



# ARRIVE 2050

METROPOLITAN  
TRANSPORTATION PLAN

**DECEMBER 2024**  
Amended April 2025



# Resolution of Adoption

## For the 2025-2050 Bismarck-Mandan Metropolitan Transportation Plan

**Whereas**, the U.S. Department of Transportation requires the development, approval, and maintenance of a Metropolitan Transportation Plan for the Bismarck-Mandan Metropolitan Planning Organization (MPO) as a condition of Federal transportation funding; and

**Whereas**, the MPO has been designated by the Governor of North Dakota as the organization responsible for preparing and maintaining the Metropolitan Transportation Plan; and

**Whereas**, the MPO after an extensive public and stakeholder involvement process and substantial consideration of technical, environmental, financial, and social factors has prepared the 2025-2050 Metropolitan Transportation Plan which is in compliance with Federal and State transportation planning guidance; and

**Whereas**, the Planning and Zoning Commission for each of the five Jurisdictions has reviewed and forwarded to their respective commission/ council a favorable recommendation of the 2025-2050 Metropolitan Transportation Plan; and

**Whereas**, all affected governing bodies (Bismarck, Mandan, Lincoln, Burleigh County and Morton County) have approved or accepted the Plan; and

**Whereas**, all relevant State and Federal agencies have had the opportunity to review the Plan and have indicated their support;

**Now Therefore be it Resolved**, by the Bismarck-Mandan Metropolitan Planning Organization Policy Board that it adopts the 2025-2050 Metropolitan Transportation Plan and directs staff to publish the final document and distribute copies as appropriate; and

**Be It Further Resolved**, that all jurisdictions and their elected officials and staff will cooperatively implement the 2025-2050 Metropolitan Transportation Plan elements.

### CERTIFICATE

The undersigned, duly elected chairperson of the Bismarck-Mandan Metropolitan Planning Organization Policy Board certifies that the forgoing is true and correct copy of a Resolution, adopted at a legally convened meeting of the Bismarck-Mandan Metropolitan Planning Organization Policy Board held on December 17, 2024.

By:  \_\_\_\_\_

Michael Schmitz  
Chairman, Bismarck-Mandan MPO Policy Board

\_\_\_\_\_ 12/17/24

Date

# Resolution of Receipt

For the 2025-2050 Bismarck-Mandan  
Metropolitan Transportation Plan

**Whereas**, the U.S. Department of Transportation requires the development, approval, and maintenance of a Metropolitan Transportation Plan for the Bismarck-Mandan Metropolitan Planning Organization (MPO) as a condition of Federal transportation funding; and

**Whereas**, the MPO has been designated by the Governor of North Dakota as the organization responsible for preparing and maintaining the Metropolitan Transportation Plan; and

**Whereas**, the MPO after an extensive public and stakeholder involvement process and substantial consideration of technical, environmental, financial, and social factors has prepared the 2025-2050 Metropolitan Transportation Plan which is in compliance with Federal and State transportation planning guidance; and

**Whereas**, City of Bismarck staff has actively participated in Plan development and has had the opportunity to review the 2025-2050 Metropolitan Transportation Plan, and any comments received have been addressed within the Plan; and

**Whereas**, all relevant State and Federal agencies have had the opportunity to review the Plan and any comments received have been addressed within the Plan; and

**Whereas**, notice was published for a public hearing in accordance with the MPO Public Participation Plan, and the Bismarck Planning and Zoning Commission held a public hearing on the 2025-2050 Metropolitan Transportation Plan and has accepted it as a guide for their future planning and development policies, and has recommended it to the Bismarck City Commission; and

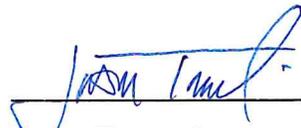
**Now Therefore be it Resolved**, by the Bismarck City Commission that it receives the 2025-2050 Metropolitan Transportation Plan; and

**Be It Further Resolved**, that City of Bismarck staff is directed to implement or support the 2025-2050 Metropolitan Transportation Plan.

## CERTIFICATE

The undersigned representatives of the City of Bismarck certify that the forgoing is true and correct copy of a Resolution, received at a legally convened meeting of the Bismarck City Commission held on November 26, 2024.

By:  \_\_\_\_\_ 11/27/2024  
Michael T. Schmitz  
President, Bismarck City Commission Date

Attest:  \_\_\_\_\_ 11-27-2024  
Jason Tomanek  
Administrator, City of Bismarck Date

# Resolution of Adoption

For the 2025-2050 Bismarck-Mandan  
Metropolitan Transportation Plan

**Whereas**, the U.S. Department of Transportation requires the development, approval, and maintenance of a Metropolitan Transportation Plan for the Bismarck-Mandan Metropolitan Planning Organization (MPO) as a condition of Federal transportation funding; and

**Whereas**, the MPO has been designated by the Governor of North Dakota as the organization responsible for preparing and maintaining the Metropolitan Transportation Plan; and

**Whereas**, the MPO after an extensive public and stakeholder involvement process and substantial consideration of technical, environmental, financial, and social factors has prepared the 2025-2050 Metropolitan Transportation Plan which is in compliance with Federal and State transportation planning guidance; and

**Whereas**, City of Mandan staff has actively participated in Plan development and has had the opportunity to review the 2020-2045 Metropolitan Transportation Plan, and any comments received have been addressed within the Plan; and

**Whereas**, all relevant State and Federal agencies have had the opportunity to review the Plan and any comments received have been addressed within the Plan; and

**Whereas**, notice was published for a public hearing in accordance with the MPO Public Participation Plan, and the Mandan Planning Commission held a public hearing on the 2025-2050 Metropolitan Transportation Plan and has approved it as a guide for their future planning and development policies, and has recommended it to the Mandan City Commission; and

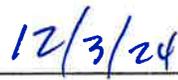
**Now Therefore be it Resolved**, by the Mandan City Commission that it adopts the 2025-2050 Metropolitan Transportation Plan; and

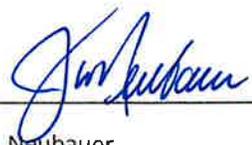
Be It Further Resolved, that City of Mandan staff is directed to implement or support the 2025-2050 Metropolitan Transportation Plan.

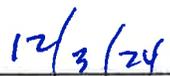
## CERTIFICATE

The undersigned representatives of the City of Mandan certify that the forgoing is true and correct copy of a Resolution, adopted at a legally convened meeting of the Mandan City Commission held on December 3, 2024.

By:   
James Froelich  
President, Mandan City Commission

  
Date

Attest:   
Jim Neubauer  
Administrator, City of Mandan

  
Date

**Resolution of Adoption**  
For the 2025-2050 Bismarck-Mandan  
Metropolitan Transportation Plan

**Whereas**, the U.S. Department of Transportation requires the development, approval, and maintenance of a Metropolitan Transportation Plan for the Bismarck-Mandan Metropolitan Planning Organization (MPO) as a condition of Federal transportation funding; and

**Whereas**, the MPO has been designated by the Governor of North Dakota as the organization responsible for preparing and maintaining the Metropolitan Transportation Plan; and

**Whereas**, the MPO after an extensive public and stakeholder involvement process and substantial consideration of technical, environmental, financial, and social factors has prepared the 2025-2050 Metropolitan Transportation Plan which is in compliance with Federal and State transportation planning guidance; and

**Whereas**, City of Lincoln representatives have actively participated in Plan development and has had the opportunity to review the 2025-2050 Metropolitan Transportation Plan, and any comments received have been addressed within the Plan; and

**Whereas**, all relevant State and Federal agencies have had the opportunity to review the Plan and any comments received have been addressed within the Plan; and

**Whereas**, notice was published for a public hearing in accordance with the MPO Public Participation Plan, and the Lincoln Planning and Zoning Board held a public hearing on the 2025-2050 Metropolitan Transportation Plan and has approved it as a guide for their future planning and development policies, and has recommended it to the Lincoln City Council; and

**Now Therefore be it Resolved**, by the Lincoln City Council that it adopts the 2025-2050 Metropolitan Transportation Plan; and

**Be It Further Resolved**, that City of Lincoln representatives are directed to implement the 2025-2050 Metropolitan Transportation Plan.

**CERTIFICATE**

The undersigned representatives of the City of Lincoln certify that the forgoing is true and correct copy of a Resolution, adopted at a legally convened meeting of the Lincoln City Council held on December 5, 2024.

By: Keli Berglund  
Keli Berglund  
Mayor, City of Lincoln

12-5-2024  
Date

Attest: Tonya Wilson  
Tonya Wilson  
Auditor, City of Lincoln

12/05/2024  
Date

# Resolution of Receipt

For the 2025-2050 Bismarck-Mandan  
Metropolitan Transportation Plan

**Whereas**, the U.S. Department of Transportation requires the development, approval, and maintenance of a Metropolitan Transportation Plan for the Bismarck-Mandan Metropolitan Planning Organization (MPO) as a condition of Federal transportation funding; and

**Whereas**, the MPO has been designated by the Governor of North Dakota as the organization responsible for preparing and maintaining the Metropolitan Transportation Plan; and

**Whereas**, the MPO after an extensive public and stakeholder involvement process and substantial consideration of technical, environmental, financial, and social factors has prepared the 2025-2050 Metropolitan Transportation Plan which is in compliance with Federal and State transportation planning guidance; and

**Whereas**, Burleigh County staff has actively participated in Plan development and has had the opportunity to review the 2025-2050 Metropolitan Transportation Plan, and any comments received have been addressed within the Plan; and

**Whereas**, all relevant State and Federal agencies have had the opportunity to review the Plan and any comments received have been addressed within the Plan; and

**Whereas**, notice was published for a public hearing in accordance with the MPO Public Participation Plan, and the Burleigh County Planning and Zoning Commission held a public hearing on the 2025-2050 Metropolitan Transportation Plan and has accepted it as a guide for their future planning and development policies, and has recommended it to the Burleigh County Commission; and

**Now Therefore be it Resolved**, by the Burleigh County Commission that it receives the 2025-2050 Metropolitan Transportation Plan; and

**Be It Further Resolved**, that Burleigh County staff is directed to implement or support the 2025-2050 Metropolitan Transportation Plan.

## CERTIFICATE

The undersigned representatives of Burleigh County certify that the forgoing is true and correct copy of a Resolution, received at a legally convened meeting of the Burleigh County Commission held on December 2, 2024.

By: 

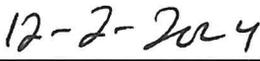
Brian Bitner  
Chairman, Burleigh County Commission



Date

Attest: 

Mark Splonskowski  
Auditor/ Treasurer, Burleigh County



Date

**Resolution of Adoption**  
For the 2025-2050 Bismarck-Mandan  
Metropolitan Transportation Plan

**Whereas**, the U.S. Department of Transportation requires the development, approval, and maintenance of a Metropolitan Transportation Plan for the Bismarck-Mandan Metropolitan Planning Organization (MPO) as a condition of Federal transportation funding; and

**Whereas**, the MPO has been designated by the Governor of North Dakota as the organization responsible for preparing and maintaining the Metropolitan Transportation Plan; and

**Whereas**, the MPO after an extensive public and stakeholder involvement process and substantial consideration of technical, environmental, financial, and social factors has prepared the 2025-2050 Metropolitan Transportation Plan which is in compliance with Federal and State transportation planning guidance; and

**Whereas**, Morton County staff has actively participated in Plan development and has had the opportunity to review the 2025-2050 Metropolitan Transportation Plan, and any comments received have been addressed within the Plan; and

**Whereas**, all relevant State and Federal agencies have had the opportunity to review the Plan and any comments received have been addressed within the Plan; and

**Whereas**, notice was published for a public hearing in accordance with the MPO Public Participation Plan, and the Morton County Planning Commission held a public hearing on the 2025-2050 Metropolitan Transportation Plan and has approved it as a guide for their future planning and development policies, and has recommended it to the Morton County Commission; and

**Now Therefore be it Resolved**, by the Morton County Commission that it adopts the 2025-2050 Metropolitan Transportation Plan; and

**Be it Further Resolved**, that Morton County staff is directed to implement the 2025-2050 Metropolitan Transportation Plan.

**CERTIFICATE**

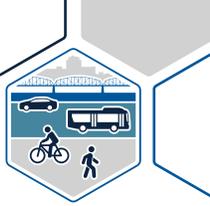
The undersigned representatives of Morton County certify that the forgoing is true and correct copy of a Resolution, adopted at a legally convened meeting of the Morton County Commission held on December 12, 2024.

By:   
Nathan Boehm  
Chairman Morton County Commission

12.26.2024  
Date

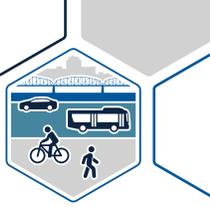
Attest:   
Dawn Rhone  
Auditor, Morton County

12/26/24  
Date



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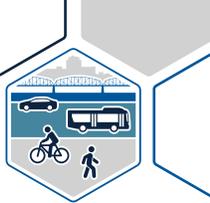


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## INTRODUCTION

### The Bismarck-Mandan Metropolitan Planning Organization

The Bismarck-Mandan Metropolitan Planning Organization (MPO) provides a forum for public officials, citizens, and other interested groups to establish policies and plans for effectively addressing various metropolitan transportation issues. The MPO comprises five jurisdictions, including the cities of Bismarck, Mandan, and Lincoln and portions of Burleigh and Morton counties. **Figure 1** presents the Bismarck-Mandan MPO area, including city limits and Bismarck-Mandan Urbanized Area Boundary.

The MPO and its member jurisdictions work together to carry out a performance-based and multimodal transportation planning process that is continuing, cooperative, and comprehensive. The ongoing coordination among the MPO, member agencies, and federal transportation agencies allows for the efficient management of public transportation funds while encouraging public participation in the metropolitan transportation planning process.

Two committees guide the MPO by providing direction on technical and policy matters:

- **Technical Advisory Committee (TAC)**
- **Policy Board**

In addition to these two committees, the Bismarck-Mandan MPO Bike & Ped Subcommittee serves as an advisor to the TAC and Policy Board. This subcommittee promotes safe, accessible active transportation in the MPO region and comprises professionals from disciplines such as community planning, engineering, local parks and recreation districts, law enforcement, public health, and North Dakota Department of Transportation (NDDOT) representatives.



#### Technical Advisory Committee (TAC)

Provides recommendations based on professional judgment for the MPO's Policy Board. The TAC comprises planning and engineering staff from the MPO's member agencies, the public transportation provider, North Dakota Department of Transportation, Federal Highway Administration, and a representative of the region's freight industry.



#### Policy Board

Serves as the decision-making body of the MPO and comprises the mayors of Bismarck, Mandan, and Lincoln and one commissioner from both Burleigh and Morton counties.

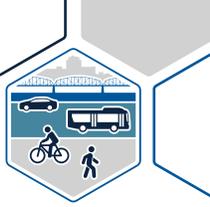
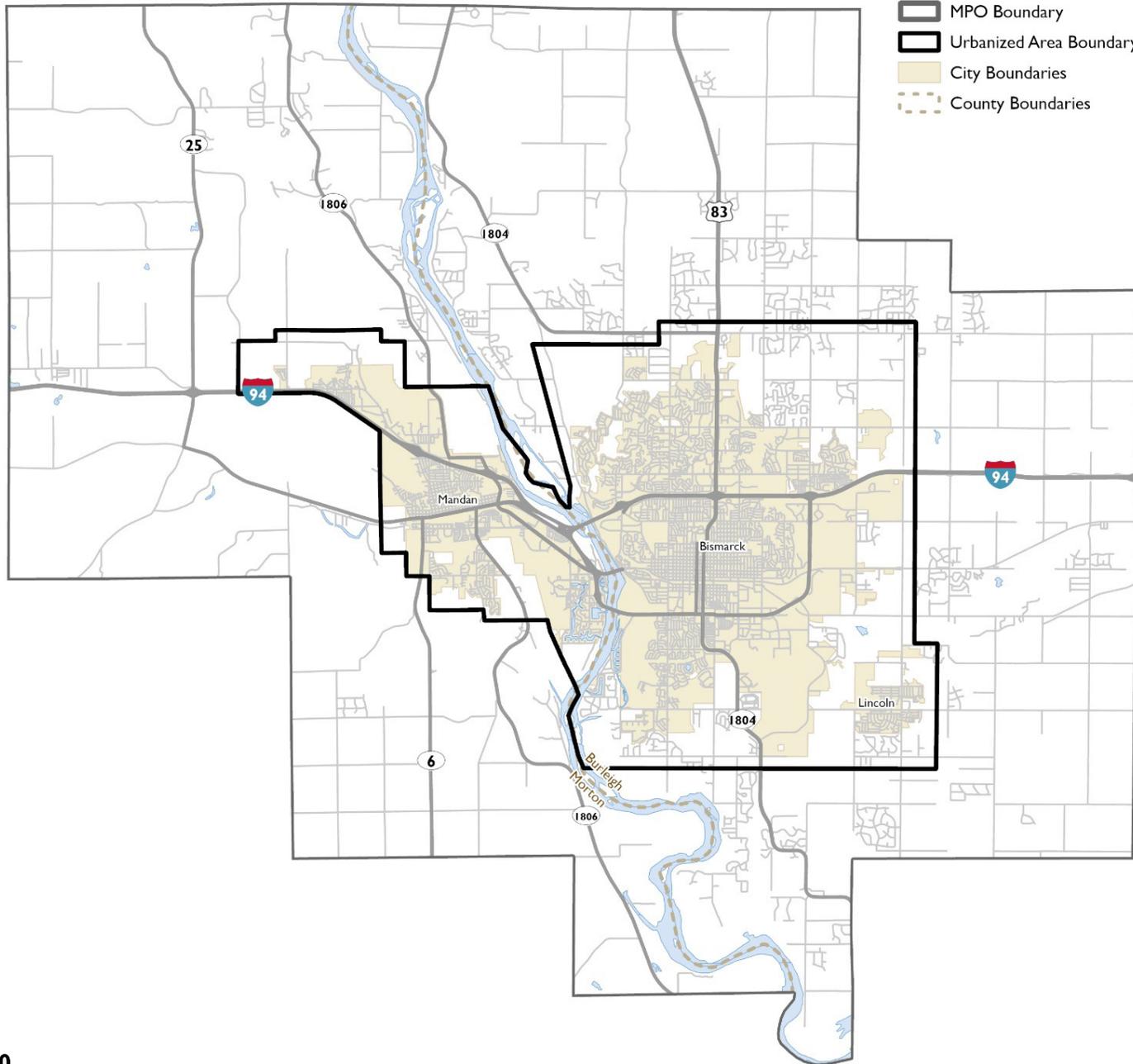
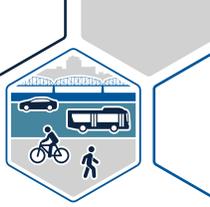


Figure 1: Bismarck-Mandan MPO Area





## The Metropolitan Transportation Planning Process

Federal regulations related to metropolitan transportation planning require MPOs to develop four key documents (listed below) to ensure transportation planning in the region is performance based, multimodal, continuous, cooperative, and comprehensive.



### Metropolitan Transportation Plan (MTP)

Guides the development of the area's transportation system over the next 20+ years. The MTP is required to be updated every 5 years for the MPO to maintain eligibility for federal transportation dollars; MPOs that are designated as air quality non-attainment areas are required to update the MTP every 4 years. The MTP addresses transportation system needs and provides a set of methods, strategies, and actions for developing an integrated multimodal system that supports the efficient movement of people and goods, including pedestrians, bicyclists, automobile drivers, transit users, and freight shippers.



### Transportation Improvement Program (TIP)

Identifies regionally significant and federally funded transportation improvements in the Metropolitan Planning Area (MPA) over a 4-year time frame. Federal regulations require each MPO to develop a TIP for regionally significant transportation projects, whether or not they are using Federal funding. The TIP is developed on an annual basis in cooperation with MPO area member jurisdictions, transit providers, and NDDOT.



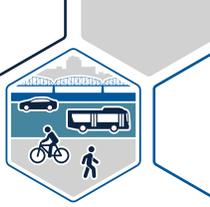
### Unified Planning Work Program

Describes the multimodal transportation planning projects to be conducted in the Bismarck-Mandan MPO area in any specified 1- or 2-year period. This document is the foundation for requesting federal funds and a control tool for scheduling, budgeting, and monitoring the transportation planning process.



### Public Participation Plan

Identifies the role of the MPO regarding public participation and provides guidelines to be followed in achieving public involvement through advertising, public meetings, hearings, and other relevant forums.



## The Metropolitan Transportation Plan

The MTP is the MPO's road map for navigating the region's future multimodal transportation system. The plan reflects local conditions and assesses the performance of the Bismarck-Mandan region's transportation system while meeting the metropolitan transportation planning requirements of the Bipartisan Infrastructure Law. Under these requirements, the MTP:

- Must be updated every 5 years;
- Must be fiscally constrained;
- Utilizes a planning horizon of at least 20 years;
- Consults local agencies, NDDOT, Federal Highway Administration (FHWA), and Federal Transit Administration (FTA);
- Is a performance-based plan that guides progress toward regional performance measures and targets while supporting state performance targets.

Arrive 2050 builds off the 2045 MTP to continue transportation planning in the Bismarck-Mandan region while incorporating the findings and recommendations of plans and studies that have been completed since the publication of the 2045 MTP. The plan was developed in accordance with Bismarck-Mandan MPO's Public Participation Plan to ensure proactive public involvement throughout the MTP development process. Consultation with staff of the MPO's member jurisdictions was ongoing and included the following agencies:

- **City of Bismarck**
- **City of Mandan**
- **City of Lincoln**
- **Burleigh County**
- **Morton County**
- **Bis-Man Transit**

In addition to these jurisdictional partners, consultation included the FHWA, FTA, and NDDOT and was ongoing through the process to maintain adherence to federal and state metropolitan transportation planning requirements.



# GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

## Federal and State Metropolitan Transportation Planning

The Bipartisan Infrastructure Law, enacted as the Infrastructure Investment and Jobs Act (IIJA) in November 2021, is the current legislation governing metropolitan transportation planning. The Law continues the Metropolitan Planning Program authorized under the Moving Ahead for Progress in the 21st Century Act (MAP-21), which established a performance-based planning framework for making transportation investment decisions in metropolitan areas. Key elements of the Metropolitan Planning Program reflected in Arrive 2050 are the alignment of plan goals and objectives with the current metropolitan transportation planning factors.

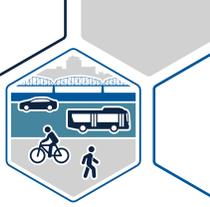
### Metropolitan Transportation Planning Factors

The goals and objectives of Arrive 2050 were developed based on community and stakeholder input and alignment with the metropolitan planning factors articulated in 23 Code of Federal Regulations (CFR) § 450.306, which are presented in **Table I**. The purpose of the metropolitan planning factors is to supplement efforts made by MPO to engage in a metropolitan planning process that is continuous, cooperating, and comprehensive while addressing national, state, and local transportation priorities.

Table I: Federal Metropolitan Transportation Planning Factors

| Federal Metropolitan Transportation Planning Factor |  |
|---|--|
| 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 among 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.  |

Source: Federal Highway Administration, [23 CFR § 450.306\(b\)](#)



## North Dakota's Long-Range Transportation Plan Vision and Goals

Arrive 2050 works to support the transportation vision of the state of North Dakota. North Dakota's current long-range transportation plan, [Transportation Connection](#), was adopted in 2021 and articulates the state's vision:



*Delivering a **safe, innovative, and connected** future*

A series of goals and objectives were developed by NDDOT as part of Transportation Connection to guide the state toward realizing this vision, including:

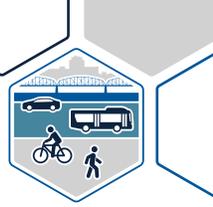
- **Keeping you safe:** Safety is reflected in everything we do.
- **Caring for what we have:** Fixing what we have is our priority.
- **Connecting North Dakota:** Transportation matters.
- **Helping you get there:** Transportation should be easy.
- **Investing in the future:** We work for you.

## Arrive 2050 Goals and Objectives

The study team developed the goals and objectives based on input and engagement received during the initial stages of plan development and locally tailored consistency with federal and state goals and planning directives. Current direction from FHWA encourages MPOs to emphasize the following performance goal areas in their MTPs.

- **Safety and security**
- **Infrastructure condition (for bridges and pavement);**
- **Congestion reduction**
- **System reliability for freight movement and economic vitality**
- **Alternative transportation modes to automobile travel**
- **Environmental sustainability**
- **Reduced project delivery time**

The goals areas and objectives guiding Arrive 2050 are summarized on the following pages.



## Arrive 2050 Goals and Objectives

### SAFETY

Reducing the risk of traffic crashes and harm to all users of the transportation system regardless of travel mode.



#### OBJECTIVE 1

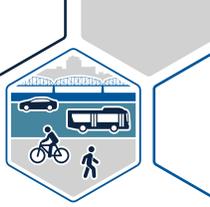
**Reduce Crash Frequency and Severity:** Based on crash history and future crash prediction, work to reduce the incidence of all motor vehicle and non-motor vehicle (pedestrian and cyclist) crashes, with an emphasis on serious injury and fatal crashes. Consider the context of each transportation corridor and safety needs by existing and potential modes of travel using the corridor.

#### OBJECTIVE 2

**Implement Safe System Features:** Implement improvements that align with FHWA Safe Systems Approach and are proven crash reduction measures at locations with an existing crash history. Also implement proven crash reduction measures at locations without an existing crash history as a proactive improvement.

#### OBJECTIVE 3

**Vision Zero:** Support North Dakota's Strategic Highway Safety Plan "Vision Zero" as a goal to move toward zero fatal resultant crashes.



## ECONOMIC

Promoting the economic vitality of the MPO area by working to ensure transportation facilities fit with and support their surrounding community context and long-term community goals.



### OBJECTIVE 1

**Safe and Reliable Freight Movement:** Enhance the safe, efficient, and reliable movement of freight and goods, including investments in congestion reduction and safety improvements on critical urban freight corridors and other designated freight corridors.

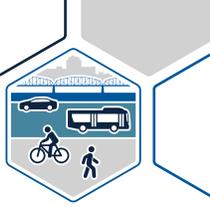
### OBJECTIVE 2

**Support Other Regional Plans:**

- a. Support transportation investments as identified in the most recent MPO Regional Freight Study.
- b. Promote transportation design and investments that enhance the local economy as promoted in local community planning documents.
- c. Support the efforts of local jurisdictions' land use planning, ensuring that new land use plans are well coordinated with the MTP and other MPO transportation planning efforts.

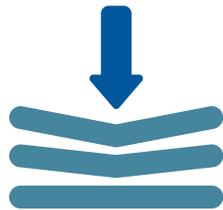
### OBJECTIVE 3

**Support Efficient Development Patterns:** Promote transportation investments that support infill/efficient development patterns.



## RESILIENT

Providing a transportation system that is secure from man-made disaster and adaptable to severe weather, major economic changes, and other shocks. Impacts on the built and natural environment are avoided, minimized, and mitigated to the greatest extent possible.



### OBJECTIVE 1

**Minimize Environmental Impacts:** Strive to avoid and minimize the transportation system's impacts on the natural and built environment. Identify multimodal transportation system impacts through planning and, as necessary, mitigate impacts to the greatest extent feasible.

### OBJECTIVE 2

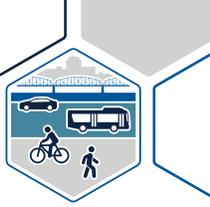
**Integrate Multimodal Design into New Development:** Plan for and address multimodal transportation system impacts/sufficiency when planning new developments.

### OBJECTIVE 3

**System Security:** Enhance transportation security and resiliency by developing strategies to address critical transportation assets that will facilitate the rapid movement of first responders and support incident management during times of emergency.

### OBJECTIVE 4

**Reduce and/or Mitigate Vehicle Miles Traveled (VMT):** Implement strategies and projects that reduce the rate of VMT growth to lessen transportation emissions and the associated environmental and air quality impacts. Implementing strategies that reduce VMT growth have broad benefits, such as the opportunity for shorter trips, more transportation connections, reduced transportation costs, and using modes other than automobile travel.



## EFFICIENCY AND RELIABILITY

Providing for the efficient, reliable movement of people along with connecting people and where they live to goods, services, and jobs with multiple options and a focus on predictable travel times. This goal also places an emphasis on improving the efficiency in how transportation projects are delivered.



### OBJECTIVE 1

**Promote Reliable Vehicle Travel:** Implement strategies and projects that increase transportation system reliability by reducing unexpected or non-recurring incidents and bottlenecks to make travel time more predictable.

### OBJECTIVE 2

**Improve Management of Corridor Access Points:** As part of transportation corridor reconstruction projects and the establishment of new corridors, carefully limit roadway access points to further safety and mobility needs.

### OBJECTIVE 3

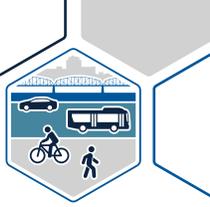
**Reduce Single-Occupant Vehicle Travel:** Support future development that would result in reduced motor vehicle trips/increased use of travel options other than single-occupant vehicles.

### OBJECTIVE 4

**Promote the Efficient Delivery of All Transportation Projects:** Identify additional ways to complete all transportation construction projects more quickly, saving time and money.

### OBJECTIVE 5

**Promote the Efficient Delivery of Complementary Multimodal Improvements with Roadway Construction Projects:** Construct active transportation and transit improvements with complementary roadway projects to promote the efficient delivery of construction projects.



## MAINTENANCE

Maintaining transportation assets, including roadway pavement and bridges, active transportation facilities, and transit capital, in a state of good repair.



### OBJECTIVE 1

**Pavement and Bridge Condition:** Maintain pavement quality and bridges at acceptable levels.

### OBJECTIVE 2

**Signage and Pavement Marking Condition:** Maintain street signage and pavement marking to preserve visibility.

### OBJECTIVE 3

**Bicycle and Pedestrian System Condition:** Maintain the current bicycle and pedestrian system.

### OBJECTIVE 4

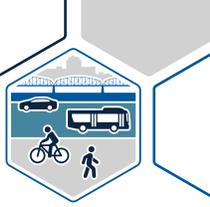
**Transit Capital Condition:** Maintain transit fleet, equipment, and facilities in a state of good repair as identified in the Transit Development Plan.

### OBJECTIVE 5

**Signal, Lighting, and Intelligent Transportation Systems (ITS) Conditions:** Maintain traffic signals, lighting, and other transportation ITS assets at acceptable levels.

### OBJECTIVE 6

**Proactively Manage Pavement:** All MPO participating jurisdictions should cost-participate in the data collection of pavement system conditions on a 4-/5-year cycle.



## FORWARD-THINKING

Incorporating emerging trends and technologies into the transportation system. This includes deploying innovative infrastructure (such as for electric vehicles [EVs] or autonomous travel), using innovative mobility options, and utilizing innovative data sources to make more informed decisions.



### OBJECTIVE 1

**ITS Maintenance and Planning:** Maintain and enhance ITS already in use locally and their evolution, such as dynamic signal phasing, driver information systems, and vehicle detection systems.

### OBJECTIVE 2

**Manage the System Through Technology:** Consider the application of ITS to help mitigate the need for capital-intensive projects and associated impacts.

### OBJECTIVE 3

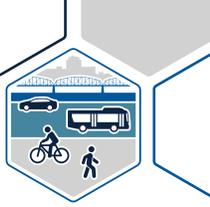
**Plan for Connected and Autonomous Vehicles:** Champion further testing and integrating autonomous and connected vehicles in the transportation system. Coordinate with NDDOT on statewide planning, the State Transportation Management Center development, and other opportunities related to connected and autonomous vehicles to best position the MPO area for the future.

### OBJECTIVE 4

**Plan for Electric Vehicles:** Accommodate EV market trends through planning efforts and development opportunities, such as promoting the expansion of charging stations. Continue to coordinate with NDDOT on statewide planning and other opportunities related to EVs to best position the MPO area for the future.

### OBJECTIVE 5

**Leverage Data for Decision-Making:** Apply well-vetted and appropriate datasets available to help support more intelligent local decision-making regarding transportation planning, design, and investments.



## ACTIVE TRANSPORTATION AND TRANSIT

Providing enhanced infrastructure and connections for pedestrians, bicyclists, and other modes of active transportation; transit is integral to transportation in the MPO area and compliments both active transportation and passenger auto transportation.



### OBJECTIVE 1

**Transit Coordination:** Coordinate planning and project development with transit agencies to improve transit route efficiency, safety, system productivity, and community awareness by implementing transportation investments that support the transit system.

### OBJECTIVE 2

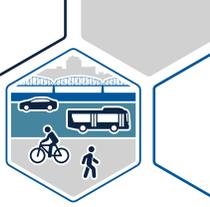
**Implement Transit and Rideshare Strategies:** Improve transit and rideshare opportunities for travelers commuting into the MPO area from both outside and within the urban area.

### OBJECTIVE 3

**Transit Security:** Provide a safe, secure environment for transit system riders.

### OBJECTIVE 4

**Bicycle and Pedestrian Project Implementation:** Improve bicycle and pedestrian system accessibility, connectivity, and safety by promoting or implementing transportation investments identified in recent MPO planning documents.



## ACTIVE TRANSPORTATION AND TRANSIT

(CONTINUED)



### OBJECTIVE 5

**User Education:** Improve the awareness and safety for all users of the regional multimodal transportation system through education about rules and responsibilities.

### OBJECTIVE 6

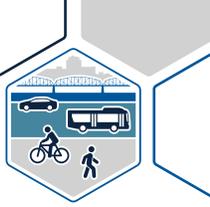
**Reduce Multimodal Gaps:** Improve the continuity of the multimodal systems for pedestrians, cyclists, and transit riders through improved network connections, reduced circuitry, and reduced system gaps.

### OBJECTIVE 7

**Multimodal Coordination:** Improve the coordination between planning for active transportation and transit to ensure transit stops/timing points are safe and well connected to the active transportation system; improve first-mile/last-mile connectivity.

### OBJECTIVE 8

**Implement Complete Streets:** Implement transportation projects that accommodate active transportation and transit where feasible. Overall, streets in the MPO area will become more accommodating for active transportation and transit.



## EQUITY

Improving transportation infrastructure so that people from all walks of life have access to affordable, reliable transportation options, including consideration of how transportation benefits and impacts all members of the community.



### OBJECTIVE 1

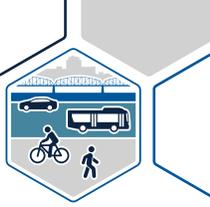
**Connect Disadvantaged Neighborhoods:** Plan projects and programs that safely connect disadvantaged populations to the surrounding transportation system, with a focus on all modes of transportation. Also provide projects in or adjacent to disadvantaged populations that respond to each community's desired multimodal mobility and accessibility and safely connect disadvantaged populations to needed services.

### OBJECTIVE 2

**Proactive Community Engagement:** Implement early community engagement in the transportation project development process that includes as many impacted and potentially impacted populations as possible. As applicable, focus engagement on the neighborhood level, consistent with the MPO's Public Participation Plan.

### OBJECTIVE 3

**Minimize Impacts on Disadvantaged Populations:** Balance impacts and burdens stemming from multimodal transportation improvements among populations in the MPO region.



## Arrive 2050 Performance Measures and Targets

Federal regulations related to metropolitan transportation planning require the application of a performance-based planning approach that leverages data to inform decision-making and transportation outcomes. MAP-21 established a series of national performance measures and targets that state transportation agencies and MPOs are required to monitor progress toward; these performance measures and targets were carried forward in subsequent transportation legislation, including Fixing America's Surface Transportation Act and IIJA.

### National Performance Measures and Targets

The series of performance measures and targets that state transportation agencies and MPOs are required to track progress toward cover several performance goal areas, including the following:

- **Safety and security**
- **Infrastructure condition** (for bridges and pavement)
- **System reliability**

State transportation agencies are required to identify performance targets for the topics outlined above while MPOs have the option to adopt statewide targets or develop their own locally tailored targets. State transportation agencies and MPOs strive to maintain progress toward these performance targets because failure to meet them can result in less discretion with how they can spend funds due to additional programming oversight by FHWA.

Federal rulemaking has specified performance measures for three of the seven performance goal areas, which are Safety and Security (PM1), Infrastructure Condition (PM2), and System Reliability (PM3).

### PM1: Safety and Security

Performance targets associated with Safety and Security are updated and reported to FHWA annually and are calculated using a 5-year rolling average. The individual performance measures targeted by NDDOT and the Bismarck-Mandan MPO are shown in **Table 2** and include the number and rate of fatal injuries, number and rate of serious injuries, and number of non-motorized fatal and non-motorized serious injuries. As **Table 2** shows, the MPO has adopted the same 2024 targets set by NDDOT.

### PM2: Infrastructure Condition

Performance targets associated with Infrastructure Condition are updated at least every 4 years, with the option for state transportation agencies and MPOs to update every 2 years. Federal rulemaking requires that individual targets are reported to FHWA annually. The individual performance measures targeted by NDDOT and the Bismarck-Mandan MPO are shown in **Table 3** and include the percentage of National Highway System (NHS) bridges in good and poor condition, percentage of interstate pavement in good and poor condition, and percentage of non-interstate NHS pavement in good and poor condition. As **Table 3** shows, the MPO has adopted the same 2022–2026 targets set by NDDOT.

### PM3: System Performance and Reliability

Performance targets associated with System Performance are updated every 4 years and reported to FHWA annually. The individual performance measures targeted by NDDOT and the MPO are shown in **Table 4** and include the percentage of person-miles traveled on the interstate and non-interstate NHS and truck travel time reliability. As **Table 4** shows, the MPO has adopted the same 2024 targets set by NDDOT.



**Table 2: PMI (Safety and Security) Adopted Performance Targets**

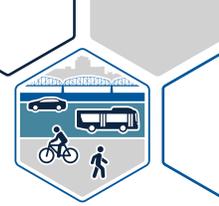
| PMI: Safety and Security   | Baseline Condition | NDDOT Adopted Target | MPO Adopted Target | Current Adoption Period |
|--|--------------------|----------------------|--------------------|-------------------------|
| 1. Number of Fatalities  | 100.8              | 95.8                 | 95.8               | 2024                    |
| 2. Rate of Fatalities  | 1.074              | 1.053                | 1.053              | 2024                    |
| 3. Number of Serious Injuries  | 406.2              | 398.1                | 398.1              | 2024                    |
| 4. Rate of Serious Injuries  | 4.336              | 4.25                 | 4.25               | 2024                    |
| 5. Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries | 35.2               | 34.5                 | 34.5               | 2024                    |

Source: Bismarck-Mandan MPO, FY2025–2028 Transportation Improvement Program

**Table 3: PM2 (Infrastructure Condition) Adopted Performance Targets**

| PM2: Infrastructure Condition                                  | Baseline Condition | NDDOT Adopted Target | MPO Adopted Target | Current Adoption Period |
|--|--------------------|----------------------|--------------------|-------------------------|
| 1. Percent of NHS Bridges in Good Condition                    | 65.3%              | 50%                  | 50%                | 2022–2026               |
| 2. Percent of NHS Bridges in Poor Condition                    | 3.8%               | 10%                  | 10%                | 2022–2026               |
| 3. Percentage of Interstate Pavement in Good Condition         | 83.6%              | 75.6%                | 75.6%              | 2022–2026               |
| 4. Percentage of Interstate Pavement in Poor Condition         | 0.1%               | 3%                   | 3%                 | 2022–2026               |
| 5. Percentage of Non-Interstate NHS Pavement in Good Condition | 78.5%              | 58.3%                | 58.3%              | 2022–2026               |
| 6. Percentage of Non-Interstate NHS Pavement in Poor Condition | 3.4%               | 3%                   | 3%                 | 2022–2026               |

Source: Bismarck-Mandan MPO, FY2025–2028 Transportation Improvement Program



**Table 4: PM3 (System Reliability) Adopted Performance Targets**

| PM3: System Reliability  | Baseline Condition | NDDOT Adopted Target | MPO Adopted Target | Current Adoption Period |
|--|--------------------|----------------------|--------------------|-------------------------|
| 1. Percentage of Person-Miles Traveled on the Interstate that are Reliable         | 99.4%              | 85%                  | 85%                | 2022–2026               |
| 2. Percentage of Person-Miles Traveled on the Non-Interstate NHS that are Reliable | 91%                | 85%                  | 85%                | 2022–2026               |
| 3. Truck Travel Time Reliability   | 1.15               | 2.0                  | 2.0                | 2022–2026               |

Source: Bismarck-Mandan MPO, FY2025–2028 Transportation Improvement Program

Additional performance measures reported by the Bismarck-Mandan MPO concern public transit and look toward monitoring safety and transit asset management.

**Transit Safety**

FTA rulemaking related to public transit agency safety required the adoption of a Public Transportation Agency Safety Plan by December 31, 2020. As part of this rulemaking, public transit agencies are required to create transit operator’s safety performance measures, which address transit-related fatalities, injuries, safety vents, and system reliability. **Table 5** presents the current transit safety performance measures for the MPO region.

**Transit Asset Management**

Transit asset performance is reported by the region’s public transit agency, Bis-Man Transit, annually and monitors the condition of transit facilities and vehicles, as well as anticipated revenues expended on maintenance of the current transit fleet and capital assets. This information is published as part of the annual Transit Asset Management report that is included in the MPO’s annual TIP. **Table 6, Table 7, and Table 8** provide the transit asset performance measure targets as published in the 2025 Transit Asset Management report.

**Table 5: Transit Safety Performance Measures**

| Mode of Transit Service                 | Fatalities (Total) | Fatalities (per 100 thousand Vehicle Revenue Miles [VRM]) | Injuries (Total) | Injuries (per 100 thousand VRM) | Safety Events (Total) | Safety Events (per 100 thousand VRM) | System Reliability (VRM/Failures) |
|---|--------------------|---|------------------|---------------------------------|-----------------------|--------------------------------------|-----------------------------------|
| Fixed Route Bus                         | 0                  | 0   | 3 or less        | 0.2                             | 5 or less             | 0.33                                 | 9,500                             |
| Americans with Disabilities/Paratransit | 0                  | 0   | 3 or less        | 0.75                            | 1 or less             | 0.1                                  | 35,000                            |

Source: Bismarck-Mandan MPO, FY2025–2028 Transportation Improvement Program



**Table 6: Useful Life Benchmark for Vehicles**

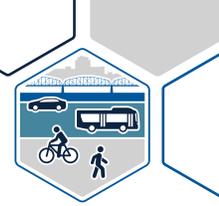
| Category                     | Length (in feet) | Seats     | FTA Useful Life (UL) Years | FTA UL Miles | FTA Useful Life Benchmark (ULB) Years | NDDOT ULB Years | Bismarck-Mandan Transit ULB Years |
|------------------------------|------------------|-----------|----------------------------|--------------|---------------------------------------|-----------------|-----------------------------------|
| Heavy Duty Large Bus         | 35 to 40+ ft     | 24 to 40+ | 12                         | 500,000      | 14                                    | 14              | 14                                |
| Heavy Duty Small Bus         | 30 to 35 ft      | 24 to 35  | 10                         | 350,000      | 14                                    | 14              | 14                                |
| Medium Size Cutaway          | 25 to 30 ft      | 16 to 30  | 7                          | 200,000      | 10                                    | 10              | 10                                |
| Light Duty Mid-Sized Cutaway | 20 to 25 ft      | 8 to 16   | 5                          | 150,000      | 10                                    | 10              | 10                                |
| Light Duty Small Cutaway     | 16 to 22 ft      | 3 to 14   | 4                          | 100,000      | 10                                    | 10              | 10                                |
| Modified Van                 | 20 to 22 ft      | 3 to 14   | 4                          | 100,000      | 8                                     | 8               | 8                                 |
| Minivan                      | up to 12 ft      | 3 to 12   | 4                          | 100,000      | 8                                     | 8               | 8                                 |
| Automobile                   |                  | 3 to 7    | 4                          | 100,000      | 8                                     | 8               | 8                                 |

Source: Bismarck-Mandan MPO, FY2025–2028 Transportation Improvement Program

**Table 7: Useful Life Benchmark for Transit Facilities**

| Category                   | Usage  | ULB Years |
|----------------------------|--|-----------|
| Bus Garage                 | Bus Storage, Wash                                    | 40        |
| Garage Operations Facility | Storage, Wash, Dispatch, Training, Light Maintenance | 40        |
| Garage Operations Admin    | Administrative Offices, Storage, Wash, Dispatch      | 40        |
| Shelters                   | Seating  | 20        |

Source: Bismarck-Mandan MPO, FY2025–2028 Transportation Improvement Program



**Table 8: Transit Asset Management Performance Targets**

| Agency Name | Asset Category   | Asset Class                           | 2022 Target | 2023 Target | 2024 Target | 2025 Target | 2026 Target | 2027 Target |
|-------------|------------------|---------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| NDDOT       | Equipment        | Non-Revenue/Service Automobile        | 29%         | 40%         | 40%         | 37%         | 35%         | 29%         |
| NDDOT       | Equipment        | Other Rubber Tire Vehicles            | 60%         | 40%         | 40%         | 37%         | 35%         | 29%         |
| NDDOT       | Facilities       | Administrative/Maintenance Facilities | 0%          | 0%          | 0%          | 0%          | 0%          | 0%          |
| NDDOT       | Facilities       | Passenger Vehicles                    | 0%          | 0%          | 0%          | 0%          | 0%          | 0%          |
| NDDOT       | Revenue Vehicles | BU - BUS                              | 29%         | 28%         | 15%         | 14%         | 15%         | 15%         |
| NDDOT       | Revenue Vehicles | CU - Cutaway                          | 15%         | 25%         | 25%         | 24%         | 28%         | 20%         |
| NDDOT       | Revenue Vehicles | MV - Minivan                          | 11%         | 20%         | 25%         | 28%         | 25%         | 24%         |
| NDDOT       | Revenue Vehicles | SV - Sports Utility Vehicle           | 50%         | 50%         | 40%         | 37%         | 35%         | 40%         |
| NDDOT       | Revenue Vehicles | VN - Van                              | 36%         | 35%         | 42%         | 40%         | 35%         | 24%         |

Source: Bismarck-Mandan MPO, FY2025–2028 Transportation Improvement Program

## Project Alignment with Regional Vision

Projects that were identified through Arrive 2050 were individually evaluated for how well they align with the goals and vision for the Bismarck-Mandan region. Each project was compared against a scoring criterion for each Arrive 2050 objective and then awarded full points for that objective if they met the criteria. Projects were not awarded points for a scoring criterion if the objective was not met.

Scoring systems like this are not perfect representations of “the best” projects because they can leave out some critical projects that address one or two important criteria (like safety issues or maintenance needs). This approach does reflect how many different goal areas certain projects touch. Thus, project scores were totaled, and the top-scoring projects were in the “High”

category, with the next tier put in the “Medium” category, and the final tier put in the “Low” category. Projects categorized as “Medium” or “Low” are not disregarded because they may still serve the region well but scored lower for not aligning with Arrive 2050 objectives.

Some objectives are more important to advance each goal area than others and were awarded a higher number of possible points. A table describing each objective and total possible points can be found in **Appendix A**.

**Appendix A** provides a summary report card for each project and in which goal area objectives that project scored.

### ARRIVE 2050



## PUBLIC ENGAGEMENT

Public engagement is a key driver of Arrive 2050 and was ongoing throughout the plan's development. Public engagement is critical to the transportation planning process. Public engagement activities held as a part of Arrive 2050 include website, public open houses, stakeholder meetings, and online engagement opportunities to gain meaningful feedback on the plan's progress. Recurring meetings with the Arrive 2050 Steering Committee, progress updates for the TAC and Policy Board, and a final plan presentation to the NDDOT Management Committee were also held. Additional detail about public engagement events hosted as part of the development of Arrive 2050 is available in **Appendix B**.

### Project Website

A project website was developed to house information on Arrive 2050's development, advertise engagement events, and provide a general overview of the plan. This site hosted the online surveys during the development of Arrive 2050.

### Public Open Houses

A series of public open houses were held at various milestones during the development of Arrive 2050. Each meeting was advertised on many different platforms, including in the Bismark Tribune, in the Mandan News, through press releases, and social media posts on the MPO's Facebook page.

#### Public Open House I: November 9, 2023

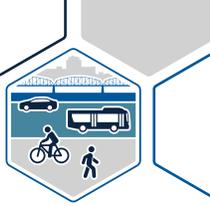
The initial round of public engagement for the Arrive 2050 plan was started with two in-person events. One was located at the Missouri Valley Family YMCA in Bismarck from 11:30 a.m. to 1:30 p.m., and the second open house was located at The Innovation Barn in Mandan from 4 p.m. to 6 p.m. The purpose of these meetings was to gather public feedback on the Arrive 2050 goal areas and to begin to develop geographic-specific issue areas.

The plan input included:

- **Arrive 2050 Goals Priorities:** For the 10 goal areas, participants received 5 dot stickers to indicate which areas they considered the most important.
- **Arrive 2050 Issues Mapping:** Participants were provided maps of the area to write ideas for geographic-specific issue areas.

Between the two events, 40 community members attended, with more attendees at the Bismarck event. In Public Open House I, the top three priorities according to the attendees were safety, active transportation, and efficiency and reliability.





## Public Open House 2: May 29, 2024

The second round of public engagement for the Arrive 2050 plan included an in-person public open house at the Missouri Valley Family YMCA in Bismarck from 11:30 a.m. to 1:30 p.m. The purpose of this open house was to gather input from community members on potential future transportation strategies and projects. The informational boards for the public open house included:

- **Welcome Sign**
- **Open House #1 Recap**
- **Strategies (6 total)**
- **Next Steps**

In addition to the meeting boards, there was a TV screen playing a presentation of technical information, including the following:

- **Baseline System Conditions**
  - Delays Maps
  - Planning Level of Service
  - Travel Time Reliability
  - System Reliability
  - Crash Data, Locations, and Frequency
  - Freight Summary
  - Bicycle and Pedestrian System
  - Transit System
  - Pavement and Bridge Conditions
- **Future Growth**
  - Household and Employment Growth
  - Traffic Volumes

There was a plan input station for the participants to place a dot sticker on which of the six strategies they preferred. The open house had approximately 30 people in attendance.

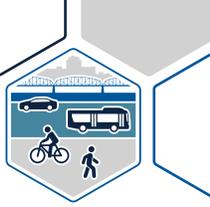
## Public Open House 3: July 3, 2024

The third public open house was held at the Mandan's annual Art in the Park Festival; the booth was staffed from 10 a.m. to 5 p.m. The purpose of this engagement was to update attendees on the plan's progress and allow participants to provide input on prioritizing projects and strategies. This open house event had approximately 30 attendees. At the open house attendees could voice their preference by placing popsicle sticks into jars. This method allowed participants to express their preferences for which areas they think should be prioritized.

Attendees at Public Open House 3 identified a Northern Bridge Crossing as a priority transportation improvement for the region. The full results of the voting activity are:

- **Northern Bridge Crossing: 22 votes**
- **More Funding for Public Transit: 20 votes**
- **I-94 – 56th Avenue/66th Street: 18 votes**
- **More Bike Paths: 15 votes**
- **Fill in the Street Grid Networks: 13 votes**
- **I-94 – 52nd Avenue/Hamilton/30th Street: 12 votes**
- **System Management: 11 votes**
- **McKenzie Road Extension: 8 votes**
- **66th Street/State Street Improvements at 71st Street: 8 votes**
- **More Pedestrian Crossings: 7 votes**





## Online Engagement Events

Three online engagement meetings were held to solicit further public input on the goals, strategies, and draft plan. These meetings reviewed the public involvement process and previous events, updated attendees on the plan's progress, and provided an opportunity for participants to offer their recommendations.

## Stakeholder Groups

Two stakeholder group meetings were held to inform stakeholders about the MTP development process and to gather additional feedback beyond what was collected at the public open houses. Information was presented about the baseline conditions in Bismarck-Mandan and included a feedback survey on plan goals. Stakeholders represented the following organizations:

- **City of Bismarck**
- **City of Mandan**
- **Downtowners**
- **Bismarck Mandan Chamber EDC**
- **CHI St. Alexius Health**
- **Developers**

## Steering Committee

The plan was developed in strong coordination with MPO's jurisdictional partners. Arrive 2050's advisory role was filled by a steering committee made up of planners and engineers representing each MPO jurisdictional partner and NDDOT representatives. The steering committee met 5 times during development of the travel demand model and 10 times during development of the Arrive 2050 plan document. The steering committee provided input on plan direction and the perspective of each jurisdiction and organization as the plan came together.

## MPO TAC and Policy Board

Monthly plan progress updates were provided to TAC and the Policy Board. These meetings were open to the public.

## NDDOT Management Committee

The Arrive 2050 team presented to the NDDOT Management Committee on October 25, 2024. After a presentation and some questions and answers, a few minor clarifications and edits were carried over into the Final draft of this document.

## Federal and State Agency Consultation

Consultation with federal and state agencies responsible for planning activities occurred early on in the development of Arrive 2050 as part of the effort to engage stakeholders in the planning process. Representatives from a range of federal and state agencies, including FHWA and the North Dakota State Historical Society, participated in stakeholder activities as well as review of the draft Arrive 2050 document. Consultation with federal and state agencies as well as the stakeholder group was conducted in accordance with the MPO's Public Participation Plan.



## THE BISMARCK-MANDAN MPO AREA TODAY

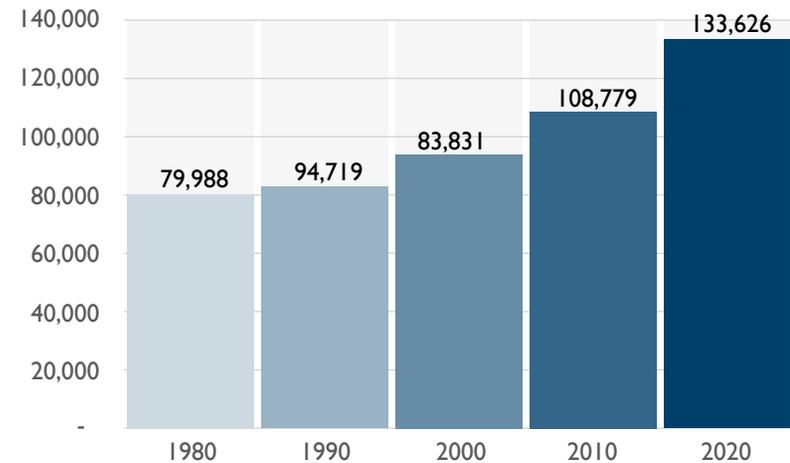
To better understand the MPO region’s residents and workers, a review of current demographic and employment data was conducted. Through developing a demographic and employment profile of the community, the Bismarck-Mandan MPO can better understand the current transportation needs of residents and workers. The demographic and employment data reviewed as part of this community profile was for the Bismarck-Mandan metropolitan statistical area.

### Historic Population Growth

Historic population levels for the Bismarck-Mandan metropolitan area were obtained from past U.S. decennial censuses to illustrate how the region has grown since 1980. **Figure 2** presents these historic population levels and illustrates that the metro’s population grew modestly between 1980 and 1990. By the year 2000, the population had grown by over 10,000 and growth continued to accelerate over the next 2 decades with the 2020 census recording a population of 133,626.

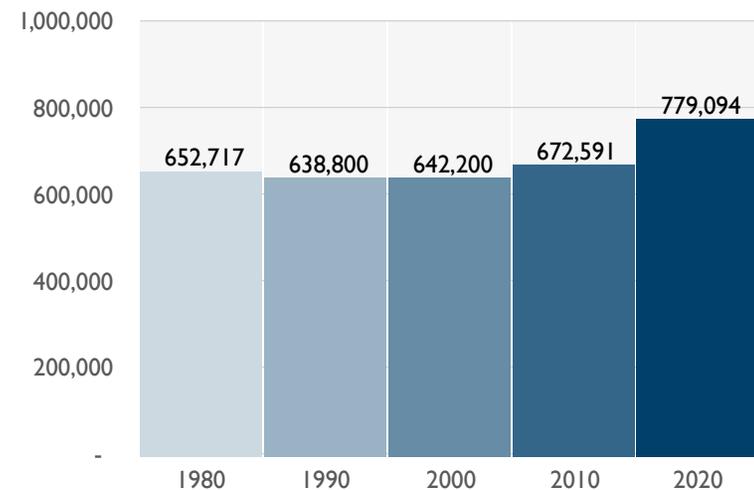
To provide a comparison of how the Bismarck-Mandan metropolitan area has grown over the past 5 decades, historic population levels for the state of North Dakota were also reviewed and are shown in **Figure 3**. The state’s population experienced a decline between 1980 and 1990 before experiencing a slight increase in population by the year 2000. Since 2000, North Dakota’s population has grown at a substantial rate, which reflects the trend seen for the Bismarck-Mandan metropolitan area.

**Figure 2: Population Growth for the Bismarck-Mandan Metropolitan Area, 1980–2020**

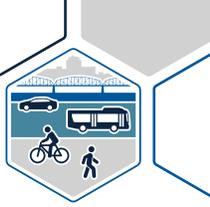


Source: U.S. Decennial Census, 1980–2022

**Figure 3: Population Growth for the State of North Dakota, 1980–2020**



Source: U.S. Decennial Census, 1980–2022



## Age

Age is an important factor in determining travel demand because different age groups have varying transportation needs. Data related to median age and proportions of the population aged 65 years or older were reviewed to identify the current trends related to these topics.

### Median Age

**Table 9** summarizes the current median age of residents in the Bismarck-Mandan metropolitan area and provides a comparison to the median age of residents across the state of North Dakota and the United States based on the American Community Survey (ACS) 1-year estimates for the year 2022.

The current median age for residents of the Bismarck-Mandan metropolitan area is 38.5 years, which is slightly higher than the median age of 36.2 years for the state of North Dakota. Compared to the United States, the median age for both the metro area and the state is lower than that of the nation.

### Percent of Population 65 Years of Age and Older

The proportion of the population aged 65 years and older in the Bismarck-Mandan metropolitan area has grown since 2010 as illustrated in **Table 10**. In 2010, 13.5 percent of the metro area's population was 65 or older, and this proportion grew to 16.3 percent in 2020. A similar trend was observed for the state of North Dakota as well as the United States for this same period, which highlights an overall shift toward an older population.

**Table 9: Median Age for the Bismarck-Mandan Metropolitan Area, State of North Dakota, and United States, 2022**

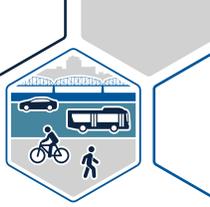
| Median Age                               |      |
|--|------|
| <b>Bismarck-Mandan Metropolitan Area</b> | 38.5 |
| <b>State of North Dakota</b>             | 36.2 |
| <b>United States</b>                     | 39.0 |

Source: American Community Survey 1-Year Estimates, 2022

**Table 10: Percent of the Population Aged 65 Years or Older for the Bismarck-Mandan Metropolitan Area, State of North Dakota, and United States**

| Percentage of Population Aged 65 Years or Older | 2010  | 2015  | 2020  |
|---|-------|-------|-------|
| <b>Bismarck-Mandan Metropolitan Area</b>        | 13.5% | 14.6% | 16.3% |
| <b>State of North Dakota</b>                    | 14.6% | 14.2% | 15.3% |
| <b>United States</b>                            | 12.8% | 14.8% | 16.1% |

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



## Housing

Housing characteristics are an additional demographic indicator that is related to travel demand. The average household size for the Bismarck-Mandan metropolitan area, the state of North Dakota, and the United States were identified based on ACS 1-year estimates for the year 2022 and are shown in **Table 11**. It was found that the average household size for the metro area is 2.38 people for owner-occupied households and 2.07 people for renter-occupied households; the resulting average household size is 2.23 people. Compared to the state of North Dakota, the average household size is slightly larger than the state’s average of 2.19 people. Households across the United States are larger on average than those of both the metro area and the state of North Dakota.

**Table 11: Average Household Size for the Bismarck-Mandan Metropolitan Area, State of North Dakota, and the United States**

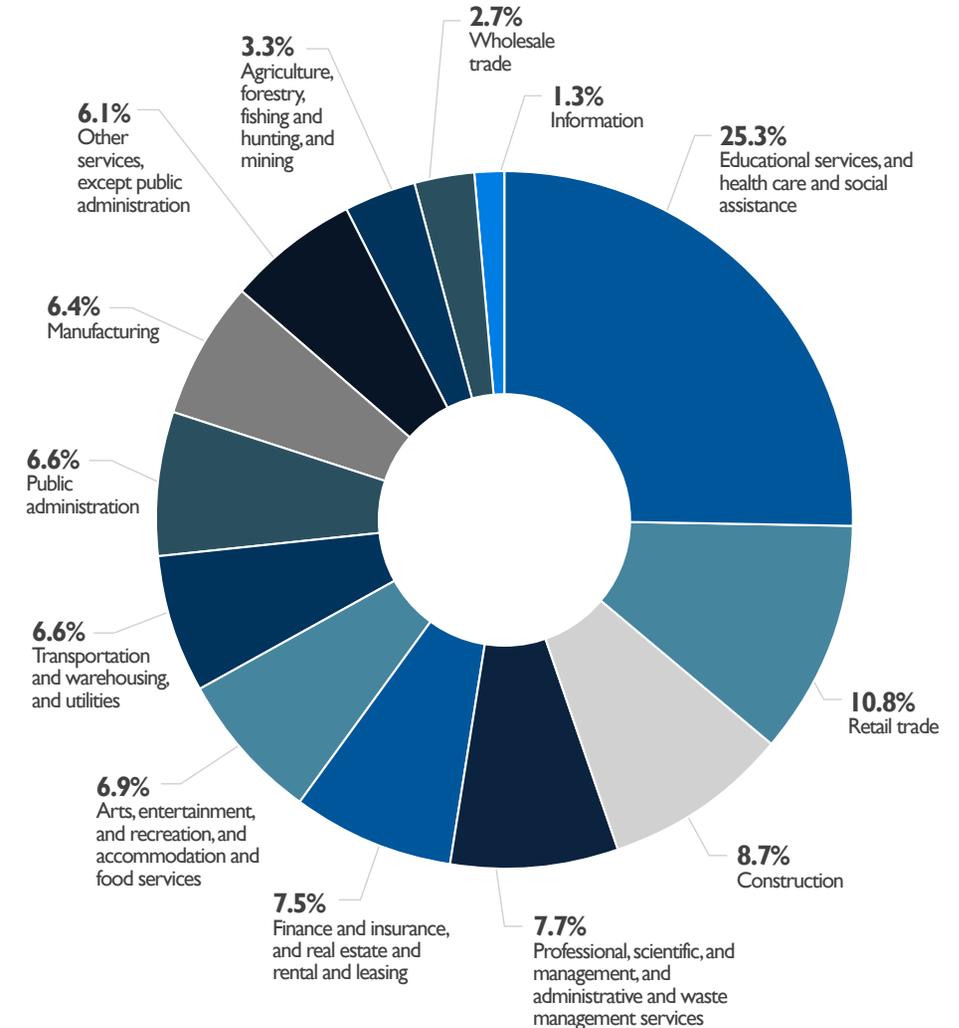
| Average Household Size                   | Owner-Occupied | Renter-Occupied | Average |
|--|----------------|-----------------|---------|
| <b>Bismarck-Mandan Metropolitan Area</b> | 2.38           | 2.07            | 2.23    |
| <b>State of North Dakota</b>             | 2.42           | 1.96            | 2.19    |
| <b>United States</b>                     | 2.63           | 2.27            | 2.45    |

Source: American Community Survey 1-Year Estimates, 2022

## Employment

Data on employment by industry for the Bismarck-Mandan metropolitan area is summarized in **Figure 4**. The largest proportion of workers, at 25.3 percent, in the metro area are employed in educational services, health care, and social assistance. The retail trade employs the second largest proportion of workers at 10.8 percent, while the construction industry employs almost 9 percent of the metro area’s workers. Median household income in 2022 was \$81,846, which is higher than the national household income of \$74,580.

**Figure 4: Employment by Industry for the Bismarck-Mandan Metropolitan Area**



Source: American Community Survey 1-Year Estimates, 2022



## Commuting

Commuting trends for workers in the Bismarck-Mandan metropolitan region were analyzed based on ACS 1-year estimates for the year 2022 so that a profile of means to work, time of departure, and travel time to work could be developed.

### Means to Work

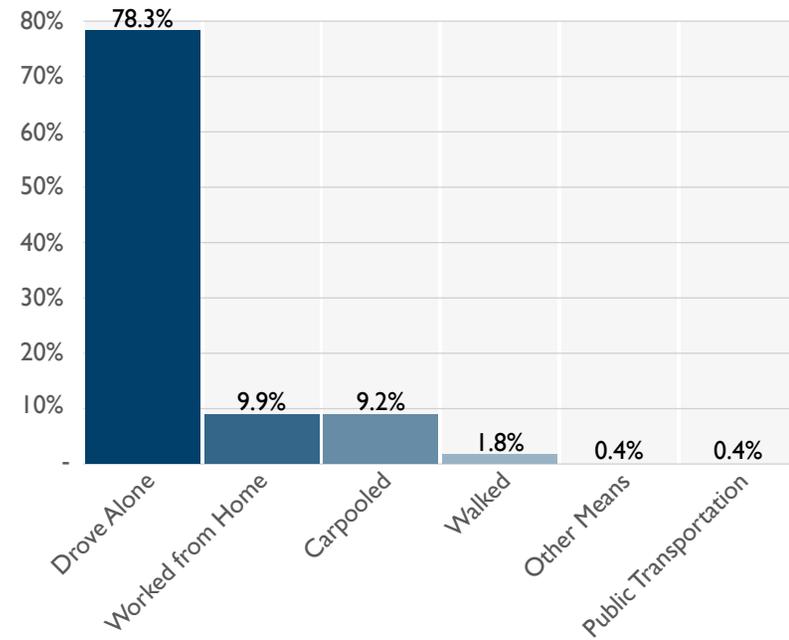
Means to work refers to the primary transportation mode used by workers for commuting purposes. **Figure 5** provides a summary of the current modal share for the metro area’s workers.

Approximately 78 percent of workers in the metro area drive alone during their commute, while an additional 9.2 percent carpool; this indicates that more than 87 percent of workers commute to work via automobile each day. Nearly 10 percent of metro area workers are reported as working from home, which marks a significant increase in the proportion of workers who worked from home in 2019, which was reported as 3.2 percent.

This increase marks a trend in working arrangements that began with the COVID-19 pandemic in 2020 that saw a major shift in the number of individuals working from home due to local shelter-in-place ordinances. Since 2020, the number of workers with a work from-home arrangement has declined when compared to the numbers reported during the pandemic but are still above pre-COVID-19 levels.

Of the remaining commuting modes, roughly 2 percent of metro area workers are estimated to walk to work, while 0.4 percent use public transportation; the remaining 0.4 percent use other means for their commute.

**Figure 5: Means of Commuting to Work for the Bismarck-Mandan Metropolitan Area**



Source: American Community Survey 1-Year Estimates, 2022

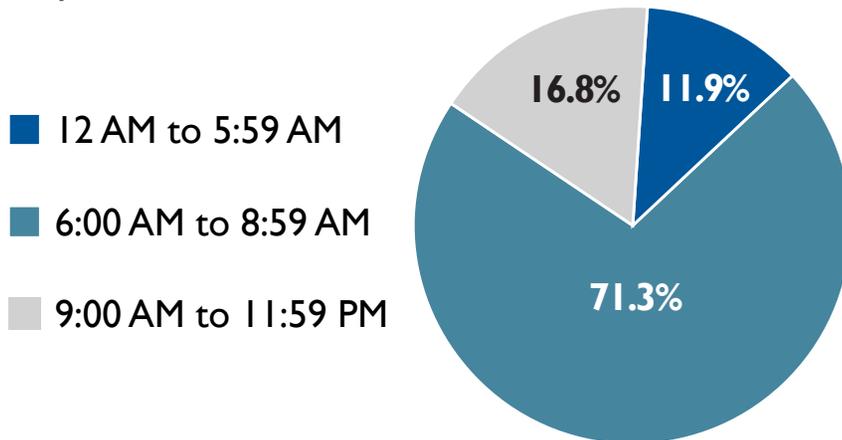


## Time of Departure

Time of departure refers to the hour in which workers begin their commutes. This measure provides insight into when peak period travel times likely occur as peak travel is typically associated with the morning and afternoon commute period.

**Figure 6** illustrates the current breakdown of times of departure for metro area works. As the figure shows, more than 70 percent of the metro area's commuters depart home between the hours of 6 a.m. and 8 a.m. The second largest proportion of commutes begin between the hours of 9 a.m. and 11 p.m. Almost 12 percent of commutes depart between midnight and 5 a.m.

**Figure 6: Time of Departure to Work for the Bismarck-Mandan Metropolitan Area**



Source: American Community Survey 1-Year Estimates, 2022

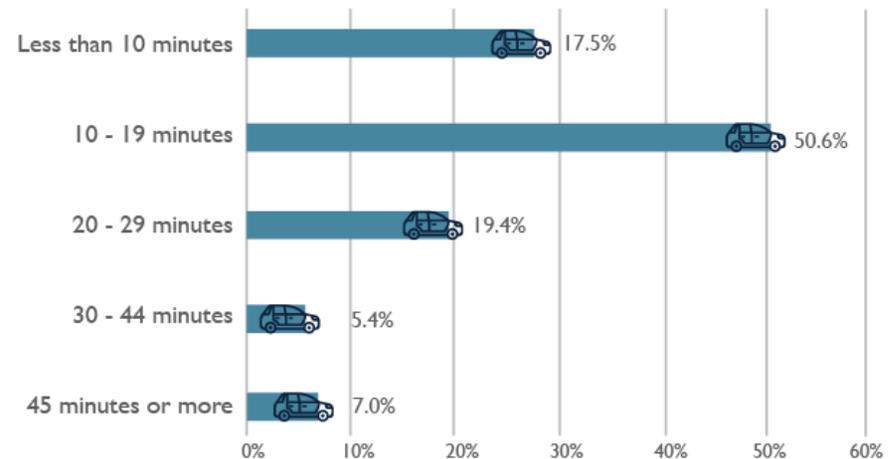
## Travel Time to Work

Travel time to work looks at the length of commutes in terms of minutes to provide a picture of how long a worker typically spends commuting to their place of employment. **Figure 7** summarizes the travel times for the metro area's workers.

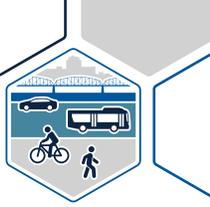
The largest share of commuters, 26.3 percent, spends between 15 to 19 minutes traveling to work, while 24.3 percent spend between 10 and 14 minutes. The third largest share of workers typically spends less than 10 minutes commuting to work.

Commutes longer than 25 minutes are not common for workers in the Bismarck-Mandan metropolitan area, but it is noted that 5 percent of workers commute 60 or more minutes to their place of employment.

**Figure 7: Travel Time to Work for the Bismarck-Mandan Metropolitan Area**



Source: American Community Survey 1-Year Estimates, 2022



## Commuting Inflow/Outflow

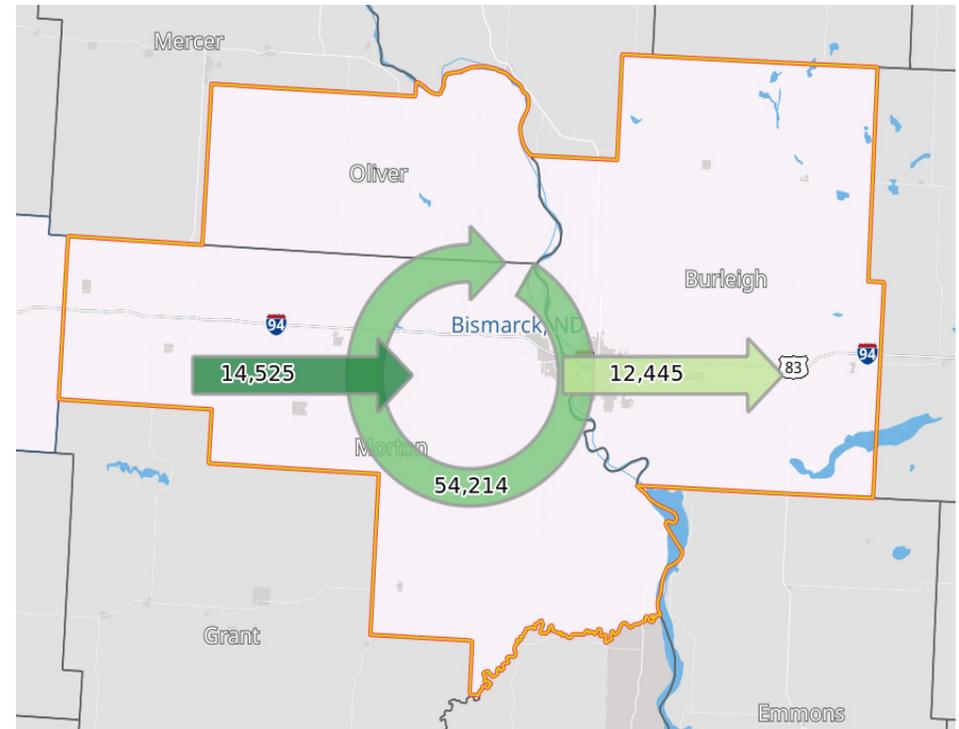
Commuting inflow/outflow is an analysis that looks at commuting flows into, out of, and within a defined area. A commuting inflow/outflow analysis was conducted for the Bismarck-Mandan metropolitan area to identify commuting flow patterns for the region's workers.

