METRO 2050

TRANSPORTATION • MOVING • AHEAD

Fargo-Moorhead Metropolitan Council of Governments

2050 Fargo-Moorhead Metropolitan Transportation Plan

Draft - September 2024

Acronyms

ACS: American Community Survey
ATAC: Advanced Traffic Analysis Center
CAV: Connected and Autonomous Vehicles
CE: Categorical Exclusions
CFR: Code of Federal Regulations
CIP: Capital Improvement Program
CMP: Congestion Management Process
CPG: Consolidated Planning Grant
DTA: Dynamic Traffic Assignment
EA: Environmental Assessments
E+C: Existing-plus-committed
EIS: Environmental Impact Statements
EJ: Environmental Justice
FAST Act: Fixing America's Surface Transportation (FAST) Act
FHWA: Federal Highway Administration
FTA: Federal Transit Administration
HSIP: Highway Safety Improvement Program
LOS: Level of Service
LOTTR: Level of Travel Time Reliability
LWCF: Land and Water Conservation Fund
MaaS: Mobility-as-a-service
Metro COG: Fargo-Moorhead Metropolitan Council of Governments
MVMT: Million Vehicle Miles Traveled
MnDOT: Minnesota Department of Transportation
MPA: Metropolitan Planning Area
MPO: Metropolitan Planning Organization
MSA: Metropolitan Statistical Area
MTP: Metropolitan Transportation Plan
NDSU: North Dakota State University
NHPP: National Highway Performance Program
NHS: National Highway System
NPMRDS: National Performance Management Research Data Set
NWI: National Wetlands Inventory
O&M: Operations and Maintenance
PCI: Pavement Condition Index
PHED: peak hour excessive delay
PM: Performance Measure
NDDOT: North Dakota Department of Transportation
RTP: Recreational Trails Program
SOV: Single-Occupant Travel
SHPO: State Historic Preservation Office
STBG or STBGP: Surface Transportation Block Grant Program
STBG-TA: Surface Transportation Block Grant Program funding for transportation alternatives
STSAC: Surface Transportation Security Advisory Committee (STSAC)
TA: Transportation Alternatives Program
TAZ: Transportation analysis zone
TDM: Travel Demand Management or Travel Demand Model
TIM: Traffic Incident Management
TIP: Transportation Improvement Program
TMA: Transportation Management Area
TMC: Transportation Management Center
TNC: Transportation Network Company
TSMO: Transportation System Management and Operations
TTC: Transportation Technical Committee
TTTR: Truck Travel Time Reliability
USACE: United States Corps of Engineers
USFWS: U.S. Fish and Wildlife Service
UZA: Urbanized Area V2I: Vehicle-to-Infrastructure
V2V: Vehicle-to-Vehicle
VHT: Vehicle Hours Traveled
VMT: Vehicle Miles Traveled

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PLAN OVERVIEW

The 2050 Metropolitan Transportation Plan establishes a vision and goals that informed the development of future system recommendations between 2028 and 2050. This planning process is the result of collaboration between the Fargo-Moorhead Metropolitan Council of Governments, its member jurisdictions and the region's community members. The metropolitan transportation plan is called Metro 2050 and identifies ten transportation goals built from collaboration with community members. Performance based planning was used to explore system needs and evaluate solutions that aligned with the identified goals to build future system priorities that are constrained within anticipated transportation funding through 2050.

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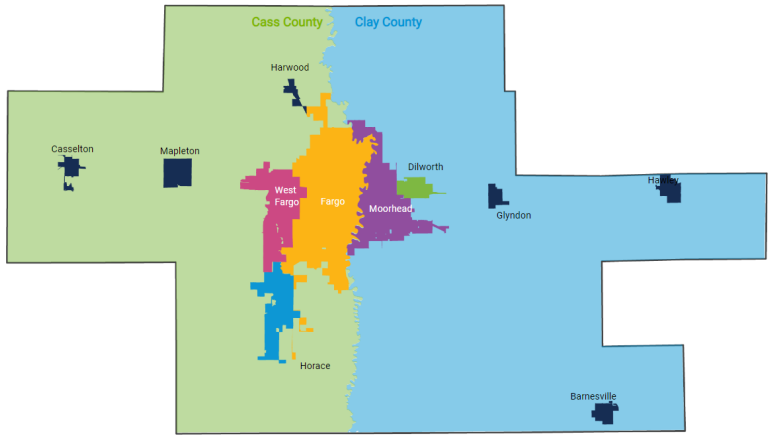
WHAT IS METRO COG?

The Fargo-Moorhead Metropolitan Council of Governments (Metro COG) is the Metropolitan Planning Organization (MPO) for the Fargo-Moorhead area. An MPO is a transportation policy-making organization made up of representatives from local government and transportation authorities. The Federal Surface Transportation Assistance Act of 1973 required that urban areas with a population greater than 50,000 form an MPO. The basis of MPOs' creation was to employ a comprehensive, cooperative, and continuing planning process for transportation expenditures in a region. Federal funding for transportation projects and programs is channeled through this planning process.

Figure 1. Metro COG Planning Area



Metro COG was formed in 1963, to create a comprehensive growth plan and traffic study for the cities of the region. Over time, the mission of Metro COG has evolved to address the transportation planning requirements of the region, in coordination with the Federal Highway Administration (FHWA), Minnesota Department of Transportation (MnDOT), and North Dakota Department of Transportation (NDDOT).

The geographic boundary for the Metro COG planning area is shown in **Figure 1**. Metro COG serves a bi-state area with a planning area that covers 14 townships in Cass County, North Dakota and 16 townships in Clay County, Minnesota. There are seven (7) member jurisdictions and six (6) associate jurisdictions. Additional member agencies also include FHWA, MnDOT, and NDDOT.

Member Jurisdictions	Associate Jurisdictions:
• Cass County • Clay County • Fargo • Moorhead • West Fargo • Horace • Dilworth	• Barnesville • Casselton • Glyndon • Harwood • Hawley • Mapleton

METRO COG COMMITTEES

Metro COG is governed by two committees. **The first is the Policy Board.** The Policy Board is the executive body of Metro COG. The Policy Board is Metro COG's decision-making arm comprised of 16 voting members who represent the metropolitan planning area. The Policy Board consists of at least three-quarters elected officials, and each jurisdiction's voting power is based on its approximate share of the area's population. The current representation from each jurisdiction is:

- Fargo - 7 members
- Moorhead - 3 members
- West Fargo - 2 members
- Dilworth - 1 member
- Horace – 1 member
- Clay County - 1 member
- Cass County - 1 member

The second is the Transportation Technical Committee (TTC). The TTC advises the Policy Board on technical matters related to transportation planning in the region. The committee is made up of planning and engineering from local jurisdictions, transit agencies, and representatives from MATBUS, MnDOT and NDDOT.

- Metro COG also operates four committees:
- Metropolitan Bicycle and Pedestrian Committee
- Traffic Operations Working Group
- GIS Committee
- Freight Advisory Committee.

Metro COG staff also participate in two other regional committees:

- Metro Area Transit Coordinating Board
- Cass Clay Food Commission

WHAT IS A METROPOLITAN TRANSPORTATION PLAN?

The Metropolitan Transportation Plan (MTP) is a document that MPOs are required to update every five years. The plan is required to have at least a 20-year planning horizon and should support the following Federal metropolitan transportation planning factors[1]:

1	Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency
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 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 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 the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation
10	Enhance travel and tourism

[1] 23 CFR §450.306

PERFORMANCE-BASED TRANSPORTATION PLANNING APPROACH

The MTP is a performance-based document that supports Metro COG's ongoing system performance goals and targets. Performance-based planning is the application of performance management techniques to transportation planning. FHWA defines Transportation Performance Management (TPM) as a strategic approach that uses system information to make investment and policy decisions towards national performance goals. Part of an effective performance-based planning and programming approach is monitoring, an ongoing activity conducted by Metro COG that has been integrated into this MTP. This performance-based approach allows us to evaluate how well the planning activities, programs, and projects implemented in the Metro COG region are meeting metropolitan, state, and federal performance goals. The performance-based approach applied by Metro COG and carried through into this document has established a link between regional vision and Federal performance requirements, system data and evaluation, policy, and investment decisions. This top-down approach to performance-based planning provides a regional vision that reflects locally established priorities, which are consistent with Federal transportation goals, tied to performance measures and project prioritization metrics. This performance-based approach allows Metro COG to continually monitor progress towards its transportation vision, and identify the actions, policies, and projects that will best promote regional performance goals. More on the goals, objectives, and performance measures for the MTP are provided in **Chapter 3**.

TRANSITION TO A TRANSPORTATION MANAGEMENT AREA

Population growth has been a common experience for the Fargo-Moorhead region for decades. The 2020 US Census recorded a population of 249,648 for the Fargo-Moorhead Metropolitan Statistical Area (MSA), making Metro COG eligible for designation as a Transportation Management Area (TMA). This TMA designation changes how federal transportation funds flow to the Fargo Moorhead region. This allows Metro COG and local jurisdictions more responsibility in prioritizing and selecting transportation projects for federal funding. Metro 2050 will reflect this new responsibility and changes to financial projections associated with the TMA designation. Continued regional growth presents both challenges and opportunities for the multimodal transportation system, as the region's population is forecast to reach 357,322 residents by 2050.

With the designation as a TMA, Metro COG will:

- Maintain and utilize a congestion management system, with the development of a Congestion Management Plan (CMP).
- Receive an annual direct allocation, also called a "sub-allocation" of some Federal dollars, meaning that they receive a consistent funding level for FHWA Surface Transportation Block Group (STBG) and Federal Transit

Administration (FTAA) Urban Formula Section 5307 funds.

- Have additional requirements related to policy board membership, including local elected officials, appropriate state officials, and officials of major modes of transportation like MATBUS. While MATBUS is currently part of the Cities of Fargo and Moorhead, a study of potential to transition to a regional transit authority is nearing completion. Regardless of structure, it will be necessary to designate one MATBUS representative for the policy board.
- Select projects for implementation from the Transportation Improvement Program (TIP), with consultation with the State and MATBUS as relevant.
- Need to have their transportation planning process certified by FHWA and FTA once every three years.

METRO 2050 PROCESS

The development of the 2050 MTP occurred over a 14-month process, concluding in September of 2024. Activities began with an exploration of current conditions and needs in the summer of 2023 to understand the transportation conditions of today's system. Early analysis and engagement then informed the development of transportation goals and objectives that will guide future implementation and the final analysis process. The spring and summer of 2024 focused on the development and refinement of future transportation projects to inform a fiscally constrained project list.

PUBLIC AND STAKEHOLDER ENGAGEMENT

Metro COG strives to engage regional citizens in the transportation planning process and aims for a transparent and understandable engagement strategy in all of its plans. The Metro 2050 plan was developed with Public and stakeholder engagement at its core. The goals of the engagement strategy were to include educational opportunities to build an understanding of the process and to provide a range of relevant and meaningful ways for the public to provide input on plan development. In order to guide the transportation planning and decision-making process, the study team sought public input to develop a community vision for the future transportation system. The public engagement program was conducted in accordance with Metro COG's Public Participation Plan which can be seen at: www.fmmetrocog.org/resources/public-participation-plan.

To gather feedback to inform the planning process, three phases of engagement were used to align with key technical milestones. Additionally, the project website and online communications were used throughout the planning process.

Social Media and Email

Metro COG's existing social media feed and an email list of interested residents, which grew over the course of the plan, were primary means of alerting the public to upcoming input opportunities and open houses. These supplemented the traditional approaches such as press releases, the public legal notice in The Forum newspaper, and posting of events on the Metro COG website.

Metro 2050 Website

The project website, fmmetrocog.org/Metro2050, was a primary source of information and updates for the community during the development of the plan. Updates were made throughout the planning process to provide updates and ways to engage. The following elements were hosted within the website:

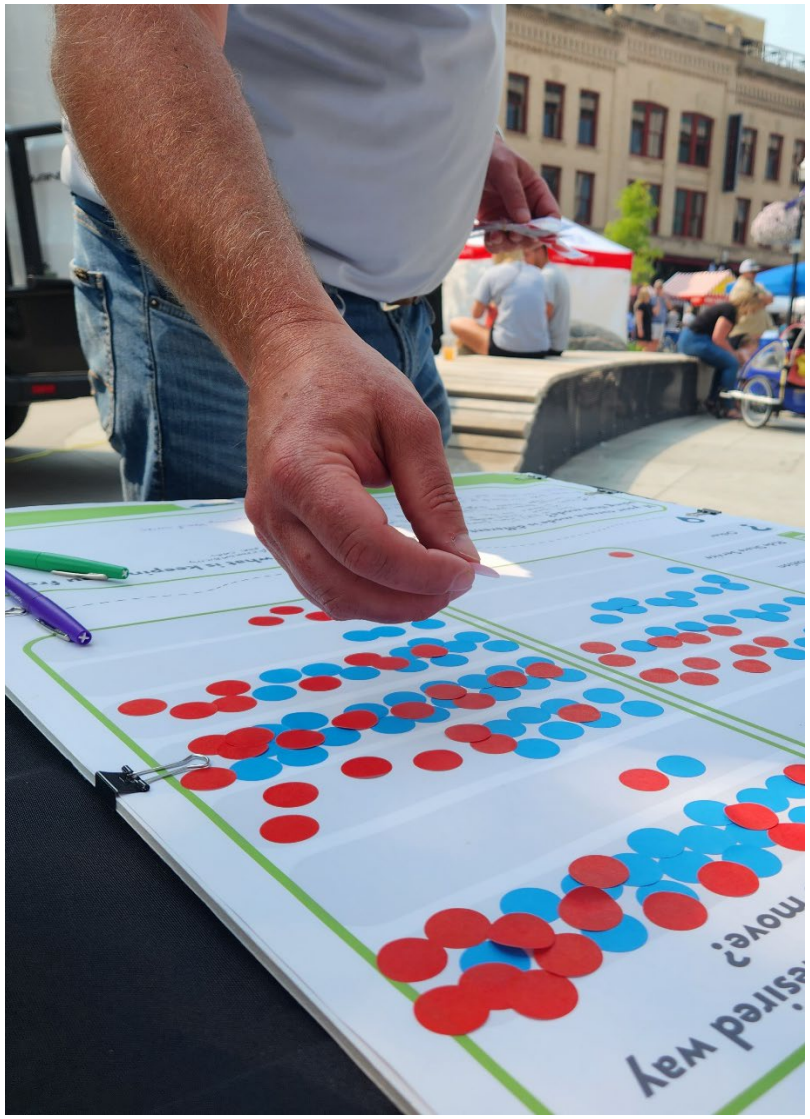
- Informational videos about the plan and overall process
- Links to online surveys and engagement activities
- Summaries of public input received
- Initial deliverables for public review, including draft goals.

Any comments received through the project website and included in **Appendix A: Public Engagement Summary**.

Phase 1: Plan Foundation – Education & Experiences

The first phase of engagement focused on **education** of the MTP and its process, and learning about the transportation **experiences** of the community. This phase included education opportunities for the community and stakeholders to learn about the MTP, its purpose, and the overall process. Additionally, Phase 1 created an opportunity to learn about the community's existing and desired experience with the regional network to inform goals and potential projects. Early engagement activities for other on-going Metro COG projects also provided key input during this phase. For example, the SS4A project was gathering similar safety specific input during a similar timeline and that specific input was used to inform the MTP.

What was shared in Phase 1?	• What is the Metropolitan Transportation Plan? • What does it mean for me? • Why is it important?
What were the goals of Phase 1?	• What are the existing experiences with the regional network? • What are peoples' desired experiences with the regional network?



Phase 1 Pop-up Events

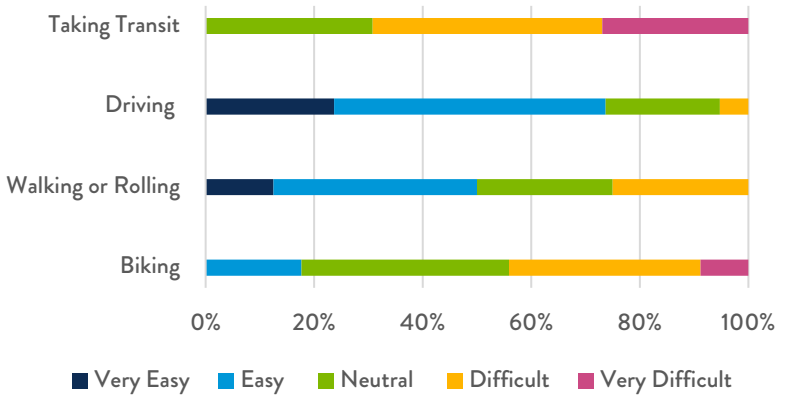
Three pop-up events were held by Metro COG to learn about current transportation experiences of community members. This engagement looked to explore priorities for future investment. The three events included:

- July 14 to 15: Fargo Downtown Street Fair
- October 14: Boo at the Zoo at the Red River Valley Zoo
- October 28: Red River Market at West Acres

The pop-ups provided information about the MTP, including its purpose, alignment to future implementation, and broader Metro COG functions. The following activities were used to gather feedback that informed the goals of the plan:

Share how you move or want to move:

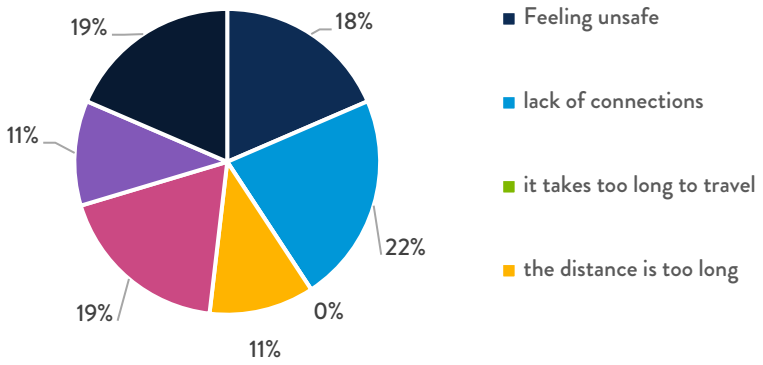
Respondents were asked how they move a majority of the time and what mode they'd rather use. Those wanting to shift modes shared detailed feedback about what keeps them from moving by that mode.



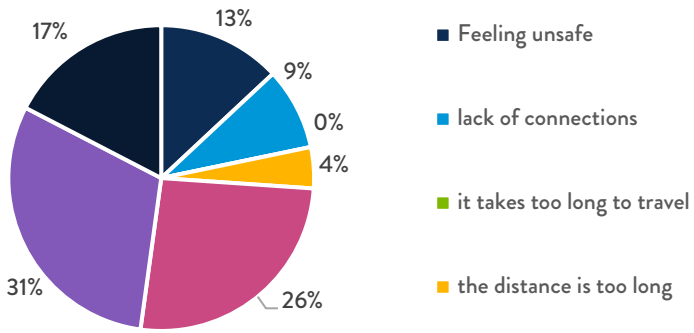
Tell us about your transportation experience:

Participants were asked to identify their overall experience traveling by various modes from very east to very difficult.

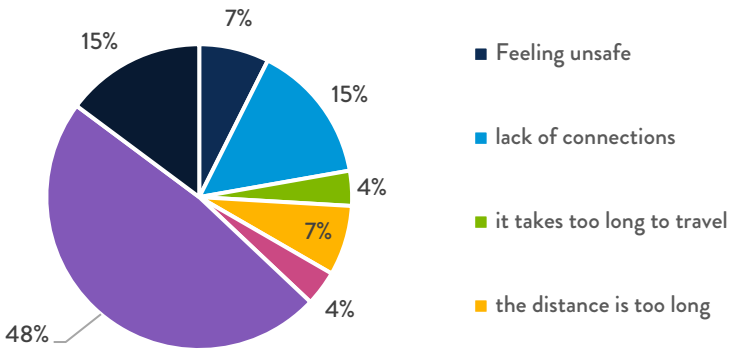
Biking Challenges



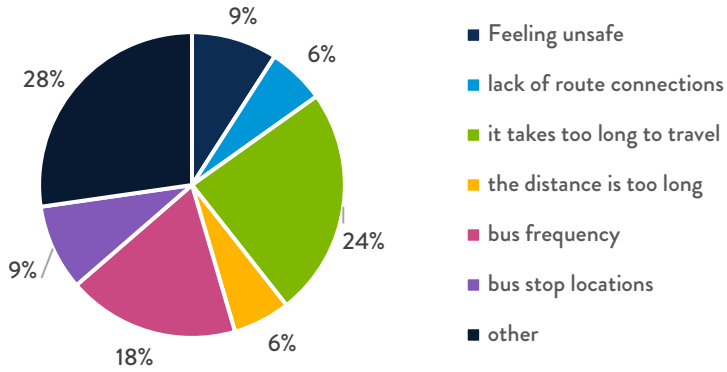
Driving Challenges



Walking or Rolling Challenges

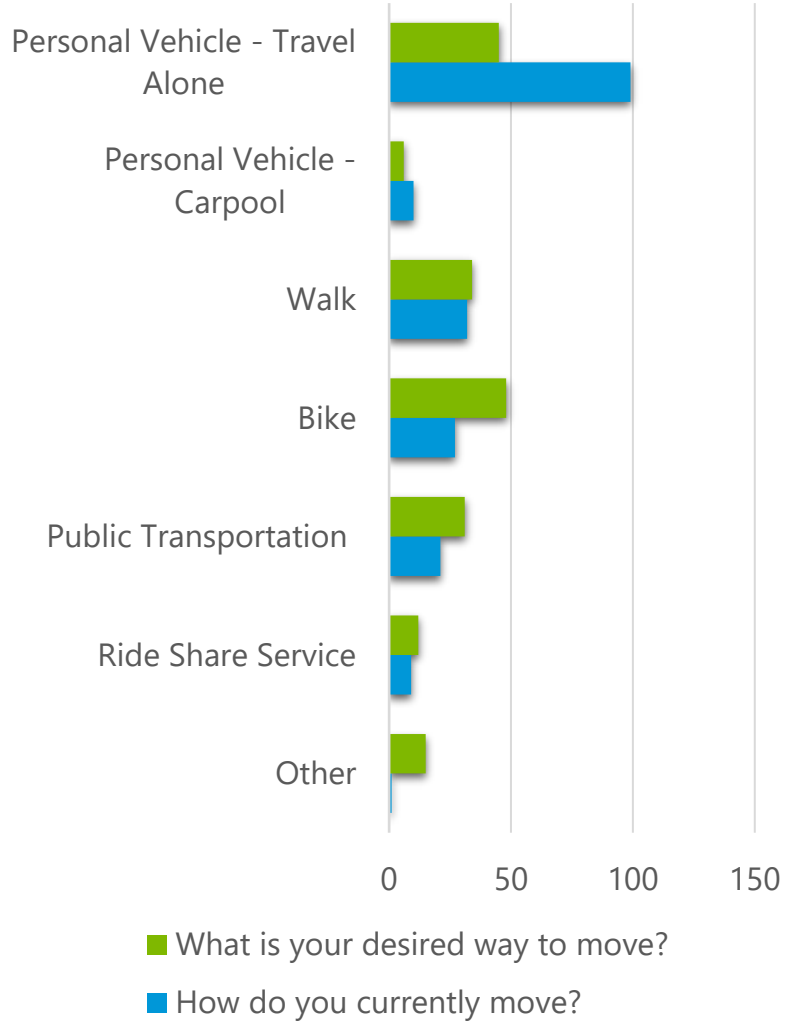


Transit Challenges



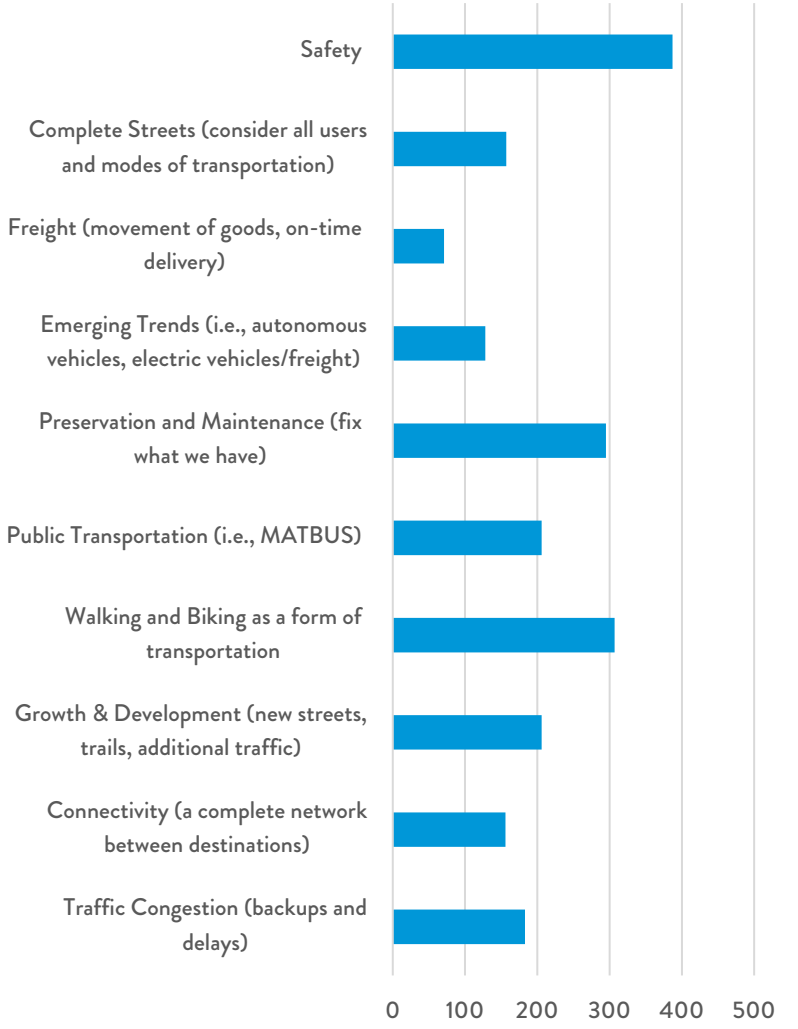
Share the challenges you experience moving by different modes:

Respondents were asked to identify the challenges they experience while walking, biking, driving and taking transit.



What transportation challenges are most important to you:

Respondents were asked to prioritize the challenges they experience within the Fargo-Moorhead Region.



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Phase 1 Online Engagement

A survey was developed for the first phase of engagement with the goal of gathering similar information to the in-person events. The survey was open from October 23rd through December 11th. The feedback gathered in the survey was similar to the in-person outcomes. More details can be found in **Appendix A**.

Phase 2: Plan Analysis – Test Ideas

The second phase of engagement provided an opportunity to share what the project team had learned and **test ideas** with the community. Through this phase, key outcomes of the existing conditions analysis and future conditions exploration were shared, along with the identified regional transportation goals. Additionally, this phase provided the opportunity to begin to test future projects and actions with the community to learn their priorities.

What was shared in Phase 2?	• What are the opportunities and issues from existing conditions analysis and future conditions? • Regional transportation goals and objectives • Project pipeline framework and initial projects
What were the goals of Phase 2?	• What is the community's perception of the goals and implementation concepts? • What are the investment priorities?

