance projects identified by city staff for Grand Forks and East Grand Forks. Those project lists identified the life-cycle estimates of federal-aid maintenance projects (such as rehabilitation, overlay, and reconstructions) for each system.

The estimated annual maintenance costs between today and 2050 (in 2023 dollars) are shown in **Table 42**.

Table 42: Summary of Estimated Annual Maintenance Project Costs in 2023 Dollars

City of Grand Forks	City of East Grand Forks	NDDOT	MnDOT
\$23,500,000	\$6,000,000	\$10,600,000	\$1,300,000

Sources: Forks MPO Project Data; 2022 Pavement Management Study

The project costs are based on averages provided by city and DOT staff and averaged costs over the 2023–2050 planning horizon. Based on historical patterns, both counties are anticipated to spend the majority of their future transportation budgets on system preservation.

As noted in the Street and Highway Funding section, all funding sources combined (federal, state, local—all programs) add up to approximately \$25 million annually for Grand Forks and approximately \$6 million annually for East Grand Forks. That means the jurisdictions will spend most of their local, state, and federal funds to maintain the federal-aid system in addition to local streets. As seen in the remainder of the chapter, the need to maintain the existing system is reflected in the street projects prioritized for the fiscally constrained plan.

The funding and project needs analysis indicates that the majority of future revenues should be devoted to street system maintenance.

Operations and Maintenance Budget

The MTP provides a funding plan for system-level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain the street system (both local and federal aid). Revenues and expenditures for future years were estimated by reviewing past budget trends by jurisdiction. **Table 43** reflects all anticipated O&M revenues by jurisdiction.

Table 43. Operations and Maintenance Revenues by Jurisdiction, Total 2023–2050 (in Millions)

Grand Forks	East Grand Forks	NDDOT	MnDOT	Total
\$20.47	\$7.63	\$19.62	\$9.38	\$57.1

Similarly, **Table 44** reflects all anticipated O&M revenues by jurisdiction. As shown, anticipated O&M revenues and costs are taken into account and expenditures on the fiscally constrained project list do not use any of these required O&M funds.

Table 44. All anticipated O&M costs by Jurisdiction, Total 2023–2050 (in Millions)

Grand Forks	East Grand Forks	NDDOT	MnDOT	Total
\$20.47	\$7.63	\$19.62	\$9.38	\$57.1

2023–2050 Fiscally Constrained Plan

The Street and Highway Fiscally Constrained Plan is presented using the time bands described in the Street and Highway section. Fiscally constrained projects are discussed using costs in terms of 2023 dollars as well as the YOE costs. Expected funding sources and potential project sponsors for each project are also included.

Committed Projects

The MPO’s 2023–2027 TIP was reviewed to identify major capital projects programmed within the MPO Area over the next 4 years. These projects represent the start of the fiscally constrained plan while those projects identified in the shortterm are considered candidates for the annual TIPs through the year 2032. **Table 45** summarizes the major capital projects identified in the MPO’s current TIP and **Figure 68** illustrates their locations within the MPO Area. The projects in **Table 45** include expansion projects that are committed currently. In addition to these projects, there are significant maintenance projects in the MPO Area not shown in the table or figure, such as the Point Bridge pavement reconstruction.

Table 45: Committed Projects Identified in the MPO's Current TIP

ID	Corridor	Extent	Project Type	Project Description
C-1	42nd Street	at DeMers Avenue	New Bridge	Railroad Grade Separation
C-2	Washington Street	at 28th Avenue S	Operations / Safety	Intersection Improvements at 28th Avenue S.
C-3	I-29	at 47th Avenue S	New Interchange	New Interchange South of Grand Forks
C-4	S 48 th Street	DeMers Ave to 11 th Ave S	Reconstruction	Reconstruct S 48 th Street

Source: Grand Forks-East Grand Forks MPO Transportation Improvement Program, 2023-2027

Fiscally Constrained Projects

The fiscally constrained projects for the local jurisdictions and state DOTs are based on input received during public engagement efforts and input from each agency's staff. As a result, the Street and Highway Fiscally Constrained Plan places an emphasis on investing in maintenance of the current street system based on performance requirements and public engagement. The fiscally constrained plan is shown in **Table 46**, **Table 47**, and **Figure 73**. As shown in the tables and figure, nearly all of the projects included in the Street and Highway Fiscally Constrained Plan are maintenance projects. The expansion projects included are those that focus on supporting access to committed projects like the 47th Avenue South interchange (Project 84, paving of south 48th Street project between 32nd Avenue South and 47th Avenue South) and intersection improvements like Byland Road and Rhinehart Road (Project 36a).

The fiscally constrained projects shown in **Table 46**, **Table 47**, and **Figure 73** fit within the anticipated urban roads (North Dakota) and city sub-target allocation (Minnesota) funding levels shown in the previous chapter.

For the state system, both DOTs identified near-term projects that fit with the performance goal of maintaining the existing system and within the transportation budgets of each state. The regional system projects that fit within the NDDOT system budget for North Dakota are shown in **Table 48**. The statefunded system projects that fit within the MnDOT identified system needs for the short-term (2028-2032) are shown in **Table 48**. All state system projects for both sides of the river are shown in **Figure 74**.

Regional Illustrative Projects

Several alternatives are identified as Regional Illustrative Projects, which represent projects that meet the vision of the MPO Area's future transportation system but are likely not feasible for implementation during the life of this Plan due to funding, or other, constraints. These projects are retained in the event that future funding capacity sufficient to fund the implementation of them becomes available.

Regional Illustrative Projects are shown in **Figure 75** and listed in **Table 49**.