The results of the analysis are shown in **Figure 8**. Of the nearly 69,000 workers employed in the Bismarck-Mandan metropolitan area, 54,214 are reported as both living and working in the metro area, while approximately 12,445 individuals employed in the metro area live outside it. The remaining 14,525 of the metro area's workers are reported as living outside the metro but commute into the area for their jobs.

Data related to the top commuting corridors in the MPO area was collected from Replica HQ, a platform that integrates location-based data from mobile devices with land use and ACS demographic data to estimate travel in a geographic area via an activity-based travel demand model. The Replica data was filtered to private automobile trips taken to work locations in the MPO area during a typical weekday in spring 2023.

**Figure 9** shows the resulting number of commute trips on a typical weekday for the MPO area. As the figure shows, the major corridors used for commuting trips include I-94 in Bismarck and Mandan and U.S. Highway 83 (US 83) in Bismarck. Overall, the MPO's functionally classified system was shown to facilitate at least 1,000 commute trips on a typical weekday.

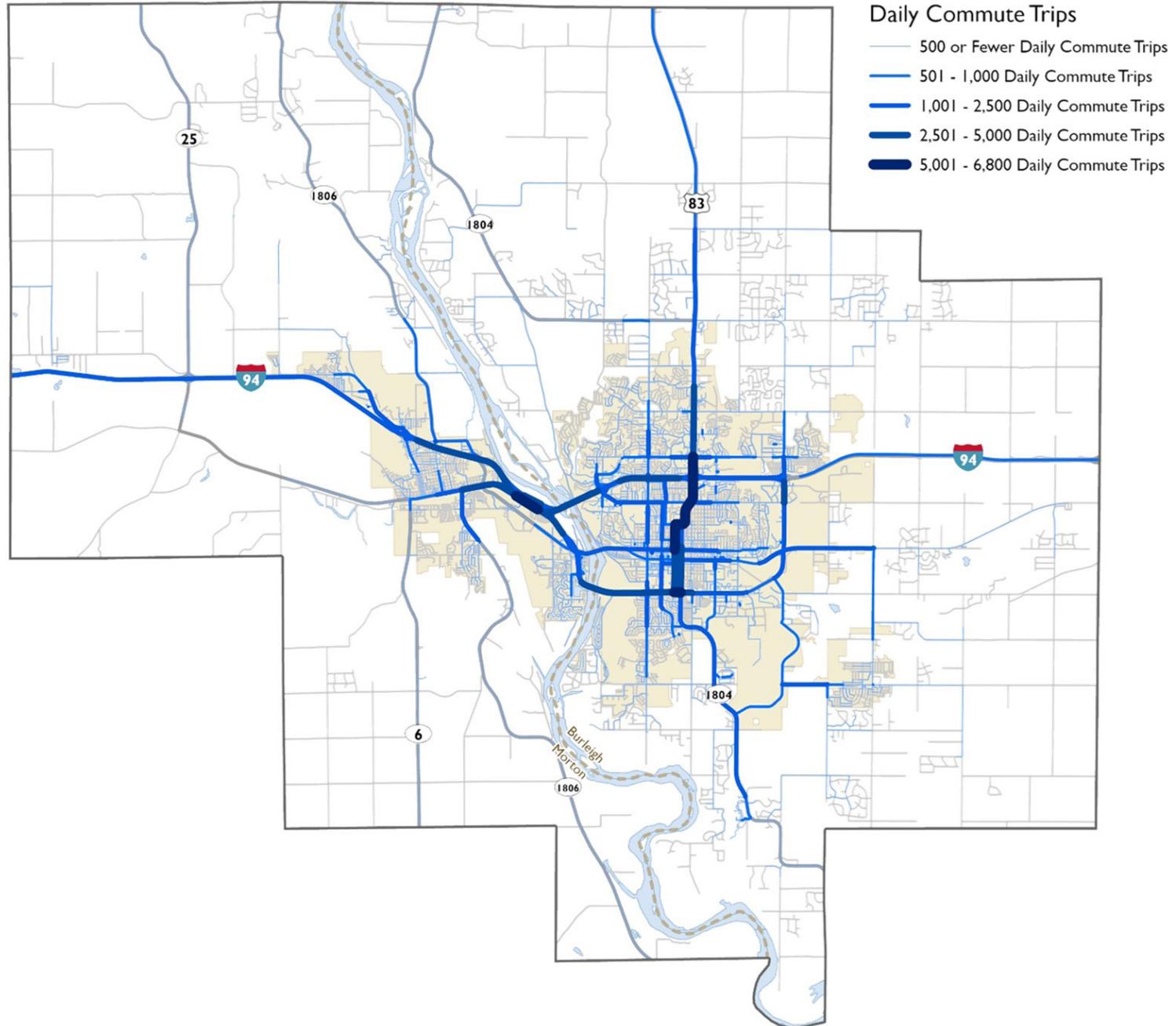
**Figure 8: Commuting Inflow/Outflow for the Bismarck-Mandan Metropolitan Area**



Source: U.S. Census Bureau, [OnTheMap](#)



Figure 9: Top Commuting Corridors in the MPO Area





## BASELINE TRANSPORTATION SYSTEM PERFORMANCE

The baseline conditions of the Bismarck-Mandan MPO's multimodal transportation system were analyzed to identify system issues and needs. Identifying the existing issues and needs of today's multimodal transportation system informs the development of the baseline scenario used to evaluate future multimodal system scenarios. Furthermore, the existing needs and issues guide the development of potential strategies available to MPO to address them. More details on the baseline system performance can be found in **Appendix C**.



This report summarizes the analyses conducted for the multimodal system, including:

### STREET NETWORK



### SAFETY



### TRAFFIC OPERATIONS



### FREIGHT



### BICYCLE AND PEDESTRIAN



### TRANSIT SYSTEM

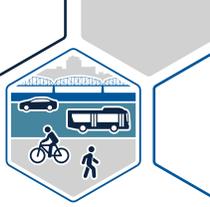


### REGIONAL CONNECTION



### ASSET CONDITIONS





## MPO Area Street Network

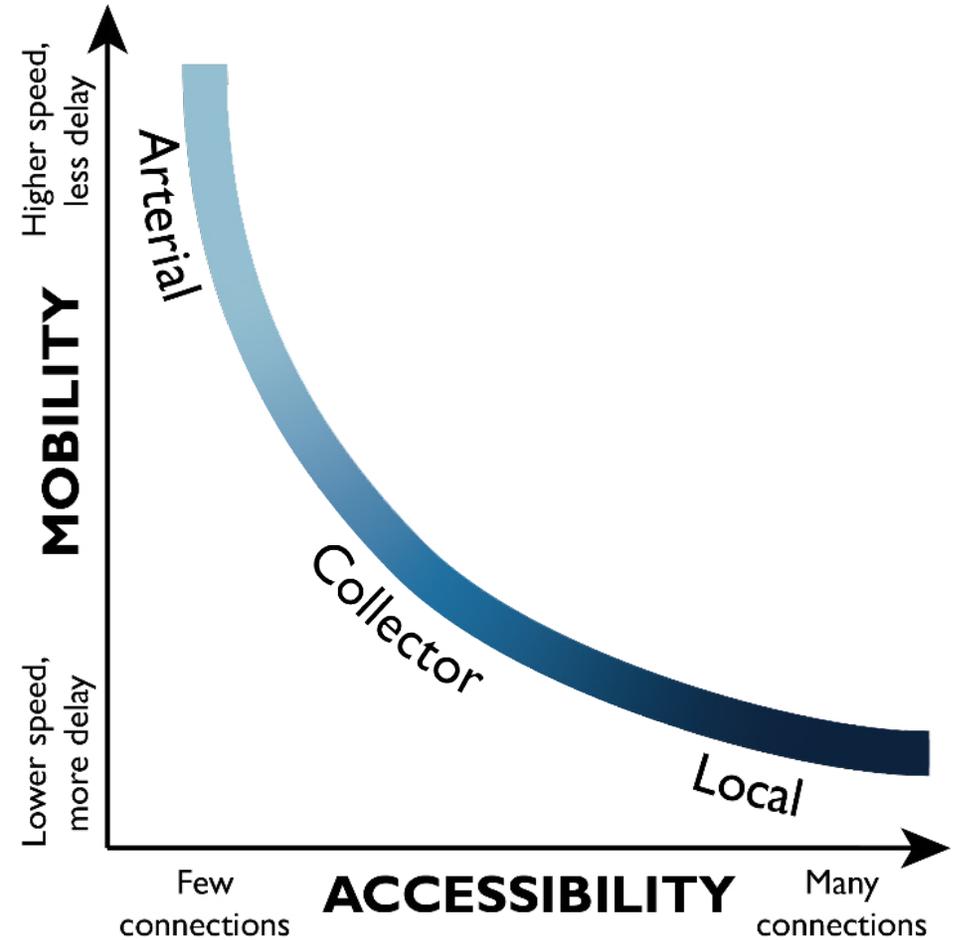
The streets and roadways of the Bismarck-Mandan MPO area are the central feature of the multimodal transportation system. Facilitating mobility and access to regional residential, employment, and recreational destinations, the MPO's streets and highways are a critical element in supporting the region's development and economy.

### Functional Classifications

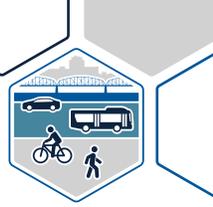
Functional classification is a series of designations used to classify streets and highways based on the character of the service they provide. Functional classification organizes the network to provide a balance between mobility and accessibility to road users, as demonstrated in **Figure 10**. High mobility roadways typically are designed to carry higher daily traffic volumes at higher speeds with limited access, while low mobility roadways are designed to provide higher degrees of accessibility carrying lower daily traffic at lower speeds so that adjacent land uses can be easily accessed.

Functional classification is also used for planning purposes. Roadways identified under the federal functional classification system are considered part of the federal aid system, meaning they are eligible to receive federal funding for transportation-related improvements. The MPO area's proposed federal functional classification system is delineated between urban and rural functional classifications, which are determined based on the MPO's urbanized area boundary (UZA); MPO roadways that fall in the UZA are considered urban, while those outside the UZA are considered rural. The MPO's proposed functionally classified system and UZA are shown in **Figure 11**.

**Figure 10: Accessibility and Mobility Characteristics of the Functionally Classified Roadway System**



Source: Federal Highway Administration



The UZA also has importance regarding the suballocation of federal funds, including the Surface Transportation Block Grant Program (STBG); current regulations contained within the Bipartisan Infrastructure Law direct states to allocate 55% of STBG funds between the following:<sup>1</sup>

- Urbanized areas with populations greater than 200,000: This portion is to be divided among those areas based on their relative share of population unless the Secretary approves a joint request from the State and relevant MPO(s) to use other factors.
- Urbanized areas with population of at least 50,000 but no more than 200,000: The State is to establish a process to consult with relevant metropolitan planning organizations and describe how funds will be allocated equitably.
- Urbanized areas with population of at least 5,000 but no more than 49,999: The State is to consult with regional transportation planning organizations, if any, before obligating funds for projects in these areas.
- Areas with population of less than 5,000: The State is to consult with regional transportation planning organizations, if any, before obligating funds for projects in these areas.

The remaining 45% of a state's STBG funding may be obligated in any area of the state.

<sup>1</sup> Federal Highway Administration, [Infrastructure Investment and Jobs Act Surface Transportation Block Grant \(STBG\)](#).

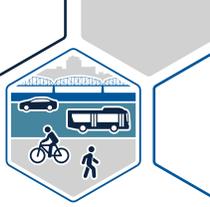
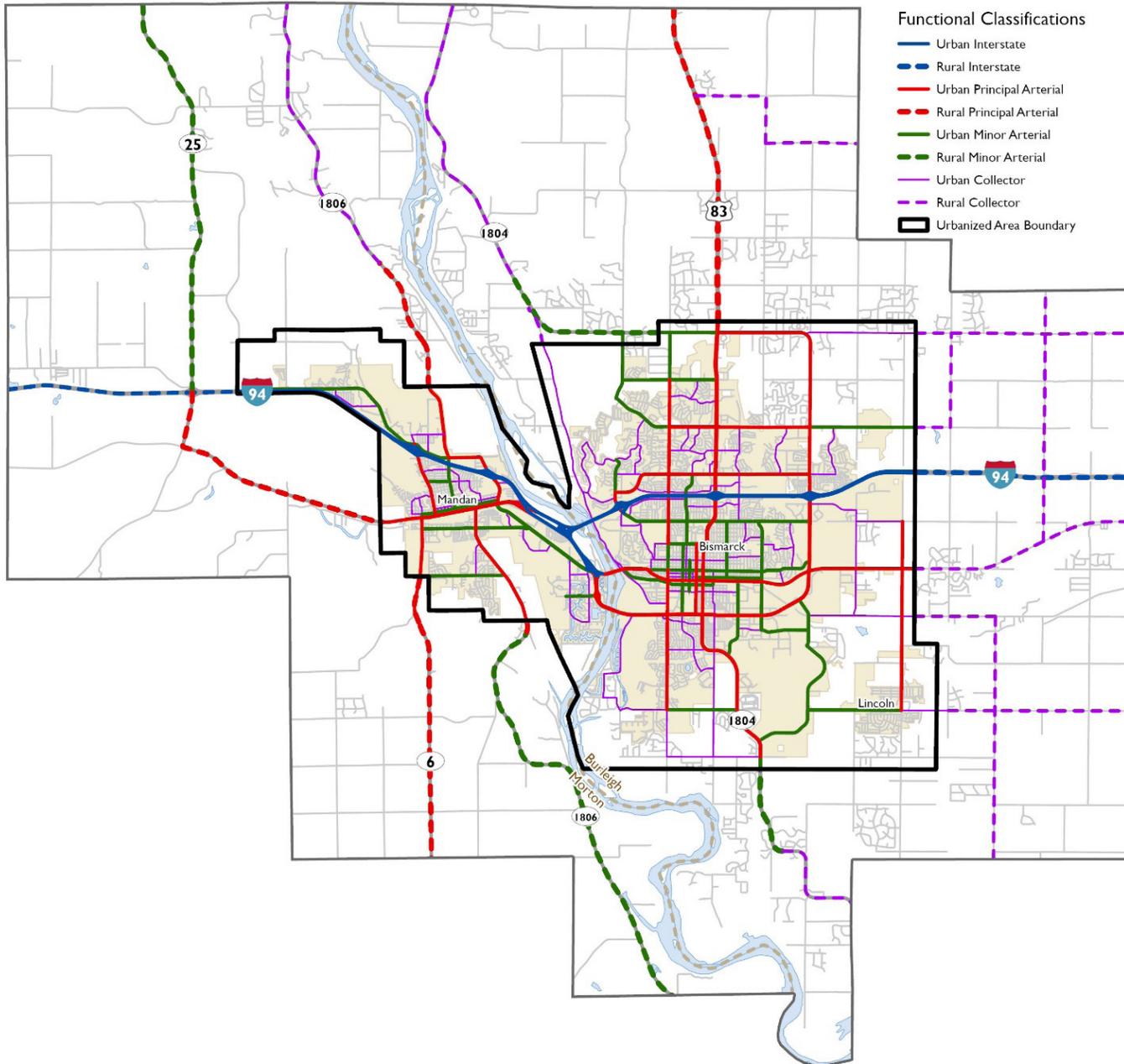
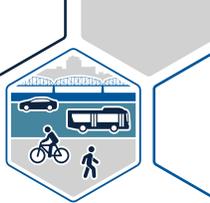


Figure 11: Bismarck-Mandan MPO's Proposed Functional Classification System

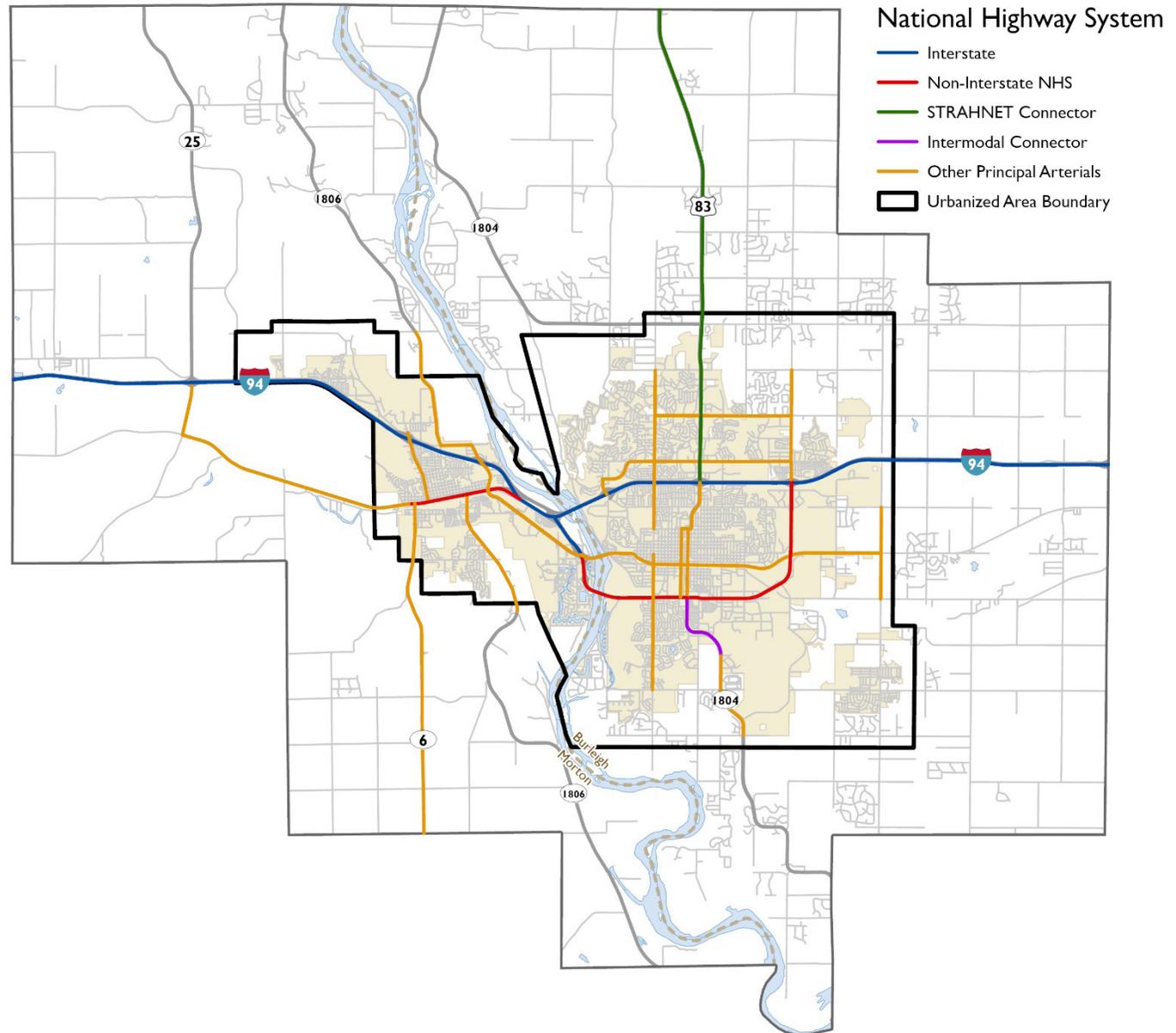




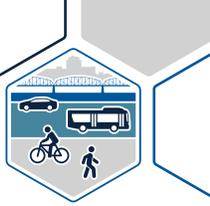
## National Highway System

The NHS is a network of roadways that are deemed critical to the nation's economy, defense, and mobility. This network was developed through cooperation between the United States Department of Transportation (USDOT), states, local governments, and MPOs and consists of a series of subsystems.<sup>2</sup> The MPO roadways designated as part of the NHS are shown in **Figure 12**.

**Figure 12: National Highway System Within the Bismarck-Mandan MPO Region**



<sup>2</sup> Federal Highway Administration, [National Highway System](#)



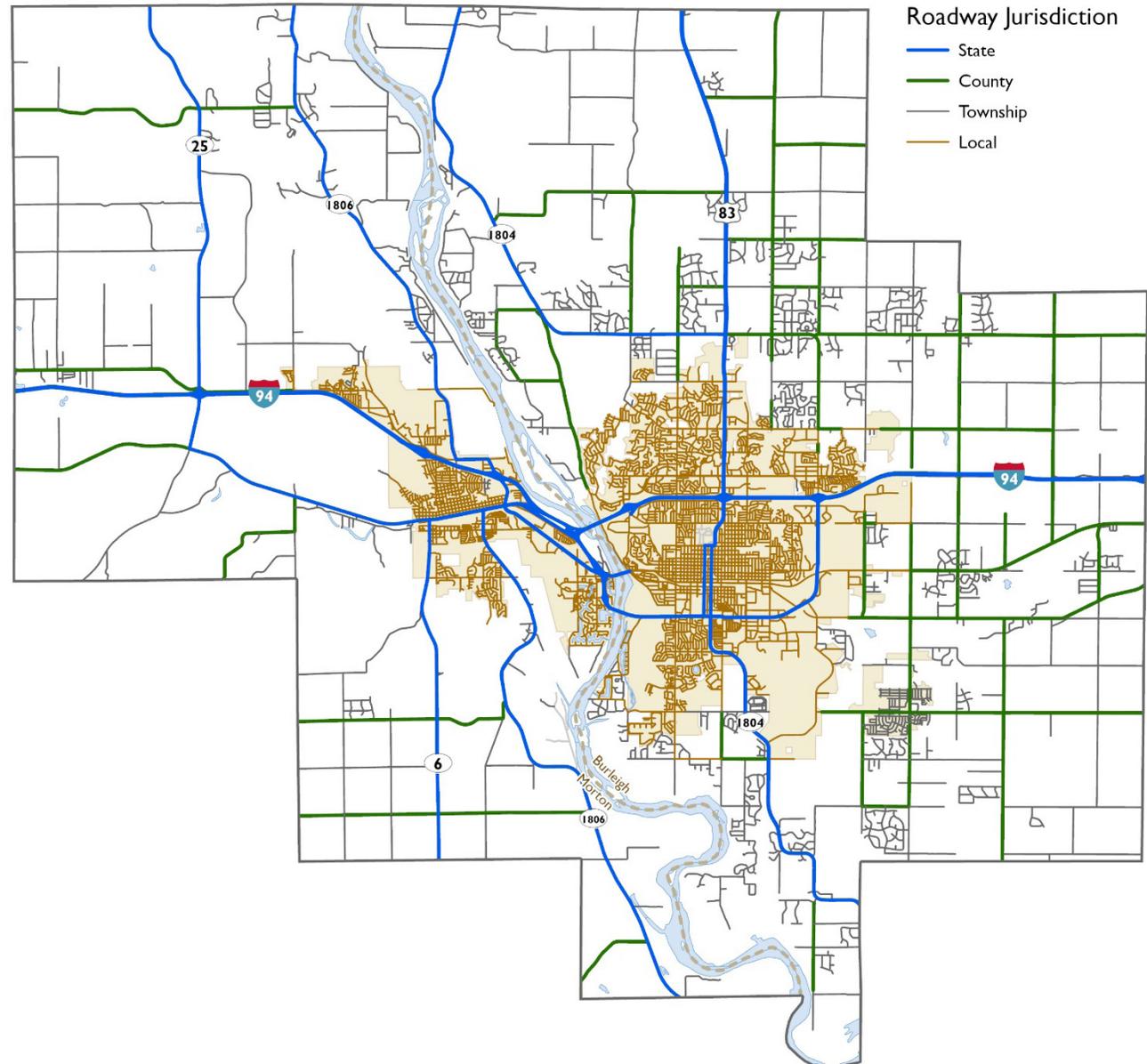
## Roadway Jurisdiction

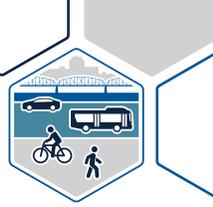
Roadway jurisdiction pertains to the primary agency responsible for the maintenance and operation of a roadway. For the Bismarck-Mandan MPO area, jurisdictions responsible for roadways include state, county, township, and local agencies. In the MPO area, the specific agencies responsible for maintaining and operating roadways include:

- **State Agencies:** NDDOT
- **County Agencies:** Burleigh and Morton Counties
- **Townships:** Hay Creek, Gibbs, and Apple Creek
- **Local Agencies:** Bismarck, Mandan, and Lincoln

**Figure 13** shows the MPO roadways and their current jurisdictional agency.

**Figure 13: Bismarck-Mandan MPO Roadways Jurisdictions**





## Safety

Multimodal safety conditions for the Bismarck-Mandan MPO area were analyzed through a review of historic crash data, which spanned the years 2018–2022 and was sourced from NDDOT. This analysis focused on trends in the MPO area and on specific locations with the most crashes.

### Annual Crash Trends

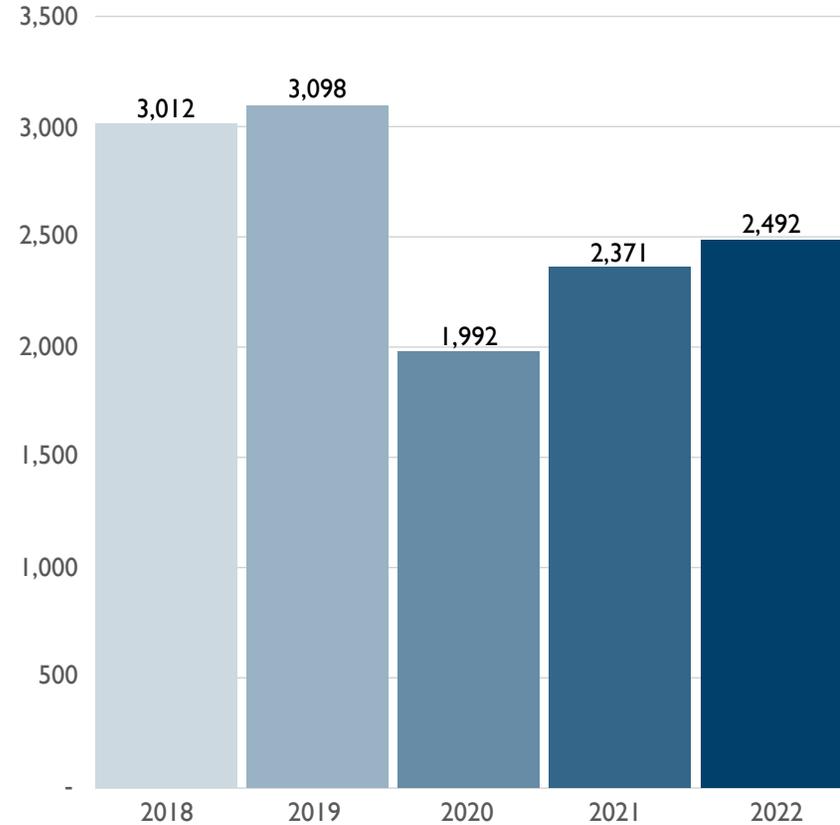
Annual MPO area crashes between 2018 and 2022 are shown in **Figure 14**.

### Crash Severity

Crash severity refers to the most severe injury sustained by an individual because of a crash event. Currently, NDDOT uses five categories when determining crash severity:

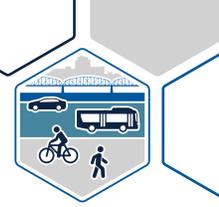
- **Fatal crash**
- **Serious injury crash** (also referred to as incapacitating injury)
- **Minor injury crash** (also referred to as non-incapacitating injury)
- **Possible injury crash**
- **Property damage only (PDO)**

**Figure 14: Annual Crashes Within the MPO Area, 2018–2022**



Source: North Dakota Department of Transportation Data<sup>3</sup>

<sup>3</sup> NDDOT revised the reporting requirements of property-damage-only crashes in 2019



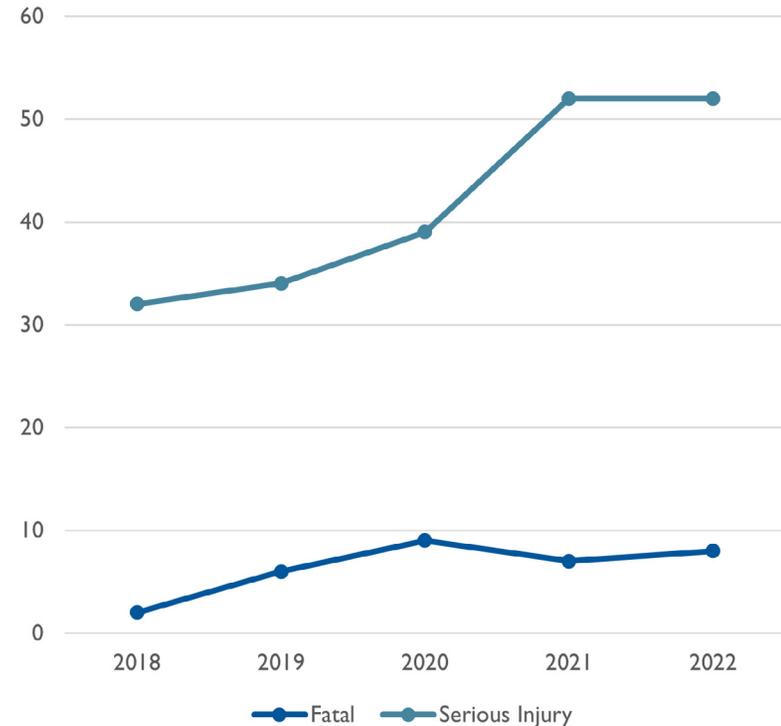
**Table 12** summarizes crash severities by year for the MPO region. Between 2018 and 2022, there were 32 fatal crashes and 209 serious injury crashes in the region. Minor injury and possible injury crashes totaled 1,241 and 1,342, respectively, while PDO crashes were the most common severity with 10,141 recorded between 2018 and 2022. **Figure 15** provides more detailed look at the annual trends related to fatal and serious injury crashes between 2018 and 2022. **Figure 16** shows the locations of fatal and serious injury crashes that occurred in the MPO area between 2018 and 2022.

**Table 12: Crashes by Severity, 2018–2022**

| Year         | Fatal     | Serious Injury | Minor Injury | Possible Injury | PDO           | Total         |
|--------------|-----------|----------------|--------------|-----------------|---------------|---------------|
| 2018         | 2         | 32             | 197          | 328             | 2,453         | 3,012         |
| 2019         | 6         | 34             | 233          | 329             | 2,496         | 3,098         |
| 2020         | 9         | 39             | 212          | 238             | 1,494         | 1,992         |
| 2021         | 7         | 52             | 287          | 258             | 1,767         | 2,371         |
| 2022         | 8         | 52             | 312          | 189             | 1,931         | 2,492         |
| <b>Total</b> | <b>32</b> | <b>209</b>     | <b>1,241</b> | <b>1,342</b>    | <b>10,141</b> | <b>12,965</b> |

Source: North Dakota Department of Transportation Data

**Figure 15: Annual Fatal and Serious Injury Crashes in the MPO Area, 2018–2022**



Source: North Dakota Department of Transportation Data

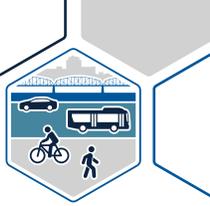
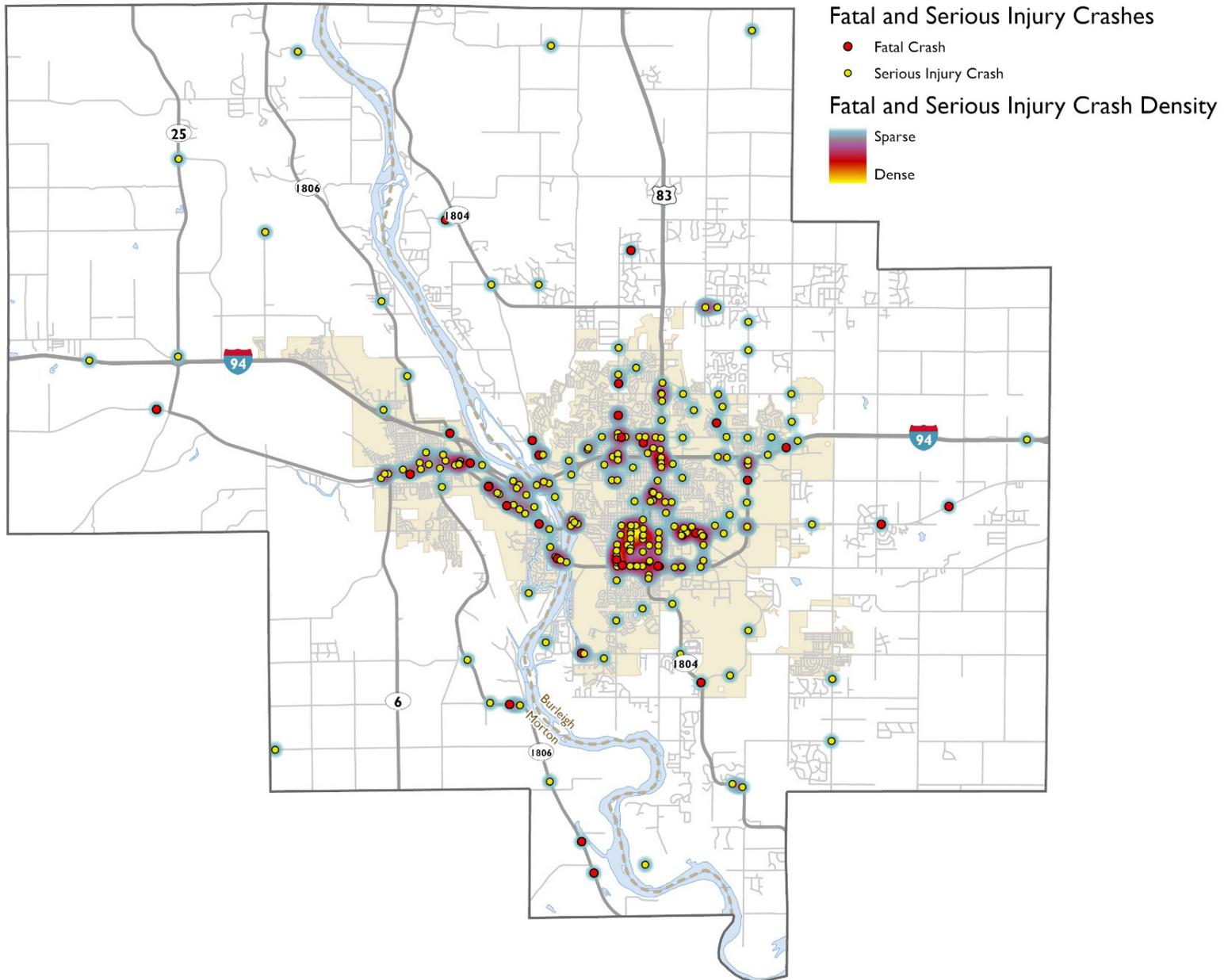


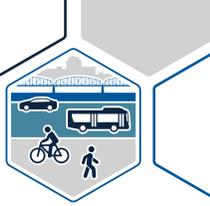
Figure 16: Fatal and Serious Injury Crashes, 2018–2022



Source: North Dakota Department of Transportation Data

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TRANSPORTATION PLAN

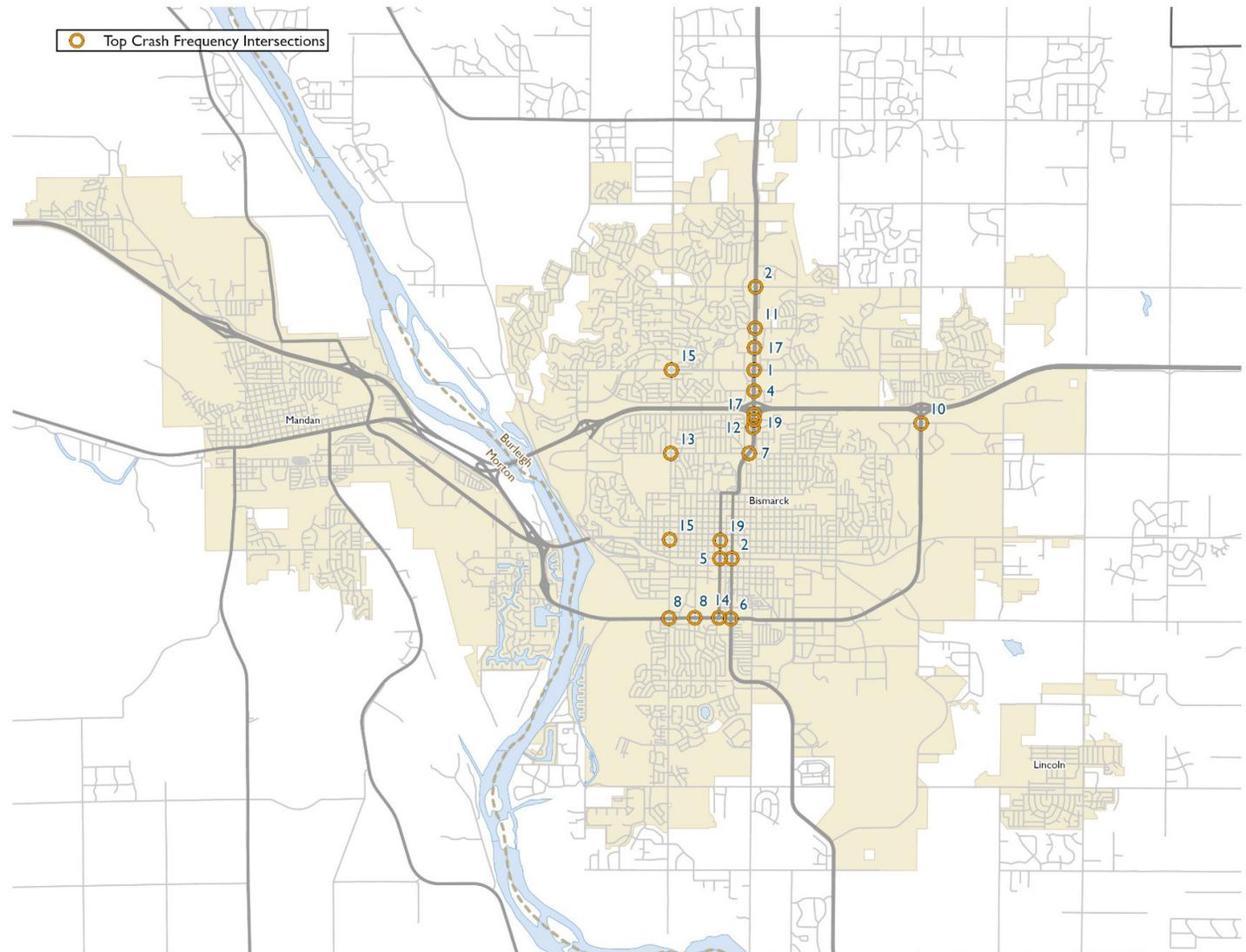


## Intersection Crash Frequency

An intersection crash frequency analysis reviews intersection-related crashes so that they can be tied to specific locations in a study area.

**Figure 17** shows the locations of the top 20 crash frequency intersections. It is noted that roadway improvements to address crash history and overall traffic operations along State Street from Divide Avenue to Calgary Avenue were completed in 2023.

**Figure 17: Top 20 Crash Frequency Intersections (2018–2022), Urban Inset**



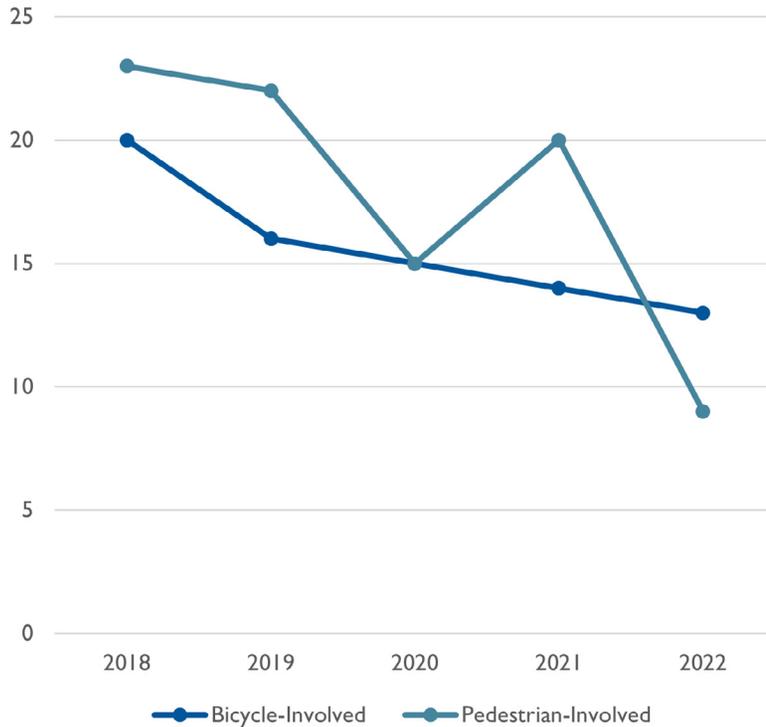
Source: North Dakota Department of Transportation Data



## Bicycle and Pedestrian Safety Conditions

It is important to understand safety conditions for non-motorized users, including bicyclists and pedestrians. Historic bicycle and pedestrian crashes in the MPO area are summarized by year in **Figure 18** while the locations of these crashes are shown in **Figure 19**.

**Figure 18: Bicycle- and Pedestrian-Involved Crashes, 2018–2022**



Source: North Dakota Department of Transportation Data

## Bicycle- and Pedestrian-Involved Fatal and Serious Injury Crashes

**Table 13** summarizes fatal and serious injury crashes that involved bicyclists and pedestrians.

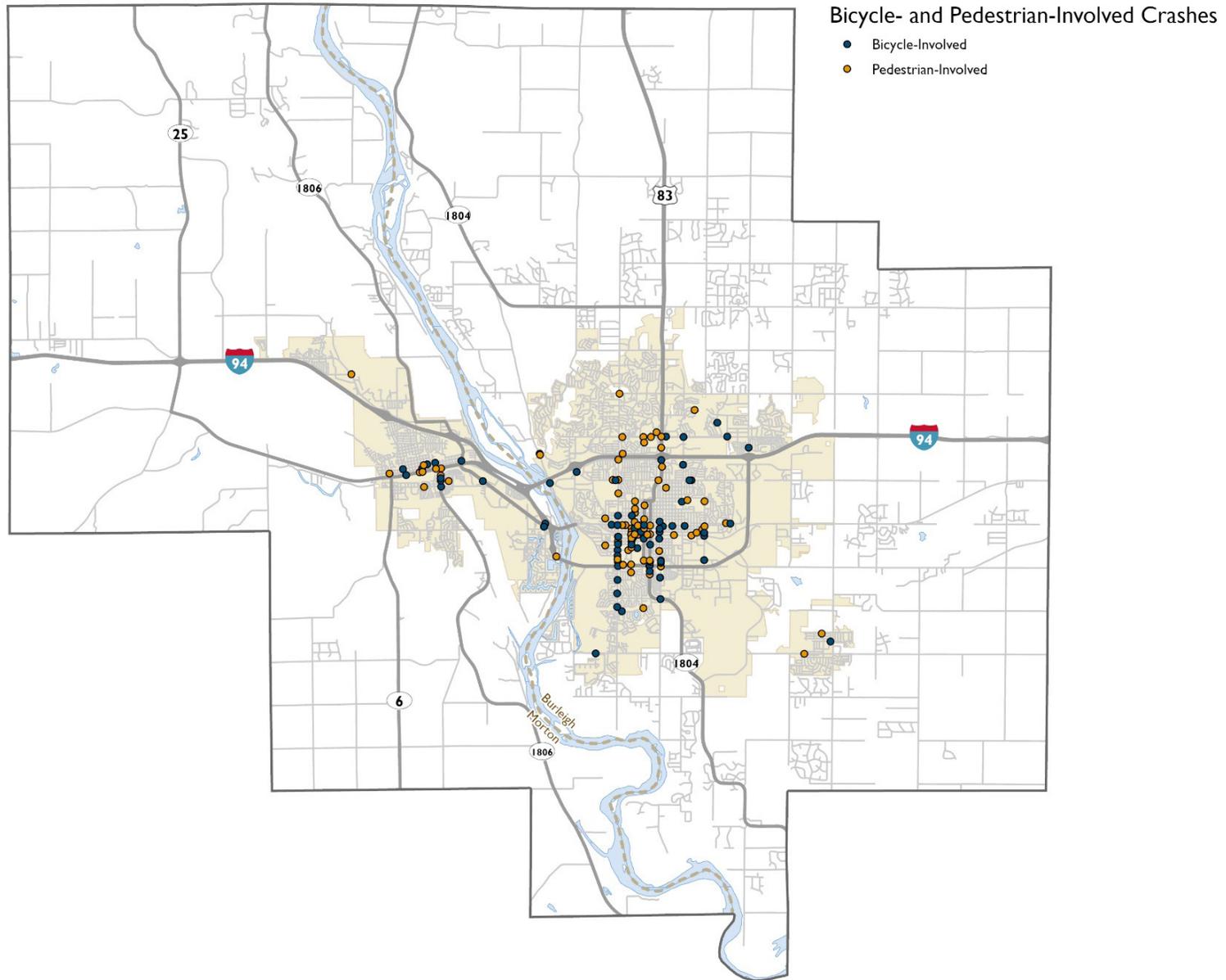
**Table 13: Bicycle- and Pedestrian-Involved Crashes Fatal and Serious Injury Crashes, 2018–2022**

| Type                       | 2018 | 2019 | 2020 | 2021 | 2022 | Total |
|----------------------------|------|------|------|------|------|-------|
| <b>Fatal</b>               |      |      |      |      |      |       |
| <b>Bicycle-Involved</b>    | 0    | 1    | 0    | 0    | 0    | 1     |
| <b>Pedestrian-Involved</b> | 0    | 0    | 1    | 2    | 2    | 5     |
| <b>Serious Injury</b>      |      |      |      |      |      |       |
| <b>Bicycle-Involved</b>    | 2    | 1    | 4    | 3    | 0    | 10    |
| <b>Pedestrian-Involved</b> | 1    | 4    | 2    | 7    | 2    | 16    |

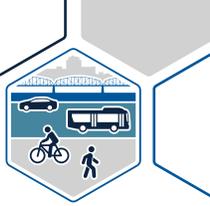
Source: North Dakota Department of Transportation Data



Figure 19: Bicycle- and Pedestrian-Involved Crashes, 2018–2022



Source: North Dakota Department of Transportation Data



## Traffic Operations

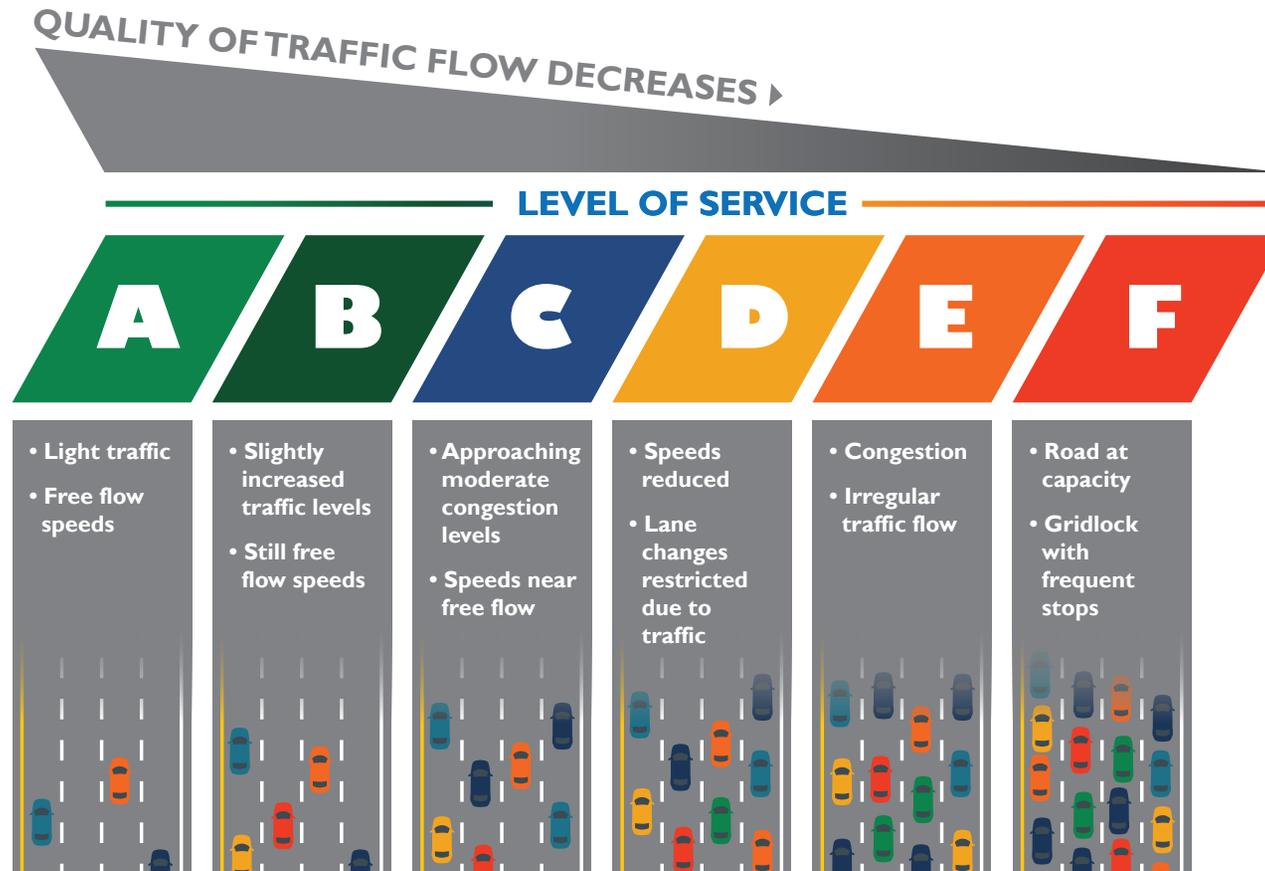
Baseline traffic operations for roadways in the MPO area were analyzed to identify the corridors experiencing congestion.

## Planning Level of Service

Planning level of service (LOS) is a high-level estimate of peak hour traffic operations that compares the level of observed traffic with a street's capacity to carry traffic. This approach describes the roadway's LOS with grades between "A," indicating free-flow conditions, and "F," indicating complete gridlock. **Figure 20** details each LOS grade and **Figure 21** provides a summary of current levels of service in the study area.

The current estimated LOS for the streets in the MPO area is shown in **Figure 20**.

Figure 20: Level of Service Definitions



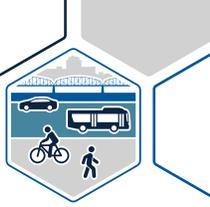
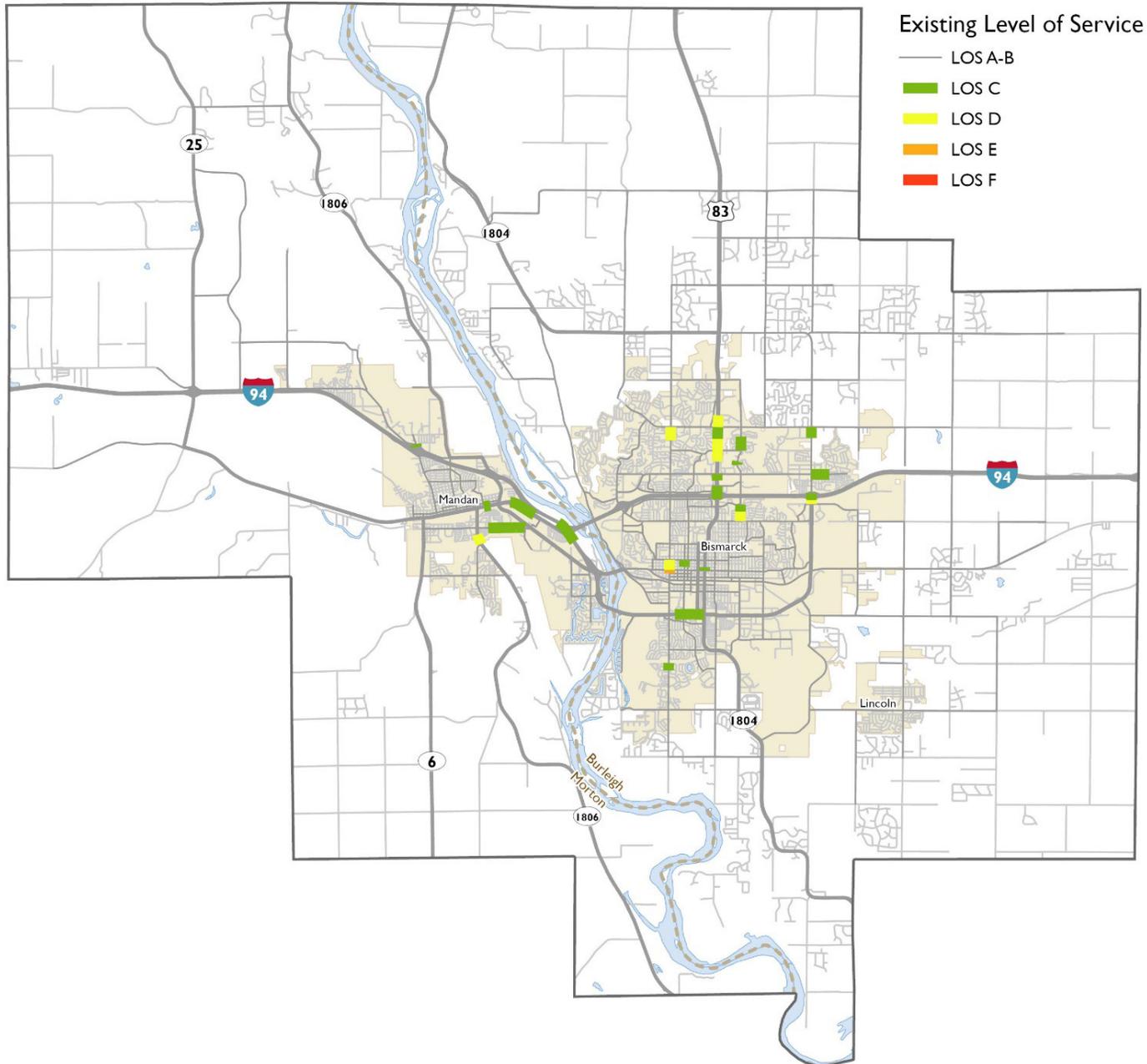
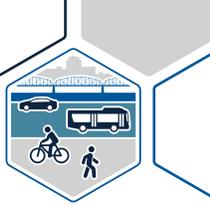


Figure 21: Existing Planning Level of Service for the Bismarck-Mandan MPO Area





## Travel Reliability

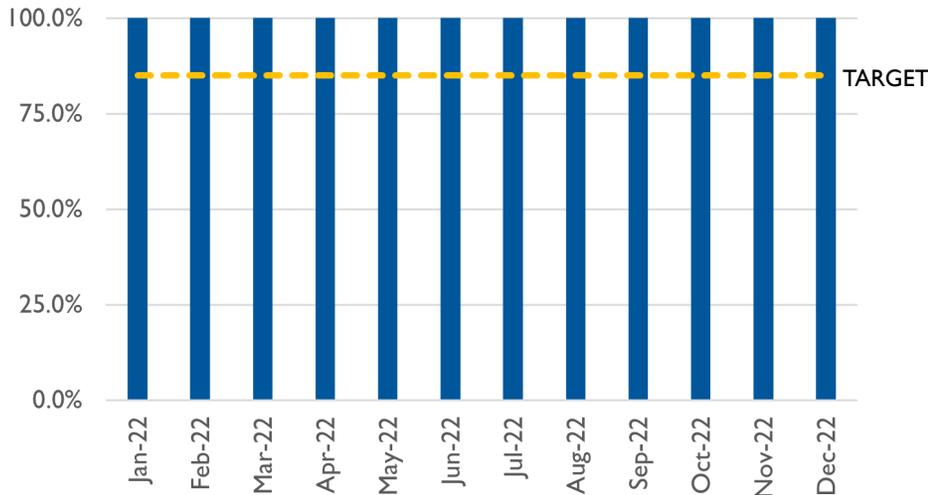
Travel reliability measures the predictability of travel times along a corridor. This traffic operations measure differs from the other because it focuses on consistency; a corridor identified as being congested can still be deemed reliable if that congestion is consistent and predictable to travelers who can plan their travel around it. It is measured for passenger vehicles with a metric called Level of Travel Time Reliability (LOTTTR) and measured for freight traffic with a metric called Truck Travel Time Reliability Index (TTTR).

**Figure 22** and **Figure 23** summarize progress made on the interstate system and non-interstate NHS toward these targets, respectively. Both figures show that reliability targets were met for all months in the MPO area.

## Truck Travel Time Reliability Index

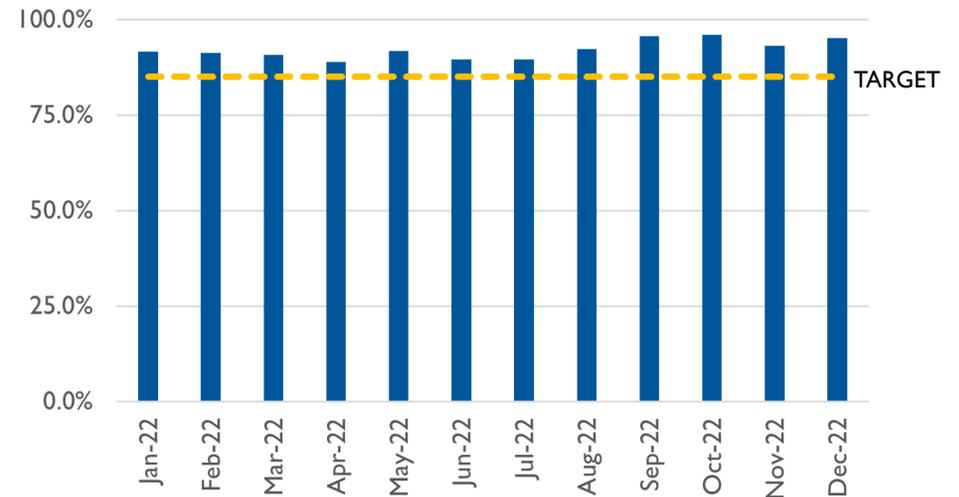
TTTR indicates the reliability of travel for freight trucks along the interstate system. TTTR data sourced from the NPMRDS for the year 2022 was used to calculate the TTTR index for I-94 in the MPO area. **Figure 24** shows the resulting TTTR index for the interstate in the MPO area. The desired target is a TTTR of 1.5 or lower.

**Figure 22: Percent of Person-Miles Traveled that Were Reliable by Month for the Interstate System, 2022**



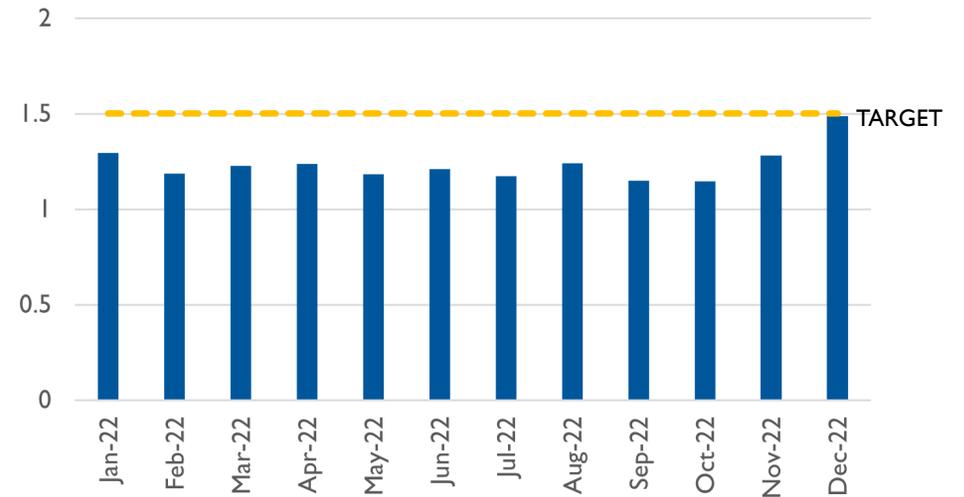
Source: National Performance Management Research Dataset, 2022

**Figure 23: Percent of Person-Miles Traveled that Were Reliable by Month for the Non-Interstate NHS, 2022**

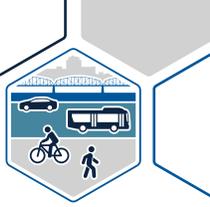


Source: National Performance Management Research Dataset, 2022

**Figure 24: Monthly TTTR for the Interstate System, 2022**



Source: National Performance Management Research Dataset, 2022



### Cross-Area Travel: Baseline Issues

Cross-area travel has been identified as a significant issue throughout multiple metropolitan transportation plan updates. Specifically, these travel patterns have historically been identified as problematic on each side of the river:

- North-South travel in Bismarck
- East-West travel in Mandan

Some of the cross-area travel issues include the following:

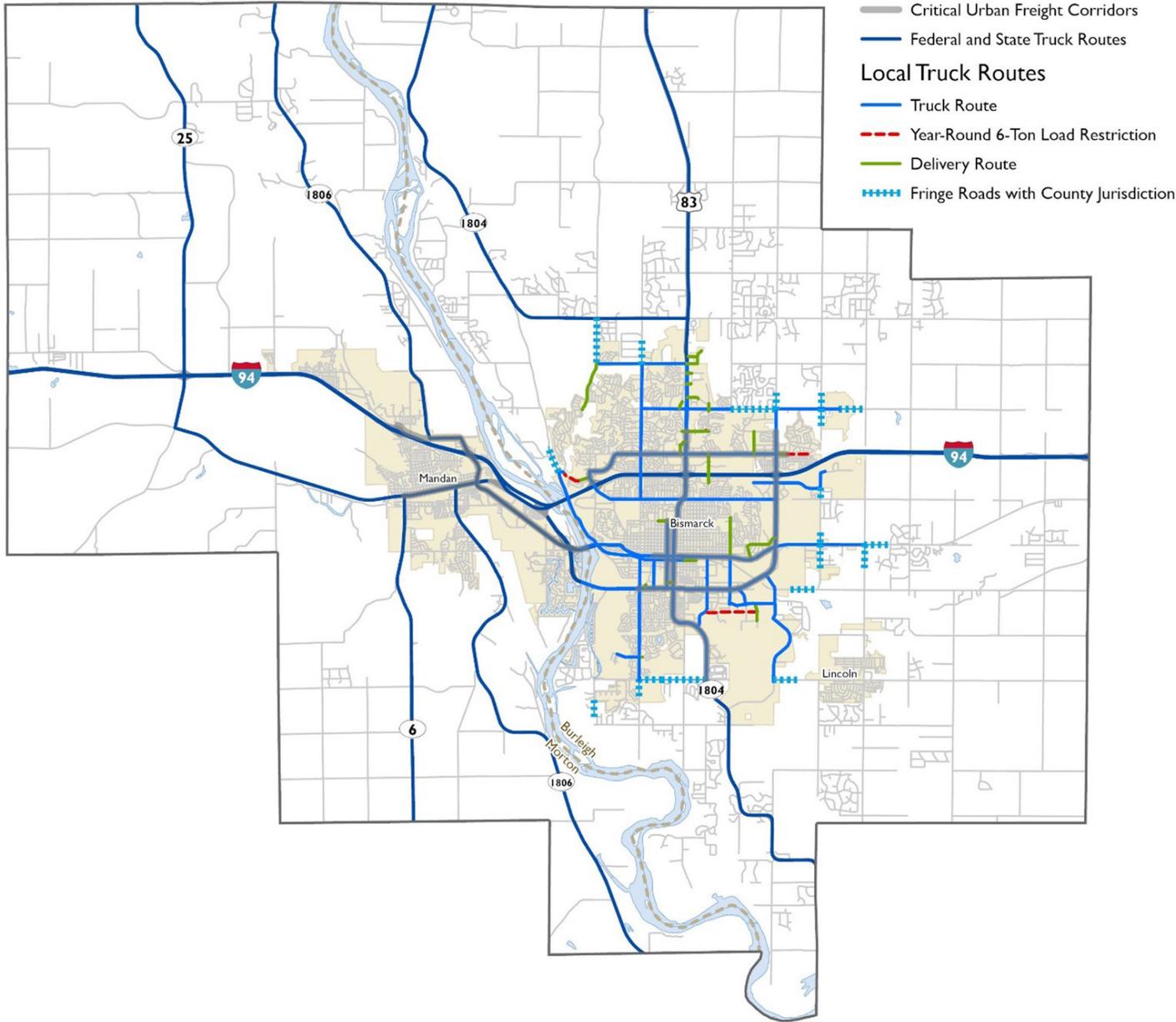
- **Barriers to continuous corridors:** Several natural and man-made barriers create discontinuous corridors in the area. These include I-94, the Missouri River, the Heart River, the Hay Creek, the BNSF railroad, the DMVW railroad, and topographical constraints. In some cases, the barriers are due to the lack of a dedicated, continuous arterial corridor, and land development has blocked the opportunity for a public right-of-way to continue the arterial corridor.
- **Arterial access levels:** Several arterial corridors in both communities have dense private driveway access that can lead to safety and travel reliability issues. Many corridors are adjacent to residences, which creates a conflict between efficient vehicular movement and livability/community quality.



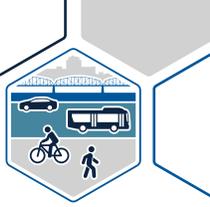
### Freight System

Freight plays a key role in the Bismarck-Mandan region's economy by facilitating the movement of goods through the area. The main freight assets found in the MPO region are the network of federal, state, and local truck routes that provide mobility and accessibility for highway freight movements and rail lines that support rail freight movements. The local, state, and federal truck routes are shown in **Figure 25**.

Figure 25: Federal, State, and Local Truck Routes



Source: City of Bismarck, February 2024



## Freight Rail Assets

Rail operations are a vital component of the freight system and the overall multimodal transportation network. The intersection of rail lines with roadways presents safety and mobility concerns when these crossings are at-grade owing to potential collisions and vehicle delays during train crossing events.

Freight railroads in North Dakota facilitate the movement of large quantities of commodities across the state. The locations of the MPO freight rail assets are shown in **Figure 26**.

### Rail Lines

Rail operations serving the Bismarck-Mandan MPO area are operated by BNSF and Dakota, Missouri Valley, and Western Railroad (DMVW).

### Rail Crossings

A total of 65 public rail crossings are located in the Bismarck-Mandan MPO area. Of these 65 public crossings, 48 are at-grade, while the remaining crossings are grade separated with the railroad either passing over (overpass) or under (underpass) roadways.

**Table 14** summarizes the current rail operations in the MPO area, including trains per day, miles of track, and public rail crossings for the BNSF and DMVW railroads.

**Table 14: Existing BNSF and DMVW Operations in the MPO Area**

|                           | BNSF | DMVW |
|---------------------------|------|------|
| Trains per Day            | 4-22 | 1    |
| Miles of Track            | 57.5 | 17.9 |
| At-Grade Crossings        | 30   | 18   |
| Grade-Separated Crossings | 15   | 2    |

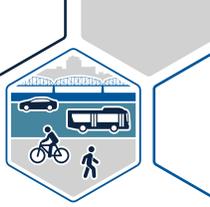
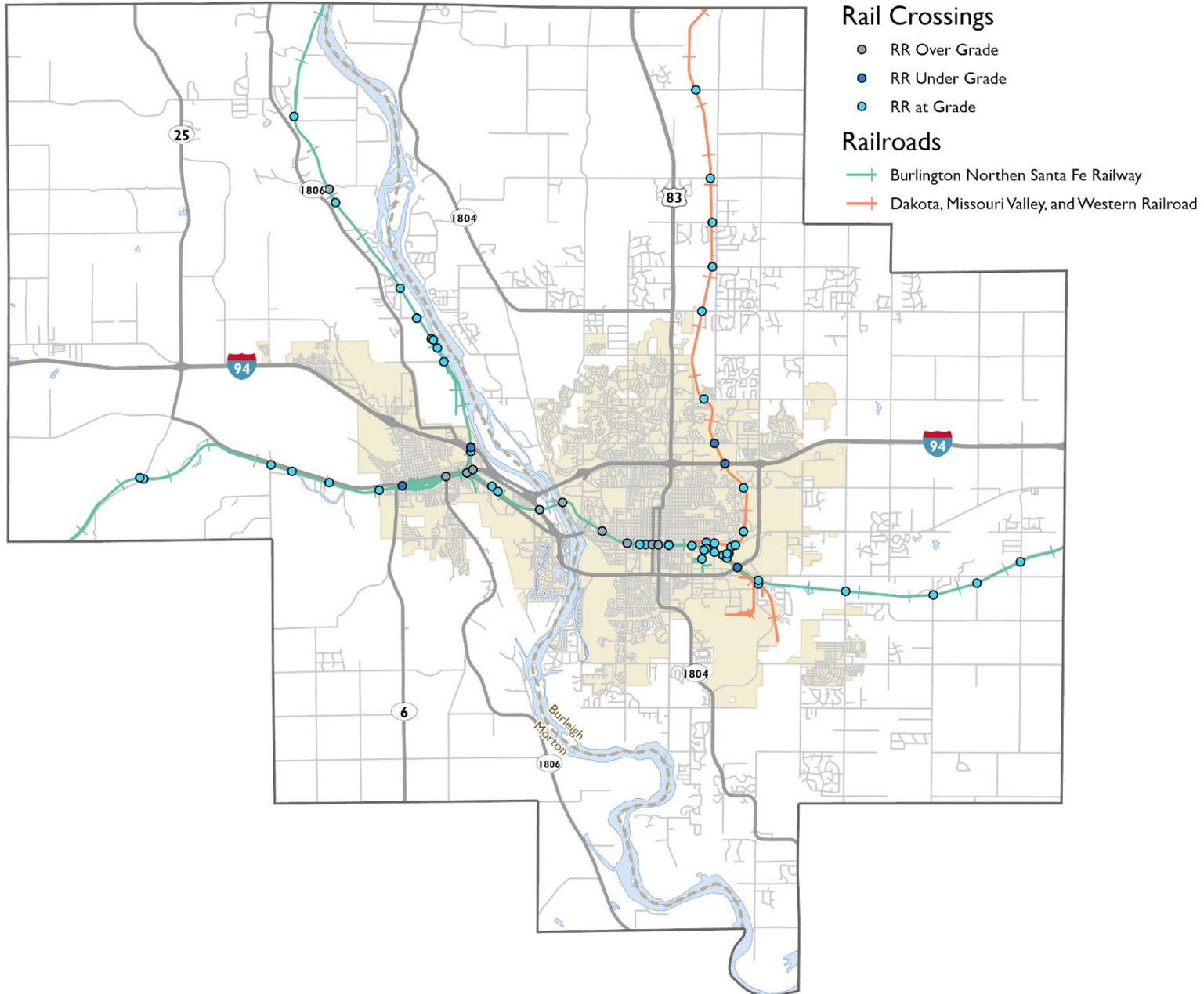
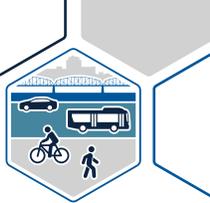


Figure 26: Rail Lines and Public Rail Crossings in the MPO Region



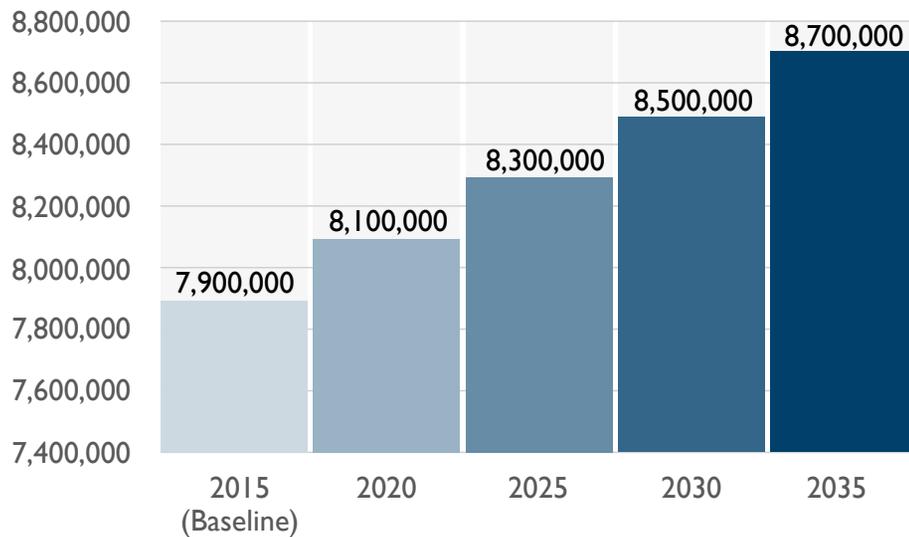


## Air Freight

Air freight services in the Bismarck-Mandan MPO area are facilitated through the Bismarck Municipal Airport, which is designated as a Level One facility per NDDOT's Strategic Freight System Index based on the cargo movements through the airport that are carried on commercial services.