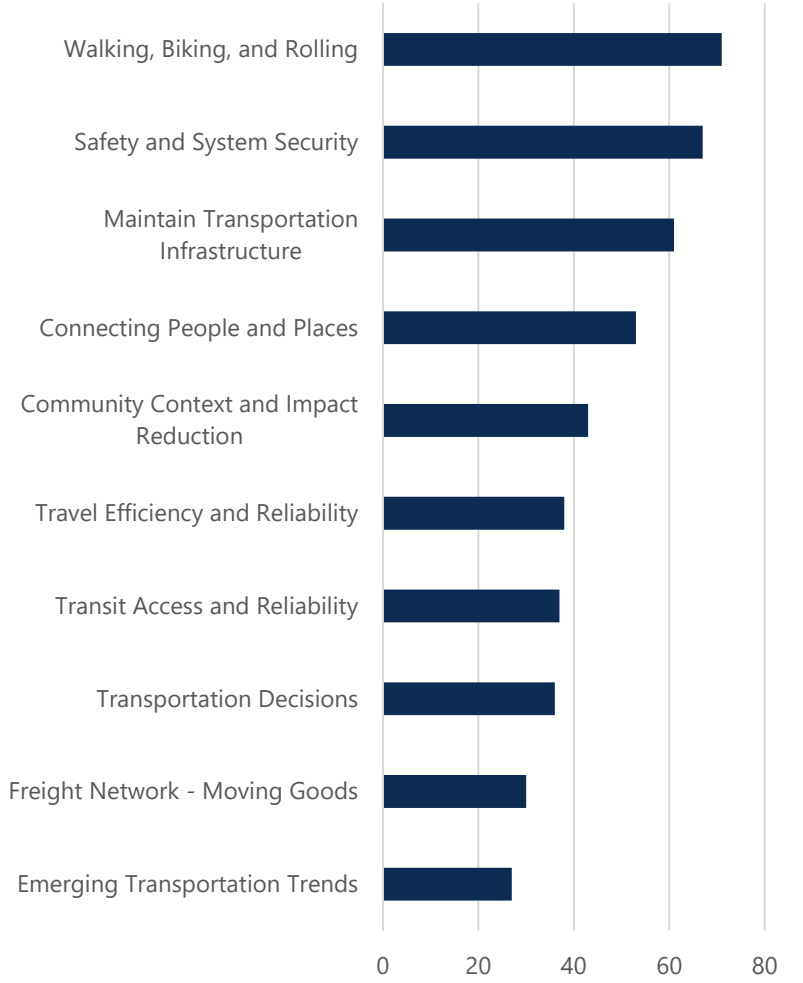
Phase 2 Pop-up Events & Open House

The Fargo Moorhead Metropolitan Council of Governments' (COG) Metropolitan Transportation Plan (MTP) team staffed two pop-up events in the summer of 2024. The first was a pop-up at the West Fargo Cruise Night on June 20, 2024, and the second pop-up took place at the Downtown Fargo Street Fair from July 18-20, 2024. An Open House was held on July 24, 2024, at Brewhalla.

These events provided the public with updates of the MTP process, including a presentation of the plan's goals and priorities. Participants were invited to participate in two activities to confirm their priorities and their desired use of transportation spending.

What are your transportation priorities:

Respondents were asked to identify their top transportation goals and priorities for future investment. This activity used the ten established goals to understand priorities.



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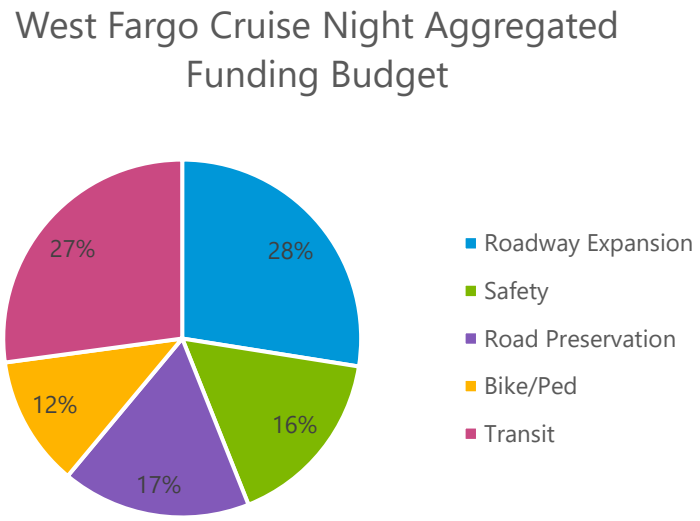
How would you prioritize your transportation funding

In this activity, people were asked to draw their own pie chart to reflect how transportation funding should be spent across the following project types:

- Roadway Expansion or Extension Projects
- Safety Improvement Projects
- Roadway Preservation
- Biked & Pedestrian Projects
- Transit System Improvements

Put another way, we asked each community member who participated in this activity, "How would you allocate the transportation budget if you were mayor for the day?" To give an example, there was a display board presenting the 2024 funding targets for these project types, accounting for almost $58 million in federal revenue.



Phase 2 Focus Groups

Focus Groups were gathered during this phase of engagement to facilitate conversations about modal and locational priorities within the region. Two focus groups focused on multimodal transportation were scheduled from 2:30 p.m. – 4:00 p.m. on July 23, 2024, and 10:00 a.m. – 11:30 a.m. on July 24, 2024. Two focus groups focused on core neighborhoods were scheduled from 4:30 – 6:00 p.m. on July 23, 2024, and from 8:00 a.m. – 9:30 a.m. on July 24, 2024.

Phase 2 Online Engagement

A survey was available during the second phase of engagement with similar goals to the in-person events. Jotform was used to build the survey online. The project team developed 13 questions related to transportation experiences and investment priorities and six optional demographic questions. Question 12 of the survey and a budget activity replicated the in-person activities at the pop-up events.

Phase 3: Evaluate Candidate Projects and Implementation – Explore Solutions

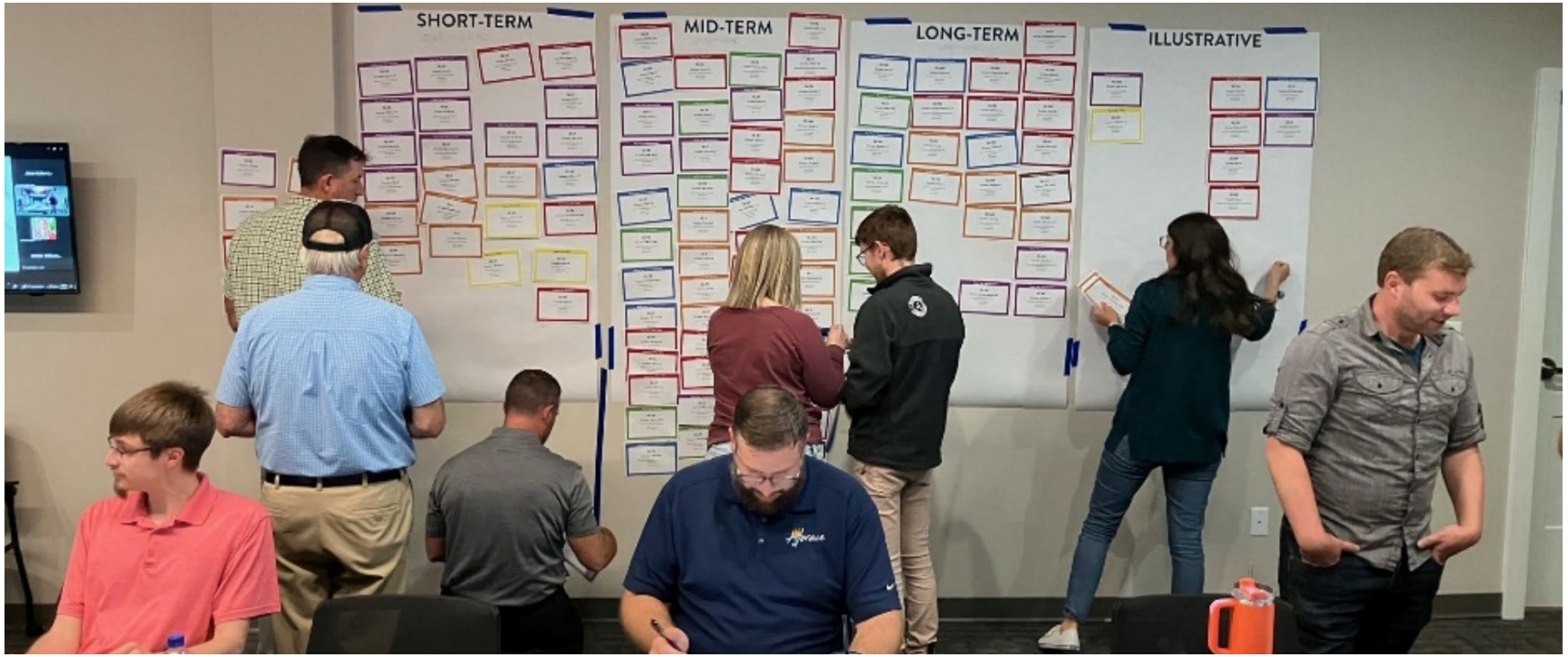
The third phase of engagement will engage the community with the evaluation process by **exploring solutions** for the regional transportation system. This phase provides an opportunity to share where the process has been and how input has informed current outcomes. Refined goals and outcomes will be shared to connect the community with how the draft alternatives will support the region's needs. Activities

will be focused on sharing concepts with the community and gathering input and reactions.

What will be shared in Phase 3?	• Finalized goals and objectives • Refined documentation • Initial concepts
What do we want to learn in Phase 3?	• Confirm priorities and concepts • What did we miss

CONSULTATION WITH AGENCIES

Federal guidelines encourage ongoing consultation with applicable agencies for major planning activities, such as the MTP. Engagement occurred with agencies throughout all phases of the project, with active collaboration over the summer months of 2024 as the project list was developed and refined. A combination of in-person and online collaboration sessions were used to review information and discuss outcomes.



Fargo-Moorhead Region & Transportation in 2024

A review of the existing conditions within the region, including both demographic changes and transportation needs, was an initial step of the planning process. This work focused on exploring how various elements of the multimodal transportation system currently operate and ties this assessment to Metro COG's performance measurement requirements.

REGIONAL POPULATION TRENDS

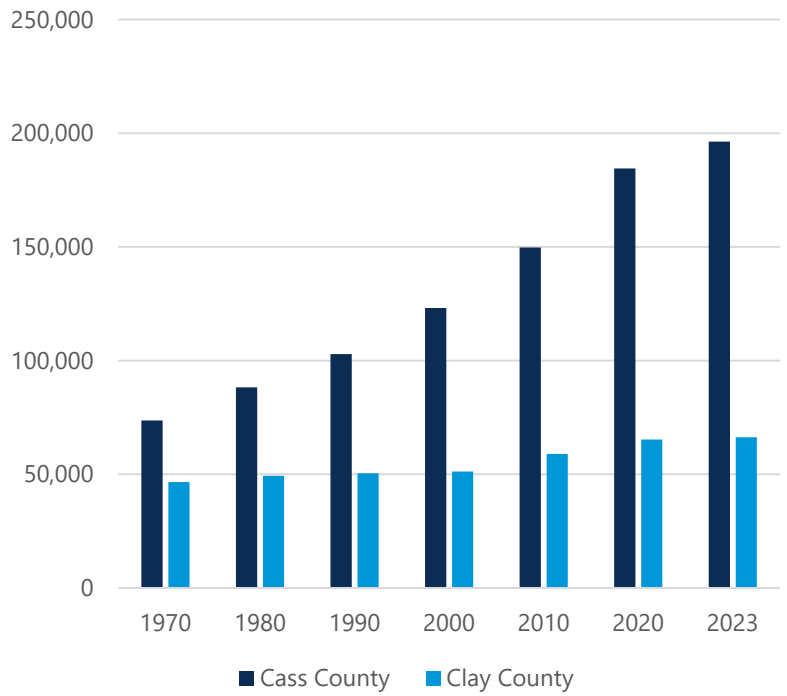
POPULATION TRENDS

The total population of the Fargo-Moorhead Metropolitan Statistical Area (MSA) was recorded at 249,843 in the 2020 Census, representing a nearly 20 percent increase from the 2010 Census. Continued growth in the region is represented in the 2022 American Community Survey estimate of 258,663, representing a nearly 4 percent increase in two-years.

All jurisdictions are estimated to experience growth over the same period, with higher growth rates calculated for North Dakota jurisdictions. The City of Horace is estimated to see the largest growth rate (82.9%) from 2020 to 2023 with an estimate of 5,643 residents. The cities of Fargo, West Fargo, and Dilworth were estimated to have grown between 3 and 6 percent. Moorhead's growth rate is assumed to have slowed significantly to 0.8 percent over the three years.

Both Cass and Clay Counites have experienced growth over the last 50 years. However, on average, Cass County has experienced an annual growth rate that is two times the growth rate for Clay County.

Figure 1. County Population, 1970 to 2023



Source: US Census, 1970-2020, American Community Survey, 2023

CURRENT DEMOGRAPHICS

A few highlights of current regional demographics include:

33.3 **Median age**

13.4% **People over the age of 65**

22.4% **People under the age of 18**

87.4% **People identify as white non-Hispanic**

Source: American Community Survey, 2022

INCOME AND EMPLOYMENT

The Fargo-Moorhead Region is a center for employment activities throughout the Midwest. From July 2023 to July 2024, education and health services experienced the larges increase in employment, while financial activities and professional and business services experienced a decline. Unemployment rates for the region are well below the national average with a 2.3 percent unemployment rate in the Fargo area in July of 2024 according to the Bureau of Labor Statistics.

Income levels for the region grew between 9 and 16 percent between 2018 and 2023:

Income	2023 Value	2018 Value	Growth Rate
Median Household Income	$99,180	$90,720	9.3%
Median Family Income	$133,971	$119,386	12.2%
Per Capita Personal Income	$43,126	$36,926	16.8%

Source: American Community Survey, 2023, 2018

HOUSING

The region has experienced a housing growth rate of 7 percent from 2018 (110,709 units) to 2023 (118,743 units). This five-year growth rate is half of the growth rate from the 5 prior years (2013-2018), which saw an increase of 14 percent, according to the US Census.

The median value of owner-occupied units was $287,200 in 2023, representing a 30 percent increase from 2018. Monthly rent increased by 19 percent over the same five years from $989 in 2023 and $831 in 2018.

The American Community Survey estimated that 55.1 percent of household units in the region were owner-occupied with an

average household size of 2.60 people per unit. Renter-occupied units comprise 44.9 percent of the units with an average household size of 1.86 people per unit.

Nearly half of all households within the region have access to 2 or more vehicles in 2023. The American Community Survey estimates than 2.5 percent of households do not have access to a vehicle.

Vehicle Access	2023 Percent	2018 Percent	Growth Rate
No vehicle available	2.5	2.4	4%
1 vehicle available	22.6	18.5	22%
2 vehicles available	46.1	49.6	-7%
3+ vehicles available	28.8	29.5	-2%

Source: American Community Survey, 2023, 2018

JOURNEY-TO-WORK

The mean travel time to work throughout the region was nearly 18 minutes in 2023, with 69 percent of commuters traveling less than 20 minutes each day, see **Table 1**. The average commute time has been maintained over the last five years and is nearly ten minutes shorter than the national average of 26.8 minutes.

Table 1. Travel Time to Work

	2023 Percent	2018 to 2023 Percent Change
Less than 10 minutes	17.2%	18.4%
10 to 14 minutes	25.5%	24.4%
15 to 19 minutes	26.5%	29.9%
20 to 24 minutes	11.8%	12%
25 to 29 minutes	4.9%	3.8%
30 to 34 minutes	7.1%	4.4%
35 to 44 minutes	2.2%	1.6%
45 to 59 minutes	2.2%	2.4%
60 or more minutes	2.6%	3.1%

Source: American Community Survey, 2023

The mode of transportation used to travel to work has experienced small shifts between 2018 and 2023. While most workers in the region continue to drive to work alone, the number of people walking to work has increased. Of the

nearly 125,000 employees who drive to work, only 6.8 percent carpooled in 2023.

According to the same statistics from American Community Survey, based on a sample from 2018 to 2023, walking is the region's second most popular mode of transportation (at nearly 4 percent of all trips) to work and less than a half percent of workers are using public transportation for their commute.

Table 2. Means of Transportation to Work

Mode	2023 Estimate	2023 Percent
Car, truck or van – drove alone	114,324	78.3%
Car, truck or van – carpooled	8,468	5.8%
Public transportation (excluding taxicab)	450	0.3%
Walked	5,712	3.9%
Taxicab, motorcycle or bicycle	2,165	1.5%
Worked from home	14,929	10.2%

Source: American Community Survey, 2023

Commuting Patterns

The Fargo-Moorhead region is a regional center, attracting employees from a broader area into the region for work on a daily basis. The region retains 88 percent of its working residents in the community each day for work, with 12 percent traveling outside of the region for work, see **Table 3**. Nearly 70 percent of the region's employees travel 10 miles or less for work.

Table 3. Commuting Patterns

Commuting Pattern	Count	Share
Employed and Living in the Fargo ND-MN Metro Area	88,210	
Employed in the Fargo ND-MN Area but living outside	26,270	24.4%
Living in the Fargo ND-MN Metro Area but employed outside	11,956	11.9%
Less than 10 mile commute	79,472	69.4%
10 to 24 mile commute	7,519	6.6%
25 to 50 mile commute	5,795	5.1%
Over 50 mile commute	21,694	19.0%

Source: US Census On The Map, 2021

PERFORMANCE-BASED PLANNING

Metro COG's 2045 Metropolitan Transportation Plan (MTP) employed a performance-based framework that identified key multimodal transportation issues and prioritized decisions that align with Federal and regional transportation goals.

The 2050 MTP carries forward this approach in analyzing Metro COG's multimodal transportation system's baseline performance. While the 2045 MTP was informed through performance measurement guidance enacted in Fixing America's Transportation Surface Transportation (FAST) Act of 2015, the recent Bipartisan Infrastructure Law (BIL), signed into law as the Infrastructure Investment and Jobs Act (IIJA) in 2021, carried forward performance measure requirements established in the FAST Act. As such, this MTP follows these Federal guidelines established for reporting multimodal transportation performance on the region's Interstate and non-Interstate National Highway System (NHS).

PERFORMANCE MEASURE TARGETS

The Metro COG region is located within both North Dakota and Minnesota, which requires coordination between both North Dakota Department of Transportation (NDDOT) and Minnesota Department of Transportation (MnDOT) when developing performance measure targets. Federal regulations permit Metro COG to establish targets through one of three approaches:

A. Agreeing to plan and program projects that contribute to progress made towards each state's DOT safety target for that performance measure; or
B. Committing to a quantifiable target specific to the Metropolitan Planning Area (MPA) for that performance measure; or
C. A combination of A and B.

PM targets established by Metro COG for the period 2021 through 2024 are shown in **Table 1** through **Table 3**. Due to the bi-state nature of the Metro COG region, signed agreements with both state DOTs are required when setting each performance measure.[1]

[1]Metro COG, *2024-2027 Transportation Improvement Program.*

Table 4. Annual Safety PM 1 Targets for Metro COG

Target	2021		2022		2023	
	MnDOT Targets	NDDOT Targets	MnDOT Targets	NDDOT Targets	MnDOT Targets	NDDOT Targets
Number of Fatalities	352.4	102	352.4	96.4	352.4	99.2
Rate of Fatalities (per 100M VMT)	0.582	1.103	0.582	1.094	0.582	1.080
Number of Serious Injuries	1579.8	382.1	1463.4	359.7	1,463.4	397.1
Rate of Serious Injuries (per 100M VMT)	2.606	4.046	2.470	4.089	2.470	4.201
Number of Non-Motorized Fatalities & Non-Motorized Serious Injuries	281.2	30.4	258.4	29.8	258.4	33.5

Source: Federal Highway Administration, *State Performance Dashboards*

Table 5. Biennial Pavement and Bridge Condition PM 2 Targets for Metro COG

Target	2021-2022		2023-2024	
	MnDOT Targets	NDDOT Targets	MnDOT Targets	NDDOT Targets
Percentage of Interstate Pavement in Good Condition	55%	75.6%	60%	75.6%
Percentage of Interstate Pavement in Poor Condition	2%	3%	2%	3%
Percentage of Non-Interstate Pavement in Good Condition	50%	58.30%	55%	58.3%
Percentage of Non-Interstate Pavement in Poor Condition	4%	3%	2%	3%
Percentage of NHS Bridges in Good Condition	35%	60%	30%	50%
Percentage of NHS Bridges in Poor Condition	4%	4%	5%	10%

Source: Federal Highway Administration, *State Performance Dashboards*

Table 6. Biennial System Reliability PM 3 Targets for Metro COG

Target	2021-2022		2023-2024	
	MnDOT Targets	NDDOT Targets	MnDOT Targets	NDDOT Targets
Percentage of Person Miles Traveled on the Interstate that are Reliable	80%	85%	82%	85.5%
Percentage of Person Miles Traveled on the Non-Interstate NHS that are Reliable	90%	85%	90%	85%
Truck Travel Time Reliability Index	1.5	3.0	1.4	2.0

Source: Federal Highway Administration, *State Performance Dashboards*

THE METRO COG REGION TODAY

STREET AND HIGHWAY NETWORK

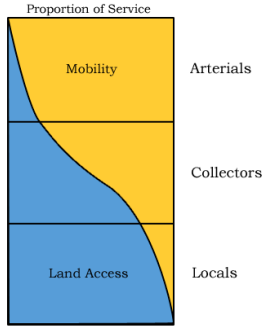
This section summarizes Metro COG's streets and highways network, including the federal, state, and local classifications of the various streets and highways and the role they play in the region.

Functional Classifications

Streets and highways within the Metro COG region are classified based on their functional characteristics using a system referred to as functional classifications. Functional classes are defined based on criteria established by the Federal Highway Administration (FHWA) and seek to provide an appropriate balance between each roadway's ability to facilitate mobility and accessibility for users as described by **Figure 1**. The functional classification system is also used by state transportation agencies to organize administrative, budgetary, operations, and maintenance activities; several federal and state funding programs provide funds only for a region's functionally classified system.

Table 4 details the various functional classifications within the Metro COG region while **Figure 2** shows the functionally classified roads within the region.

Figure 2. Mobility and Accessibility Characteristics of Functionally Classified Roads



Source: Federal Highway Administration

Table 7. Functional Classification Descriptions

Functional Classification	Description
Interstate	Provide the highest degree of mobility and travel speeds over long distances via limited access facilities that connect major urban areas.
Principal and Minor Arterials	Provide high degree of mobility and travel speeds between urbanized areas, cities, and industrial centers via access-constrained facilities that limit access to adjacent land uses.
Major and Minor Collectors	Provide a balance between mobility and accessibility through connecting local roads to the arterial network by facilitating short and medium distance trips at lower speeds compared to arterials.
Local	Provide high degree of access by directly serving adjacent land uses. Facilitate short distance trips at low speeds.

National Highway System

The National Highway System (NHS) is a system of roads identified by FHWA as the roadways that are most critical in supporting the nation's economy, defense, and mobility needs. The NHS is comprised of several subsystems, including:[2]

- **Interstate**: The Eisenhower Interstate System of highways
- **Other Principal Arterials**: Highways in rural and urban areas which provide access between an arterial and a major port, airport, public transportation facility, or other intermodal transportation facility.
- **Strategic Highway Network (STRAHNET)**: Network of highways important to the nation's strategic defense policy, and provide defense access, continuity, and emergency capabilities for defense purposes.
- **Intermodal Connectors**: Highways providing access between major intermodal facilities and the other four subsystems described above.

Roadways included in the NHS have additional planning implications as funding eligibility under certain federal programs require NHS designation. Each state transportation agency's performance reporting requirements are based on each state's NHS corridors.

Roadway Jurisdiction

Roadway jurisdiction refers to the primary agency charged with maintaining and operating a roadway. Within the Metro COG region, the agencies responsible for maintaining and operating the area's roadways include state, county, township, and local agencies including:

- **State Agencies**: North Dakota Department of Transportation (NDDOT), and Minnesota Department of Transportation (MnDOT)
- **County Agencies**: Cass County (North Dakota) and Clay County (Minnesota)

[2] Federal Highway Administration, *National Highway System.*

- **Township Agencies**: Berlin, Harwood, Casselton, Harmony, Raymond, Reed, Everest, Durbin, Mapleton, Barnes, Warren, Stanley, Normanna, Pleasant (North Dakota); Kragnes, Morken, Oakport, Moland, Moorhead, Glyndon, Riverton, Hawley, Eglon, Kurtz, Elmwood, Elkton, Holy Cross, Alliance, Barnesville, Humboldt (Minnesota)
- **Local Agencies**: Fargo, West Fargo, Horace (North Dakota); Moorhead and Dilworth (Minnesota)

Roadway Jurisdiction

Roadway jurisdiction refers to the primary agency charged with maintaining and operating a roadway. Within the Metro COG region, the agencies responsible for maintaining and operating the area's roadways include state, county, township, and local agencies including:

- **State Agencies**: North Dakota Department of Transportation (NDDOT), and Minnesota Department of Transportation (MnDOT)
- **County Agencies**: Cass County (North Dakota) and Clay County (Minnesota)
- **Township Agencies**: Berlin, Harwood, Casselton, Harmony, Raymond, Reed, Everest, Durbin, Mapleton, Barnes, Warren, Stanley, Normanna, Pleasant (North Dakota); Kragnes, Morken, Oakport, Moland, Moorhead, Glyndon, Riverton, Hawley, Eglon, Kurtz, Elmwood, Elkton, Holy Cross, Alliance, Barnesville, Humboldt (Minnesota)
- **Local Agencies**: Fargo, West Fargo, Horace (North Dakota); Moorhead and Dilworth (Minnesota)

REGIONAL TRANSPORTATION IN 2024

An analysis of the current transportation conditions in 2024 was completed early in the planning process to establish the foundation for the plan to be built upon. This analysis would not only identify the needs to be addressed with future investments, but also supported the refinement of regional transportation goals. This section reviews 2024 system conditions in the six following categories. The **Baseline System Performance Summary** provides greater detail and is available in **Appendix B**.

- **System Safety**
- **System Pavement & Bridge Condition**
- **System Operations**
- **Freight System**
- **Bike and Pedestrian System**
- **Transit System**

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SYSTEM SAFETY

Safety conditions of the multimodal transportation system were reviewed based on historic crash data from NDDOT and MnDOT to identify key safety issues and trends within the Metro COG region.

The baseline safety performance analysis looked at both systemwide and location-based safety trends observed in the MPA, including:

- Systemwide crash trends, including annual crashes, crash severities, manner of crashes, and timing of crashes.
- Location-based crash trends, including top intersection crash frequency and top intersection crash rate locations.
- Bicycle and pedestrian-involved crash trends.

The crash data provided by the state DOTs was for the years 2018 through 2022.

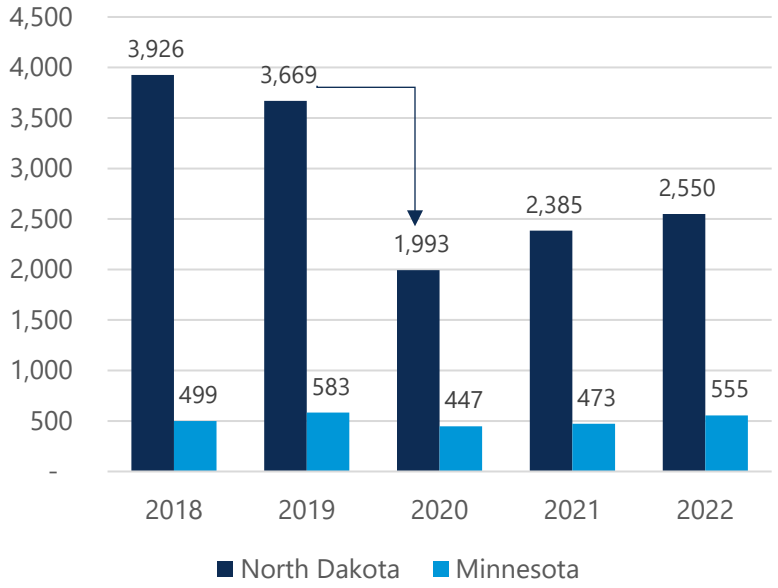
Systemwide Crash Trends

Annual crashes that occurred within the Metro COG region between 2018 and 2022 are shown in **Figure 5**. As **Figure 5** illustrates, crashes within the MPA peaked in 2018 before declining through 2020. This decline can be attributed to two influences:

- In 2019, NDDOT revised the threshold for classification of a Property Damage Only from $1,000 in damage to $4,000 in damage. This change removed many minor crashes in succeeding years that were previously reported.
- In 2020, the COVID-19 public health pandemic resulted in significantly reduced travel, resulting in a reduction of vehicle miles traveled (VMT). While this reduction in travel saw a nationwide reduction in crashes, it was widely observed that the severity of crashes occurring increased during this period.