Table 46: Grand Forks Fiscally Constrained Projects

Time Band	ID	Location	Extent	Project Description	2023 Cost	YOE Cost	Funding Source
Short-Term	R-1	S 48th Street	11th Avenue S to 17 th Avenue S	Reconstruction	\$9,600,000	\$12,630,000	Urban Roads
Short-Term	R-2	S Washington Street	32nd Avenue S to 47th Avenue S	CPR	\$7,475,000	\$9,840,000	Urban Roads
Short-Term (2028 - 2032) Total (YOE Cost)						\$22,470,000	
Mid-Term	R-3	S Columbia Road	17th Avenue S to 32nd Avenue S	CPR	\$5,512,000	\$9,550,000	Urban Roads
Mid-Term	R-4	32nd Avenue S	Belmont Road to Cherry Street	Reconstruction	\$3,000,000	\$5,200,000	Urban Roads
Mid-Term	R-5	32nd Avenue S	Cherry Street to S 10th Street	Reconstruction	\$2,500,000	\$4,330,000	Urban Roads
Mid-Term	R-10	S 48th Street	32nd Avenue S to 47th Avenue S	Pave Gravel Road	\$8,500,000	\$14,720,000	Urban Roads
Mid-Term (2033 - 2040) Total (YOE Cost)						\$33,800,000	
Long-Term	R-6	University Avenue	I-29 to N 55th Street	Reconstruction	\$7,329,545	\$18,070,000	Urban Roads
Long-Term	R-7a	N Columbia Road	University Avenue to 8th Avenue N	Reconstruction	\$7,386,364	\$18,210,000	Urban Roads
Long-Term (2041 - 2050) Total (YOE Cost)						\$36,280,000	
Illustrative	R-7b	N Columbia Road	8th Avenue N to US 2	Reconstruction	\$7,386,364		Urban Roads
Illustrative	R-8	S Columbia Road	DeMers Avenue to 17th Avenue S	CPR	\$4,576,000		Urban Roads
Illustrative	R-9	S Columbia Road	32nd Avenue S to 47th Avenue S	CPR	\$5,304,000		Urban Roads
Illustrative	R-11	Cherry Street	28th Avenue S to 32nd Avenue S	Reconstruction	\$2,500,000		Urban Roads
Illustrative	R-12	S Washington Street	57th Avenue S to 62nd Avenue S	Reconstruction	\$7,500,000		Urban Roads
Illustrative	R-13	24th Avenue S	Belmont Road to S Washington Street	Reconstruction	\$7,424,242		Urban Roads

Table 47: East Grand Forks Fiscally Constrained Projects

Time Band	ID	Roadway	Location	Project Description	2023 Cost	YOE Cost	Funding Source
Short-Term	36a	Bygland Road	Intersection with Rhinehart Road	Intersection Improvements	\$1,500,000	\$1,970,000	City Sub-Target
Short-Term (2028-2032) Total (YOE Cost)							\$1,970,000
Mid-Term	60	10th Street NE	11th Avenue NE to 15th Avenue NE	Reconstruct	\$2,154,000	\$3,730,000	City Sub-Target
Mid-Term (2033-2041) Total (YOE Cost)							\$3,730,000
Long-Term	61	11th Avenue NE	US 2 to 10th Street	Reconstruct	\$1,850,000	\$4,560,000	City Sub-Target
Long-Term	82	River Road	12th Avenue NW/17th Street NW	Intersection Improvements	\$1,500,000	\$,700,000	City Sub-Target
Long-Term (2041 - 2050) Total (YOE Cost)							\$8,260,000
Illustrative	58	10th Street NE	5th Avenue NE to 11th Avenue NE	Paving	\$2,154,000		
Illustrative	59a	10th Street NE	15th Avenue NE to 0.25 Mile East	Paving	\$1,840,000		
Illustrative	59b	10th Street NE	0.25 Mile East of 15th Avenue to 0.50 Mile East of 15th Avenue	Paving	\$1,840,000		
Illustrative	59c	10th Street NE	0.5 Mile East of 15th Avenue to US 2	Paving	\$1,840,000		
Illustrative	79	8th Ave NW	147th St SW to 30th St NW	Reconstruction	\$2,800,000		
Illustrative	80	Rhinehardt Dr SE	17th St SE to 13th St SE	Reconstruction	\$2,933,000		