Forecasts of cargo operations at the Bismarck Municipal Airport through the year 2035 are shown in **Figure 27** project that nearly 9 million pounds of cargo will move through the airport in 2035.

**Figure 27: Forecasted Air Cargo Operations at the Bismarck Municipal Airport, 2015–2035**



Source: City of Bismarck, [Airport Master Plan](#)



## Bicycle and Pedestrian System

The bicycle and pedestrian system in the Bismarck-Mandan MPO region is an important network of off-street and on-street facilities that provide users with non-motorized mobility and access to the region's destinations.

### Existing Bicycle and Pedestrian Facilities

The existing bicycle and pedestrian infrastructure found in the Bismarck-Mandan MPO region consists of off-street facilities that provide infrastructure separated from vehicular traffic and on-street facilities that are located in the roadway adjacent to vehicular travel lanes. The existing off-street facilities include sidewalks and multiuse trails, while the on-street facilities include bicycle lanes and shared road routes. In addition to these facilities, several rapid rectangular flashing beacons are found throughout the region. A description of each facility is in **Table 15**, and their locations in the MPO region are shown in **Figure 28**.



**Table 15: Existing Bicycle and Pedestrian Infrastructure in the Bismarck-Mandan MPO Area**

| Facility Type                             |   | Description   |
|---|---|---|
| <b>Sidewalks</b>                          |    | <p>A paved pedestrian facility located along a street. Sidewalks are located on most streets in Bismarck, typically on both sides of the street after a property is developed.</p>  |
| <b>Multiuse Trails</b>                    |    | <p>Separated from the roadway and used for bicycling, walking, running, or other non-motorized activities. There are multiuse trails in both Bismarck and Mandan, many of which continue past city limits into Morton and Burleigh Counties.</p>  |
| <b>Bicycle Lanes</b>                      |   | <p>A dedicated portion of roadway space for preferential or exclusive use by bicyclists. Some roads in Bismarck include dedicated bicycle lanes, which are between 4 and 6 feet wide and marked with paint.</p>   |
| <b>Shared Road Routes</b>                 |  | <p>Lower speed and lower volume roads that use signage and lane markings to indicate that the roadway space is intended to be shared by all users. Some residential and collector roads in Bismarck are marked with Share the Roads signs and/or street markings to encourage motorists to make space for bicyclists.</p> |
| <b>Rapid Rectangular Flashing Beacons</b> |  | <p>Crossing treatments applied at uncontrolled, marked crosswalks that provide flashing lights as indicators to alert motorists of pedestrian usage of the crossing.</p>  |

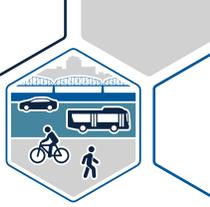
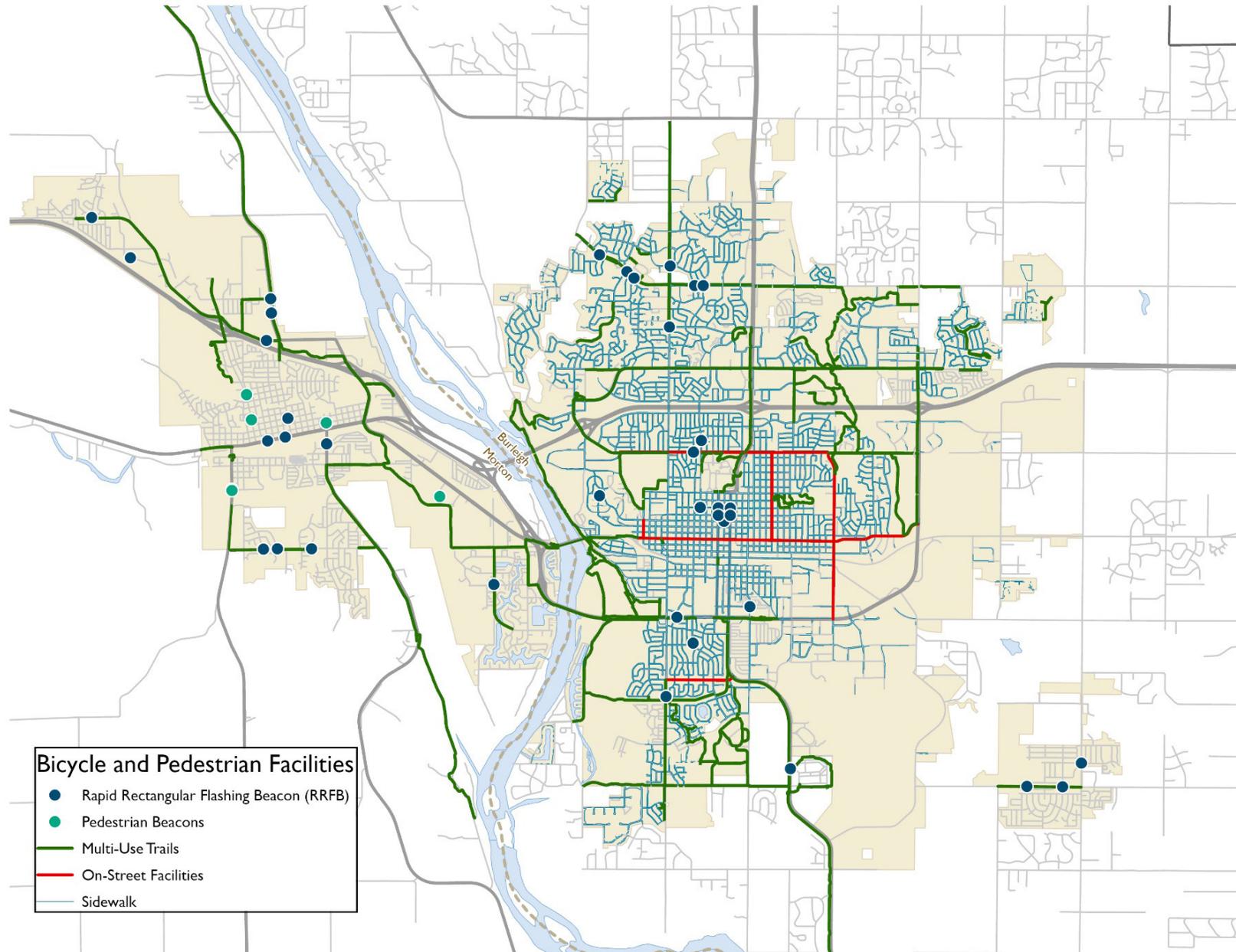
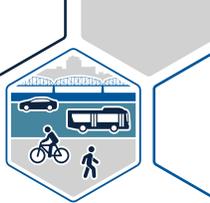


Figure 28: Existing Bicycle and Pedestrian Facilities, Urban Inset



Source: Cities of Bismarck and Mandan, 2024



## Transit System

Public transit service in the Bismarck-Mandan MPO region is provided by Bis-Man Transit.

### Fixed-Route Service

Capital Area Transit (CAT) operates fixed-route service in the MPO region. CAT operates six regular fixed routes on weekdays and Saturdays. The routes are shown in **Figure 30**. Further detail on CAT fixed-route service is available in **Appendix C**.

### Paratransit Service

Paratransit door-to-door services are available to senior citizens 70 years of age or older and to individuals with any type of certifiable disability. This service operates in the city limits of Bismarck, Mandan, and Lincoln; on the University of Mary campus; and within .75 mile from fixed-route service.

Fixed-route and paratransit ridership have followed the same trends in recent years (**Figure 29**).

**Figure 29: Ridership by Mode, 2017–2022**



Source: Federal Transit Administration, National Transit Database

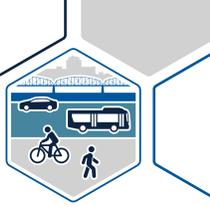
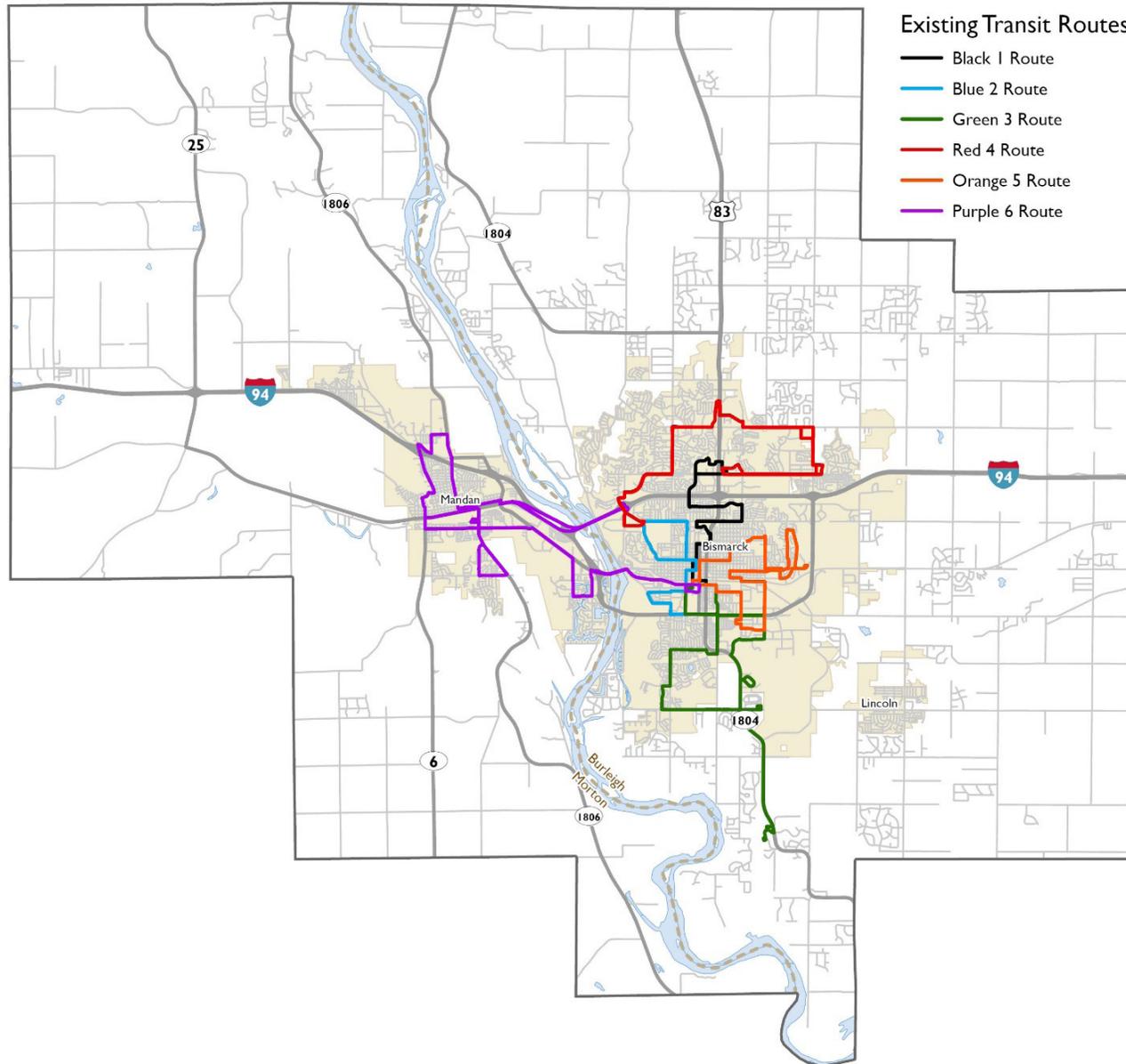
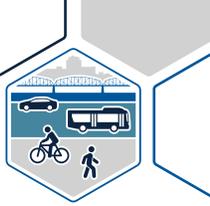


Figure 30: Current Fixed-Route Network



Source: Capital Area Transit



## Passenger Rail

Passenger rail service is currently not offered in the MPO area. The nearest passenger rail station, operated by Amtrak, is located in Minot, North Dakota, which is located approximately 100 miles north of the Bismarck-Mandan area.

Efforts are underway to reinstate passenger rail on the formerly operating North Coast Hiawatha line, which previously ran through the Cities of Mandan and Bismarck. The line's sponsor—Big Sky Passenger Rail Authority (BSPRA)—has applied for and received admittance into the Corridor ID program.

Corridor ID is a 3-step program, accompanied by modest federal funds, to assist in the planning and administration of reinstating the rail line for passenger travel. BSPRA hopes to have passenger rail reinstated from Seattle to Chicago along the former North Coast Hiawatha line by 2032. If this is successful, there is a possibility that a passenger rail stop will occur within the MPO region.



## Passenger Aviation

Passenger aviation services are available at two locations in the MPO area: the Bismarck Municipal Airport and the Mandan Regional Airport.

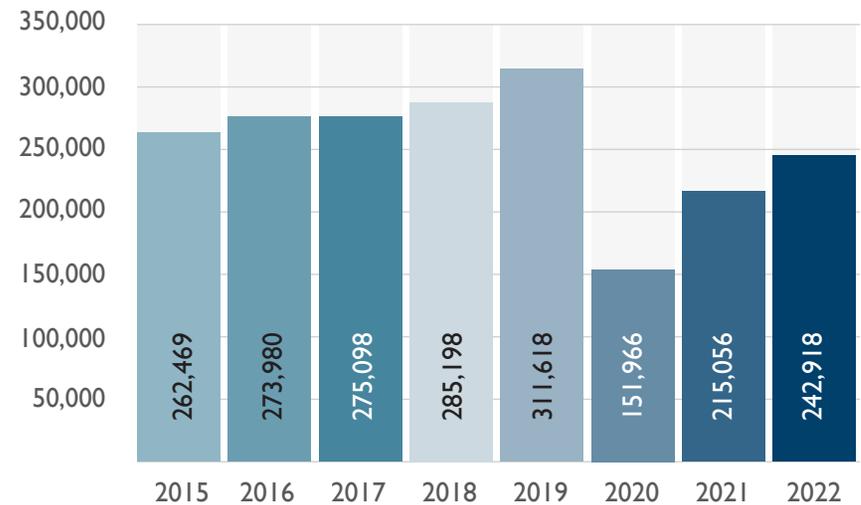
### Bismarck Municipal Airport

The Bismarck Municipal Airport is on North Dakota Highway 1804 (ND 1804) and University Drive. Allegiant, American, Delta, and United airlines provide round-trip commercial service to locations including Chicago, Dallas/Fort Worth, Orlando/Sanford, Denver, Las Vegas, Minneapolis/St. Paul, and Phoenix/Mesa.<sup>4</sup> **Figure 31** summarizes historic enplanements for commercial service at the Bismarck Municipal Airport.

### Mandan Regional Airport

The Mandan Regional Airport, located south of Mandan city limits, is one of North Dakota's busiest general aviation facilities. It averages 70 flights per day, with 60 percent of flights being general aviation, 33 percent transient general aviation, 2 percent military, and 4 percent air taxi.<sup>5</sup>

**Figure 31: Historic Passenger Enplanements for the Bismarck Municipal Airport, 2015–2022**



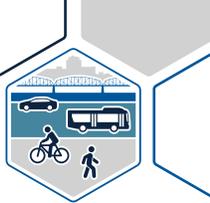
Source: Federal Aviation Administration, Passenger Boarding (Enplanement) and All-Cargo Data for U.S. Airports



Source: Bismarck Airport

<sup>4</sup> Bismarck Airport, [Master Plan Update](#)

<sup>5</sup> City of Mandan, [Mandan Regional Airport-Lawler Field](#)



## Asset Conditions

Asset condition refers to the MPO’s roadway pavement and bridge infrastructure.

### Pavement Condition

The 2020 Bismarck-Mandan MPO “State of Streets” report surveyed streets across the metro area. According to the 2020 report, roadways surveyed were found to be in overall “adequate” condition with an average Pavement Condition Index (PCI) of 80, as shown in **Table 16**. Further detail on the MPO’s pavement conditions is available in **Appendix C**.

**Table 16: Bismarck-Mandan MPO’s Pavement Condition Categories**

| Category       | Typical Distresses and Typical Level of M&R* Needed   | PCI Range |
|----------------|---|-----------|
| Adequate       | More extensive longitudinal and transverse cracking and weathering of surface<br><b>Preventative maintenance:</b> Crack sealing and surface treatments  | 71–100    |
| Degraded       | Extensive longitudinal and transverse cracking, early-stage alligator (fatigue) cracking, early-stage rutting, and weathering of surface<br><b>Global preventative maintenance and localized repairs:</b> Localized surface and/or full-depth patching, surface treatments, and thin overlays | 56–70     |
| Unsatisfactory | More extensive and more severe longitudinal and transverse cracking, alligator (fatigue) cracking, rutting, weathering of surface, potholes<br><b>Major rehabilitation:</b> Full-depth patching, mill and overlays, traditional overlays, and reconstruction                                  | 0–55      |

Source: Bismarck-Mandan MPO, [2020 State of the Streets](#)

\*M&R refers to Maintenance and Rehabilitation

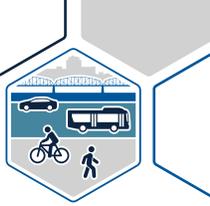


Table 17 shows the surveyed PCI by community.

**Table 17: Average Pavement Conditions by Jurisdiction**

| Jurisdiction     | Centerline Miles | PCI       | PCI Category    | IRI        | IRI Category     |
|------------------|------------------|-----------|-----------------|------------|------------------|
| City of Bismarck | 126.4            | 79.6      | Adequate        | 196        | Smooth           |
| City of Lincoln* | 1.4              | 80.4      | Adequate        | 111        | Smooth           |
| City of Mandan   | 37.6             | 78.9      | Adequate        | 243        | Marginally Rough |
| Burleigh County  | 42.1             | 79.3      | Adequate        | 125        | Smooth           |
| Morton County    | 14.9             | 89.3      | Adequate        | 88         | Smooth           |
| <b>Total</b>     | <b>222.3</b>     | <b>80</b> | <b>Adequate</b> | <b>185</b> | <b>Smooth</b>    |

\*The City of Lincoln's roadway inventory is managed by Burleigh County  
Source: Bismarck-Mandan MPO, [2020 State of the Streets](#)

### Bridge Condition

Bridges are critical transportation assets that provide mobility in areas where geographic features such as rivers and rail lines create physical barriers. Data provided by the National Bridge Inventory was reviewed to determine the current condition of bridges and culverts located in the MPO region, which is summarized in **Table 18**. **Table 19** provides the condition of bridges and culverts found on the interstate or non-interstate NHS.

**Table 18: Condition of MPO Area Bridges and Culverts**

| Condition    | MPO Area Bridges |         | MPO Area Culverts |         |
|--------------|------------------|---------|-------------------|---------|
|              | Count            | Percent | Count             | Percent |
| <b>Good</b>  | 40               | 58.8%   | 11                | 44.0%   |
| <b>Fair</b>  | 26               | 38.2%   | 14                | 56.0%   |
| <b>Poor</b>  | 2                | 2.9%    | 0                 | 0%      |
| <b>Total</b> | <b>68</b>        |         | <b>25</b>         |         |

Source: National Bridge Inventory

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**Table 19: Condition of Interstate and Non-Interstate NHS Bridges and Culverts**

| Condition    | Interstate and non-Interstate NHS Bridges |         | Interstate and non-Interstate NHS Culverts |         |
|--------------|---|---------|--|---------|
|              | Count                                     | Percent | Count                                      | Percent |
| <b>Good</b>  | 16  | 45.7%   | 1  | 20.0%   |
| <b>Fair</b>  | 19  | 54.3%   | 4  | 80.0%   |
| <b>Poor</b>  | 0   | 0%      | 0  | 0%      |
| <b>Total</b> | <b>35</b>                                 |         | <b>5</b>                                   |         |

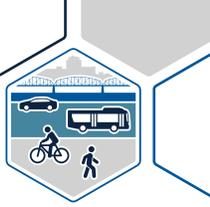
Source: National Bridge Inventory

### Environmental Baseline Review

A high-level summary of environmental resources present in the Bismarck-Mandan MPO area was conducted to understand the potential impacts of transportation improvements. This includes assessing how to avoid negatively impacting any resources and/or identifying potential mitigation strategies.

The mitigation materials in the Appendix discuss strategies in the categories of:

- **Archaeological and Historical Resources**
- **Wetlands and Waters of the United States**
- **Floodplains**
- **Threatened and Endangered Species**
- **Section 4(f) and Section 6(f) Resources**
- **Environmental Justice**



## Summary of System Issues

The analysis of the existing multimodal transportation system provides insight into the current issues and needs facing the Bismarck-Mandan MPO area. The issues and needs identified are shown below.



### Safety

Frequent crashes along higher-volume arterials.



### Transit

Transit ridership saw significant declines in 2020 and has begun to recover toward pre-2020 levels.



### Traffic Operations

AM and PM peak hour congestion today due to high numbers of road users, future growth expected to lead to additional congestion.



### Pavement and Bridge Conditions

Some areas of pavement and bridge issues, but community has maintenance plans in place.



### Freight

High freight-generation highlights the need to provide efficient connections among freight destinations.



### Cross-Area Travel

Barriers to continuous corridors and high levels of arterial access impact:

- **North-South** travel in Bismarck
- **East-West** travel in Mandan



### Bicycle and Pedestrian

Current bicycle and pedestrian network provides a strong foundation for future expansion for increased access to community destinations.



## FUTURE TRANSPORTATION SYSTEM TRENDS AND NEEDS

### A Growing Region

A key input to assessing future demand for the MPO’s transportation network relates to socioeconomic indicators including population, housing, and employment. These indicators drive travel demand as residents and workers in the MPO area rely on the multimodal transportation system for their daily work commutes and retail, recreational, and other trip purposes. As the MPO area continues to grow, an increasing number of residents and workers leads to more trip making. This added transportation system demand can exacerbate the operational and safety issues into the future.

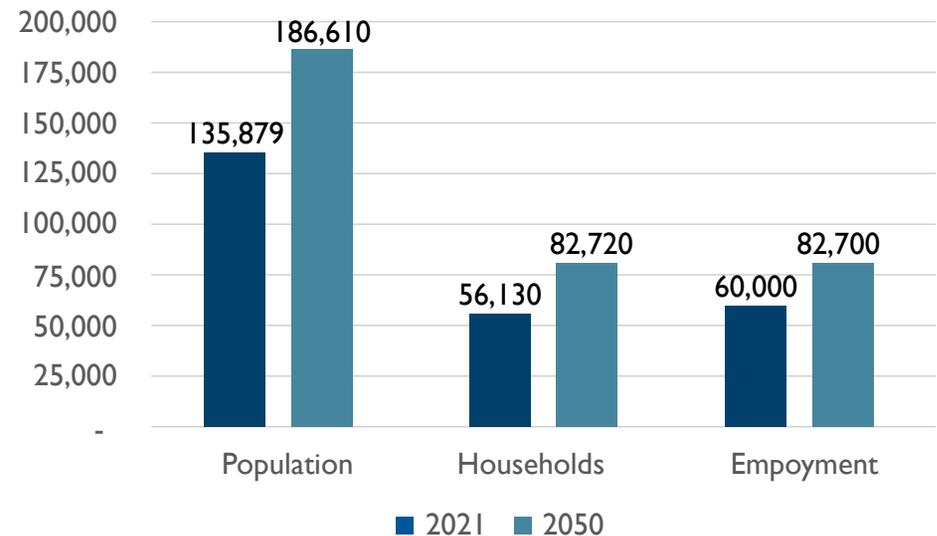
This chapter summarizes the socioeconomic forecasts developed as part of the MTP process and details how the future transportation system is expected to operate under a no-build scenario in which the only improvements made to the Bismarck-Mandan area’s roadway network are those currently programmed in the MPO’s TIP and the Capital Improvement Programs of the MPO’s member jurisdictions.

### Estimated Growth in Population, Households, and Employment

Future socioeconomic growth in the Bismarck-Mandan MPO region was forecasted to support the MPO’s travel demand model (TDM), which is a tool that utilizes a series of mathematical procedures and calculations to estimate travel based on where people live and work and the transportation network available. It is calibrated to current conditions and used as a forecasting tool to estimate how future residents and workers will travel to their jobs and for shopping, retail, recreational, and other trip purposes.

**Figure 32** summarizes the estimated growth in the MPO’s population, number of households, and number of workers between 2021 and 2050. As **Figure 32** shows, the MPO’s population is expected to grow at approximately 1.1 percent per year between 2021 and 2050. The rate of household growth and employment growth is expected to be 1.3 percent per year between 2021 and 2050.

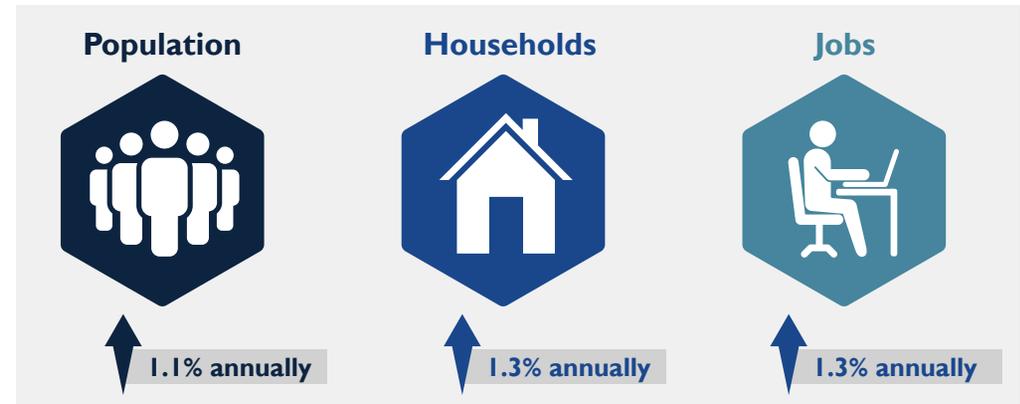
**Figure 32: Socioeconomic Forecasts for the Bismarck-Mandan MPA Area, 2021–2050**



Source: Bismarck-Mandan MPO, *Arrive 2050 Forecasts: Travel Demand Model Socio-Economic Update*



**Figure 33** illustrates where growth in future households is anticipated to occur based on future land use plans for the MPO's member jurisdictions. Household growth is shown in **Figure 33** by transportation analysis zones, the base geographies used for the TDM. **Figure 34** shows where growth in future employment is anticipated to occur throughout the MPO region.



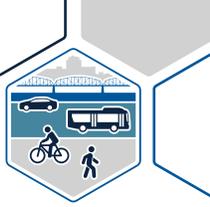
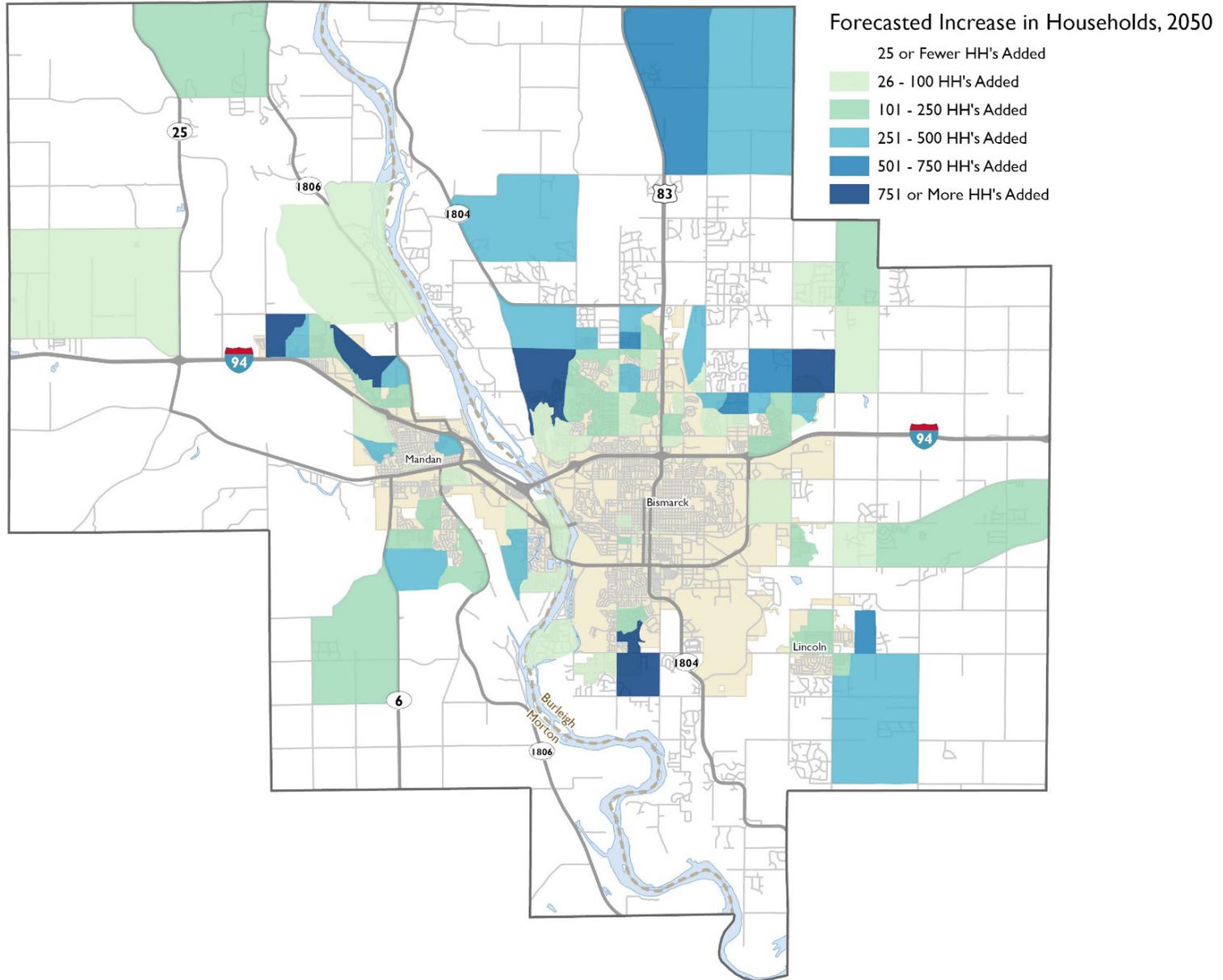


Figure 33: Forecasted Growth in Households for the Bismarck-Mandan MPO Region, 2021–2050



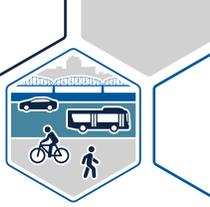
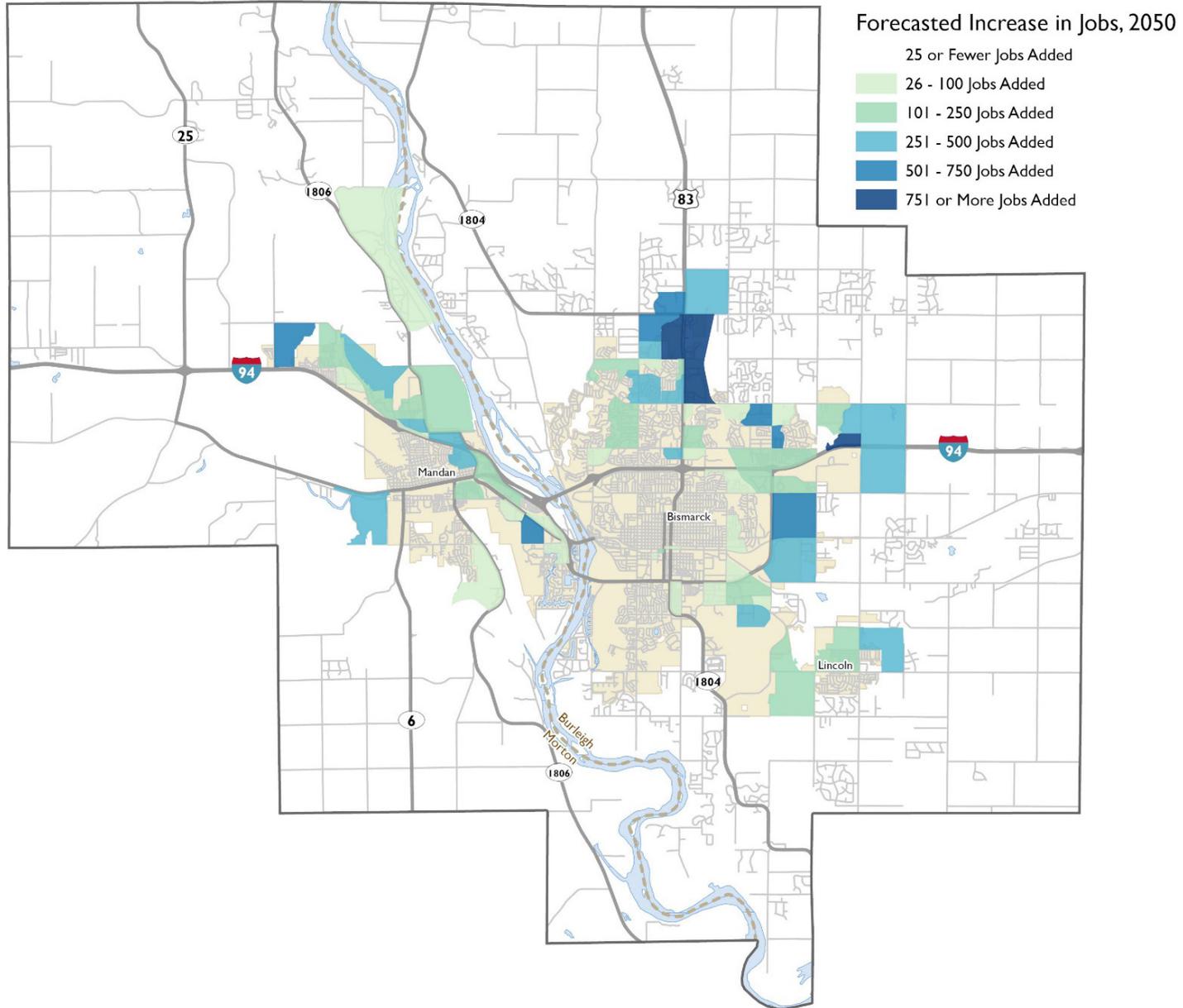
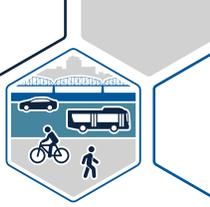


Figure 34: Forecasted Growth in Employment for the Bismarck-Mandan MPO Region, 2021–2050





## Future Traffic Operations

Future traffic operations for the Bismarck-Mandan MPO region were evaluated using the updated 2050 TDM network analysis, which forecasts traffic operations under the “existing plus committed” (E+C) or no-build scenario. The base year of the updated TDM is 2021, while 2050 serves as the planning horizon of the model. Using the socioeconomic data and forecasts discussed in the previous section, the TDM disperses daily vehicular traffic across the E+C roadway network that incorporates only improvements to the roadway network that are currently committed for construction. Through understanding how future traffic operates across the current roadway network, potential improvements to the roadway system can be identified while different roadway improvement scenarios can be evaluated against the E+C.

## Growth in Daily Traffic Volumes

Forecasted growth in traffic volumes for the MPO region were developed by comparing current year (2021) daily volumes to the forecasted model volumes for the year 2050 and calculating the difference between them. **Figure 35** illustrates how daily traffic volumes are expected to grow in the MPO region through 2050.

Based on the TDM results, the corridors anticipated to see the greatest growth in daily traffic volumes are located on the MPO’s arterial network and include US 83/State Street, I-94, ND 1806, N Washington Street, Centennial Road, Bismarck Expressway, and 43rd Avenue NE.

## Forecasted Future Year 2050 Traffic Operations

The forecasted traffic volumes resulting from the 2050 E+C TDM scenario were used to develop a future year planning LOS analysis similar to the analysis described in the **Baseline Transportation System Performance** chapter. The resulting planning LOS found the majority of roadways operating at LOS C or worse today are expected to see a decline in future traffic operations because the increase in daily traffic volumes in tandem with existing roadway capacities would result in further degradation of the corridor LOS.

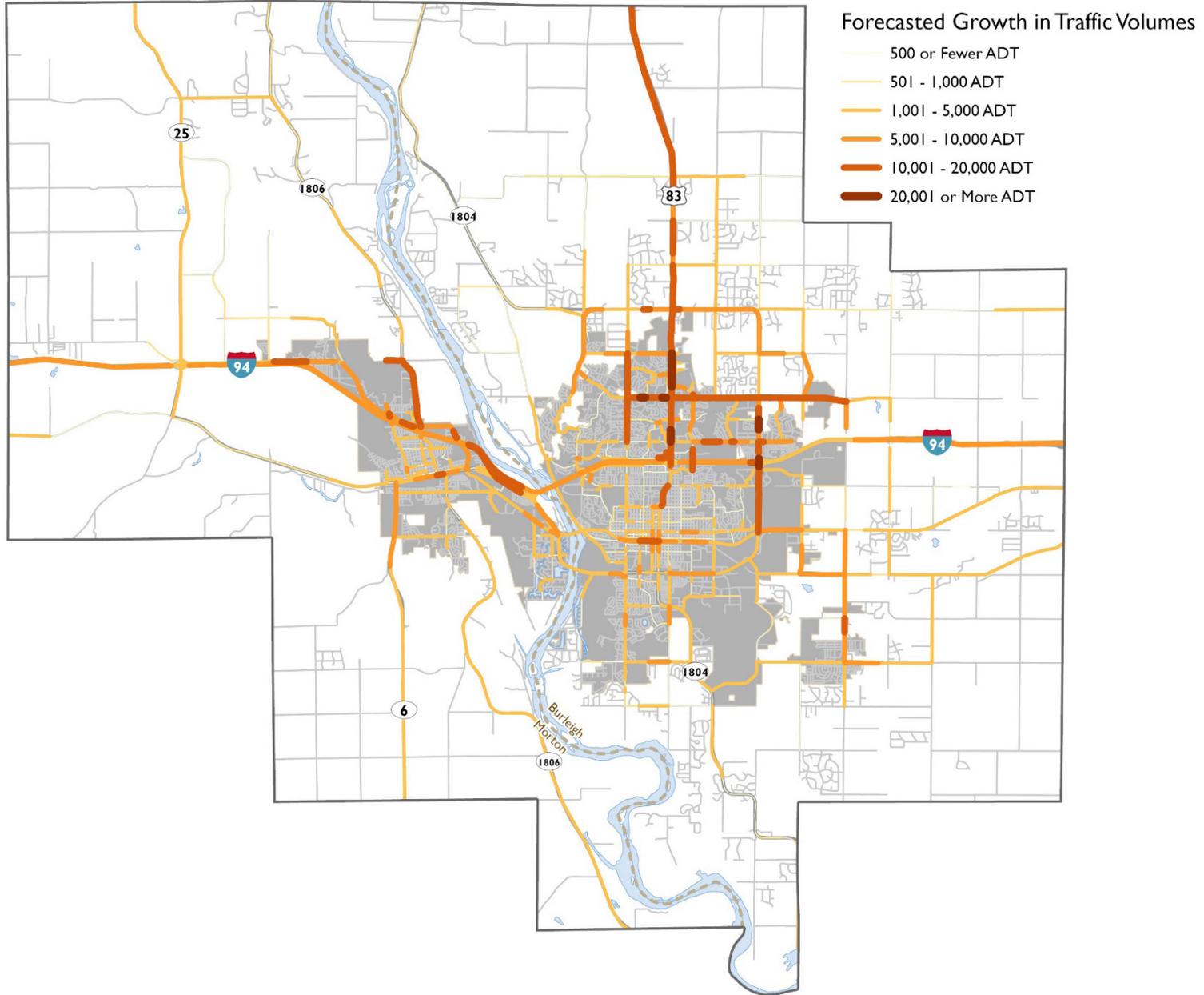
The corridors estimated to see the worst performance in terms of planning LOS under the E+C scenario include the following:

- **US 83/State Street**, from 71st Avenue NE to I-94
- **71st Avenue**, from US 83/State Street to Centennial Road
- **43rd Avenue NE**, from US 83/State Street to 66th Avenue
- **Centennial Road**, from 71st Avenue NE to I-94
- **ND 1806**, from 38th Street to Old Red Trail
- **Old Red Trail**, from ND 1806 to Mandan Avenue

**Figure 36** presents the forecasted planning LOS for the MPO region based on the 2050 E+C TDM scenario.



Figure 35: Forecasted Growth in Traffic Volumes, 2021–2050



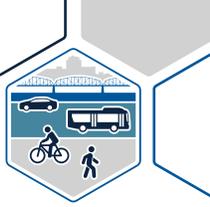
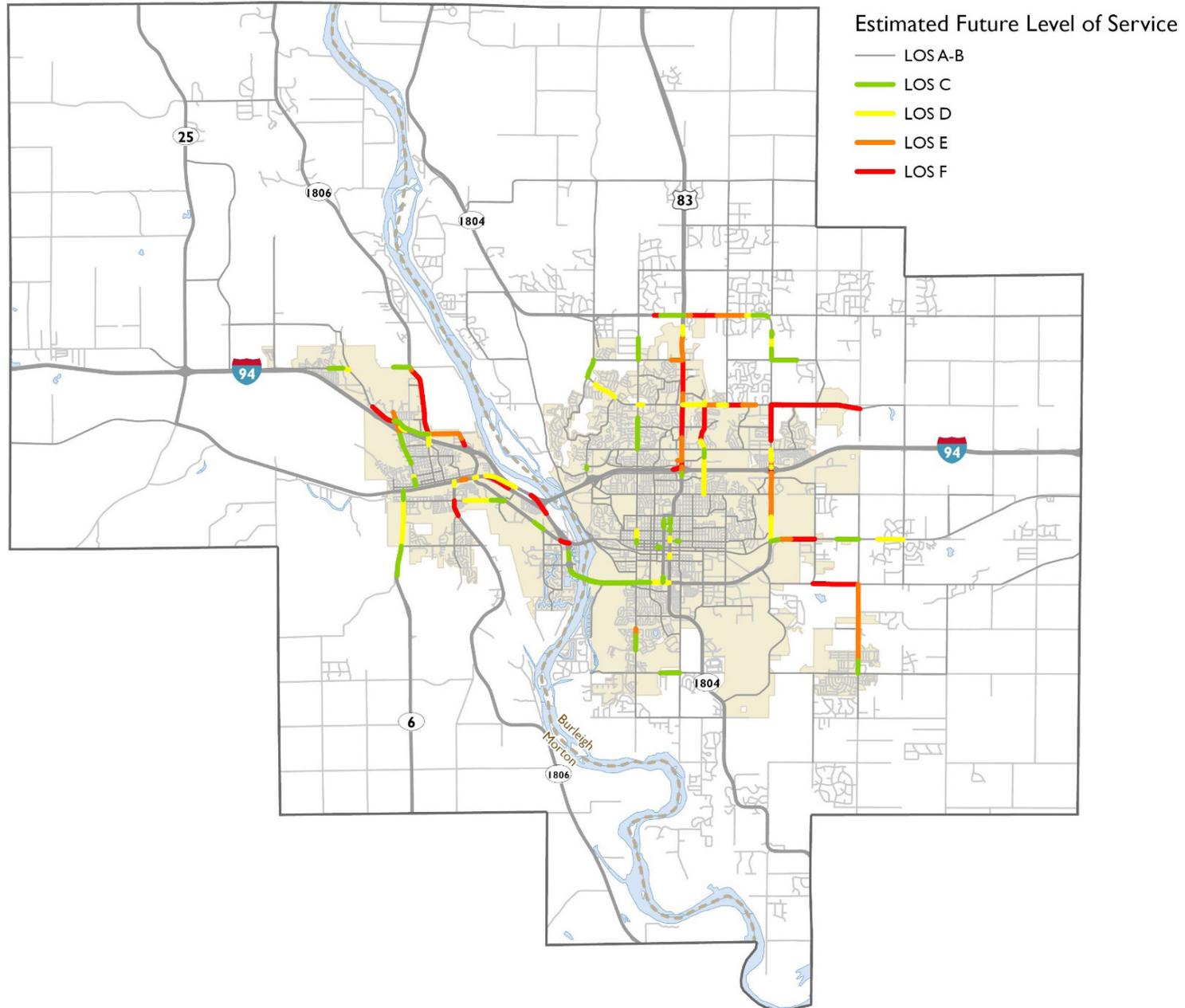
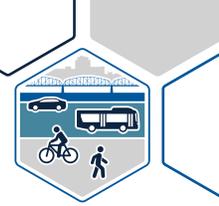


Figure 36: Forecasted Traffic Level of Service, 2050





## Forecasted E+C System Performance

System-wide performance of the MPO's roadway network is available in the TDM's 2050 E+C scenario. The key indicators of system-wide performance include the following:

- **Daily Trips:** Number of daily vehicular trips made in the MPO region.
- **Vehicle Miles Traveled:** Total distance traveled by vehicle users in the MPO region. VMT is a function of total trips and each trip's distance.
- **Vehicle Hours Traveled (VHT):** Total time individuals spent traveling in their vehicles during each trip. VHT is a function of the total trips and each trip's time duration.
- **Average Trip Length (miles):** Average length of daily trips taken. Average trip length is the daily VMT divided by total daily trips.
- **Average Travel Speed (miles per hour):** Average speed of all modeled trips. Average travel speed is the daily VMT divided by the daily VHT.

The summary of the 2050 E+C scenario is a nearly 50 percent increase in daily trips due to the increase in population, households, and new jobs in the region, as shown in **Figure 32**. The impact of this forecasted growth with no roadway network improvements beyond those currently programmed is a VMT increase of 60 percent and a VHT increase of 79 percent, meaning that the region's residents and workers will be traveling further each day while spending more time driving. Average daily trip lengths are anticipated to increase by 8 percent, while the average speed at which travelers drive would be expected to decrease by 11 percent.

### Daily Trips



48% increase

### Vehicle Miles Traveled



60% increase

### Vehicle Hours Traveled



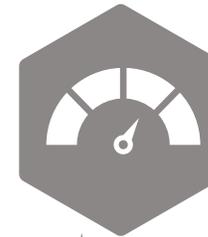
79% increase

### Average Trip Length (miles)



8% increase

### Average Travel Speed (miles per hour)



11% decrease



## MTP STRATEGIES, TRENDS, AND DRIVERS

The Bismarck-Mandan MPO is currently facing a series of multimodal transportation issues and anticipates growing issues into the future without system improvements. Compounding these issues would be additional impacts to daily transportation safety and traffic operations owing to continued growth in population, number of households, and employment throughout the region.

Arrive 2050 identifies a series of strategies that are context sensitive and tailored to local conditions. These strategies are discussed in the following sections.

### Strategies for the Bismarck-Mandan MPO Region

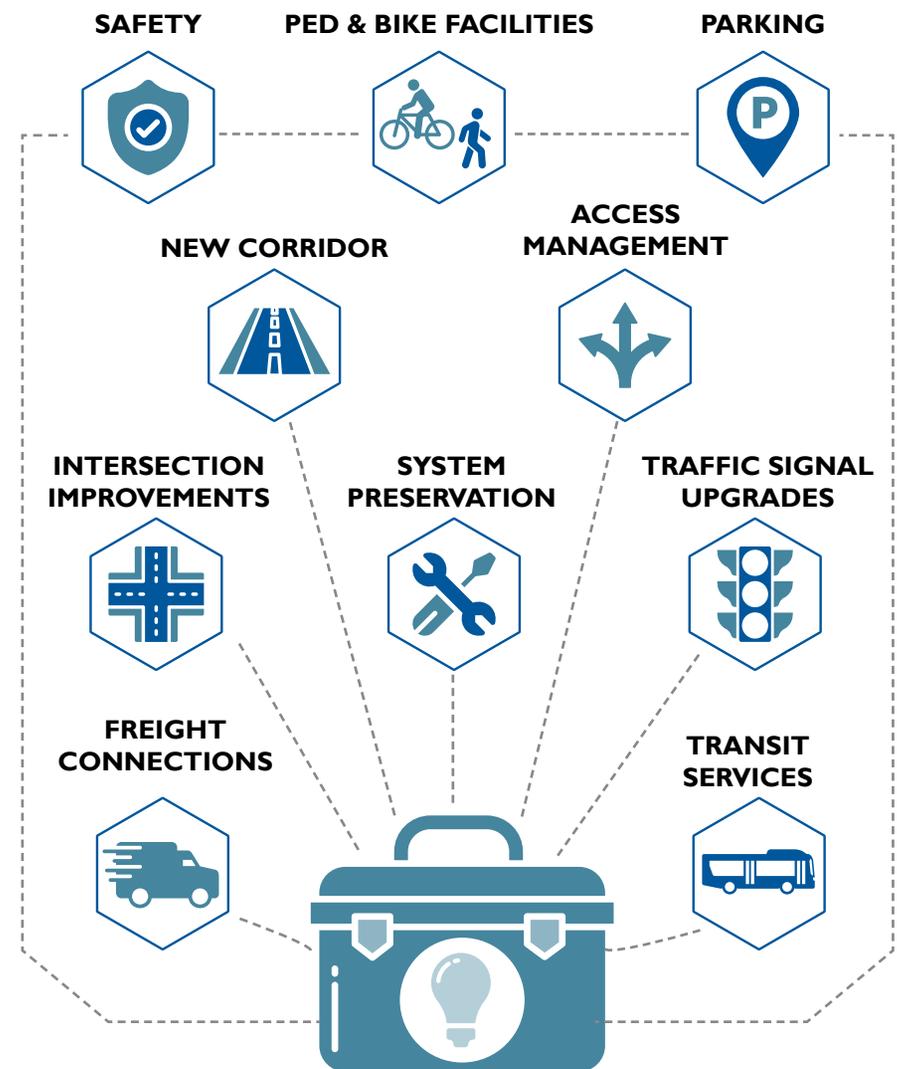
The overarching approach guiding the development of Arrive 2050's recommended improvements was the application of a strategies toolbox that provided a flexible framework for local jurisdictions to identify transportation improvements as part of a connected and integrated multimodal system. The strategies toolbox also allowed for the matching of strategies so that recommended improvements best fit the context of their associated location.

### Strategies Toolbox

The strategies toolbox consists of conventional improvements, such as roadway widenings and expansions, intersection improvements, and installation of turn lanes, while going beyond these approaches to incorporate innovative solutions such as the implementation of ITS technology, innovative intersection designs including roundabouts, and pedestrian crossing treatments such as hardened centerlines. **Figure 37** illustrates a sample of the strategies considered in the development of Arrive 2050 alternatives.

While the strategies toolbox contains a broad range of solutions, the alternatives identified by Arrive 2050 sought fit the local context of the MPO's multimodal transportation system.

Figure 37: Arrive 2050 Strategies Toolbox





## Safe Systems Approach

Improving the safety of the multimodal transportation systems has become a top priority for USDOT, and this priority is reflected in USDOT’s Safe Systems Approach to improving traffic safety. The Safe Systems Approach is the guiding paradigm used to address and mitigate transportation safety risks. ‘The main goal of the Safe Systems Approach is to eliminate crashes resulting in fatalities and serious injuries while going beyond just vehicular travel to consider all transportation users.

The principles of the Safe Systems Approach are shown in **Table 20**.

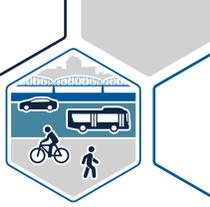
In the Bismarck-Mandan MPO region, a Safe Systems Approach would allow for proactive planning and design of safety solutions for the region’s highest-risk locations and prioritizing locations with histories of high numbers of crash events.

**Table 20: Principles of the Safe Systems Approach**

| Principles of the Safe Systems Approach            |   |
|--|---|
| <b>Death and Serious Injuries are Unacceptable</b> | A Safe System Approach prioritizes the elimination of crashes that result in death and serious injuries.  |
| <b>Humans Make Mistakes</b>                        | People will inevitably make mistakes and decisions that can lead or contribute to crashes, but the transportation system can be designed and operated to accommodate certain types and levels of human mistakes and avoid death and serious injuries when a crash occurs. |
| <b>Humans are Vulnerable</b>                       | Human bodies have physical limits for tolerating crash forces before death or serious injury occurs; therefore, it is critical to design and operate a transportation system that is human-centric and accommodates physical human vulnerabilities.                       |
| <b>Responsibility is Shared</b>                    | All stakeholders, including government at all levels, industry, nonprofit/advocacy groups, researchers, and the public, are vital to preventing fatalities and serious injuries on the roadways.  |
| <b>Safety is Proactive</b>                         | Proactive tools should be used to identify and address safety issues in the transportation system rather than waiting for crashes to occur and reacting afterwards.   |
| <b>Redundancy is Crucial</b>                       | Reducing risks requires that all parts of the transportation system be strengthened so that if one part fails, the other parts still protect people.  |

Source: U.S. Department of Transportation, What is a Safe Systems Approach?

6 U.S. Department of Transportation, [What Is a Safe Systems Approach?](#)



## Improving Safety at Intersections

A major opportunity to improve traffic safety in the MPO region is to address safety at intersections. Several strategies to improve intersection safety are available, and it is crucial to consider the existing intersection design when developing safety solutions. Factors that influence the implementation of intersection safety strategies include crash history, geometric needs, initial and future year cost estimates, current and forecasted traffic volumes, existing and planned density of development, access points in proximity to the intersection location, and current and forecasted bicycle and pedestrian traffic.

### Signalized Intersections vs. Roundabouts

One intersection treatment that has been adopted and fits the safety objective of partner jurisdictions is the installation of roundabouts. Several roundabouts have been implemented in the MPO region, and Arrive 2050 recommends considering roundabouts when looking toward intersection improvements.

There are key trade-offs to evaluate when considering toward the installation of signals at an intersection compared to the installation of a roundabout. The pros and cons of roundabouts are summarized in **Figure 38**.

### Access Management

Access management is a planning and regulation strategy that manages vehicular access points to development adjacent to streets. This strategy provides a safer, more efficient use of corridors. The tactics that are included in access management include:

- **Access point spacing:** Increased spacing distance between access points improves traffic flow and safety.
- **Median treatments:** Introducing dedicated turn lanes and raised medians to restrict some of the highest-risk left-turn movements can improve traffic flow and safety in a corridor.

Corridors like State Street and Centennial Road can benefit from overlaying an enhanced access management program to restrict future driveway and local street access in growth corridors.

Figure 38: Pros and Cons of Roundabouts



### Pros of Roundabouts

- Improved safety relative to signalized intersections. Roundabouts can reduce fatal crashes by up to 90 percent and injury crashes by up to 76 percent.
- Can reduce traffic delays, reducing vehicle-related emissions.
- Generally lower maintenance costs compared to signalized intersections and longer service lives.



### Cons of Roundabouts

- Can have less efficient traffic operations in high traffic or imbalanced traffic intersections.
- Can require more right-of-way compared to signalized intersections, which can increase initial construction costs.
- Less familiar to drivers when initially implemented.



## Complete Streets Approach

Complete Streets is an approach to the planning, design, and operation of the street network to improve safe, connected access for all users, including pedestrians, bicyclists, motorists, and transit users. The core tenet of the Complete Streets approach is that roadways are for all users; it does not prioritize vehicular movements at the expense of other modes.

Within the context of Arrive 2050, a context-sensitive Complete Streets lens was applied to developing potential bicycle, pedestrian, and transit improvements along with corridors that were identified for roadway improvements, with the intent of recommending the implementation of bicycle and pedestrian and transit improvements that complement the corresponding street improvement.

Many communities across the United States have formalized the Complete Streets approach to planning and design through the adoption of a Complete Streets policy. Currently, the cities of Bismarck and Mandan have not adopted a Complete Streets policy. However, the Bismarck-Mandan MPO has initiated a Safe Routes to Services and Complete Streets Study that will be completed in December 2024. The study's purpose is to develop a transportation network that emphasizes disadvantaged users while exploring strategies to improve safety, connectivity, and equity. Study recommendations will include policies, transportation services, programs, procedures, and design standards and guidelines.<sup>7</sup>

Example of a Complete Street



Source: Smart Growth America



<sup>7</sup> Bismarck-Mandan MPO, *Safe Routes to Services & Complete Street Study*.



## Improving the Region’s Existing Corridors

Many major corridors in the MPO that are critical to the mobility and connectivity needs of regional travelers are currently widened to the extent possible within existing public right-of-way. While a broad range of strategies to improve these mature corridors is available, it is important to evaluate the trade-offs of additional widenings versus implementing corridor management strategies that provide lower-impact safety and mobility improvements. Examples of these improvements include intersection geometry upgrades, adjustments to intersection controls such as signals or roundabouts, and retiming of traffic signals across a corridor to improve traffic operations and safety.

The deployment of corridor management strategies can avoid the potential impacts on right-of-way and adjacent properties, induced travel, environmental impacts, and higher costs associated with widenings.

## Addressing Cross-Area Travel

The need to improve cross-area travel in the MPO region has been documented throughout multiple metropolitan transportation plans, with the issue of north-south mobility predominantly affecting Bismarck and east-west mobility predominantly affecting Mandan. Arrive 2050 looks to address these issues through developing alternatives that provide new connections and set the stage for the development of future corridors that can facilitate the needed mobility.

The strategies from the toolbox to address cross-area travel identified include:

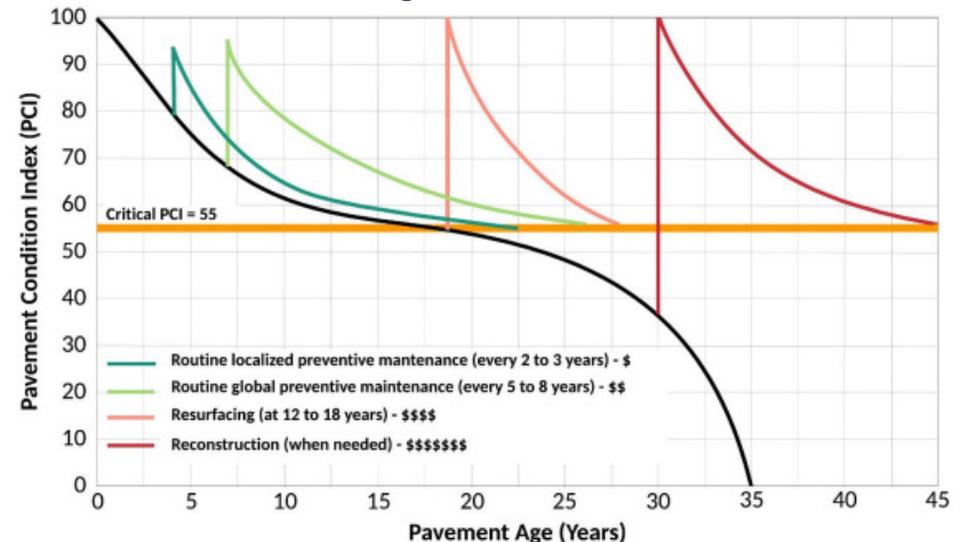
- **New corridors and existing corridor improvements**
- **Access management**
- **Intersections**

## Pavement Management Strategies

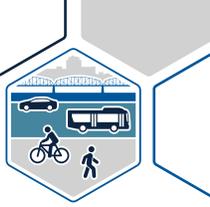
The State of the Streets report found that maintenance and reconditioning treatments (e.g., crack sealing, seal coats, patching) were incorrectly applied as “stopgap” or “cosmetic” treatments for pavements in poor condition rather than as true preservation activities. The appropriate preventive maintenance treatments should be applied to pavements that are in relatively good condition to increase the extent of the pavement service. This activity should be planned and applied systemically following either the resurfacing or reconstruction of pavement, as shown in **Figure 39**.

The recommended findings from the State of the Streets report were based on an annual pavement deterioration rate from historical work records entered in PAVER and PCI inspection data. The MPO estimated that the pavement deterioration rate for asphalt roadways is roughly 2 points per year, equating to a pavement life between major rehabilitations of approximately 17.5 years. A deterioration rate of roughly 1 point per year was used for the concrete roadways, which equated to a pavement life between major rehabilitations of approximately 25 years.

**Figure 39: Example of the Increasing Prices and Decreases Benefits of Maintenance and Reconditioning**



Source: Bismarck-Mandan MPO, [2020 State of the Streets](#)



### Considerations for Pavement Preservation Prioritization

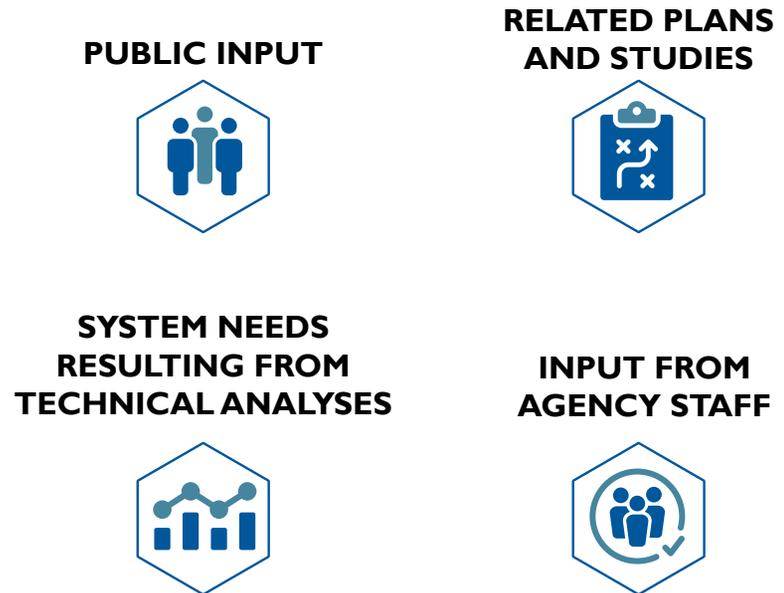
The overall strategies proving to be most cost efficient and effective in the long-term for pavement management include:

- Preventing “fair condition” roads from falling into “poor condition;” avoid worst-to-first approach,
- Prioritizing maintenance and rehabilitation projects on good and fair condition pavements over poor condition pavements,
- Prioritizing timely preservation strategies over more expensive reconstruction fixes,
- Identifying the appropriate life cycle time frame for the roadway system,
- Prioritizing reclamation projects over reconstruction,
- Prioritizing projects on poor condition pavements only as revenues allow and only on pavement that has another factor or circumstance to address at the time of reconstruction/ reclamation (i.e., roadway with poor pavement condition AND operational, safety, freight, and/or other challenges),
- Prioritizing maintenance and rehabilitation projects that forward the goals and objectives of the MTP.

Before a list of maintenance or pavement management projects is developed, the MPO and partner jurisdictions should consider prioritization and policy strategies and which types of activities and locations are best suited for future available federal revenue.

### Development of Arrive 2050 Alternatives

The range of alternatives for Arrive 2050 was developed through a collaborative process that integrated the following:



Based on the alternatives, those that best meet the MPO’s priority areas were selected for inclusion in the Fiscally Constrained Plan.

**Figure 40** shows Arrive 2050’s alternatives, while **Appendix D** includes a table detailing each one. Alternatives shown in **Figure 40** are labeled with an ID that corresponds to the alternative’s listing in the table found in **Appendix D**.

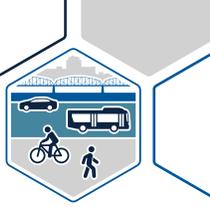
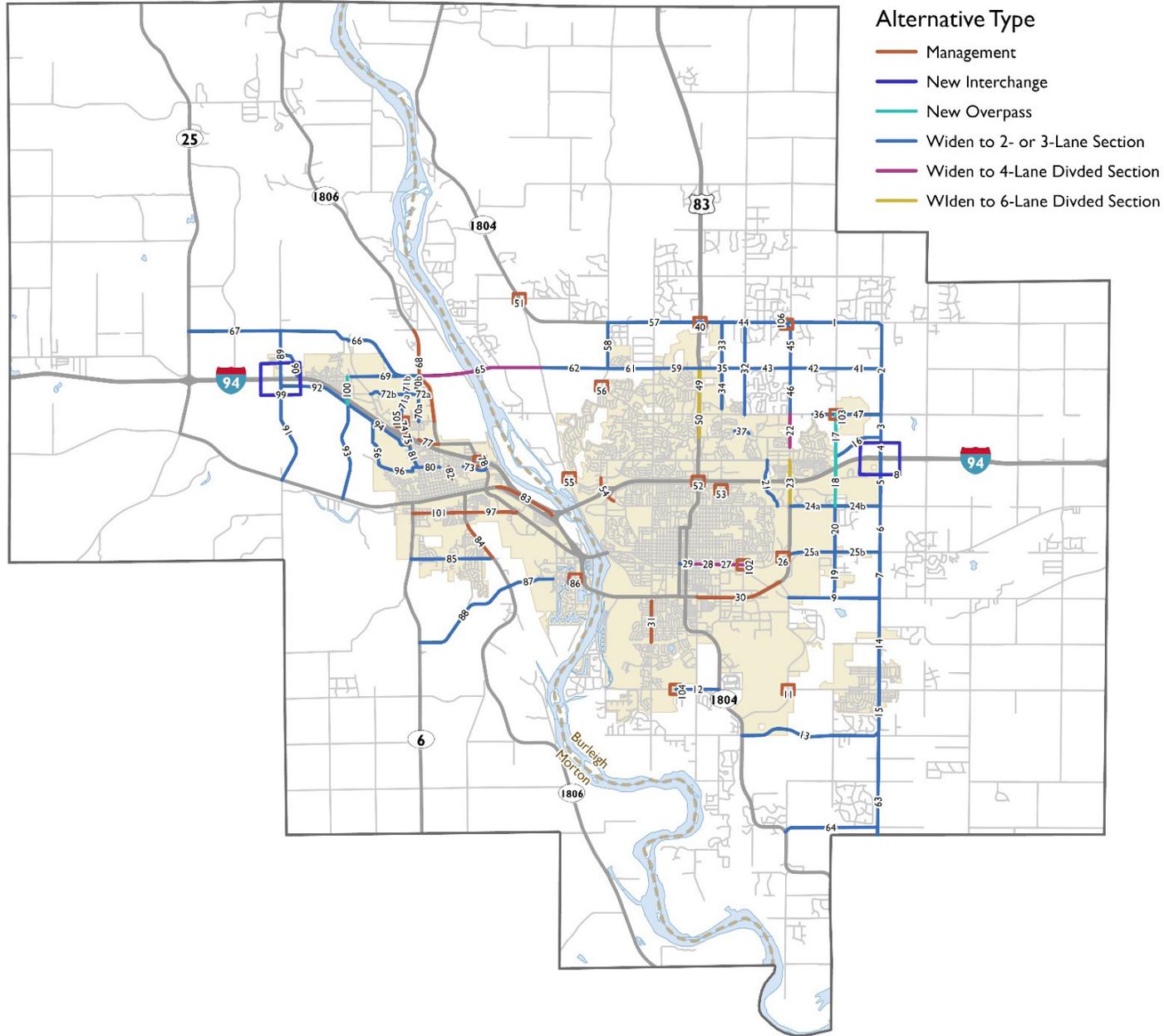
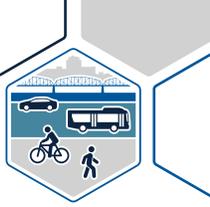


Figure 40: Arrive 2050 Alternatives\*



\*Numbers associated with each Alternative represent the project ID. Additional information on each Alternative is found in Appendix D and can be found using each segments ID.



### Alternatives Benefiting Cross-Area Travel

Many issues facing cross-area travel are due to relatively high traffic volumes in key corridors. When evaluating the range of potential alternatives shown in **Figure 40** with the MPO's TDM, there were two projects that provided the most notable benefits to cross-area travel:

- **Northern Bridge Crossing (ID #65):** Including this alternative in the TDM had a significant impact diverting traffic from State Street/US 83 (approximately 3,000 vehicles per day to 10,000 vehicles per day) and I-94/Grant Marsh Bridge (approximately 13,000 vehicles per day)
- **McKenzie Drive Extension (ID #87 and #88):** Including the extension of McKenzie Drive between 34th Ave SE and Hwy 1806 across the Heart River would divert approximately 10,000 vehicles per day from Memorial Highway and approximately 7,000 vehicles per day from 3rd Street South.

### Trends and Drivers

In the past decade, the rapid advancement of transportation technologies and mobility trends has changed the way transportation systems operate. These trends were analyzed to better understand how the Bismarck-Mandan MPO's multimodal transportation network may evolve over the Arrive 2050 planning horizon based on how users are expected to travel in the future and factors influencing travel outside the region. Trends and drivers impacting transportation in the Bismarck-Mandan region and those impacting transportation outside the region are listed below.

### Bismarck-Mandan MPO region trends:

- Household growth
- Drafting demographics
- Economic growth
- Development patterns

### Broader trends:

- Technology
- Federal policies and funding
- Safety trends
- Changing travel patterns
- Climate change

These factors influence how transportation systems operate; understanding how they are changing can help prepare for future transportation systems. As transportation industry technology continues to evolve rapidly, so do federal policies and funding. The federal transportation bill passed in 2021, the Infrastructure Investment and Jobs Act, has created significant funding aimed to modernize and improve transportation infrastructure nationwide. A full summary of the trends and drivers is provided in **Appendix F**.



## ARRIVE 2050 FUNDING PLAN

This chapter provides a summary of the funding plan developed as part of the Arrive 2050 planning process. The funding plan details analyses related to the following:

- **Current funding programs**
- **Historic revenue levels by program**
- **Forecasted revenue levels that can reasonably be expected through the year 2050**

These analyses provide a baseline funding plan to support the development of Arrive 2050's Fiscally Constrained Plan. Refer to **Appendix E** for Arrive 2050's detailed Funding Plan.

### Financial Plan in the MTP

Federal metropolitan transportation planning requirements articulated in 23 CFR 450.324 require that an MPO's MTP contain a financial plan that demonstrates how the MTP can be implemented based on an understanding of the reasonable transportation funding levels expected through the life of the plan.<sup>8</sup> These regulations also require a demonstration of fiscal constraint and the ability of the MPO to adequately operate and maintain the federal-aid transportation system. This section of the report will discuss the current funding programs providing transportation revenues to the Bismarck-Mandan MPO and sources of local revenues used for transportation purposes.