After 2020, crashes within the Metro COG region began trending towards pre-COVID-19 levels.

Figure 3. Annual Crashes in the Metro COG Region, 2018 - 2022



Location-Based Crash Trends

The top 30 crash frequency intersections within the Metro COG region were identified using historic crash data from the years 2018 through 2022. The method used to identify the top 30 crash intersections followed the method used by NDDOT to develop their urban and rural high crash intersection lists; crashes within 250 feet of an intersection are an intersection-related crash and are counted. Polygons developed by NDDOT for urban intersection locations were used to associate rear-end crashes that occurred within 1,000 feet of an intersection location and added to the crash count for that location.

The complete list of the top 30 crash frequency locations is highlighted in **Appendix B**, which also details the calculated crash rate per million entering vehicles (MEV) and the entering volumes used to calculate the crash rates per MEV for each intersection. **Table 8** highlights the top 10 crash frequency intersections with the entering volume, and crash rate highlighted. Intersections highlighted in orange were identified by NDDOT as urban high crash locations based on historic crash data for the years 2019 through 2021.

Table 8. Top Crash Frequency Intersections

Rank	Intersection	Entering Volume	Crash Rate (per MEV*)
1	13th Ave S & 45th St	44,900	1.42
2	Veterans Blvd & 23rd Ave E	37,600	1.35
3	13th Ave S & 25th St	31,800	1.55
4	45th St & 17th Ave S	39,800	1.22
5	45th St & 23rd Ave S	39,600	1.22
6	45th St & 19th Ave S	41,000	1.10
7	45th St & I-94 WB Ramps	33,300	1.29
8	19th Ave N & University Dr	25,800	1.63
8	University Dr LINK south of 19th Ave N	25,800	1.63
10	13th Ave S & 36th St / I-29 NB Ramps	41,200	0.93
10	13th Ave S & 42nd St	36,400	1.05

Bicycle and Pedestrian Crashes

A review of crash trends involving a bicyclist and/or pedestrian was conducted to gain a multimodal perspective on system safety. This review looked at annual bicycle- and pedestrian-involved crashes and bicycle- and pedestrian-involved Fatal and Serious Injury crashes.

Annual Bicycle- and Pedestrian-Involved Crashes

Crashes involving a bicycle and/or pedestrian by year are shown in **Table 9**. For the North Dakota side of the Metro COG region, 31 bicycle crashes occurred in 2018 and saw a decrease through 2020 before rising to 27 crashes in 2021. The year 2022 saw the number of bicycle-involved crashes peak at 33. Pedestrian-involved crashes increased between 2018 and 2019 before declining in 2020. The years 2021 and 2022 saw pedestrian-involved crashes increase over 2018 levels.

On the Minnesota side of the Metro COG region, bicycle-involved crashes increased each year between 2018 and 2020 before declining in both 2021 and 2020. Annual pedestrian-involved crashes were mostly consistent between 2018 and 2021 and peaked in 2022 with a total of 4 pedestrian-involved crashes.

Table 9. Annual Bicycle- and Pedestrian-Involved Crashes, 2018 - 2022

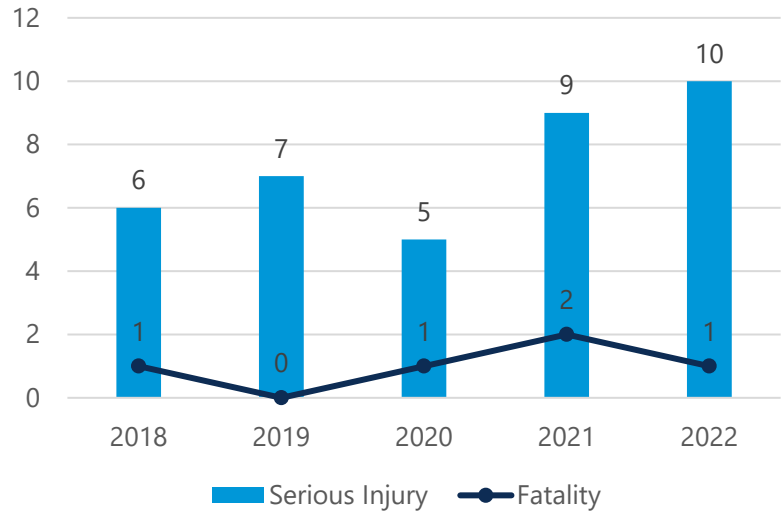
Type	2018	2019	2020	2021	2022	Total
North Dakota						
Bicycle	31	29	22	27	33	**142**
Pedestrian	21	26	18	30	27	**122**
Minnesota						
Bicycle	0	2	5	3	2	**12**
Pedestrian	3	1	3	3	4	**14**

Fatal and Serious Injury Bicycle- and Pedestrian-Involved Crashes

Annual Fatal and Serious Injury crashes that involved a bicyclist or pedestrian are shown in **Figure 4**. Fatal bicycle- and pedestrian-involved crashes peaked in 2021 with 2, while each year typically saw one fatal bicycle- or pedestrian-involved Fatal crash.

Serious Injury crashes involving a bicycle or pedestrian saw an overall increase between 2018 and 2022. The year 2020 saw the lowest number of bicycle- or pedestrian-involved crashes with 5 while the year 2022 saw the highest number of bicycle- and pedestrian-involved crashes with 10.

Figure 4. Bicycle- and Pedestrian-Involved Fatal and Serious Injury Crashes, 2018 - 2022



SYSTEM PAVEMENT AND BRIDGE CONDITION

Assessing the condition of our current roads and bridges is an integral element of understanding how our current transportation system functions, and what future transportation system investments might be required. There are two primary performance measures that Metro COG and the states of Minnesota and North Dakota are required to apply in evaluating their system:

- Percentage of pavements in "good" or "poor" condition
- Percentage of bridges in "good" or "poor" condition

Pavement Condition

Pavement condition data provides information related to existing conditions and can be used to project future conditions and to identify maintenance and rehabilitation needs. Pavement condition data is inconsistent across Metro COG's member jurisdictions. Both North Dakota and Minnesota track pavement conditions but use different measurements to determine conditions. Minnesota only tracks County State Aid Highway pavements while North Dakota tracks County Road.

Metro COG's member jurisdiction's track pavement conditions differently, through various indices:

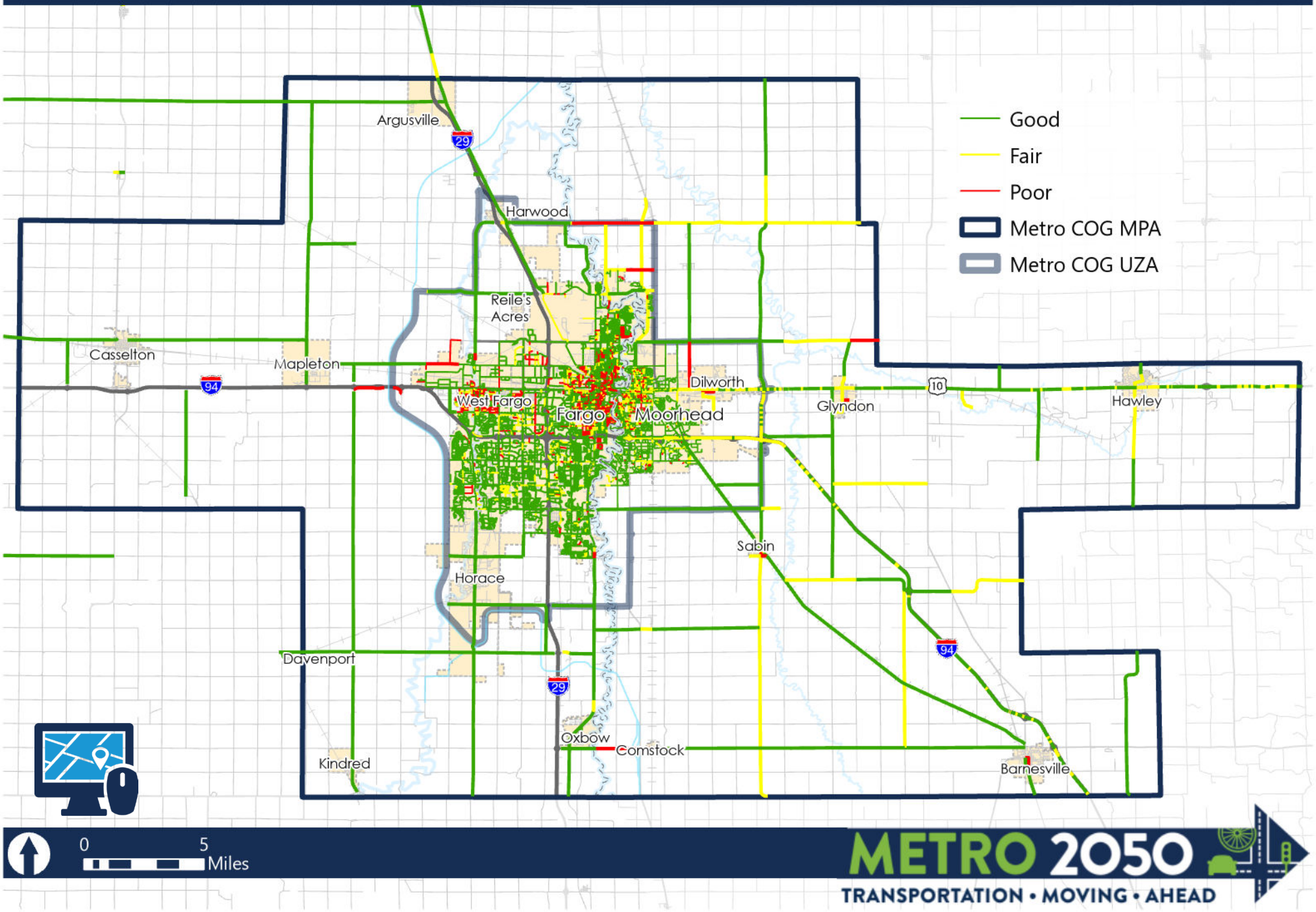
- Pavement Condition Index (PCI)
- Ride Quality (RQI)

Comparison of Regional Pavement Conditions

Because of the different measurement techniques and uncoordinated pavement condition data collection, it is difficult to cohesively determine the pavement condition of the entire roadway system in the region. Furthermore, PCI and RQI are incompatible pavement condition ratings, meaning each index rating cannot be converted from one to the other. Some indices can be converted to others, for example, RQI can be converted to IRI and vice versa. However, the incompatibility of RQI and PCI does not mean pavement conditions are incomparable, as rating scales are similar. Figure 5 provides a composite regional pavement condition map which reflects the various pavement conditions in a unified scale as described above.

However, of the 494 miles of comparable data, road conditions are in acceptable condition with over 95% of the roadway miles being in good or fair condition. Minnesota has more roads in fair or poor conditions compared to North Dakota, but that difference could be attributed to different measurement methods. Overall, both states have few roads that were measured in poor condition.

Figure 5: Pavement Condition



BRIDGE CONDITION

The National Bridge Inventory (NBI) tracks and reports structure conditions for bridges and culverts throughout the United States. There are several components which contribute to bridge condition ratings including the deck, superstructure, and substructure condition. Culverts are also included in the NBI and include several other components which contribute to condition ratings. Using the lowest condition rating of the associated components, bridges and culverts are categorized as good, fair, and poor.

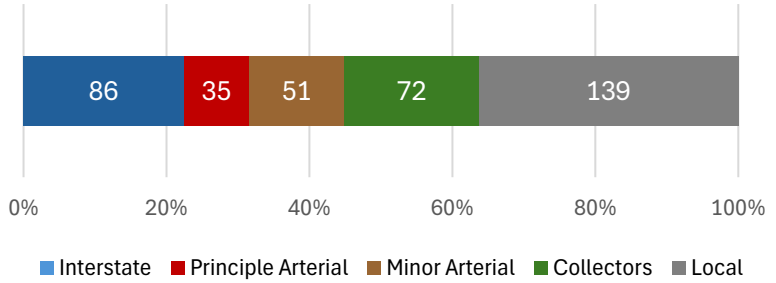
Overall, the structures in the FM area are in relatively good condition. There are 383 bridges and culverts in the MPA Boundary with 95% of them being in good or fair condition. All structures with an anticipated future AADT of over 10,000 are in fair or good condition. However, for structures on the National Highway System, Minnesota structures are not meeting MnDOT Targets with fewer good condition structures and more poor condition structures targeted for as seen in **Table 10**.

Table 10. Structure Condition PM 2 Targets for Metro COG compared to Current Condition

Target		MnDOT Targets	Current Percent	NDDOT Targets	Current Percent
NHS Bridges	% in Good Condition	30%	26%	50%	60%
	% in Poor Condition	5%	10%	10%	2%

Eighty-six (22%) of the structures are on the interstate system, while the rest are on roads classified as principal arterial, minor arterial, collector or local. Figure 6 shows the number and percentage of bridges on each functional classification in the region.

Figure 6. Bridges by Functional Classification



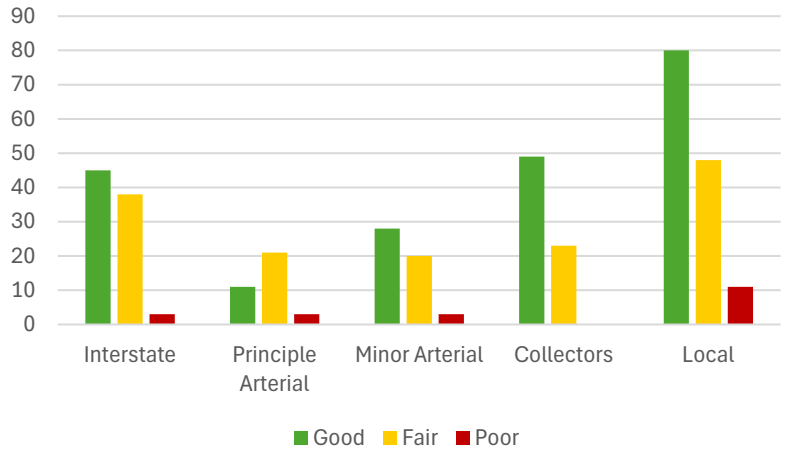
Of the 145 North Dakota structures not on the interstate system 81(56%) are in good condition, 57 (39%) in fair condition, and 7 (5%) were rated poor.

For the 152 structures in Minnesota not on the interstate system, 87 (57%) are in good condition, 55 fair (36%), and 10 poor (7%). **Table 11** and **Figure 7** show the state's combined condition by functional classification.

Table 11. Structure Condition by Functional Classification

Functional Class	Good Condition	Fair Condition	Poor Condition
Interstate	45	38	3
Principle Arterial	11	21	3
Minor Arterial	28	20	3
Collector	49	23	0
Local	80	48	11

Figure 7. Structure Condition by Functional Class



SYSTEM OPERATIONS

Regional system operations were analyzed using several approaches that are consistent with Federal performance measure guidelines.

Traffic Operations

Traffic operations refers to flow of vehicular traffic. Peak period vehicular travel times observed for the Metro COG region are reported in this section, but it is important to note that this represents just one perspective on how the multimodal system operates. Metro COG recognizes that peak hour traffic operations is just one consideration of transportation system performance.

The purpose of analyzing traffic operations is to understand congestion patterns and how the system operates. Metro COG's 2045 MTP, Metro Grow 2045, identified the need for the region to assess and address roadway capacity and congestion through balancing peak hour traffic volumes, daily traffic levels, travel times, travel demand, and levels of investment in

the transportation network.[3] This holistic view of the multimodal transportation system is reflected in Metro COG's policy to evaluate traffic operations on a 24-hour basis that de-emphasizes the limited recurring peak hour congestion that occurs in the region today.

To evaluate the systemwide traffic operations occurring today, two approaches were used. The first approach analyzed probe data travel delays, while the second approach estimated daily congestion using a planning level-of-service approach.

Probe Data Travel Delays

Probe data refers to passively collected location data sourced from mobile devices or in-vehicle navigation systems. This data is anonymized and aggregated so that information pertaining to the locations and speeds at which individuals traveled. This robust database provides valuable insights into traffic operations on a corridor-by-corridor basis within the Metro COG region.

The probe data used in the travel delay analysis was sourced from UrbanSDK, which collects connected vehicle data to monitor roadway networks and allows for the analysis of traffic patterns related to speeding, safety, and congestion.

This data was analyzed to evaluate the daily variation in travel times so that an understanding of when and where travel delays occurred can be gained. Through this understanding, Metro COG can better address congestion and mobility issues through consideration of factors such as land use, availability of other transportation modes, and transportation costs.

Travel delay conditions, in terms of travel speed reductions, were analyzed for the morning (AM) and evening (PM) peak hour travel periods for the Interstate and NHS corridors within the Metro COG region. The analysis compared the average peak hour travel times for both periods to free flow speeds, which resulted in the calculation of the percent reduction in travel times for each corridor.

The travel delay analysis showed that Metro COG's arterial network experiences declines during AM and PM peak hours that see reductions in speeds up to 40% below free flow speed levels. The highest reductions in speeds during both peak periods occur at intersections due to conflicting traffic flows at controlled intersections.

Planning Level-of-Service

A second approach to analyzing baseline traffic operations performance was used as a supplement to the travel delay analysis discussed above. This approach, referred to as a planning level-of-service (LOS) analysis, compares the daily traffic volume for a roadway to its design capacity which results in the estimation of a volume-to-capacity (V/C) ratio that is used to classify the approximated peak hour traffic operations of the roadway. The classifications reflect a grading scheme that ranges from LOS A, representing complete free

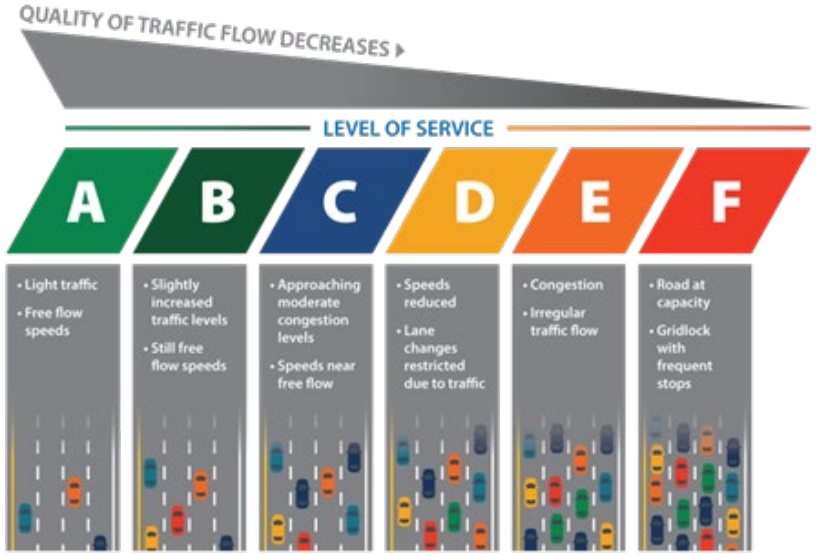
[3] Metro COG, *Metro Grow 2045.*

flow traffic, to LOS F that represents gridlock traffic conditions. **Figure 8** summarizes the LOS classifications.

The LOS analysis conducted for the Metro COG region is shown in **Figure 9**. As these figures indicate, most roadways within the Metro COG region operate at LOS B or better during peak travel hours. There are several arterial roadway segments that operate at LOS C and D while several portions of the region's Interstate system exhibit congestion that registers as LOS E and F during peak hour travel conditions.

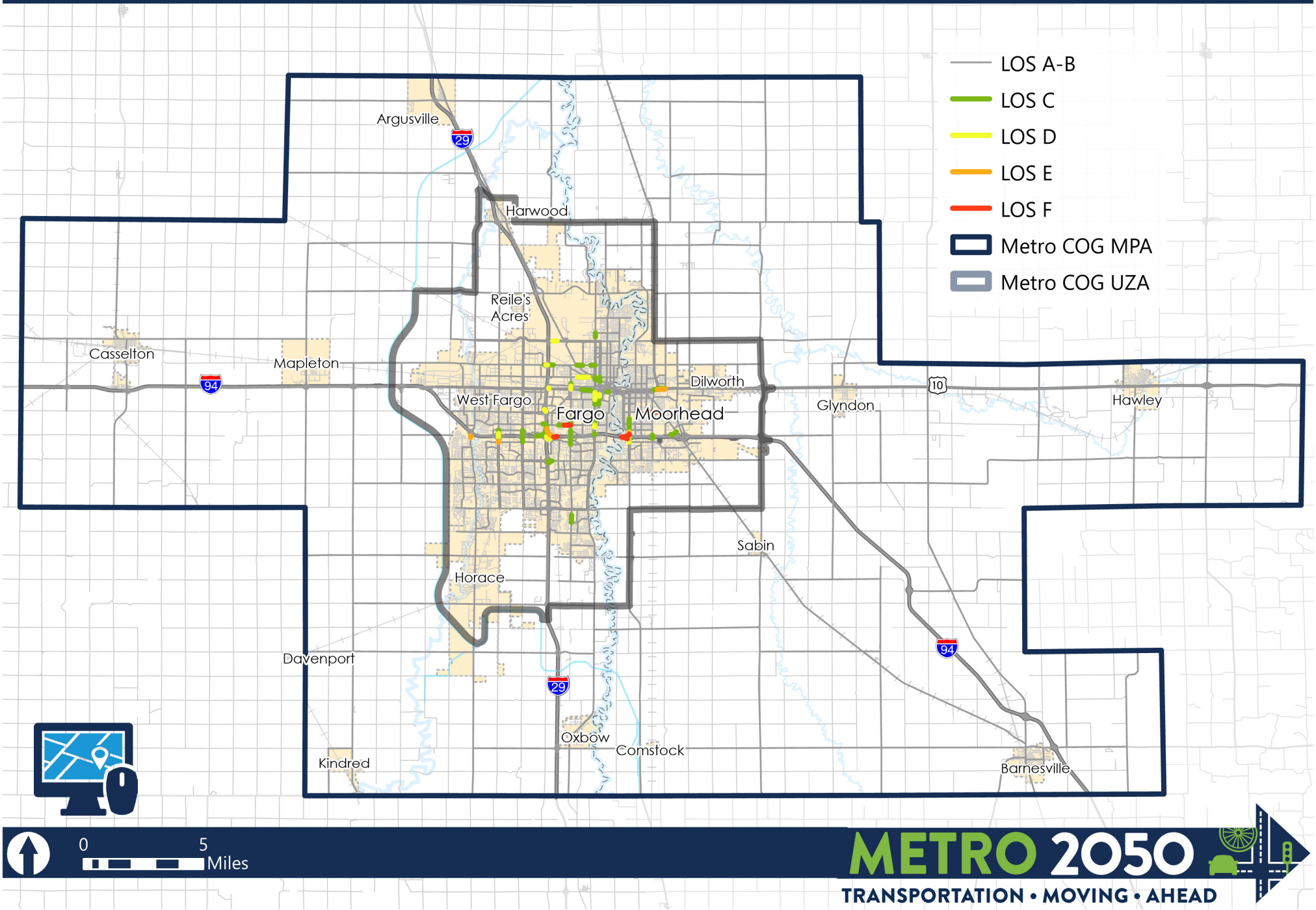
Metro COG and its partner agencies recognize that peak period travel delays are just one of many perspectives from which to evaluate system performance. While some peak period travel delays do occur in the region, these travel delays are for relatively short periods of time, and travel conditions are not congested for the vast majority of the day.

Figure 8. Level of Service Classifications



Source: Valley News Live

Figure 9: Estimated Level-of-Service



Travel Reliability

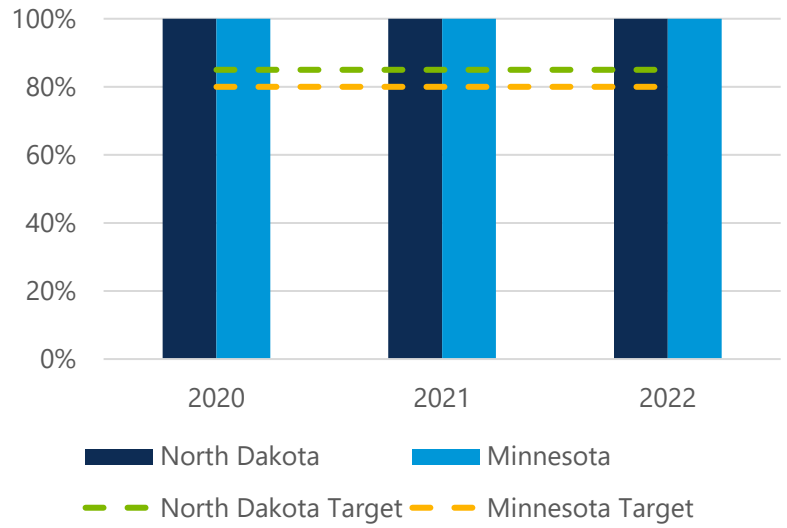
Travel reliability is a measure used by Metro COG to assess the reliability, or predictability, of travel times for passenger and freight vehicles across a corridor or an entire roadway network. Federal performance measures (PM 3) are concerned with travel reliability conditions and Metro COG reports reliability performance to FHWA on an annual basis.

Figure 10 through **Figure 12** show historic performance made towards Metro COG's reliability targets based on the percent of person-miles traveled on the Interstate and non-Interstate NHS considered reliable for the years 2020 through 2022. Reliability performance is reported for both the North Dakota and Minnesota portions of the Metro COG region.

For passenger reliability, the assumed targets were 85% of person-miles traveled on the Interstate for the North Dakota portion of the MPA and 80% for the Minnesota portion; the non-Interstate NHS reliability target for the North Dakota portion of the MPA was 85% while the target for the Minnesota portion was 90%. Reliability for Metro COG's freight system is reported using the Truck Travel Time Reliability Index (TTTR) and the target for the Metro COG MPA was 1.5 for each year between 2020 and 2022.

Reliability performance of Metro COG's Interstate system for the years 2020 through 2022 is shown in **Figure 10**. As the figure illustrates, reliability on the region's Interstate system exceeded both the North Dakota and Minnesota targets each year. The percent of person-miles considered reliable was consistently 100% each year for the North Dakota and Minnesota portions of the Metro COG MPA and indicates that passenger traffic on I-29 and I-94 has historically been predictable, allowing for users to accurately plan around potential recurring congestion that could impact their travel.

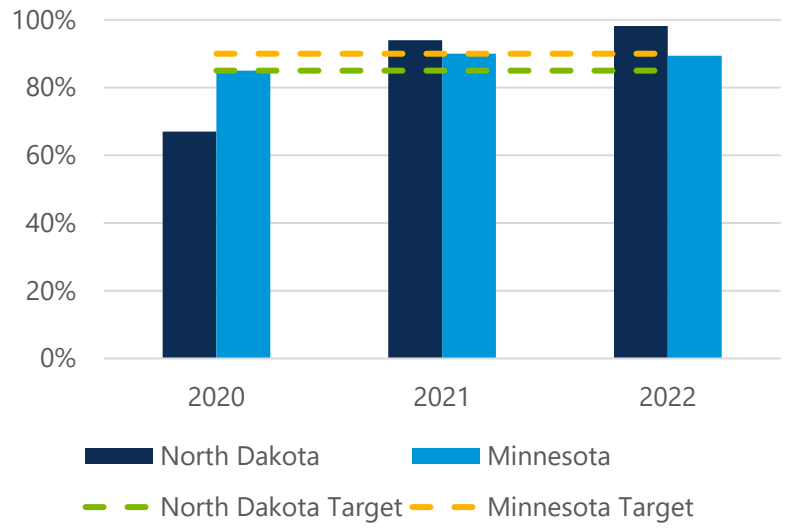
Figure 10. Annual Percent of Person-Miles Traveled on the Interstate that are Reliable for the Metro COG Area, 2020 - 2022



Source: Metro COG

Reliability performance of Metro COG's non-Interstate NHS system for the years 2020 through 2022 is shown in **Figure 28**. As the figure indicates, reliability performance for the non-Interstate NHS fluctuated between 2020 and 2022, with 67% of person-miles traveled on the non-Interstate NHS within the North Dakota side of the Metro COG region considered reliable in 2020. After 2020, reliability performance rose to 94% in 2021 and 98.2% in 2022. Despite the reduced percentage of reliable person-miles traveled on the North Dakota side in 2020, the targets for both the North Dakota and Minnesota portions of the MPA were met in 2021 and 2022.