Figure 72: Committed Projects

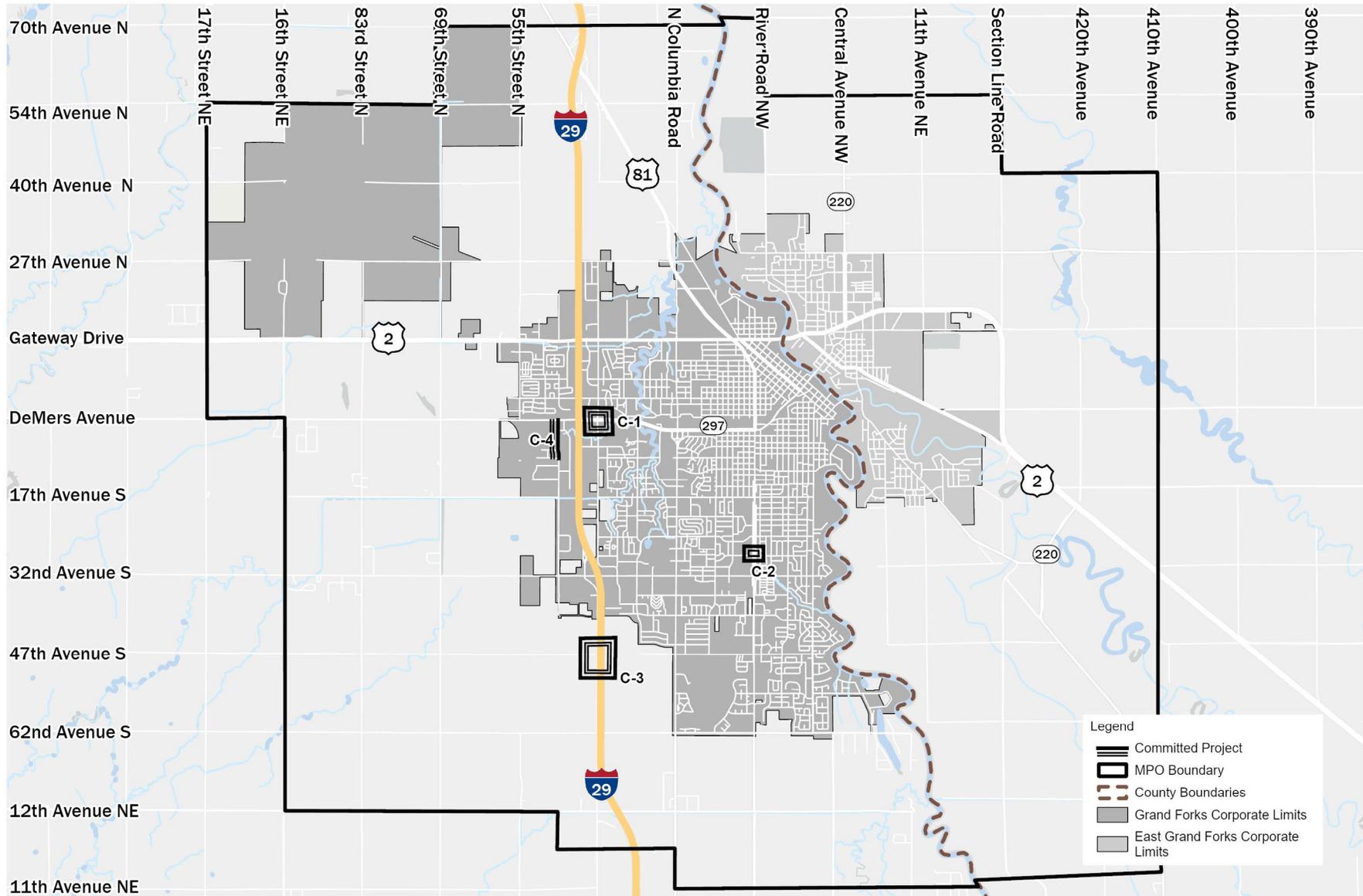


Figure 73: Grand Forks and East Grand Forks Fiscally Constrained Projects

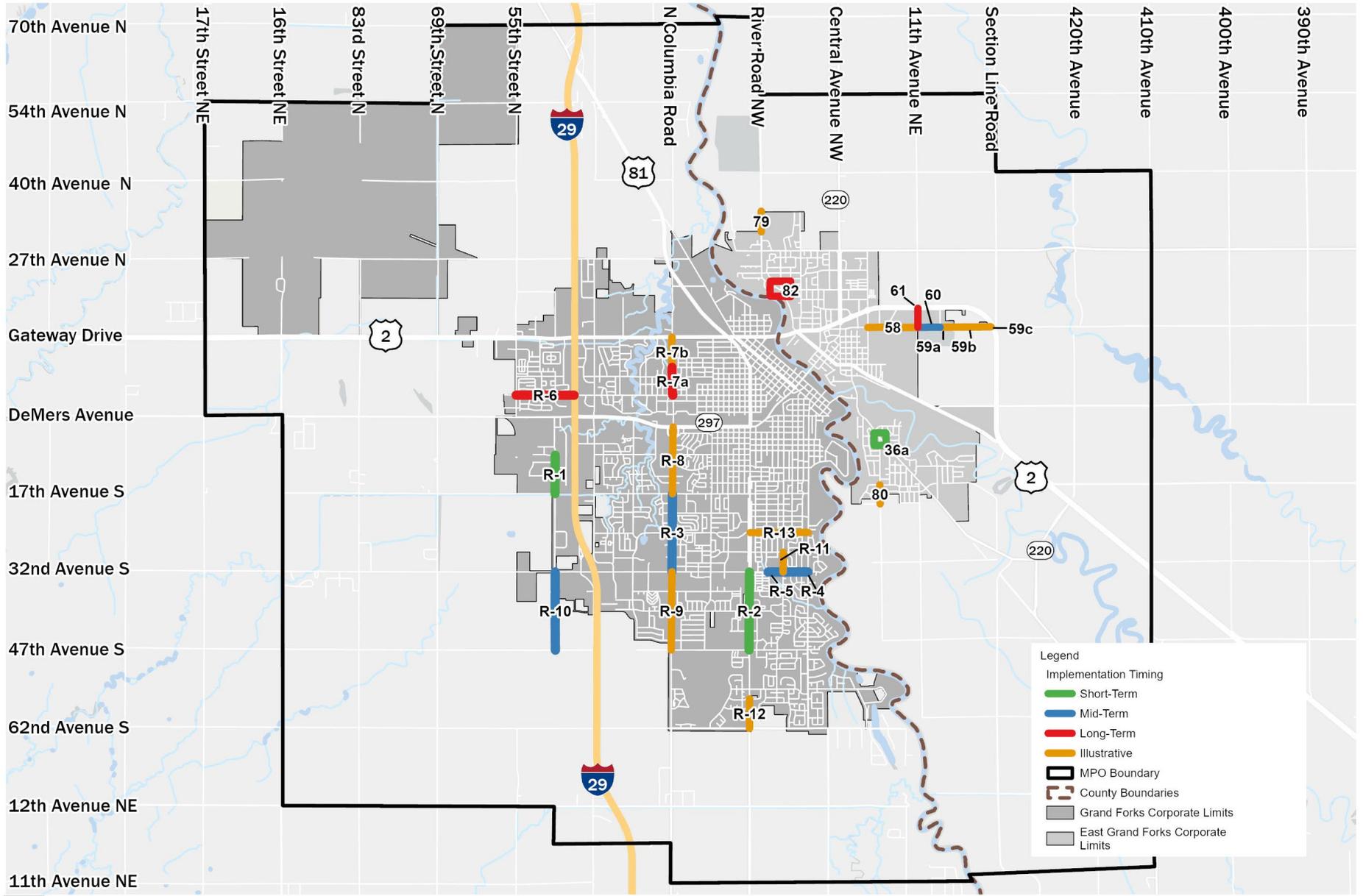


Table 48: NDDOT Fiscally Constrained Projects

Time Band	ID	Location	Extent	Project Description	2023 Cost	YOE Cost	Funding Source
Short-Term	M-1	S Washington Street	Hammerling to Demers Avenue	PCC Reconstruction	\$15,950,000	\$20,990,000	Regional
Short-Term	M-2	DeMers Avenue	4th Avenue S to N 6th Street	Chip Seal	\$46,400	\$60,000	Regional
Short-Term	M-3	32nd Avenue S	East of 17th to S Washington Street	CPR	\$76,272	\$100,000	Regional
Short-Term	M-4	S Washington Street	32nd Avenue S to Hammerling	CPR	\$394,240	\$520,000	Regional
Short-Term	M-5	S Washington Street	US 2 to I-29	Concrete Overlay	\$6,029,480	\$7,930,000	Regional
Short-Term	M-6	US 2/Gateway Drive	55th Street E to I-29	CPR	\$241,760	\$320,000	Regional
Short-Term	M-7	US 2B (5th Street N)	Gateway Drive to 2nd Avenue N	Mill & HBP 2"	\$335,400	\$440,000	Regional
Short-Term	M-8	DeMers Avenue	I-29 to 4th Avenue S	CPR	\$827,520	\$1,090,000	Regional
Short-Term	M-9	US 2/Gateway Drive	69th Street N to 55th Street	Mill & HBP 2"	\$520,000	\$680,000	Regional
Short-Term	M-10	32nd Avenue S	I-29 to East of 31st Street S	PCC Reconstruction	\$7,790,000	\$10,250,000	Regional
Short-Term	M-11	S Washington Street	8th Avenue N to US 2	CPR	\$152,000	\$200,000	Regional
Short-Term	M-52	DeMers Avenue	Bridge over BNSF	Repaint Bridge	\$2,750,000	\$3,620,000	Regional
Short-Term (2028-2032) Total (YOE Cost)						\$46,200,000	
Mid-Term	M-12	32nd Avenue S	West of 23rd Street S to East of 17th Street S	PCC Reconstruction	\$5,634,000	\$9,760,000	Regional
Mid-Term	M-13	US 2B (5th Street N)	Gateway Drive to 2nd Avenue N	Chip Seal	\$74,820	\$130,000	Regional
Mid-Term	M-14	US 2/Gateway Drive	69th Street N to 55th Street	Chip Seal	\$116,000	\$200,000	Regional
Mid-Term	M-15	DeMers Avenue	4th Avenue S to N 6th Street	PCC Reconstruction	\$3,200,000	\$5,540,000	Regional

Time Band	ID	Location	Extent	Project Description	2023 Cost	YOE Cost	Funding Source
Mid-Term	M-16	US 2B (5th Street N)	2nd Avenue N to DeMers Avenue	CPR	\$48,000	\$80,000	Regional
Mid-Term	M-17	US 2B (Demers Avenue)	5th Street to Red River	CPR	\$120,000	\$210,000	Regional
Mid-Term	M-18	DeMers Avenue	N 6th Street to US 2B (North 5th Street)	CPR	\$48,000	\$80,000	Regional
Mid-Term	M-19	32nd Avenue S	East of 31st to West of 23rd Street S	CPR	\$167,136	\$290,000	Regional
Mid-Term	M-20	US 2/Gateway Drive	I-29 to Columbia Road	CPR, Mill & HBP	\$1,050,000	\$1,820,000	Regional