### Relevant Funding Programs

The following funding programs comprise the key sources of transportation revenues for the Bismarck-Mandan MPO's partner agencies. The funding sources direct federal transportation dollars (not including local matching funds), with NDDOT leading the program administration.

NDDOT allocates federal transportation funds to the state's MPOs for use on federally eligible transportation projects.

### Interstate Program

The Interstate Program directs NDDOT funding toward improvements and modifications to mainline Interstate segments or existing and new interchanges needed to alleviate congestion due to mainline traffic.<sup>9</sup> While NDDOT is responsible for funding interstate improvements, local public agencies (LPAs) are required to fund grade-separated non-interchange roads and interchange projects stemming from cross-road traffic.<sup>10</sup>

Under the Interstate Program, NDDOT provides the match for federal funds, which is 10 percent for improvements that do not add capacity and 19.07 percent for improvements that add capacity.

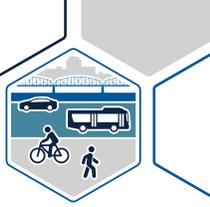
### National Highway Performance Program

The National Highway Performance Program (NHPP) provides funding for projects that support the condition and performance of the state's Interstate NHS and non-Interstate NHS routes, including new NHS facilities that further the state's progress toward performance measure targets. NDDOT directs NHPP funding allocated to the MPO region, who does not annually solicit these funds. NDDOT continues to program projects under an Interstate or IM category. It is noted that this is a project category and does not constitute a separate funding program.

8 [23 CFR Part 450](#).

9 North Dakota Department of Transportation, [Local Government Manual](#)

10 Ibid.



## Urban and Regional Programs

### Urban Roads Program

Urban roads refers to roadways owned by LPAs that are located on the federal aid system. Funding provided to the MPO under the Urban Roads program is distributed through the Urban Roads formula and is based on annual funding available in the program. LPAs are responsible for the prioritization of improvements within their jurisdictions.

Urban Roads funds are calculated based on each LPA's proportion of population compared to the state's total urban population per the most recent decennial census plus a base amount. Eligible project types that can receive federal funds under the Urban Roads program include preliminary engineering (PE), construction engineering (CE), right-of-way acquisition, utility relocation, and construction. Each LPA is responsible for providing the local match for federal funds, which is 19.07 percent of total project cost.

### Urban Regional Roads Program

Urban regional roads are defined as state highways that run through cities with populations of 5,000 or more. NDDOT coordinates annually with eligible LPAs to program projects based on available Urban Regional Roads funding. NDDOT annually solicits for projects that qualify under this program and distributes funds based on needs.

Activities eligible for Urban Regional Roads funds include PE, CE, right-of-way acquisition, utility relocations, and construction. The Urban Regional Road Program consists of two sub-programs that determine local match requirements:<sup>11</sup>

- **Primary Regional Program:** The match for federal funds is provided by NDDOT (19.07 percent), except for service road improvements and items not eligible for federal aid. In these instances, the LPA is responsible for providing a local match, or 100% of funding.
- **Secondary Regional Program:** The match for federal funds is provided by NDDOT (9.07 percent) and the LPA (10 percent), except for service road improvements and items not eligible for federal aid. In these instances, the LPA is responsible for providing the local match, or 100% of funding.

### Safety Program

NDDOT's Safety Program allocates funding from the federal Highway Safety Improvement Program (HSIP) that are to be used on safety projects. NDDOT allocates these funds to projects that reduce fatal and serious injury crashes. Projects funded under the Safety Program are selected based on NDDOT's annual list of high crash locations and local safety needs submitted by LPAs. Based on the LPA's safety needs, eligibility criteria, and available HSIP funds, NDDOT develops its safety program for the next 4 years; projects located in MPO boundaries require LPAs to go through the MPO prioritization process.<sup>12</sup>

Eligible activities under the Safety Program include PE, CE, right-of-way acquisition, utility relocations, and construction for projects located on the state highway system; CE and construction are the only activities eligible for safety funds for projects located on the LPA roads system. Federal funds provide 90 percent of funding for safety projects, and the 10 percent match is provided by either NDDOT or NDDOT and the LPA, depending on the project location. If the improvement is on the Secondary Regional System, the 10% match could be 5% state and 5% LPA.

### Transportation Alternatives Program

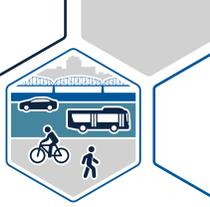
The Transportation Alternatives (TA) Program provides funding for programs and projects defined as transportation alternatives, including bicycle and pedestrian facilities, Safe Routes to School projects, safe routes for non-drivers, community improvement activities, and environmental mitigation projects.<sup>13</sup> TA funds are distributed on a discretionary basis, with projects selected by NDDOT's TA project selection committee.

Construction is the only activity eligible for funding under the TA Program. PE, CE, environmental impact mitigation, right-of-way acquisition, and utility relocations are not eligible for TA funding and are the responsibility of the LPA. Federal funds allocated under the TA Program cover 80.93 percent of total project costs, and the LPA is responsible for a 19.07 percent local match.

11 North Dakota Department of Transportation, [Local Government Manual](#)

12 Ibid

13 North Dakota Department of Transportation, [Transportation Alternatives](#)



### Additional Federal and State Sources of Transportation Funds

The programs described above provide the majority of annual transportation funds for the MPO region. However, NDDOT administers several additional programs that aid the MPO in funding regional transportation improvements. These programs include:

- **Flexible Transportation Fund Program (Flex Fund):** Established by the 68th Legislative Assembly in 2023, the Flex Fund Program provides LPAs with funding for projects that meet or advance economic development, safety, complete streets, multimodal system, roadway restriction (height or weight limitations), and innovation goals. Funds are allocated on a discretionary basis and awarded through the state's Flex Fund committee.
- **Urban Grant Program (UGP):** This program distributes approximately \$4.6 million each year to North Dakota cities with populations of 5,000 or more. These funds are used for improvements on federal aid roadways in urbanized areas and are intended to improve bicycle, pedestrian, or other multimodal facilities that enhance downtown areas.
- **Recreational Trails Program (RTP):** This program is a discretionary grant program that provides funding for motorized and non-motorized recreational trail projects. It is administered at the state level by the North Dakota Parks and Recreation Department and federally through the FHWA. Grant awards range from a minimum of \$30,000 to a maximum of \$250,000 and require a 20 percent local match.<sup>14</sup>

### Recent Federal Funding Programs

The Bipartisan Infrastructure Law, signed into legislation as the Infrastructure Investment and Jobs Act, introduced new formula and discretionary transportation grant programs that address the areas of safety, modernization, climate, and equity. In the MPO region, several formula funding programs authorized through IIJA are incorporated into existing programs such as the Urban Roads Program. These programs include:

- **Carbon Reduction Program (CRP):** This program provides funding for projects that reduce carbon dioxide emissions from on-road highway sources.
- **Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT):** This program provides funding to increase the resiliency of surface transportation to natural hazards.

<sup>14</sup> North Dakota Parks and Recreation, [Recreational Trails Program](#)

## ARRIVE 2050

- **National Electric Vehicle Infrastructure Formula Program (NEVI):** This program provides funding to states for the strategic deployment of electric vehicle charging infrastructure.

### Local Funding Programs

The LPAs in the MPO region have local funding programs that are used to supplement the MPO funding programs discussed above and provide funding for transportation improvements that do not receive federal funding assistance. Major local funding programs for the Bismarck and Mandan, as well as Burleigh and Morton Counties, are discussed below.

#### City of Bismarck

Local funding programs that Bismarck uses for transportation improvements include the following:<sup>15</sup>

- **Special Assessments Fund:** Funds received from the city's special assessments
- **Sales Tax Fund:** Special revenues collected from the city's self-imposed 1.5 percent sales tax revenue for voter-approved eligible expenditures
- **Special Deficiency Fund:** Funds made up of transfers from the city's general fund to supplement special assessment revenues and bridge gaps in funding for capital projects
- **Street Light Utility Fund:** Accounts for the cost of providing electricity and maintenance of the city's residential street lights and traffic signals

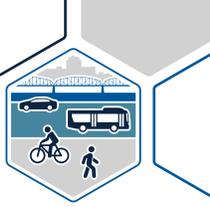
#### City of Mandan

Local funding programs that Mandan uses for transportation improvements include the following:<sup>16</sup>

- **Highway Distribution Fund:** Money distributed by the state treasurer and allocated to incorporated cities
- **Special Assessments Fund:** Funds received from special assessments, which include sidewalks, curbs, gutters, and streets
- **1 Percent City Sales Tax Fund:** Accounts for the 1 percent city sales and use tax for reducing property taxes and municipal debt; street, water, and sewer system improvements; and jobs and economic development
- **Street Light Utility Fund:** Accounts for the activities of the city's street lighting system operations

<sup>15</sup> City of Bismarck, [Annual Budget Fiscal Year](#)

<sup>16</sup> City of Mandan, [Budget](#)



### Burleigh County

Local funding programs that Burleigh County uses for transportation improvements include the following:<sup>17</sup>

- **County Road and Bridge Fund:** Revenues made available from NDDOT to assist North Dakota counties in implementing projects on federal aid routes that are owned by the respective county. Funding for bridges more than equal to or greater than 20 feet in span is also available to North Dakota counties for replacement or rehabilitation projects.
- **Highway Tax Distribution:** Money distributed by the state treasurer and allocated to North Dakota's counties.

### Morton County

Local funding programs that Morton County uses for transportation improvements include the following:<sup>18</sup>

- **County Road and Bridge Fund:** Revenues made available from NDDOT to assist North Dakota counties in implementing projects on federal aid routes that are owned by the respective county. Funding for bridges more than equal to or greater than 20 feet in span is also available to North Dakota counties for replacement or rehabilitation projects.
- **Unorganized Road Fund:** Funding for roadway improvements on roads in unorganized townships.
- **Highway Distribution Tax Fund:** Money distributed by the state treasurer and allocated to North Dakota's counties.

## Historic Revenue Levels

### MPO Programs

Historic revenues levels received by the MPO for the years 2017–2024 were analyzed based on historic TIP documents for this period. Based on the analysis of these documents, baseline revenue levels for the MPO's key funding programs were identified and then used to forecast reasonably expected revenues through the year 2050. These forecasted revenues comprise Arrive 2050's fiscally constrained plan.

17 Burleigh County, [Budget of Burleigh County, North Dakota, 2024](#)

18 Morton County, [Morton County 2023 Budget Revenue YTD](#)

## ARRIVE 2050

**Table 21** summarizes the historic revenues for the Urban Roads, Urban Regional Roads, Interstate, NHPP, Safety, Urban Grant, and TA Programs on an annual basis and provides total and average revenue levels received between 2017 and 2024.

### Historic Urban Roads Revenues

Urban Roads revenues received by the MPO between 2017 and 2024 were reviewed based on the agency's funding amounts granted through the Obligation Authority, which totaled a little more than \$33 million and averaged nearly \$4.2 million per year during this period.

### Historic Urban Regional Roads Revenues

Urban Regional Roads revenues received by the MPO between 2017 and 2024 totaled roughly \$43 million and averaged \$6.1 million per year during this period.

### Historic Interstate Revenues

Interstate revenues received by the MPO between 2017 and 2024 total \$94.3 million and averaged \$11.8 million per year. Several years saw higher revenue levels due to the programming of higher cost projects in 2019, 2023, and 2024.

### Historic Safety Revenues

Safety revenues received by the MPO between 2017 and 2024 totaled nearly \$20.8 million and averaged \$2.6 million per year.

### Historic TA Revenues

TA revenues received by the MPO between 2017 and 2024 totaled \$3.5 million and averaged a little less than \$432,000 per year. The trend in historic TA revenues received on an annual basis was stable, with only the year 2022 seeing a higher-than-normal receipt of TA funds.

### Historic Urban Grant Revenues

Urban Grant revenues received by the MPO between 2017 and 2024 totaled \$6.7 million and averaged roughly \$842,000 per year during this time. Given the discretionary nature of this funding source, the MPO does not anticipate receiving Urban Grant funding each year.

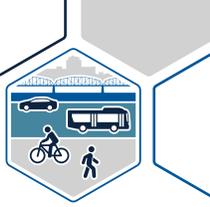


**Table 21: Historic MPO Funding Revenues**

| Program                     | 2017        | 2018*       | 2019         | 2020        | 2021         | 2022         | 2023         | 2024         | Total        | Average      |
|-----------------------------|-------------|-------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Urban Roads</b>          | \$3,692,312 | \$3,756,158 | \$3,926,416  | \$4,370,382 | \$4,470,216  | \$4,248,520  | \$4,404,943  | \$4,499,223  | \$33,368,170 | \$4,171,021  |
| <b>Urban Regional Roads</b> | \$364,994   | \$1,200,000 | \$4,141,055  | \$9,949,670 | \$10,698,645 | \$11,620,400 | \$5,060,239  | \$1,070,488  | \$42,905,491 | \$6,129,356  |
| <b>Interstate</b>           | \$8,708,196 | \$7,410,545 | \$15,602,600 | \$0         | \$9,959,851  | \$3,000,000  | \$19,416,231 | \$30,248,768 | \$94,346,191 | \$11,793,274 |
| <b>Safety</b>               | \$580,000   | \$0         | \$3,782,000  | \$0         | \$6,599,820  | \$7,063,473  | \$2,593,104  | \$140,000    | \$20,758,397 | \$2,594,800  |
| <b>TA</b>                   | \$206,000   | \$0         | \$412,110    | \$0         | \$639,000    | \$1,210,879  | \$473,000    | \$514,499    | \$3,455,488  | \$431,936    |
| <b>Urban Grant</b>          | \$0         | \$0         | \$1,976,099  | \$0         | \$0          | \$2,851,000  | \$1,912,000  | \$0          | \$6,739,099  | \$842,387    |

Source: Bismarck-Mandan MPO, 2017–2024 Transportation Improvement Programs

\*The MPO did not publish a TIP in 2018, so these values represent funds programmed in 2018 that were provided in the 2017 TIP publication. It is noted there were still revenues, including O&M in 2018.



## Local Programs

Historic revenues received by the LPA's in the MPO region, including the cities of Bismarck and Mandan and Burleigh and Morton Counties, were analyzed based on historic agency budgets and capital improvement programs. Based on the historic revenue levels identified in these documents, baseline revenue levels for the LPA's key funding programs were identified and then used to forecast reasonably expected revenues through the year 2050. These forecasted revenues comprise fiscally constrained revenue levels for the LPAs.

### City of Bismarck

Revenues received by Bismarck were identified based on capital improvement program information for transportation improvements between 2017 and 2024 for the city's Special Assessments, Sales Tax, Special Deficiency, and Street Light Utility funds. A summary of historic revenues received for each fund is shown in **Table 22**.

As **Table 22** shows, revenues received by Bismarck for the Special Assessments fund totaled more than \$121 million between 2017 and 2024, averaging \$15.1 million per year. Revenues received for the Sales Tax fund total \$109.6 million during this period and averaged \$13.7 million per year, while revenues received for the Special Deficiency fund total \$18.1 million, at an average of \$2.2 million per year between 2017 and 2024. Street Light Utility fund revenues amounted to \$6.4 million and averaged a little less than \$1.1 million per year.

### City of Mandan

Revenues received by Mandan were identified based on the city's annual budget documents for the years 2022–2024. Sources of transportation-related revenues for Mandan include the Highway Distribution fund, Special Assessments fund, 1 Percent City Sales Tax fund, and the Street Light Utility fund. **Table 23** shows historic revenues received for these funds between 2022 and 2024.

As **Table 23** shows, Mandan received a little less than \$3.4 million in Highway Distribution funds between 2022 and 2024, averaging \$1.1 million per year. Revenues received for the Special Assessments fund totaled \$12.1 million at an average of \$4 million per year, while 1 Percent City Sales Tax revenues equaled roughly \$9.6 million and averaged \$3.2 million per year. Street Light Utility fund revenues received between 2022 and 2024 totaled \$1.4 million at an average of \$470,000 per year.

## ARRIVE 2050

## Burleigh County

Revenues received by Burleigh County were identified based on the county's historic budgets for the years 2018 and 2024, which identify revenue levels for the county's County Road and Bridge fund and Highway Tax Distribution fund. A summary of historic revenues received for each fund is shown in **Table 24**.

As **Table 24** shows, revenues for the County Road and Bridge fund totaled \$91.1 million between 2018 and 2024, with annual revenues averaging a little more than \$13 million. Highway Tax Distribution fund revenues totaled \$48.7 million at an average of a little less than \$7 million per year.

## Morton County

Revenues received by Morton County were identified based on historic county budget documents for the years 2015–2023, which provide historic annual revenues for the county's County Road and Bridge fund, Unorganized Road fund, and Highway Distribution Tax fund. **Table 25** summarizes historic revenues by program for Morton County.

As **Table 25** shows, Morton County received \$21.3 million in County Road and Bridge funds between 2015 and 2023, with revenues for this program averaging \$2.4 million annually.

Unorganized Road fund revenues amounted to \$8.5 million, with an average of \$944,000 per year, while Highway Distribution Tax fund revenues equaled \$48.2 million, or \$5.4 million per year.



Table 22: City of Bismarck

| Program                          | 2017         | 2018*       | 2019         | 2020         | 2021         | 2022         | 2023         | 2024         | Total         | Average      |
|----------------------------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|
| <b>Special Assessments Fund</b>  | \$11,797,921 | \$9,104,475 | \$10,715,550 | \$13,797,536 | \$23,763,773 | \$20,885,274 | \$16,531,628 | \$14,533,000 | \$121,129,158 | \$15,141,000 |
| <b>Sales Tax Fund</b>            | \$0          | \$0         | \$5,199,989  | \$17,101,356 | \$6,341,044  | \$46,196,396 | \$9,976,606  | \$24,808,000 | \$109,623,390 | \$13,703,000 |
| <b>Special Deficiency Fund</b>   | \$8,435,772  | \$4,888,611 | \$90,213     | \$888,363    | \$839,059    | \$0          | \$274,041    | \$2,680,000  | \$18,096,059  | \$2,262,000  |
| <b>Street Light Utility Fund</b> | \$0          | \$0         | \$565,345    | \$676,665    | \$728,111    | \$977,956    | \$1,291,216  | \$2,116,045  | \$6,355,338   | \$1,059,000  |

Source: City of Bismarck Capital Improvement Program Summaries

Table 23: City of Mandan

| Program                              | 2022        | 2023        | 2024        | Total        | Average     |
|--------------------------------------|-------------|-------------|-------------|--------------|-------------|
| <b>Highway Distribution Fund</b>     | \$1,094,864 | \$1,094,864 | \$1,178,110 | \$3,367,838  | \$1,123,000 |
| <b>Special Assessments Fund</b>      | \$4,261,135 | \$4,261,135 | \$3,586,239 | \$12,108,509 | \$4,036,000 |
| <b>1 Percent City Sales Tax Fund</b> | \$3,172,347 | \$3,172,347 | \$3,232,482 | \$9,577,176  | \$3,192,000 |
| <b>Street Light Utility Fund</b>     | \$472,502   | \$466,090   | \$472,589   | \$1,411,181  | \$470,000   |

Source: City of Mandan



**Table 24: Burleigh County**

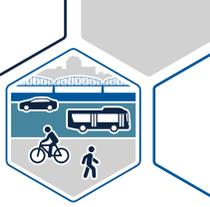
| Program                              | 2018         | 2019         | 2020         | 2021        | 2022        | 2023         | 2024         | Total        | Average      |
|--------------------------------------|--------------|--------------|--------------|-------------|-------------|--------------|--------------|--------------|--------------|
| <b>County Road and Bridge Fund</b>   | \$15,482,793 | \$16,821,945 | \$10,733,765 | \$9,498,849 | \$9,645,164 | \$14,771,527 | \$14,189,672 | \$91,143,715 | \$13,021,000 |
| <b>Highway Distribution Tax Fund</b> | \$6,502,000  | \$7,215,000  | \$7,211,000  | \$6,033,164 | \$6,621,622 | \$8,200,000  | \$6,950,000  | \$48,732,786 | \$6,962,000  |

Source: Burleigh County

**Table 25: Morton County**

| Program                              | 2015       | 2016        | 2017        | 2018        | 2019        | 2020        | 2021        | 2022        | 2023        | Total        | Average     |
|--------------------------------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|
| <b>County Road and Bridge Fund</b>   | \$6,437,37 | \$7,721,543 | \$1,061,467 | \$1,180,120 | \$746,557   | \$1,070,958 | \$1,046,980 | \$1,006,461 | \$1,039,817 | \$21,311,275 | \$2,368,000 |
| <b>Unorganized Road Fund</b>         | \$1,039,39 | \$786,590   | \$787,368   | \$845,433   | \$909,682   | \$947,699   | \$1,401,686 | \$884,861   | \$888,815   | \$8,491,530  | \$944,000   |
| <b>Highway Distribution Tax Fund</b> | \$2,960,00 | \$2,488,185 | \$26,190,00 | \$2,769,582 | \$2,779,234 | \$2,523,613 | \$2,596,289 | \$2,628,000 | \$3,271,837 | \$48,206,740 | \$5,356,000 |

Source: Morton County



## Future Forecasted Revenue Levels

Federal metropolitan transportation planning regulations require the MTP to include an estimate of future revenues that the MPO may reasonably expect to receive over the life of the plan. Based on the historic revenue levels and input from MPO staff, future revenue levels were forecasted to reasonably estimate the level of transportation revenues the MPO may receive through 2050.

## Baseline Revenue Levels for MPO Programs

Baseline revenue levels are the basis for forecasting future revenue for programs detailed in **Table 26**.

**Table 26: Estimated Baseline Annual Revenue Levels by MPO Program**

| Program                   | Baseline Revenue Level |
|---------------------------|------------------------|
| Urban Roads <sup>19</sup> | \$5,339,971            |
| Urban Regional Roads      | \$6,129,356            |
| Safety (State)            | \$1,540,000            |
| Safety (Urban)            | \$1,430,000            |
| TA                        | \$361,452              |
| Urban Grant               | \$580,000              |

Note that several programs such as the Interstate/NHPP are not included in the future forecasted revenues because they are state discretionary programs directed at the state system. NDDOT looks at needs across the entire state system when allocating these monies, and thus cannot be effectively forecasted on a regional basis.

<sup>19</sup> Urban Roads baseline levels were established based on 2023 allocated levels. Future levels are not guaranteed and may vary.

## Baseline Revenue Levels for Local Programs

Baseline revenue levels used to forecast local funds were developed based on the historic revenue levels discussed in the preceding section. The historic revenue level for each LPA funding program was averaged, and the average amount constituted the baseline revenue level used to forecast funding through 2050. **Table 27** presents the baseline revenue level for each city's funding program. The baseline level used for forecasting future revenues for Burleigh and Morton Counties is shown in **Table 28**.

**Table 27: Baseline Annual Revenues for the Cities of Bismarck and Mandan**

| Program                       | Baseline Revenue Level |
|-------------------------------|------------------------|
| <b>City of Bismarck</b>       |                        |
| Special Assessments Fund      | \$15,141,000           |
| Sales Tax Fund                | \$13,703,000           |
| Special Deficiency Fund       | \$2,262,000            |
| Street Light Utility Fund     | \$1,059,000            |
| <b>City of Mandan</b>         |                        |
| Highway Distribution Fund     | \$1,123,000            |
| Special Assessments Fund      | \$4,036,000            |
| I Percent City Sales Tax Fund | \$3,192,000            |
| Street Light Utility Fund     | \$470,000              |

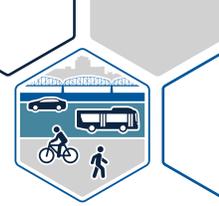


Table 28: Baseline Annual Revenues for Burleigh and Morton Counties

| Program                       | Baseline Revenue Level |
|-------------------------------|------------------------|
| <b>Burleigh County</b>        |                        |
| County Road and Bridge Fund   | \$13,021,000           |
| Highway Distribution Tax      | \$6,962,000            |
| <b>Morton County</b>          |                        |
| County Road and Bridge Fund   | \$2,415,000            |
| Unorganized Road Fund         | \$963,000              |
| Highway Distribution Tax Fund | \$5,463,000            |

## Revenue Forecast Growth Rates

To forecast future revenues for the MPO’s key funding programs a conservative annual growth rate of 2 percent was selected. This annual growth rate was then applied to all the MPO’s funding programs. Forecasted future revenues for LPA funding programs also applied a 2 percent per year growth rate.

## Forecast Time Bands

Future forecasted revenues were organized into time bands so that the future funds could reflect year of expenditure (YOE) values that inform the development of Arrive 2050’s fiscally constrained plan. The time bands identified were:

- **Current TIP:** 2025–2028
- **Short Term:** 2029–2033
- **Mid Term:** 2034–2042
- **Long Term:** 2043–2050

## Future Revenue Forecasts for MPO Programs

The resulting future revenue forecasts for the MPO’s key funding programs are summarized by time band. Future revenues were also forecasted for the city and county partners, and were shown to have sufficient funding to support matching Federal funding and to keep up required local system preservation and operations and maintenance. More details on future funding is shown in **Appendix E**.



## FISCALLY CONSTRAINED PLAN

A key requirement of the metropolitan transportation planning process is the development of a fiscally constrained plan that identifies not only multimodal improvements that can be implemented within the constraints of reasonably expected future transportation revenues through the life of the MTP but also provides a road map for operating and maintaining the existing and future multimodal transportation system.

The projects included in the fiscally constrained plan were identified based on two main criteria:



Alignment with regional vision



Alignment of estimated year-of-expenditure costs with forecasted future revenues

### System Preservation

The preservation of the existing multimodal transportation system is an Arrive 2050 goal. Current system preservation funding levels (not related to day-to-day O&M activities) for the MPO's local jurisdictions were analyzed. This assessment provides a pavement management funding constraint through Arrive 2050's short-term period, which is summarized by local jurisdiction in **Table 29**.

### Federal Revenue for Pavement Management

As demonstrated by the budget analysis for Bismarck and NDDOT, the BMMPO's member jurisdictions spend a large portion of their local transportation dollars on maintaining the non-NHS system, indicating that the Arrive 2045 funding policy and current practice by jurisdictional partners can be assumed going forward.

#### ARRIVE 2050

### Local Revenue for Pavement Management

Pavement management is primarily funded through local revenue sources. A preliminary review identifies sufficient local revenue sources to cover pavement management activities. However, local revenue sources are often supplemented by federal funds for pavement management projects, especially for larger or more expensive projects or projects on the NHS.

#### City of Bismarck

Based on a review of Bismarck's CIP between 2017 and 2023, on average, the city spent \$16,784,353 on maintenance of the non-NHS and local transportation system. Bismarck's local revenue alone is more than the annual average estimated to cover the non-NHS pavement management activities in the entire BMMPO area. However, the more than \$16 million spent on average by the city for maintenance activities includes those spent on non-NHS pavement and local pavement. Considering all the BMMPO's local jurisdictions and local revenue sources by each jurisdiction, it is anticipated that the annual average non-NHS pavement management expenses shown in **Table 30** are financially constrained.

#### State of North Dakota

Based on the 2021–2023 biennial budget, NDDOT receives approximately \$437 million in state funds per year. Approximately 91 percent (\$397 million) of the funding goes toward NDDOT's maintenance and highway programs. NHS annual average pavement management expenses through 2035 are \$8,429,643, or 2.1 percent of NDDOT's funds designated for pavement management activities. Considering NDDOT's entire statewide system, BMMPO's NHS network needs, and federal formula funds NDDOT receives for pavement management projects on the NHS, it is anticipated that the annual average NHS pavement management expenses shown in **Table 30** are financially constrained.

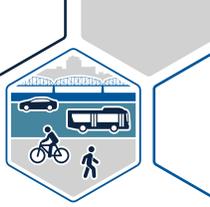


**Table 29: Federal Funding Targets by Roadway Project Activity**

| Federal Target      | NHS | Non-NHS |
|---------------------|-----|---------|
| Pavement Management | 90% | 18%     |
| Expansion           | 10% | 82%     |

**Table 30: Fiscally Constrained Annual Average NHS and Non-NHS Management Expenses by MPO Jurisdiction**

| Jurisdiction            | Program                  | NHS                  | Non-NHS              | Total                |
|-------------------------|--------------------------|----------------------|----------------------|----------------------|
| <b>Burleigh County</b>  | Total (2024–2035)        | \$16,280,222         | \$32,826,627         | \$49,106,849         |
|                         | Annual Average           | \$1,356,685          | \$2,735,552          | \$4,092,237          |
| <b>Morton County</b>    | Total (2024–2035)        | \$23,733,818         | \$12,581,421         | \$36,315,239         |
|                         | Annual Average           | \$1,977,818          | \$1,048,452          | \$3,026,270          |
| <b>City of Bismarck</b> | Total (2024–2035)        | \$43,774,933         | \$111,172,085        | \$154,947,018        |
|                         | Annual Average           | \$3,647,911          | \$9,264,340          | \$12,912,251         |
| <b>City of Lincoln</b>  | Total (2024–2035)        | \$0                  | \$1,110,079          | \$1,110,079          |
|                         | Annual Average           | \$0                  | \$92,507             | \$92,507             |
| <b>City of Mandan</b>   | Total (2024–2035)        | \$18,442,455         | \$31,643,226         | \$50,085,681         |
|                         | Annual Average           | \$1,536,871          | \$2,636,936          | \$4,173,807          |
| <b>MPA Total</b>        | <b>Total (2024–2035)</b> | <b>\$101,155,717</b> | <b>\$189,333,438</b> | <b>\$290,489,155</b> |
|                         | <b>Annual Average</b>    | <b>\$8,429,643</b>   | <b>\$15,777,787</b>  | <b>\$24,207,430</b>  |



## Arrive 2050 Fiscally Constrained Plan

Arrive 2050's fiscally constrained plan is organized into the time bands described in the **Arrive 2050 Funding Plan** chapter and provides costs in terms of both 2024 dollars as well as estimated YOE costs. The fiscally constrained plan also identifies the expected funding sources for each project in addition to each project's local agency sponsor.

### Committed Projects

Projects identified in Bismarck-Mandan MPO's 2024–2027 TIP as major capital improvements are considered committed projects and represent the first phase of the fiscally constrained plan. The projects included in the short-term phase of the fiscally constrained plan are considered candidates for the MPO's annual TIP documents through the year 2033.

**Table 31** details the region's committed projects, while **Figure 41** shows their locations.

### Fiscally Constrained Projects

Projects included in Arrive 2050's fiscally constrained plan were selected based on how well they align with the regional vision for the future transportation system, how well estimated YOE costs align with forecasted revenue constraints, and guidance from local jurisdiction staff. **Table 32** through **Table 37** detail the fiscally constrained plan as organized in the short-, mid-, and long-term time bands, while **Figure 42** through **Figure 44** show the locations of the fiscally constrained projects in the MPO region. An 'R' next to the number in the tables indicates that the project is a rehabilitation or reconstruction. No letter indicates an expansion project. An 'a' or 'b' indicates a phased project.

### Regional Illustrative Projects

Arrive 2050's series of alternatives includes several projects that are considered regionally significant and align well with the regional vision for the future transportation system but have cost estimates that exceed future revenue forecasts and thus do not fit in the fiscally constrained plan. These alternatives are considered regional illustrative projects and are retained in the event that future funding capacity would allow for their implementation, such as an expansion in future revenues from NDDOT funding programs or as a recipient of discretionary grant funding. The regional illustrative projects are presented in **Table 38** and shown in **Figure 45**. **Appendix F** contains the

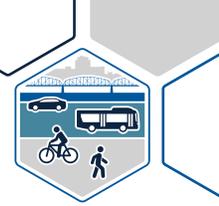
Regional Illustrative Project List along with potential sources of funds for each project.

### Discretionary Grant Funding Opportunities

The list of projects that are consistent with the Bismarck-Mandan area's transportation goals and meet the safety and mobility needs exceeds anticipated future fiscally constrained funding levels. This is the foundation of the illustrative project list shown in **Figure 45**. The current funding environment from the federal government has several discretionary grant opportunities, including:

- **Rebuilding American Infrastructure with Sustainability and Equity (RAISE)**
- **Multimodal Project Discretionary Grant (MPDG)**
- **Rural Opportunities to Use Transportation for Economic Success (ROUTES)**
- **Strengthening Mobility and Revolutionizing Transportation (SMART)**
- **Bridge Investment Program (BIP)**

These grant programs all have different eligibility requirements and selection criteria, and some programs will align better with projects than others.



**Table 31: Committed Projects, 2024–2028**

| ID | Corridor                | From                | To              | Project Description  | Construction Year | Funding Program      |
|----|-------------------------|---------------------|-----------------|--|-------------------|----------------------|
| 1  | S Washington Street     | Drainage Ditch      | Burleigh Avenue | Widen from two to three lanes                                    | 2024              | Urban Roads          |
| 2  | Mandan Downtown         |                     |                 | Reconstruction   | 2025              | Urban Grant          |
| 3  | Mandan Memorial Highway |                     |                 | Reconstruction   | 2025              | Urban Regional Roads |
| 4  | Burleigh Avenue         | S Washington Street | Boston Drive    | Widen from two to three lanes                                    | 2026              | City Funded          |
| 5  | Centennial Road         | Jerico Road         |                 | Centennial Road/Jerico Road, N 16th Street/Braman Avenue signals | 2026              | Safety               |
| 6  | Braman Avenue           | N 16th Street       |                 | Centennial Road/Jerico Road, N 16th Street/Braman Avenue signals | 2026              | Safety               |
| 7  | Century Avenue          | N 19th Street       |                 | Bismarck/Century and 19th Street signals                         | 2026              | Safety               |
| 8  | Old Red Trail           | 40th Avenue NW      | Urban Limits    | Reconstruction   | 2027              | Urban Roads          |
| 9  | Bismarck Expressway     | N Washington Street |                 | Expressway/Washington Street signals                             | 2027              | Urban Regional Roads |
| 10 | Bismarck Expressway     | N 26th Street       |                 | Expressway/26th Street signals                                   | 2027              | Urban Regional Roads |
| 11 | S Washington Street     | Denver Avenue       |                 | Washington St and Denver Ave signals                             | 2027              | Urban Regional Roads |
| 12 | S 12th Street           | Burleigh Avenue     | Santa Fe Avenue | Asphalt Mill and Overlay   | 2028              | Urban Roads          |

Source: Bismarck-Mandan MPO, FY2017–FY 2025 Transportation Improvement Programs

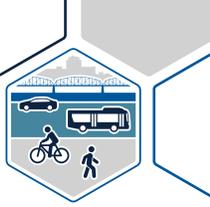
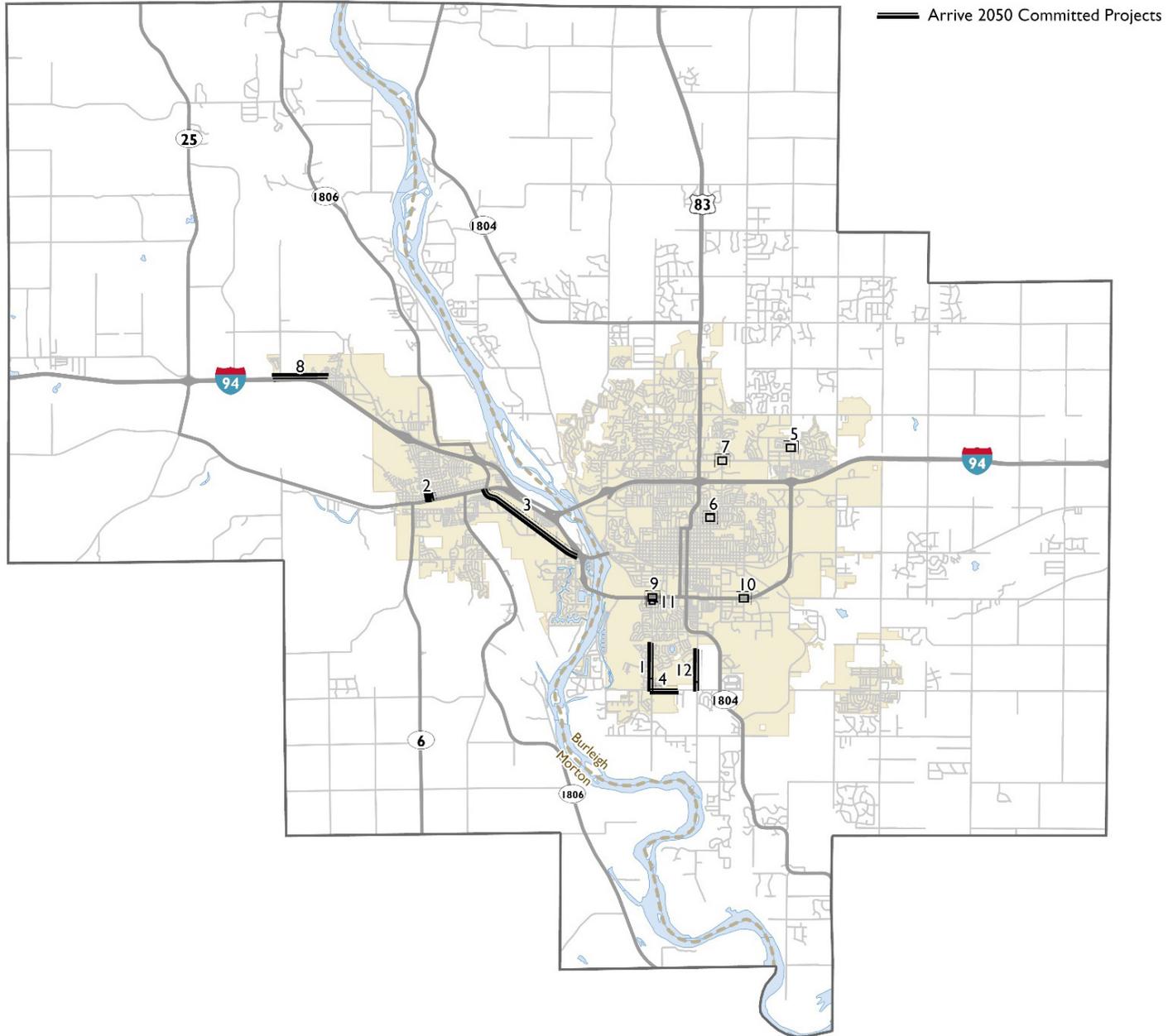


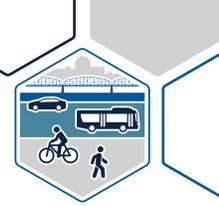
Figure 41: Committed Projects, 2024–2028





**Table 32: Fiscally Constrained Short-Term Urban Roads Projects**

| Project ID | Location         | From                | To  | Project Description   | 2024 Cost   | YOE Cost    | Lead Agency(s)     | Federal Funds | Local Funds |
|------------|------------------|---------------------|---|---|-------------|-------------|--------------------|---------------|-------------|
| 97         | 3rd Street SW    | 6th Avenue/ ND 1806 | Memorial Highway                                  | Restripe/overlay to include turn lanes or restripe to three-lane section with center turn lane and no parking | \$500,000   | \$660,000   | Mandan             | \$530,640     | \$129,360   |
| 107        | Burleigh Avenue  | Boston Drive        | University Drive/ND 1804                          | Asphalt Mill and Overlay  | \$1,300,000 | \$1,710,000 | Bismarck           | \$1,374,840   | \$335,160   |
| 118        | 52nd Street      | Main Avenue         | Divide Avenue                                     | Asphalt Mill and Overlay  | \$1,500,000 | \$1,970,000 | Burleigh/ Bismarck | \$1,583,880   | \$386,120   |
| 130        | Riverwood Avenue | Memorial Highway    | 3rd Street SE                                     | Reconstruction  | \$2,400,000 | \$3,160,000 | Mandan             | \$2,540,640   | \$619,360   |
| 109        | 52nd Street      | Apple Creek Road    | Main Avenue                                       | Asphalt Mill and Overlay  | \$1,200,000 | \$1,580,000 | Bismarck           | \$1,270,320   | \$309,680   |
| 133a       | 66th Street SE   | Lincoln Road        | Northgate Drive                                   | Mill and Overlay  | \$2,000,000 | \$2,630,000 | Burleigh/ Lincoln  | \$2,114,520   | \$515,480   |
| 128        | Calgary Avenue   | 14th Street         | East of St Lawrence Street (end of ditch section) | Reconstruction  | \$2,400,000 | \$3,160,000 | Bismarck           | \$2,540,640   | \$619,360   |
| 103        | 43rd Avenue N    | 52nd Street         |   | Intersection Capacity Improvement/ Roundabout   | \$3,000,000 | \$3,950,000 | Bismarck           | \$3,175,800   | \$774,200   |
| 123        | Main Avenue      | Memorial Highway    | Washington Street                                 | Concrete Pavement Repair  | \$2,000,000 | \$2,630,000 | Bismarck           | \$2,114,520   | \$515,480   |
| 117        | 52nd Street      | Gold Drive          | 43rd Avenue N                                     | Asphalt Mill and Overlay  | \$500,000   | \$660,000   | Bismarck           | \$530,640     | \$129,360   |



| Project ID   | Location                                    | From             | To                               | Project Description   | 2024 Cost           | YOE Cost            | Lead Agency(s)        | Federal Funds       | Local Funds        |
|--------------|---|------------------|----------------------------------|---|---------------------|---------------------|-----------------------|---------------------|--------------------|
| 126          | Main Avenue                                 | 12th Street      | Airport Road                     | Concrete Pavement Repair  | \$1,100,000         | \$1,450,000         | Bismarck              | \$1,165,800         | \$284,200          |
| 110          | 57th Avenue N                               | Tyler Parkway    | Washington Street                | Asphalt Mill and Overlay  | \$1,200,000         | \$1,580,000         | Bismarck              | \$1,270,320         | \$309,680          |
| 133b         | 66th Street SE                              | Apple Creek Road | E Main Avenue/<br>County Road 10 | Mill and Overlay  | \$2,000,000         | \$2,630,000         | Burleigh/<br>Bismarck | \$2,114,520         | \$515,480          |
| 127          | Main Avenue                                 | Airport Road     | 26th Street                      | Concrete Pavement Repair  | \$1,100,000         | \$1,450,000         | Bismarck              | \$1,165,800         | \$284,200          |
| 129          | Sunset Drive                                | Division Street  |                                  | Grade Raise   | \$1,500,000         | \$1,970,000         | Mandan                | \$1,583,880         | \$386,120          |
| 115          | US 83 East Frontage Road (Ridgedale Street) | Elbowoods Lane   | 64th Avenue N                    | Asphalt Mill and Overlay  | \$900,000           | \$1,180,000         | Bismarck              | \$948,720           | \$231,280          |
| 121          | Washington Street                           | 48th Avenue S    | Burleigh Avenue                  | Asphalt Mill and Overlay  | \$1,200,000         | \$1,580,000         | Burleigh/<br>Bismarck | \$1,270,320         | \$309,680          |
| 112          | Tyler Parkway                               | Cogburn Road     | 57th Avenue N                    | Asphalt Mill and Overlay  | \$1,500,000         | \$1,970,000         | Bismarck              | \$1,583,880         | \$386,120          |
| 101          | 3rd Street SW                               | 6th Avenue SE    | ND 6                             | Restripe/overlay to include turn lanes or restripe to three-lane section with center turn lane and no parking | \$500,000           | \$660,000           | Mandan                | \$530,640           | \$129,360          |
| 113          | Tyler Parkway                               | 57th Avenue N    | ND 1804                          | Asphalt Mill and Overlay  | \$1,200,000         | \$1,580,000         | Bismarck              | \$1,270,320         | \$309,680          |
| <b>Total</b> |   |                  |                                  |   | <b>\$29,000,000</b> | <b>\$38,160,000</b> |                       | <b>\$30,680,640</b> | <b>\$7,479,360</b> |



**Table 33: Fiscally Constrained Short-Term HSIP Projects**

| Project ID   | Location     | From                         | To | Project Description               | 2024 Cost          | YOE Cost           | Lead Agency(s) | Federal Funds      | Local Funds      |
|--------------|--------------|------------------------------|----|-----------------------------------|--------------------|--------------------|----------------|--------------------|------------------|
| 11           | Lincoln Road | Yegen Road/<br>Airway Avenue |    | Intersection Capacity Improvement | \$3,000,000        | \$3,950,000        | Bismarck       | \$3,555,000        | \$395,000        |
| 105          | Sunset Drive | 27th Street NW               |    | Roundabout                        | \$2,250,000        | \$2,960,000        | Mandan         | \$2,664,000        | \$296,000        |
| <b>Total</b> |              |                              |    |                                   | <b>\$5,250,000</b> | <b>\$6,910,000</b> |                | <b>\$6,219,000</b> | <b>\$691,000</b> |

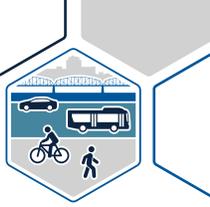
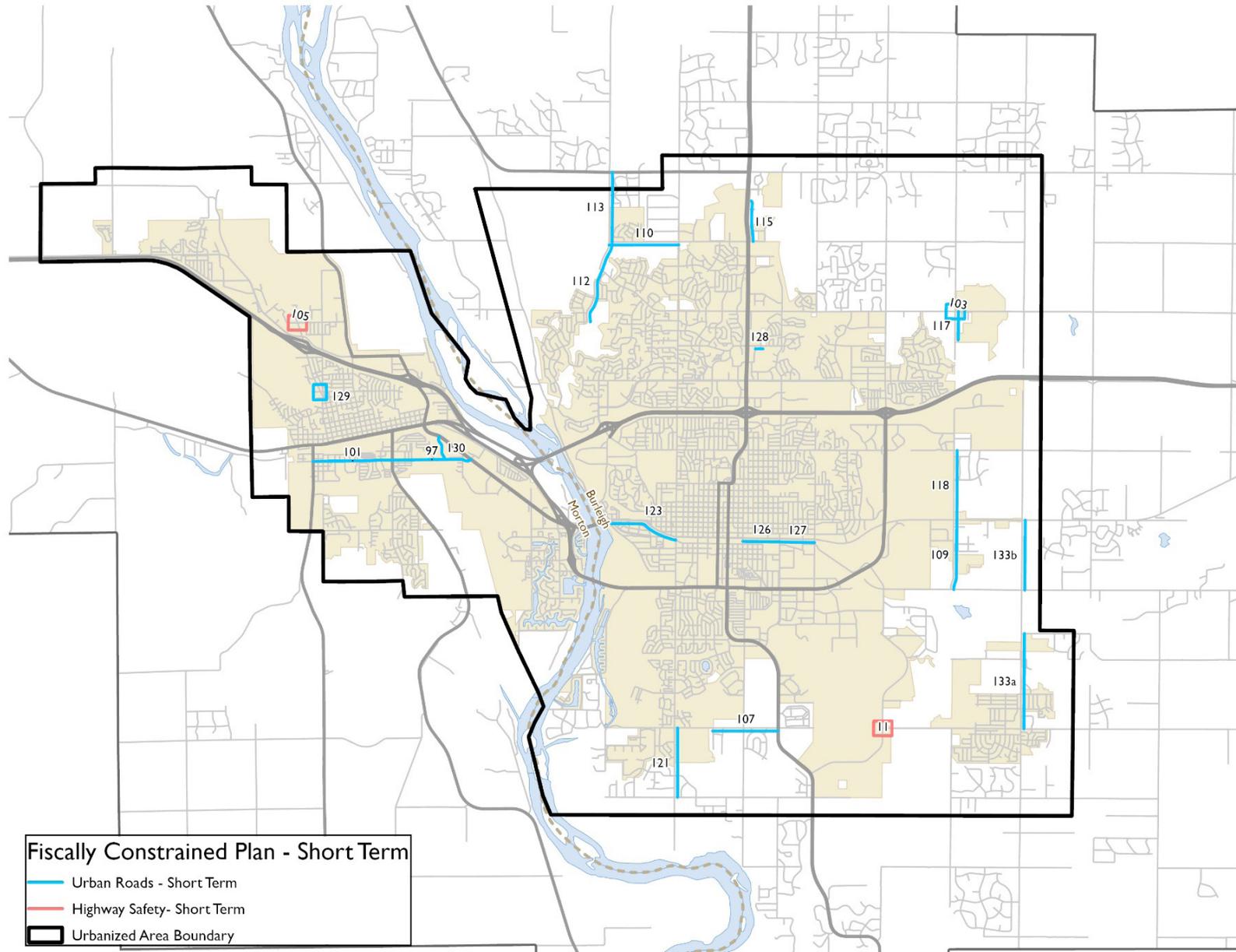


Figure 42: Fiscally Constrained Short-Term Urban Roads and HSIP Projects





**Table 34: Fiscally Constrained Mid-Term Urban Roads Projects**

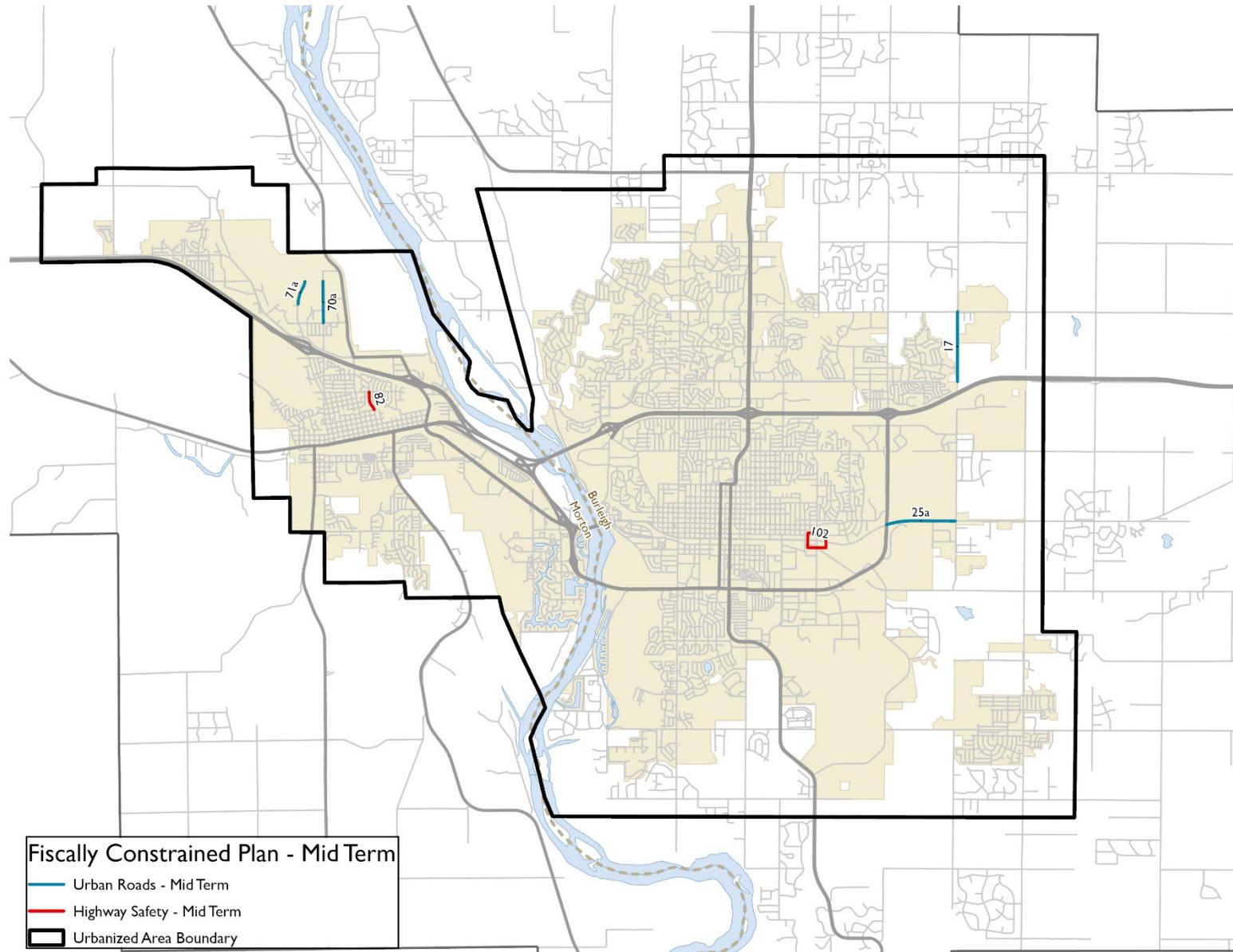
| Project ID   | Location       | From                | To               | Project Description   | 2024 Cost           | YOE Cost            | Lead Agency(s)    | Federal Funds       | Local Funds         |
|--------------|----------------|---------------------|------------------|---|---------------------|---------------------|-------------------|---------------------|---------------------|
| 71a          | Sunset Drive   | Middle School       | 37th Street NW   | Construct as three-lane urban section   | \$5,325,000         | \$9,220,000         | Mandan/Morton     | \$7,376,000         | \$1,844,000         |
| 25a          | Main Avenue    | Bismarck Expressway | 52nd Street      | Widen from two-lane to three-lane section (including intersection improvement at 52nd Street) | \$15,400,000        | \$26,670,000        | Burleigh/Bismarck | \$21,336,000        | \$5,334,000         |
| 17           | 52nd Street NE | 43rd Avenue NE      | E Century Avenue | Widen from two-lane to three-lane section/build new three-lane section                        | \$15,836,000        | \$27,420,000        | Burleigh/Bismarck | \$21,936,000        | \$5,484,000         |
| 70a          | 8th Avenue NW  | 27th Street NW      | 37th Street NW   | Construct three-lane urban section  | \$7,100,000         | \$12,290,000        | Mandan/Morton     | \$9,832,000         | \$2,458,000         |
| <b>Total</b> |                |                     |                  |   | <b>\$43,661,000</b> | <b>\$75,600,000</b> |                   | <b>\$60,480,000</b> | <b>\$15,120,000</b> |

**Table 35: Fiscally Constrained Mid-Term HSIP Projects**

| Project ID   | Location      | From          | To                 | Project Description                           | 2024 Cost          | YOE Cost            | Lead Agency(s) | Federal Funds      | Local Funds         |
|--------------|---------------|---------------|--------------------|---|--------------------|---------------------|----------------|--------------------|---------------------|
| 82           | 3rd Avenue NE | 5th Street NE | Division Street NW | Narrow Pavement                               | \$5,925,000        | \$10,260,000        | Mandan         | \$9,234,000        | \$1,026,000         |
| 102          | Main Avenue   | 26th Street   |                    | Intersection Capacity Improvement/ Roundabout | \$3,000,000        | \$5,200,000         | Bismarck       | \$4,680,000        | \$520,000           |
| <b>Total</b> |               |               |                    |   | <b>\$8,925,000</b> | <b>\$15,460,000</b> |                | <b>\$1,546,000</b> | <b>\$15,120,000</b> |



Figure 43: Fiscally Constrained Mid-Term Urban Roads and HSIP Projects





**Table 36: Fiscally Constrained Long-Term Urban Roads Projects**

| Project ID   | Location       | From         | To                           | Project Description                                | 2024 Cost           | YOE Cost            | Lead Agency(s)            | Federal Funds       | Local Funds         |
|--------------|----------------|--------------|------------------------------|--|---------------------|---------------------|---------------------------|---------------------|---------------------|
| 72a          | 37th Street NW | Sunset Drive | ND 1806                      | Construct urban three-lane for arterial connection | \$9,585,000         | \$23,170,000        | Mandan/Morton             | \$16,682,400        | \$6,487,600         |
| 7            | 66th Street    | Apple Creek  | Old Highway 10/E Main Avenue | Widen from two-lane to three-lane section          | \$14,948,000        | \$36,130,000        | Burleigh/Lincoln          | \$26,013,600        | \$10,116,400        |
| 25b          | Main Avenue    | 52nd Street  | 66th Street                  | Widen from two-lane to three-lane section          | \$15,400,000        | \$37,220,000        | Burleigh/Lincoln/Bismarck | \$26,798,400        | \$10,421,600        |
| <b>Total</b> |                |              |                              |  | <b>\$39,933,000</b> | <b>\$96,520,000</b> |                           | <b>\$27,025,600</b> | <b>\$15,120,000</b> |

**Table 37: Fiscally Constrained Long-Term HSIP Projects**

| Project ID   | Location        | From         | To | Project Description                           | 2024 Cost          | YOE Cost           | Lead Agency(s) | Federal Funds    | Local Funds         |
|--------------|-----------------|--------------|----|---|--------------------|--------------------|----------------|------------------|---------------------|
| 104          | Burleigh Avenue | Boston Drive |    | Intersection Capacity Improvement/ Roundabout | \$3,000,000        | \$7,250,000        | Bismarck       | \$6,525,000      | \$725,000           |
| <b>Total</b> |                 |              |    |   | <b>\$3,000,000</b> | <b>\$7,250,000</b> |                | <b>\$725,000</b> | <b>\$15,120,000</b> |

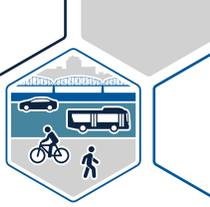
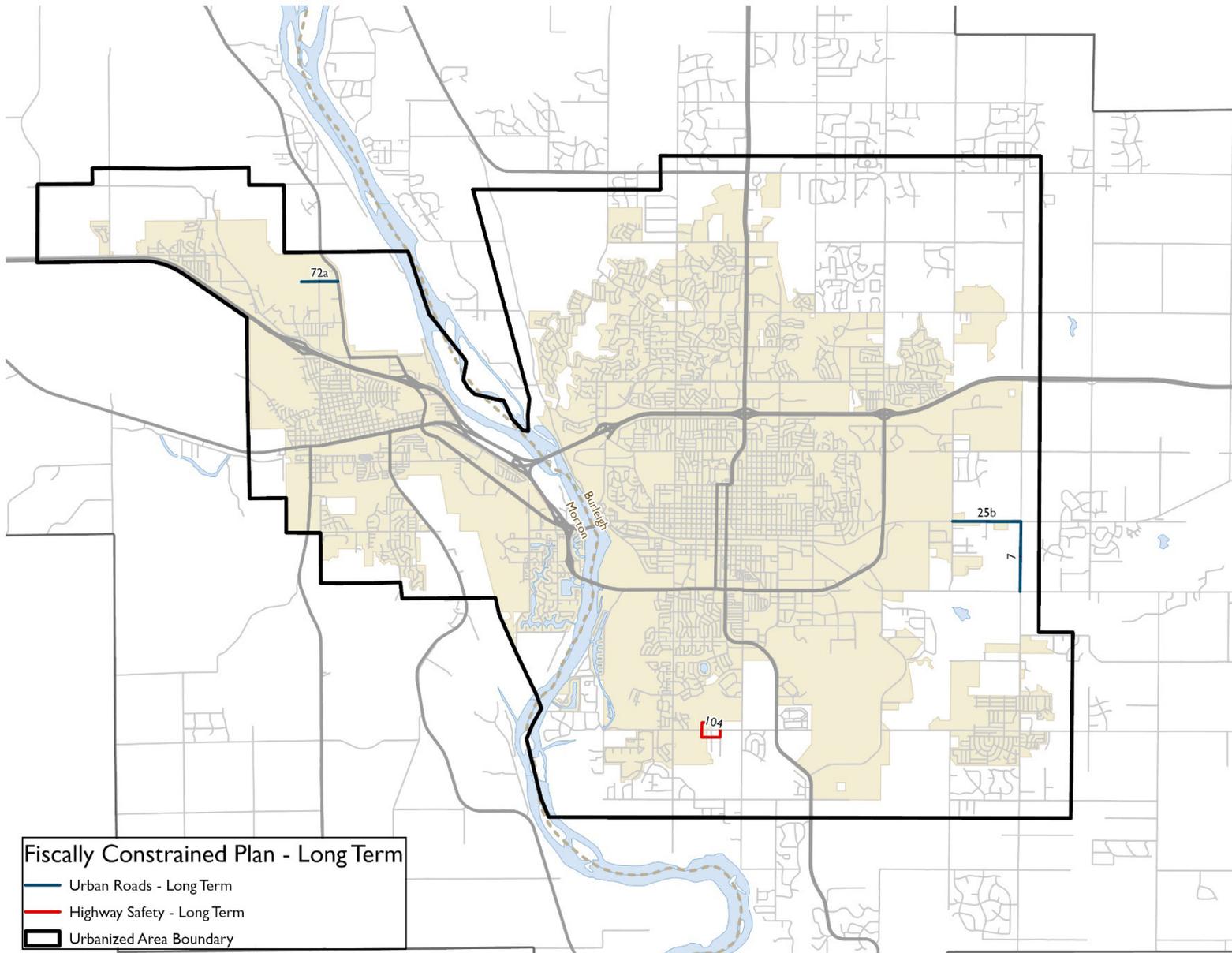
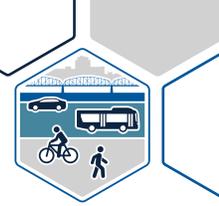


Figure 44: Fiscally Constrained Long-Term Urban Roads and HSIP Projects





**Table 38: Regional Illustrative Projects**

| ID | Corridor Location | From                         | To               | Description   | Estimated Cost (2024 \$) |
|----|-------------------|------------------------------|------------------|---|--------------------------|
| 1  | 71st Avenue       | Centennial Road              | 66th Street      | Reconstruct as a three-lane rural section   | \$18,744,000             |
| 2  | 66th Street       | 43rd Avenue                  | 71st Avenue      | Reconstruct/new construct as a three-lane urban section   | \$27,690,000             |
| 3  | 66th Street       | Century Avenue               | 43rd Avenue      | Construct as three-lane urban section (tied with project for interchange with I-94 at 66th Street)  | \$6,816,000              |
| 4  | 66th Street       | I-94                         | Century Avenue   | Construct as three-lane urban section (tied with project for interchange with I-94 at 66th Street)  | \$6,390,000              |
| 5  | 66th Street       | 17th Avenue                  | I-94             | Construct as three-lane urban section (tied with project for interchange with I-94 at 66th Street)  | \$14,910,000             |
| 6  | 66th Street       | Old Highway 10/E Main Avenue | 17th Avenue      | Construct as three-lane urban section (tied with project for interchange with I-94 at 66th Street)  | \$14,200,000             |
| 8  | I-94              | 66th Street                  |                  | New interchange   | \$40,000,000             |
| 12 | Burleigh Avenue   | High Plains Road             | University Drive | Widen to three-lane urban section; consider roundabout at 12th St intersection                      | \$15,612,000             |
| 13 | 48th Avenue S     | University Drive             | 66th Street      | Construct two-lane rural section and structure improvements at Apple Creek crossing                 | \$7,560,000              |
| 14 | 66th Street       | Lincoln Road                 | Northgate Drive  | Widen from two-lane to three-lane section   | \$20,276,000             |
| 15 | 66th Street       | 48th Avenue S                | Lincoln Road     | Reconstruct as two-lane urban section   | \$2,440,000              |
| 16 | Century Avenue    | 52nd Street                  | 66th Street      | Construct three-lane urban section  | \$16,046,000             |
| 18 | 52nd Street NE    | E Century Avenue             | 17th Avenue NE   | I-94 overpass and street improvements from Century Avenue to Divide Avenue                          | \$25,836,000             |
| 19 | 52nd Street       | Apple Creek Road             | Main Avenue      | Widen to three-lane urban section; consider roundabout at Old Highway 10/E Main Street intersection | \$31,448,000             |
| 20 | 52nd Street       | Main Avenue                  | 17th Avenue      | Widen to three-lane urban section   | \$14,224,000             |
| 22 | Centennial Road   | Jericho Road                 | 43rd Avenue      | Widen from three-lane to five-lane urban section  | \$16,776,000             |

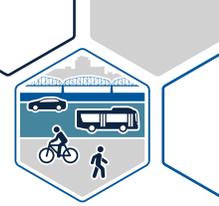


Table 38 Continued

| ID  | Corridor Location | From                | To              | Description   | Estimated Cost (2024 \$) |
|-----|-------------------|---------------------|-----------------|---|--------------------------|
| 24a | Divide Avenue     | Bismarck Expressway | 52nd Street     | Construct as three-lane urban section                                       | \$14,800,000             |
| 24b | Divide Avenue     | 52nd Street         | 66th Street     | Reconstruct three-lane urban section  | \$14,200,000             |
| 26  | Main Avenue       | Hay Creek Crossing  |                 | Structural replacement  | \$685,000                |
| 27  | E Main Avenue     | Airport Road        | 26th Street     | Reconstruct as five-lane urban section                                      | \$11,271,000             |
| 28  | E Main Avenue     | 12th Street         | Airport Road    | Reconstruct as five-lane urban section                                      | \$11,713,000             |
| 29  | E Main Avenue     | 7th Street          | 12th Street     | Reconstruct as three-lane urban section                                     | \$7,956,000              |
| 31  | Washington Street | Drainage Channel    | Denver Avenue   | Turn lane improvements.   | \$924,300                |
| 32  | 26th Street       | 43rd Avenue         | 71st Avenue     | Construct as three-lane urban section                                       | \$17,688,000             |
| 33  | N 19th Street     | 57th Avenue NE      | 71st Avenue     | Reconstruct three-lane urban section  | \$14,200,000             |
| 34  | N 19th Street     | Skyline Boulevard   | 57th Avenue NE  | Reconstruct three-lane urban section  | \$12,496,000             |
| 35  | 57th Avenue       | State Street        | 26th Street     | Construct three-lane urban section  | \$14,058,000             |
| 36  | 43rd Avenue       | N 26th Street       | Roosevelt Drive | Reconstruct as three-lane urban section                                     | \$35,358,000             |
| 37  | Calgary Avenue    | DMVW Railroad       | Haycreek Road   | Construct two-lane urban section across DMVW railroad with grade separation | \$50,690,000             |
| 40  | 71st Street       | State Street        |                 | Intersection capacity and safety improvements                               | \$5,214,000              |
| 41  | 57th Avenue       | 52nd Street NE      | 66th Street     | Pave two-lane rural section   | \$6,534,000              |
| 42  | 57th Avenue       | Centennial Road     | 52nd Street NE  | Widen from two-lane rural to three-lane urban section; access control       | \$15,400,000             |
| 43  | 57th Avenue       | 26th Street         | Centennial Road | Paving  | \$15,400,000             |

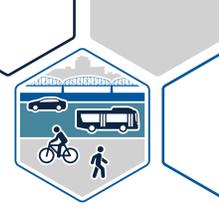
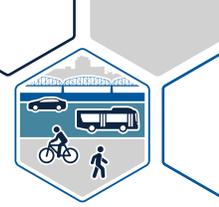


Table 38 Continued

| ID | Corridor Location                 | From                      | To                  | Description   | Estimated Cost (2024 \$) |
|----|-----------------------------------|---------------------------|---------------------|---|--------------------------|
| 44 | 71st Avenue                       | State Street              | Centennial Road     | Widen to three-lane section; consider roundabout at 26th Street intersection  | \$30,806,000             |
| 45 | Centennial Road                   | 57th Avenue               | 71st Avenue         | Widen to three-lane section   | \$10,092,000             |
| 46 | Centennial Road                   | 43rd Avenue               | 57th Avenue         | Widen from two-lane to three-lane rural section   | \$15,400,000             |
| 47 | 43rd Avenue                       | 52nd Street               | 66th Street         | Widen to three-lane urban section; consider a roundabout at 52nd Street   | \$24,646,000             |
| 49 | State Street                      | Skyline Boulevard         | 57th Avenue         | Widen to six lanes from north of Skyline Boulevard through 57th Avenue; intersection improvement at 57th Avenue. (Not preferred by NDDOT).                                      | \$21,450,000             |
| 50 | State Street                      | Calgary Avenue            | Skyline Boulevard   | At-grade improvements: Calgary Avenue and 43rd Avenue; widening to six-lane urban section from Calgary Avenue through Skyline Boulevard intersection. (Not preferred by NDDOT). | \$35,988,450             |
| 51 | Burnt Creek Loop North/River Road | ND 1804                   |                     | Intersection capacity improvement   | \$5,925,000              |
| 52 | State Street                      | I-94                      |                     | Interchange reconstruction  | \$49,770,000             |
| 53 | N 19th Street                     | Capitol Avenue            |                     | Intersection capacity improvement   | \$1,777,500              |
| 54 | Tyler Parkway                     | Schafer Road              | Burnt Boat Drive    | Intersection capacity improvement.; add turn lanes and include safety improvements  | \$1,777,500              |
| 55 | Apple Creek Road                  | Yegen Road                |                     | Intersection capacity improvement   | \$11,850,000             |
| 56 | Ash Coulee Drive                  | Tyler Parkway             |                     | Roundabout  | \$3,000,000              |
| 57 | 71st Avenue/ND 1804               | 15th Street/Tyler Parkway | State Street        | Widen from two-lane to three-lane section   | \$31,262,000             |
| 58 | Tyler Parkway                     | 57th Avenue               | ND 1804/71st Avenue | Construct as three-lane urban section   | \$14,200,000             |
| 59 | 57th Avenue                       | Washington Street         | State Street        | Widen to three-lane urban section; improve Washington Street intersection   | \$14,652,000             |



| ID  | Corridor Location | From                             | To                     | Description  | Estimated Cost (2024 \$) |
|-----|-------------------|----------------------------------|------------------------|--|--------------------------|
| 61  | 57th Avenue       | Tyler Parkway                    | Crested Butte Road     | Construct as three-lane urban section  | \$14,342,000             |
| 62  | 57th Avenue       | River Road                       | Tyler Parkway          | Construct as three-lane urban section  | \$20,874,000             |
| 91  | 56th Avenue NW    | I-94 Business Loop (Main Street) | Old Red Trail          | Construct as three-lane urban section  | \$34,222,000             |
| 92  | Boundary Road     | 56th Avenue/I-94 Interchange     | 32nd Avenue NW         | Construct as three-lane urban section  | \$22,436,000             |
| 93  | 32nd Avenue W     | I-94 Business Loop (Main Street) | Boundary Road (Future) | Construct as two-lane urban section  | \$26,536,000             |
| 94  | Boundary Road     | 32nd Avenue                      | Sunset Drive           | Construct as three-lane urban section  | \$23,430,000             |
| 95  | 31st Street NW    | Lohstreter Road                  | Boundary Road (Future) | Construct as two-lane urban section  | \$12,276,000             |
| 96  | Division Street   | Sunset Drive                     | Lohstreter Road        | Construct three-lane urban section to extend Division Street                                       | \$13,490,000             |
| 99  | 56th Avenue NW    | I-94                             |                        | New interchange  | \$34,250,000             |
| 100 | 32nd Avenue       | I-94                             |                        | Grade separation overpass/underpass  | \$20,550,000             |
| 136 | 66th Street       | Northgate Drive                  | Apple Creek Road       | Grade separation, new structure over Apple Creek, roundabout at intersection with Apple Creek Road | \$31,900,000             |