Figure 11. Annual Percent of Person-Miles Traveled on the Non-Interstate NHS that are Reliable for the Metro COG Area, 2020 - 2022

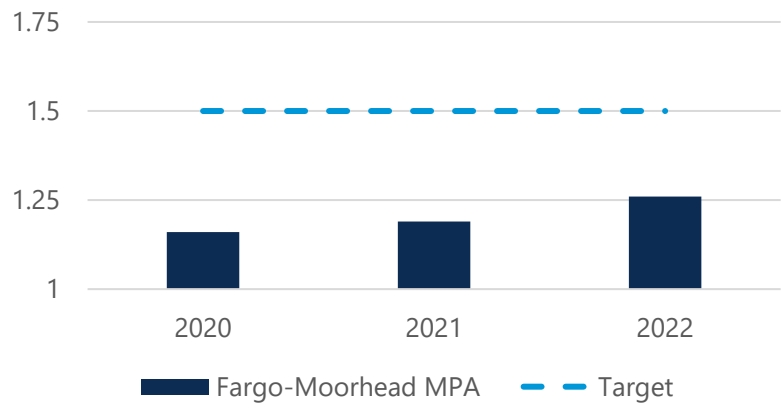


Source: Metro COG

Freight reliability performance of Metro COG's Interstate system for the years 2020 through 2022 is shown in **Figure 29**. As the figure indicates, the TTTR target for the Interstate was met each year between 2020 and 2022 while reported TTTR saw a slight increase towards 1.5 annually. The general trend observed for TTTR which reflects the historic trend seen by the reliability of passenger traffic on the Interstate system during this same period in which the performance target was met each year.

Figure 30 and **Figure 31** shows annual reliability performance for the Interstate and non-Interstate NHS in 2022 based on data from the National Performance Management Research Dataset (NPMRDS).

Figure 12. Annual Interstate TTTR for the Metro COG Area, 2020 - 2022

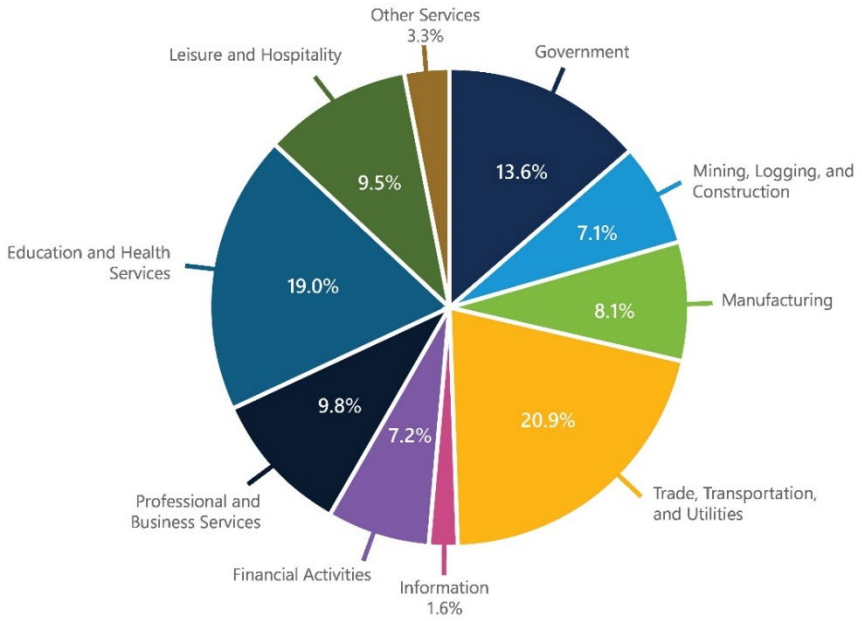


Source: Metro COG

FREIGHT SYSTEM

Freight has historically been a central component of Metro COG's regional economy. Beginning with the construction of the Great Northern Railroad in 1871, the Fargo-Moorhead region has been an important gateway for freight traveling across the United States. Today the Fargo-Moorhead region is the cross-roads of I-94 and I-29 and several BNSF rail lines including the Jamestown, KO, Hillsboro, Moorhead, and Staples subdivisions. Freight is a key sector of the regional economy as Trade, Transportation, and Utilities sector jobs represent 21 percent of metro area non-farm employment as of October 2023, the highest employment for a sector in the region.[4] **Figure 13** summarizes the employment data sourced from the Bureau of Labor Statistics.

Figure 13. Employment by Industry in the Fargo-Moorhead Metropolitan Statistical Area



Source: United States Bureau of Labor Statistics

Locally Designated Freight Routes

Several corridors within the Metro COG region have been designated for freight usage by local agencies. Metro COG's Regional Freight Plan, published in 2017, highlights a series of routes within the Cities of Fargo and West Fargo that are intended to encourage truck travel. Local freight routes designated by the City of Fargo involve seasonal weight

[4] United States Bureau of Labor Statistics, *Fargo, ND – MN.*

restrictions that close certain routes to heavy truck traffic during the spring.

Both Minnesota and North Dakota have regulations on how heavy commercial vehicle weight is distributed according to number of axles on the truck. North Dakota DOT has a 105,500 pound weight limit on these routes:

- I-94 west of Main Ave
- Main Ave
- 52nd Avenue S from I-19 to University
- University from 52nd Avenue S to Main Ave[5]

Minnesota DOT has an 80,000 pound weight limit (or 10-tons per axle) on most state routes, including I-94, US 10, and MN 336[6]. Both states have some seasonal load restrictions as well. The City of Fargo also maintains a truck route system with seasonal load restrictions and height restrictions[7].

The City of Moorehead does not have a designated truck route system, owing mainly to concerns regarding enforcement, increased maintenance costs, and administrative requirements from MnDOT requiring local agencies to petition the DOT each time a proposed truck route utilizes a state route.[8]

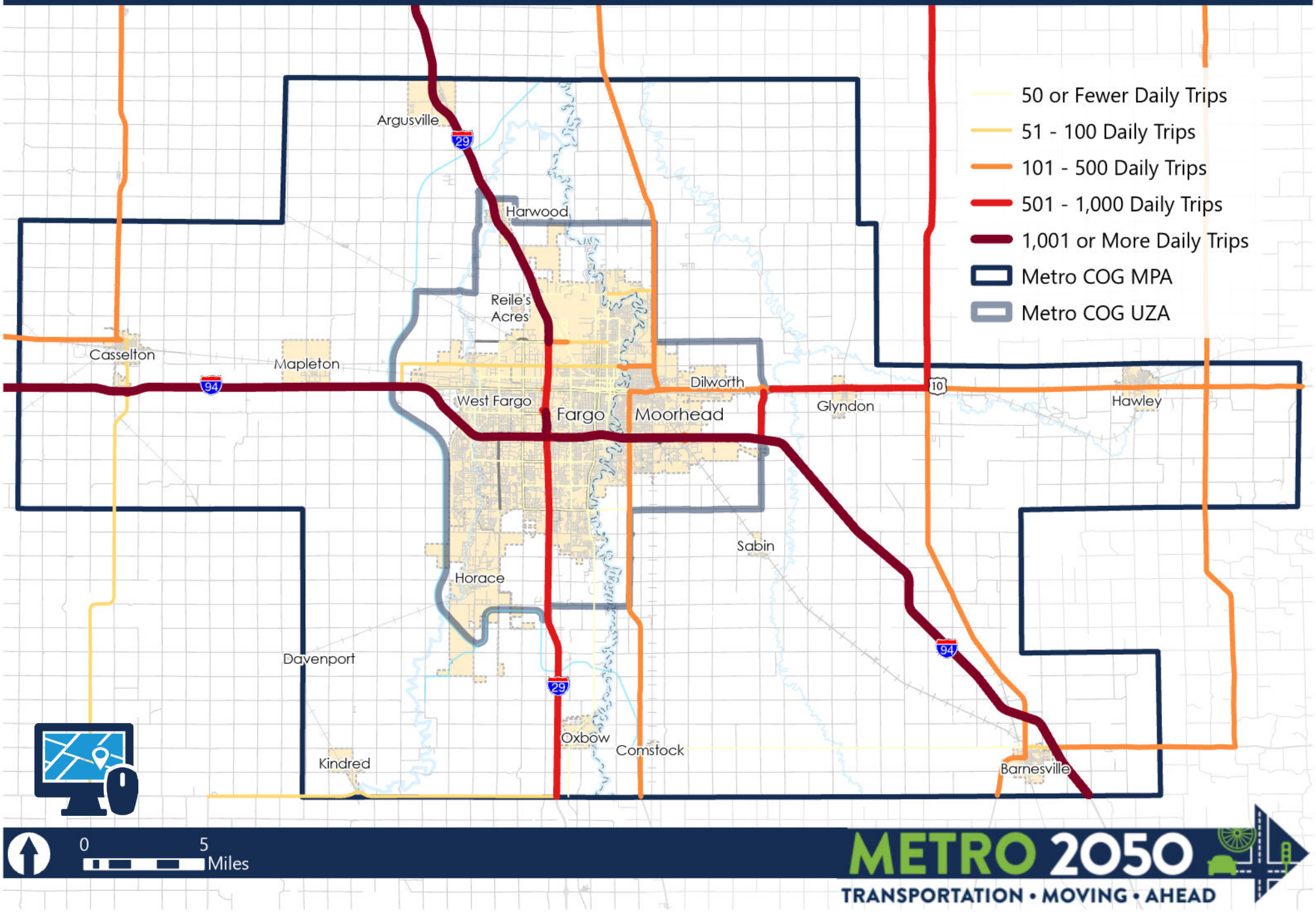
Daily Truck Trips

Data on daily truck trips for the Metro COG region was sourced from FHWA's Freight Analysis Framework 5 (FAF5), which is a national freight model that leverages a range of data sources to estimate multimodal freight and commodity flows. FAF 5 also forecasts multimodal freight and commodity flows through 2050, using 2017 as the baseline forecast year.

Daily truck trips were obtained from FAF 5 to understand current highway freight usage within the Metro COG region. **Figure 14** illustrates daily truck trips for the region. As **Figure 14** indicates, I-29 and I-94 carry the highest proportions of daily truck trips in the Metro COG region at 1,001 or more daily trips. MN 9 and U.S. 75 east of Moorhead are additional highway demonstrating a high demand for truck traffic as both of these corridors recorded 501 or more daily truck trips based on the FAF5 data.

[5] North Dakota Department of Transportation, *Weight Limitations for Vehicles on Nort Dakota Highways.*
[6] Minnesota Department of Transportation, *2024 Minnesota Truck Book.*
[7] City of Fargo, *City of Fargo Truck Route Map.*
[8] Fargo-Moorhead Metro COG, *Regional Freight Plan.*

Figure 14: Daily Truck Trips for the Fargo-Moorhead Area, 2017



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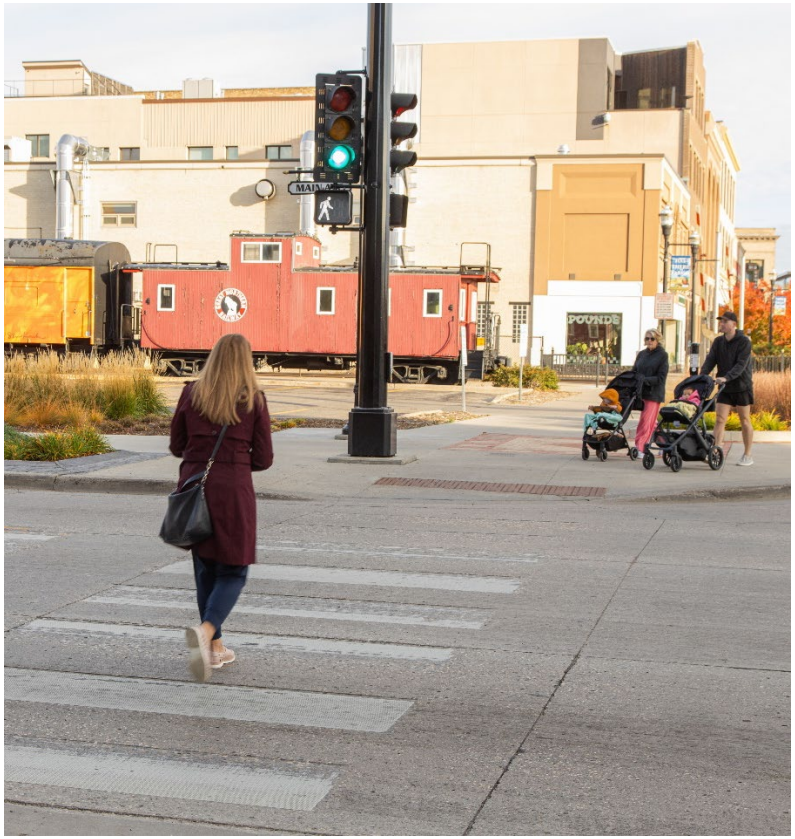
BIKE AND PEDESTRIAN

A complete bicycle and pedestrian network in the Metro COG area can encourage more active transportation, as well as a better connectivity for all modes of transportation. The existing bike and pedestrian network was analyzed for connectivity, active trip potential, collisions, level of traffic stress, equity, and priority investments as part of the *2022 Fargo-Moorhead Metropolitan Bicycle and Pedestrian Plan*. This section of the Baseline System Performance report summarizes the existing conditions analysis conducted as part of the Bicycle and Pedestrian Plan.

Connectivity

Connectivity was determined through the percentage of the network a person could travel to within a 10-minute walk, or 15-minute bicycle ride. The downtown areas of Fargo and Moorhead were found to have the highest connectivity ratios, as well as certain areas in west/southwest Fargo, and eastern West Fargo. Additionally, bicycle and pedestrian connectivity decreased around railroad tracks, interstate highways, and along the Red River and Sheyenne River in West Fargo. Implementing more bicycle and pedestrian-friendly infrastructure to connect users across these barriers could help improve connectivity to the rest of the region.



Active Trip Potential

Where a concentration of shorter trips occur is important to identifying how these trips could be replaced by walking or biking, and what infrastructure would be needed to support these types of trips. A large volume of trips that were under three miles were concentrated around North Dakota State University, Concordia College, Minnesota State University Moorhead, downtown Fargo, downtown Moorhead, and the West Acres shopping center. It was found that half of the

almost one million daily trips made in the Metro COG region were three miles or less, but only a small percentage of them were made by walking or biking. If more bicycle and pedestrian facilities are provided, more of these trips have the potential to be made using active transportation.

Collisions

An analysis of collisions in the Metro COG area from 2016 to 2020 was conducted to locate common areas that collisions occur and could be a higher risk to pedestrians and bicyclists. The street segments with five or more "very high" weighted scores for collisions are all located in Fargo, and include:

- North University Drive
- 25th Street South
- South University Drive

The street segment with the highest weighted crash score was 25th Street South at the intersection of 32nd Avenue South in Fargo. Street segments with extremely high weighted collision scores were at intersections of multi-lane roadways. When comparing these results to the system safety analysis detailed in the **Safety** section of this report, the segments of concern found in the 2022 Bicycle and Pedestrian Plan align with the safety analysis conducted as part of this baseline system performance analysis which identifies downtown Fargo as an area of frequent bicycle- and pedestrian-involved crashes.

Level of Traffic Stress

Level of Traffic Stress for pedestrians and bicyclists was calculated to understand where active transportation users may face the most challenges in travel in the Metro COG area. Roadways were evaluated based on number of lanes, speed limit, number of lanes, and sidewalk presence/completeness. Pedestrians were found to have a comfortable level based on posted speed limits and number of travel lanes on most roads in the network. Most roads outside of urban areas ranked high for bicycle stress, however these trips are most likely not common in the area. Improvements to rural areas may help to increase bicycle tourism, by supporting recreational routes throughout the region.

Equity

Variables such as low-income population, population without access to a vehicle, percent of minority population, percent of population with a disability, proximity to traffic, and pollution. The analysis identified the highest priority block groups for disadvantaged groups are in the core urban area, with most located in downtown Fargo. Creating more investment and bike and pedestrian-friendly policies to target these areas could better address equity concerns in the Metro COG area.

TRANSIT SYSTEM

Transit in the Fargo-Moorhead area is provided by Metro Area Transit (MATBUS). MATBUS is collectively operated by the Cities of Fargo and Moorhead to provide fixed-route and paratransit service for Fargo, West Fargo, Moorhead, and Dilworth. MATBUS operates Monday through Saturday in Fargo, Moorhead, Dilworth, and West Fargo.

Fixed-Route Service

MATBUS operates a series of fixed routes throughout the Metro COG region, Monday through Friday from 6:15 AM to 11:15 PM and Saturdays from 7:15 AM to 11:15 PM. Seven of these routes operate in Moorhead and Dilworth, of these five operate solely in Moorhead, and two extend east into Dilworth. Several routes including Routes 31, 32 (E and W), 33, 34, and TapRide, a demand-response service, directly serve North Dakota State University (NDSU); these routes operate weekdays only, and Routes 31, 32, and 33 operate only during the fall and spring academic semesters.

MATBUS also operates LinkFM, which is a free circulator route providing service between the downtowns of Fargo and Moorhead. As of January 1, 2020 , LinkFM only operates during community-sponsored events. **Figure 46** shows MATBUS' existing fixed routes.

A single ride for MATBUS' fixed-route system is $1.50 and users are able to purchase pack of 20 rides for $30.00. Unlimited ride passes are also available, starting at $5.00 for a one-day pass, $60.00 for a 120-day college semester pass which is offered only to faculty, staff, and students of U-Pass participating colleges, and a 31-day business pass for the region's workers.

Transit in Transition

There is a significant level of activity around the Fargo-Moorhead transit system in 2024.

Transit System Structure – There is an ongoing study of the future structure of MATBUS, considerations of how it should be organized and administered.

Large Urban Area Designation – With the urbanized area crossing the 200,000 population to a Transportation Management Area (TMA), the area's Federal funding source is changing to the large urban program. Fleet maintenance needs and funding sources are being evaluated currently.

Post-Pandemic Ridership and Service Levels - Like many other transit agencies, service frequency greatly decreased following the 2020 pandemic and driver shortage. Some ridership segments have rebounded to 2019 levels and driver availability has impacted service levels on some routes and days.

REGIONAL CONNECTIONS

The regional multimodal transportation system facilitates travel within the Metro COG area. Supporting this multimodal system is a network of transportation modes that provide connectivity to destinations outside of the Metro COG region.

These transportation options include aviation, rail, and bus modes.

Air Travel

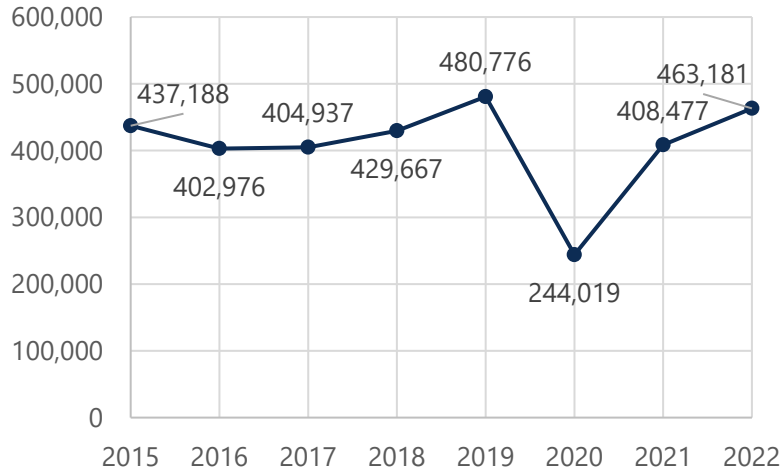
Several facilities found within the Metro COG region provide aviation services. Air travel services include commercial and general service, as well as air freight services. The key aviation facilities within the region are:

- Hector International Airport, located in Fargo, North Dakota, offers commercial, general aviation, and air freight services.
- Moorhead Municipal Airport, located in Moorhead, Minnesota, offers general aviation services.
- Hawley Municipal Airport, located in Hawley, Minnesota, offers general aviation services.
- West Fargo Municipal Airport, located in West Fargo, North Dakota, offers general aviation services.
- Robert Odegaard Field, located in Kindred, North Dakota, offers general aviation services.
- Casselton Robert Miller Regional Airport, in Casselton, North Dakota, offers general aviation services.

Hector International Airport is the largest airport in the Metro COG region and attracts passengers from across eastern North Dakota, northeastern South Dakota, and northwest Minnesota. The importance of this facility in meeting the region's commercial aviation needs is exemplified by historic enplanement data, which is summarized by year in **Figure 15**.

Total commercial enplanements for the year 2015 exceeded 430,000. The following year saw a decline to 403,000 enplanements in 2016, after which annual enplanements increased each year until 2019. The year 2020 saw a decline in commercial enplanements owing to the COVID-19 public health pandemic. After 2020, commercial enplanements began trending towards pre-COVID levels.

Figure 15. Historic Commercial Enplanements at Hector International Airport, 2015 - 2022



Source: Federal Aviation Administration, *Passenger Boarding and All-Cargo Data for U.S. Airports*

The current airlines offering commercial service through Hector International Airport include:

- Allegiant, with service to Las Vegas, Nevada, Mesa, Arizona, St. Pete-Clearwater, Florida, Orland-Sanford, Florida, and Nashville, Tennessee.
- American Airlines, with service to Phoenix, Arizona, Dallas, Texas, and Chicago, Illinois.
- Delta, with service to Minneapolis-St. Paul, Minnesota.
- Frontier, with service to Denver, Colorado, and Orlando, Florida.
- United, with service to Denver, Colorado, and Chicago, Illinois.

Intercity Bus

Intercity bus service within the Metro COG region is operated by Jefferson Lines. Users of Jefferson Lines are able to access the service at the bus stops found the Ground Transportation Center and 1201 University Drive in Fargo, as well as the stop at 615 14th Street S in Moorhead. These stops provide access to four Jefferson Line routes:

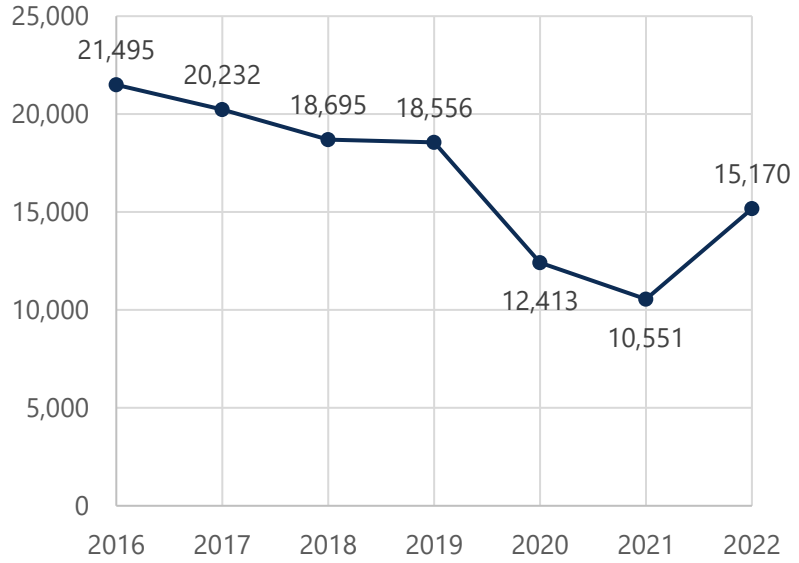
- Service north to Grand Forks, North Dakota via I-94. Service continues into Minnesota via Highway 2.
- Service west to Valley City, Jamestown, Bismarck, and Dickinson via I-94. Service continues into Montana.
- Service east into Minnesota via Highway 10 to Detroit Lakes.
- Service east via I-94 to St. Cloud, Minnesota, and Minneapolis, Minnesota.

Intercity Rail

Intercity rail service within the Metro COG region is operated by Amtrak via the Empire Builder Line that connects Chicago, Illinois with Spokane, Washington; the line then serves the cities of Seattle, Washington and Portland, Oregon.

Amtrak users can board the Empire Builder Line at the Amtrak station located the old REA building adjacent to the former Great Northern Railway Depot in Fargo. Annual departure statistics for passengers using the Fargo Amtrak station are shown in **Figure 16**.

Figure 16. Amtrak Arrivals and Departures for the Fargo Station, 2016 - 2022



Source: Rail Passengers Association, Amtrak Service in Fargo, ND

On-time performance of Amtrak service is one of the key service measures used to evaluate the performance of intercity rail service. The performance of Amtrak lines is compared to the FRA's On-Time Performance Standard target of 80% of passengers arriving on time.

Intercity Rail Initiatives

Several intercity rail initiatives are being explored which could increase passenger rail service to the Fargo-Moorhead region.

North Coast Hiawatha Service

The North Coast Hiawatha line was a tri-weekly section of the Empire Builder line that was operated between Minneapolis/St. Paul, Minnesota and Spokane, Washington via southern Montana from 1971 to 1979.[9] Today, efforts being led by the Big Sky Passenger Rail Authority to reinstate the North Coast Hiawatha service has resulted in the route selected for Corridor ID funding, which is an early step in the process of developing the route as a long-term passenger rail project.[10]

Reinstatement of the North Coast Hiawatha service would provide Fargo-Moorhead region additional intercity passenger rail service that complements the existing Empire Builder service. This service would offer intercity passenger rail service would connect Fargo with St. Paul to the east and Helena to the west; planning studies for the route have also identified potential stops in North Dakota, including Valley City, Jamestown, and Mandan.

All Aboard Northwest

All Aboard Northwest is a 501 (c) (4) nonprofit organization created in 2021 to bring economic, environmental, and equity benefits to communities within the Greater Northwest. The organization advocates for the regional needs of rail passengers and coordinates with transportation organizations to strengthen relations between these groups and citizens of the region.

As part of their advocacy activities, All Aboard Northwest is participating in the Amtrak Daily Long-Distance Service Study led FRA and authorized under Section 22214 of the Bipartisan Infrastructure Law. The purpose of this study is to evaluate the restoration of daily long-distance intercity passenger rail service and the potential for new Amtrak long-distance routes.[11] The study began in 2022 and is anticipated to conclude in early 2024.

All Aboard Northwest has been able to work with FRA and regional stakeholders to establish a vision for the future of intercity passenger rail service in the Greater Northwest. This vision touches the Metro COG region through the incorporation of the North Coast Hiawatha line that adds

[9] Amtrak, *North Coast Hiawatha Passenger Rail Study.*
[10] KFYR TV, *Old North Coast Hiawatha rail route takes giant step towards reinstatement.*
[11] Federal Rail Administration, *Amtrak Daily Long-Distance Service Study.*

additional service between the cities of Fargo and St. Paul, Minnesota.