Mid-Term	M-21	US 2/Gateway Drive	Columbia Road to Red River	CPR, Mill & HBP	\$1,338,500	\$2,320,000	Regional
Mid-Term	M-22	S Washington Street	Demers Avenue to 1st Avenue N	CPR	\$92,000	\$160,000	Regional
Mid-Term	M-23	US 2B (5th Street N)	Gateway Drive to 2nd Avenue N	PCC Reconstruction	\$8,600,000	\$14,890,000	Regional
Mid-Term	M-24	DeMers Avenue	I-29 to 4th Avenue S	CPR	\$827,520	\$1,430,000	Regional
Mid-Term	M-25	32nd Avenue S	East of 17th to S Washington Street	CPR	\$76,272	\$130,000	Regional
Mid-Term	M-26	S Washington Street	32nd Avenue S to Hammerling	CPR	\$394,240	\$680,000	Regional
Mid-Term	M-27	US 2/Gateway Drive	69th Street N to 55th Street	New Construction / Pavement / Curb & Gutter	\$11,000,000	\$19,050,000	Regional
Mid-Term	M-28	US 2/Gateway Drive	55th Street E to I-29	CPR	\$241,760	\$420,000	Regional
Mid-Term	M-53	DeMers Avenue	Sorlie Bridge	Repaint Bridge	\$2,750,000	\$4,760,000	Bridge
Mid-Term	M-54	US 2/Gateway Drive	Kennedy Bridge	Repaint Bridge	\$2,750,000	\$4,760,000	Bridge
Mid-Term (2023-2041) Total (YOE Cost)						\$57,190,000	
Long-Term	M-29	S Washington Street	1st Avenue N to 8th Avenue N	CPR	\$188,000	\$460,000	Regional
Long-Term	M-30	S Washington Street	8th Avenue N to US 2	CPR	\$152,000	\$370,000	Regional

Time Band	ID	Location	Extent	Project Description	2023 Cost	YOE Cost	Funding Source
Long-Term	M-31	S Washington Street	Hammerling to Demers Avenue	CPR	\$255,200	\$630,000	Regional
Long-Term	M-32	S Washington Street	US 2 to I-29	CPR	\$772,464	\$1,900,000	Regional
Long-Term	M-33	32nd Avenue S	East of 31st to West of 23rd Street S	CPR	\$167,136	\$410,000	Regional
Long-Term	M-34	US 2/Gateway Drive	I-29 to Columbia Road	PCC Reconstruction	\$12,500,000	\$30,810,000	Regional
Long-Term	M-35	US 2/Gateway Drive	Columbia Road to Red River	PCC Reconstruction	\$12,900,000	\$31,790,000	Regional
Long-Term	M-36	32nd Avenue S	I-29 to East of 31st Street S	CPR	\$249,280	\$610,000	Regional
Long-Term	M-37	32nd Avenue S	West of 23rd Street S to East of 17th Street S	CPR	\$180,288	\$440,000	Regional
Long-Term	M-38	DeMers Avenue	4th Avenue S to N 6th Street	CPR	\$128,000	\$320,000	Regional
Long-Term	M-39	US 2B (5th Street N)	2nd Avenue N to DeMers Avenue	CPR	\$48,000	\$120,000	Regional
Long-Term	M-40	US 2B (Demers Avenue)	5th Street to Red River	CPR	\$120,000	\$300,000	Regional
Long-Term	M-41	DeMers Avenue	N 6th Street to US 2B (North 5th Street)	CPR	\$48,000	\$120,000	Regional
Long-Term (2042-2050) Total (YOE Cost)						\$68,280,000	