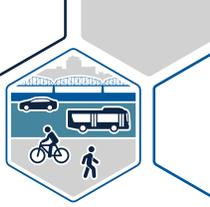
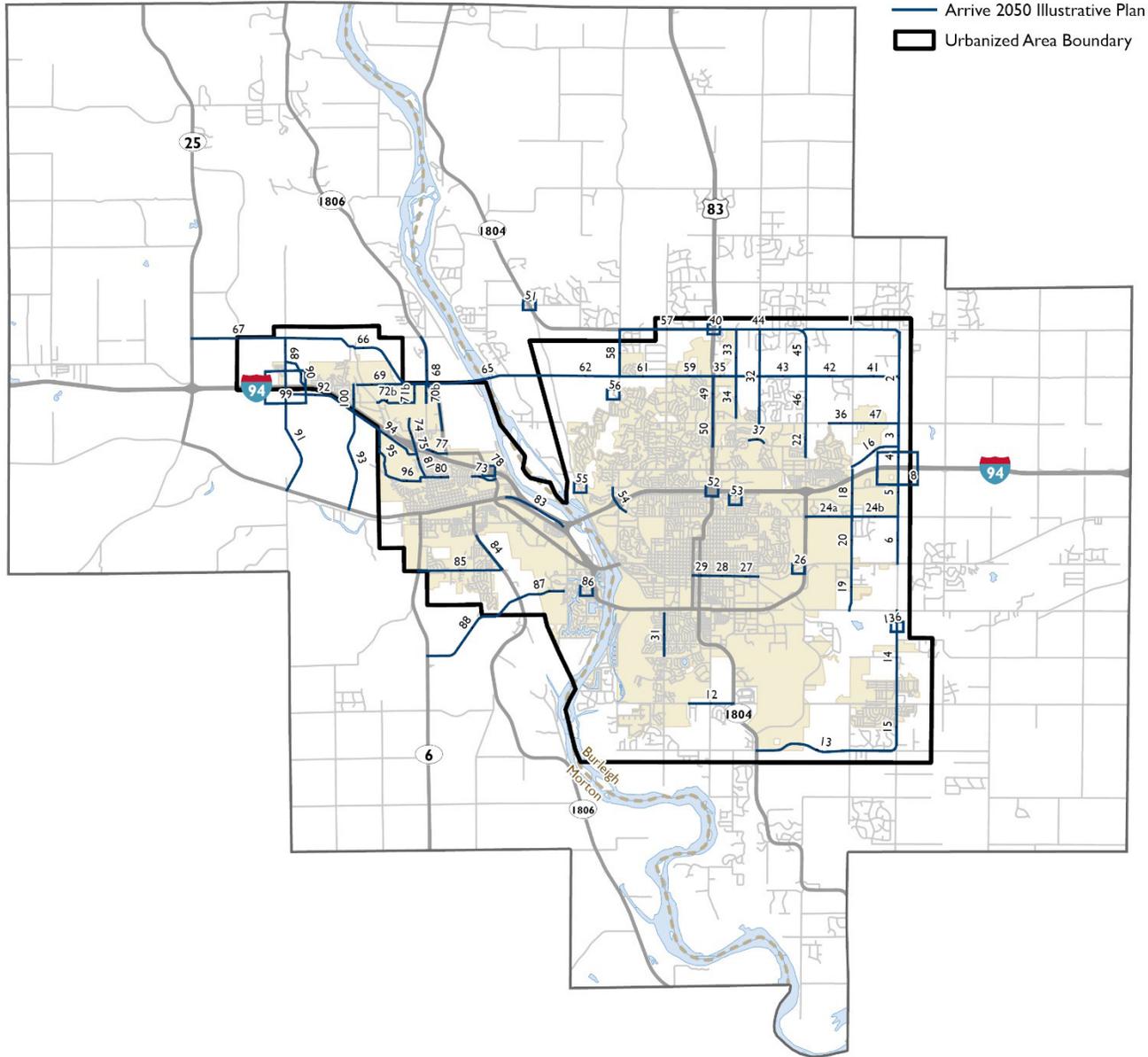


Figure 45: Regional Illustrative Projects



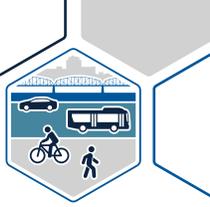
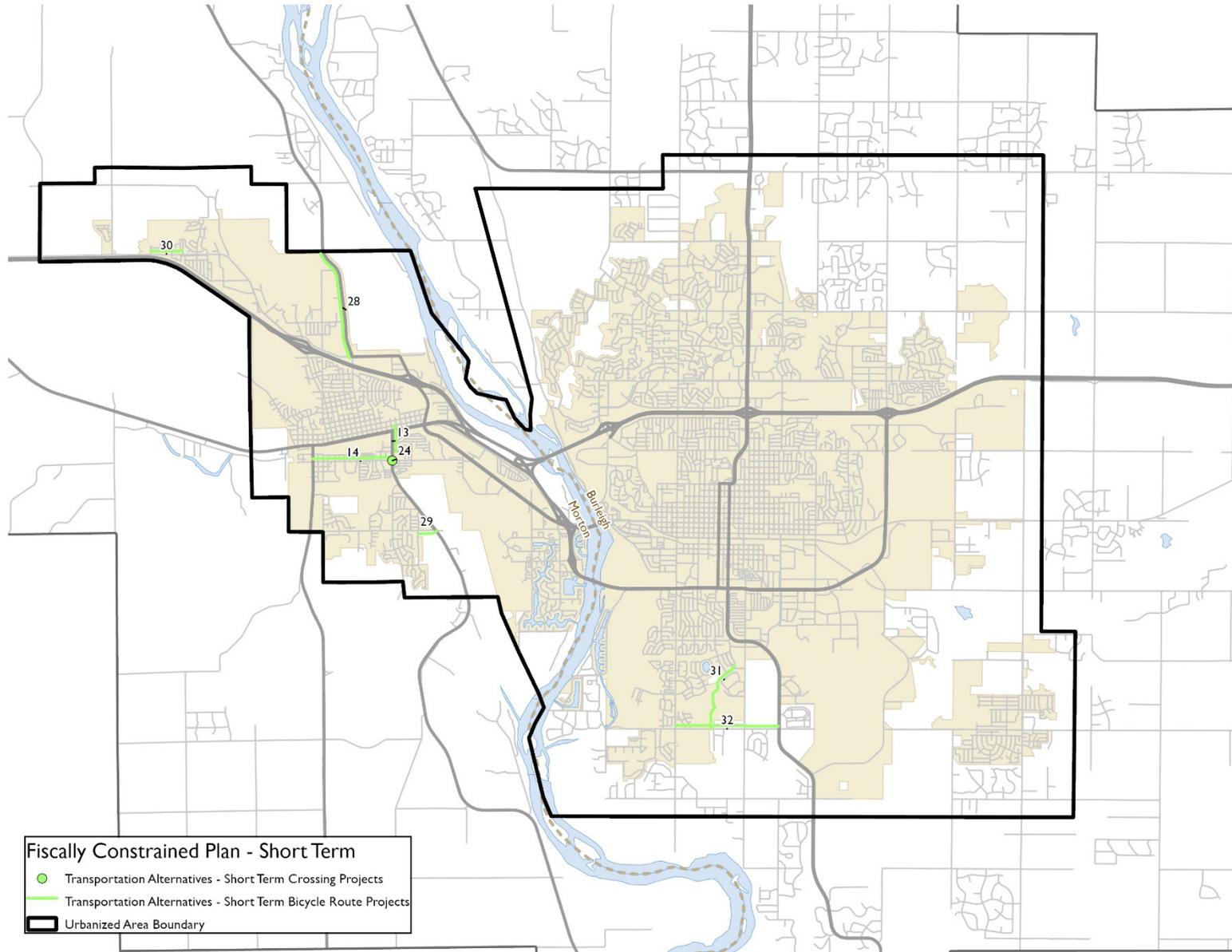


Figure 46: Transportation Alternatives Short-Term Projects





**Table 39: Transportation Alternatives Short-Term Projects**

| Project ID   | Location              | From              | To             | Project Description   | 2024 Cost          | YOE Cost           | Lead Agency(s) | TA Funds           | Local Funds      |
|--------------|-----------------------|-------------------|----------------|---|--------------------|--------------------|----------------|--------------------|------------------|
| 13           | 6th Avenue SE         | 3rd Street SE     | 1st Street NE  | Shared use path   | \$152,000          | \$200,000          | Mandan         | \$161,800          | \$38,200         |
| 14           | 3rd Street SW and SE  | US 6              | 6th Avenue SE  | Buffered bike lanes   | \$65,000           | \$90,000           | Mandan         | \$72,810           | \$17,190         |
| 24           | 3rd Street SE         | 6th Avenue SE     |                | Improved signaling; curb extensions, centerline hardening, or modern roundabout | \$134,000          | \$180,000          | Mandan         | \$145,620          | \$34,380         |
| 28           | ND 1806               | Old Red Trail     | 38th Street    | Mill/overlay  | \$700,000          | \$920,000          | Mandan         | \$744,280          | \$175,720        |
| 29           | 19th Street SE        | ND 1806           | 14th Avenue SE | Mill/overlay  | \$300,000          | \$390,000          | Mandan         | \$315,510          | \$74,490         |
| 30           | Old Red Trail         | 43rd Avenue NW    |                | Construct shared use path   | \$300,000          | \$390,000          | Mandan         | \$315,510          | \$74,490         |
| 31           | Cottonwood Park Trail | Burleigh Avenue   |                | Asphalt overlay   | \$90,000           | \$120,000          | Bismarck       | \$97,080           | \$22,920         |
| 32           | Burleigh Avenue Trail | Washington Street |                | Overlay with patching   | \$190,000          | \$250,000          | Bismarck       | \$202,250          | \$47,750         |
| <b>Total</b> |                       |                   |                |   | <b>\$1,931,000</b> | <b>\$2,540,000</b> |                | <b>\$2,054,860</b> | <b>\$485,140</b> |

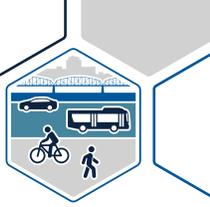
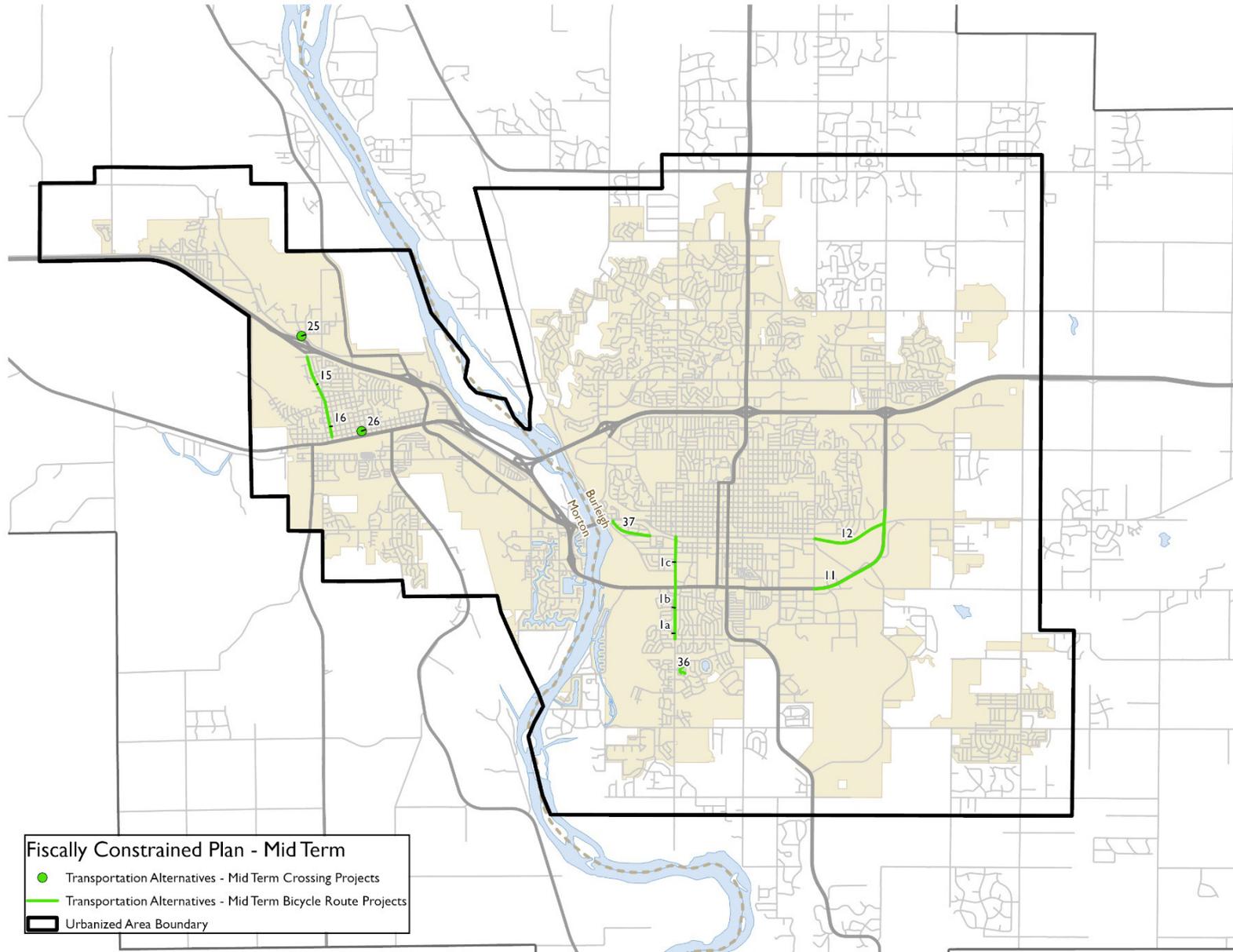
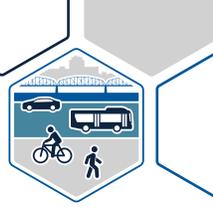


Figure 47: Transportation Alternatives Mid-Term Projects





**Table 40: Transportation Alternatives Mid-Term Projects**

| Project ID | Location              | From                | To                    | Project Description   | 2024 Cost | YOE Cost    | Lead Agency(s) | Federal Funds | Local Funds |
|------------|-----------------------|---------------------|-----------------------|---|-----------|-------------|----------------|---------------|-------------|
| -          |                       |                     |                       | Other network preservation projects   |           | \$533,000   | Region-wide    | \$431,197     | \$101,803   |
| Ia         | S Washington Street   | W Wachter Avenue    | W Reno Avenue         | Shared use path   | \$172,000 | \$300,000   | Bismarck       | \$242,700     | \$57,300    |
| Ib         | S Washington Street   | W Reno Avenue       | Bismarck Expressway   | Shared use path   | \$131,000 | \$230,000   | Bismarck       | \$186,070     | \$43,930    |
| Ic         | S Washington Street   | Bismarck Expressway | W Main Avenue         | Shared use path   | \$299,000 | \$520,000   | Bismarck       | \$420,680     | \$99,320    |
| 11         | E Bismarck Expressway | S 26th Street       | E Rosser Avenue       | Shared use path   | \$726,000 | \$1,260,000 | Bismarck       | \$1,019,340   | \$240,660   |
| 12         | E Main Avenue         | S 26th Street       | E Bismarck Expressway | Shared use path   | \$443,000 | \$770,000   | Bismarck       | \$622,930     | \$147,070   |
| 15         | Sunset Drive NW       | 8th Street NW       | Boundary Street NW    | Buffered or separated bike lanes  | \$40,000  | \$70,000    | Mandan         | \$56,630      | \$13,370    |
| 16         | 6th Ave NW            | 1st Street NW       | 8th Street NW         | Buffered or separated bike lanes  | \$29,000  | \$50,000    | Mandan         | \$40,450      | \$9,550     |
| 25         | Sunset Drive NW       | Old Red Trail NW    |                       | ADA upgrades, widened ramps to accommodate trail crossing on south and east approaches, crosswalk striping, extend sidewalk and crossing on west and north approaches, improved signals, centerline hardening | \$35,000  | \$60,000    | Mandan         | \$48,540      | \$11,460    |



| Project ID   | Location                    | From               | To                  | Project Description  | 2024 Cost          | YOE Cost           | Lead Agency(s) | Federal Funds      | Local Funds      |
|--------------|-----------------------------|--------------------|---------------------|--|--------------------|--------------------|----------------|--------------------|------------------|
| 26           | 1st Street NW               | Collins Avenue     |                     | White edge lines on crosswalks, option for mini-roundabout | \$10,000           | \$20,000           | Mandan         | \$16,180           | \$3,820          |
| 36           | Southland –Marietta segment | Marietta Drive (N) | Marietta Drive (SE) | Overlay  | \$50,000           | \$90,000           | Bismarck       | \$72,810           | \$17,190         |
| 37           | Bank of ND Trail            | Memorial Highway   | Bell Street         | Remove and replace trail                                   | \$230,000          | \$400,000          | Bismarck       | \$323,600          | \$76,400         |
| <b>Total</b> |                             |                    |                     |  | <b>\$2,299,000</b> | <b>\$4,303,000</b> |                | <b>\$3,481,127</b> | <b>\$821,873</b> |

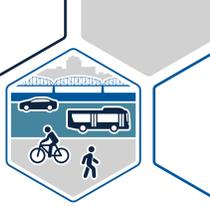
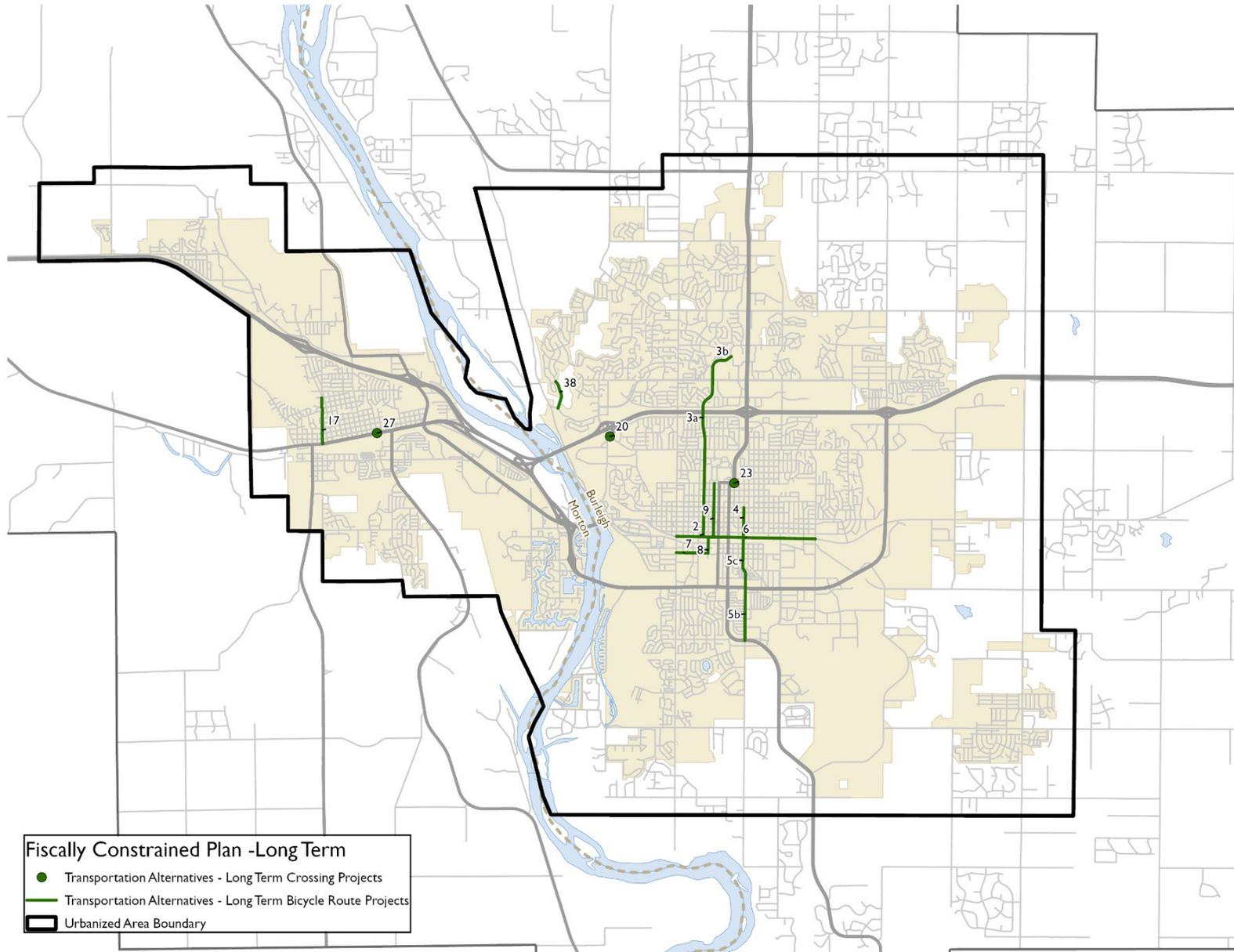
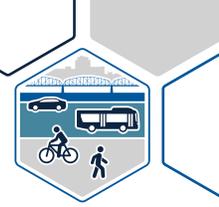


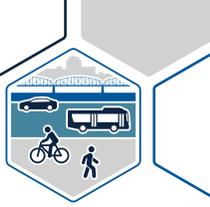
Figure 48: Transportation Alternatives Long-Term Projects



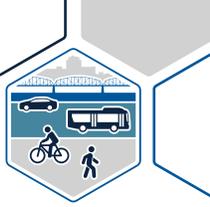


**Table 41: Transportation Alternatives Long-Term Projects**

| Project ID | Location             | From                  | To                  | Project Description   | 2024 Cost | YOE Cost    | Lead Agency(s) | Federal Funds | Local Funds |
|------------|----------------------|-----------------------|---------------------|---|-----------|-------------|----------------|---------------|-------------|
| -          |                      |                       |                     | Other network preservation projects                                   |           | \$1,057,000 | Region-wide    | \$1,170,623   | \$276,377   |
| 2          | N 4th Street         | W Main Avenue         | E Boulevard Avenue  | Shared lane markings or advisory bike lanes; possible traffic calming | \$14,000  | \$30,000    | Bismarck       | \$24,270      | \$5,730     |
| 3a         | N 4th Street         | E Boulevard Avenue    | Ridgecrest Drive    | Buffered bike lanes   | \$107,000 | \$260,000   | Bismarck       | \$210,340     | \$49,660    |
| 3b         | Dominion Street      | Ridgecrest Drive      | N 10th Street       | Buffered bike lanes   | \$9,000   | \$20,000    | Bismarck       | \$16,180      | \$3,820     |
| 4          | N 12th Street        | E Broadway Avenue     | Avenue C            | Shared lane markings or advisory bike lanes; possible traffic calming | \$6,000   | \$10,000    | Bismarck       | \$8,090       | \$1,910     |
| 5b         | S 12th Street        | University Drive      | Bismarck Expressway | Buffered or separated bike lanes                                      | \$43,000  | \$100,000   | Bismarck       | \$80,900      | \$19,100    |
| 5c         | S 12th Street        | E Bismarck Expressway | E Broadway Avenue   | Buffered bike lanes   | \$45,000  | \$110,000   | Bismarck       | \$88,990      | \$21,010    |
| 6          | W and E Main Avenue  | N Washington Street   | N 26th Street       | Buffered or separated bike lanes                                      | \$112,000 | \$270,000   | Bismarck       | \$218,430     | \$51,570    |
| 7          | W and E Bowen Avenue | S Washington Street   | S 5th Street        | Buffered or separated bike lanes                                      | \$26,000  | \$60,000    | Bismarck       | \$48,540      | \$11,460    |
| 8          | S 5th Street         | E Bowen Avenue        | E Main Street       | Shared lane markings, standard or buffered bike lane                  | \$13,000  | \$30,000    | Bismarck       | \$24,270      | \$5,730     |
| 9          | N 6th Street         | E Main Avenue         | E Boulevard Avenue  | Shared lane markings or advisory bike lanes; possible traffic calming | \$14,000  | \$30,000    | Bismarck       | \$24,270      | \$5,730     |



| Project ID   | Location       | From   | To               | Project Description  | 2024 Cost          | YOE Cost           | Lead Agency(s) | Federal Funds      | Local Funds      |
|--------------|----------------|--|------------------|--|--------------------|--------------------|----------------|--------------------|------------------|
| 17           | 8th Avenue NW  | W Main Street                                    | 9th Street NW    | Shared lane markings or advisory bike lanes (The segment between 2nd Street NW and 4th Street NW may use 7th Avenue NW rather than the 8th Avenue NW unimproved right-of-way.) | \$12,000           | \$30,000           | Mandan         | \$24,270           | \$5,730          |
| 20           | Tyler Parkway  | I-94 Ramp and W Divide Avenue and Schafer Street |                  | Enlarged pedestrian refuges, removal of channelized right-turn lanes (or Smart Channel Design), tighter turning radii  | \$120,000          | \$290,000          | Bismarck       | \$234,610          | \$55,390         |
| 23           | State Street   | E Boulevard Avenue                               |                  | Improve crossing east of intersection with marked crosswalk, widened ramps, and ADA upgrades   | \$40,000           | \$100,000          | Bismarck       | \$80,900           | \$19,100         |
| 27           | E Main Street  | 3rd Avenue NE                                    |                  | Pedestrian Hybrid Beacon, pedestrian refuge, marked crosswalk  | \$720,000          | \$1,740,000        | Mandan         | \$1,407,660        | \$332,340        |
| 38           | Clairmont Road | Promontory Place                                 | Burnt Boat Drive | Shared use path.   | \$160,000          | \$390,000          | Bismarck       | \$315,510          | \$74,490         |
| <b>Total</b> |                |  |                  |  | <b>\$1,441,000</b> | <b>\$4,527,000</b> |                | <b>\$3,662,343</b> | <b>\$864,657</b> |



## Alternative Sources of Funds

In addition to the projects identified for Urban Roads and HSIP funding as part of the Arrive 2050 Fiscally Constrained Plan, other sources of funds serve as opportunities for the MPO and its member jurisdictions to fund additional multimodal transportation improvements. These sources include NDDOT's Urban Grant Program and North Dakota Parks and Recreation Department's (NDPRD) RTP. Further detail about both programs is available in the **Arrive 2050 Funding Plan** section.

## Urban Grant Program Candidate Projects

Candidate projects for the UGP were identified by local jurisdiction staff and focus on improvements to roadways found in the core business districts of Bismack and Mandan. NDDOT's UGP policy stipulates that eligible jurisdictions found in the state's MPO areas must comply with their respective MPO's processes for submitting applications to NDDOT.<sup>20</sup>

**Table 42** details the Arrive 2050 projects that were identified as candidates under the UGP; **Figure 49** displays their locations in the MPO area. As these projects are funded on a discretionary basis, they do not include timing in the Fiscally Constrained Plan's time bands. An 'R' indicates the project is a rehabilitation or reconstruction project.

## Urban Regional Roads

NDDOT's Urban Regional Roads program provides funding to address the state's critical highway needs. These funds are state-directed and NDDOT works with LPAs, such as the MPO, to program improvements; given the nature of this program, Arrive 2050 did not identify individual projects that would anticipate the use of Urban Regional Roads funds but rather forecasts reasonably expected future revenue levels (available in Appendix E) for the MPO region that could fund eligible projects. Projects funded through the Urban Regional Roads program are intended to address NDDOT's investment priorities and include:

- Preventative maintenance
- Major rehabilitation
- Minor rehabilitation
- Structural improvement
- Safety improvements
- Bicycle and pedestrian improvements

<sup>20</sup> North Dakota Department of Transportation, Urban Grant Program Policy

## ARRIVE 2050

## Recreational Trails Program Candidate Projects

A series of RTP candidate projects were identified by the Bismarck Parks Department and would seek funds for maintenance activities, including removal and replacement of recreational trails and recreational trail overlays. **Table 43** details the Arrive 2050 RTP candidate projects, while **Figure 50** shows their locations in the MPO area.



Trail in the Scheels Sports Complex

Source: Bismarck Parks and Recreation District



**Table 42: Arrive 2050 Urban Grant Program Candidate Projects**

| ID  | Corridor                     | To                  | From           | Description                              | Lead Agency | Estimated Cost (2024 \$) |
|-----|------------------------------|---------------------|----------------|--|-------------|--------------------------|
| 124 | Main Avenue                  | N 7th Street        | N 12th Street  | Concrete pavement repair                 | Bismarck    | \$725,000                |
| 125 | Main Avenue                  | N Washington Street | N 7th Street   | Concrete pavement repair                 | Bismarck    | \$1,200,000              |
| 131 | 1st Steet NW                 | 4th Avenue NW       | 2nd Avenue NW  | Downtown Mandan – Phase 2 Reconstruction | Mandan      | \$4,300,000              |
| 132 | 1st Street NW, 3rd Avenue NW | 2nd Avenue NW       | Collins Avenue | Downtown Mandan – Phase 3 Reconstruction | Mandan      | \$4,000,000              |

**Table 43: Arrive 2050 Recreational Trails Program Candidate Projects**

| ID | Corridor              | To                 | From        | Description                   | Lead Agency | Estimated Cost (2024 \$) |
|----|-----------------------|--------------------|-------------|-------------------------------|-------------|--------------------------|
| 33 | Hay Creek Trail #3    | Lilac Lane         | 26th Street | Remove and replace trail      | Bismarck    | \$210,000                |
| 34 | Pebble Creek Trail    | Century Avenue     | 19th Street | Overlay with asphalt patching | Bismarck    | \$100,000                |
| 35 | Scheels Complex Trail | Hay Creek Trail #2 |             | Overlay                       | Bismarck    | \$110,000                |

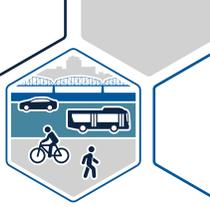
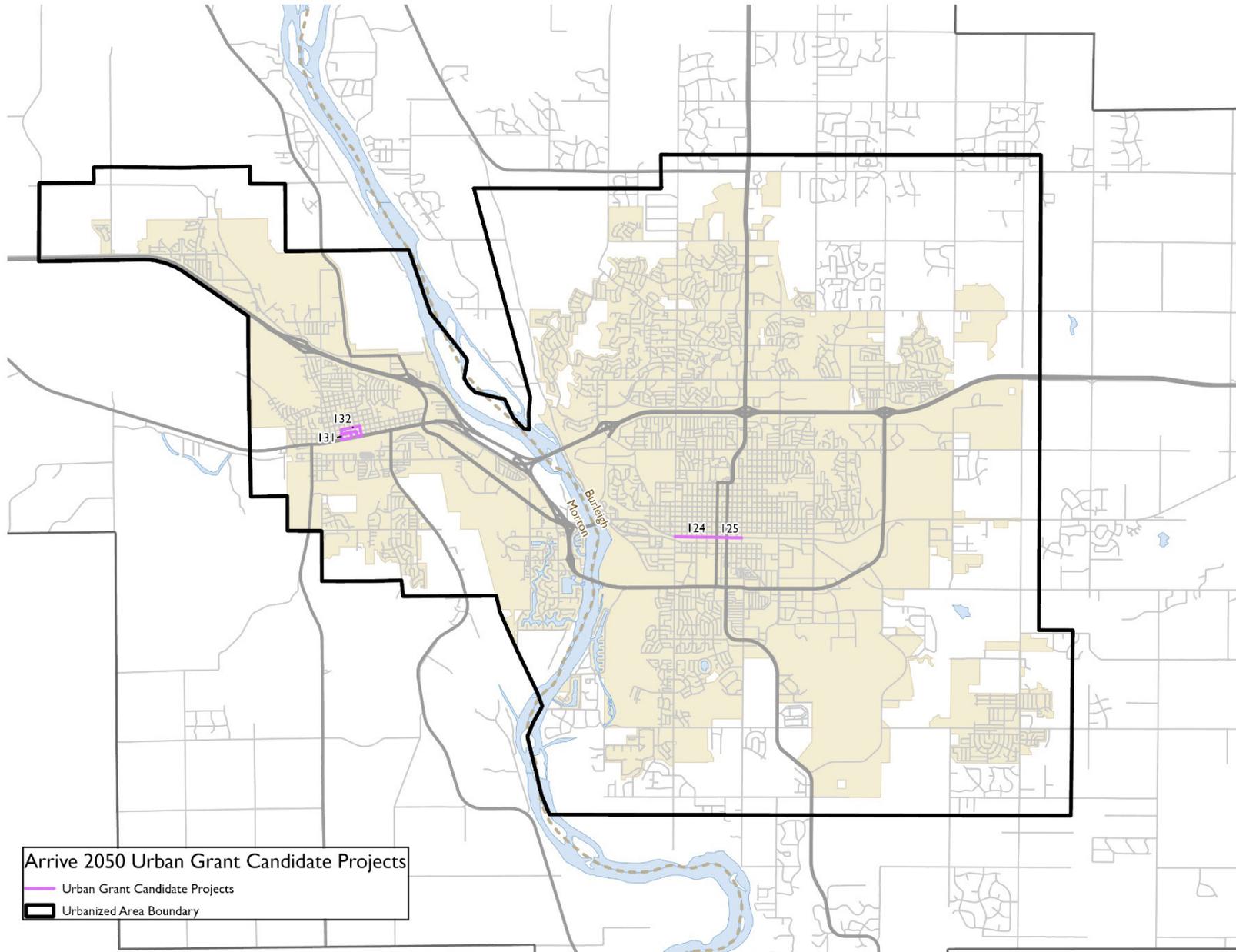


Figure 49: Arrive 2050 Urban Grant Program Candidate Projects



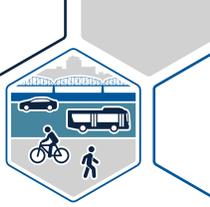
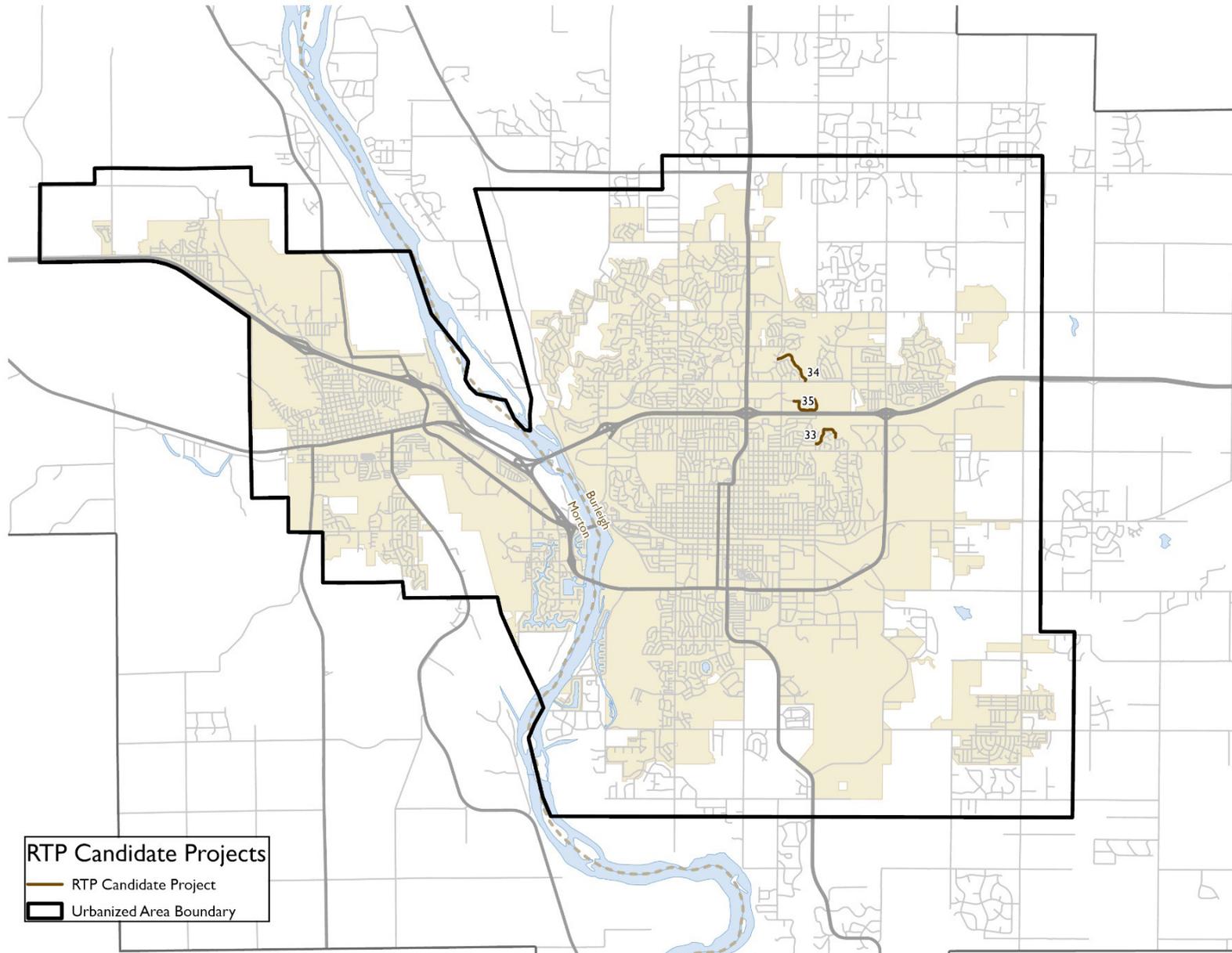
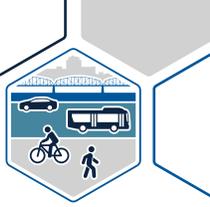


Figure 50: Arrive 2050 Recreational Trails Program Candidate Projects





## Future Study List

The Arrive 2050 planning process has identified a range of potential studies and efforts to consider in the near future, including the following:

- **Possible Location for Passenger Rail Station(s):** This study would consider how a future Amtrak North Coast Hiawatha route would best be served by one or more local train stations.
- **Technical Review of a Beltway:** The concept of a beltway or ring-road has been considered in past studies. Much has changed in terms of development and travel patterns since those studies. New data and tools are also available to help re-evaluate and define the vision for a beltway facility or ring-route.
- **Regional Roundabout Guidelines:** This study would develop a locally tailored set of guidelines for roundabouts based on both local lessons learned, national best practices, and planning level assessments of where roundabouts make the most sense.
- **ITS Plan Update:** This plan would update the current ITS plan for Bismarck-Mandan, which was last updated in 2004. This ITS plan is used as a coordinated plan for identifying community needs and the potential ITS solutions that can be implemented.
- **McKenzie Extension Across the Heart River:** One of the most impactful transportation alternatives considered as a part of the Arrive 2050 update was the potential extension of McKenzie Avenue across the Heart River. This potential corridor would create a more direct connection for much of south Mandan by connecting McKenzie Avenue to ND 1806 from its current terminus just west of 34th Avenue SE (and potentially extending all the way to US 6).
- **40th NE Corridor Study:** This corridor study would evaluate potential street improvements and access concepts for this growing corridor in northwest Mandan.

- **Mandan Downtown Parking Study/Curb**

**Management:** This study would help identify an overall approach to public parking in downtown Mandan and how to best manage the multiple demands on downtown curbsides (such as parking, deliveries, and transit access).

- **Mandan and Morton County Comprehensive Plan Updates**

- **North Washington Extension**

- **Hay Creek Greenway/Greenway Study**

- **Intra-Regional Cross-Area Travel Study:** This study would be a potential follow-up to the beltway technical review study and would look at the potential travel demand impacts on critical corridors like State Street with major regional investments like a beltway and the northern bridge crossing.

In addition to these future studies, the MPO and its partner agencies will continue to coordinate with ongoing efforts with the Big Sky Passenger Rail Authority (BSPRA), on the effort to reinstate passenger rail service from Seattle to Chicago along the former North Coast Hiawatha line by 2032 the passenger rail.



## ENVIRONMENTAL MITIGATION

Projects included in Arrive 2050's Fiscally Constrained Plan underwent a spatial analysis to understand which projects have potential to benefit or impact disadvantaged populations and communities within the Bismarck-Mandan MPO region. The intent of this analysis was to reinforce Arrive 2050's alignment with federal metropolitan transportation planning requirements, including federal Metropolitan Transportation Planning Factors, as well as Arrive 2050's stated goal area of Equity and efforts to minimize impacts on disadvantaged populations.



### Disadvantaged Populations/Communities

The MPO has considered appropriate data, indices, and screening tools to determine whether a specific community is disadvantaged based on a combination of variables that may include, but are not limited to, the following:

- Low income, high and/or persistent poverty
- High unemployment and underemployment
- Racial and ethnic segregation, particularly where the segregation stems from discrimination by government entities
- Linguistic isolation
- High housing cost burden and substandard housing
- Distressed neighborhoods
- High transportation cost burden and/or low transportation access
- Disproportionate environmental stressor burden and high cumulative impacts
- Disproportionate impacts from climate change
- Access to health care

It should be noted that more detailed assessments of how projects might affect wetlands, historic properties, park and recreation areas will be conducted for projects during later project development steps. At the current planning level, none of the fiscally constrained projects have any obvious impacts to these resources documented in **Appendix C**.

Arrive 2050's Fiscally Constrained Plan contains a range of multimodal transportation improvements, and these improvements can be categorized into two groups:

- **Expansion Projects:** Improvements that add new capacity to the region's transportation system. Examples include construction of a new roadway or widening of existing roadway facilities.
- **Rehabilitation Projects:** Improvements that address the condition of existing transportation infrastructure. Examples include reconstruction, mill and overlays, and concrete pavement repair.

In the context of equity in transportation, the terms "benefits" and "impacts" are used to categorize the externalities associated with transportation improvements. The analysis conducted to evaluate the distribution of Fiscally Constrained projects assumes expansion projects to be sources of potential impacts due to the potential to induce additional traffic volumes in the future, potential needs for additional right-of-way, and a potential reduction in traveler safety. Rehabilitation projects are not assumed to pose these same impacts.

This evaluation compared the Fiscally Constrained Plan projects to the following populations within the MPO region:

- **Low income**
- **Minority**
- **Limited English Proficiency**

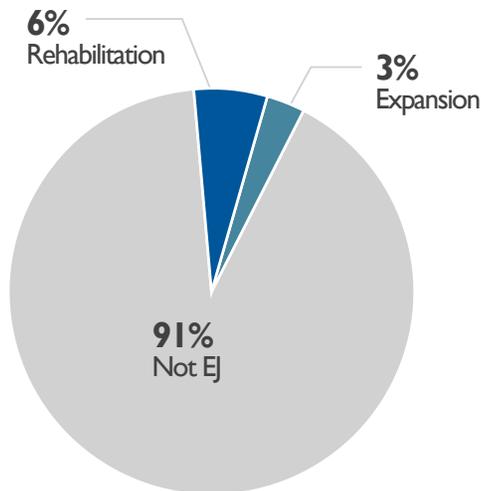


Any expansion project whose full or partial extent was within a Census Block Group identified with any of the above populations was considered as having potential to impact those populations. Low-income areas have an average income under 200% of the federal poverty level.

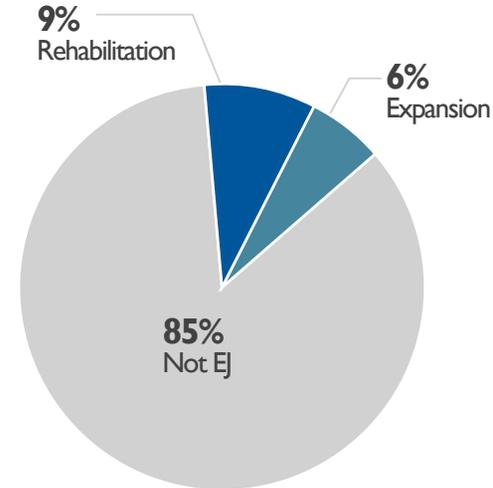
A Block group that has a total minority population (which encompasses Black/ African American, American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, Hispanic/Latino) that is 10 percentage points higher than the county average is considered a Minority Block group. A limited-English proficiency Block group is a population which speaks languages other than English by 5 percent or greater of the total population.

The resulting distribution of Fiscally Constrained projects and their potential to impact low income, minority, and limited English proficiency populations in the Bismarck-Mandan MPO are summarized in **Figure 51** through **Figure 53**.

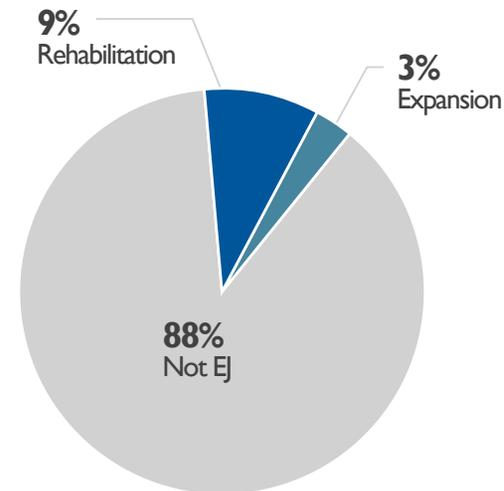
**Figure 51: Alternatives Distribution in Low Income Areas**

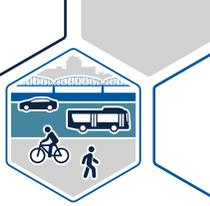


**Figure 52: Alternatives Distribution in Minority Areas**



**Figure 53: Alternatives Distribution in Limited English Areas**





As described in the figures above, most alternatives will not have a substantial impact on EJ areas in the Bismarck-Mandan MPO area. The majority of alternatives located in EJ areas are classified as Rehabilitation projects (55 percent), with the remaining projects being Expansion (45 percent). Rehabilitation projects can improve the lifespan of the transportation network, without adding permanent disruptions to nearby populations, which will avoid negative impacts to any populations that may have been historically disadvantaged from transportation improvements. On the other hand, expansion projects may lead to disproportionate impacts on minority groups and create more permanent disruption such as pollution and noise to nearby neighborhoods, and any potential negative impacts of these projects should be further evaluated.

Assuming the rehabilitation projects will not cause any permanent negative impacts to surrounding neighborhoods, the highest proportion of an EJ population group to potentially face some temporary impacts is tied between Minority and Limited English populations (9 percent) in Bismarck-Mandan. Expansion projects that may result in more disruptions is found to have the highest potential impact on Minority populations, with 6 percent of projects being located near these populations. However, expansion projects only make up 3 percent of total projects identified in EJ areas. As noted in the baseline conditions chapter:

- 20 percent of the MPO population is considered low income.
- 14 percent of the MPO population are people of color/minorities.

Thus disruptive street projects do not appear to disproportionately impact low income and minority projects.

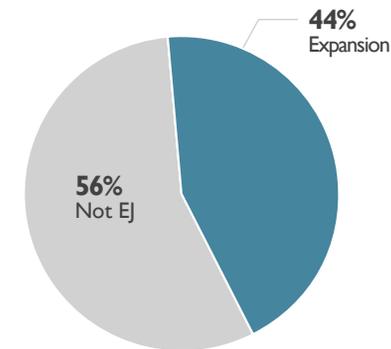
### Bicycle and Pedestrian Benefits for EJ Areas

Bicycle and pedestrian projects can be considered as beneficial as they can provide alternative modes to transportation for low-income populations, as well as reduce noise and air pollution. **Figure 54** through **Figure 56** details whether expansion or rehabilitation bicycle and pedestrian projects are located in EJ areas. As shown in **Figure 54** and **Figure 55**, the largest benefit will be expansion of bicycle and pedestrian facilities through low-income areas, and minority areas. Thus, bicycle and pedestrian expansion projects are benefiting a higher proportion in both low-income areas (44% of projects vs 20% of the population) and minority areas (32% of projects vs 14% of the population).

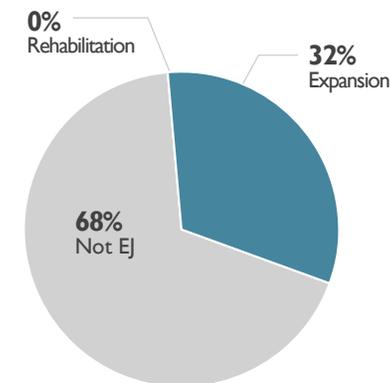
Note that no bicycle and pedestrian maintenance projects are included in low-income areas or in minority areas.

### ARRIVE 2050

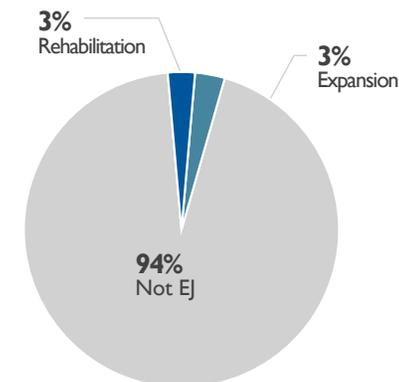
**Figure 54: Bicycle and Pedestrian Projects in Low-Income Areas**



**Figure 55: Bicycle and Pedestrian Projects in Minority Areas**



**Figure 56: Bicycle and Pedestrian Projects in Limited English Areas**





## FEDERAL COMPLIANCE

This MTP follows the guidelines set by 23 CFR § 450 Metropolitan Transportation Planning and Programming, which details the process for an MTP to be developed. MTPs are federally required to contain an outcome-based and performance-driven approach. This plan followed that approach throughout the planning process and provides objectives and performance measures that adhere to federal, state, and local requirements and goals.

There are 10 federal metropolitan transportation planning factors that were each considered throughout the development of goals and objectives of this plan:

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

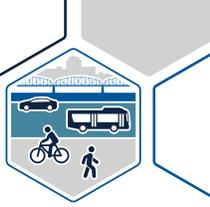
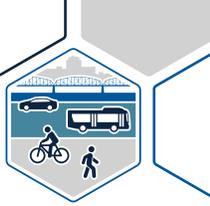
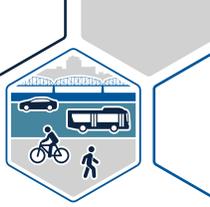


Table 44: Arrive 2050 Goal Area Alignment with Federal Metropolitan Transportation Planning Factors

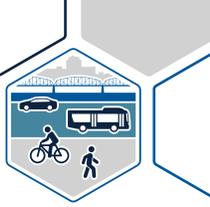
| Goal   | Objectives   | Economic Vitality | Safety | Security | Accessibility and Mobility for People and Freight | Environment and Energy Conservation, Quality of Life | System Integration and Connectivity for People and Freight | Efficient Operations and Management | Preserve the Existing System | System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts | Enhance Travel and Tourism |
|--|--|-------------------|--------|----------|---|--|--|-------------------------------------|------------------------------|--|----------------------------|
| <b>SAFETY</b><br>     | Reduce crash frequency and severity  |                   | ✓      |          |   |  |  |                                     |                              |  |                            |
|  | Implement safe system features   |                   | ✓      |          |   |  |  |                                     |                              |  |                            |
|  | Speed reduction for vulnerable users   |                   | ✓      |          |   |  |  |                                     |                              |  |                            |
|  | Vision zero  |                   | ✓      |          |   |  |  |                                     |                              |  |                            |
| <b>ECONOMIC</b><br> | Safe and reliable freight  | ✓                 |        |          | ✓   |  |  | ✓                                   |                              |  |                            |
|  | Support other regional plans   |                   | ✓      |          | ✓   | ✓  | ✓  |                                     |                              |  |                            |
|  | Support efficient development patterns   | ✓                 |        |          |   | ✓  |  |                                     |                              |  | ✓                          |
|  | Promote the efficient delivery of complementary multimodal improvements with roadway construction projects | ✓                 |        |          | ✓   |  | ✓  |                                     |                              |  |                            |



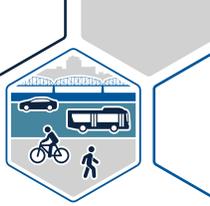
| Goal  | Objectives                                       | Economic Vitality | Safety | Security | Accessibility and Mobility for People and Freight | Environment and Energy Conservation, Quality of Life | System Integration and Connectivity for People and Freight | Efficient Operations and Management | Preserve the Existing System | System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts | Enhance Travel and Tourism |
|---|--|-------------------|--------|----------|---|--|--|-------------------------------------|------------------------------|--|----------------------------|
| <b>RESILIENT</b><br>     | Minimize environmental impacts                   |                   |        |          |   | ✓  |  |                                     |                              | ✓  |                            |
|   | Integrate multimodal design into new development |                   |        |          | ✓   |  | ✓  |                                     |                              |  |                            |
|   | System security                                  |                   |        | ✓        |   |  |  |                                     |                              |  |                            |
|   | Reduce and/or mitigate VMT                       |                   |        |          |   | ✓  |  |                                     |                              |  |                            |
| <b>MAINTENANCE</b><br> | Pavement and bridge condition                    |                   |        |          |   |  |  |                                     | ✓                            |  |                            |
|   | Signage condition                                |                   |        |          |   |  |  |                                     | ✓                            |  |                            |
|   | Bicycle and pedestrian system condition          |                   |        |          | ✓   |  |  |                                     | ✓                            |  |                            |
|   | Transit capital condition                        |                   |        |          | ✓   |  |  |                                     | ✓                            |  |                            |
|   | Signal, lighting, and ITS condition              |                   |        |          |   |  |  |                                     | ✓                            |  |                            |
|   | Proactively manage pavement                      |                   |        |          |   |  |  |                                     | ✓                            |  |                            |



| Goal   | Objectives                                 | Economic Vitality | Safety | Security | Accessibility and Mobility for People and Freight | Environment and Energy Conservation, Quality of Life | System Integration and Connectivity for People and Freight | Efficient Operations and Management | Preserve the Existing System | System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts | Enhance Travel and Tourism |
|--|--|-------------------|--------|----------|---|--|--|-------------------------------------|------------------------------|--|----------------------------|
| <b>FUTURE FOCUSED</b><br> | ITS maintenance and planning               |                   |        |          | ✓   |  |  | ✓                                   |                              |  |                            |
|  | Manage the system through technology       |                   | ✓      | ✓        |   |  |  | ✓                                   |                              |  |                            |
|  | Plan for connected and autonomous vehicles |                   | ✓      |          |   |  | ✓  | ✓                                   |                              |  |                            |
|  | Plan for electric vehicles                 | ✓                 |        |          |   | ✓  | ✓  |                                     |                              |  | ✓                          |
|  | Leverage data for decision-making          |                   |        | ✓        |   |  |  | ✓                                   |                              |  |                            |



| Goal   | Objectives                                    | Economic Vitality | Safety | Security | Accessibility and Mobility for People and Freight | Environment and Energy Conservation, Quality of Life | System Integration and Connectivity for People and Freight | Efficient Operations and Management | Preserve the Existing System | System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts | Enhance Travel and Tourism |
|--|---|-------------------|--------|----------|---|--|--|-------------------------------------|------------------------------|--|----------------------------|
| <b>ACTIVE TRANSPORTATION AND TRANSIT</b><br> | Transit coordination                          |                   |        |          | ✓   |  |  |                                     |                              |  |                            |
|  | Implement transit and rideshare strategies    |                   |        |          | ✓   |  |  |                                     |                              |  |                            |
|  | Transit security                              |                   |        | ✓        |   |  |  |                                     |                              |  |                            |
|  | Bicycle and pedestrian project implementation |                   |        |          | ✓   |  |  |                                     |                              |  |                            |
|  | User education                                |                   | ✓      |          | ✓   |  |  |                                     |                              |  |                            |
|  | Reduce multimodal gaps                        |                   |        |          | ✓   | ✓  |  |                                     |                              |  |                            |
|  | Multimodal coordination                       |                   |        |          | ✓   | ✓  |  |                                     |                              |  |                            |
|  | Implement complete streets                    |                   |        |          | ✓   | ✓  |  |                                     |                              |  |                            |
|  | Transit coordination                          |                   |        |          | ✓   |  |  |                                     |                              |  |                            |
|  | Implement transit and rideshare strategies    |                   |        |          | ✓   |  |  |                                     |                              |  |                            |



| Goal              | Objectives                                    | Economic Vitality | Safety | Security | Accessibility and Mobility for People and Freight | Environment and Energy Conservation, Quality of Life | System Integration and Connectivity for People and Freight | Efficient Operations and Management | Preserve the Existing System | System Resiliency and Reliability, Reduce or Mitigate Stormwater Impacts | Enhance Travel and Tourism |
|-------------------|---|-------------------|--------|----------|---|--|--|-------------------------------------|------------------------------|--|----------------------------|
| <b>EQUITY</b><br> | Connecting disadvantaged neighborhood         |                   |        |          | ✓   | ✓  |  |                                     |                              |  |                            |
|                   | Proactive community engagement                |                   |        |          |   | ✓  |  |                                     |                              |  |                            |
|                   | Minimize impacts on disadvantaged populations |                   |        |          |   | ✓  |  |                                     |                              |  |                            |



# APPENDIX A: PROJECT ALIGNMENT WITH REGIONAL VISION SCORECARDS AND SCORING RUBRIC

Table 45: Project Report Card

| Project ID | Location                     | Goals Met |
|------------|------------------------------|-----------|
| 1          | Centennial Road              |           |
| 2          | 43rd Avenue                  |           |
| 3          | Century Avenue               |           |
| 4          | I-94                         |           |
| 5          | 17th Avenue                  |           |
| 6          | Old Highway 10/E Main Avenue |           |
| 7          | 66th Street                  |           |
| 8          | I-94                         |           |

**KEY**

|  |                                   |
|--|-----------------------------------|
|  | Safety                            |
|  | Economic                          |
|  | Resilient                         |
|  | Efficiency and Reliability        |
|  | Maintenance                       |
|  | Future Focused                    |
|  | Active Transportation and Transit |
|  | Equity                            |



| Project ID | Location                      | Goals Met |
|------------|-------------------------------|-----------|
| 9          | Apple Creek Road              |           |
| 11         | Lincoln Road                  |           |
| 12         | Burleigh Avenue               |           |
| 13         | 48th Avenue S                 |           |
| 14         | 66th Street                   |           |
| 15         | 66th Street                   |           |
| 16         | 66th Street                   |           |
| 18         | 52nd Street NE                |           |
| 19         | 52nd Street                   |           |
| 21         | Hamilton Street/Channel Drive |           |

**KEY**

|  |                                   |
|--|-----------------------------------|
|  | Safety                            |
|  | Economic                          |
|  | Resilient                         |
|  | Efficiency and Reliability        |
|  | Maintenance                       |
|  | Future Focused                    |
|  | Active Transportation and Transit |
|  | Equity                            |



| Project ID | Location                                | Goals Met |
|------------|---|-----------|
| 22         | Centennial Road                         |           |
| 23         | Bismarck Expressway/<br>Centennial Road |           |
| 24a        | Divide Avenue                           |           |
| 24b        | Divide Avenue                           |           |
| 25a        | Main Avenue                             |           |
| 25b        | Main Avenue                             |           |
| 26         | Main Avenue                             |           |
| 27         | E Main Avenue                           |           |
| 28         | E Main Avenue                           |           |
| 29         | E Main Avenue                           |           |

| KEY |                                   |
|-----|-----------------------------------|
|     | Safety                            |
|     | Economic                          |
|     | Resilient                         |
|     | Efficiency and Reliability        |
|     | Maintenance                       |
|     | Future Focused                    |
|     | Active Transportation and Transit |
|     | Equity                            |



| Project ID | Location            | Goals Met |
|------------|---------------------|-----------|
| 30         | Bismarck Expressway |           |
| 31         | Washington Street   |           |
| 32         | 26th Street         |           |
| 33         | N 19th Street       |           |
| 34         | N 19th Street       |           |
| 35         | 57th Avenue         |           |
| 36         | 43rd Avenue         |           |
| 37         | Calgary Avenue      |           |
| 40         | 71st Street         |           |
| 41         | 57th Avenue         |           |

| KEY |                                   |
|-----|-----------------------------------|
|     | Safety                            |
|     | Economic                          |
|     | Resilient                         |
|     | Efficiency and Reliability        |
|     | Maintenance                       |
|     | Future Focused                    |
|     | Active Transportation and Transit |
|     | Equity                            |



| Project ID | Location                              | Goals Met |
|------------|---------------------------------------|-----------|
| 42         | 57th Avenue                           |           |
| 43         | 57th Avenue                           |           |
| 44         | 71st Avenue                           |           |
| 45         | Centennial Road                       |           |
| 46         | Centennial Road                       |           |
| 47         | 43rd Avenue                           |           |
| 49         | State Street                          |           |
| 50         | State Street                          |           |
| 51         | Burnt Creek Loop North/<br>River Road |           |
| 52         | State Street                          |           |

| KEY |                                   |
|-----|-----------------------------------|
|     | Safety                            |
|     | Economic                          |
|     | Resilient                         |
|     | Efficiency and Reliability        |
|     | Maintenance                       |
|     | Future Focused                    |
|     | Active Transportation and Transit |
|     | Equity                            |



| Project ID | Location            | Goals Met |
|------------|---------------------|-----------|
| 53         | N 19th Street       |           |
| 54         | Tyler Parkway       |           |
| 55         | Apple Creek Road    |           |
| 56         | Ash Coulee Drive    |           |
| 57         | 71st Avenue/ND 1804 |           |
| 58         | Tyler Parkway       |           |
| 59         | 57th Avenue         |           |
| 61         | 57th Avenue         |           |
| 62         | 57th Avenue         |           |
| 63         | 66th Street SE      |           |

| KEY |                                   |
|-----|-----------------------------------|
|     | Safety                            |
|     | Economic                          |
|     | Resilient                         |
|     | Efficiency and Reliability        |
|     | Maintenance                       |
|     | Future Focused                    |
|     | Active Transportation and Transit |
|     | Equity                            |



| Project ID | Location        | Goals Met |
|------------|-----------------|-----------|
| 64         | 76th Avenue SE  |           |
| 65         | Northern Bridge |           |
| 66         | 37th Street NW  |           |
| 67         | 37th Street NW  |           |
| 68         | ND 1806         |           |
| 69         | 38th Street NW  |           |
| 70a        | 8th Avenue NW   |           |
| 70b        | 8th Avenue NW   |           |
| 71a        | Sunset Drive    |           |
| 71b        | Sunset Drive    |           |

| KEY |                                   |
|-----|-----------------------------------|
|     | Safety                            |
|     | Economic                          |
|     | Resilient                         |
|     | Efficiency and Reliability        |
|     | Maintenance                       |
|     | Future Focused                    |
|     | Active Transportation and Transit |
|     | Equity                            |



| Project ID | Location              | Goals Met |
|------------|-----------------------|-----------|
| 72a        | 37th Street NW        |           |
| 72b        | 37th Street NW        |           |
| 73         | Division Street NE    |           |
| 74         | Sunset Drive          |           |
| 75         | Sunset Drive Corridor |           |
| 77         | Old Red Trail         |           |
| 78         | Mandan Avenue         |           |
| 80         | Division Street       |           |
| 81         | Sunset Drive          |           |
| 82         | 3rd Avenue NE         |           |

| KEY |                                   |
|-----|-----------------------------------|
|     | Safety                            |
|     | Economic                          |
|     | Resilient                         |
|     | Efficiency and Reliability        |
|     | Maintenance                       |
|     | Future Focused                    |
|     | Active Transportation and Transit |
|     | Equity                            |



| Project ID | Location       | Goals Met |
|------------|----------------|-----------|
| 84         | ND 1806        |           |
| 85         | 19th Street SE |           |
| 86         | McKenzie Drive |           |
| 87         | McKenzie Drive |           |
| 88         | McKenzie Drive |           |
| 89         | 56th Avenue    |           |
| 90         | Old Red Trail  |           |
| 91         | 56th Avenue NW |           |
| 92         | Boundary Road  |           |
| 93         | 32nd Avenue W  |           |

| KEY |                                   |
|-----|-----------------------------------|
|     | Safety                            |
|     | Economic                          |
|     | Resilient                         |
|     | Efficiency and Reliability        |
|     | Maintenance                       |
|     | Future Focused                    |
|     | Active Transportation and Transit |
|     | Equity                            |



| Project ID | Location        | Goals Met |
|------------|-----------------|-----------|
| 94         | Boundary Road   |           |
| 95         | 31st Street NW  |           |
| 96         | Division Street |           |
| 97         | 3rd Street SW   |           |
| 98         | Old Red Trail   |           |
| 99         | 56th Avenue NW  |           |
| 100        | 32nd Avenue     |           |
| 101        | 3rd Street SW   |           |
| 102        | Main Avenue     |           |
| 103        | 43rd Avenue N   |           |

| KEY |                                   |
|-----|-----------------------------------|
|     | Safety                            |
|     | Economic                          |
|     | Resilient                         |
|     | Efficiency and Reliability        |
|     | Maintenance                       |
|     | Future Focused                    |
|     | Active Transportation and Transit |
|     | Equity                            |



| Project ID | Location        | Goals Met   |
|------------|-----------------|---|
| 104        | Burleigh Avenue |    |
| 105        | 27th Street     |    |
| 106        | 71st Avenue NE  |    |

| KEY   |                                   |
|---|-----------------------------------|
|    | Safety                            |
|    | Economic                          |
|    | Resilient                         |
|    | Efficiency and Reliability        |
|    | Maintenance                       |
|   | Future Focused                    |
|  | Active Transportation and Transit |
|  | Equity                            |



**Table 46: Scoring Rubric for Evaluating 2050 Alternatives Alignment with Regional Vision**

| Goal Areas  | Objectives  | Possible Points                                      |
|---|---|--|
| <p><b>SAFETY</b></p>       | <p>Reduce crash frequency and severity</p> <p>Implement safe system features</p> <p>Reduce speed for vulnerable users</p> <p>Vision zero</p> <p><b>Total Points</b></p>   | <p>7</p> <p>7</p> <p>6</p> <p>0</p> <p><b>20</b></p> |
| <p><b>ECONOMIC</b></p>     | <p>Safe and reliable freight</p> <p>Support other regional plans</p> <p>Support efficient development patterns</p> <p>Promote the efficient delivery of complementary multimodal improvements with roadway construction projects</p> <p><b>Total Points</b></p> | <p>3</p> <p>2</p> <p>2</p> <p>3</p> <p><b>10</b></p> |
| <p><b>RESILIENT</b></p>  | <p>Minimize environmental impacts</p> <p>Integrate multimodal design into new development</p> <p>System security</p> <p>Reduce and/or mitigate VMT</p> <p><b>Total Points</b></p>   | <p>2</p> <p>0</p> <p>1</p> <p>2</p> <p><b>5</b></p>  |



| Goal Areas   | Objectives   | Possible Points  |
|--|--|--|
| <p><b>EFFICIENCY AND RELIABILITY</b></p>  | <p>Promote reliable vehicle travel</p> <p>Limit recurring congestion</p> <p>Identify corridors that facilitate efficient regional travel</p> <p>Reduce single-occupant vehicle travel</p> <p><b>Total Points</b></p>                                   | <p>8</p> <p>8</p> <p>5</p> <p>4</p> <p><b>25</b></p>                   |
| <p><b>MAINTENANCE</b></p>                 | <p>Pavement and bridge condition</p> <p>Signage condition</p> <p>Bicycle and pedestrian system condition</p> <p>Transit capital condition</p> <p>Signal, lighting, and ITS condition</p> <p>Proactively manage pavement</p> <p><b>Total Points</b></p> | <p>6</p> <p>0</p> <p>0</p> <p>0</p> <p>4</p> <p>0</p> <p><b>10</b></p> |
| <p><b>FUTURE FOCUSED</b></p>            | <p>ITS maintenance and planning</p> <p>Manage the system through technology</p> <p>Plan for connected and autonomous vehicles</p> <p>Plan for EVs</p> <p>Leverage data for decision-making</p> <p><b>Total Points</b></p>                              | <p>2</p> <p>3</p> <p>0</p> <p>0</p> <p>0</p> <p><b>5</b></p>           |



| Goal Areas  | Objectives   | Possible Points  |
|---|--|--|
| <p><b>ACTIVE<br/>TRANSPORTATION<br/>AND TRANSIT</b></p>  | <p>Transit coordination</p> <p>Implement transit and rideshare strategies</p> <p>Transit security</p> <p>Bicycle and pedestrian project implementation</p> <p>User education</p> <p>Reduce multimodal gaps</p> <p>Multimodal coordination</p> <p>Implement complete streets</p> <p><b>Total Points</b></p> | <p>3</p> <p>0</p> <p>0</p> <p>3</p> <p>0</p> <p>3</p> <p>0</p> <p>6</p> <p><b>15</b></p> |
| <p><b>EQUITY</b></p>                                     | <p>Connecting disadvantaged neighborhoods</p> <p>Proactive community engagement</p> <p>Minimize impacts on disadvantaged populations</p> <p><b>Total Points</b></p>  | <p>5</p> <p>0</p> <p>5</p> <p><b>10</b></p>  |



## APPENDIX B: PUBLIC AND STAKEHOLDER ENGAGEMENT SUMMARY



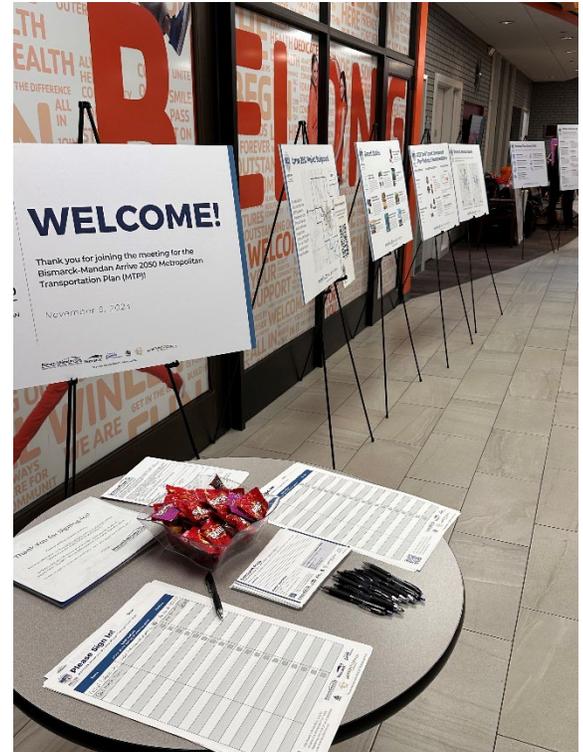
# Open House I Summary

The initial round of public engagement for the Metropolitan Transportation Plan was started by conducting two open houses on November 9, 2023. The meeting was advertised across several platforms, including the Bismarck Tribune, a press release, and social media posts on the MPO's Facebook page.

## Open House Overview

The November 9 events were in-person, where attendees were able to visit several stations to review the plan's progress and provide input. The informational boards for the two public open house events included:

- Welcome Sign
- Project Background
- Forecasted Household and Job Growth to 2050
- Summary of Recent Studies
- Summary of 2023 Transit Development Plan
- Previous Arrive 2045 Plan Goals
- Potential Arrive 2050 Plan Goals
- Plan Update Timeline



The plan input activities for the two public open house events included:

- **Arrive 2050 Goals Priorities:** for the 10 goal areas, participants were provided 5 dot stickers to place on which of those 10 goal areas they thought were most important.
- **Arrive 2050 Issues Mapping:** participants were provided maps of the area to write ideas for geographic-specific issue areas.



## Locations and Times

The two open houses were held at:

### Missouri Valley Family YMCA, Bismarck

11:30 a.m. – 1:30 p.m.

1608 N Washington Street, Bismarck

### The Innovation Barn, Mandan

4 – 6 p.m.

2905 Jude Lane, Mandan



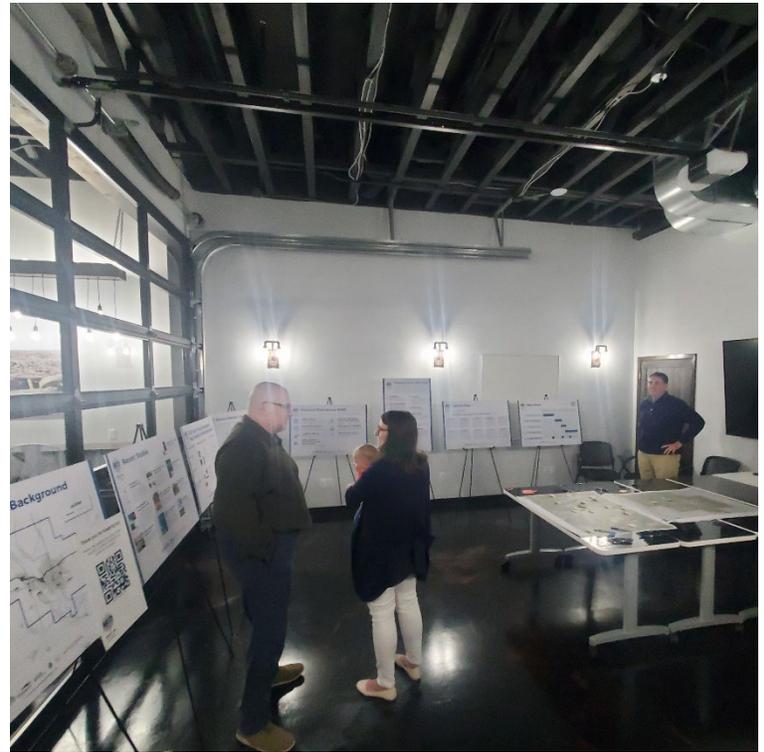
The Bismarck event was scheduled to begin at 11:30, but actually started before 11:00 as people using the YMCA started asking questions and participating in the activities while the team was setting up.

Combined between the two events it is estimated that the team interacted with approximately 40 citizens, most of them at the Bismarck event. The Bismarck event was also shown and the MTP promoted on the local Channel KX 6:00 news that evening.