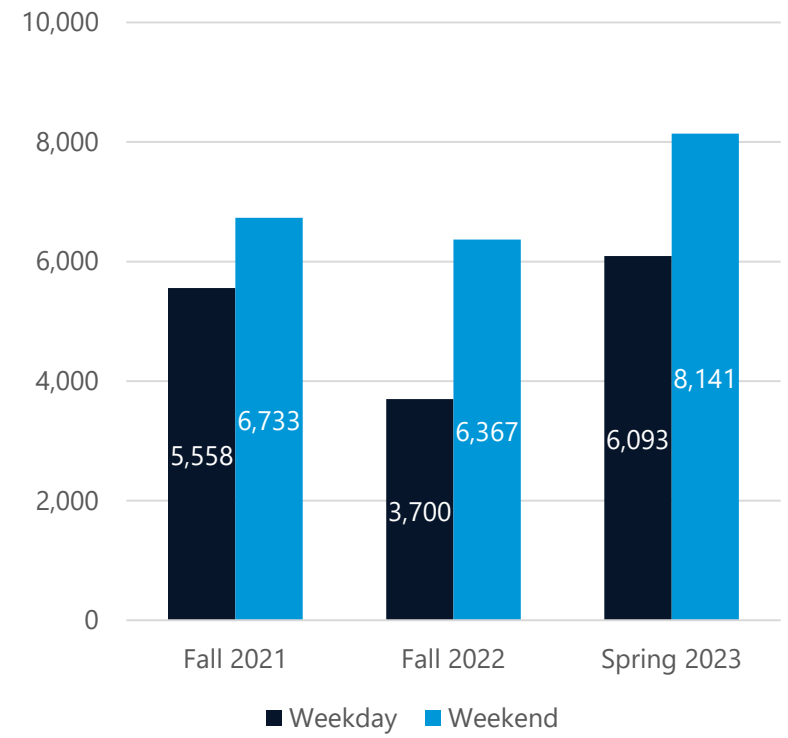
Transportation Network Companies

An additional option for mobility within the Metro COG region is provided by the Transportation Network Companies (TNCs) Uber and Lyft. TNCs are private companies that provide users with on-demand transportation that can be booked via app-based platforms. These services offer users high levels of flexibility and convenience but typically require a web-enabled mobile device in order to book a trip. Traditional taxicab services are also available in the Metro COG region.

To understand the total usage of TNCs in the Metro COG region, data sourced from Replica HQ was utilized to show total trips taken using TNC services, trip purpose, and time of departure. Data shown below represents a typical weekday or weekend in Fall 2021, Fall 2022, and Spring 2023. Weekday and weekend travel data is shown separately as travel behavior normally changes from typical commutes on weekdays, and TNC demand will typically increase.

Figure 17 details the total number of trips taken using TNCs and taxicabs on both typical weekdays and weekends in Fall 2021, Fall 2022, and Spring 2023. Weekends trips in Fall 2021 exceeded weekday trips by 1,175. In Fall 2022, trips taken on a weekday drastically decreased, and weekend trips stayed constant, leading to a wider margin of 2,667 trips between weekdays and weekends. By Spring 2023, weekday trips taken using TNCs increased to 6,093, however still did not outpace weekend trips, which were at 8,141.

Figure 17. Total Trips Taken by TNC/Taxicab, 2021 - 2023



Source: Replica HQ

TRANSPORTATION GOALS & OBJECTIVES

The vision for how the Fargo-Moorhead system should perform was based on first establishing plan goals. The purpose of setting plan goals is to translate the values that the Fargo-Moorhead community places on transportation and to summarize them into a set of guiding principles. These goals are the framework through which the Metro 2050 plan has been developed and measured. The goals were developed to reflect:

- National priorities, including the national planning factors outlined in CFR 450.306
- State goals outlined in state transportation plans for North Dakota and Minnesota
- Public input received through the various engagement efforts outlined in **Appendix A**.

TRANSPORTATION GOALS

The ten plan goals highlight the focus areas for 2050 and plan direction. The 2045 plan included eight goal areas that were reviewed as an initial step of the goal development process. These eight topical areas are skill present within the 2050 goal framework, with revisions to respond to current needs. Additionally, the Connecting People and Places and Transportation Decision are new goals. These ten statements are identified on the following page.

METRO 2050 TRANSPORTATION GOALS

SAFETY & SYSTEM SECURITY	Provide a transportation network that prioritizes safety for all modes and is adaptable to environmental and social change.
TRAVEL EFFICIENCY & RELIABILITY	Improve mobility across the region that allows efficient and reliable movement of goods and people.
WALKING, BIKING, & ROLLING	Empower people to walk, bike, and roll more often as a mode of transportation
TRANSIT ACCESS & RELIABILITY	Support people's access to reliable transit service.
MAINTAIN TRANSPORTATION INFRASTRUCTURE	Sustain transportation infrastructure in a state of good repair.
COMMUNITY CONTEXT AND IMPACT REDUCTION	Strengthen equitable access to and support environmental considerations into transportation planning decisions.
FREIGHT NETWORK - MOVING GOODS	Accommodate freight movement to strengthen regional economic priorities and support efficient consumer mobility and delivery.
EMERGING TRANSPORTATION TRENDS	Monitor transportation trends and new technologies shown to improve the way people travel and incorporate into regional transportation plans.
TRANSPORTATION DECISIONS	Make regional transportation decisions that tie local and regional priorities together, promote fiscal responsibility, and support the movement of goods and people.
CONNECTING PEOPLE AND PLACES	Consider where people live and work, and people's relationship to the built environment in regional long-term transportation decisions.

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PLAN OBJECTIVES AND PRIORITIZATION METRICS

Objectives were established within each of the goal areas that created specific and measurable actions for the plan. One of the core applications of these goals and objectives was the establishment of prioritization metrics. The metrics were developed to directly tie national, state, and local priorities to the evaluation of potential strategies and projects. The metrics were also designed to support the regional performance measures that Metro COG must report on, reflected in **Chapter 2**. This process thus ties regional vision to project implementation, and ultimately to regional transportation system performance.

Objectives and metrics were identified and applied if they had relevance to the community and ultimately supported the goals and performance vision for the region. This approach scored potential strategies and projects for the Metro Grow Plan so that the highest priority projects would best reflect the community vision, and ultimately support the performance measures and targets that the region set.

The objectives and prioritization metrics for each goal area are shown in **Table 12**.

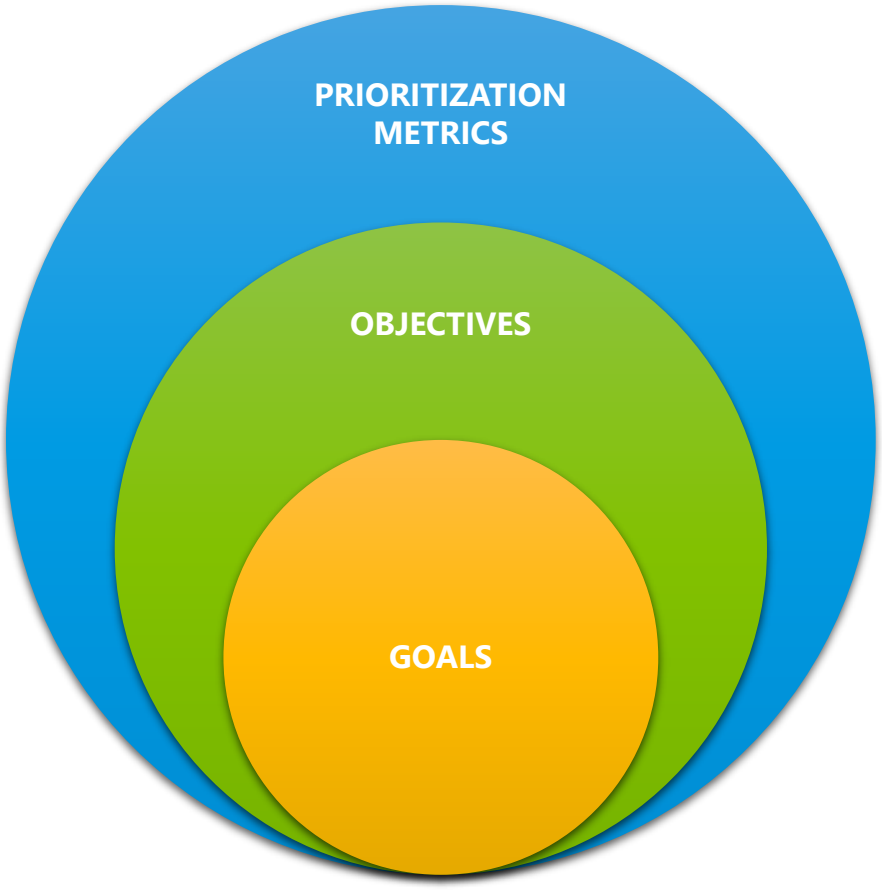


Table 12. Objectives and Prioritization Metrics

SAFETY & SYSTEM SECURITY	**Provide a transportation network that prioritizes safety for all modes and is adaptable to environmental and social change.**

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Reduce the number and severity of crashes.	Review crash modification factors to determine potential project impact on these individual safety categories.
Eliminate all traffic-related death and severe injuries in the region.	
Reduce the severity of bicycle and pedestrian crashes.	
Reduce the number of transit-involved crashes.	Project has potential to reduce bus-involved crashes along an existing bus route.
Support strategies to make transportation infrastructure more adaptive and responsive to environmental, social and economic change.	Project has the potential to reduce flooding or other hazard risk or improves the region's response to change (i.e., alternate routes).
Policy Objective: Improve the multimodal transportation experience by increasing the safety and security for users.	Policy Objective. Support the inclusion of security features within design.
Policy Objective: Support programs and multimodal roadway designs that reduce or eliminate safety issues.	Policy Objectives. Utilize roadway typologies to inform consistent multimodal treatments and safety improvements.
Policy Objective: Support programs and design strategies that allow efficient and effective incident response.	Policy Objective. No project scoring.

TRAVEL EFFICIENCY & RELIABILITY

Improve mobility across the region that allows efficient and reliable movement of goods and people.

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Improve travel reliability on the NHS and arterial roadways.	Project would improve safety or system management in a corridor with reliability issues. *Congestion Management Plan Alignment*
Limit recurring peak period delay on the NHS and arterial roadways.	Project would improve traffic operations / improve forecasted level-of-service (use LOS E/F as deficiency). *Congestion Management Plan Alignment*
Improve the connectivity of the street and multimodal networks and promote a grid street pattern.	Project would complete a street system connection where one does not currently exist, has the potential to reduce out-of-direction travel, and is context sensitive.
Support uninterrupted travel flow of all modes, including congestion reduction, incident response, and service reliability.	Project would reduce create less starting and stopping of traffic. Project features may include innovative intersections, reduced number of traffic signals, adaptive signals, freeway and arterial management technologies, and innovative street treatments.
Prioritize system investments that improve efficiency of the system and consider invests in transportation demand management and improvements that reduce emissions and vehicle miles traveled (VMT).	Project would result in a reduction of congestion with travel demand management investments and/or reduction in vehicle miles traveled. *Congestion Management Plan Alignment*

OBJECTIVE	METRIC
Policy Objective: Manage access to commercial corridors to promote multimodal mobility –emphasizing the connection of people and goods.	Policy objective, no project scoring
Policy Objective: Promote the development of alternative routes that allow for reliable mobility during incidents.	Policy objective, no project scoring

WALKING, BIKING, & ROLLING

Empower people to walk, bike, and roll more often as a mode of transportation

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Improve walking and biking connections and reduce network gaps.	Project would improve network connectivity by completed an identified gap or improving measures including intersection density, walk scores, etc.
Support facility design that provides a comfortable and safe environment for walking, biking, and rolling.	Project includes design features to improve safety and comfort for users, identified using a qualitative assessment of project elements.
Provide bicycle and pedestrian corridors that connect community destinations and conducive land uses.	Project will connect community destination, identified using a qualitative assessment of connections.
Increase mode share for travel.	Policy Objective. Project would increase non-single-occupant vehicle travel. Examples include: bike and pedestrian projects, transit improvements, travel demand management programs and strategies.
Policy Objective: Make bicycling more competitive with automobile travel in the region.	Policy objective, no project scoring

OBJECTIVE	METRIC
Policy Objective: Support the inclusion of infrastructure to enhance the security of walkers, bikers, and rollers within the transportation infrastructure (e.g., lighting, refuge).	Policy objective, no project scoring

TRANSIT ACCESS & RELIABILITY

Support people's access to reliable transit service.

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Improve pedestrian and bicycle connection to transit corridors.	Project includes bicycle and pedestrian features that improve or create connections to transit corridors and destinations.
Support transit connections to other regional centers, including bus and rail services.	Project includes new or improved transit service with connections to regional transit offerings.
Support the maintenance of efficient transit infrastructure, including the transit fleet.	Project includes improvements to transit infrastructure, including fleet, station facilities, and bus enhancements.
Promote right-sized transit services to increase transit access throughout the region, including micromobility and fixed route services.	Project includes transit service that is scaled to the service area, with assessment based upon a qualitative assessment of land uses and connections.
Policy Objective: Develop transit-intensive corridors with supportive infrastructure to enhance service reliability and connections to development that encourages making trips by public transit.	Policy objective, no project scoring.

MAINTAIN TRANSPORTATION INFRASTRUCTURE

Sustain transportation infrastructure in a state of good repair.

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Continue to maintain NHS routes in good condition and minimize NHS routes in poor condition.	System Performance Metric: Use pavement and bridge investment models to estimate asset management investment needs. Maintenance projects will be included in the project list.
Continue to maintain the arterial system in good condition, prioritizing multimodal corridors.	
Policy Objective: Identify sufficient financial resources to maintain all Federal-Aid streets in fair and good condition.	Policy Objective, no project scoring.
Policy Objective: Support the maintenance of non-pavement infrastructure (e.g., technology, striping) on all multimodal infrastructure.	Project includes investments to improve non-pavement infrastructure, specifically for multimodal design features.

COMMUNITY CONTEXT & IMPACT REDUCTION

Strengthen equitable access to and support environmental considerations into transportation planning decisions.

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Limit transportation impacts to natural resources.	Project minimizes and/or mitigates any impacts to known natural resources.
Provide transportation system that fits within its context and mitigate impacts to environmental and community features.	Project was assessed for its relationship to surround context, is consistent with adjacent land uses, and mitigates any impacts.
Improve access to the multimodal options for environmental justice and Title VI communities.	Project will improve access (more service, improved connections) to EJ populations, and if services are consistent with Title VI.
Prioritize investments in transit, biking, and walking improvements that reduce greenhouse gas emissions and vehicle miles traveled (VMT)/vehicle hours traveled (VHT).	Evaluate project-level VMT/VHT for potential reduced energy and consider projects that promote transportation technology. Air Quality improvements are a secondary benefit.
Monitor regional air quality and implement practice to improve quality as needed (e.g., reduce transportation system energy consumption).	Evaluate project-level VMT/VHT and congestion changes to assess air quality impacts. *Congestion Management Plan Alignment*
Policy Objective: Ensure transportation system impacts do not disproportionately impact environmental justice and Title VI communities.	Evaluated at Plan level. Projects should not disproportionately impact EJ populations and services should not negatively impact Title VI communities.

OBJECTIVE	METRIC
Policy Objective: Support investments that include features to reduce the impacts of transportation improvements (e.g., stormwater/blue infrastructure).	Policy objective, no project scoring.

FREIGHT NETWORK - MOVING GOODS

Accommodate freight movement to strengthen regional economic priorities and support efficient consumer mobility and delivery.

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Improve freight reliability on the Interstate and NHS Systems to support regional and national commerce.	Project would improve freight safety or system management or Interstate system, per Federal performance measures.
Provide improvements to the truck freight system, including movement from the origin/destination in the region and/or through the region.	Project includes design features that would improve freight movement and connections to regional freight destinations. Features may include an increase in corridor load limits or alternative truck routes.
Policy Objective: Improve reliability and reduce delay for freight operations.	Policy objective, no project scoring.
Policy Objective: Delineate and maintain a regional comprehensive freight network and prioritize investments for these regional connections.	Project includes freight improvements for infrastructure identified within the regional freight corridor.

EMERGING TRANSPORTATION TRENDS

Monitor transportation trends and new technologies shown to improve the way people travel and incorporate into regional transportation plans.

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Policy Objective: Investigate technologies and strategies that need to be integrated into transportation infrastructure as part of maintenance/reconstruction activities.	Policy objective, no project scoring.
Policy Objective: Identify intelligent transportation system technologies used in other regions that would promote other regional goals.	Policy objective, no project scoring.
Policy Objective: Investigate the creation of a regional transportation management center (TMC) to review and manage regional mobility.	Policy objective, no project scoring.
Policy Objective: Coordinate emerging technologies and policies across region, supporting universal use when applicable.	Policy objective, no project scoring.
Policy Objective: Investigate the potential for new technologies and micro-mobility infrastructure in Fargo-Moorhead area.	Policy objective, no project scoring.
Policy Objective: Continue to monitor new and evolving technologies that may be implemented within the region to support mobility and safety improvements.	Policy objective, no project scoring.

TRANSPORTATION DECISIONS

Make regional transportation decisions that tie local and regional priorities together, promote fiscal responsibility, and support the movement of goods and people.

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Coordinate regional land use and transportation investment decisions.	Project reduces long-term operations and/or maintenance costs.
Policy Objective: Balance maintenance and preservation needs with expansion activities to supporting infrastructure that is right-sized within the context and future needs.	Policy objective, no project scoring.
Policy Objective: Prioritize considerations and input from Title VI and Environmental Justice communities in the decision-making process.	Policy objective, no project scoring.
Policy Objective: Balance local and regional priorities.	Policy objective, no project scoring.
Policy Objective: Promote financially sustainable transportation investments that can adapt to changes in travel patterns, modal distribution, and community growth.	Policy objective, no project scoring.
Policy Objective: Utilize a system approach for decision making that utilizes a high-level regional consideration.	Policy objective, no project scoring.
Policy Objective: Balance the distribution of investments and resources in the region that includes consideration of need-based, population/destination hubs, roadway typologies, etc.	Policy objective, no project scoring.

Connecting People & Places

Consider where people live and work, and people's relationship to the built environment in regional long-term transportation decisions.

Objectives & Prioritization Metrics

OBJECTIVE	METRIC
Create places people want to live, work, shop and recreate.	Project is consistent with or directly supports regional economic development goals.
Closely coordinate regional land use and transportation investment decisions.	Project includes improvements that support regional land use decisions.
Support the development of transit-intensive corridors that include development that encourages making trips by public transit and connections for walkers, bikers, and rollers.	Project would result in improvements that support investments in transit corridors and reduce VMT/VHT.
Support the development and investment that aligns land uses with regional roadway characteristics.	Project includes design features that align with the identified regional roadway characteristics.
Policy Objective: Coordinate the transportation and regional role of the multimodal transportation network in supporting access to a healthy lifestyle.	Policy objective, no project scoring.
Promote complete streets improvements in corridors that would see economic benefit, ensuring that land uses are accessible by multiple modes.	Project improves walking or biking conditions in a defined commercial, industrial or mixed-use development area.
Balance multimodal connections to support transit-oriented development.	Project includes bicycle and pedestrian features that improve or create connections to transit corridors and destinations.

OBJECTIVE	METRIC
Policy Objective: Utilize local land use and growth management strategies to inform maintenance, expansion, and new roadway priorities.	Policy objective, no project scoring.
Policy Objective: Promote development that provides connections and encourages multimodal trips to access destinations.	Policy objective, no project scoring.

EMERGING TRANSPORTATION TRENDS & TECHNOLOGY

Our transportation system and travel options are in a time of flux. Several emerging trends and technologies have the potential to impact how we travel. The opportunities and disruption to existing travel options presented by these new transportation approaches are anticipated to accelerate over the life of the Metro Grow plan. The plan recognizes the need to prepare for these changes, and has identified the goal to "incorporate transportation trends and new technologies in regional transportation plans". This chapter discusses how these trends and technologies could potentially impact the transportation system and wider community, and potential policies and planning activities for Metro COG and its member jurisdictions to consider.

There are generally two categories of these trends and technologies that are re-shaping our transportation options: new "shared mobility" options and emerging transportation technologies. The remainder of this chapter describes these technologies and their potential impacts.

NEW SHARED MOBILITY OPTIONS

New technologies have enabled several transportation trends to emerge that are changing how we travel. The emergence of smart phone technology has allowed some existing technologies to provide new types of flexible, on-demand shared mobility services that were not previously available. These new shared mobility options include ride-hailing services, microtransit, and micromobility services.

Ride-Hailing Services

The emergence of smart phones has allowed transportation network companies (TNCs) such as Uber or Lyft to offer private, for-profit personal transportation via ride-hailing apps. Typically these services are offered by private citizens in their own personal vehicles.

Microtransit

Microtransit includes shared transportation systems that can offer fixed routes and schedules as well as flexible routes and on-demand scheduling. Microtransit is ideally suited for paratransit and door-to-door services. Companies such as Via, Lyft, and others are private microtransit operators. MATBUS has started to offer a similar service called TapRide, that provides on-demand service during the week on the NDSU campus. TapRide can be accessed via smartphone app. According to the Denver Mobility Choice Blueprint, trials of microtransit occurred in at least 24 cities in 2018. In many microtransit deployments, public funds subsidize the use of private operators. Incorporating microtransit services into a region-wide application software tool allows for greater access by users. Investments in microtransit by a region often mirror those of ride-hailing.

Micromobility Services

Micromobility is a group of shared transportation modes, including bicycles (bike share), mopeds, and e-scooters that are paid for through an app. These transport devices can be used throughout a city/town, and are often an effective means of providing a first/last-mile function for transit lines. Great Rides Bike Share is a bike share service that operates in the region, but does not currently work via app.

Companies such as Bird, Lime, Uber and Lyft are offering traditional and electricassist bicycles and e-scooters through both docking and dockless systems. The rental of these devices occurs through a phone app. These privately-sourced services have emerged in dozens of urban areas around the country in the past two years. Hundreds of these vehicles can show up in a city, virtually overnight, and can cause some chaos along with the new mobility options they bring.

Metro COG has researched best practices and lessons learned from communities that currently have dockless bikeshare programs and e-scooters. After researching these best practices and lessons learned, Metro COG developed guidelines for local jurisdictions should dockless bikeshare programs, e-scooters, or other similar micromobility options emerge in the Fargo-Moorhead area.

Mobility-as-a-Service

Mobility-as-a-service (MaaS) is the concept of a seamless system of transportation options that a person can access and pay for on demand through use of smartphone technology. Users do not need to own a personal vehicle, or know the bus schedule to travel. They can open and app and tell it where they want to go, and the MaaS provides them a menu of modal options, travel times, and costs from which they can select. Often these apps provide a single payment account that allows a seamless transaction for both traveler and provider. The apps can offer a range of ride-hailing, microtransit, micromobility, and traditional public transit and bike sharing options. Metro COG is currently working with a major company that provides these services to share transportation data for users to access.

Transportation System Implications	
Decreased demand for traditional taxi services	Particularly in large cities, the more heavily regulated taxi industry has experienced lost ridership and revenue to ride-hailing services.
Mixed impacts to public transit ridership.	In some cities, ride-hailing services have negatively impacted transit ridership. In some situations, the micromobility services can bolster major transit lines by enhancing the first mile, last mile connections that are required. Additionally, there is some hope that partnerships that are being built between TNCs and transit agencies can work in tandem, with the ride-hailing service providing the "first mile, last mile" access to the transit stop, and the transit line providing the remainder of the trip.

Increases to overall vehicle travel.	Micromobility trips tend to be shorter, and usually just replace walking and biking trips. However, the ride-hailing services often lead to increased vehicle miles traveled (VMT) by increasing singlepassenger rides and having empty vehicles circulating in search of new passengers. This increase in VMT leads to higher congestion.
Safety concerns with some micromobility options.	Some micromobility options, such as electric scooters, have safety concerns associated with them. With speeds up to 15 miles per hour, electric scooters operating characteristics make them inappropriate for sidewalks and many trails, but not necessarily fit for all city streets. A recent study from Austin, Texas found 193 injuries on electric scooters over a three month period in 2018, approximately half of which included "severe injuries"2 . While there was no injury rate calculated with this study, the safety concerns as a part of the electric scooters is important to track as this new technology emerges.

EMERGING TECHNOLOGIES

In addition to these new trends in transportation, there are several transportation technologies that have continued to develop and have the potential to radically change how we travel and live. These technologies include: Connected and Autonomous, electric vehicles, and smart cities.

CONNECTED AND AUTONOMOUS VEHICLES

Connected vehicles are technology-enabled automobiles, trucks, and buses that can communicate with each other and infrastructure.

Automated vehicles are technology-enabled automobiles, trucks and buses where at least some vehicle movement and guidance functions are completed by the vehicle without human input.

Connected and Autonomous Vehicles (CAV), or Automated Vehicles, have received extensive attention, investment, and testing by private companies in the last few years. CAV represents a confluence of technology innovations and a collision of industries. Industries considered separate in the past – the automotive and high-tech industries – are now blurring into an overall automotive tech industry.

SMART CITIES

According to the National League of Cities, a "smart city" is one that has developed technological infrastructure that enables it to collect, aggregate, and analyze real-time data to improve the lives of its residents. In terms of transportation elements in a smart city, it might involve smart logistics and freight, vehicle fleet communications, vehicle congestion and speed sensors, smart parking, smart streetlights, and self-driving cars.

The City of Columbus, Ohio was successful in their bid for a US Department of Transportation Smart City Challenge Grant which awarded them $50 million to fund a number of projects. Columbus used a Public-Private Partnership to leverage that grant to over $500 million in funding for Smart City projects. Some of Columbus' projects include:

- **Connected Vehicle Environments,** by deploying connected vehicle safety applications on buses, first responders, and public and private fleets.
- **Multimodal Trip Planning / Common Payment System** that allows for usage across multiple transit and parking options.
- **Smart Mobility Hubs,** which enhance bus stops with kiosks that assist in travel planning and include mobility options such as bike- and car-sharing.
- **Event Parking Management** through integrating parking information from multiple providers into a single availability and reservation services application.
- **Mobility Assistance for Prenatal Health Trips and for People with Cognitive Disabilities,** combining solutions for the community's social goals with transportation solutions.
- **Connected Electric Autonomous Vehicles,** with planning to deploy a series of Level 4 autonomous vehicles pilots, which are intended to provide service like public transit for shorter trips.

AUTONOMOUS FREIGHT

CAVs are not only predicted to impact the way individuals move through cities, but this technology is expected to change the way we move goods as well. With several companies testing freight CAV pilots, many believe that these vehicles could be operating on highways and in cities within the next 5 to 10 years.

Along with CAVs, safety is touted as the main benefit of freight CAVs. An additional business advantage of autonomous freight vehicles is what is driving the development of this transportation technology: freight CAVs might eventually not require a driver. Vehicles without drivers means that the operating costs for highway freight companies could potentially be reduced and thus, the total cost of shipping goods diminishes. Freight vehicles can "platoon" with two or more trucks coordinating cooperative adaptive cruise control, which allows for fuel savings, reduced congestion as following distances between vehicles is decreased, and improved safety as the freight vehicles are able to communicate to address

potential collision risks. Lower costs could in turn induce more demand for highway freight services as shipping costs decline.

As shipping costs decline, local retail establishments may see significant additional competition as individuals might be able to purchase an item online and have it delivered within a matter of days at cost that is comparable to visiting a retail location for the same item. Thus, future transportation networks may need to account for increased freight activities on both their highways and local roads.

TRANSPORTATION TRENDS & TECHNOLOGY POLICIES TO CONSIDER

One action that the region can take right now is establishing a multi-disciplinary "Transportation Trends and Technology Working Group". Other regions have established similar working groups, as a round table of transportation, engineering, planning and technology professionals to identify opportunities to promote beneficial technologies. First steps these groups can take include:

- Following trends and pilots, recognize steps the Fargo-Moorhead area can take for adapting and getting in front of technology and trends
- Identifying partnerships and opportunities to test trends and technology
- Working with local government staff to identify policies to manage potential impacts of transportation technology

Curbside

Curbside management is a policy for regulating shared modes (for transit, delivery service, ridehailing, etc.) in public right-of-way at the curb space for an orderly and efficient use of this valuable space. Communities across the US are looking towards pick-up and drop-off management plans for companies like Uber and Lyft so that the congestion and safety issues associated with their operation can be addressed. For example, the city of San Francisco adopted a program named "Colored Curbs" that utilizes a low-cost means of allocating curb space for different uses – paint. Certain curb space in the city is designated as an exclusive zone for a certain parking purpose and monitored to ensure compliance. Programs such as this might become a priority in downtown Fargo and downtown Moorhead during the life of Metro Grow.