Source: North Dakota Department of Transportation

Table 49: MnDOT Fiscally Constrained Projects

Time Band	ID	Location	Extent	Project Description	2023 Cost	YOE Cost	Funding Source
Short-Term	M-42	US 2b	DeMers Avenue to US 2	Resurface and Sidewalk Improvements	\$5,200,000	\$6,840,000	District Managed Program
Short-Term	M-43	US 2	East Grand Forks Limits to Fisher	Resurface East Bound Lanes	\$7,300,000	\$9,610,000	NHPP
Short-Term	M-44	US 2	MN 229/Central Ave Intersection	Intersection Improvements	\$3,000,000	\$3,950,000	NHPP
Short-Term (2028-2032) Total (YOE Cost)						\$20,400,000	
Mid-Term	M-45	US 2B	Sorlie Bridge to 4th Street NW	Resurface Roadway	\$1,500,000	\$2,600,000	NHPP
Mid-Term	M-46	MN 220	US 2 to 23rd Street NW	Resurface Roadway	\$3,000,000	\$5,200,000	District Managed Program
Mid-Term	M-47	US 2	Kennedy Bridge to 5th Avenue NW	Resurface Roadway	\$2,500,000	\$4,330,000	NHPP
Mid-Term (2033-2040) Total (YOE Cost)						\$12,130,000	
Long-Term	M-48	US 2	5th Avenue NW to Fisher	Resurface West Bound Lanes	\$10,000,000	\$24,650,000	NHPP
Long-Term	M-49	US 2	Kennedy Bridge	Repaint Bridge	\$2,750,000	\$6,780,000	NHPP
Long-Term	M-50	US 2	Sorlie Bridge	Repaint Bridge	\$2,750,000	\$6,780,000	NHPP
Long-Term	M-51	MN 220	US 2 to Climax	Resurface Roadway	\$20,000,000	\$49,290,000	NHPP
Long-Term (2042-2050) Total (YOE Cost)						\$87,500,000	

Source: Minnesota Department of Transportation, District 2 Capital Highway Investment Plan 2023-2032