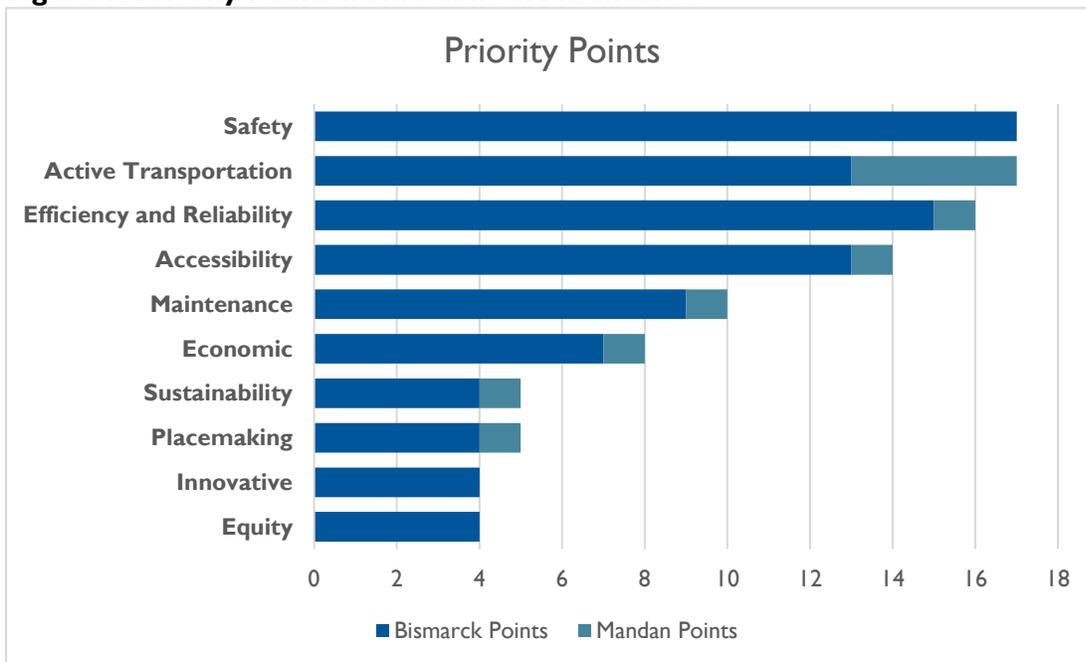
### Meeting Outcomes

For the Arrive 2050 goals priorities exercise, the combined prioritization activity point results are shown in Figure 1 below. As shown, the top three priorities according to those that participated were:

- Safety
- Active Transportation
- Efficiency and Reliability



**Figure 1. Priority Points from Public in Attendance**



For the Arrive 2050 issues mapping exercise, attendees provided 23 comments that covered a number of street and highway topics. **Figure 2** shows the location and identification (ID) number for each comment. **Table 1** provides documentation of the comments associated with each ID number.



Table 1. Mapping Comments Left by Map ID

| Map ID | Associated Comment Left  |
|--------|--|
| 1      | RR crossing improvement  |
| 2      | North Bridge   |
| 3      | Carpark with shuttle to Central Mandan   |
| 4      | Fill grid at High School   |
| 5      | Snow removal on - side   |
| 6      | Build Division St to Mandan Ave  |
| 7      | Roundabouts are good   |
| 8      | Change signal timings  |
| 9      | Washington street is busy and hard to cross  |
| 10     | New interchange is a good idea   |
| 11     | Innovative ways to move traffic with low impact  |
| 12     | Pedestrian crossing to paddle tap  |
| 13     | Twin city access   |
| 14     | High visibility crossing at Washington   |
| 15     | New interchange go back to original location   |
| 16     | Need a Northern bridge   |
| 17     | Summit Point Traffic Impacts   |
| 18     | Boat launch and trail access   |
| 19     | Legitimacy of Mountain Bike trail  |
| 20     | Congestion and safety  |
| 21     | Arbor Avenue punch through   |
| 22     | Real trail to Fort Lincoln   |
| 23     | Find an alternative east-west through street to Main now that it's pedestrian friendly |



# Resource Agency Consultation





may RSVP by accepting one of the attached calendar links. While the meetings have been divided into 'non-governmental' and 'governmental' sectors, you are welcome to attend whichever best fits your schedule.

**Non-Governmental Stakeholders:**

Tuesday, April 2<sup>nd</sup>

Noon – 1:00 PM

[Click here to join the meeting](#)

Meeting ID: 287 586 679 115

Passcode: 2j6Y5K

**Governmental Stakeholders:**

Tuesday, April 2<sup>nd</sup>

4:00 – 5:00 PM

[Click here to join the meeting](#)

Meeting ID: 242 592 040 433

Passcode: wSzdTy

If you do not have access to online participation, a conference room has been reserved at the Bis-Man MPO offices. This room can hold approximately 10 people. Please contact me if you plan to participate from the conference room.

Bismarck Engineering Conference Room  
Second floor of the City/County Building  
221 N 5<sup>th</sup> Street  
Bismarck, ND 58554

Kind Regards,  
Rachel Lukaszewski

**Rachel Lukaszewski**

Executive Director

Bismarck-Mandan Metropolitan Planning Organization

221 North 5<sup>th</sup> Street

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Bismarck ND 58506-5503

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Fax: 701-222-6450

Website: [www.bismarcknd.gov](http://www.bismarcknd.gov)

MPO Facebook: <https://www.facebook.com/BismarckMandanMPO>

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# Protection & Advocacy Project

400 E. BROADWAY, SUITE 409

BISMARCK, ND 58501

701-328-2950

FAX 701-328-3934

April 29, 2024

Re: Comments on Bismarck-Mandan Area MPO Metropolitan Transportation Plan

To Whom It May Concern:

North Dakota Protection & Advocacy Project recommends the Bismarck-Mandan Metropolitan Transportation Plan include improvements to access to public transportation, particularly the city bus and paratransit.

The city bus is essential for many individuals, including those who may not be able to drive because of a disability. While the bus goes to many parts of the city, there are gaps, including in many areas with new apartment buildings, which may be more accessible than apartments located on the bus route. Because bus routes do not go to all parts of the city, individuals may be forced to choose between accessible housing and housing located on a bus route. The city should review its bus routes and determine where the need is for more routes. Increased access will benefit residents of Bismarck and Mandan. It will also benefit the community because more individuals may be able to go to work, shop, and participate in the community if they have reliable public transportation.

Increasing the hours of operation for the city bus will also benefit residents of Bismarck and Mandan. While the bus schedule may be useful to and from work during the week and allow individuals to run errands on Saturday, it has limitations. There is no service on Sunday or after 7 pm. People who wish to go to church or other activities on Sunday must find alternative transportation. Ending service at 7 pm also limits activities for people who may want to participate in evening activities or who work at night. It would be beneficial to increase evening hours. Even offering increased hours during special events would be an improvement and would allow for individuals to have greater engagement in the community.

[www.ndpanda.org](http://www.ndpanda.org)

Relay ND: 711 (TTY)

Centralized Intake: 1-800-472-2670

Finally, improvements to paratransit would benefit residents who rely on it. Individuals report that they must schedule a ride at least 24 hours in advance, and often this is not enough time to guarantee a ride. Because paratransit goes to places not on the bus route, it may be the only option for accessible transportation. An on-call option for paratransit would benefit individuals who are unable to take other forms of public transportation but need same-day transportation. Increasing hours to allow for more evening and weekend transit would also be beneficial.

Sincerely,

Micah Olson

North Dakota Protection & Advocacy Project

[www.ndpanda.org](http://www.ndpanda.org)

Relay ND: 711 (TTY)

Centralized Intake: 1-800-472-2670

# Steering Committee

April 2, 2024



**ARRIVE 2050**

METROPOLITAN  
TRANSPORTATION PLAN

# Agenda

- Arrive 2050 Background
- Baseline Conditions
- Household Survey
- Arrive 2050 Goal Areas Discussion



# **Arrive 2050 Background**

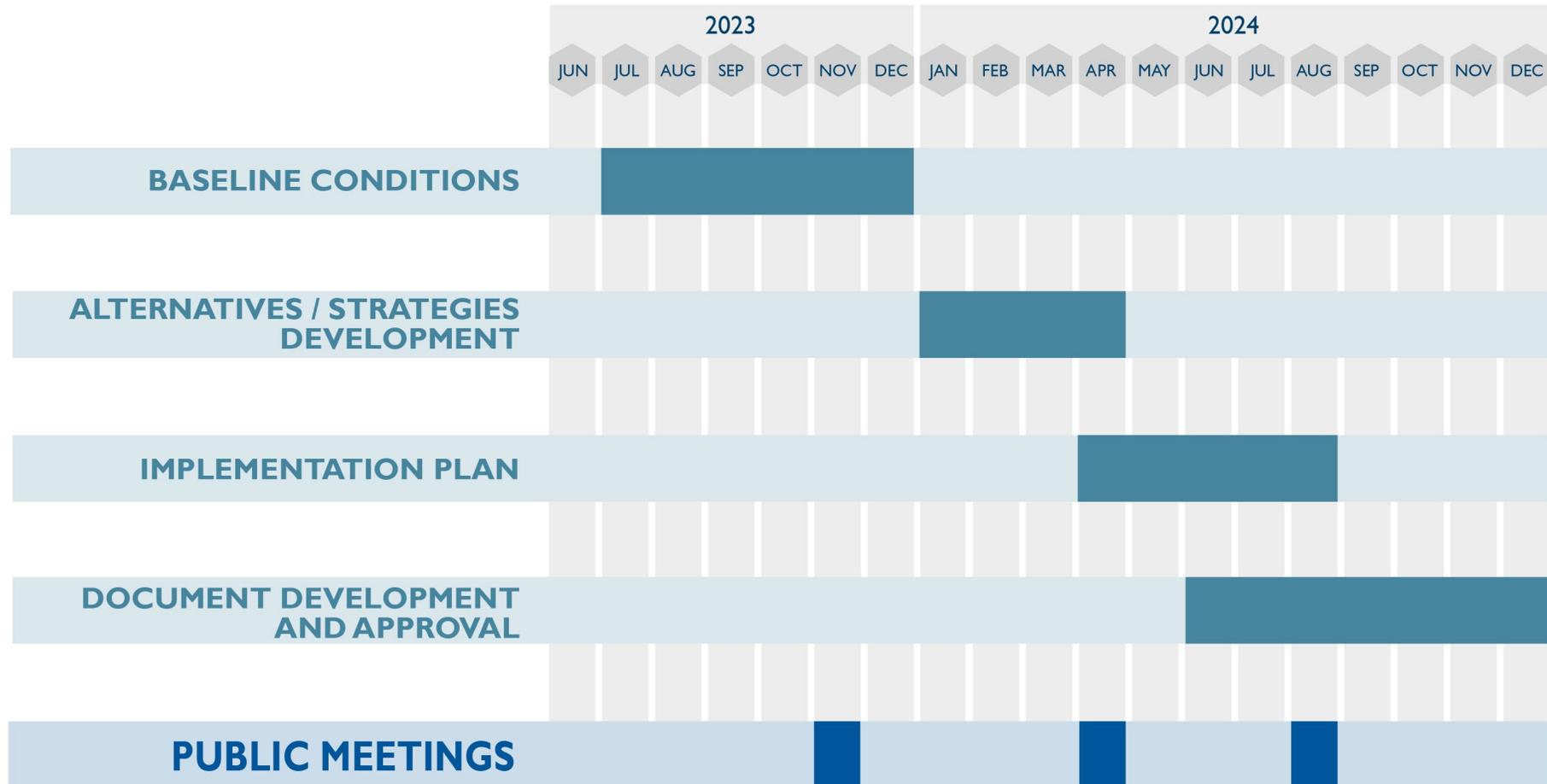


# Arrive 2050 Metropolitan Transportation Plan

- What is the Metropolitan Transportation Plan?
  - Federally-required Plan updated every 5 years
  - Establish vision, goals for the multimodal transportation system
  - Basis for the MPO's annual Transportation Improvement Program (TIP)
  - Provides a fiscally-constrained plan
  - Supports state and regional performance measures, targets



# Arrive 2050 Metropolitan Transportation Plan Schedule



# Your Role as a Stakeholder

- Represent a Diverse Set of Transportation Users
  - Emergency responders
  - Large institutions
  - Transportation providers / advocates
  - Freight providers
  - Economic and social organizations

- Stakeholder Roles
  - Represent the Bismarck-Mandan community
  - Provide input on Arrive 2050
  - Sounding board for plan ideas, recommendations



# Household Survey

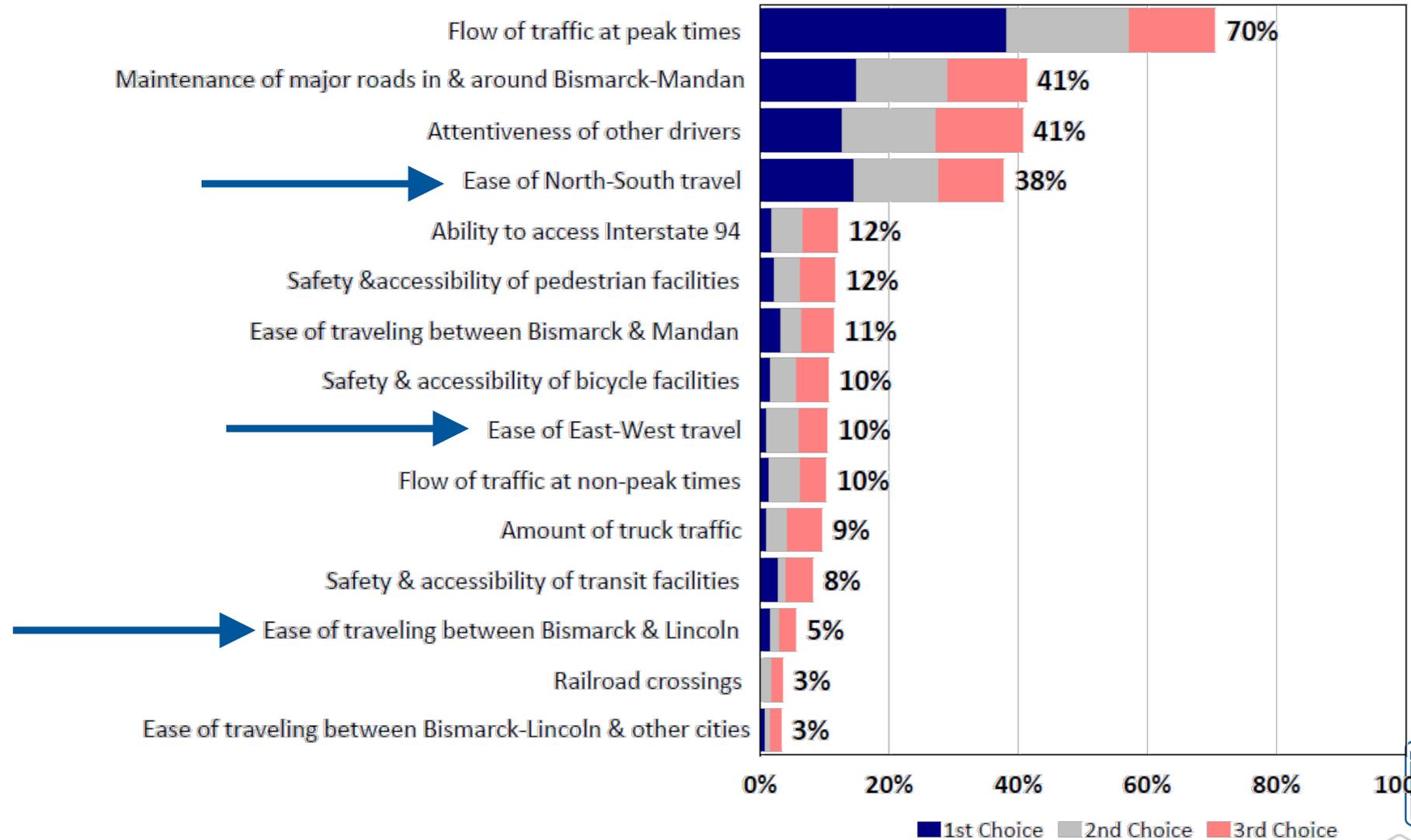


# Regional Household Survey Overview

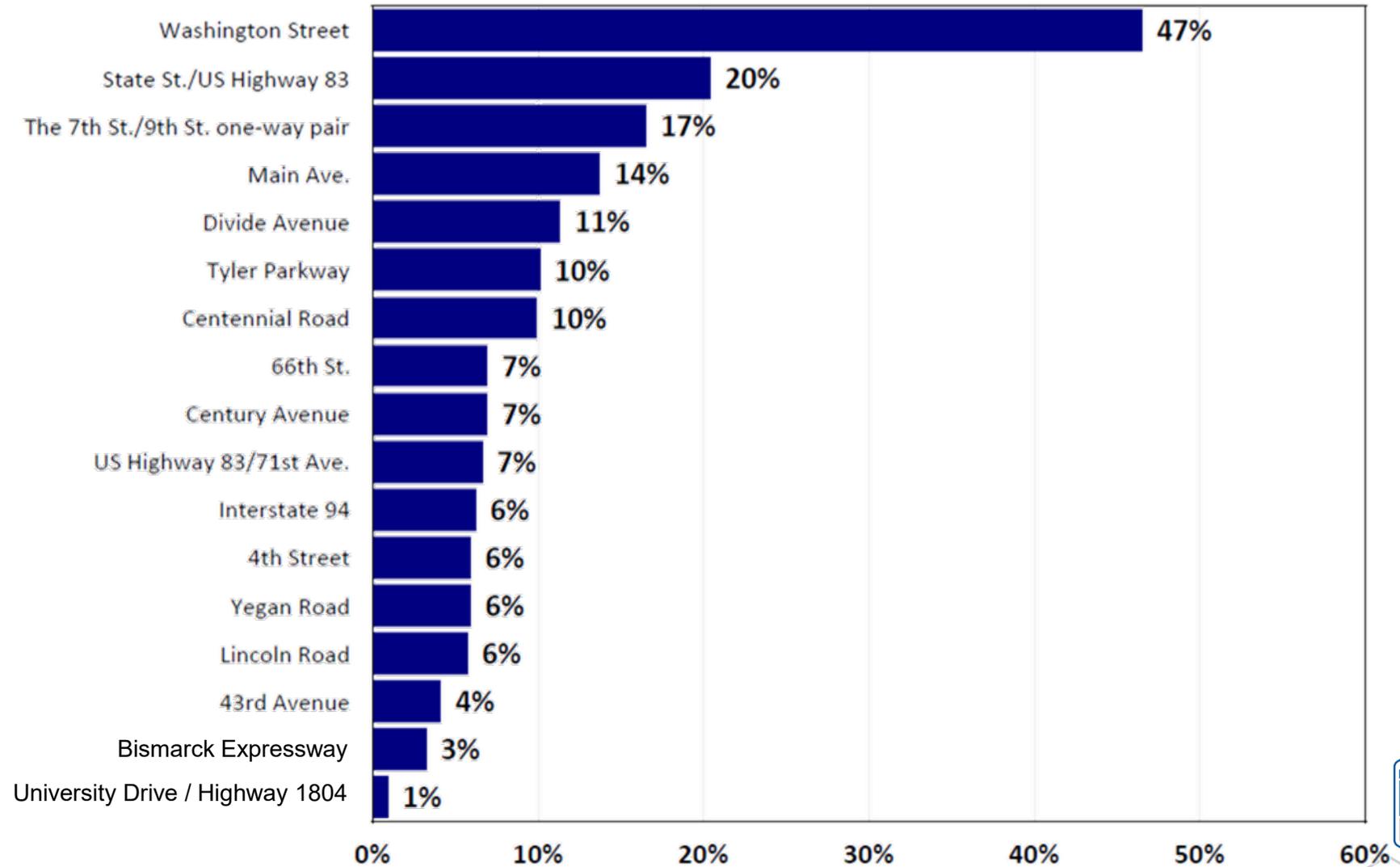
- October-November 2023
- 607 Households
  - 80% Burleigh, 20% Morton
- 95% Confidence with precision of +/- 4%



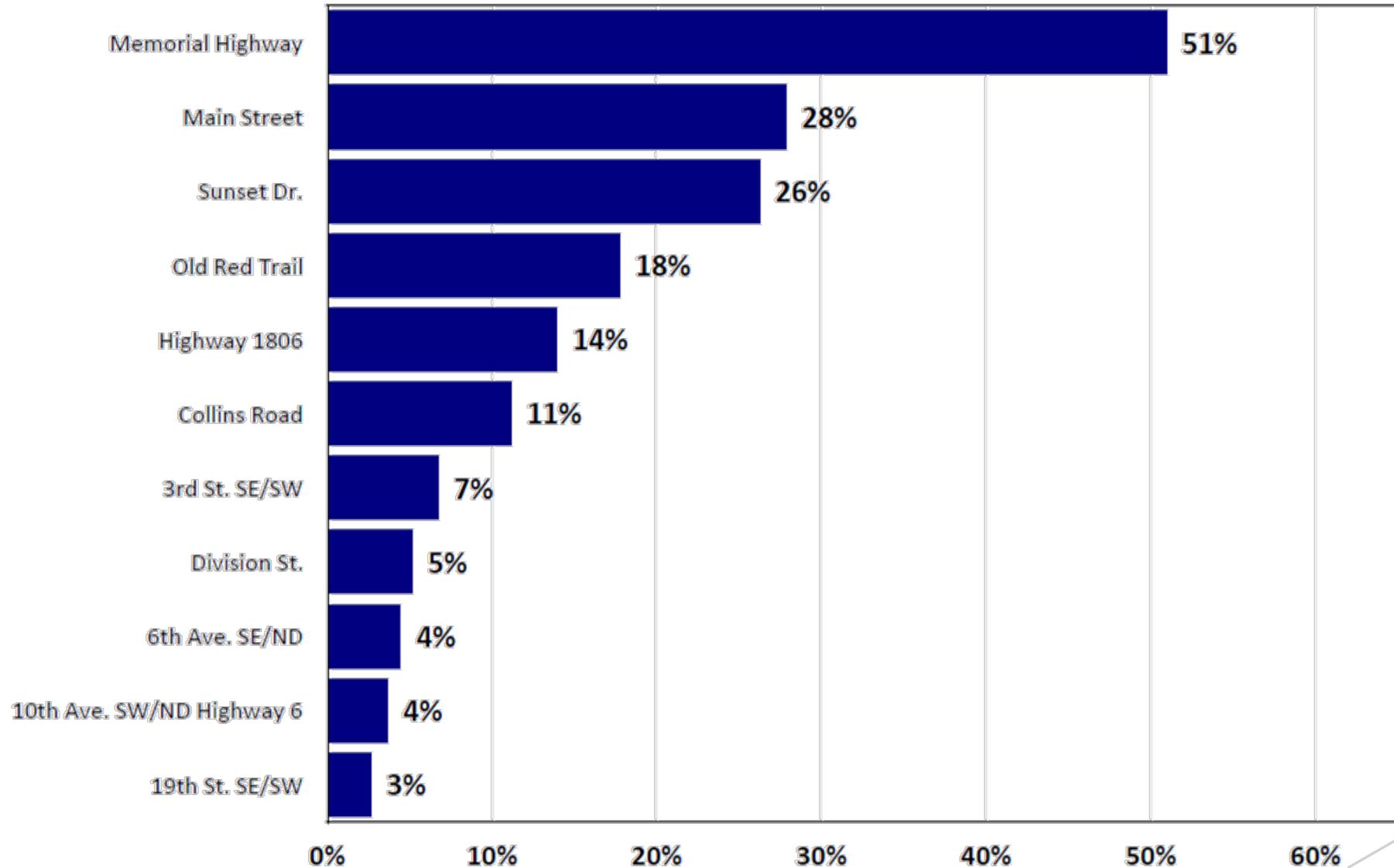
# Issues to Address



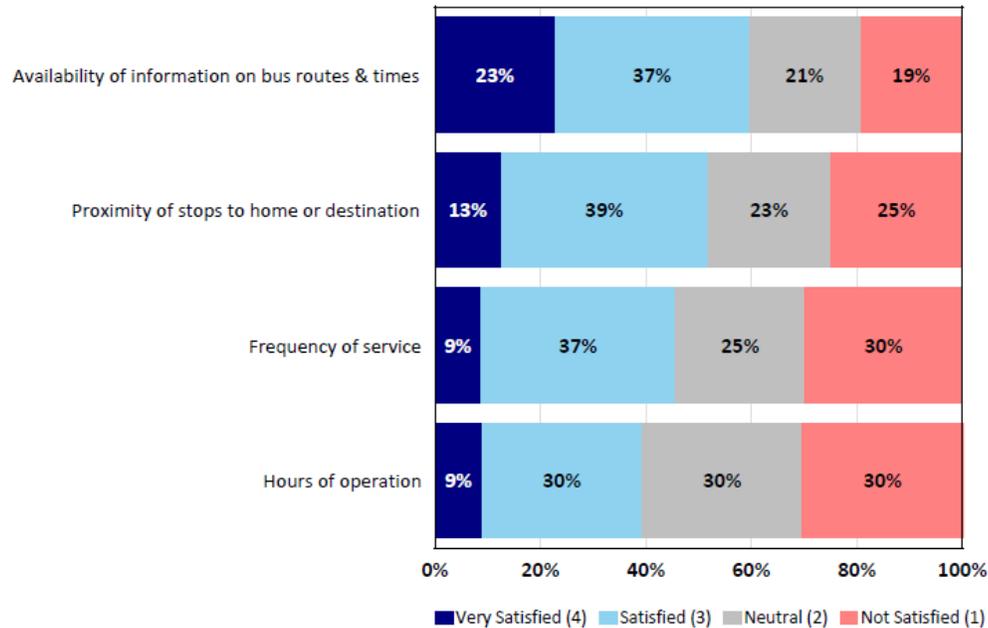
# Corridors to Address - Burleigh



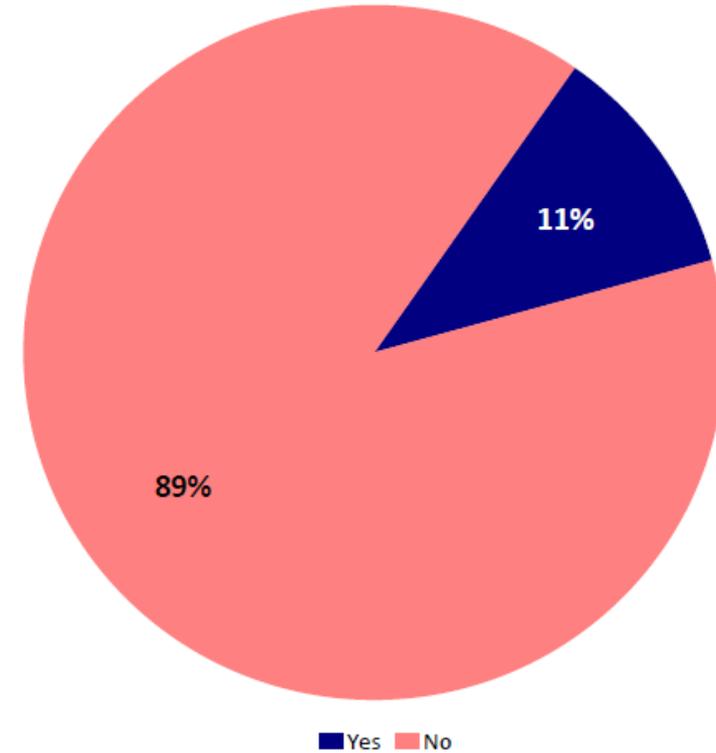
# Corridors to Address - Morton



# Transit Usage



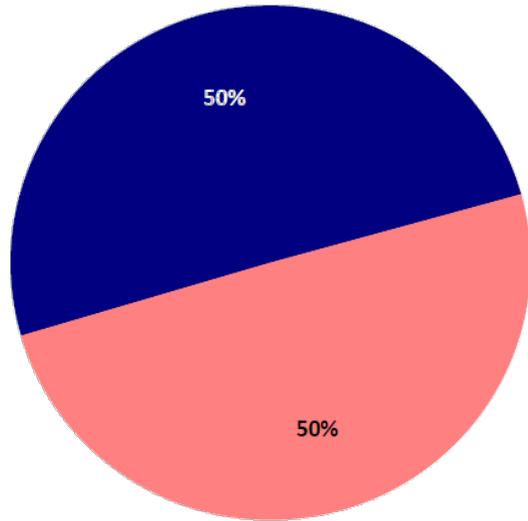
- Transit Satisfaction for Users



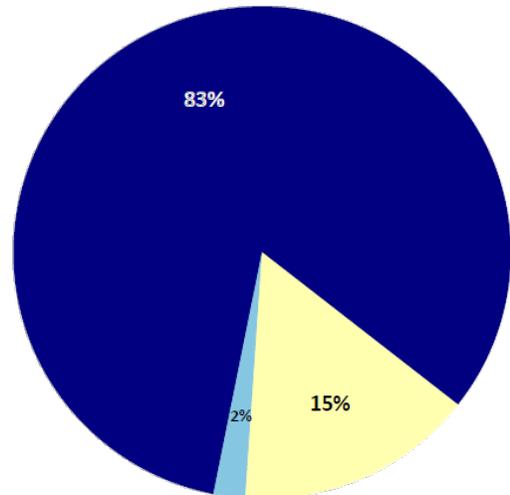
- Household Member Transit Dependent



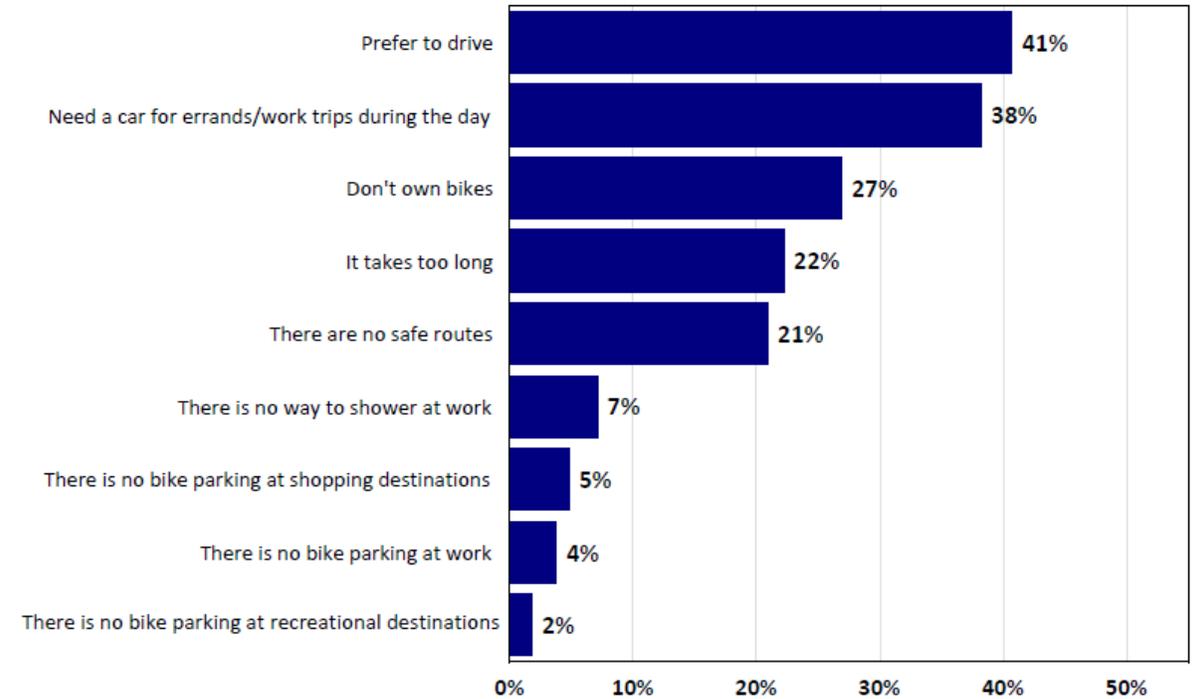
# Bicycle Usage



- Used in Past Year?



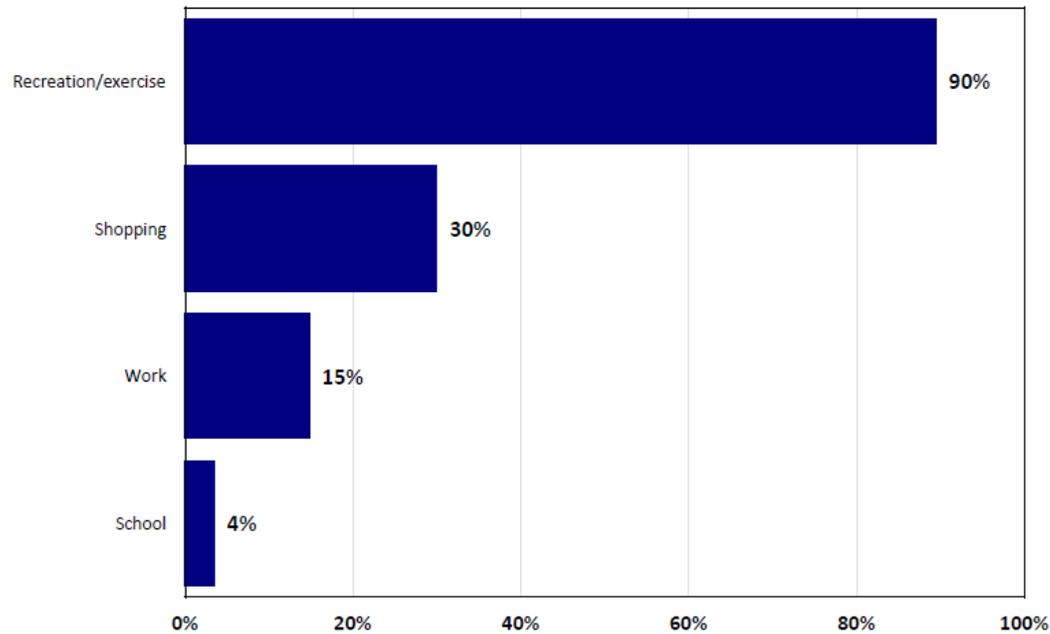
- Primary Trip Purpose



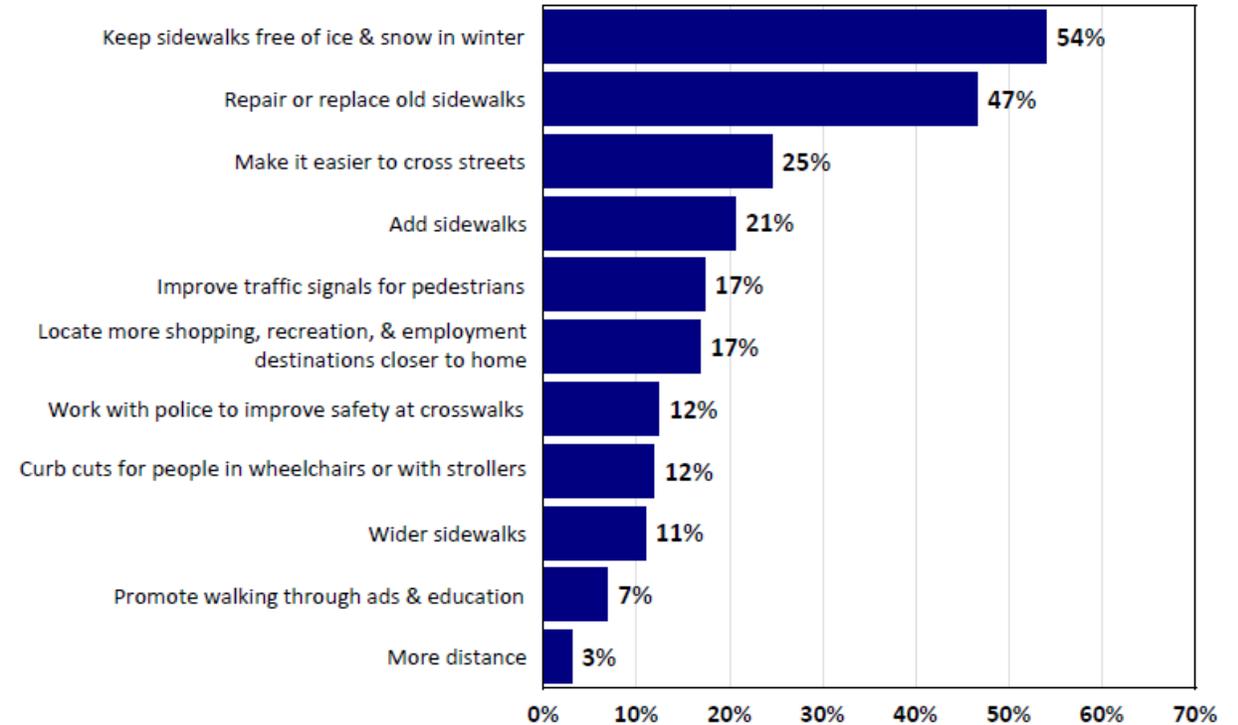
- Why Bikes Aren't Used More Often



# Walking



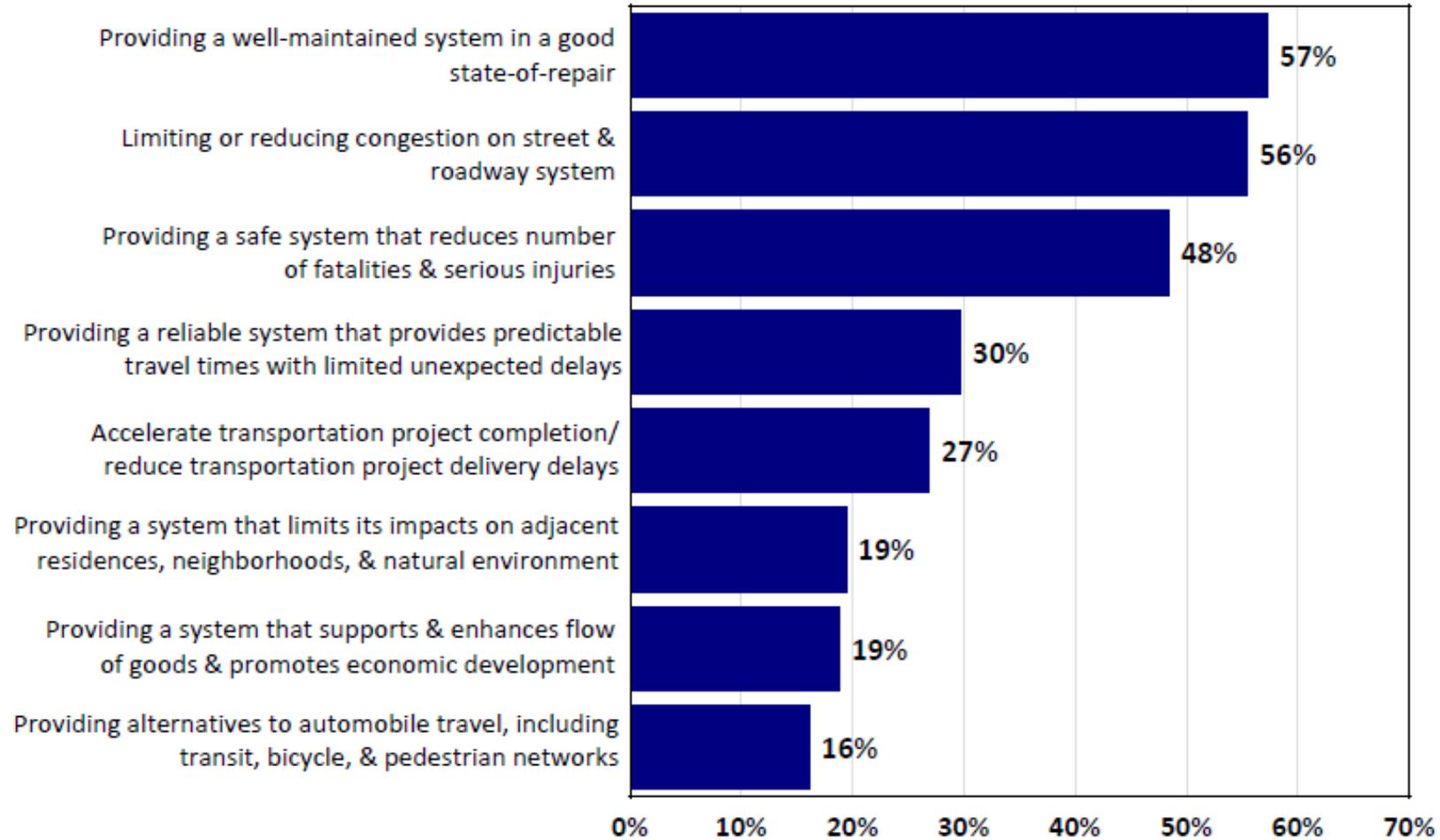
- Reasons Walked in the Past Year



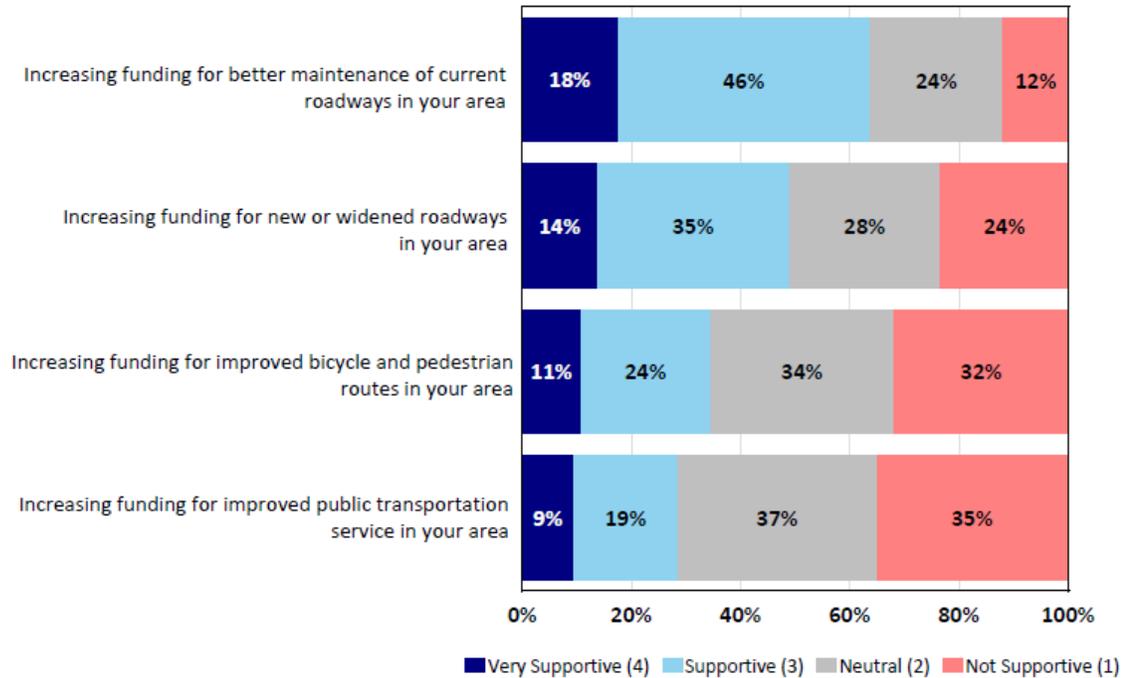
- How to Encourage More Walking



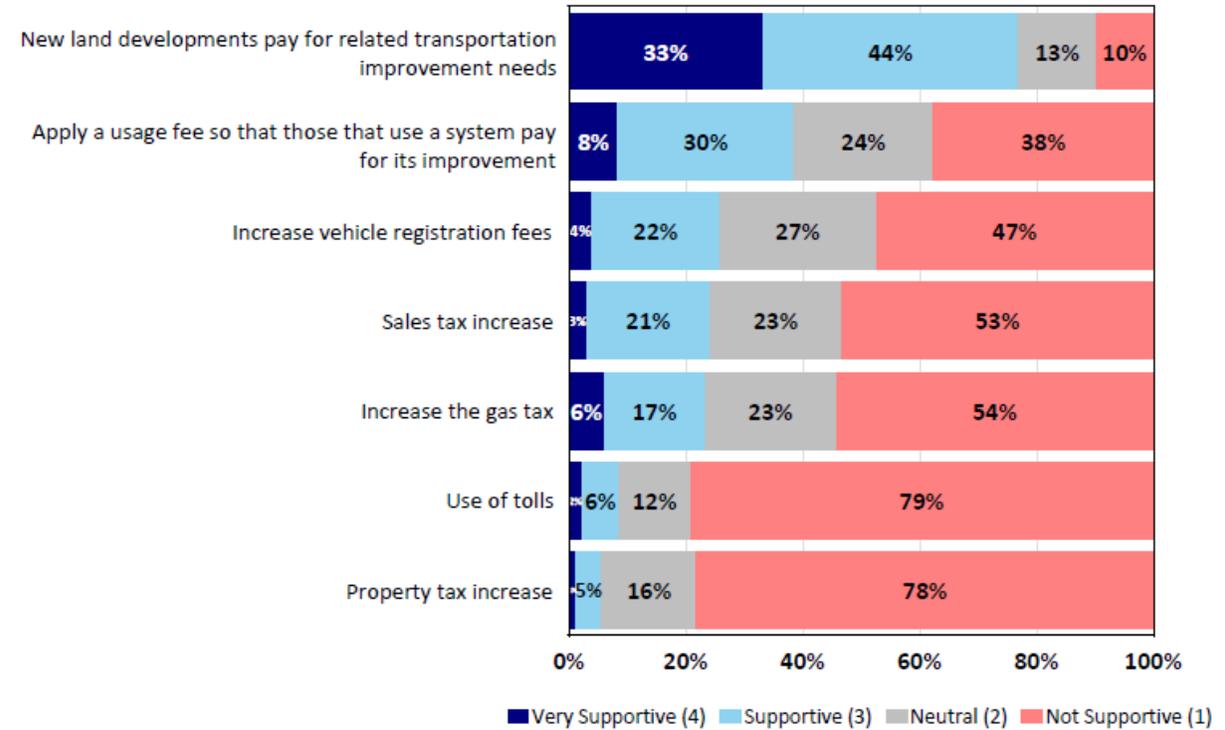
# Top Goal Area Priorities



# Funding



- Project Type Support for Additional Funding



- Funding Source Support...



# Baseline Conditions



# Baseline System Conditions



## Safety

- 5-years of data
- Top 30 Crash Intersections
- Crash Heat Map (future)
- Regional Summary



## Complete Streets

- Incorporate Bike and Pedestrian Plan
- Update per Engagement and New Ideas



## Traffic Operations

- Summarize LOS from NPMRDS Probe Data
- Regional V/C Analysis Where Detailed Studies Aren't Available
- Other Regional Studies?



## Environmental Baseline

- Assemble Data
- Identify Constraints



## Pavement and Bridge

- Reviewing pavement data in 'State of the Streets'
- Reviewing National Bridge Inventory Data



## Transit

- Incorporate Transit Development Plan

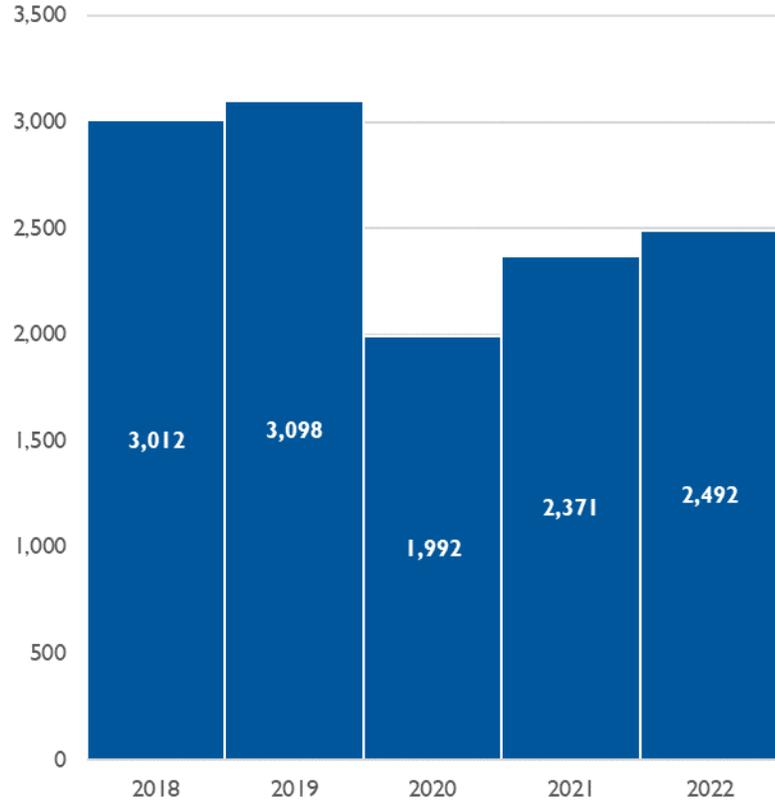


## Future Conditions (Coming Soon)

- Traffic Forecasts
- Future Connections

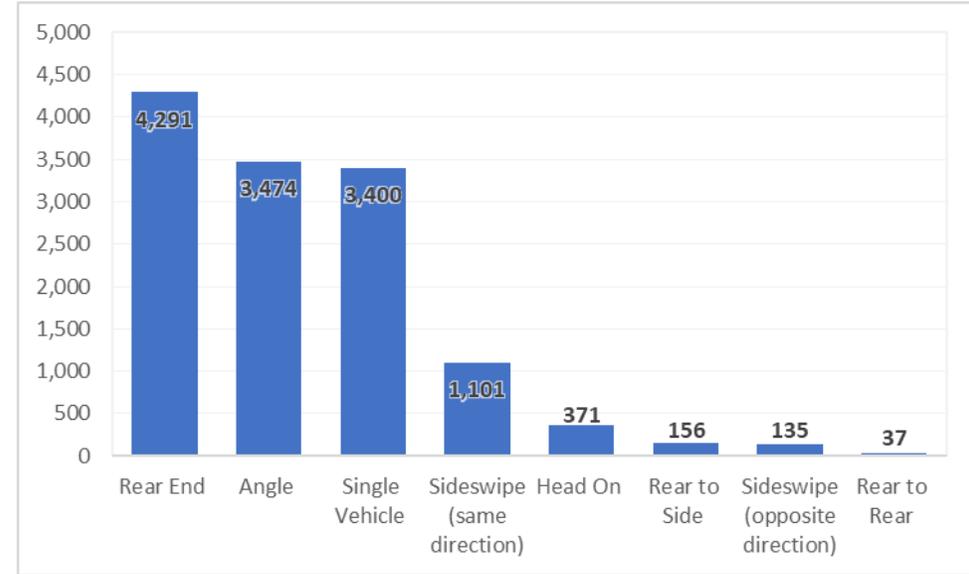


# Crash Data, 2018-22

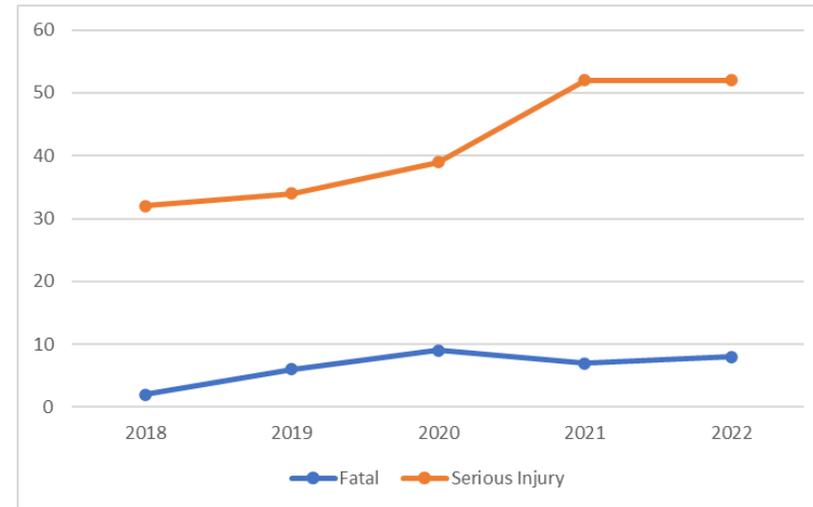


- Total Crashes

\* Dollar Threshold for Reportable Crashes Changed in 2020



- Manner of Crash

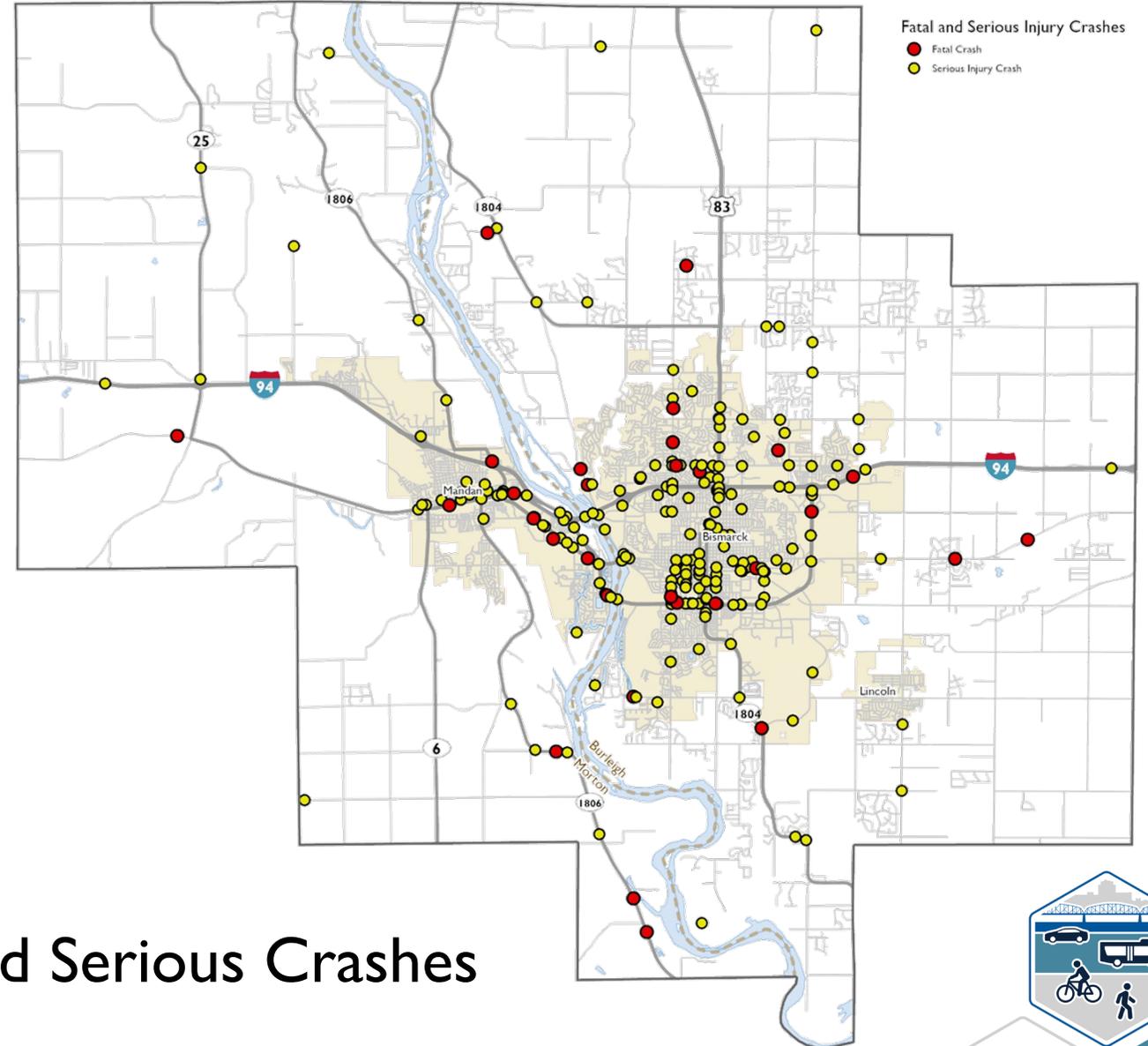


- Fatal and Serious Crashes



# Crash Locations, 2018-2022

## Serious and Fatal Crashes



- Fatal and Serious Crashes

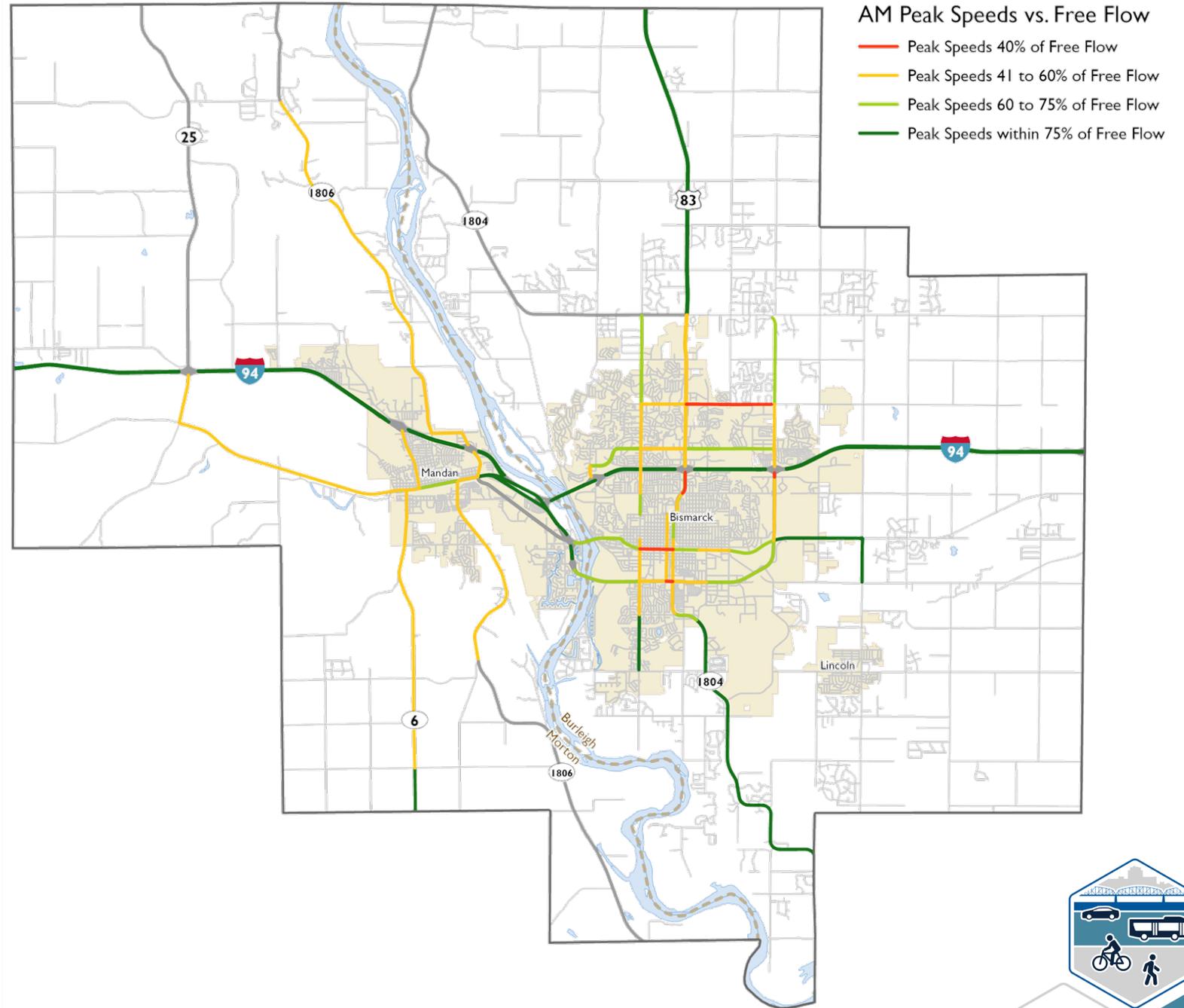




# Peak Period Delays- Refined

## AM Period

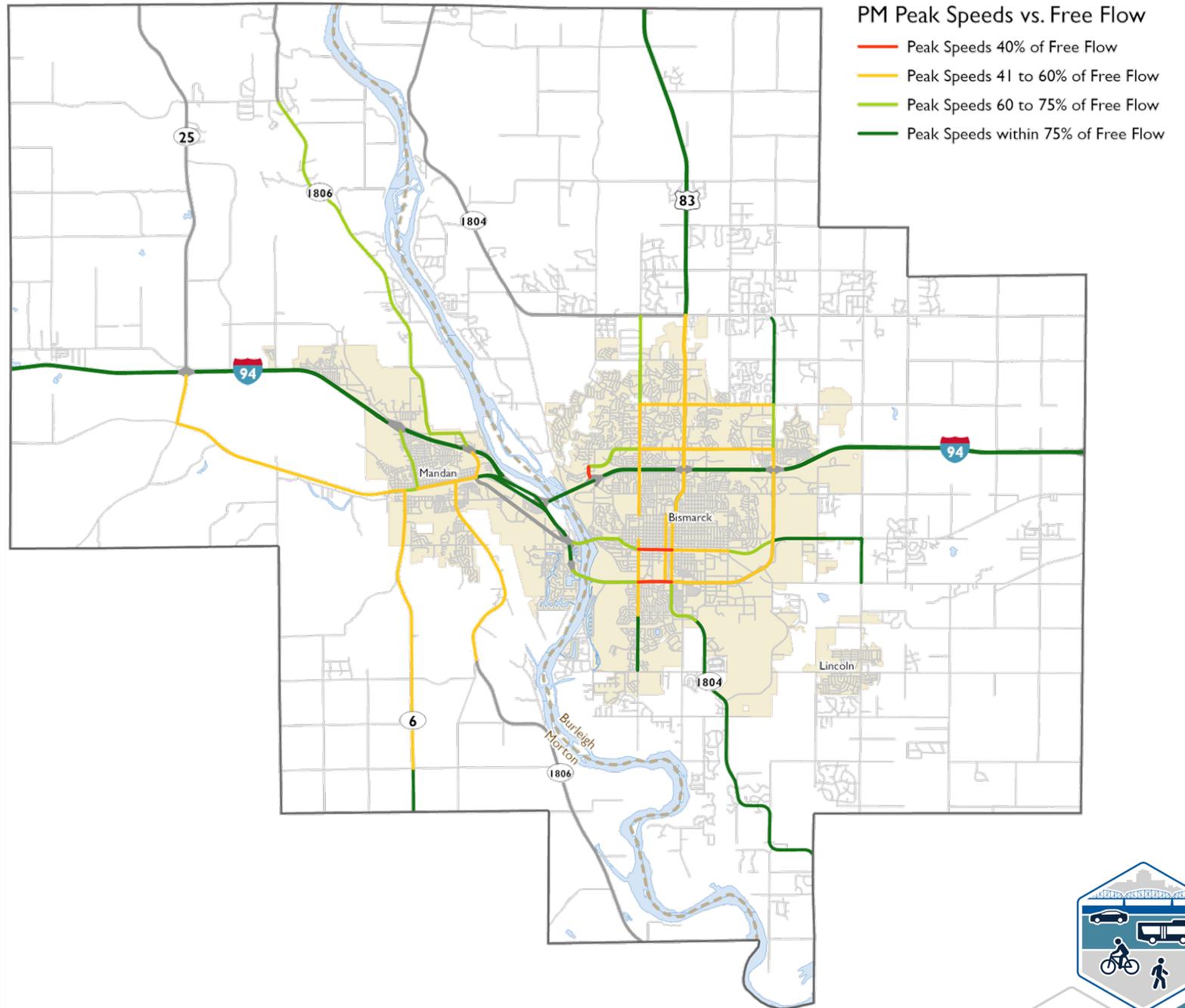
Typical slowest 15  
minutes compared to  
free flow speed



# Peak Period Delays- Refined

## PM Period

Typical slowest 15  
minutes compared to  
free flow speed



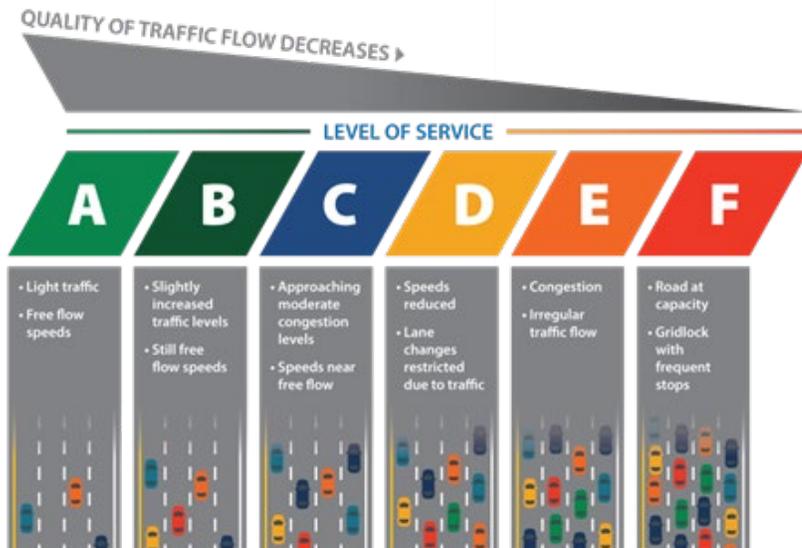
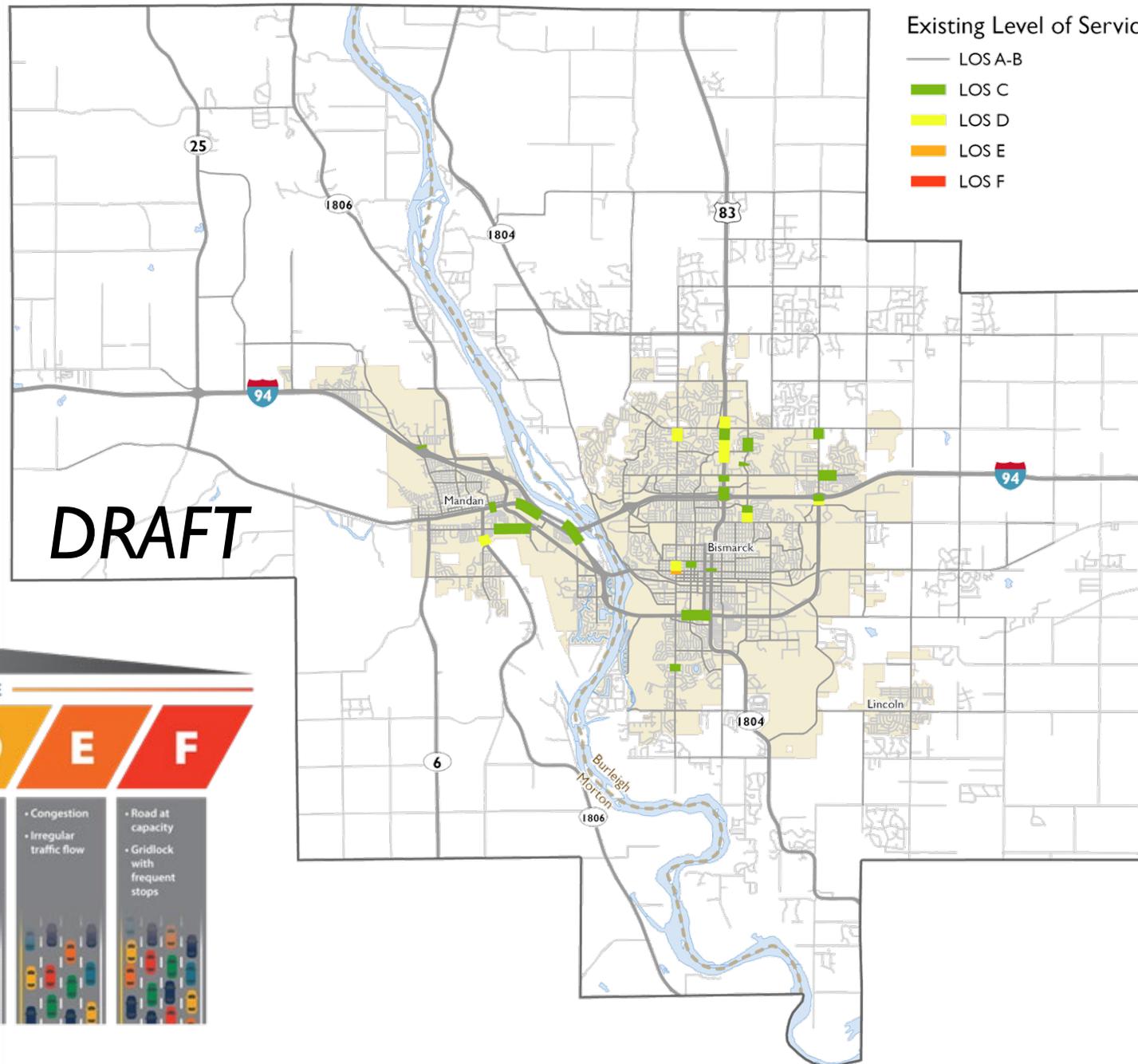
# Planning Level of Service

## Draft V/C Approach

*DRAFT*

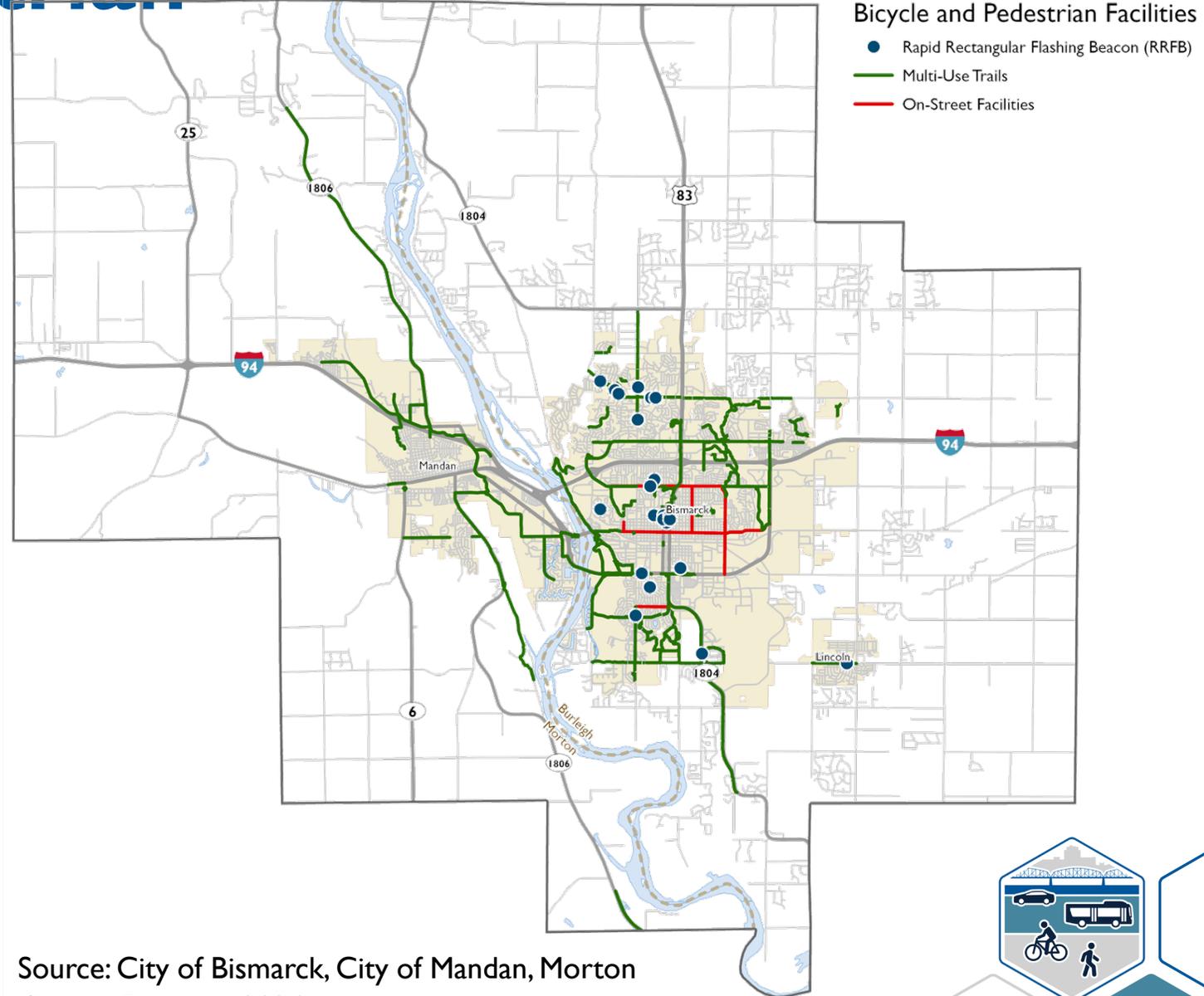
Existing Level of Service

- LOS A-B
- LOS C
- LOS D
- LOS E
- LOS F



# Bicycle and Pedestrian System

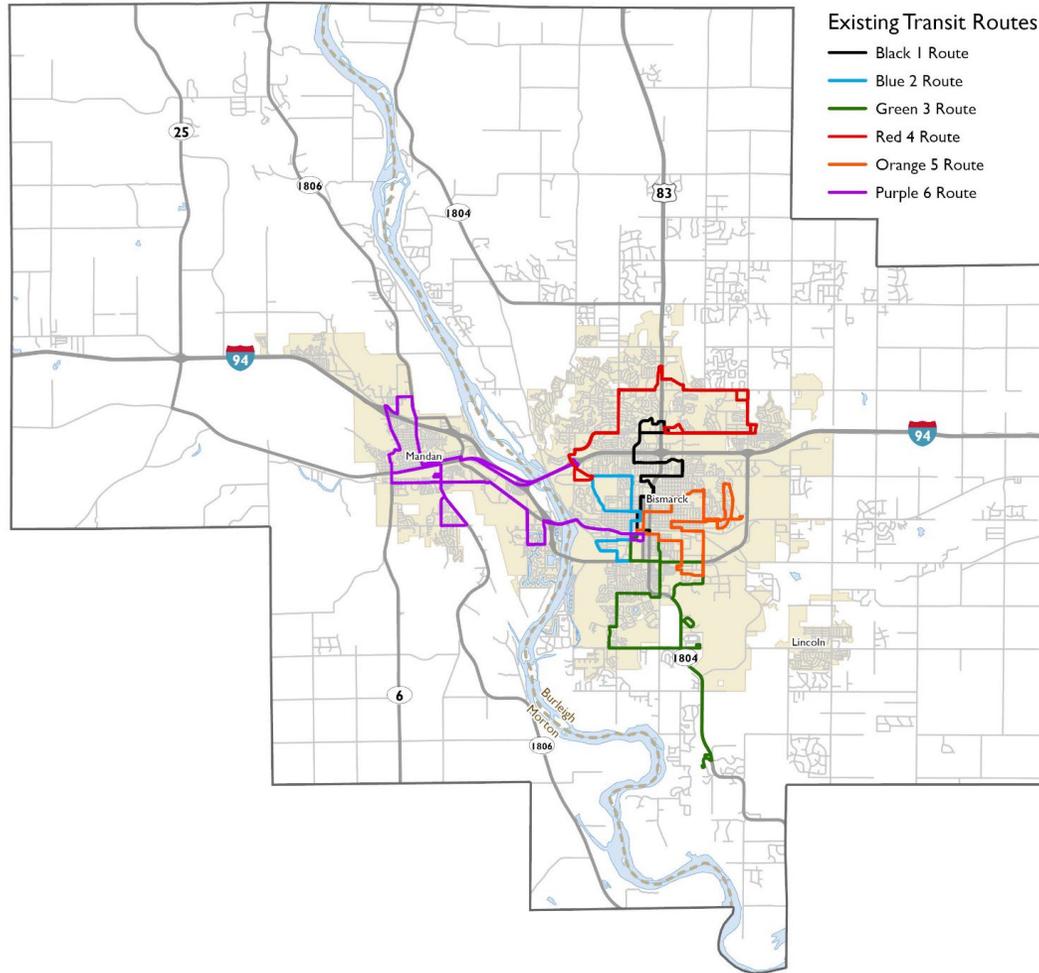
## Trails and On-Street Facilities



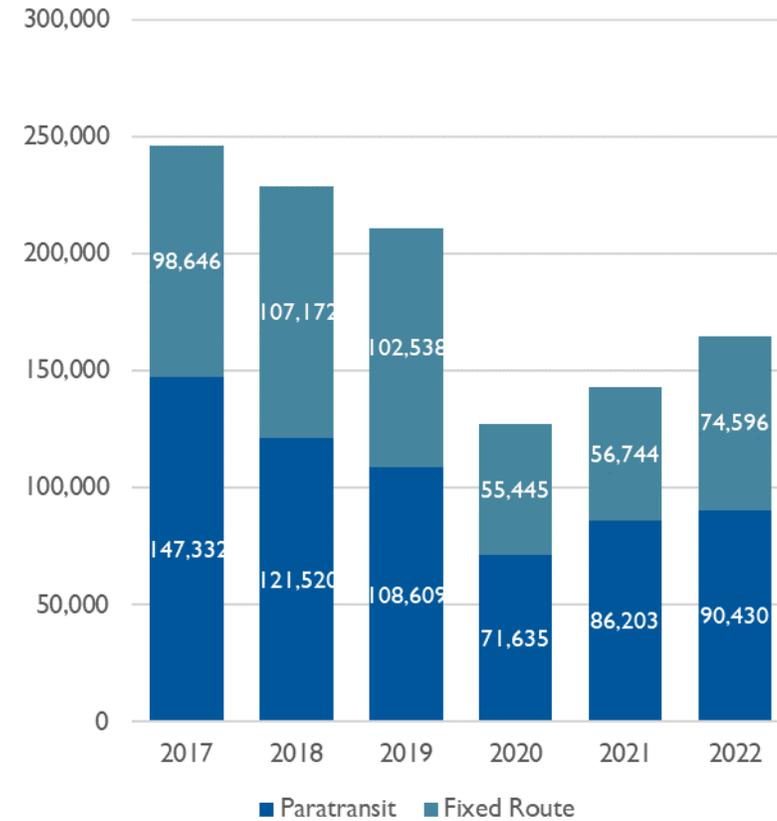
Source: City of Bismarck, City of Mandan, Morton County, February 2024



# Transit System



- Current Fixed Routes



- Riders by Service Type



# Summary of Baseline Issues

|                               |  |
|-------------------------------|--|
| <b>Safety</b>                 | Frequent crashes along the MPO's higher-volume arterial roadway network; crashes resulting in serious injury have been increasing in the region.   |
| <b>Traffic Operations</b>     | AM and PM peak hour congestion issues on the MPO's functionally classified system result in substantial delay, especially in downtown Bismarck.  |
| <b>Freight</b>                | The presence of high freight-generating land uses in eastern and southern Bismarck highlights the need to provide efficient connections between freight destinations and the region's highways and Interstate system.  |
| <b>Bicycle and Pedestrian</b> | The existing bicycle and pedestrian network provides a strong foundation for future expansion that can further enhance the system connectivity while providing increased access to community destinations.   |
| <b>Transit</b>                | Transit ridership saw a significant decline in 2020, and ridership has begun to trend toward pre-2020 levels. Investment in transit-supportive improvements can accommodate increasing ridership will encouraging additional ridership in the future.                                      |
| <b>Pavement</b>               | Continued investment and management of the MPO's pavement assets can address condition deficiencies while preventing a decline in pavement conditions that would result in deterioration beyond an acceptable level.   |
| <b>Bridges</b>                | Several bridges are in poor condition today while others exhibit functional deficiencies that impact their ability to support usage by all types of vehicles. Improving these structurally and functionally deficient bridges can prevent load restrictions and/or closures in the future. |



# **Arrive 2050 Goal Areas Discussion**



# Arrive 2050 – Potential Goals

| Goal                              | Description   |
|-----------------------------------|---|
| Safety                            | Reducing the risk of traffic crashes and harm to all users of our transportation system regardless of travel mode.  |
| Economic                          | Promoting the economic vitality of the Bismarck-Mandan area by working to ensure transportation facilities fit with and support their surrounding community context and long-term community goals. This goal also places an emphasis on ways to complete roadway construction projects more quickly, saving time and money. |
| Resilient                         | Providing a transportation system that is secure from man-made disaster and adaptable to severe weather, major economic changes, and other shocks. Impacts to the built and natural environment are avoided, minimized, and mitigated to the greatest extent possible.  |
| Efficiency and Reliability        | Providing for the efficient and reliable movement of people, connecting people and where they live to goods, services, and jobs with multiple options with a focus on predictable travel times.   |
| Maintenance                       | Maintaining transportation assets, including roadway pavement and bridges, active transportation facilities, and transit capital, in a state of good repair.  |
| Future Focused                    | Incorporating emerging trends and technologies into the transportation system. This includes innovative infrastructure deployment (such as for electric vehicles or autonomous travel), using innovative mobility options, and utilizing innovative data sources to make more informed decisions.                           |
| Active Transportation and Transit | Providing enhanced infrastructure and connections for pedestrians, bicyclists, and other modes of active transportation; transit is integral to transportation in Bismarck-Mandan and complements both active transportation and passenger auto transportation.   |
| Equity                            | Improving transportation infrastructure so that people from all walks of life have access to affordable and reliable transportation options; included consideration of how transportation benefits and impacts all members of the community regardless of income, race, age, or disability status.                          |

# Menti Question

Of the Potential Arrive 2050  
Goals we reviewed, how  
important is a focus on SAFETY?