An additional low-cost means of developing a curbside management program is to implement a "flex zone" program that takes existing commercial loading zones and expands their use to mobility providers such as Uber and Lyft. The idea behind this concept is that the loading zones are permitted to be used for commercial deliveries at mandated times of the day and when they are not in use for this purpose, shared mobility providers are allowed access to these curb spaces for their operations.

DATA SHARING

Metro COG and its member jurisdictions should request data from new mobility providers that might begin operating in the region. As parts of agreements with micromobility and microtransit providers, many cities are requesting data sharing from the companies. This allows an understanding of how the technologies are used and allows us to better plan and manage them.

Data sharing can greatly improve the ability of cities to understand and plan for shifting travel patterns of residents, mobility providers are often reluctant to share their data. In order to engage these private firms in data sharing agreements, cities must usually offer an incentive. The types of incentives vary, with some of the more common examples being exemptions from fees or permitting process to operate within the city, or the awarding of dedicated right of way for the providers' exclusive use for their own operations.

A consideration for cities who wish to design data sharing agreements with mobility providers is to review state enabling legislation surrounding the matter. State laws regarding data sharing vary widely, with some states being much less restrictive than others. For example, the state of Iowa adopted legislation that asserts a statewide uniform code for regulating TNCs and does not allow cities to adopt any regulations inconsistent with that code. North Dakota Century Code currently requires TNCs to report where they operate, the number of crashes that occur, and number of traffic violations reported. Both Minnesota and North Dakota have laws that require insurance coverages and certain information be provided to passengers.

EQUITY CONSIDERATIONS

As these technologies evolve, the community should continue monitoring the equity implications and its impact on the mobility of all citizens. Public transportation should be maintained, and where possible these emerging transportation options should be oriented to support and benefit existing transit services and lines. As needed, the municipalities should remove barriers to these new mobility options for low-income populations so that the benefits can be equally shared.

MICROMOBILITY

Current regulatory or public policies related to shared mobility should be reviewed and updated to encourage the deployment of these technologies. Metro COG has recently worked to provide local jurisdictions guidance on best practices for these policies. Metro COG has recently worked to provide local jurisdictions guidance on best practices for these policies. Policies on the facilities where these devices can be used, what areas / neighborhoods they can and cannot be deployed and used, hours of operation, and other safety considerations should be established.

MAAS APPLICATIONS

Incorporating the range of shared mobility services into a region-wide transportation application could be a good investment for the region. The MaaS application allows users to plan and pay for trips across the metropolitan area with a

range of modal options (such as transit, bikeshare, ride hailing, micromobility, etc.).

CAV OPERATING PARAMETERS

As Level 4 and Level 5 technologies emerge, cities and regions can get ahead of the potential issues by establishing operating parameters for these technologies in our urban areas. These regulations on CAVs can preserve and develop the types of places that meet the region's livability goals. This includes issues like operating speeds, establishing right-of-way for pedestrians, permitted corridors for operations, and lane and curb management considerations. An effective approach to this is to overlay these operating parameters with our street typologies from the Fargo and West Fargo Parking and Access Study, and expanding these definitions to the remainder of our area.

2050 System Needs & Strategies

REGIONAL GROWTH

A key element of Metro Grow 2050 is looking towards the region's future to understand how growth in population and employment levels could impact the multimodal transportation system. Based on future land use plans for the communities within the Metro COG region, future household and employment levels were forecasted through the year 2050; **Table 12** summarizes the growth anticipated for the region in terms of population, households, and jobs. These growth estimates were then used as inputs to the travel demand model (TDM) to forecast future traffic operations for the Metro COG region.

As **Table 12** shows, the number of households within the region for the year 2021 totals 112,239. It is estimated that the number households within the region will grow at a rate of 0.8 percent per year, resulting in 143,179 households by the year 2050. Growth in the number of jobs is estimated to outpace growth in households, as the region is anticipated to gain over 80,600 jobs by 2050 at an annual growth rate of 1.5 percent. This marks an increase from 153,955 in 2021 to 234,618 in 2050.

Table 12. Metro COG Regional House and Employment Growth, 2021 – 2050

Metric	2021	2050	Total Growth	Annual Growth
Population	251,527	338,898	87,371	1.0%
Households	112,239	143,179	30,940	0.8%
Employment	153,955	234,618	80,663	1.5%

Figure 18 shows the anticipated growth in the region's households through 2050, while **Figure 19** presents the anticipated growth in jobs for the region during this period.

Figure 18. Metro COG Regional Growth in Households, 2021 – 2050

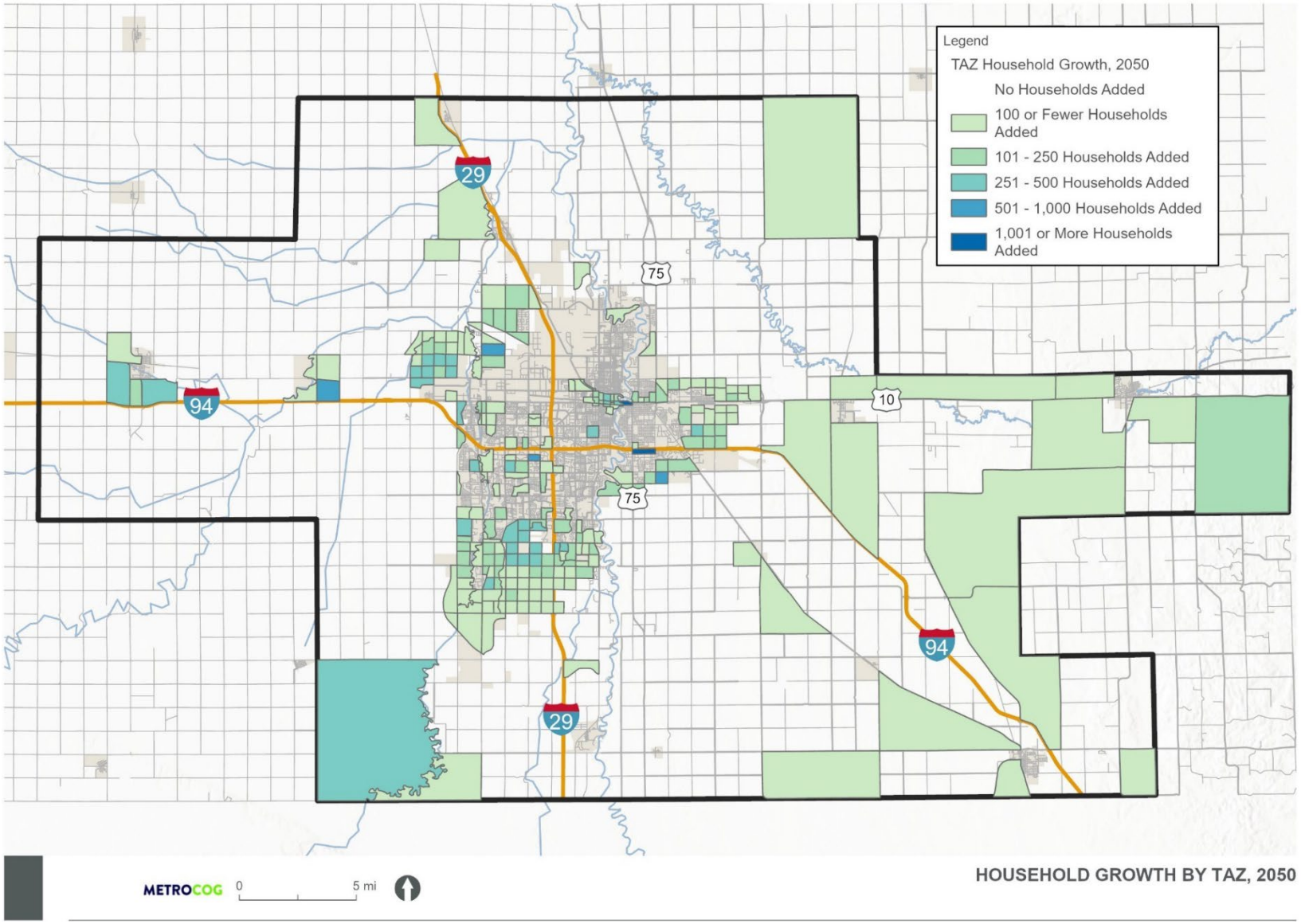
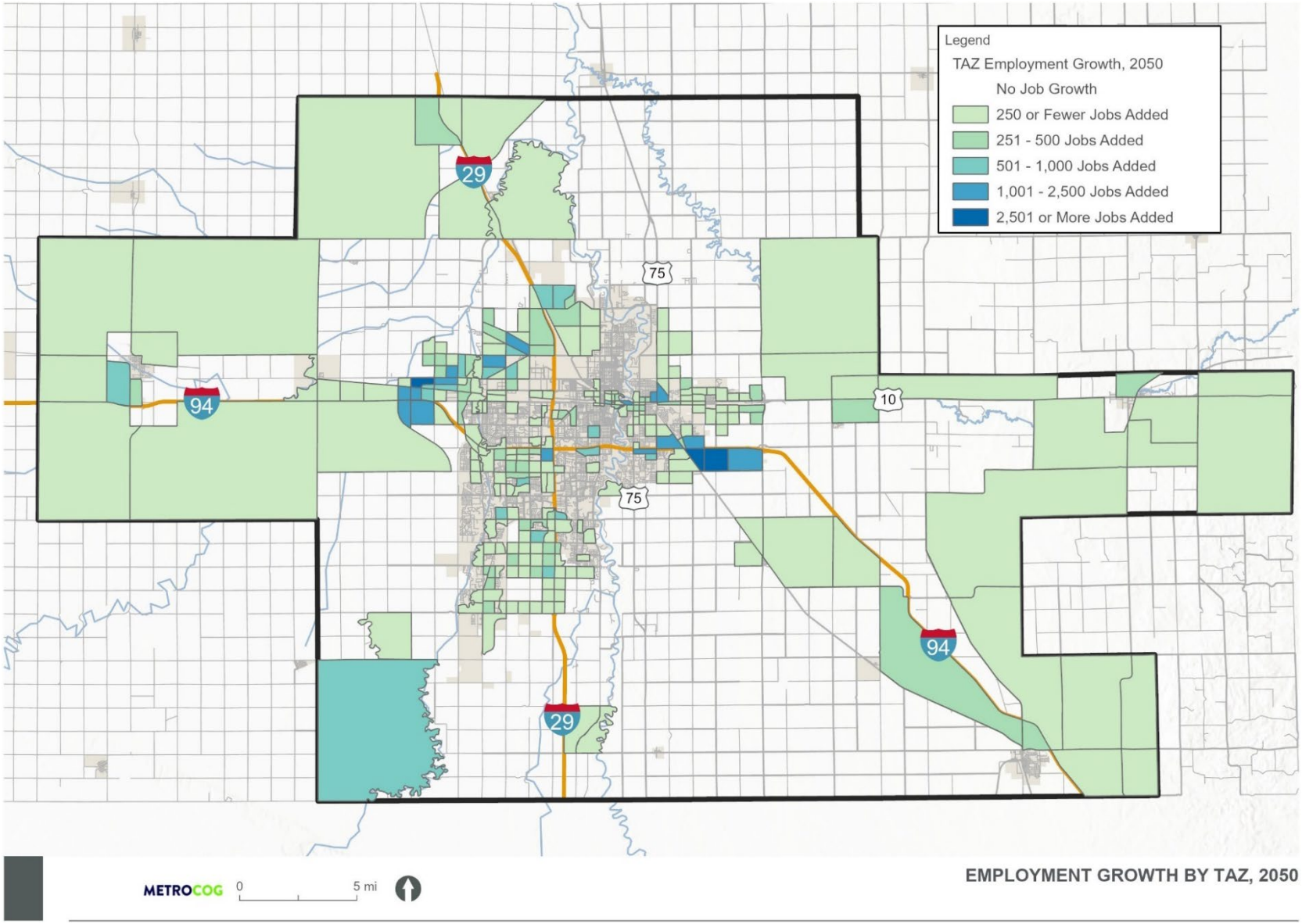


Figure 19. Metro COG Regional Growth in Employment, 2021 – 2050



TRAVEL DEMAND MODEL

Metro COG's regional TDM was updated as part of the development of Metro Grow 2050. The update to the TDM uses 2021 as a base year for forecasting future household and employment growth, and the commensurate changes in regional travel demand for the region's roadway system; given that the TDM is vehicular-based, forecasts for bicycle, walking, and transit trips are not available.

More information on the updates made to Metro COG's regional TDM is available in **Appendix C**.

2050 EXISTING PLUS COMMITTED FUTURE BASELINE SCENARIO

Future year forecasts for travel demand within the Metro COG region are based on an "existing-plus-committed" (E+C) scenario in which the roadway network has no improvements beyond those currently programmed. Through the use of the E+C scenario, it is possible to identify future roadway needs that can be implemented to support future travel demand associated with growth in the region's household and employment levels.

Programmed improvements identified in Metro COG's current 2024-2027 Transportation Improvement Program (TIP) and the current Capital Improvement Programs (CIPs) for member agencies are considered committed and were integrated into the E+C scenario roadway network.

Future Traffic Operations – E+C Future Baseline Scenario

Future year traffic volumes and operations for the E+C baseline scenario were developed for the year 2050 by incorporating the household and employment growth data shown in **Figure 18** and **Figure 19** into the TDM. **Figure 20** shows the resulting forecasted planning-level traffic operations for the region under the 2050 E+C baseline scenario while **Figure 21** shows forecasted traffic operations for the urbanized portion of the region.

Future year traffic operations estimates indicate that much of Metro COG's urban arterial network will operate at LOS C or worse by 2050 under the E+C baseline scenario. Several of the region's rural roadways are also anticipated to operate at this level of service. Urban fringe areas that are expected to see the highest levels of household and employment growth are served by corridors that are estimated to operate at LOS E or LOS F by 2050.

Figure 20. 2050 Existing plus Committed Forecasted Traffic Operations

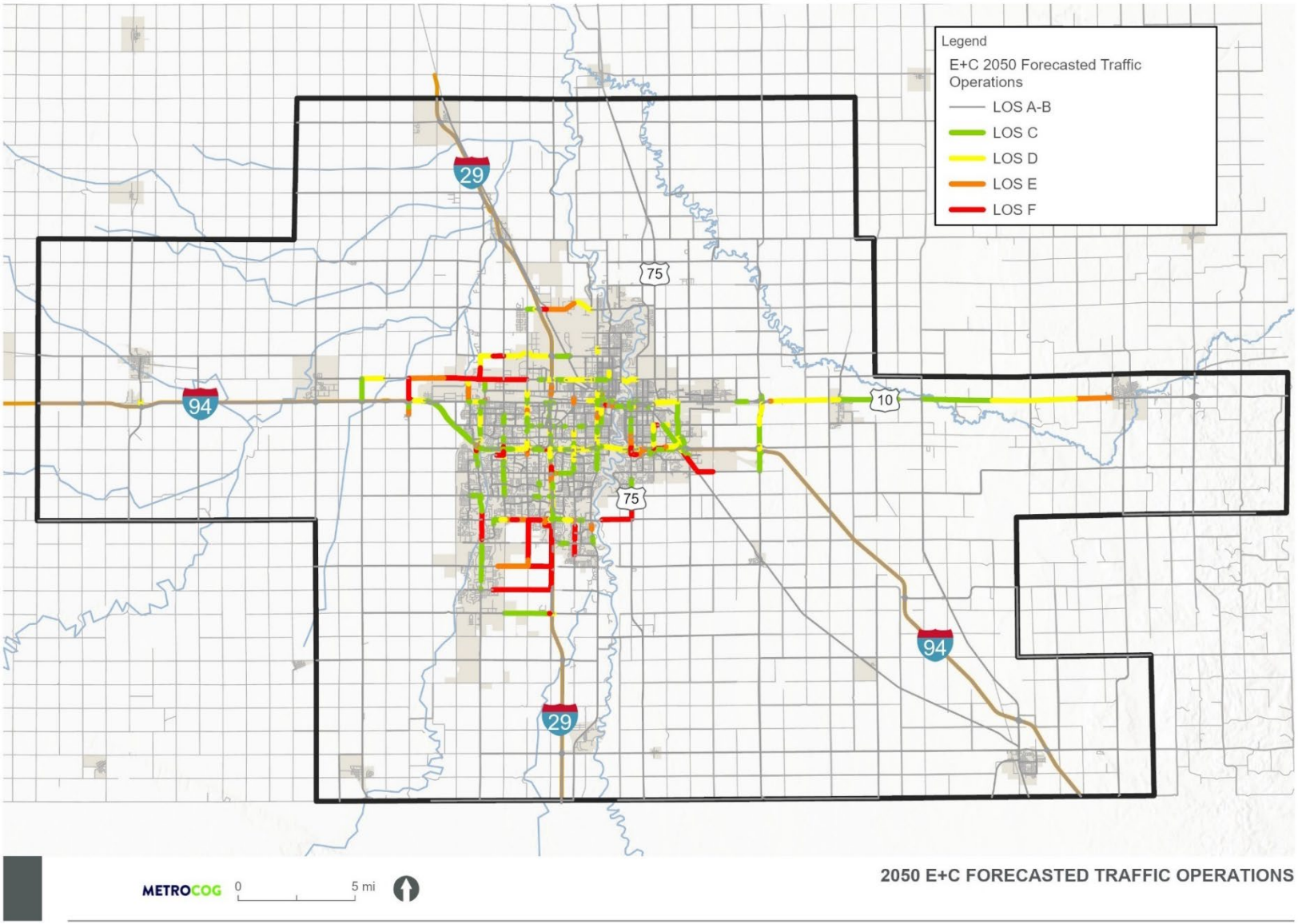
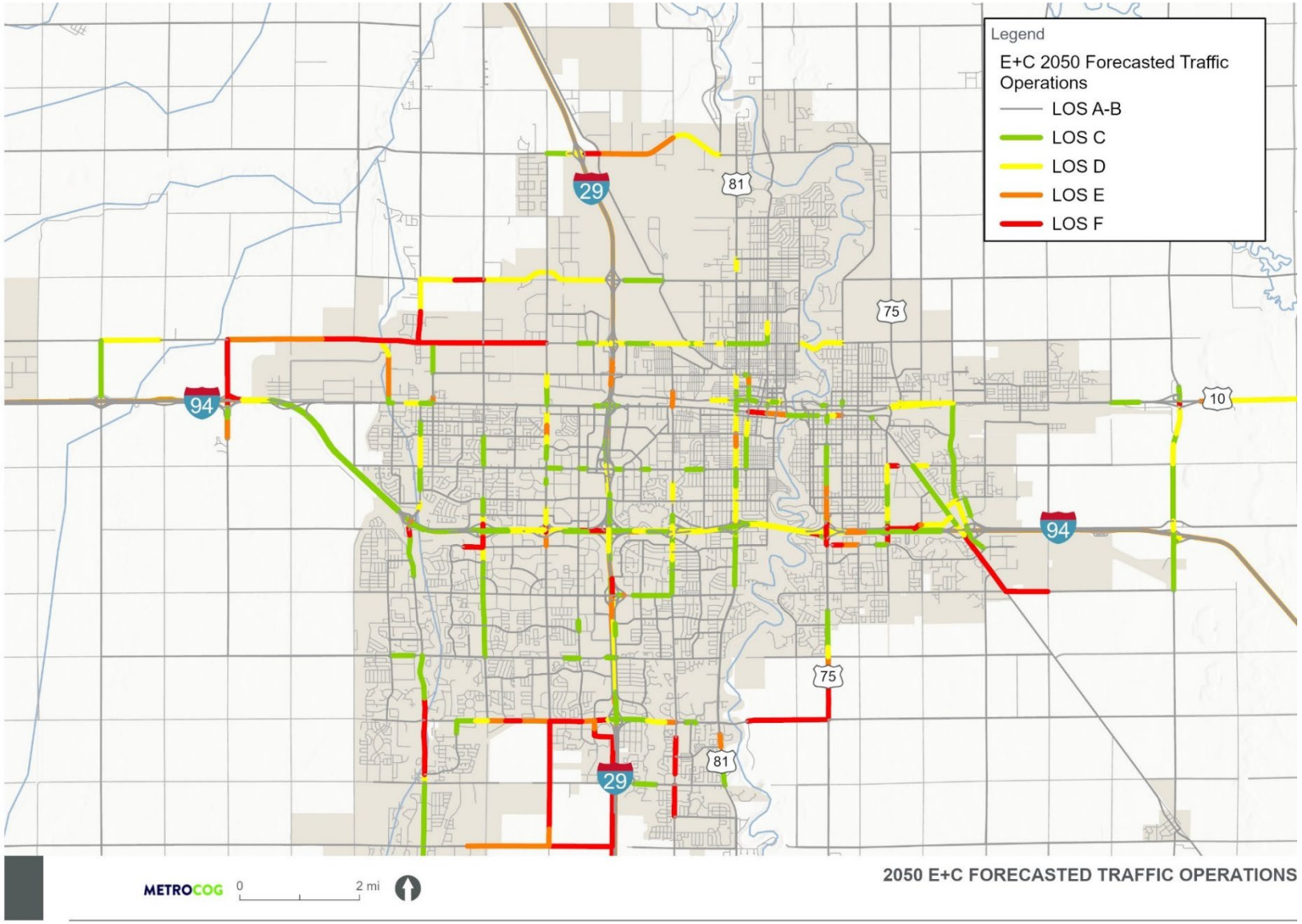


Figure 21. Figure 1: 2050 Existing plus Committed Forecasted Traffic Operations, Urbanized Area



Future System Performance – E+C Baseline Scenario

The performance of the future roadway network under the E+C baseline scenario was also analyzed from a system-wide perspective to better understand how travel demand could change between now and the year 2050. Several travel demand metrics based on the TDM results were analyzed for this purpose, including:

- **Trip Growth**: change in the number of vehicular trips made in the Metro COG region.
- **Vehicle Miles Traveled (VMT) Growth**: VMT refers to the total distance traveled by people in the Metro COG region and is calculated by multiplying total trips by each trip's length in distance.
- **Vehicle Hours Traveled (VHT) Growth**: VHT refers to the total time individuals spent traveling in their vehicles during their trips and is calculated by summing every trip's travel time in the model.
- **Average Trip Length**: average trip length is calculated by dividing VMT by total trips.
- **Average Travel Speed**: average travel speed is calculated by dividing VMT by VHT.

Table 13 summarizes the results of the above metrics for daily vehicular travel for the base year of 2021 and the future year 2050 based on the E+C baseline scenario.

Based on the 2050 E+C baseline scenario, the number of daily trips in the Metro COG region is estimated to increase by 32 percent between 2021 and 2050, which would increase daily system VMT by 66 percent and daily system VHT by 78 percent.

The key takeaway from the analysis of future conditions is that under the E+C baseline scenario, the average length of trips taken in 2050 will be longer which is an effect of the expanded urban area due to future growth. While trip lengths increase under the E+C baseline scenario, the average speeds at which these trips occur decrease due to increased levels of daily congestion across the region.

Table 13. Future System Performance – E+C Scenario

Metric	2021	2050	Percent Change
Trips	1,654,637	2,191,943	32%
VMT	5,582,420	9,279,419	66%
VHT	140,961	251,069	78%
Average Trip Length (miles)	3.4	4.2	25%
Average Travel Speed (MPH)	39.6	37.0	-7%

CONGESTION MANAGEMENT

A Congestion Management Process (CMP) is a systematic and regionally adopted approach for managing congestion that provides information on transportation system performance and assesses alternative strategies for congestion management that meet State and local needs. A CMP is required in metropolitan areas with population exceeding 200,000, known as Transportation Management Areas (TMAs). The Fargo-Moorhead Metropolitan Planning Organization (MPO) was recently designated as a TMA in 2022 although a CMP was included in the previous 2045 Metro Grow plan in anticipation of the TMA designation occurring shortly after that plan was adopted. The MPO has outlined a thoughtful and appropriate CMP for the region that considers the long-term network of CMP corridors, performance criteria, objectives that focus on congestion mitigation practices, strategies to advance projects that address current congestion or prevent future congestion, and recommendations to implement congestion mitigation projects that address current and future potential congestion issues in the MPO area.

The **Congestion Management Process** was updated during the development of the Metropolitan Transportation Plan and is appended by reference to this document. The focus areas were developed to align with the goals and direction of this plan.

CMP FOCUS AREAS AND OBJECTIVES

The CMP objectives are built with the goals of the 2050 MTP in mind, zeroing in on the principles of congestion management in the major road network. The 2050 MTP goal focus areas from which the objectives were built are safety & system security, travel efficiency & reliability, walking, biking, & rolling, transit access & reliability, maintain transportation infrastructure, community context and impact reduction, freight network - moving goods, emerging transportation trends, transportation decisions, and community connection. The resulting congestion management objectives drawn from the MTP goal focus areas are:

- Promote projects that improve safety for all users of the transportation system
- Minimize congestion by building the efficiency of the transportation system through strategic investments
- Support operational and maintenance improvements that improve multimodal network connectivity
- Improve safety and system management in corridors with reliability issues
- Encourage transportation projects that provide improved access to destinations using a variety of modes

Future Transportation System

A major purpose of the MTP process is to explore long-term regional transportation needs and identify future solutions through a fiscally constrained project list. This list aligns the project needs with the funding available to Metro COG to implement regional transportation improvements. This chapter reviews the funding allocations and priority projects explored through the MTP process. The results will be reviewed regularly as funding decisions are made within Metro COG, specifically with the annual development of the Transportation Improvement Program (TIP).

FUTURE FUNDING ALLOCATIONS

Future funding allocation forecasts are detailed within Chapter 4, identifying the forecasted federal allocations for Metro COG through 2050. Specifically, these allocations explored the three federal funding sources in use at the time of the development of this MTP. The three federal funding sources used to create the fiscal constraint include:

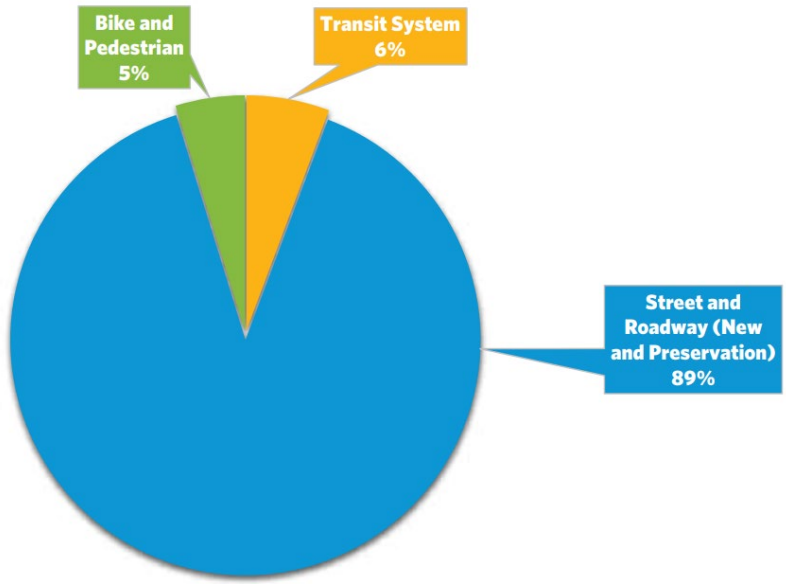
- **STBG:** Surface Transportation Block Grant
- **TA:** Transportation Alternatives
- **CRP:** Congestion Reduction Program

STBG ALLOCATION

STBG funds are a flexible funding source that is eligible to be spent on a range of transportation improvements, including roadway, bicycle and pedestrian, and transit capital. For many years, the use of STBG funds in the Metro COG region have been for mainly roadway maintenance and improvement projects. Since the adoption of the 2045 Metro Grow MTP, some STBG funding had gone towards bus purchases for MATBUS, with the allocation being split up to 94% roadway and 6% transit in some years. The use of STBG funds on the North Dakota side compared to the Minnesota side had historically differed in expansion versus preservation, respectively. However, the rate of development and the future Fargo-Moorhead Diversion have shifted focus to preservation for the entire region.