Figure 74: State System Projects Map for MnDOT and NDDOT

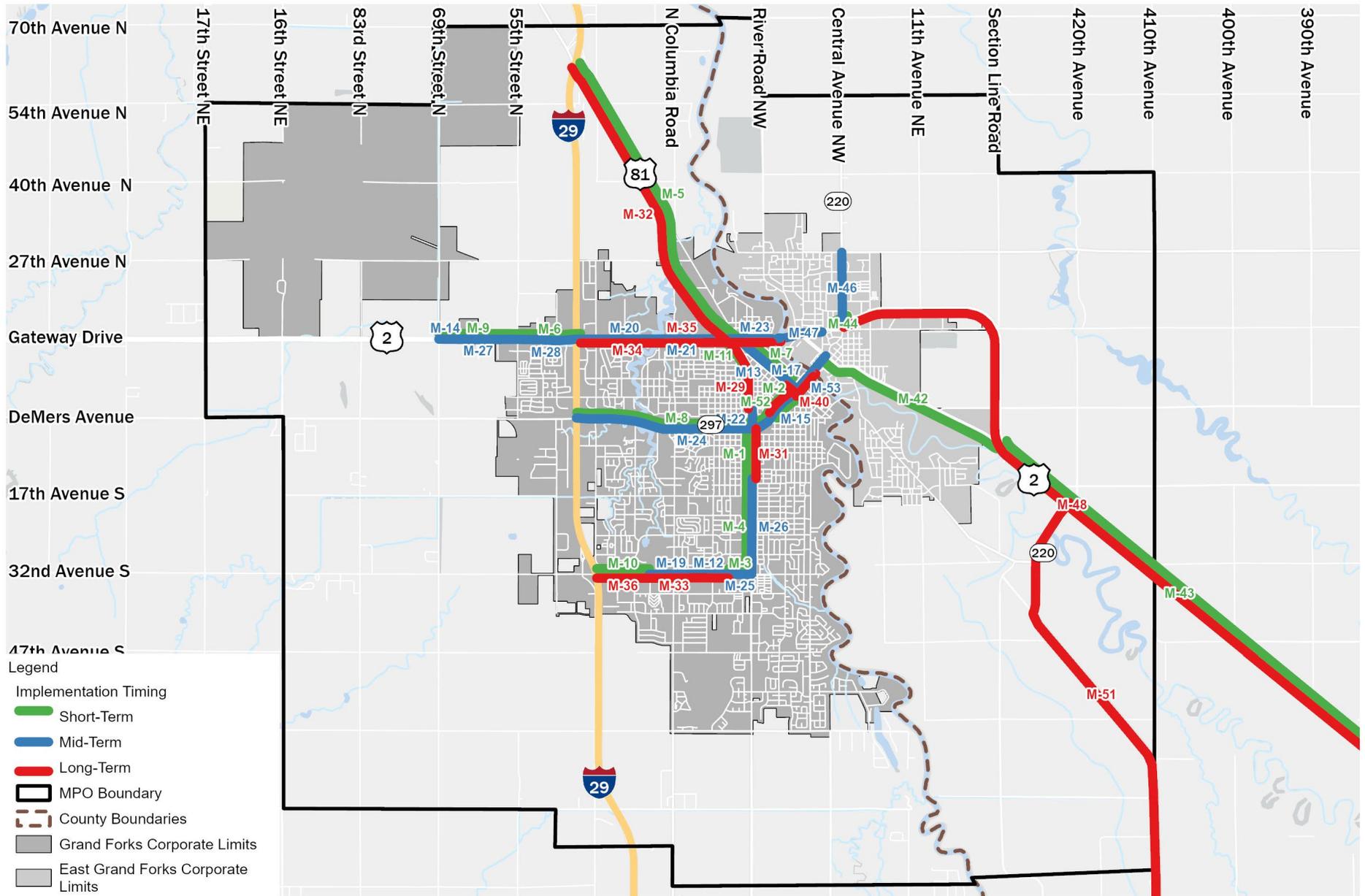


Figure 75: Regional Illustrative Projects

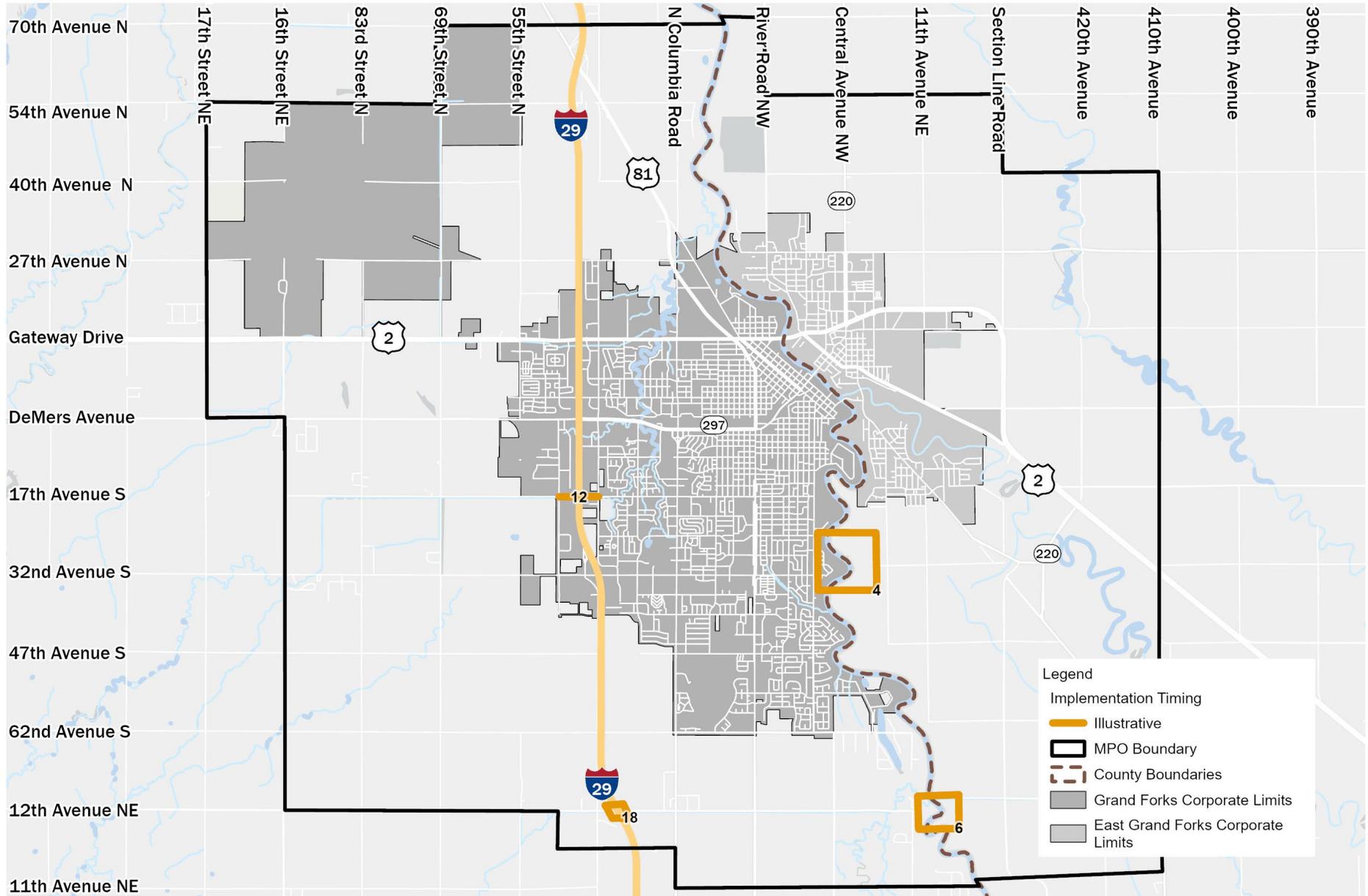


Table 49: Regional Illustrative Projects

Time Band	ID	Location	Extent	Project Description	2023 Cost	Funding Source
Illustrative	4	Elks Drive/32nd Ave S	To be determined	Potential Bridge Crossing	\$37,000,000	
Illustrative	6	Merrifield Bridge	To be determined	Potential Bridge Crossing	\$37,500,000	
Illustrative	12	17th Ave S	S 42nd St to S 48th St	Construct Overpass	\$8,100,000	
Illustrative	18	12th Ave NE/Co Road 5	I-29	New Interchange	\$16,500,000	

ENVIRONMENTAL MITIGATION

The alternatives identified in this *Street and Highway Plan Update* fit into the following three categories:

1. **Expansion** projects involve adding new capacity, such as a new road facility or widening project.
2. **Modernization** projects include significant enhancements to a facility without an increase in the number of travel lanes, and includes features such as intersection improvements or enhancements that improve safety.
3. **Rehabilitation** projects involve rebuilding a roadway or other road facility without changing the number of travel lanes or other features.

Analysis of each alternative's location was conducted to identify what areas contain an Environmental Justice (EJ) population to ensure that proposed alternatives will not have a negative impact on historically disadvantaged groups. The EJ populations identified for the analysis include:

- Low Income
- Minority
- Age 65 and Over
- Disabled
- Limited English Proficiency
- No Vehicle

Low-income areas have an average income under 200% of the federal poverty level. Minority areas contain over 25% minority residents (10% greater than the Grand Forks-East Grand Forks metropolitan area average of 15% minority residents). All other EJ areas have a local average above the metropolitan area average. Alternatives that overlapped with EJ-designated areas were classified by which EJ location they are located in. Through taking these groups into consideration while planning transportation improvements, alternatives can better serve the community by ensuring disadvantaged groups do not receive a disproportionate number of negative impacts from them. **Figures 76 – 82** describe the composition of alternatives locations in EJ-identified areas. **Appendix E** contains a series of maps with the Street and Highway alternatives overlaid with the identified EJ populations.