**Safety** - *Reducing the risk of traffic crashes and harm to all users of our transportation system regardless of travel mode.*

- Scale of 1 (not important) to 5 (very important)



# Menti Question

Of the Potential Arrive 2050 Goals we reviewed, how important is a focus on **ECONOMIC?**

***Economic** - Promoting the economic vitality of the Bismarck-Mandan area by working to ensure transportation facilities fit with and support their surrounding community context and long-term community goals. This goal also places an emphasis on ways to complete roadway construction projects more quickly, saving time and money.*

- Scale of 1 (not important) to 5 (very important)



# Menti Question

Of the Potential Arrive 2050 Goals we reviewed, how important is a focus on RESILIENT?

**Resilient** - *Providing a transportation system that is secure from man-made disaster and adaptable to severe weather, major economic changes, and other shocks. Impacts to the built and natural environment are avoided, minimized, and mitigated to the greatest extent possible.*

- Scale of 1 (not important) to 5 (very important)



# Menti Question

Of the Potential Arrive 2050 Goals we reviewed, how important is a focus on EFFICIENCY AND RELIABILITY?

***Efficiency and Reliability*** - Providing for the efficient and reliable movement of people, connecting people and where they live to goods, services, and jobs with multiple options with a focus on predictable travel times.

- Scale of 1 (not important) to 5 (very important)



# Menti Question

Of the Potential Arrive 2050  
Goals we reviewed, how  
important is a focus on  
**MAINTENANCE?**

**Maintenance** - *Maintaining transportation assets, including roadway pavement and bridges, active transportation facilities, and transit capital, in a state of good repair.*

- Scale of 1 (not important) to 5 (very important)



# Menti Question

Of the Potential Arrive 2050 Goals we reviewed, how important is a focus on **FUTURE FOCUSED?**

**Future Focused** - Incorporating emerging trends and technologies into the transportation system. This includes innovative infrastructure deployment (such as for electric vehicles or autonomous travel), using innovative mobility options, and utilizing innovative data sources to make more informed decisions.

- Scale of 1 (not important) to 5 (very important)



# Menti Question

Of the Potential Arrive 2050 Goals we reviewed, how important is a focus on ACTIVE TRANSPORTATION AND TRANSIT?

**Active Transportation and Transit** - Providing enhanced infrastructure and connections for pedestrians, bicyclists, and other modes of active transportation; transit is integral to transportation in Bismarck-Mandan and compliments both active transportation and passenger auto transportation.

- Scale of 1 (not important) to 5 (very important)



# Menti Question

Of the Potential Arrive 2050  
Goals we reviewed, how  
important is a focus on EQUITY?

**Equity** - *Improving transportation infrastructure so that people from all walks of life have access to affordable and reliable transportation options; included consideration of how transportation benefits and impacts all members of the community regardless of income, race, age, or disability status.*

- Scale of 1 (not important) to 5 (very important)



# Menti Question

- Please rank the potential goal areas in order of importance:
- Rank 1 (most important) to 8 (least important)
  - Safety
  - Economic
  - Resilient
  - Efficiency and Reliability
  - Maintenance
  - Future Focused
  - Active Transportation and Transit
  - Equity



# Menti Question

- Are there any other focus areas Arrive 2050 should incorporate?
- Open-ended response



# Menti Question

- Overall, what are the most important transportation issues/needs in the Bismarck-Mandan area?
- Open-ended response

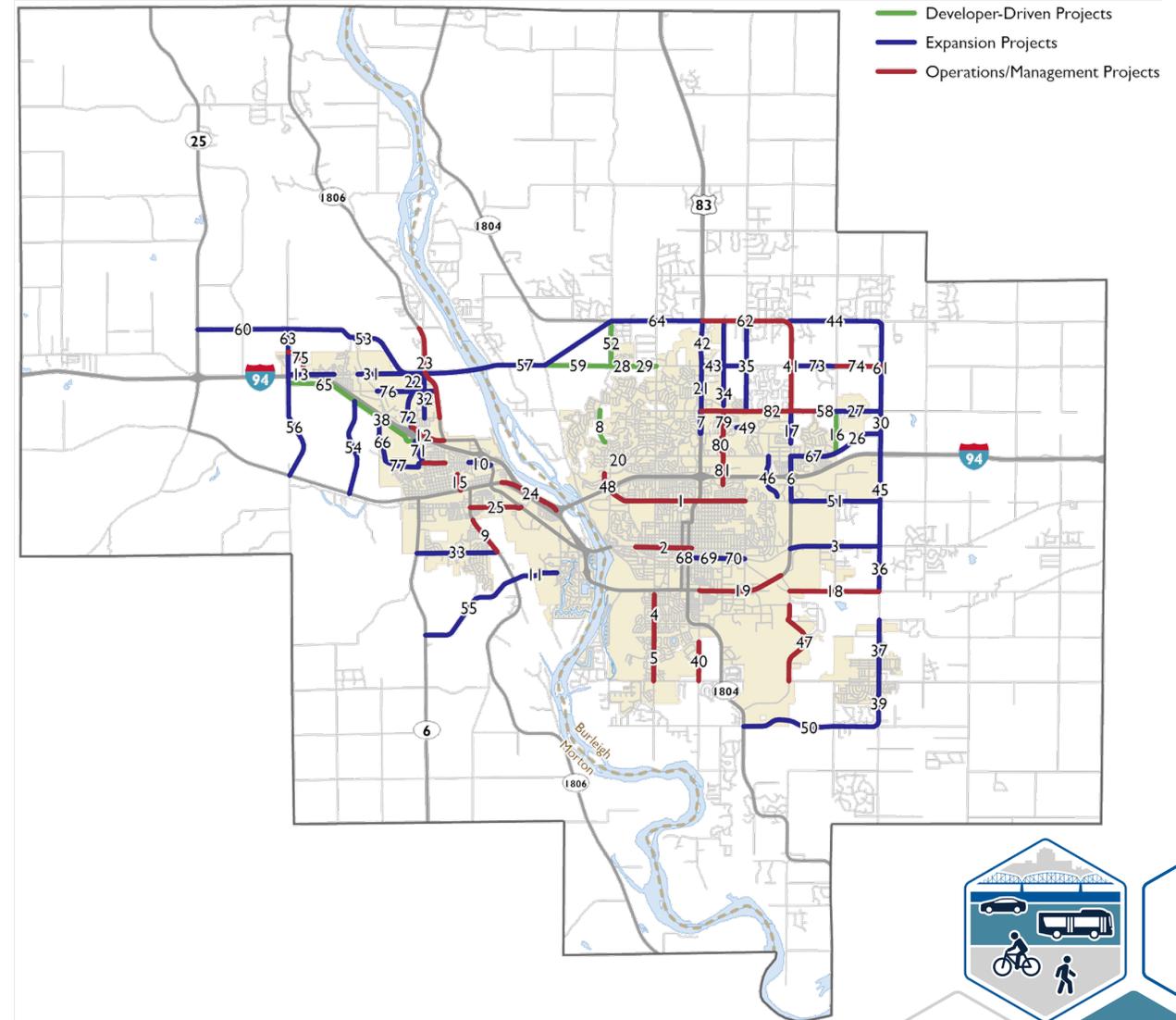


# **Arrive 2050 Projects Discussion**



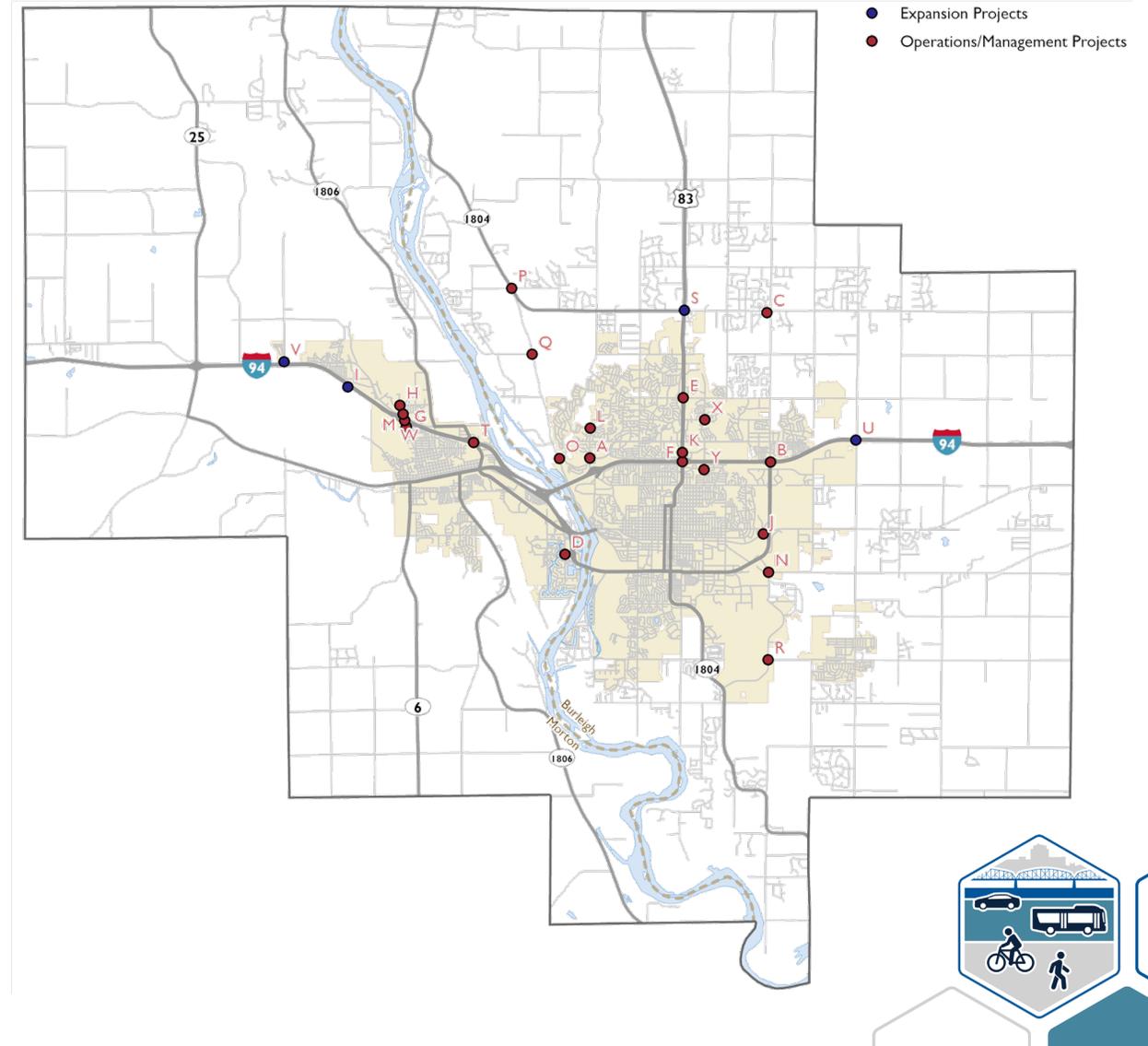
# Draft Arrive 2050 Alternatives- By Segment

- Focus on:
  - Operations and management
  - System expansion
  - Developer-driven projects
    - Implemented as development occurs



# Draft Arrive 2050 Alternatives- By Location

- Focus on:
  - Operations and management
  - System expansion



# Next Steps

- Issues Summary / Project List
- Finalize Goals and Objectives
- Discuss Project Prioritization



# Thank You!



# Open House 2 Summary

The second round of public engagement for the Metropolitan Transportation Plan included one open house on April 29, 2024. The meeting was advertised across several platforms, including the Bismarck Tribune, a press release, and social media posts on the MPO's Facebook page.



## Open House Overview

The public open house was held at the Missouri Valley Family YMCA in Bismarck from 11:30 a.m. – 1:30 p.m. The May 29 event was in-person, and attendees were able to visit several stations to review the plan's progress and provide input. The project team interacted with approximately 30 people throughout the open house time. The informational boards for the public open house included:

- Welcome Sign
- Open House #1 Recap
- Strategies (6 total)
- Next Steps

Additionally, a TV screen with a presentation was looping through technical information, including:

- Existing Conditions
  - Baseline System Conditions
  - Delays Maps
  - Planning Level of Service
  - Travel Time Reliability
  - System Reliability
  - Crash Data, Locations, and Frequency
  - Freight Summary
  - Bicycle and Pedestrian System
  - Transit System
  - Pavement and Bridge Condition
- Future Growth
  - Household and Employment Growth
  - Traffic Volumes

The plan input activity for the public open house event included:

- **Strategies:** for the 6 strategies, participants were provided dot stickers to place on which of the strategies they preferred.

The event was also shown and the MTP promoted on the local Channel KX 6:00 news that evening.



# ACTIVE TRANSPORTATION AND TRANSIT

Providing enhanced infrastructure and connections for pedestrians, bicyclists, and other modes of active transportation; transit is integral to transportation in the MPO area and compliments both active transportation and passenger auto transportation.

- 1. Transit Coordination:** Coordinate planning and project development with transit agencies to improve transit route efficiency, safety, system productivity, and community awareness by implementing transportation investments that support the transit system.
- 2. Implement Transit and Rideshare Strategies:** Improve transit and rideshare opportunities for travelers commuting into the MPO area from both outside and within the urban area.
- 3. Transit Security:** Provide a safe and secure environment for transit system riders.
- 4. Bicycle and Pedestrian Project Implementation:** Improve bicycle and pedestrian system accessibility, connectivity, and safety by promoting or implementing transportation investments identified in recent MPO planning documents.
- 5. User Education:** Improve the awareness and safety for all users of the regional multimodal transportation system through education on rules and responsibilities.
- 6. Reduce Multimodal Gaps:** Improve the continuity of the multimodal systems for pedestrians, cyclists, and transit riders; through improved network connections, reduced circuitry, and reduced system gaps.
- 7. Multimodal Coordination:** Improve the coordination between planning for active transportation and transit to ensure transit stops/timing points are safe and well connected to the active transportation system; improve first-mile/last-mile connectivity.
- 8. Implement Complete Streets:** Implement transportation projects that accommodate active transportation and transit where feasible. Overall, streets in the MPO area will become more accommodating for active transportation and transit.



# EQUITY

Improving transportation infrastructure so that people from all walks of life have access to affordable and reliable transportation options; included consideration of how transportation benefits and impacts all members of the community.

- 1. Connect Disadvantaged Neighborhoods:** Plan projects and programs that safely connect disadvantaged populations to the surrounding transportation system, with a focus on all modes of transportation. Also provide projects within or adjacent to disadvantaged populations that respond to each community's desired multimodal mobility and accessibility, and safely connect disadvantaged populations to needed services as proposed in MPO planning studies.
- 2. Proactive Community Engagement:** Implement early community engagement in the transportation project development process that includes as many impacted and potentially impacted populations as possible. As applicable, engagement will be focused on the neighborhood level, consistent with the MPO's Public Participation Plan.
- 3. Minimize Impacts on Disadvantaged Populations:** Balance impacts and burdens stemming from multimodal transportation improvements amongst populations within the MPO region.

Bismarck-Mandan Arrive 2050 MTP

# ARRIVE 2050 GOALS



# SAFETY

Reducing the risk of traffic crashes and harm to all users of our transportation system regardless of travel mode.

- 1. Reduce Crash Frequency and Severity:** Based on crash history and future crash prediction, work to reduce the incidence of all motor vehicle and non-motor vehicle (pedestrian and cyclist) crashes, with an emphasis on serious injury and fatal crashes. Consider the context of each transportation corridor and safety needs by existing and potential modes of travel using the corridor.
- 2. Implement Safe System Features:** Implement improvements that align with Federal Highway's Safe Systems Approach and are proven Crash Reduction Measures at locations with an existing crash history. Also implement proven Crash Reduction Measures at locations without an existing crash history as a proactive improvement.
- 3. Vision Zero:** Support North Dakota's Strategic Highway Safety Plan (SHSP) "Vision Zero" as a goal to move toward zero fatal resultant crashes.



# ECONOMIC

Promoting the economic vitality of the MPO area by working to ensure transportation facilities fit with and support their surrounding community context and long-term community goals.

- 1. Safe and Reliable Freight Movement:** Enhance the safe, efficient, and reliable movement of freight and goods including investments in congestion reduction and safety improvements on critical urban freight corridors and other designated freight corridors.
- 2. Support Other Regional Plans:**
  - a. Support transportation investments as identified in the most recent MPO Regional Freight Study.
  - b. Promote transportation design and investments that enhance the local economy as promoted in local community planning documents.
  - c. Support the efforts of local jurisdictions' land use planning, ensuring that new land use plans are well-coordinated with the MTP and other MPO transportation planning efforts.
- 3. Support Efficient Development Patterns:** Promote transportation investments that support infill/efficient development patterns.





## RESILIENT

Providing a transportation system that is secure from man-made disaster and adaptable to severe weather, major economic changes, and other shocks. Impacts to the built and natural environment are avoided, minimized, and mitigated to the greatest extent possible.

- 1. Minimize Environmental Impacts:** Strive to avoid and minimize the transportation system's impacts on the natural and built environment. Identify multimodal transportation system impacts through planning and as necessary, mitigate impacts to the greatest extent feasible.
- 2. Integrate Multimodal Design into New Development:** Plan for and address multimodal transportation system impacts/sufficiency when planning new developments.
- 3. System Security:** Enhance transportation security and resiliency by developing strategies to address critical transportation assets identified that will facilitate the rapid movement of first responders and support incident management during times of emergency.
- 4. Reduce and / or mitigate Vehicle Miles Traveled (VMT):** Implement strategies and projects that reduce the rate of VMT growth to reduce transportation emissions and the associated environmental and air quality impacts. Implementing strategies that reduce VMT growth has broad benefits, such as the opportunity for shorter trips, more transportation connections, reduced transportation costs, and the opportunity to utilize modes other than automobile travel.



## EFFICIENCY AND RELIABILITY

Providing for the efficient and reliable movement of people, connecting people and where they live to goods, services, and jobs with multiple options with a focus on predictable travel times. This goal also places an emphasis on improving the efficiency in how transportation projects are delivered.

- 1. Promote Reliable Vehicle Travel:** Implement strategies and projects that increase transportation system reliability by reducing unexpected or non-recurring incidents and bottlenecks to make travel time more predictable.
- 2. Improve Management of Corridor Access Points:** As part of transportation corridor reconstruction projects and the establishment of new corridors, manage access points consistent with street function in order to further safety and mobility needs.
- 3. Reduce Single Occupant Vehicle Travel:** Support future development that would result in reduced motor vehicle trips/increased use of travel options other than single occupant vehicles.
- 4. Promote the Efficient Delivery of All Transportation Projects:** Identify additional ways to complete the transportation project development process more quickly, saving time and money.
- 5. Promote the Efficient Delivery of Complementary Multimodal Improvements with Roadway Construction Projects:** Construct active transportation and transit improvements with complementary roadway projects to promote the efficient delivery of construction projects.



## MAINTENANCE

Maintaining transportation assets, including roadway pavement and bridges, active transportation facilities, and transit capital, in a state of good repair.

- 1. Pavement and Bridge Condition:** Maintain pavement quality and bridges at acceptable levels.
- 2. Signage and Pavement Marking Condition:** Maintain street signage and pavement marking in order to preserve visibility.
- 3. Bicycle and Pedestrian System Condition:** Maintain the current bicycle & pedestrian system.
- 4. Transit Capital Condition:** Maintain transit fleet, equipment, and facilities in a state of good repair as identified within the Transit Development Plan.
- 5. Signal, Lighting and ITS Condition:** Maintain traffic signals, lighting, and other transportation ITS assets at acceptable levels. (2045 Objective - Infrastructure Condition)
- 6. Proactively Manage Pavement:** All MPO participating jurisdictions should cost-participate in the data collection of pavement system condition on a 4/5-year cycle.



## FORWARD-THINKING

Providing a transportation system that is secure from man-made disaster and adaptable to severe weather, major economic changes, and other shocks. Impacts to the built and natural environment are avoided, minimized, and mitigated to the greatest extent possible.

- 1. ITS Maintenance and Planning:** Maintain and enhance Intelligent Transportation Systems (ITS) already in use locally and their evolution, such as dynamic signal phasing, driver information systems, and vehicle detection systems.
- 2. Manage the System Through Technology:** Consider the application of ITS to help mitigate the need for capital-intensive projects and associated impacts.
- 3. Plan for Connected and Autonomous Vehicles:** Champion further testing and integrating autonomous and connected vehicles in the transportation system. Coordinate with NDDOT on statewide planning, the State Transportation Management Center development, and other opportunities related to connected and autonomous vehicles in order to best position the MPO area for the future.
- 4. Plan for Electric Vehicles:** Accommodate electric vehicle market trends through planning efforts and development opportunities, such as promoting the expansion of charging stations. Continue to coordinate with NDDOT on statewide planning and other opportunities related to electric vehicles in order to best position the MPO area for the future.
- 5. Leverage Data for Decision Making:** Apply well-vetted and appropriate data sets available to help support more intelligent local decision-making regarding transportation planning, design, and investments.

# Open House 3 Summary

The third public open house the Metropolitan Transportation Plan was held on July 3, 2024, at Mandan’s annual Art in the Park Festival. The MPO’s participation in the event was advertised across several platforms, including the Bismarck Tribune, a press release, and social media posts on the MPO’s Facebook page. Additionally, an online meeting to review the draft plan was available in September and October on the project website.

## Open House Overview

The open house consisted of a booth with interactive activities for adults and children. The booth was staffed from 10:00 a.m. – 5:00 p.m. Attendees were able to review the plan’s progress and provide input on prioritizing projects and strategies. The project team interacted with approximately 50 people throughout the open house time.

### The plan input activity for the public open house event included:

Jars where those who came to the booth could vote by placing popsicle sticks in jars that were labelled corresponding with different areas of interest for the MPO to focus on in upcoming project work.

### The results of this input activity are as follows:

| Strategy   | Votes | Strategy  | Votes |
|--|-------|---|-------|
| Northern Bridge Crossing                               | 22    | I-94 – 52 <sup>nd</sup> Street/Hamilton/30 <sup>th</sup> Street | 12    |
| More Funding for Public Transit                        | 20    | System Management   | 11    |
| I-94 – 56 <sup>th</sup> Avenue/66 <sup>th</sup> Street | 18    | McKenzie Extension  | 8     |
| More Bike Paths  | 15    | 66 <sup>th</sup> St Imp/State St @ 71 <sup>st</sup>             | 8     |
| Fill in the Grid                                       | 13    | More Pedestrian Crossings                                       | 7     |



Coloring pages were also provided at the booth to for children and families.

KX News visited the booth and wrote an article which was posted on July 4, 2024: [Improving Bismarck-Mandan’s Transportation Network \(kxnet.com\)](https://www.kxnet.com/story/improving-bismarck-mandan-transportation-network/2024/07/04/).

## Online Meeting Overview

An online meeting was available on the project website from September 23, 2024 through October 31, 2024. The online meeting provided an overview of the draft plan, including draft project lists. The online

meeting included a survey, which asked participants to review investment concepts and prioritize based on need. The investment concepts ranking were as follows:

| <b>Strategy</b>  | <b>Votes</b> | <b>Strategy</b>   | <b>Votes</b> |
|--|--------------|---|--------------|
| Northern Bridge Crossing                               | 3            | I-94 – 52 <sup>nd</sup> Street/Hamilton/30 <sup>th</sup> Street | 1            |
| More Funding for Public Transit                        | 2            | System Management   | 2            |
| I-94 – 56 <sup>th</sup> Avenue/66 <sup>th</sup> Street | 4            | McKenzie Extension  | 0            |
| More Bike Paths  | 2            | 66 <sup>th</sup> St Imp/State St @ 71 <sup>st</sup>             | 0            |
| Fill in the Grid                                       | 1            | More Pedestrian Crossings                                       | 1            |

# 2023 Bismarck-Mandan Regional Travel Study

*...helping organizations make better decisions since 1982*

Findings  
Report

**Submitted to the Bismarck-Mandan MPO  
by:**

ETC Institute  
725 W. Frontier Lane  
Olathe, Kansas 66061

**December 2023**



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# Executive Summary

# 2023 Bismarck-Mandan Regional Travel Study Executive Summary



## Purpose

ETC Institute conducted a regional transportation study on behalf of the Bismarck-Mandan Metropolitan Planning Organization (MPO) during the fall of 2023. The MPO, which includes local governments in Bismarck, Lincoln, Mandan, Burleigh, and Morton Counties, will use the results from the survey to help update the area's Metropolitan Transportation Plan, which seeks to identify transportation needs from now to the year 2050.

## Methodology

The five-page survey, cover letter, and postage-paid envelope were mailed to a random sample of residents in the MPO area. The cover letter explained the purpose of the survey and encouraged residents to either return the survey by mail or complete it online at [bismanmetrosurvey.org](https://bismanmetrosurvey.org).

A total of 607 households completed the survey. The results for the random sample of 607 households have a 95% level of confidence with a precision of at least +/-4.0%.

This report contains the following:

- a summary of the methodology for administering the survey and major findings
- charts and graphs showing the overall results of the survey (Section 1)
- Importance-Satisfaction (I-S) analysis that shows priorities for investment (Section 2)
- tabular data showing the overall results for all questions on the survey (Section 3)
- a copy of the cover letter and survey instrument (Section 4)

## Major Findings

### Perceptions of Current Transportation Issues

Three-fourths (75%) of the respondents surveyed, *who had an opinion*, were “very satisfied” or “satisfied” with the flow of traffic at non-peak times; 68% were satisfied with the ability to access Interstate 94, 63% were satisfied with the ease of traveling between Bismarck and Mandan, and 59% were satisfied with railroad crossings. Respondents were least satisfied with the flow of traffic at peak times (21%) and attentiveness of other drivers (13%).

Based on the sum of their top three choices, the current transportation issues that residents indicated are most important to address are: 1) flow of traffic at peak times, 2) maintenance of major roads in and around Bismarck-Mandan, and 3) attentiveness of other drivers.

### Top Priorities for Improvement in Burleigh County

Nearly half (47%) of the respondents surveyed, *who had an opinion*, thought Washington Street should be the top priority for improvement in Burleigh County; 20% thought State St./U.S. Highway 83 should be the top priority, 17% thought it should be the 7<sup>th</sup> St./9<sup>th</sup>St. one-way pair, and 14% thought Main Ave.

# 2023 Bismarck-Mandan Regional Travel Study Executive Summary



should be the top priority. *Two selections could be made for this question.*

## Top Priorities for Improvement in Morton County

Fifty-one percent (51%) of the respondents surveyed, *who had an opinion*, thought Memorial Highway should be the top priority for improvement in Morton County; 28% thought Main St. should be the top priority, 26% thought it should be Sunset Dr., and 18% thought Old Red Trail should be the top priority. *Two selections could be made for this question.*

## Ratings of the Bismarck-Mandan Area Roadway and Street System

Forty-seven percent (47%) of the respondents surveyed, *who had an opinion*, rated the Bismarck-Mandan Area roadway and street system as “excellent” or “good;” 42% rated the system as “average” and 11% gave a rating of “poor.”

## Reconstruction of I-94 Access Points

Twenty-eight percent (28%) of the respondents surveyed thought the Tyler Parkway/Burnt Boat Road access to I-94 should be reconstructed. Other I-94 access points that respondents indicated should be reconstructed were: the State Street Interchange (26%), the Sunset Drive Interchange (21%), and the Midway I-94/I-194 Interchange (19%). *Multiple selections could be made for this question.*

## Preferred Location for a New I-94 Access/Overpass/Underpass

Thirty percent (30%) of the respondents surveyed indicated the 66<sup>th</sup> Street Interchange was their preferred location for a new I-94 access/overpass/underpass; 24% preferred the overpass near 32<sup>nd</sup> Ave. NW (Cloverdale/NSIC area), 16% preferred the underpass near 56<sup>th</sup> Ave. NW Mandan, and 9% indicated their preferred location for a new I-94 access/overpass/underpass was the Channel Drive/Hamilton Overpass. *Multiple selections could be made for this question.*

## Usage of Bus System in the Bismarck-Mandan Area

Ten percent (10%) of the respondents surveyed, *who had an opinion*, indicated they have used the bus system in the Bismarck-Mandan area. Of those who used the bus system, 70% indicated they have primarily used the fixed route (CAT Bus).

Fifty-three percent (53%) of respondents who use the bus system and *who have an opinion* rated the bus system as “excellent” or “good;” 28% gave an “average” rating, and 19% rated the bus system as “poor.” The top reasons given for using the bus system were shopping (51%) and work (42%).

When respondents who have used the bus system were asked how satisfied they were with various aspects of the system, 60% *who had an opinion* were “very satisfied” or “satisfied” with the availability of information on bus routes and times, and 52% were satisfied with the proximity of stops to home or a destination.

## Reasons for Not Riding Public Transit More Often

Seventy-one percent (71%) of the respondents surveyed indicated they do not ride public transit more

# 2023 Bismarck-Mandan Regional Travel Study Executive Summary



often because they prefer to drive. Other reasons include: bus routes/stops are too far from home or destination (32%), it takes too long (18%), and buses are not frequent enough (17%). *Multiple selections could be made for this question.*

## Bicycle Usage

Half of the respondents surveyed (50%), *who had an opinion*, indicated they or someone in their household has ridden a bike in the last year. Of those who have ridden a bike in the last year, 83% indicated the primary reason was recreational. When respondents were asked why member of their household do not ride bikes more often, 41% indicated they prefer to drive, 38% need a car for errands/work trips during the day, and 27% indicated they don't own bikes. *Multiple selections could be made for this question.*

Forty-one percent (41%) of respondents surveyed thought more off-street trails and shared use paths would make it safer and more convenient for more people to choose to ride a bicycle for at least some of their trips. Other ideas include: more bicycle lanes/on-street bikeways/bike facilities (21%), keeping bicycle lanes/trails/other facilities free of ice and snow in winter (18%), and working with police to improve driver and bicyclist behavior (17%). *Multiple selections could be made for this question.*

## Reasons for Walking and Ways to Make It Safer

Most of the respondents surveyed (90%) indicated they had walked for recreation/exercise in the past year; 30% walked to go shopping, 15% walked to work, and 4% walked to school in the past year.

Fifty-four percent (54%) of respondents surveyed thought keeping sidewalks free of ice and snow in the winter would make it safer and more convenient for more people to walk. Other ideas include: repairing or replacing old sidewalks (47%), making it easier to cross streets (25%), and adding sidewalks (21%). *Multiple selections could be made for this question.*

## Transportation Goal Areas

Fifty-seven percent (57%) of the respondents surveyed indicated providing a well-maintained transportation system in a good state-of-repair should be the most important goal to Bismarck-Mandan. Other goal areas that respondents indicated should be most important include: limiting or reducing congestion on the street and road system (56%), providing a safe system that reduces the number of fatalities and serious injuries (48%), and providing a reliable system that provides predictable travel times with limited unexpected delays (30%). *Multiple selections could be made for this question.*

## Transportation Habits Since COVID-19

Two-thirds of the respondents surveyed (67%) indicated their transportation habits have not changed because of COVID-19; 18% indicated they travel less to stores for food and other merchandise with online shopping/home delivery, and 14% travel less to work with a remote/hybrid work schedule. *Multiple selections could be made for this question.*

# 2023 Bismarck-Mandan Regional Travel Study Executive Summary



## **Support for Additional Funding for Transportation**

Sixty-four percent (64%) of the respondents surveyed, *who had an opinion*, are “very supportive” or “supportive” of increasing funding for better maintenance of current roadways in their area; 49% are supportive of increasing funding for new or widened roadways, and 35% are supportive of increasing funding for improved bicycle and pedestrian routes.

## **Support for Sources of Funding**

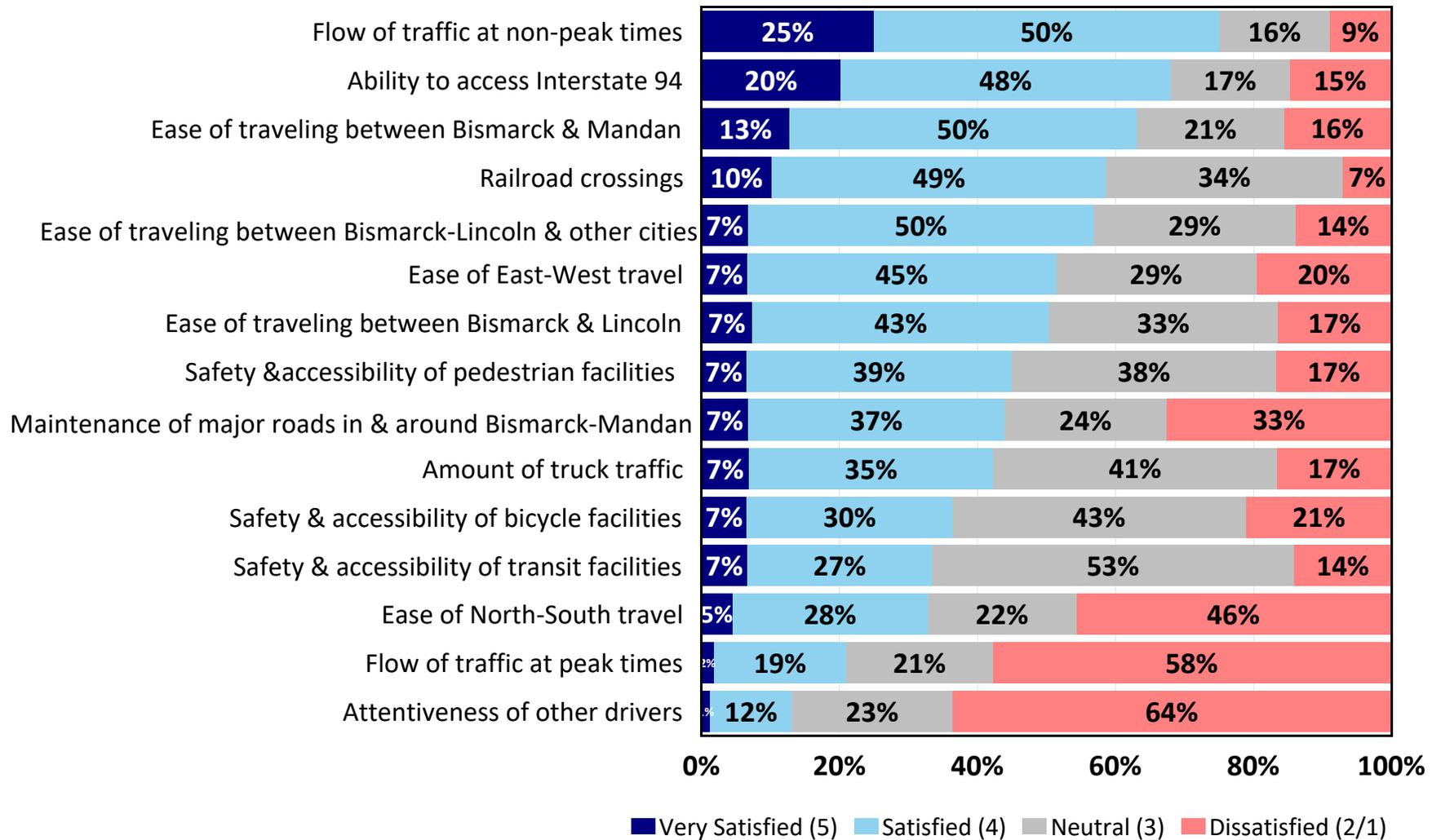
More than three-fourths (77%) of the respondents surveyed, *who had an opinion*, are “very supportive” or “supportive” of having new land developments pay for related transportation improvement needs; 39% support applying a usage fee so that those using a system pay for its improvement, and 26% support increasing vehicle registration fees.



# Charts and Graphs

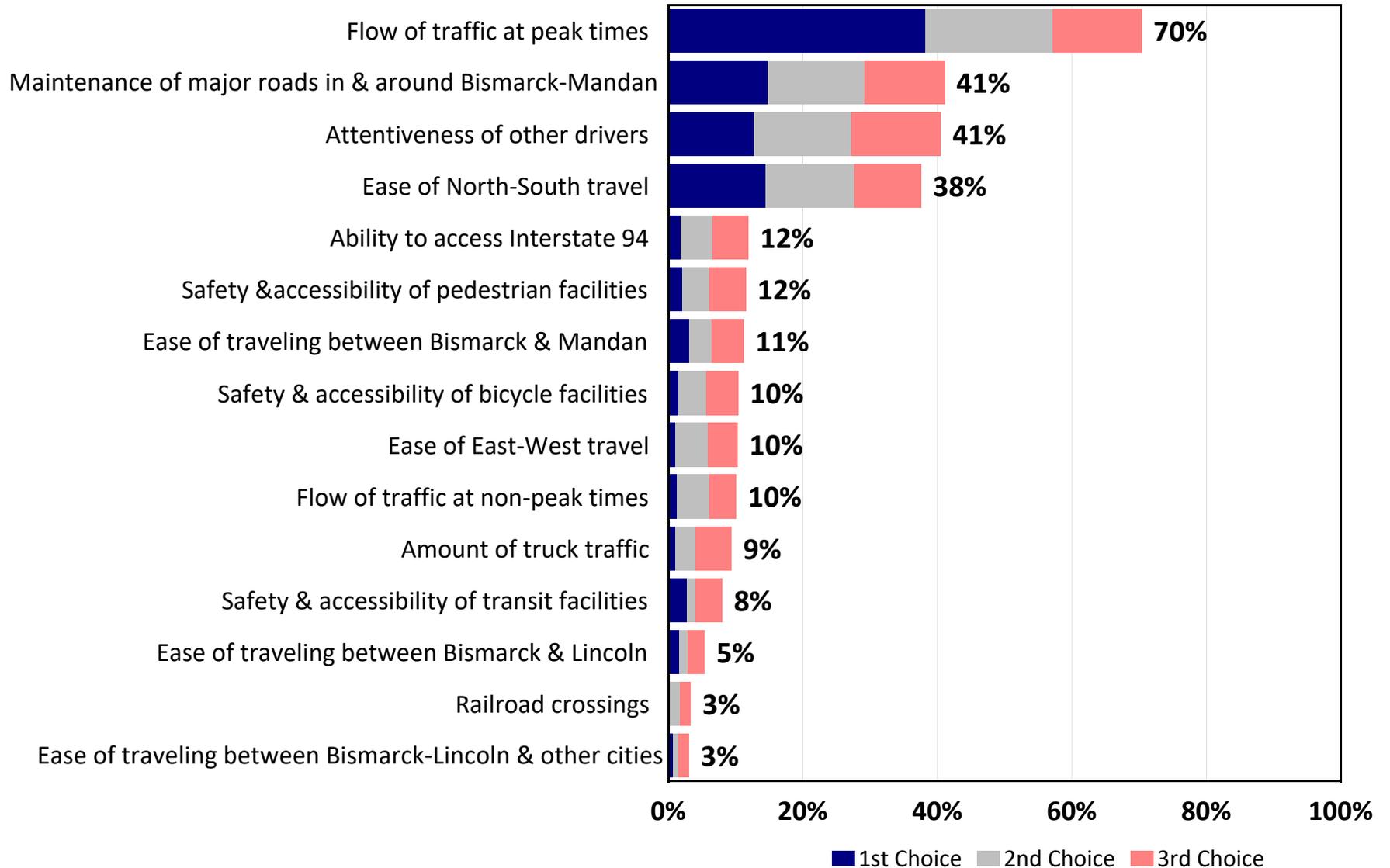
# Q1. Satisfaction with Perceptions of Current Transportation Issues

by percentage of respondents (excluding “don’t know”)



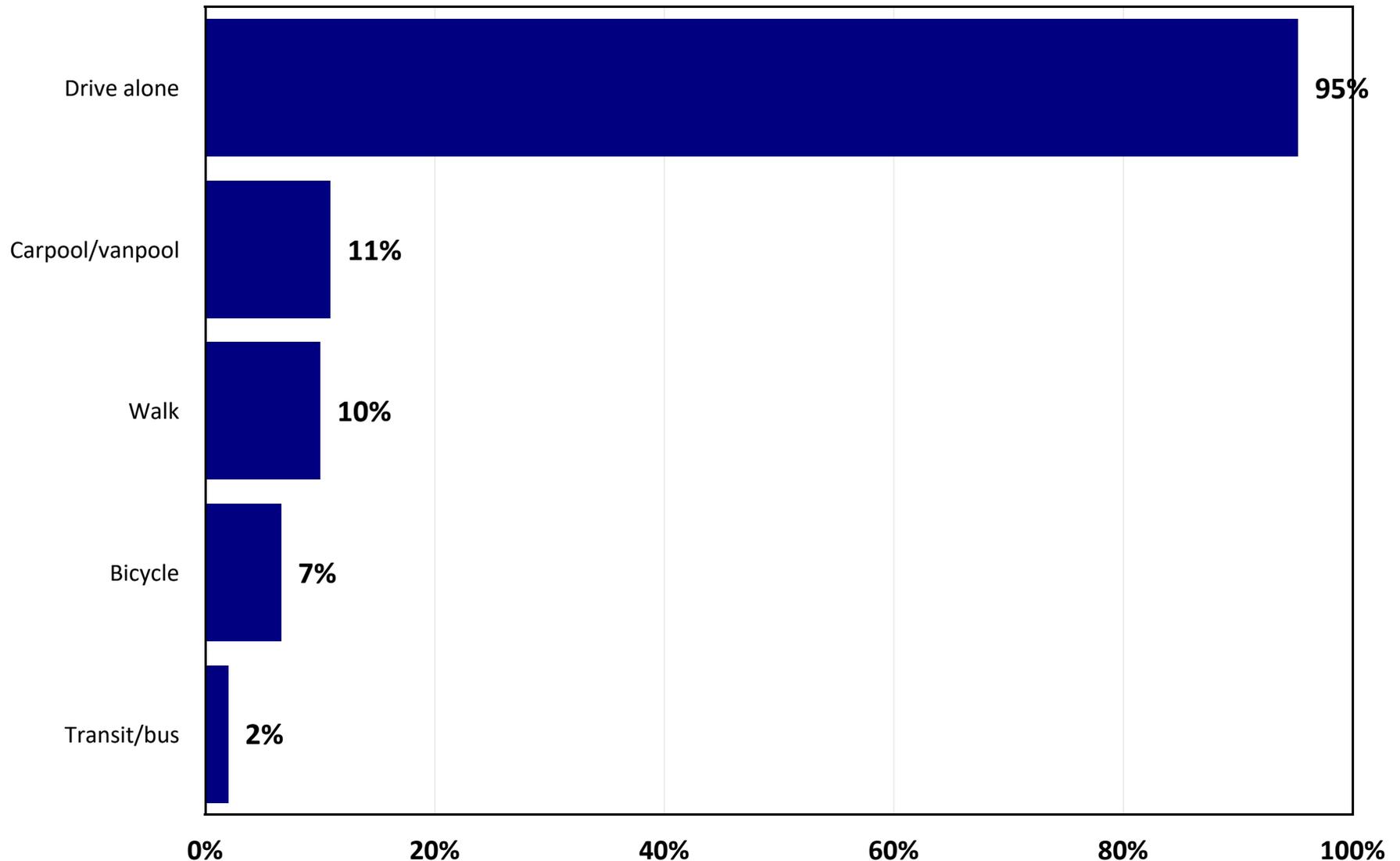
# Q2. Current Transportation Issues That Respondents Think Are Most Important to Address

by percentage of respondents who selected the item as one of their top three choices



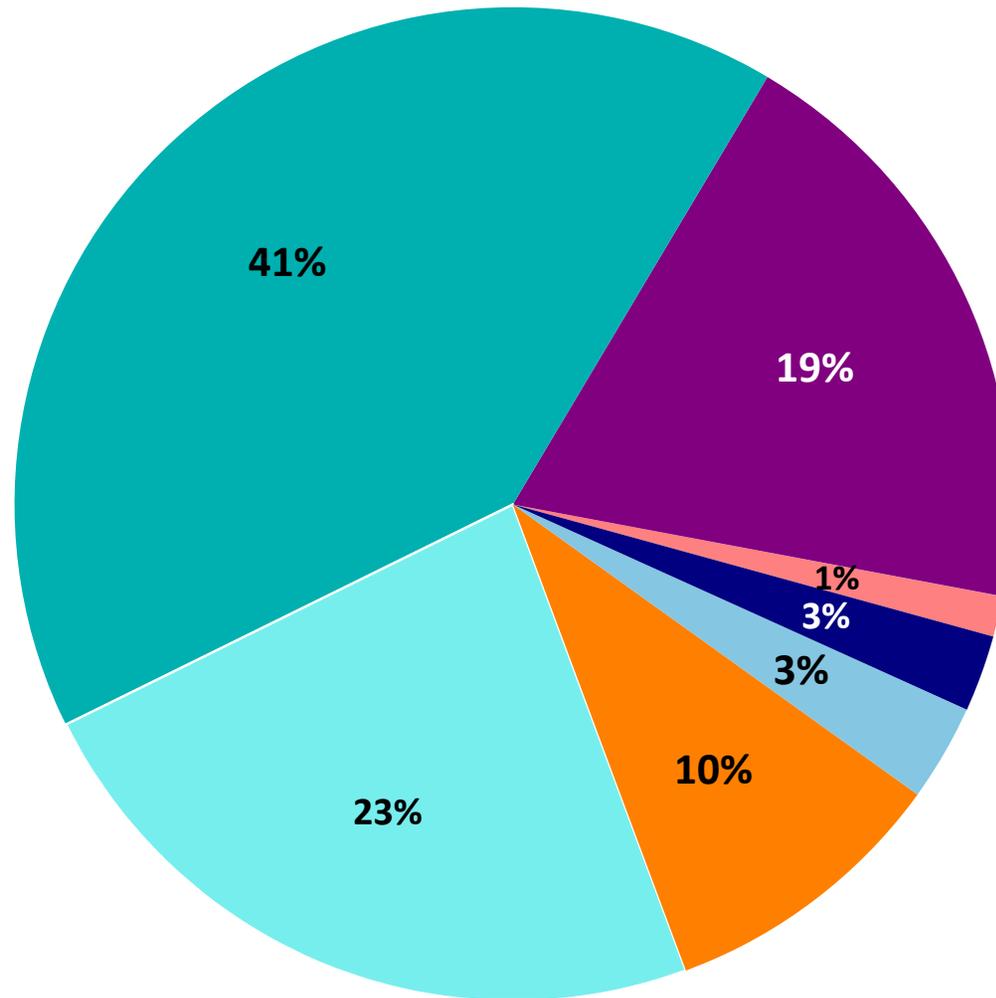
# Q3. Methods of Transportation Typically Used to Get To and From Routine Destinations, Including Work

by percentage of respondents (multiple selections could be made)



# Q4. Number of Vehicles in the Household

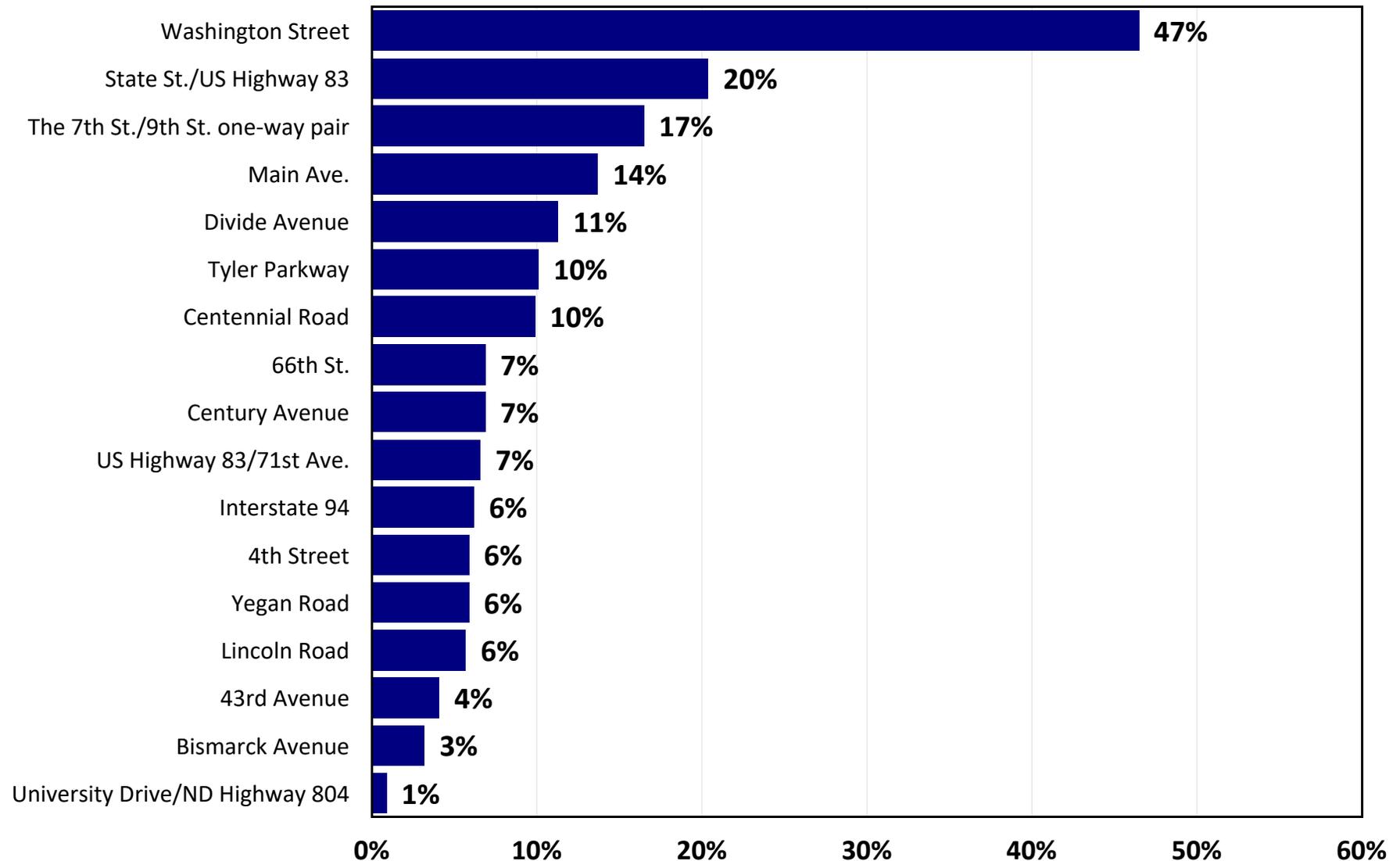
by percentage of respondents (excluding "not provided")



None One Two Three Four Five 6 or more

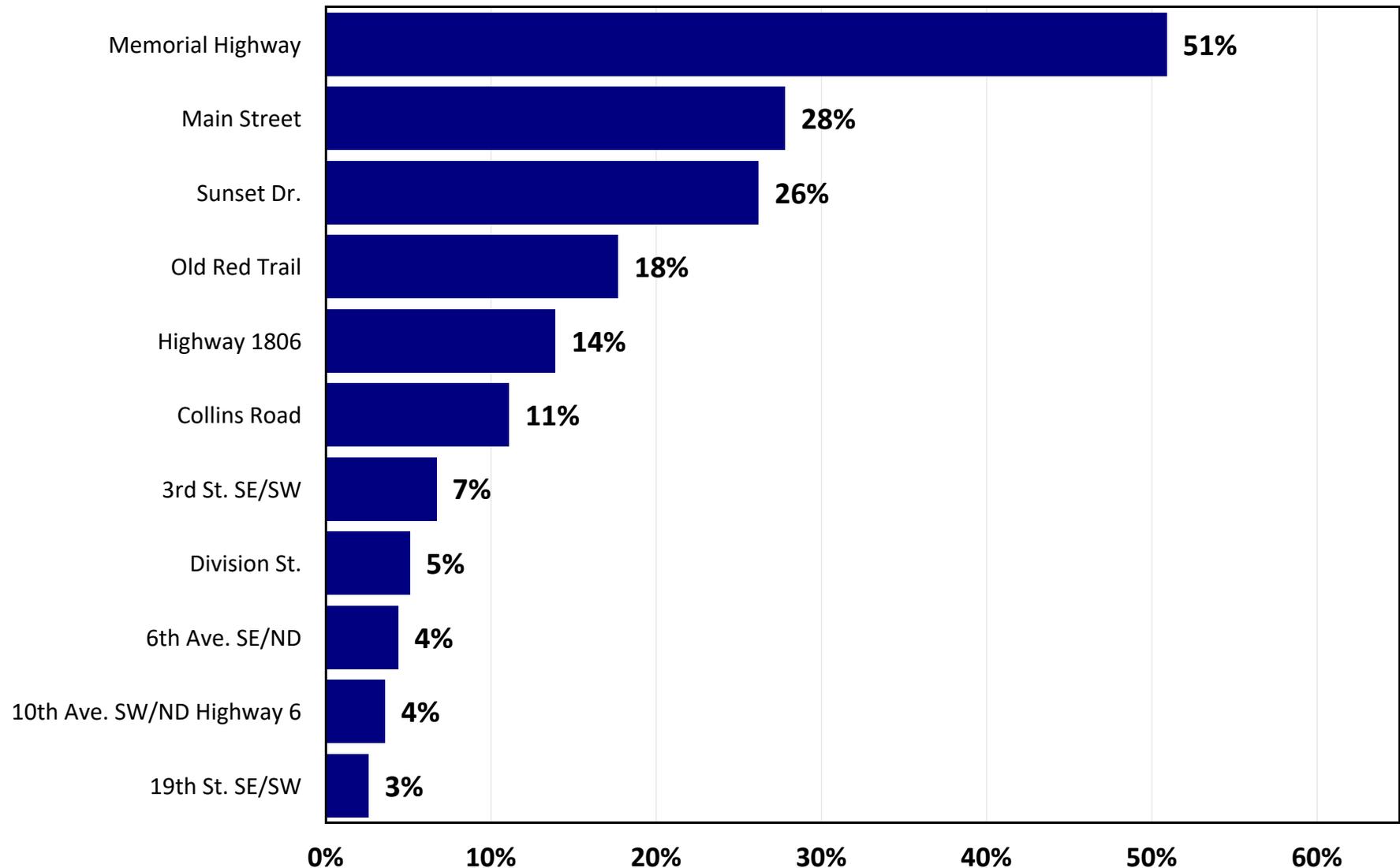
# Q5. Corridors That Respondents Think Should be the Top Priorities for Improvement in Burleigh County

by percentage of respondents (excluding “don’t know” - two selections could be made)



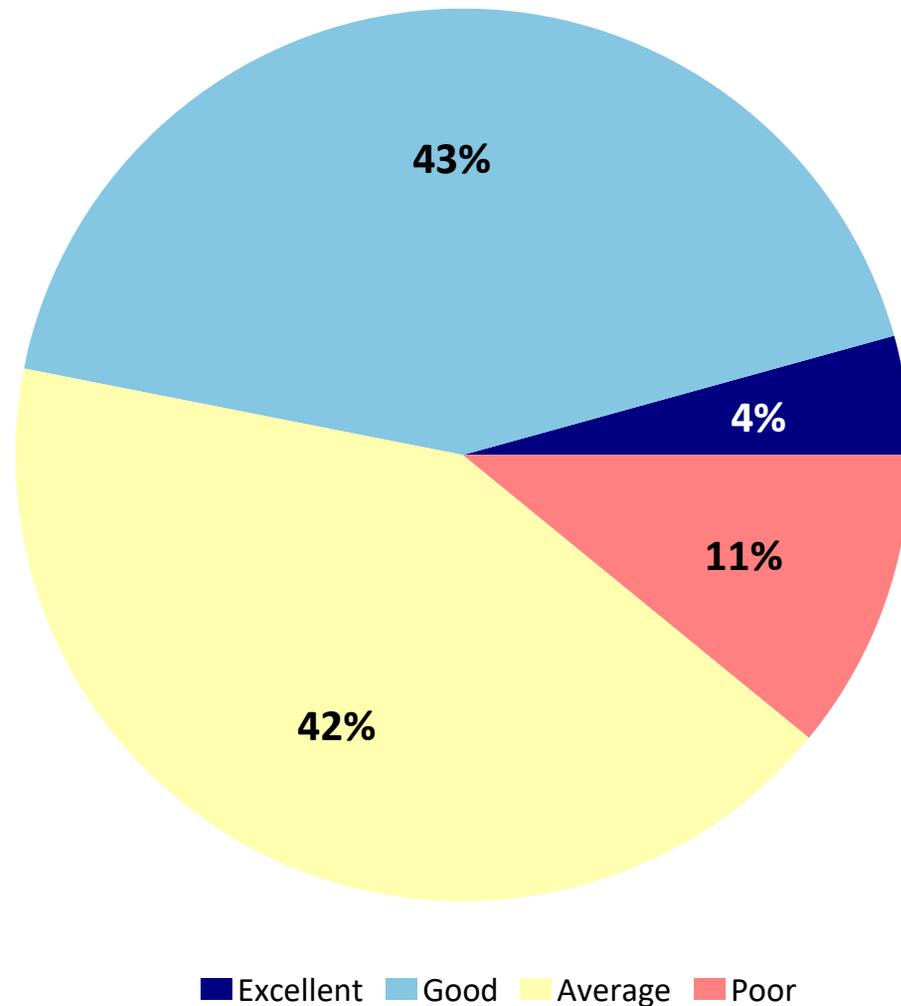
# Q6. Corridors That Respondents Think Should be the Top Priorities for Improvement in Morton County

by percentage of respondents (excluding “don’t know” - two selections could be made)



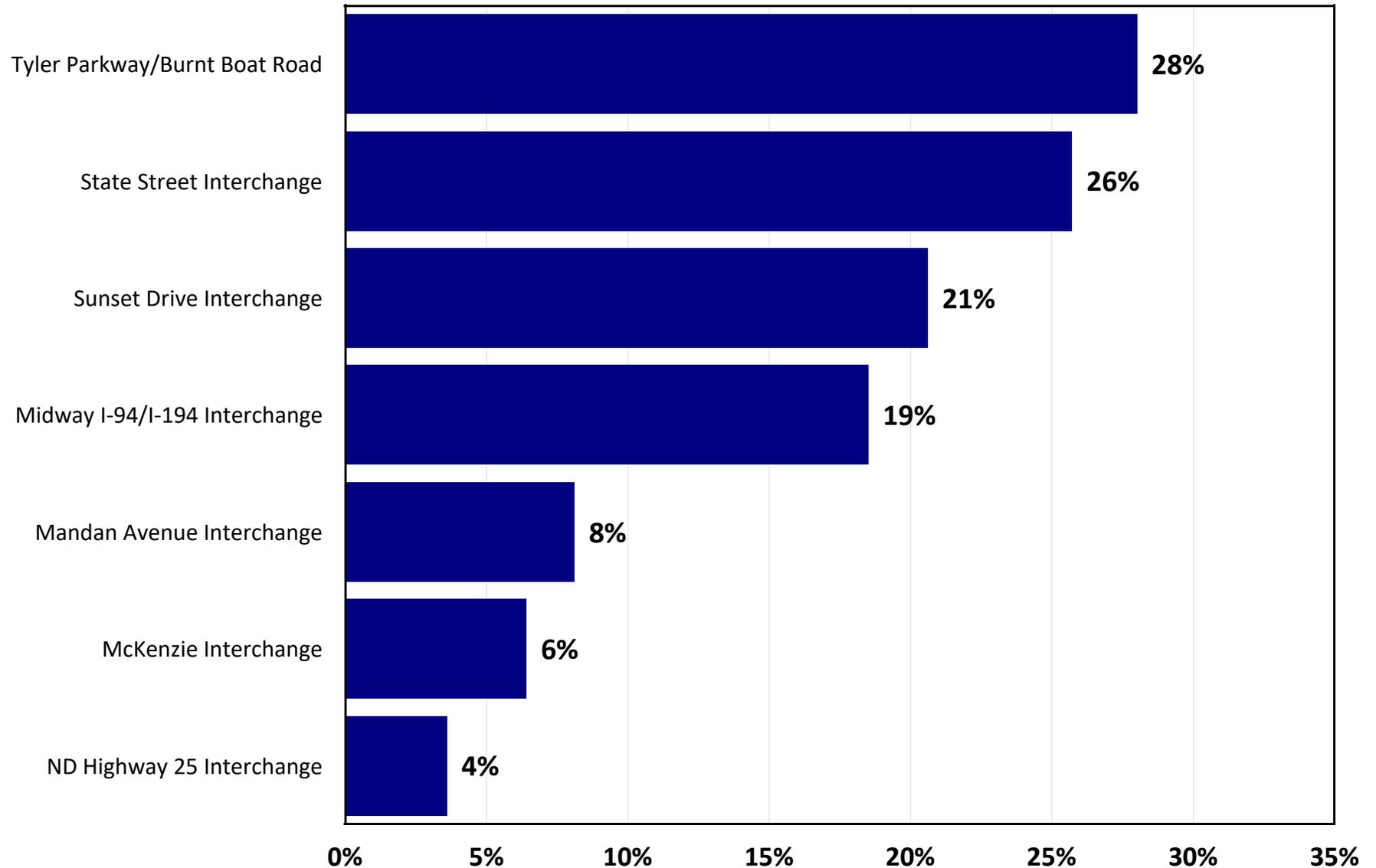
# Q7. Overall Ratings of the Bismarck-Mandan Area Roadway and Street System

by percentage of respondents (excluding "not provided")



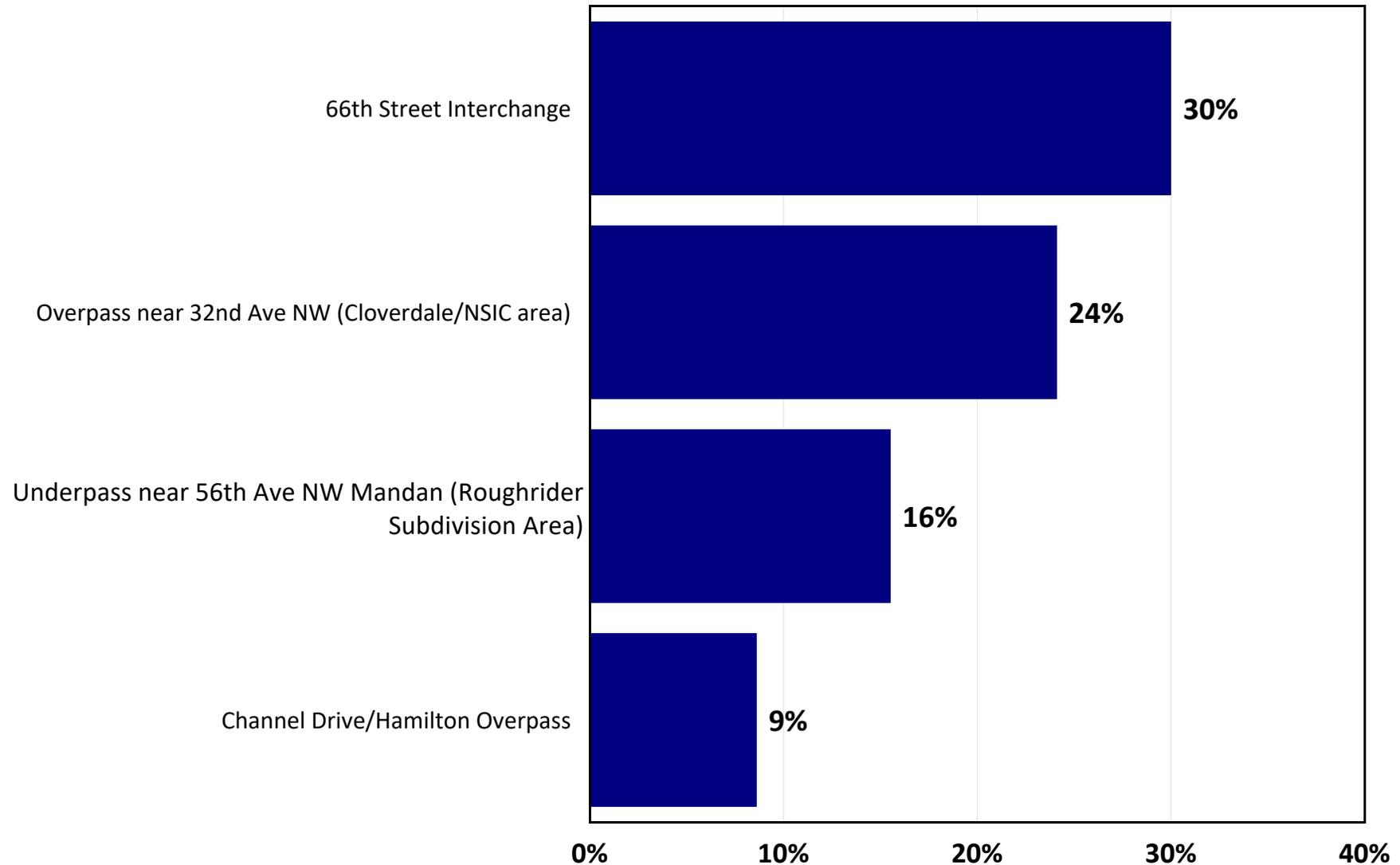
# Q8. Which I-94 access should be reconstructed?