Metro Grow established an overall spending goal for the STBG allocation of 89% Street and Roadway projects, 5% Bike and Pedestrian projects, and 6% Transit capital projects. Through

the Metro 2050 process, this overall funding goal is maintained in this plan. These funding allocations will move Metro COG closer to its performance, policy, and congestion management goals by providing a more extensive, connected, and safe bicycle and pedestrian system. At the same time, it will allow the region to continue meeting its system preservation targets as demonstrated in the **System Needs and Strategies Chapter**, as the local jurisdictions have the financial resources to continue meeting the system preservation needs of the system.



TA AND CRP ALLOCATIONS

TA and CRP funds are two federal funding sources that support a combination of multimodal and safety improvement projects. Historically, allocations from both funding sources have been used to implement bicycle and pedestrian projects within the region.

Transportation Alternatives

Metro COG receives a TA allocation for both Minesota and North Dakota to support smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, safe routes to school projects, community improvements, and environmental mitigation. The funding program has been maintained through multiple federal transportation bills, and is anticipated to remain through future administrations.

Carbon Reduction Program

CRP was established in 2021 with the Infrastructure Investment and Jobs Act of 2021. Funding is allocated through both states to Metro COG to support projects designed to reduce transportation emissions. Eligible projects may include projects that provide an alternative to single-occupancy vehicle movement, or those with advanced transportation and congestion management technologies, improved efficiency of infrastructure, and deployment of alternative fuel vehicles.

METRO 2050 FUNDING ALLOCATIONS

Funding allocations were established for the MTP's 2028-2050 periods identified below. The funding levels for each

- **Short-Term:** 2028 – 2030 (beyond the current 2023-2027 TIP)
- **Mid-Term:** 2031-2040
- **Long-Term:** 2041-2050

Table 12. 2050 Funding Allocations

North Dakota Allocation				
Source	**Short**	**Mid**	**Long**	**Total**
STBG	$32,996,326	$125,777,876	$153,322,529	$312,096,731
CRP	$3,407,941	$12,452,010	$15,178,930	$31,038,881
TA	$2,765,707	$10,691,119	$13,032,415	$26,489,241
Total	$39,169,974	$148,921,005	$181,533,874	$369,624,853
Minnesota Allocation				
Source	**Short**	**Mid**	**Long**	**Total**
STBG	$3,323,283	$12,577,788	$15,332,253	$31,233,324
CRP	$387,629	$1,509,335	$1,839,870	$3,736,834
TA	$751,805	$2,830,002	$3,449,757	$7,031,564
Total	$4,462,717	$16,917,124	$20,621,880	$42,001,722

FUTURE TRANSPORTATION PLAN

The future roadway plan is a combination of STBG-Funded projects, TA-funded projects, and CRP-funded projects on Interstate and other National Highway System routes. The following pages summarize transportation investment priorities identified by member jurisdictions and the MTP process for implementation within the horizon of this plan. The identified projects were scored for their alignment with the ten transportation goals and associated objectives, as described in the **System Needs and Strategies** Chapter. This score was used as an initial screen to inform the fiscal constraint development.

FISCALLY CONSTRAINED PROJECTS

The three funding sources explored within the MTP are the primary sources of Metro COG-controlled funding for the regional transportation network. Based on the project prioritization, the highest need on Federally eligible roadway projects, and input from agency staff on project timing requirements, the fiscally constrained project plan was established. A summary of the constrained projects is provided in **100Table 13**, **Table 15**, and **Table 17** by implementation period.

RESERVE PROJECTS

Throughout the planning process, future project needs were identified beyond the funding allocations forecasted for STBG, TA, and CRP. It is also understood that transportation projects may be funded through other state or local sources within the region. To recognize these projects, a reserve project list was developed for each implementation period. The identified reserve projects are intended to highlight regional priorities that will be funded through another source or are outside of the fiscal constraint for that implementation period. Where applicable, the projects that did not fall within the fiscal constraint were considered in the next period if implementation timing was flexible.A summary of the reserve projects is provided in **Table 14**, **Table 16**, and **Table 18** by implementation period.

The Reserve Project List should be used for the following purposes:

A.	Review of transportation investment priorities throughout the region
B.	Understanding of local and state projects funded through other sources
C.	Identify projects that are STBG, TA, and CRP eligible if conditions change for projects within the fiscal constraint (e.g., a fiscally constrained project received grant funding)
D.	Review of future investment needs that may warrant further study or exploration to increase alignment with identified goals

Table 13. Short-Term (2028-2030) Transportation Projects by Funding Source

Funding Source	Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2029) Costs	Federal Funds (2029)	Weighted Score
Minnesota Projects										
CRP/TA	**303**	CSAH 9	4th Ave NW	3rd Ave NW	Bike & Ped	Dilworth/Clay County	$790,524	$961,793	$769,434	3.1
STBG	**172***	34th St	28th Ave N	3rd Ave N	Rehabilitation	Moorhead/ Dilworth	$7,098,412	$1,835,701	$1,093,040	3.2
	70	15th Ave N	7th St NE	60th St N	Reconstruction	Dilworth/Clay County	$4,333,750	$2,572,669	$2,058,135	2.3
North Dakota Projects										
CRP	**39**	25th Ave S	University Dr S	University Dr S	Bike & Ped	Fargo	$422,879	$514,497	$411,597	3.5
	40	19th Ave N	I-29	Dakota Dr	Bike & Ped	Fargo	$1,132,771	$1,813,603	$484,957	3.1
	250	Drain 27	Deer Creek Connection	76th Ave S	Bike & Ped	Horace	$1,108,751	$1,348,965	$1,079,172	2.9
	304	Red River	Main Ave	NP Avenue	Bike & Ped	Fargo		$1,790,268	$1,432,214	2.9
TA	**34**	Drain 27	52nd Ave S	59th Ave S	Bike & Ped	Fargo	$792,366	$964,035	$771,228	3.0
	87	Wall Ave/88th Ave S	CR 17	57th St	Bike & Ped	Horace	$821,398	$999,357	$799,485	3.0
	83	CR 17	64th Ave S	76th Ave S	Bike & Ped	Horace	$821,997	$1,000,085	$800,068	2.9
	84	Main St/CR 17	Wall Ave/88th Ave S	Park Dr	Bike & Ped	Horace	$210,032	$255,536	$204,429	2.8

Funding Source	Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2029) Costs	Federal Funds (2029)	Weighted Score
STBG	**18***	1st Ave N	3rd St N	Roberts St N	Reconstruction	Fargo	$1,817,899	$9,502,531	$5,613,716	3.5
	19*	1st Ave N	Roberts St N	10th St N	Reconstruction	Fargo	$2,223,546	$6,829,944	$5,080,178	3.5
	63	9th St E	Main Ave	7th Ave E	Reconstruction	West Fargo	$3,258,841	$3,171,903	$3,171,903	3.5
	95	7th Ave N	25th St N	I-29	Rehabilitation	Fargo	$1,699,319	$2,067,482	$1,653,985	3.4
STBG	**17**	7th Ave N	University Dr	25th St N	Rehabilitation	Fargo	$1,768,351	$2,151,470	$1,721,176	3.2
	50	52nd Ave S	27th St S	27th St S	Safety	Fargo	$1,110,000	$1,350,485	$1,080,388	2.5
	79	64th Ave S	66th St S	57th St S	Reconstruction	Horace	$4,093,477	$4,980,340	$3,984,272	2.0
	21	17th Ave S	35th St S	25th St S	Reconstruction	Fargo	$5,417,845	$6,591,637	$5,273,310	3.4
	20	17th Ave S	42nd St S	38th St S	Reconstruction	Fargo	$2,199,479	$2,676,002	$2,140,802	3.1
Total								**$53,378,301**	**$39,623,489**	**--**
Minnesota								**$5,370,163**	**$3,920,609**	**--**
North Dakota								**$48,008,139**	**$35,702,880**	**--**

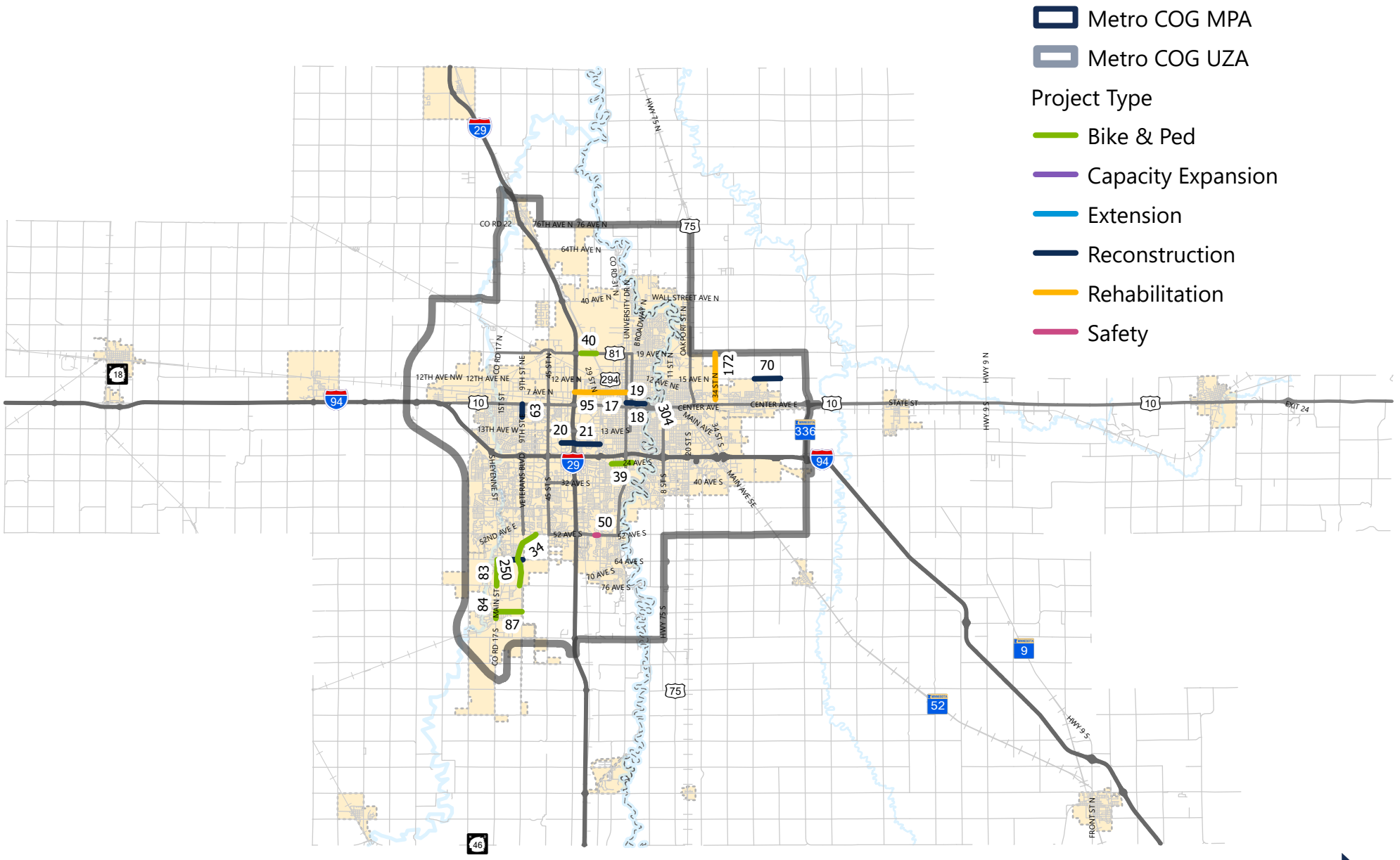
**Programmed for 2028 in the 2025-2028 Draft TIP*

Table 14. Short-Term (2028-2030) Reserve Transportation Projects

Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2029) Costs	Federal Funds (2029)	Weighted Score
Minnesota Projects									
72	US 10/Center Ave	34th St	14th St	Bike & Ped	MnDOT	$-	$-	$-	3.7
300	Main Avenue/Hwy 75			Reconstruction	MnDOT	$-	$-	$-	3.7
210	US 10	13th St	34th St	Reconstruction	MnDOT	$-	$-	$-	3.6
214	US 10	34th St	7th St	Reconstruction	MnDOT	$-	$-	$-	3.6
170	1st Ave N	Red River Bridge	Center Ave	Reconstruction	Moorhead	$10,824,262	$5,982,920	$4,786,336	3.5
53	Center Ave	8th St N	26th St N	Bike & Ped	MnDOT	$-	$-	$-	3.4
244	34th St S			Reconstruction	Moorhead		$5,202,878	$4,162,302	3.4
301	Bluestem Moorhead	Bluestem	40th Ave s	Bike & Ped	Moorhead/Fargo		$6,083,295	$4,866,636	3.4
173	US 10	10th St Hawley	34th St (Dilworth)	Reconstruction	MnDOT	$-	$-	$-	2.9
158	17th St N	15th Ave N	1st Ave N	Rehabilitation	Moorhead	$317,117	$1,035,301	$828,241	2.9
117	40th St N/CSAH 9	28th Ave N	Hwy 10	Rehabilitation	Dilworth/Clay County	$1,202,994	$1,463,626	$1,170,900	2.9
105	15th Ave N	34th St N	7th St NE	Reconstruction	Dilworth	$6,544,432	$7,962,302	$6,369,842	2.7
215	I-94	MN 336	CSAH 10	Rehabilitation	MnDOT	$-	$-	$-	2.4
211	MN 9	Hwy 210	6th St W Barnesville	Rehabilitation	MnDOT	$-	$-	$-	2.2
106	15th Ave N	60th St N	MN 336	Reconstruction	Dilworth	$4,178,213	$5,083,436	$4,066,748	2.0
212	MN 9	I-94	I-94	Rehabilitation	MnDOT	$-	$-	$-	1.9
213	MN 34	I-94	I-94	Rehabilitation	MnDOT	$-	$-	$-	1.9

Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2029) Costs	Federal Funds (2029)	Weighted Score
235	12th Ave S	14th St SE	MN 336	Extension	Dilworth/ Moorhead	$8,244,350	$10,030,512	$8,024,410	1.8
177	Main St N	4th Ave NE	15th Ave NE	Extension	Dilworth	$2,834,632	$3,448,763	$2,759,011	1.6
North Dakota Projects									
26	University Dr S	University Dr S	University Dr S	Bike & Ped	Fargo	$-	$-	$-	3.5
2	Main Ave	I-29	Dakota Dr	Bike & Ped	Fargo	$-	$-	$-	3.1
1	Main Ave	Deer Creek Connection	76th Ave S	Bike & Ped	Horace	$-	$-	$-	2.9
4	Broadway Dr	Main Ave	NP Avenue	Bike & Ped	Fargo	$3,220,805	$3,918,602	$3,134,881	2.9
185	ND 46	13th Ave S	18th Ave S	Reconstruction	NDDOT	$-	$-	$-	3.4
226	I-94	I-29	45th St	Rehabilitation	NDDOT	$-	$-	$-	3.3
220	I-29	25th St	I-29	Rehabilitation	NDDOT	$-	$-	$-	3.2
79	64th Ave S	Main Ave	7th Ave N	Rehabilitation	Fargo	$4,093,477	$4,980,340	$3,984,272	3.2
75	Wall Ave/88th Ave S	163rd Ave SE	CR 81	Bike & Ped	NDDOT	$5,215,483	$6,345,432	$5,076,346	3.0
94	40th Ave S	38th St NW	13th Ave W	Rehabilitation	NDDOT	$1,809,550	$2,201,594	$1,761,275	2.4
221	40th Ave N	I-94	52nd Ave S	Capacity Expansion	NDDOT	$-	$-	$-	2.2
209	Main Ave W	Armour Park	Armour Park	Reconstruction	Horace	$2,107,333	$2,563,893	$2,051,115	2.0
241	13th Ave E	Prairie Pkwy	15th St	Capacity Expansion	Horace	$6,661,229	$7,316,325	$5,853,060	1.4
Total							**$73,619,219**	**$58,895,375**	**--**
Minnesota							**$46,293,033**	**$37,034,426**	**--**
North Dakota							**$27,326,186**	**$21,860,949**	**--**

Short-Term (2028-2030) Constrained Project List



Short-Term (2028-2030) Reserve Project List

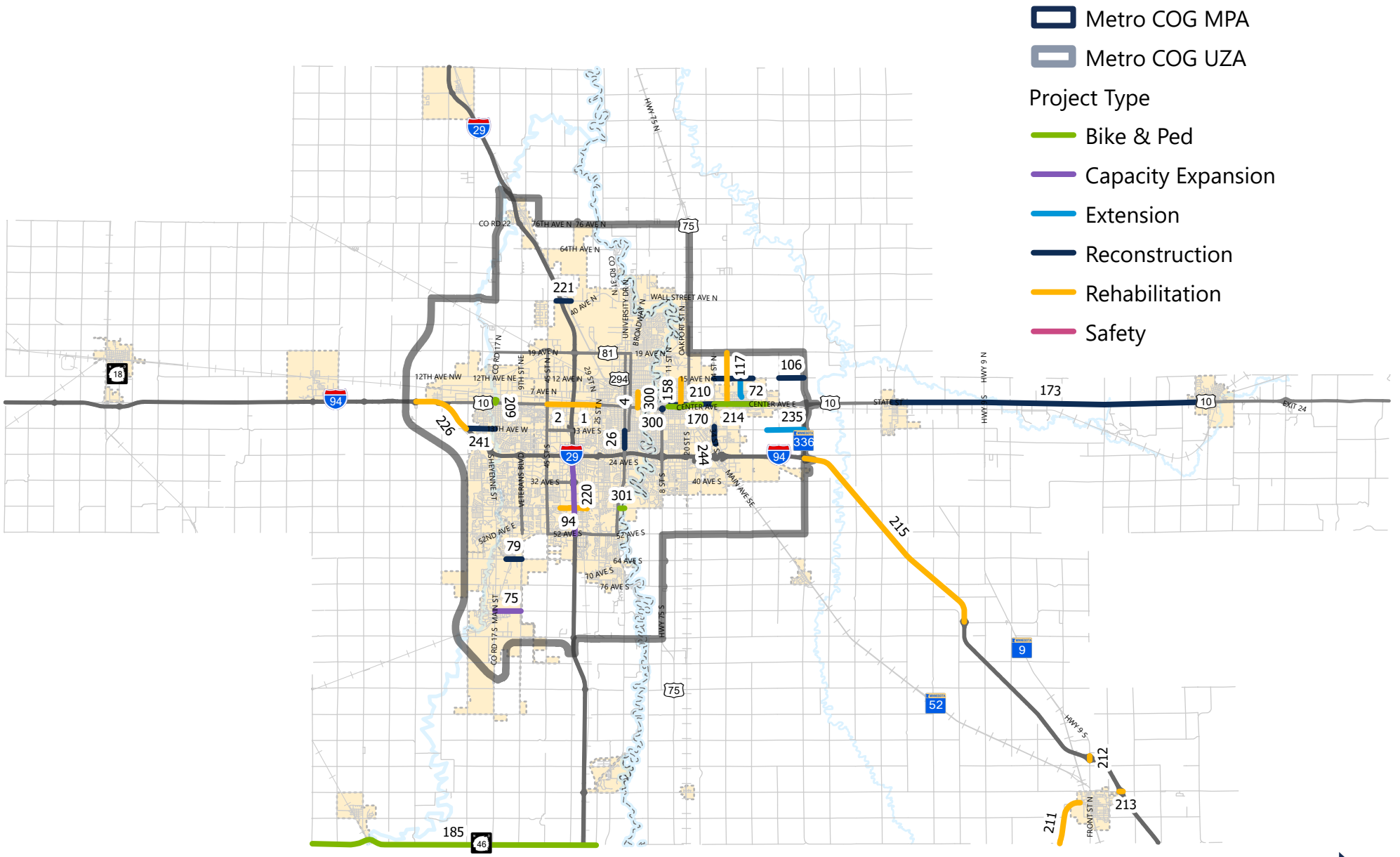


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Table 15. Mid-Term (2031-2040) Transportation Projects by Funding Source

Funding Source	Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2036) Costs	Federal Funds (2036)	Weighted Score
Minnesota Projects										
CRP/TA	**196**	11th St N	15th Ave N	28th Ave N	Bike & Ped	Moorhead	$820,617	$1,313,834	$1,051,067	3.2
	192	SE Main Ave	27th Ave S	Village Green Dr	Bike & Ped	Moorhead	$379,006	$898,214	$718,571	3.2
	193	12th Ave S	34th St S	34th St S	Bike & Ped	Moorhead	$2,030,791	$3,251,362	$2,601,089	3.1
STBG	**202**	14th St S	35th Ave S	40th Ave S	Reconstruction/ Bike & Ped	Moorhead	$1,360,362.18	$3,869,859	$3,095,887	3.7
	167	12th Ave S	40th St S	Appletree Ln	Reconstruction	Moorhead	$5,423,197	$9,419,693	$7,535,754	3.0
	183	11th St S	9th Ave S	12th Ave S	Reconstruction	Moorhead	$1,139,911	$1,825,034	$1,460,027	2.7
	207	24th Ave S	20th St S	8th St S	Rehabilitation	Moorhead	$310,070	$496,433	$397,146	2.6
	163	24th Ave S	Rivershore Dr	8th St S	Rehabilitation	Moorhead	$69,465	$111,216	$88,973	2.5
North Dakota Projects										
CRP	**186**	13th Ave S	21St St S	4th St S	Bike & Ped	Fargo	$719,394	$875,252	$921,418	3.7
	187	Broadway	7th Ave N	32nd Ave N	Bike & Ped	Fargo	$2,461,845	$3,941,494	$3,153,195	3.6
	69	Center St	Main Ave	12th Ave	Bike & Ped	West Fargo	$785,471	$1,257,564	$1,006,051	3.3
	66	Sheyenne St	40th Ave W	52nd Ave W	Bike & Ped	West Fargo	$838,459	$1,342,401	$1,073,920	3.2
	68	52nd Ave W	Sheyenne St	9th St W	Bike & Ped	West Fargo	$498,249	$606,196	$638,170	3.1
TA	**250**	Drain 27	Deer Creek Connection	76th Ave S	Bike & Ped	Horace	$1,108,751	$1,775,146	$1,420,117	2.9
	36	Drain 53	Prairie Farms Add.	Near 57th Ave S	Bike & Ped	Fargo	$3,046,511.04	$3,994,158	$3,195,326	2.9
	35	Drain 27	63rd St S	Drain 27	Bike & Ped	Fargo	$393,072	$629,321	$503,457	2.8
	37	Drain 53	64th Ave S	73rd Ave S	Bike & Ped	Fargo	$670,511	$1,073,510	$858,808	2.8

Funding Source	Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2036) Costs	Federal Funds (2036)	Weighted Score
	82	Drain 53	52nd Ave S	64th Ave S	Bike & Ped	Horace	$534,384	$855,565	$684,452	3.0
	85	CR 17	Park Dr	100th Ave S	Bike & Ped	Horace	$392,925	$629,085	$503,268	2.9
	86	52nd Ave S	CR 17	9th St W	Bike & Ped	Horace	$490,191	$784,811	$627,849	2.9
	80	Drain 27	64th Ave S	100th Ave S	Bike & Ped	Horace	$1,076,761	$1,723,929	$1,379,144	2.8
	81	Red River Valley & Western RR	Wall Ave/88th Ave S	Red River Diversion	Bike & Ped	Horace	$1,602,369	$2,565,444	$2,052,355	2.8
STBG	**119**	42 St S	2 Ave S	30 Ave S	Rehabilitation	Fargo	$14,826,979	$16,377,416	$13,101,933	3.4
	20	17th Ave S	42nd St S	38th St S	Reconstruction	Fargo	$2,199,479	$3,521,436	$2,817,149	3.1
	59	Center St	7th Ave NW	12th Ave NW	Reconstruction	West Fargo	$3,367,830	$5,392,005	$4,313,604	2.9
	51	45th St S	I-94	I-94	Capacity Expansion	Fargo	$693,917	$1,752,275	$1,401,820	2.8
	58	Sheyenne St	40th Ave W	52nd Ave W	Reconstruction	West Fargo	$6,265,321	$10,030,981	$8,024,785	2.8
	248	76th Ave S	25th St S	Orchard Park Dr	Reconstruction	Fargo	$6,599,226	$10,565,573	$8,452,459	2.7
	28	Veterans Blvd	I-94	32nd Ave S	Capacity Expansion	Fargo/West Fargo	$9,534,338	$15,264,782	$12,211,825	2.6
	107	CR 17/Main St	52nd Ave S	64th Ave S	Reconstruction	Horace	$5,022,128	$8,040,589	$6,432,471	2.5
	171	15th St W	I-94	32nd Ave W	Reconstruction	West Fargo	$8,475,511	$13,569,566	$10,855,653	2.5
	176	52nd Ave S	Sheyenne St	9th St W	Reconstruction	West Fargo/Horace	$3,661,228	$4,454,443	$4,689,394	2.4
	122	Co Rd 17 N	RR	12th Ave NW	Rehabilitation	West Fargo	$2,151,656	$3,444,870	$2,755,896	2.4
	103	12th Ave NW	38th St NW	166th Ave SE	Reconstruction	West Fargo	$4,349,390	$6,963,514	$5,570,811	2.3
	251	64th Ave S	CR 17	81st St S	Reconstruction	Horace	$5,596,828	$8,960,702	$7,168,561	2.2

Funding Source	Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2036) Costs	Federal Funds (2036)	Weighted Score
STBG	**61**	CR 17	19th Ave NW	32nd Ave NW	Reconstruction	West Fargo	$4,496,781	$7,199,491	$5,759,593	2.1
	102	12th Ave NW	166th Ave SE	165th Ave SE/Raymond Interchange	Reconstruction	West Fargo	$4,332,203	$6,935,997	$5,548,798	2.1
	94	40th Ave S	42nd St S	32nd St S	Rehabilitation	Fargo	$1,809,550	$2,897,147	$2,317,717	3.1
	247	76th Ave S	I-29	25th St S	Extension	Fargo	$5,692,745	$9,114,269	$7,291,415	2.0
	99	CR 17	32nd Ave NW	40th Ave NW	Reconstruction	West Fargo	$4,190,237	$6,708,704	$5,366,964	2.0
	238	38th St W	I-94	48th St SE	Reconstruction	Cass County	$2,328,321	$3,727,717	$2,982,174	2.0
	96	26th St W	19th Ave NW	Sheyenne Diversion	Capacity Expansion	West Fargo	$7,284,072	$11,662,034	$9,329,627	1.9
	305	15th St W			Extension	West Fargo	$794,732	$1,272,391	$1,017,913	1.8
Total								**$205,208,581**	**$163,720,988**	**--**
Minnesota								**$21,185,644**	**$15,002,369**	**--**
North Dakota								**$184,022,937**	**$148,718,619**	**--**