Figure 76: Total Projects Identified in Environmental Justice Areas

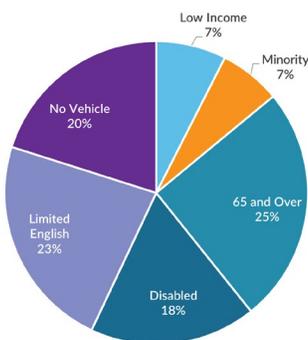


Figure 77: Alternatives Distribution in Low-Income Areas

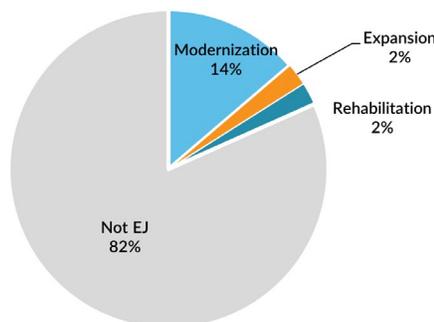


Figure 78: Alternatives Distribution in Minority Areas

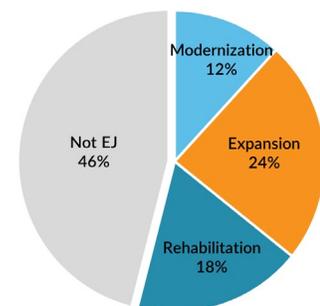


Figure 79: Alternatives Distribution in Age 65 and Older Areas

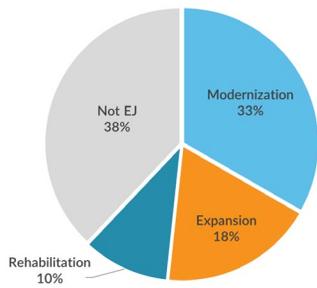


Figure 80: Alternatives Distribution in Disabled Areas

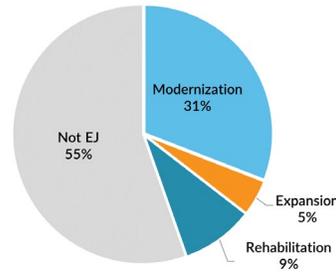


Figure 81: Alternatives Distribution in Limited English Proficiency Areas

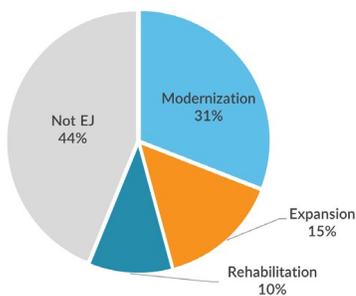
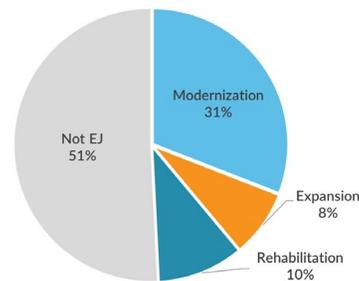


Figure 82: Alternatives Distribution in No Vehicle Areas



As described in the figures above, most alternatives will not have a substantial impact on EJ areas in the Grand Forks-East Grand Forks MPO area. The majority of the alternatives located in EJ areas are classified as modernization, which will improve safety without adding permanent disruptions to the project area beyond the construction phase, thereby avoiding negative impacts to these populations. Conversely, expansion projects can impart negative impacts due to the construction of additional travel lanes that may lead to more noise and pollution while reducing accessibility, which has historically impacted minority groups. As described in **Figure 76**, expansion projects may have a disproportionate impact on minority groups, and the impact of these alternatives should be further evaluated. This exemplifies the importance of understanding the impact transportation projects can have on EJ groups and identifying ways to minimize the potential negative impacts that roadway expansions could have on them.

Under the assumption that expansion projects are those most likely to have negative impacts on adjacent populations, as shown in **Figures 76-82**, the highest proportion of EJ populations exposed to expansion



projects was Minority populations at 24%. This is relatively high considering that 29% of total projects are classified as expansion.

Those projects that provide benefits to EJ populations were assumed to be modernization and rehabilitation improvements. A relatively high proportion of modernization and rehabilitation projects were located in EJ populations, as summarized below.

- 16% of low-income areas had these beneficial project investments and only 17% of the MPO area was within a block group over-represented by low-income population.
- 30% of minority areas had these beneficial project investments and only 16% of the MPO area was within a block group over-represented by minority population.
- 43% of age 65 and over areas had these beneficial project investments and 54% of the MPO area was within a block group over-represented by age 65 and over population.
- 39% of disabled population areas had these beneficial project investments and 37% of the MPO area was within a block group over-represented by disabled population.
- 41% of limited English proficiency areas had these beneficial project investments and 30% of the MPO area was within a block group over-represented by limited English proficiency population.
- 41% of no vehicle available areas beneficial project investments and 47% of the MPO area was within a block group over-represented by no-vehicle available population.

Carbon Footprint

Additional efforts to mitigate transportation-related impacts to the environment include reducing greenhouse gas emissions stemming from the operation of gas-powered vehicles. The 2045 MTP provided a carbon footprint analysis, which was carried over into this 2050 Street and Highway Plan update.

The updated analysis uses the same methodology, which takes estimated annual VMT and calculates the metric tons of carbon dioxide equivalent using the EPA's Greenhouse Gas Equivalencies Calculator. Additional sources of data include the MPO's TDM, which provided the estimated annual VMT and the average miles of travel per gallon of fuel consumed from the US Bureau of Transportation Statistics.

The resulting analysis based on VMT for the year 2020 estimated a total of 15.8 million gallons of fuel are consumed by vehicles in the MPO Area, which is equivalent to 140,826 metric tons of carbon dioxide. When compared to the 2015 analysis, VMT increased by nearly 68 million, which saw an increase of almost 2.5 million additional gallons of fuel consumed. Metric tons of carbon dioxide increased by 18.43 percent between 2015 and 2020, which marks an increase of 21,916 additional metric tons of carbon dioxide.

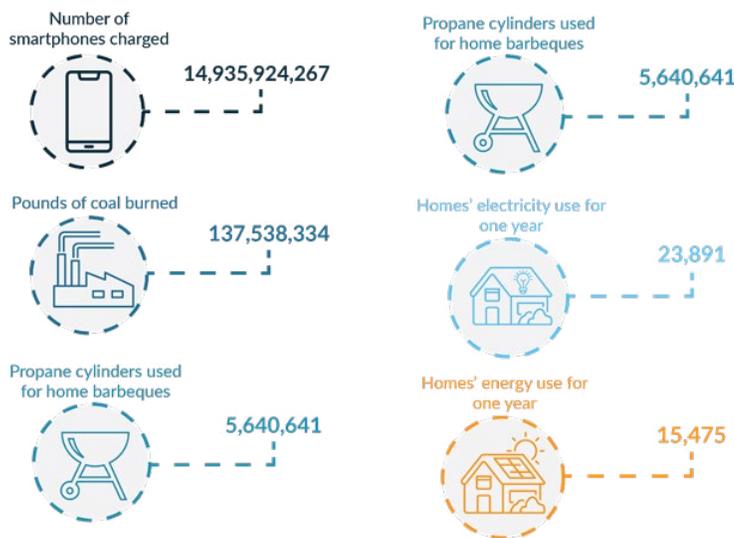
Figure 83 provides insight into how the estimated carbon dioxide emissions stemming from vehicle use in the MPO Area in 2020 compares to other emissions-generating activities.