Table 16. Mid-Term (2031-2040) Reserve Transportation Projects

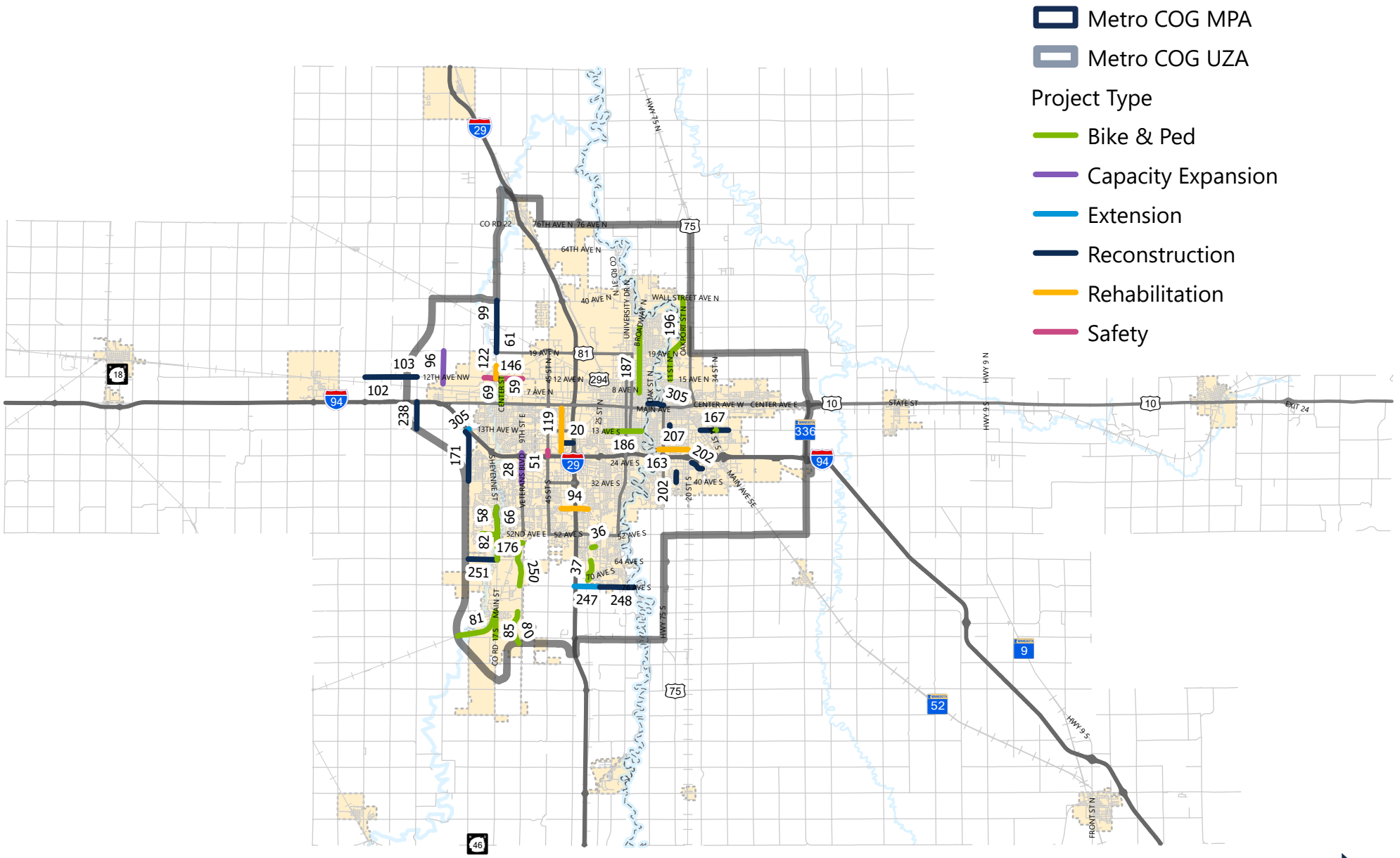
Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2036) Costs	Federal Funds (2036)	Weighted Score
Minnesota Projects									
179	US 75	50th Ave S	50th Ave S	Reconstruction	MnDOT	$-	$-	$-	3.7
216	I-94	MN 336	Red River	Reconstruction	MnDOT	$-	$-	$-	3.0
105	15th Ave N	34th St N	7th St NE	Reconstruction	Dilworth	$6,544,432	$10,477,847	$8,382,277	2.7
302	34th St N	8th St	8th St	Safety & CMP	Dilworth/Moorhead	$215,872	$345,617	$276,494	2.6
118	14th St S	Main Ave	9th Ave S	Rehabilitation	Moorhead	$3,108,844	$4,977,359	$3,981,887	2.5
229	I-94	Red River	Red River	Reconstruction	NDDOT/MnDOT	$-	$-	$-	2.5
218	US 10	Dilworth	Glyndon	Rehabilitation	MnDOT	$-	$-	$-	2.3
234	Main St S	2nd Ave SE	County Road 78	Reconstruction	Dilworth	$994,338	$1,591,967	$1,273,573	2.2
106	15th Ave N	60th St N	MN 336	Reconstruction	Dilworth	$4,178,213	$6,689,454	$5,351,563	2.0
219	US 10	CSAH 31 Hawley	CSAH 5 Lake Park	Rehabilitation	MnDOT	$-	$-	$-	2.0
156	8th Ave NE	15th St NW	7th St NE	Extension	Dilworth	$7,664,554	$12,271,198	$9,816,959	2.0
203	28th St S	Village Green Blvd	40th Ave S	Rehabilitation	Moorhead	$164,981	$264,140	$211,312	1.9
217	US 10	Buffalo River	Buffalo River Hawley	Reconstruction	MnDOT	$-	$-	$-	1.9
235	12th Ave S	14th St SE	MN 336	Extension	Dilworth/Moorhead	$8,244,350	$13,199,470	$10,559,576	1.8
237	14th St SE	I-94	I-94	Extension	MnDOT	$-	$-	$-	1.7
236	NE Ring Route	NE Ring Route	NE Ring Route	Capacity Expansion	Various	$32,369,257	$51,824,224	$41,459,379	1.7
177	Main St N	4th Ave NE	15th Ave NE	Extension	Dilworth	$2,834,632	$4,538,337	$3,630,670	1.6
116	70th Ave N	1st Ave N	Hwy 75	Rehabilitation	Clay County	$7,038,863	$11,269,447	$9,015,557	1.6
175	14th St NE	15th Ave N	8th Ave N	Extension	Dilworth	$2,334,211	$3,737,147	$2,989,718	1.5

Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2036) Costs	Federal Funds (2036)	Weighted Score
North Dakota Projects									
23	10th St N	NP Ave	4th Ave N	Reconstruction	Fargo	$4,385,617	$7,021,515	$5,617,212	3.8
25	University Dr N	1st Ave N	12th Ave N	Reconstruction	NDDOT	$4,093,934	$-	$-	3.7
9	University Dr S	I-94	32nd Ave S	Rehabilitation	NDDOT	$4,308,029	$-	$-	3.6
24	University Dr N	12th Ave N	19th Ave N	Reconstruction	NDDOT	$4,525,935	$-	$-	3.4
223	I-29	13th Ave S	I-94	Reconstruction	NDDOT	$-	$-	$-	3.3
230	I-29	40th Ave S	124th Ave S	Reconstruction	NDDOT	$-	$-	$-	3.3
27	19th Ave N	Dakota Dr	18th St N	Reconstruction	NDDOT	$4,134,075	$6,618,787	$5,295,029	3.3
3	52nd Ave S	I-29	University Dr	Rehabilitation	Fargo	$5,172,163	$8,280,799	$6,624,640	3.1
64	9th St E	14th Ave E	I-94	Reconstruction	West Fargo	$5,519,338	$8,836,638	$7,069,310	3.1
228	I-94	I-29	Red River	Rehabilitation	NDDOT	$-	$-	$-	3.1
93	University Dr S	32nd Ave S	40th Ave S	Rehabilitation	NDDOT	$3,025,209		$-	3.0
225	I-29	I-94	I-94	Reconstruction	NDDOT	$-	$-	$-	3.0
7	University Dr N	19th Ave N	32nd Ave N	Rehabilitation	NDDOT	$2,909,545	$-	$-	3.0
227	I-94	Sheyenne Street	I-29	Rehabilitation	NDDOT	$-	$-	$-	2.9
229	I-94	Red River	Red River	Reconstruction	NDDOT/MnDOT	$-	$-	$-	2.8
222	I-94	I-29	Red River	Capacity Expansion	NDDOT	$-	$-	$-	2.2
243	I-94	Sheyenne Street	I-29	Capacity Expansion	NDDOT	$-	$-	$-	2.2

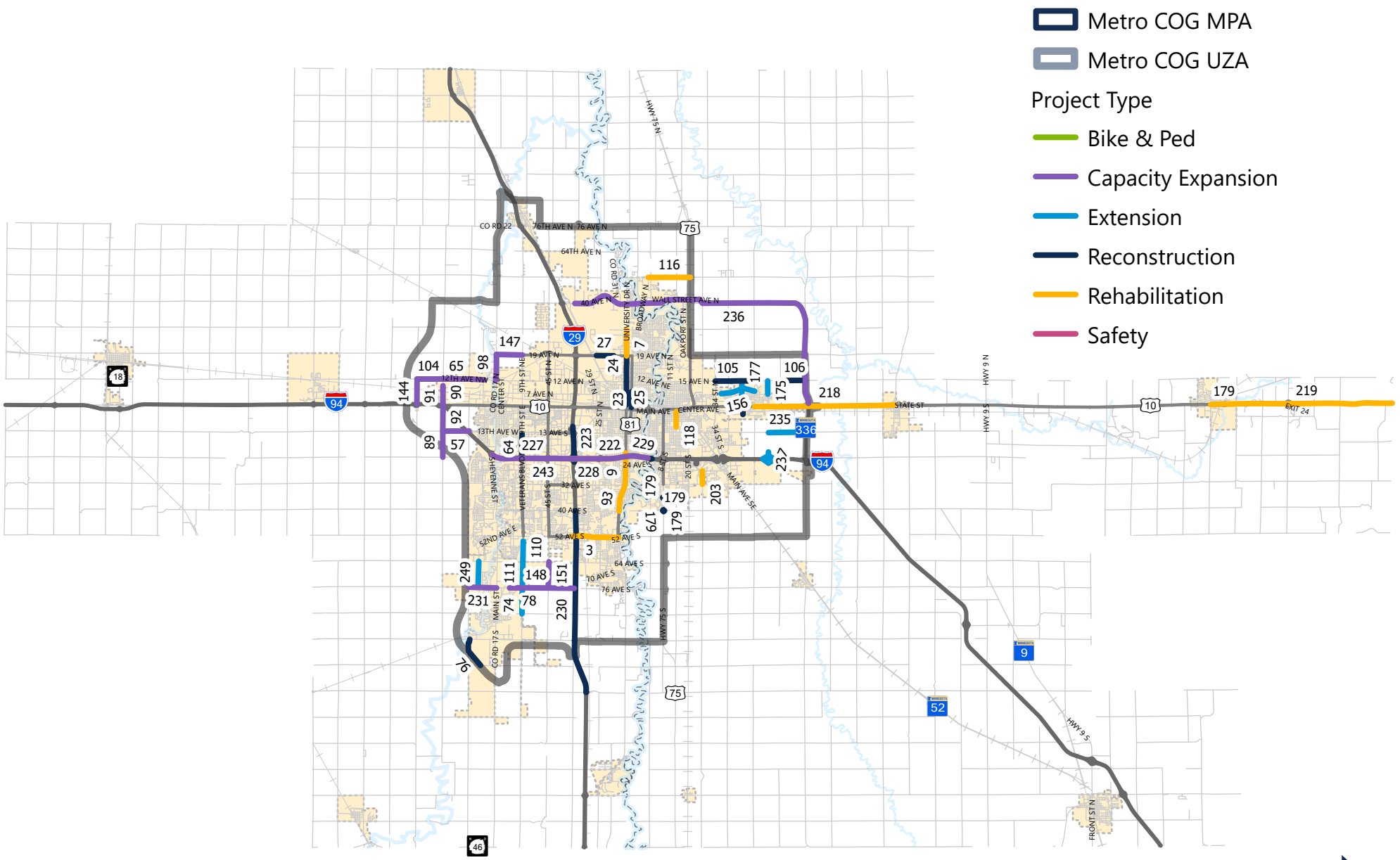
Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2036) Costs	Federal Funds (2036)	Weighted Score
76	81st St S	CR 14	112th Ave S	Reconstruction	Horace	$6,178,992	$9,892,765	$7,914,212	1.9
65	12th Ave NW	9th St NW	26th St NW	Capacity Expansion	West Fargo	$7,957,673	$12,740,492	$10,192,393	1.8
98	CR 17	32nd Ave NW	40th Ave NW	Capacity Expansion	West Fargo	$4,190,237	$5,876,896	$4,701,517	1.7
148	76th Ave S	Veterans Blvd	38th St S	Capacity Expansion	Fargo	$7,271,903	$11,642,550	$9,314,040	1.7
104	12th Ave NW	26th St NW	38th St NW	Capacity Expansion	West Fargo	$5,021,035	$8,038,839	$6,431,071	1.7
110	Veterans Blvd	53rd Ave S	64th Ave S	Extension	Horace/Fargo	$3,664,691	$5,867,289	$4,693,831	1.6
144	38th St NW	I-94	12th Ave NW	Capacity Expansion	West Fargo	$5,888,513	$9,427,699	$7,542,159	1.6
91	26th St W	8th Ave NW/Sheyenne Diversion	Main Ave Service Dr	Capacity Expansion	West Fargo	$3,590,526	$5,748,548	$4,598,839	1.6
89	26th St W	Main Ave W	21st Ave W	Capacity Expansion	West Fargo	$10,198,614	$16,328,310	$13,062,648	1.6
92	26th St W	Main Ave Service Dr	Main Ave W	Capacity Expansion	West Fargo/NDDOT	$40,500,000	$-	$-	1.6
147	19th Ave N	CR 17	57th St N	Capacity Expansion	West Fargo	$5,035,114	$8,061,379	$6,449,103	1.6
57	13th Ave W	I-94	I-94	Capacity Expansion	West Fargo/NDDOT	$-	$-	$-	1.5
74	Veterans Blvd	76th Ave S	88th Ave S	Extension	Horace/Fargo	$4,578,411	$7,330,183	$5,864,146	1.5
111	Veterans Blvd	64th Ave S	76th Ave S	Extension	Horace/Fargo	$4,561,914	$7,303,772	$5,843,017	1.5
249	78th St S	64th Ave S	76th Ave S	Extension	Horace	$5,778,278	$9,251,209	$7,400,967	1.4

Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Short Term (2036) Costs	Federal Funds (2036)	Weighted Score
231	76th Ave S	81st St S	CR 17	Capacity Expansion	Horace	$3,973,257	$6,361,313	$5,089,050	1.3
78	76th Ave S	CR 17	57th St S	Capacity Expansion	Horace	$1,783,272	$2,855,076	$2,284,061	1.3
151	45th St S	64th Ave S	76th Ave S	Capacity Expansion	Fargo	$4,204,867	$6,732,128	$5,385,702	1.3
90	26th St W	Sheyenne Diversion	Sheyenne Diversion	Capacity Expansion	West Fargo	$454,314	$727,372	$581,898	1.2
Total							**$281,665,245**	**$225,332,196**	**--**
Minnesota							**117,449,060**	**$93,959,248**	**--**
North Dakota							**$164,216,185**	**131,372,948**	**--**

Mid-Term (2031-2040) Constrained Project list



Mid-Term (2031-2040) Reserve Project list



COMPARISON OF PROJECT COSTS TO ALLOCATED FUNDING

This section provides an analysis and summary of the project costs and funding levels (documented in **Table 13** through **Table 18**. **Table 19** provides a summary of the costs from the projects, the federal funding levels, and the balance for each state by period. As noted in **Table 19**, there may be a combination of STBG, TA, or CRP funding carried over from one period to another. This carryover is intended to provide two purposes, provide for flexibility in the TIP programming process as funding stacks are defined for project implementation. It also provides opportunities for revision with reserve projects as needed with changing priorities and conditions. A future MTP amendment may be required to include any new future projects.

Table 19. Federal Fund Balances by Period

	Minnesota	North Dakota
Short Term (2028-2030) Federal Forecast	$4,462,717	$39,169,974
Short Term Costs	$3,920,609	$35,702,880
Short Term Carry Over to Next Period	$542,108	$3,467,094
Mid Term (2031-2040) Federal Forecast	$16,917,124	$148,921,005
Mid Term Costs	$15,002,369	$148,718,619
Mid Term Carry Over to Next Period	$1,914,755	$202,386
Long-Term (2041-2050) Federal Forecast	$20,621,880	$181,533,874
Long-Term Costs	$17,013,898	$176,516,603
Long-Term Balance	$3,607,982	$5,017,271

FUTURE TRANSIT SYSTEM PRIORITIES

Transit operations and capital support are investments that are eligible under certain funding sources. For example, MATBUS receives FTA allocations specifically for transit investments each year. Continued operations and capital support for the transit system are expected to come from two different funding sources:

- FTA funding sources discussed in the **System Needs and Strategies** chapter for both operations and capital expenditures of the MATBUS system.
- STBG dedicated transit funding, including the potential for future flex spending to support capital costs.

These funding sources can be applied towards maintaining the current system to support transit asset management and support of the Congest Management Process.

MATBUS maintains a list of operational and capital investments forecasted for implementation on an annual basis. These investments include bus replacements, transit shelter improvements, and other investments to support transit priorities identified in **Table 20**. These strategies are also integrated within the regional Transit Development Plan that is updated on a 5-year cycle. Additionally, these strategies should be considered in the implementation of other transportation investments. For example, roadway projects along an existing fixed route line should explore opportunities to enhance access to transit supported infrastructure.

Table 20. Transit Strategies

Potential Transit Strategy	Metro 2050 Objective
Maintaining an effective transit fleet	Support the maintenance of efficient transit infrastructure.
Upgrades to existing bus garage to facilitate fleet expansion	Support the maintenance of efficient transit infrastructure.
Development of transit hubs	Support transit connections to other regional centers.
Bus safety enhancement	Support the maintenance of efficient transit infrastructure.
Micro transit considerations/features	Promote right-sized transit services to increase transit access throughout the region, including micromobility and fixed route services.
Transit supported infrastructure as part of other transportation projects	Develop transit-intensive corridors with supportive infrastructure to enhance service reliability and connections to development that encourages making trips by public transit.

Forecasted capital investment or infrastructure needs are identified in **Table 21**. These projects have not been constrained as part of this MTP; however, this list may be used when opportunities arise to support transit investments during the TIP process.

Table 21. Forecasted Transit Investments

MTP Timeframe	Project Type	Project Details	Total Estimated Cost (2024)
Short-Term (2028-2030)	Fleet Replacements	23 vehicles	$10,905,000
	Shelter Replacement	18 shelters	$630,000
	Transit Garage Expansion		$20,000,000
	Marriott Transit Hub		$150,000
	Service Truck Purchase/Replacement		$55,000
Mid-Term (2031-2040)	Fleet Replacements	58 vehicles	$35,890,000
	Shelter Replacement	60 shelters	$2,100,000
	Farebox System Replacement		$1,500,000
	AVA/AVL System Replacement		$1,500,000
	Service Truck Purchase/Replacement		$170,000
	Service Truck Purchase/Replacement		$80,000
Long-Term (2041-2050)	Fleet Replacements	51 vehicles	$38,759,000
	Shelter Replacement	60 shelters	$2,100,000
	Service Truck Purchase/Replacement		$250,000
Total Short-Term Costs			**$31,740,000**
Total Mid-Term Costs			**$41,240,000**
Total Long-Term Costs			**$41,109,000**

Source: MATTBUS

Source: MATTBUS

VISION PLAN

There are other transportation projects that are important for the region, but do not fit within the fiscally constrained elements of the plan. These projects fit within the "Vision" elements of the plan and represent illustrative priorities for the region between today and 2050. Projects are identified as visionary due one or more of the following reasons:

- **Additional Planning Needed:** Some projects need additional planning to define project outcomes and details that are needed to complete the project needs and details.

  Example: The Heartland Trail (ID 164) is currently being studied outside of the MTP process to explore future alignments and project details. The determination of an alignment is needed for further consideration as a fiscally constrained project.

- **Future Maintenance Needs:** Some roadway infrastructure has been identified to need replacement beyond the 2050 horizon of this plan.

  Example: The 12th Ave N/15th Ave N (ID 29) bridge over the Red River has been identified for replacement beyond 2050.

- **Future Needs:** Other projects were identified to support a future or forecasted need with anticipated growth in the region. Many of these projects are anticipated roadway extensions to serve new growth areas.

  Example: 20th Street S (ID 201) is a future roadway extension to serve new growth areas within Moorhead. Growth in the area is anticipated beyond 2050.

Table 22. Vision Plan (2050+) Transportation Projects

Project ID	Corridor	From	To	Project Type	Project Jurisdiction	Construction Cost Estimate (2024)	Illustrative (2050) Costs	Weighted Score
129	12th Ave S	8th St S	8th St S	Safety	Moorhead	$-	$-	3.8
199	6th St	Center Ave	24th Ave S	Bike & Ped	Moorhead	$867,148.76	$2,404,144	3.8
164	Heartland Trail - Varies	Clay County Eastern Boundary	US 75 Moorhead	Bike & Ped	MnDOT	$-	$-	3.8
194	21st St S	US 10	US 10	Bike & Ped	Moorhead	$40,522.76	$112,348	3.7
205	20th St S	28th Ave S	30th Ave S	Reconstruction	Moorhead	$1,076,579.09	$2,984,783	3.5
16	40th Ave S	51st St S	42nd St S	Rehabilitation	Fargo	$2,505,168.10	$6,945,503	3.4
5	25th St N	1st Ave N	7th Ave N	Rehabilitation	Fargo	$650,471.87	$1,803,414	3.2
29	12th Ave N/15th Ave N	Red River ND	Red River MN	Reconstruction	Fargo/Moorhead	$18,453,600.00	$51,162,048	3.1
195	Oakport St N	28th Ave N	MB Johnson Park	Bike & Ped	Moorhead	$425,021.58	$1,178,359	3.1
94	40th Ave S	42nd St S	32nd St S	Rehabilitation	Fargo	$1,809,549.77	$5,016,922	3.1
180	US 75	46th Ave S	46th Ave S	Reconstruction	Moorhead	$2,000,000.00	$5,544,940	2.7
6	25th St S	53rd Ave S	58th Ave S	Rehabilitation	Fargo	$1,011,497.30	$2,804,346	2.6
200	50th Ave S	US 75	20th St S	Reconstruction	Moorhead	$-	$-	2.5
178	50th Ave S	BNSF RR	BNSF RR	Reconstruction	Moorhead/Clay County	$-	$-	2.2
174	12th Ave S	MN 336	MN 336	Extension	Dilworth	$6,388,500.27	$17,711,924	2.0
120	15th St NW	12th Ave NW	4th Ave NW	Extension	West Fargo	$4,370,655.93	$12,117,512	2.0
22	12th Ave S	45th St S	14th St NE	Extension	Moorhead	$5,957,256.81	$16,516,315	2.0
201	20th St S	45th Ave S	50th Ave S	Extension	Moorhead	$2,313,570.09	$6,414,303	1.5
Total							**$102,887,424**	**--**
Minnesota							**$35,155,192**	**--**
North Dakota							**$67,732,233**	**--**

Figure 7. Vision Plan (2050+) Transportation Projects

ADDITIONAL METRO 2050 RECOMMENDATIONS

Throughout the MTP process various topics and needs were discussed with member jurisdictions, project staff, and the regional community that warrant additional review and consideration outside the scope of the MTP. This section identifies recommendations for additional study or consideration as Metro COG and its partners continue to make decisions and investments that support the goals of this plan.

FUTURE CORRIDOR STUDIES

Corridor studies play an important role in the regional transportation planning system. These studies allow for further analysis of system needs and considerations to support project refinement and readiness. The following corridor studies were identified through the Metro 2050 process, but others may arise as additional needs are identified.

- **45th Street Safety Study:** The need for a detailed safety analysis near the I-94 interchange was identified through the planning process based on crash rates and overall operations. A capacity expansion project (ID 51) was identified within the Mid-Term project list, creating opportunities for project refinements to include safety enhancements along this key corridor.
- **Northwest Metro Transportation Plan Update:** The Northwest Metro Transportation Plan was developed in 2020 to review existing conditions and explore infrastructure outcomes to support mobility and access within a growing area of the region. Since its adoption, the plan has guided decision making for both planning and investment for Metro COG and the cities of Fargo and West Fargo. Through conversations during the MTP, a desire to update this plan to respond to changing needs and trends was identified.
- **88th Avenue Study:** Jurisdictions identified desired improvements to 88th as a part of this planning process; however, the projects generally scored lower in comparison to other projects due to the limited development and use of the corridor. It is understood that as growth occurs, 88th Avenue will provide an important east/west condition within the region. Like the 76th Avenue Corridor Study completed in 2020, a future 88th Avenue Corridor Study will explore roadway needs in relationship to land use and development.

REGIONAL STREET TYPOLOGY SYSTEM

Streets are traditionally classified according to FHWA's functional classification system. This hierarchy includes Interstates, arterials, collectors, and local streets of different levels, and evaluates the function of each street as a trade-off between vehicular mobility and land access. Through planning efforts over the last few years, Metro COG has explored a street typology system to serve as a more detailed connection of roadway use, public realm experiences, and surrounding uses. Continued development and refinement of this street

typology system can be used in many formats, including the future refinement of corridor studies and future implementation with an overall goal of promoting livability and a complete streets approach for the region.

LINKING TIP PROJECT SELECTION AND THE MTP

With the transition to a TMA in 2022, Metro COG has the opportunity to refine the project selection process for the TIP that is consistent with the goals of the MTP. There are many other TMAs that have implemented a TIP selection process linked to their MTP based upon a scoring process. The Portland Area Comprehensive Transportation System (PATS), the MPTO for the Portland, Maine area was identified as an example in the Metro Grow 2045 MTP, setting a foundation for the 2050 process to be built upon.

The Metro 2050 process utilized a scoring system that aligned with the goals and objectives of the plan. Each objective was aligned with a performance metric that could be ranked on a score of 1 to 5. Each identified project was scored across the objectives for each goal. These scores were then averaged to identify a score for each category and an overall performance score. These scores were then weighted to prioritize safety, maintain transportation infrastructure, and walking, biking, and rolling in alignment with public engagement and jurisdiction review. This weighted score was then used as the primary metric for fiscally constraining projects.

This overall process is intended to identify the projects that best respond to the region's identified goals and support future refinement with local priorities and needs. It is intended that this process will be used to directly identify the upcoming projects within the TIP process, modifying the need for the previous solicitation process. It is understood that refinements will need to occur, but the project selection may follow this general process:

1. Identify the next prioritized projects for implementation based on the weighted score and future transportation plan within the MTP.
2. Align available federal funding with project needs, local matches, and other funding stacks.
3. Refine project outcomes as needed to be programmed within the TIP.
4. If refinements cannot be made to fit within the TIP or additional funding is available, the next project identified within the plan should be analyzed for inclusion in the TIP.

As Metro COG and its partners undergo the next TIP process, this overall selection process will be tested and refined.

CONTINUED CONGESTION MANAGEMENT PROCESS REFINEMENT

The Congestion Management Process provides some specific recommendations. It is acknowledged that the CMP process will continue to evolve as Metro COG acts as a TMA. Committee structure changes have occurred since the

adoption of the previous MTP as an example of early implementation. Future process and policy efforts will be needed to implement the recommendations of the CMP as identified in the plan.

CONNECTING PEOPLE AND PLACES

The Metro 2050 engagement process identified a clear connection between land use and transportation planning activities and a desire to further emphasize a connected approach. A new Connecting People and Places goal was introduced into this MTP as a result. Further coordination between land use and transportation planning activities, such as urban form, land use, development patterns, access management and mobility considerations, may be expanded with Metro COG's regional planning approach. There are two considerations that should be built into the planning process:

- **Corridor Study Alignment:** Greater emphasis of the urban form and land use context as a part of a corridor study can be explored. This effort likely requires the early identification of land use policies and potential outcomes in the study process.
- **Regional Land Use Planning:** Local jurisdictions maintain their own Comprehensive Plans to guide development decisions in alignment with respective State Statutes. These documents guide built form and development decisions that must connect to the regional transportation system. Continued coordination and support from Metro COG staff is encouraged with these local efforts.