Table 50: Carbon Footprint for Vehicle Miles Traveled

Year	Total VMT by Year by Passenger Cars and Light Trucks	Average Miles of Travel per Gallon of Fuel Consumed	Gallons of Fuel Consumed by Year by Passenger Cars and Light Trucks	Metric Tons of Carbon Dioxide or CO2 Equivalent
2010	265,428,000	20.04	13,244,910	117,708
2015	294,365,293	22	13,380,241	118,910
2020	316,392,759	22.9	13,816,278	122,785
2010-2015 Difference	28,937,293	1.9	135,330	1,202
2010-2015 Percent Difference	10.90%	9.78%	1.02%	1.02%
2015-2020 Difference	22,027,466	0.90	436,037	3,875
2015-2020 Percent Difference	7.48%	4.09%	3.26%	3.26%

Sources: Grand Forks-East Grand Forks Travel Demand Model, United States Bureau of Transportation Statistics, United States Environmental Protection Agency

Figure 83: Equivalent CO2 Emissions



Source: United States Environmental Protection Agency, [Greenhouse Gas Equivalencies Calculator](#)

FEDERAL COMPLIANCE

The planning approach for this document supports the 23 CFR §450.322 Metropolitan Transportation Planning Process for developing an MTP. According to those requirements, this update to the Street and Highway Plan provides Grand Forks East Grand Forks with:

- Support for transportation and traffic management systems
- Capital investment measures to preserve the transportation system and enhance regional mobility
- Proposed transportation strategies and improvements in sufficient detail for cost estimates
- Identification of projects that require further study
- Consideration and reflection of local comprehensive plans and other national, state, and local plans, goals and objectives
- Identification of transportation enhancement activities
- A financial plan that demonstrates the consistency of proposed transportation investments with already available and projected revenue sources
- Consultation with state and local agencies responsible for other planning activities
- Safety element that discusses priorities, goals, and countermeasures

Table 51 shows a matrix that describes how the five goal areas of this plan correspond with the Metropolitan Planning Factors listed below:

1. Support the economic vitality of the metropolitan area
2. Increase the safety of the transportation system for motorized and non-motorized users
3. Increase the security of the transportation system for motorized and non-motorized users
4. Increase the accessibility and mobility of people and freight
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns
6. Enhance the integration and connectivity of the transportation system across modes for people and freight
7. Promote efficient system management and operation
8. Emphasize the preservation of the existing transportation system
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
10. Enhance travel and tourism

Table 51: Goals and Objectives Alignment with Federal Planning Factors

Goal	Objectives	Economic Vitality	Safety	Security	Accessibility and Mobility for People and Freight	Environment and Energy Conservation, Quality of Life, Economic Development	System Integration and Connectivity for People and Freight	Efficient Operation and Management	Preserve the Existing Transportation System	System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts	Enhance Travel and Tourism
GOAL: EFFICIENT AND RELIABLE											
	Limit recurring peak hour congestion				✓			✓			
	Improve travel reliability on the non-Interstate NHS							✓			
	Maintain high levels of freight reliability on the Interstate and nonInterstate NHS	✓			✓			✓			
	Identify event management strategies to improve traffic operations during major events							✓			✓
	Increase regional mode share for walking, biking, and transit							✓			
	Leverage emerging transportation technologies to improve the multimodal system’s operations			✓			✓	✓			
	Work to manage traffic incidents and weather events safely and efficiently		✓					✓			

Goal	Objectives	Economic Vitality	Safety	Security	Accessibility and Mobility for People and Freight	Environment and Energy Conservation, Quality of Life, Economic Development	System Integration and Connectivity for People and Freight	Efficient Operation and Management	Preserve the Existing Transportation System	System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts	Enhance Travel and Tourism
GOAL: SAFE											
	Reduce the number and rate of vehicular crashes		✓								
	Reduce the number and rate of fatal and incapacitating crashes and support statewide Vision Zero initiatives		✓								
	Reduce the number and rate of pedestrian and bicycle crashes		✓								
	Use the Safe Systems approach to facility design		✓								
	Leverage emerging transportation technologies to improve the multimodal system's operations		✓								

Goal	Objectives	Economic Vitality	Safety	Security	Accessibility and Mobility for People and Freight	Environment and Energy Conservation, Quality of Life, Economic Development	System Integration and Connectivity for People and Freight	Efficient Operation and Management	Preserve the Existing Transportation System	System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts	Enhance Travel and Tourism
GOAL: CONNECTED AND ACCESSIBLE											
	Increase system connectivity to housing and employment opportunities	✓			✓		✓				
	Incorporate bicycle, pedestrian, and transit-friendly infrastructure in new developments				✓		✓				
	Increase bicycle, pedestrian, and transit access for disadvantaged populations				✓						
	Improve multimodal network connectivity to enhance viability of biking and walking modes				✓	✓					
	Reduce barriers to freight access and mobility				✓		✓				
	Identify strategies to improve system connectivity during train crossing events				✓			✓			

Goal	Objectives	Economic Vitality	Safety	Security	Accessibility and Mobility for People and Freight	Environment and Energy Conservation, Quality of Life, Economic Development	System Integration and Connectivity for People and Freight	Efficient Operation and Management	Preserve the existing transportation system	System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts	Enhance Travel and Tourism
GOAL: PRESERVED AND MAINTAINED											
	Preserve the condition of Interstate and non-Interstate NHS routes rated as being in Good condition								✓		
	Minimize the mileage of Interstate and non-Interstate NHS routes rated as being in Poor condition								✓		
	Preserve the condition of NHS bridges rated as being in Good condition								✓		
	Minimize the number of NHS bridges rated as being in Poor condition								✓		
	Identify financial and human resources to support the maintenance of critical transportation facilities								✓		
	Maintain and manage the condition of transit assets, including vehicles, equipment, and transit facilities								✓		

Goal	Objectives	Economic Vitality	Safety	Security	Accessibility and Mobility for People and Freight	Environment and Energy Conservation, Quality of Life, Economic Development	System Integration and Connectivity for People and Freight	Efficient Operation and Management	Preserve the existing transportation system	System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts	Enhance Travel and Tourism
GOAL: SUSTAINABLE AND RESILIENT											
	Implement transportation improvements that limit negative impacts on the natural and built environment			✓		✓					
	Distribute the benefits and impacts of transportation equitably					✓					
	Implement transportation improvements that enhance system resiliency		✓	✓						✓	
	Limit negative transportation impacts on neighborhoods					✓					
	Ensure that new construction and reconstruction of transportation infrastructure is designed to prioritize longevity, minimize carbon emissions, and use renewable resources					✓				✓	