by percentage of respondents (multiple selections could be made)



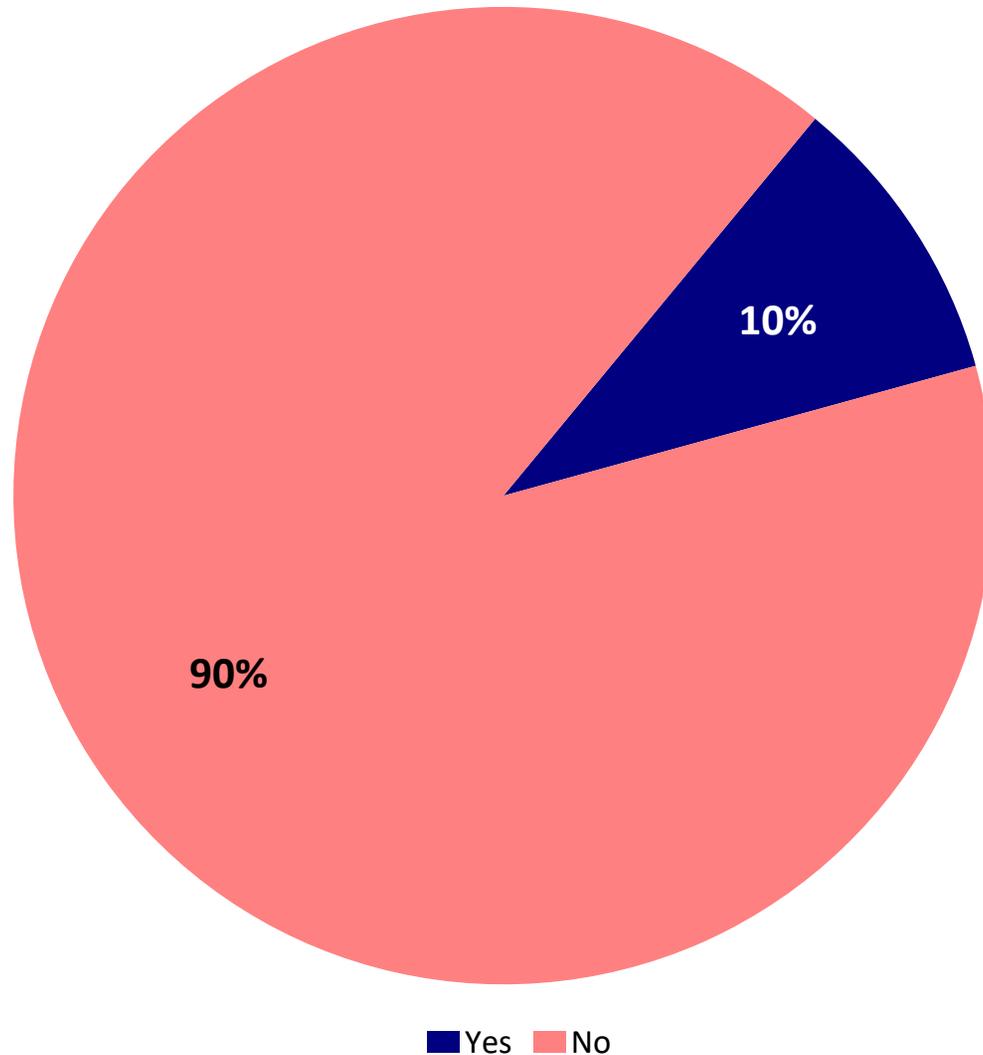
# Q8a. Preferred Location for a New I-94 Access/Overpass/Underpass

by percentage of respondents (multiple selections could be made)



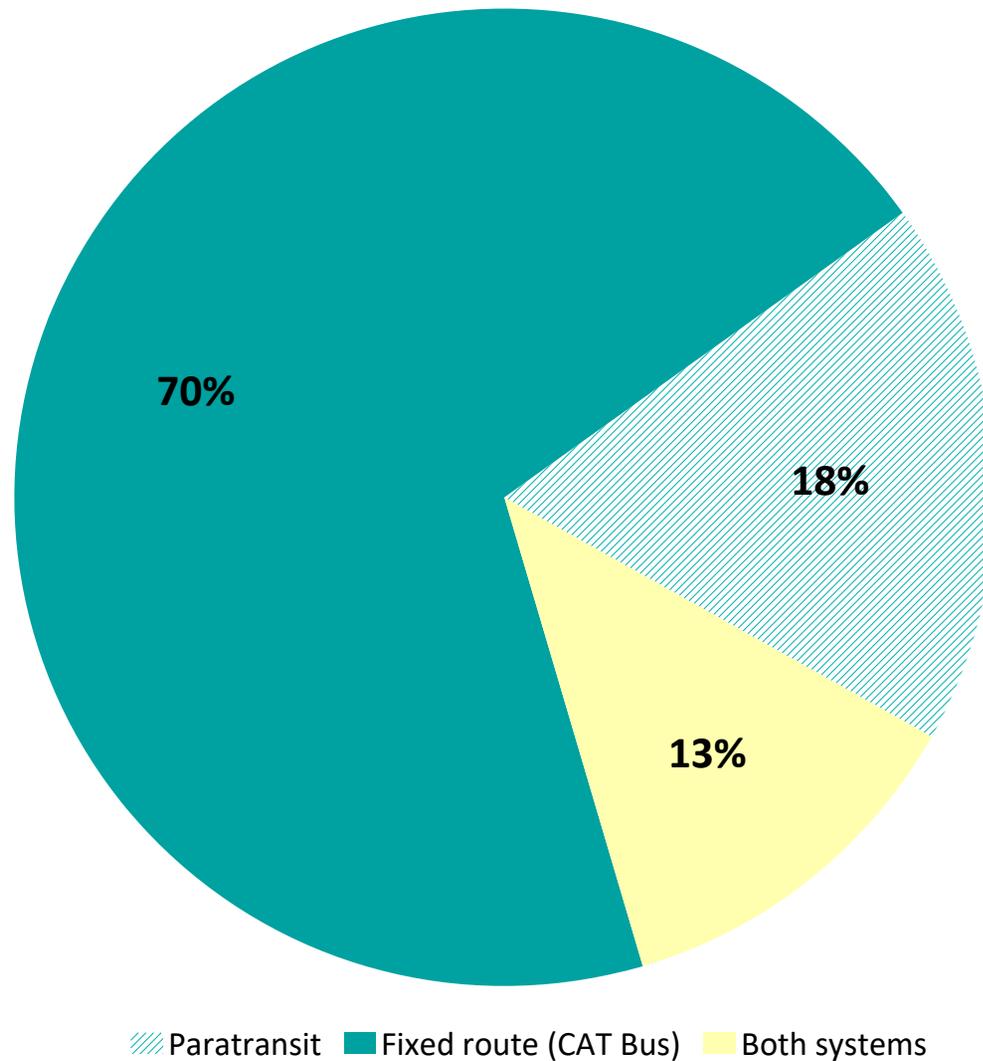
# Q9. Has anyone in your household used the bus system in the Bismarck-Mandan area?

by percentage of respondents (excluding "not provided")



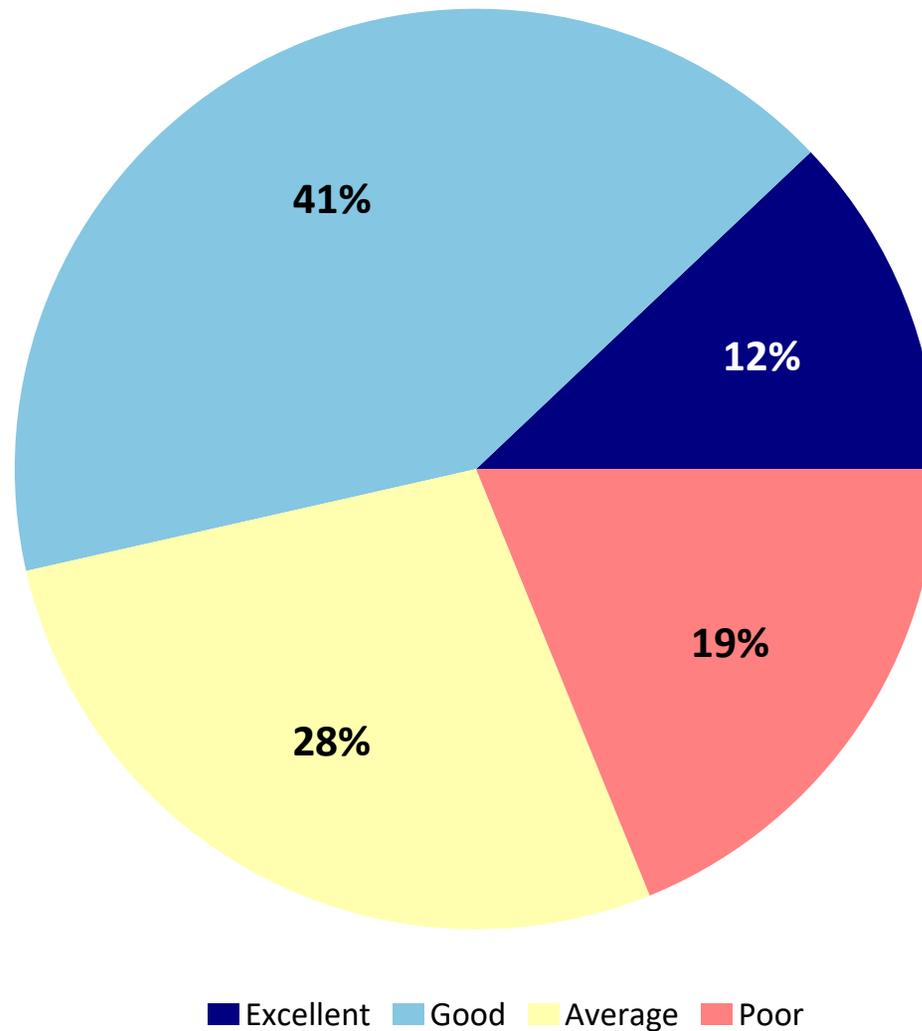
# Q9a. Of the available transit options, which have you primarily used?

by percentage of respondents who have used the bus system in the Bismarck-Mandan area (excluding “not provided”)



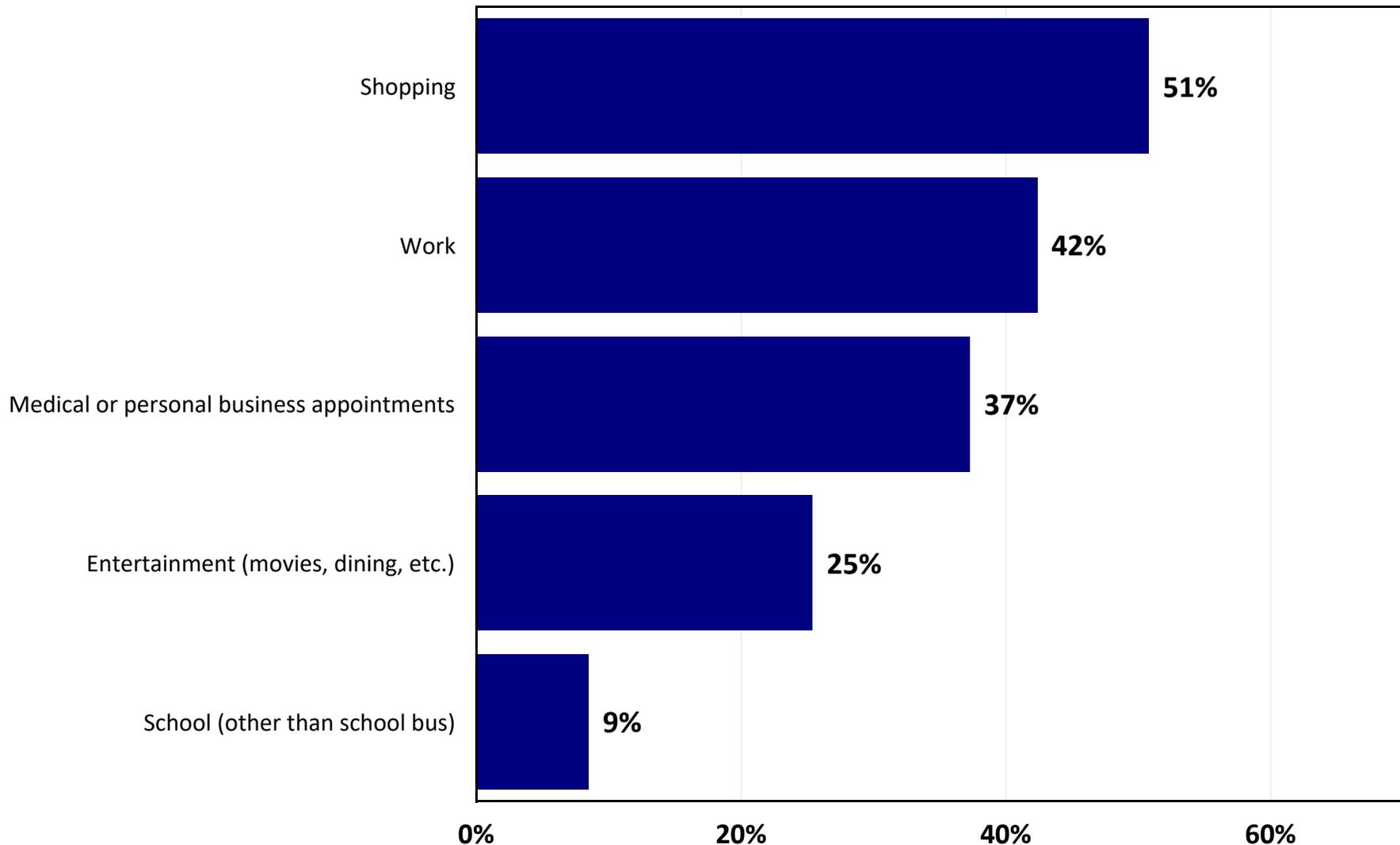
## Q9b. How would you rate the bus system?

by percentage of respondents who have used the bus system in the Bismarck-Mandan area (excluding “not provided”)



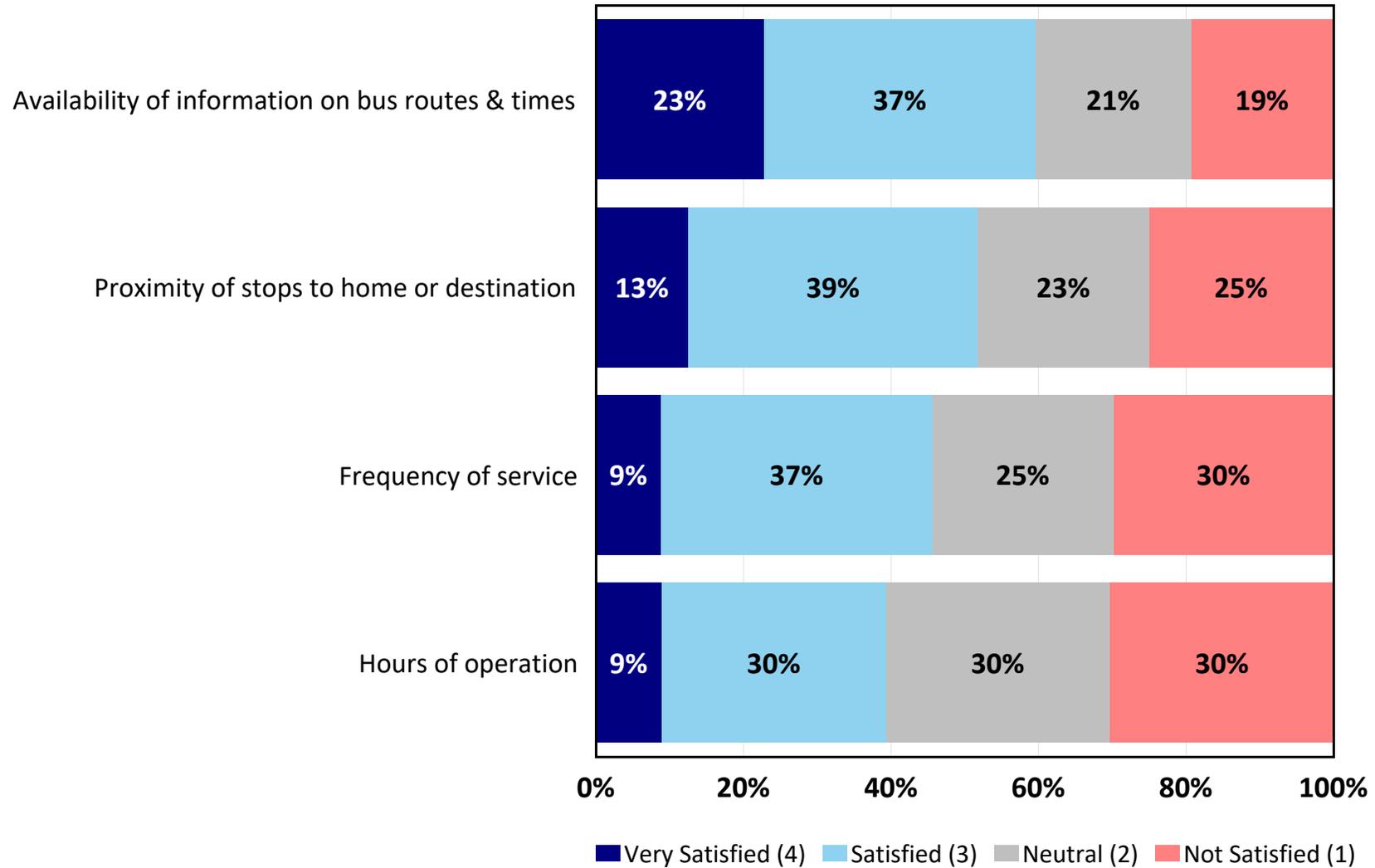
# Q9c. For which kinds of trips has someone in your household used the bus system?

by percentage of respondents who have used the bus system in the Bismarck-Mandan area  
(multiple selections could be made)



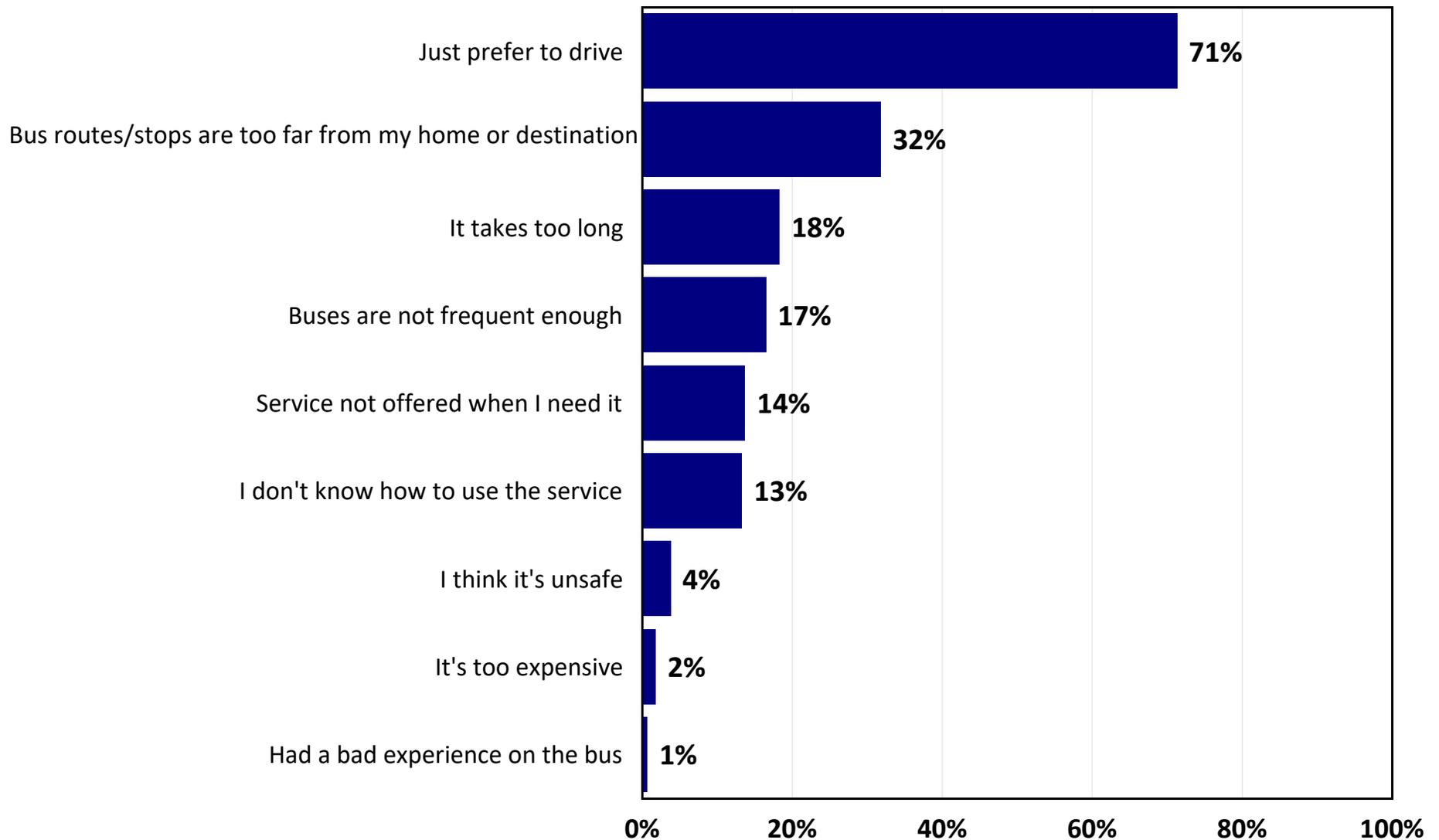
# Q9d. Satisfaction with Various Aspects of the Bus System

by percentage of respondents who have used the bus system in the Bismarck-Mandan area (excluding “not provided”)



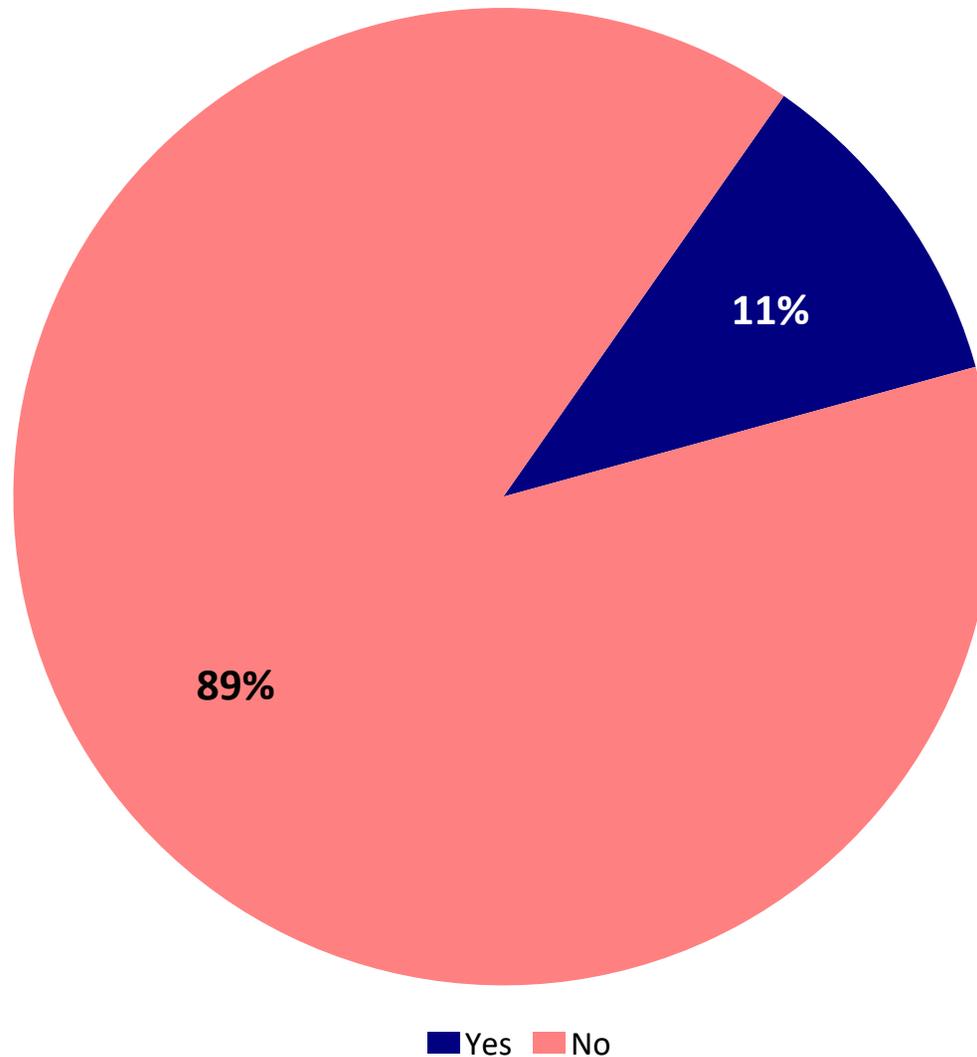
# Q10. Reasons Why Households Do Not Ride Public Transit/Bus System More Often

by percentage of respondents (multiple selections could be made)



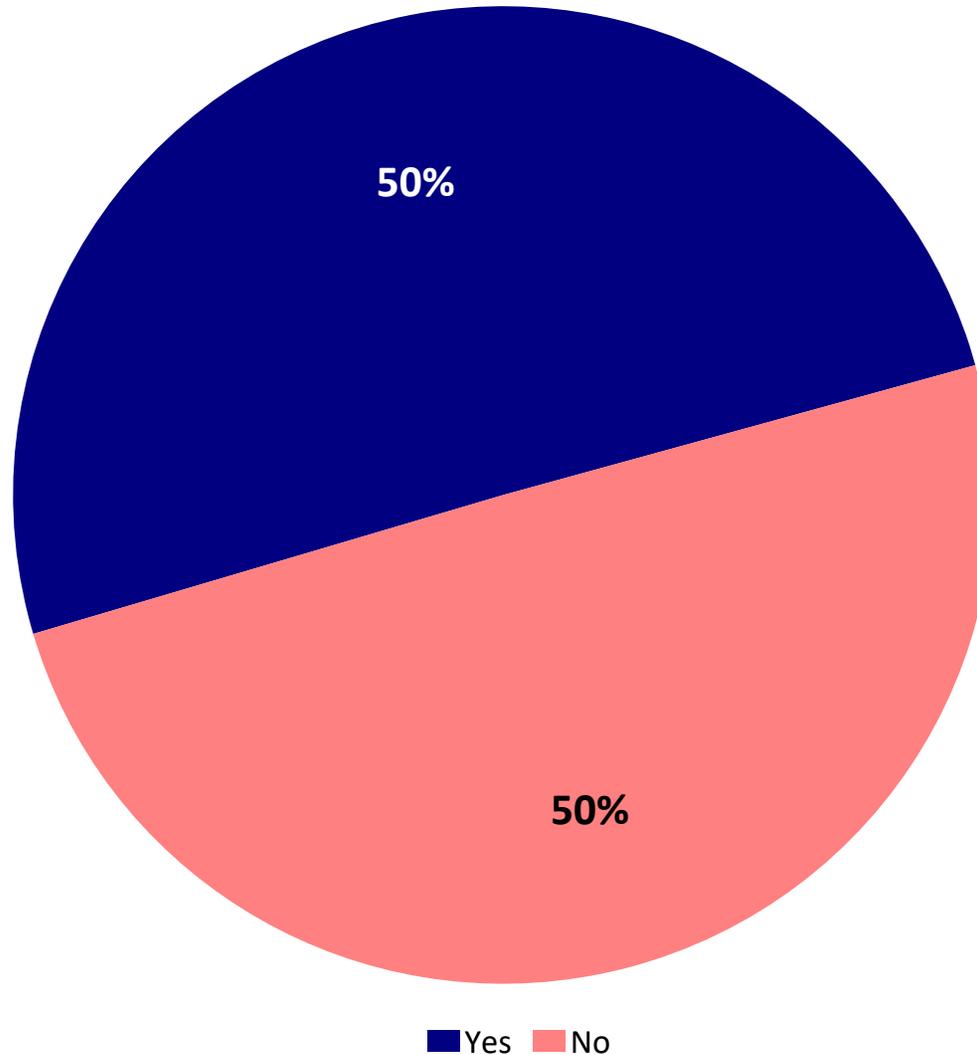
# Q11. Are you, or is anyone in your household, dependent on transit or friends and relatives to get where you/they need to go?

by percentage of respondents



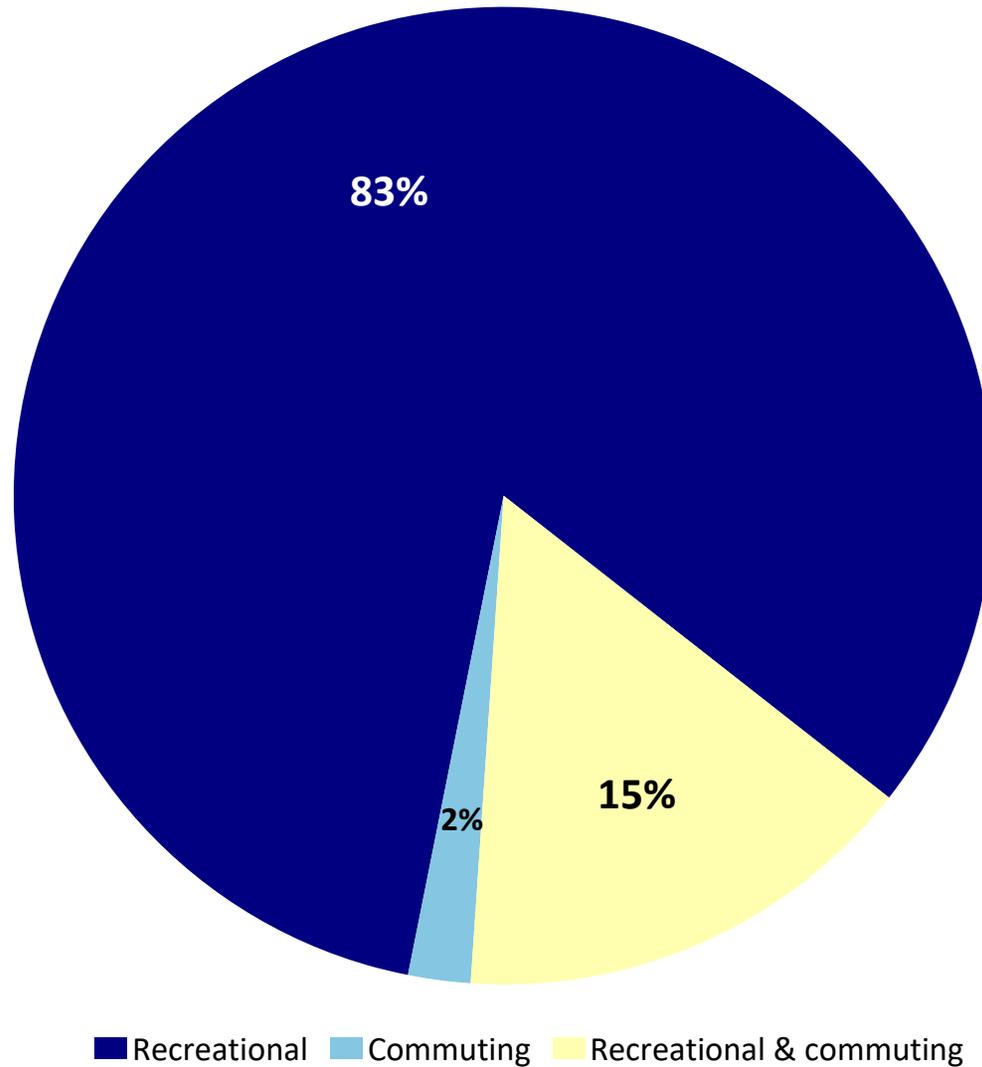
# Q12. Has anyone in your household ridden a bike in the last year?

by percentage of respondents (excluding “not provided”)



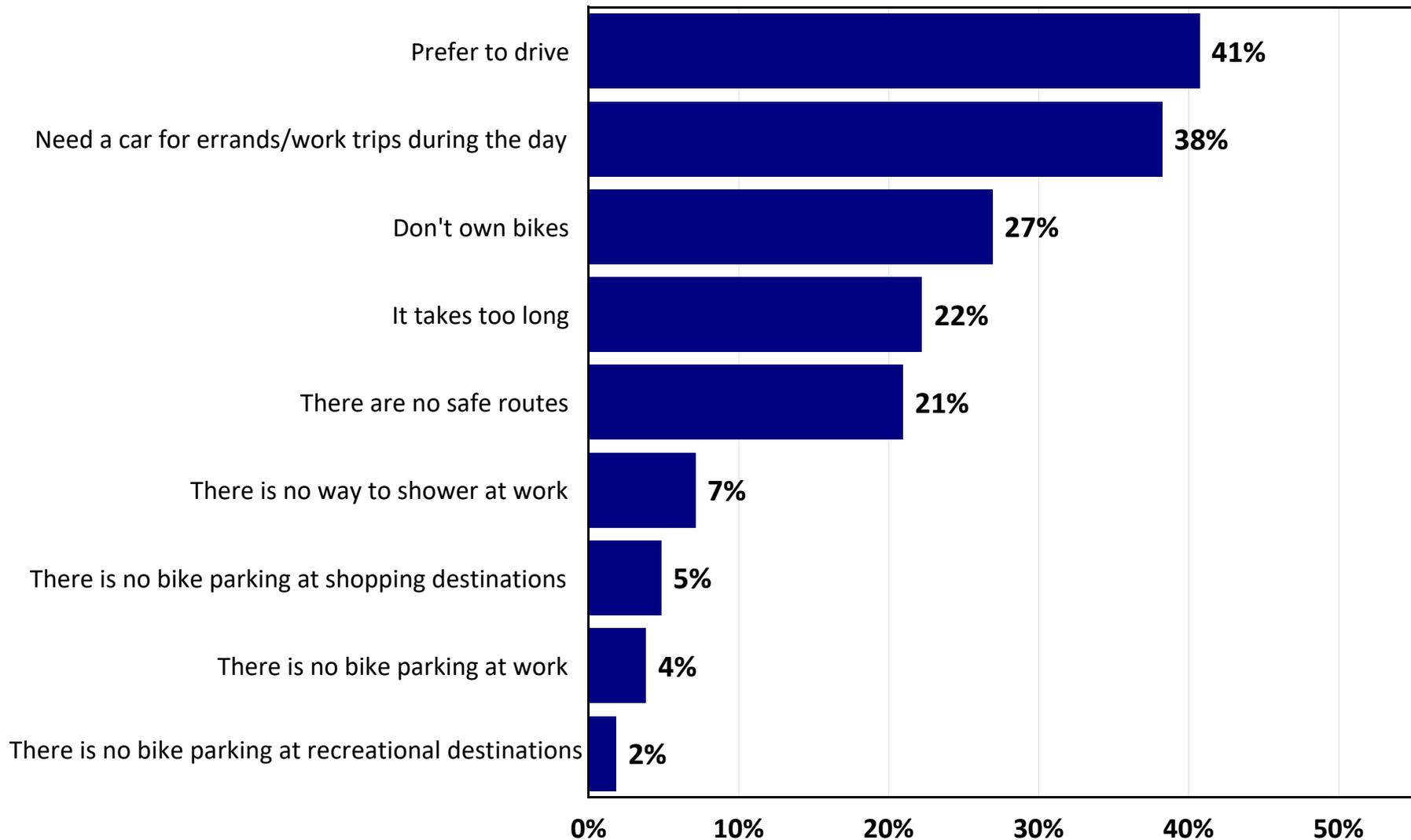
# Q12a. What was the primary reason for the bike use?

by percentage of respondents who have ridden a bike in the last year



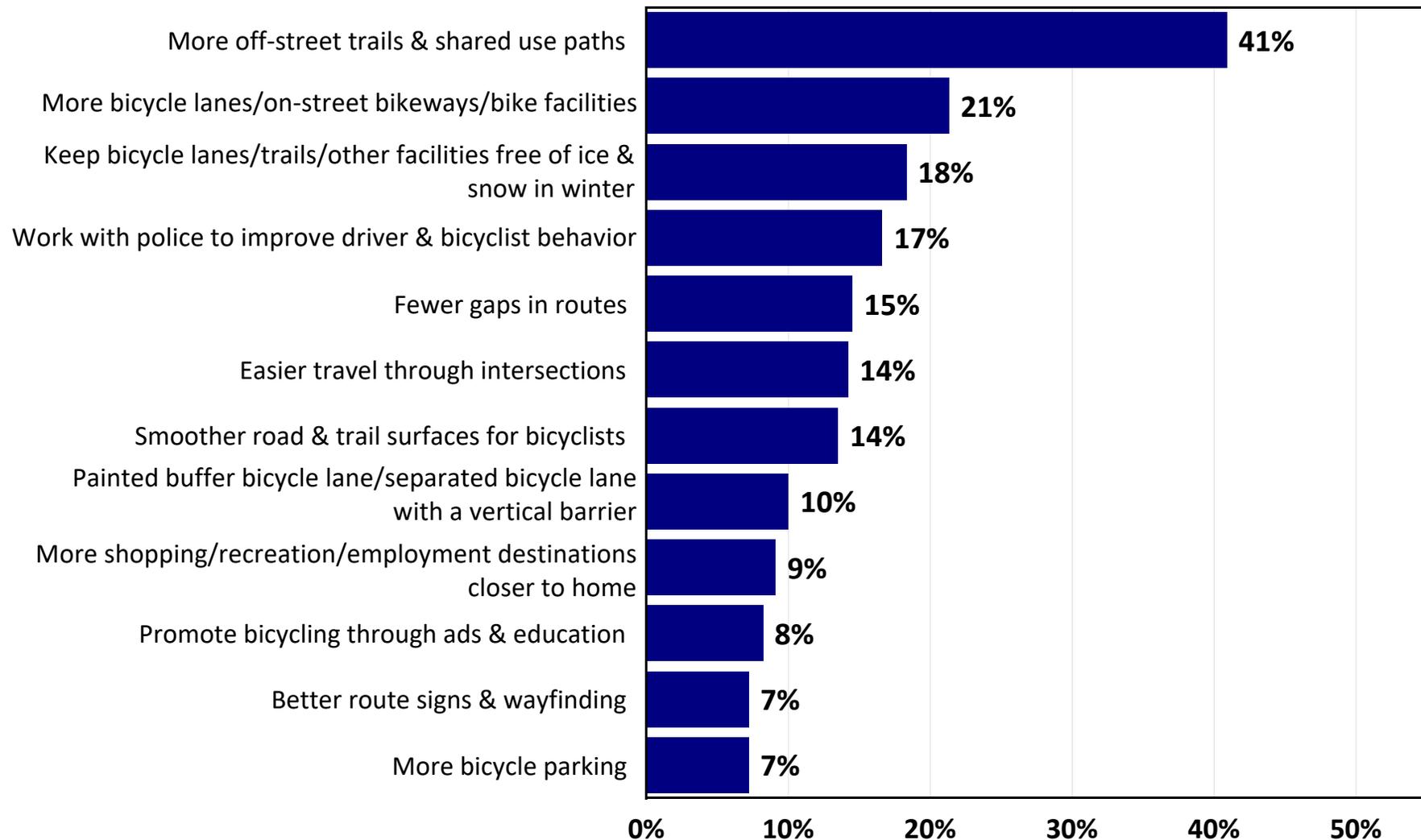
# Q13. Reasons Why Households Do Not Ride Bikes More Often

by percentage of respondents (multiple selections could be made)



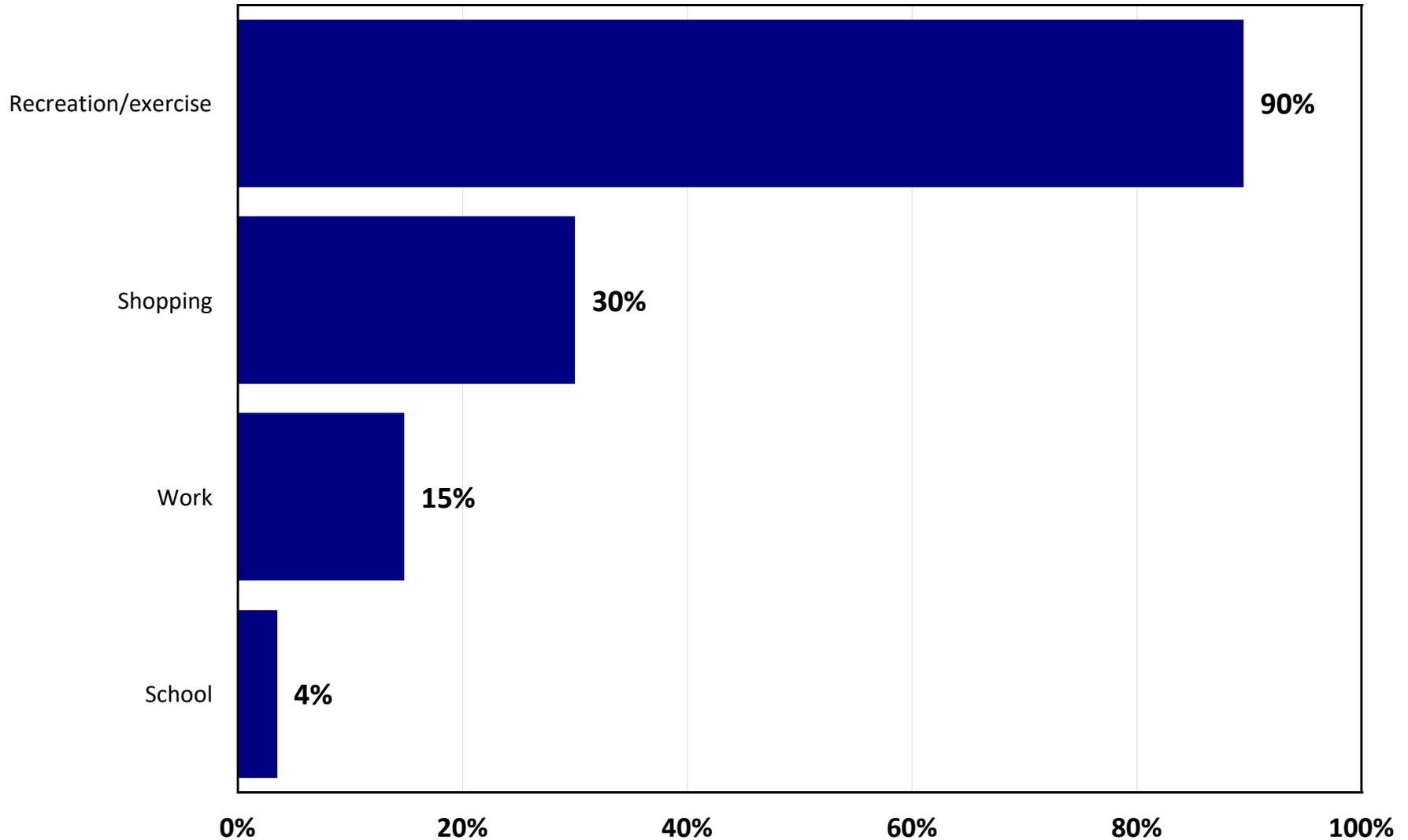
# Q14. Ideas For Making It Safer and More Convenient for More People to Choose to Ride a Bicycle for At Least Some of Their Trips

by percentage of respondents (three selections could be made)



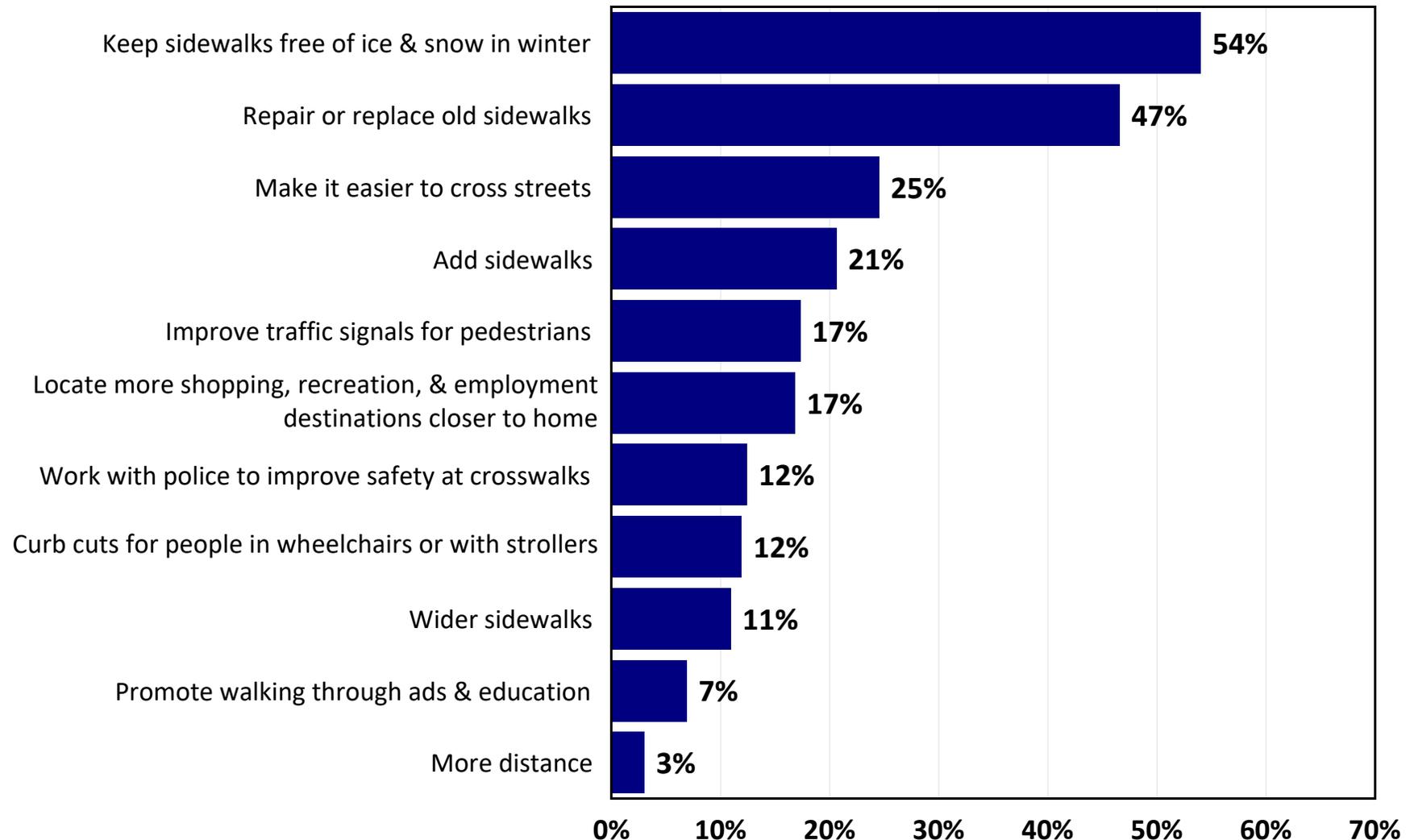
# Q15. Have you walked for any of these reasons in the past year?

by percentage of respondents (multiple selections could be made)



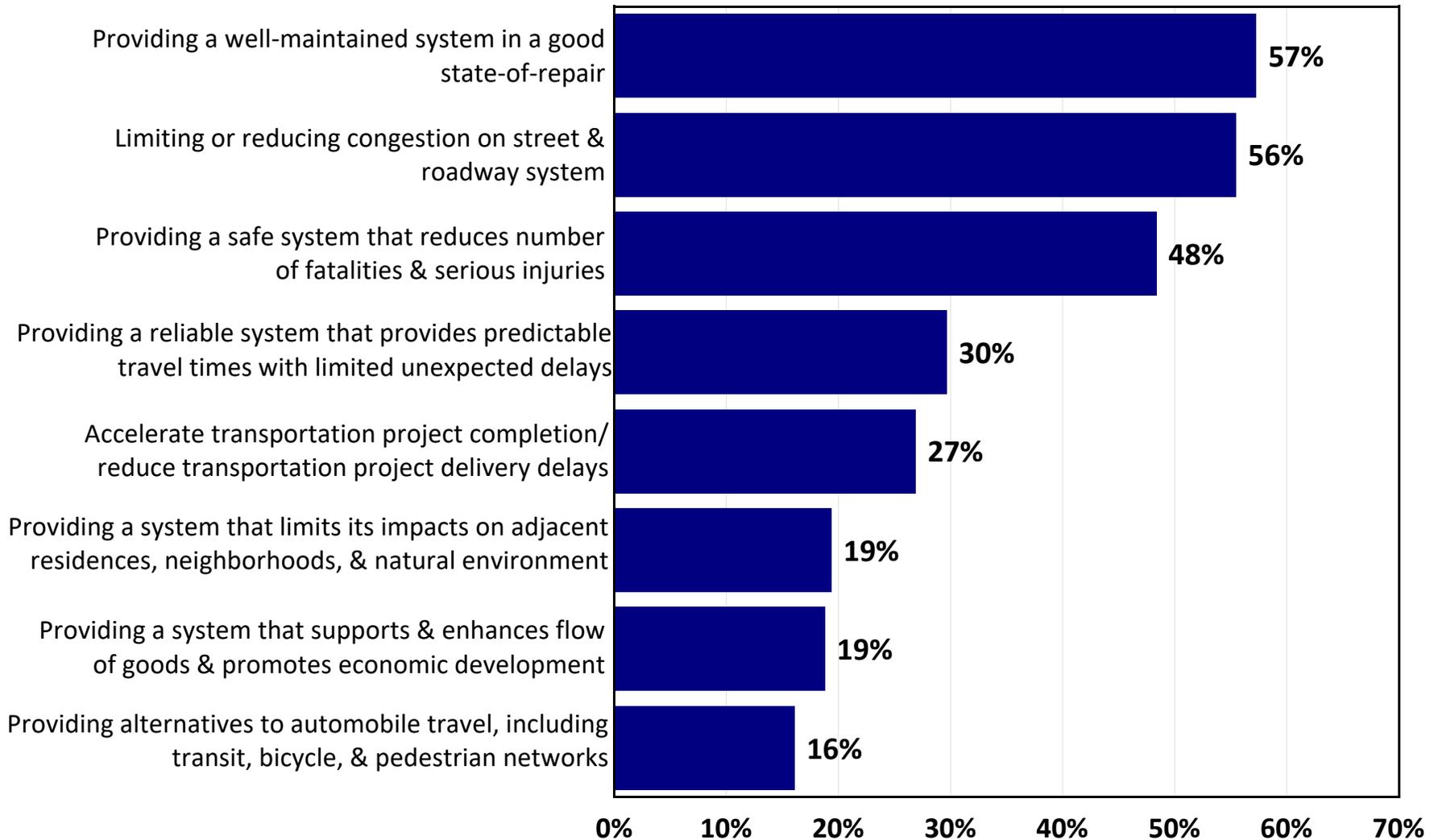
# Q16. Ideas For Making It Safer and More Convenient for More People to Walk

by percentage of respondents (multiple selections could be made)



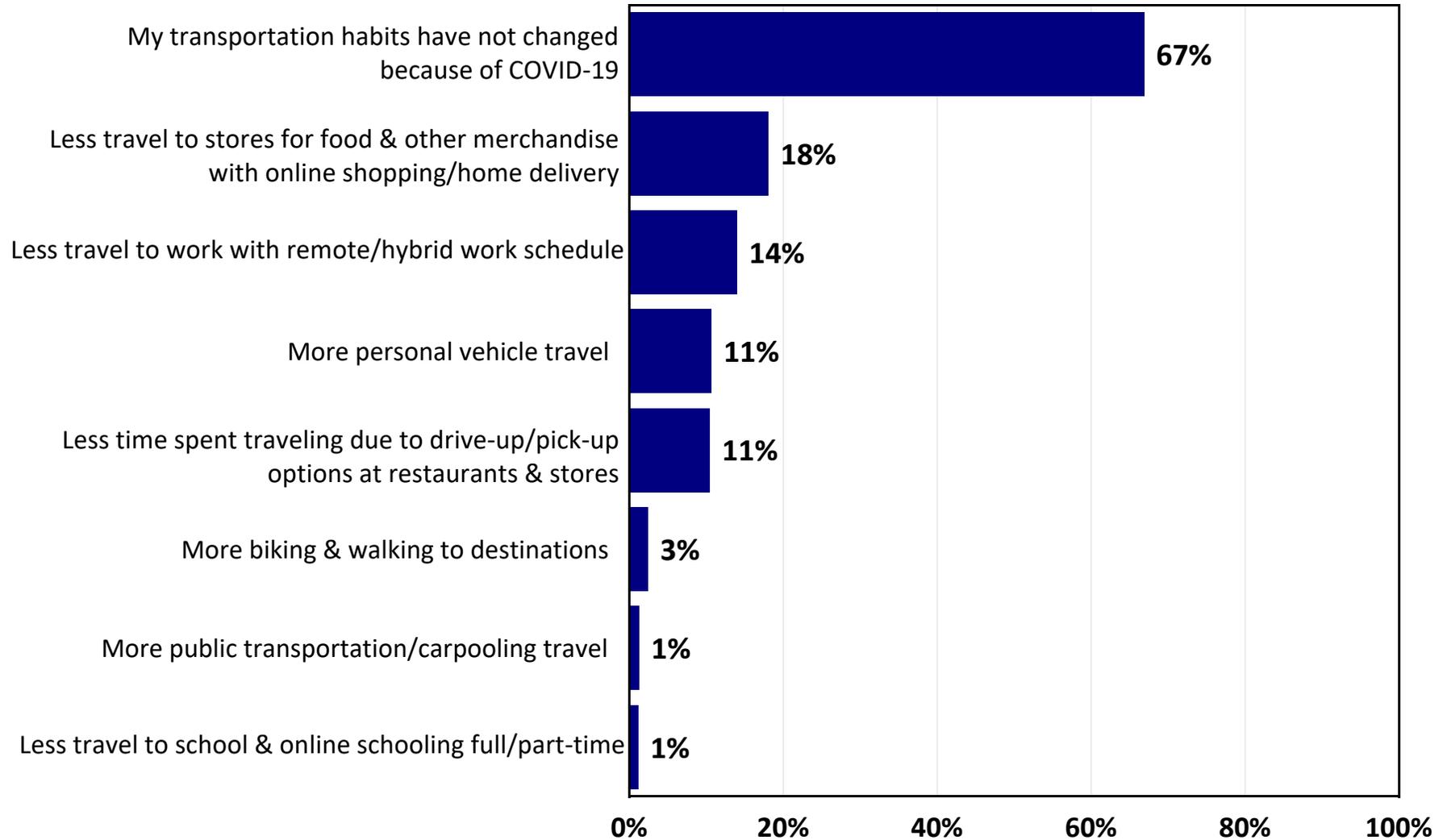
# Q17. Transportation Goal Areas That Respondents Think Should be Most Important to Bismarck-Mandan

by percentage of respondents (multiple selections could be made)



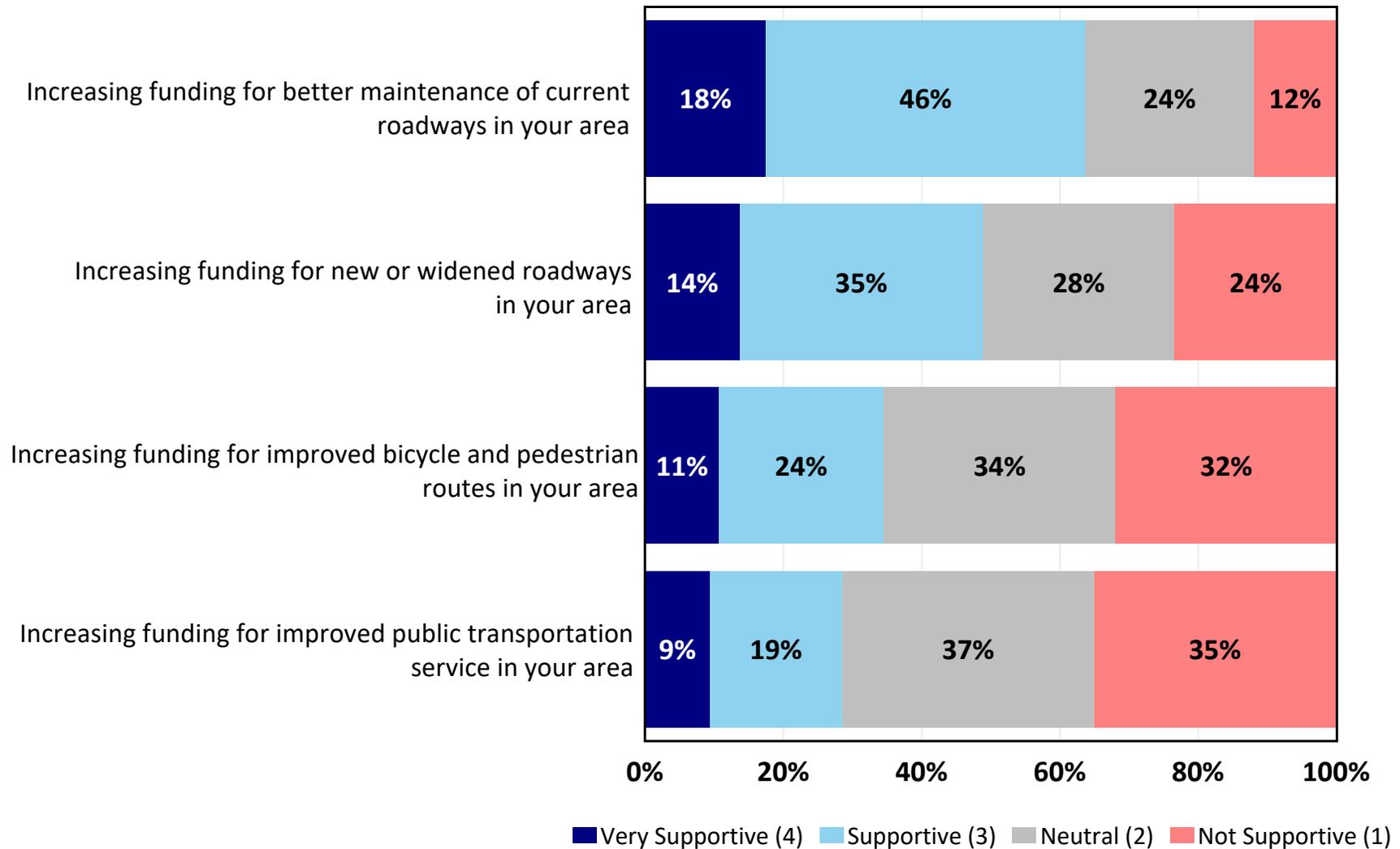
# Q18. How Respondents' Transportation Habits Have Changed Since the COVID-19 Pandemic

by percentage of respondents (multiple selections could be made)



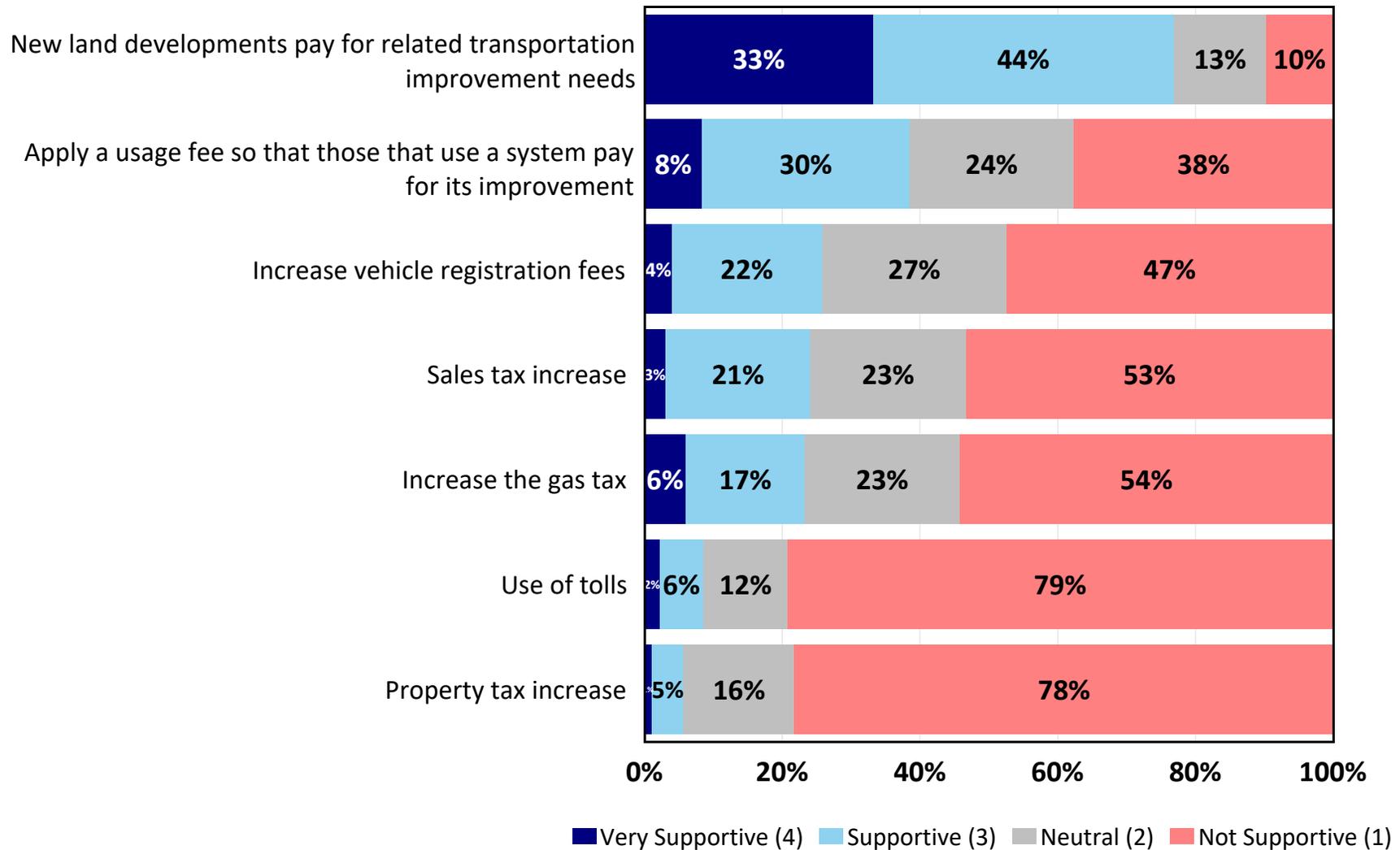
# Q19. Support for Providing Additional Funding for the Following Transportation Issues

by percentage of respondents (excluding “don’t know”)



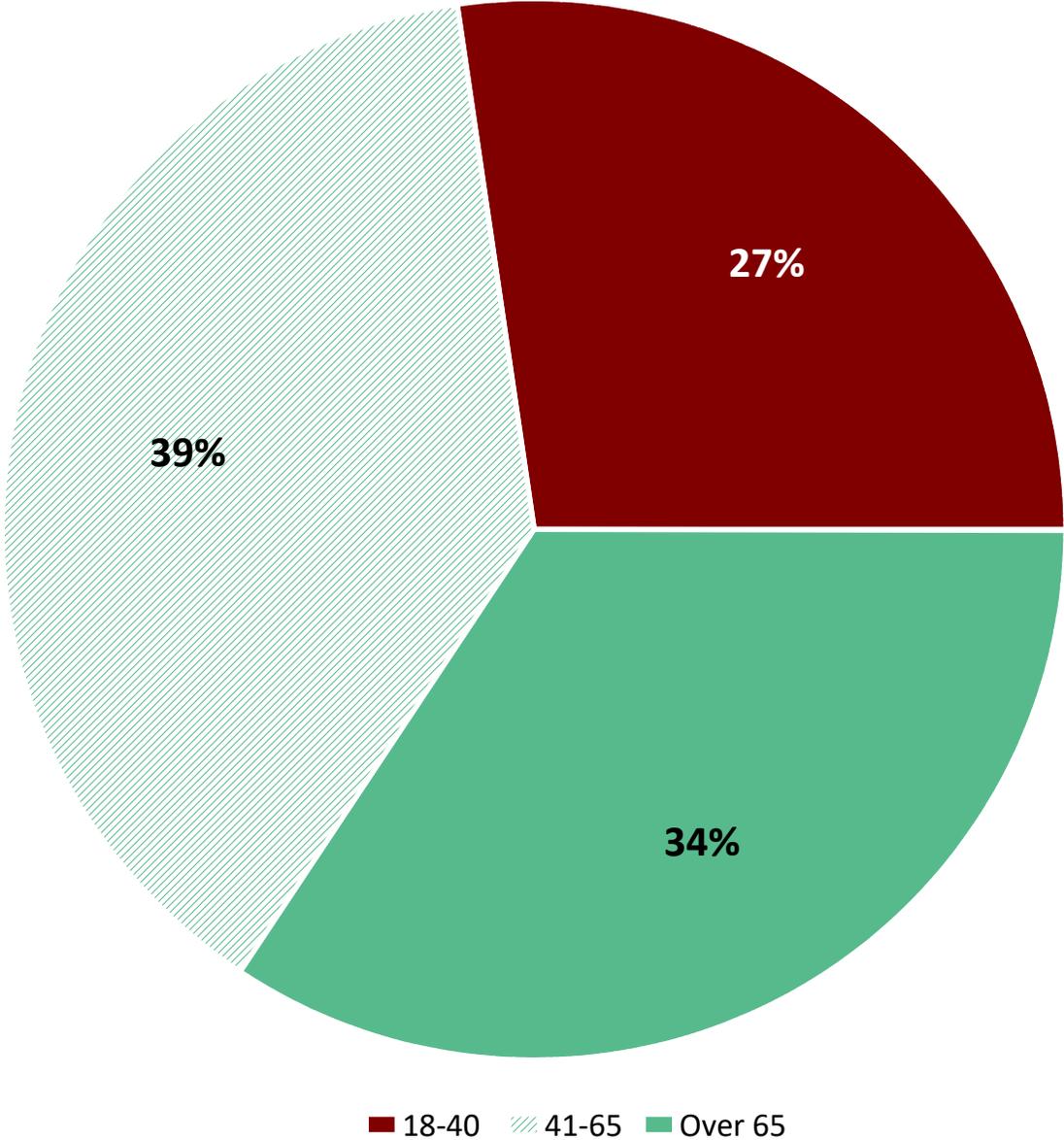
# Q20. Sources of Funding That Respondents Would Most Support

by percentage of respondents (excluding "don't know")



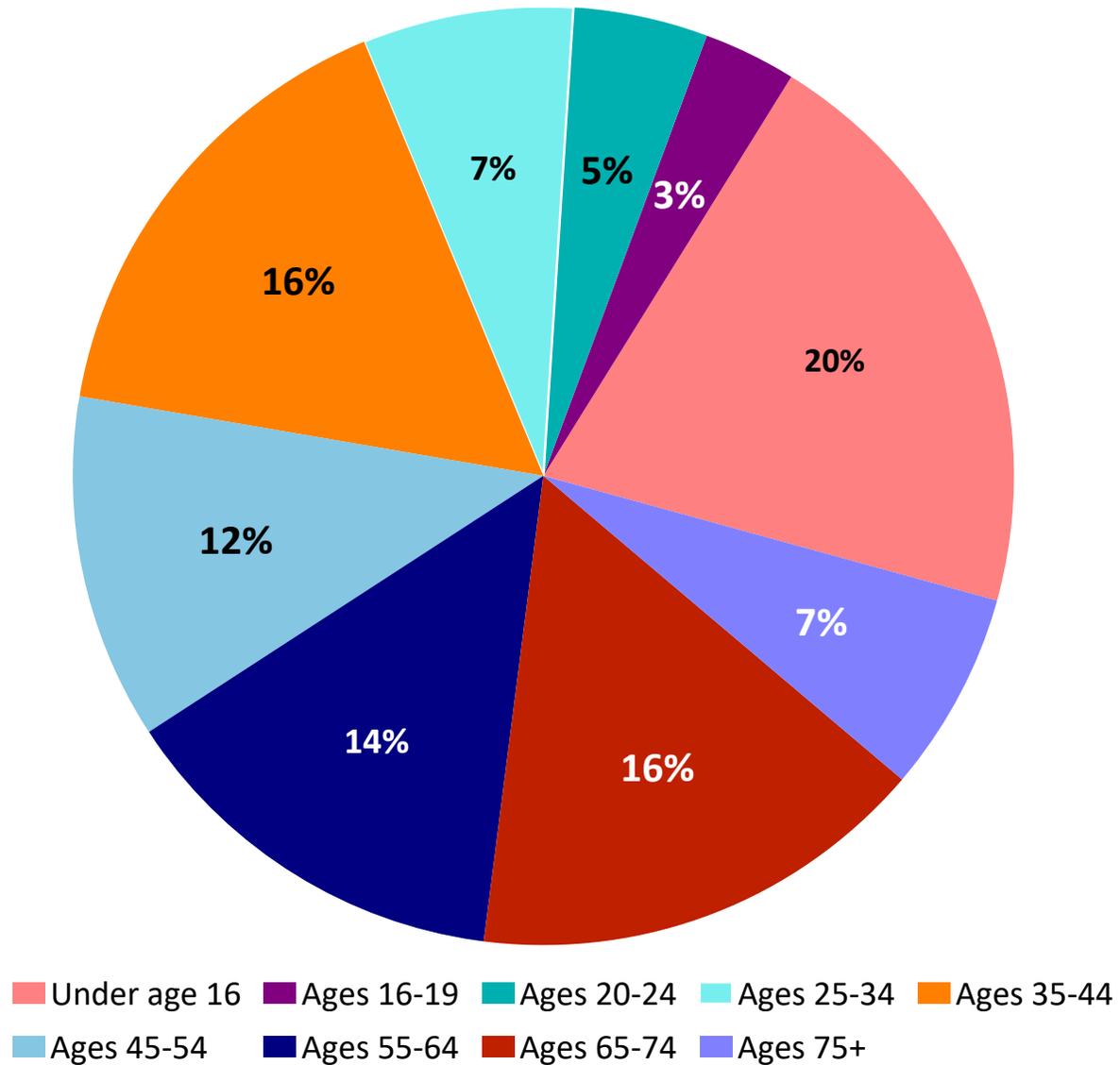
# Q21. Demographics: What is your age?

by percentage of respondents (excluding "not provided")



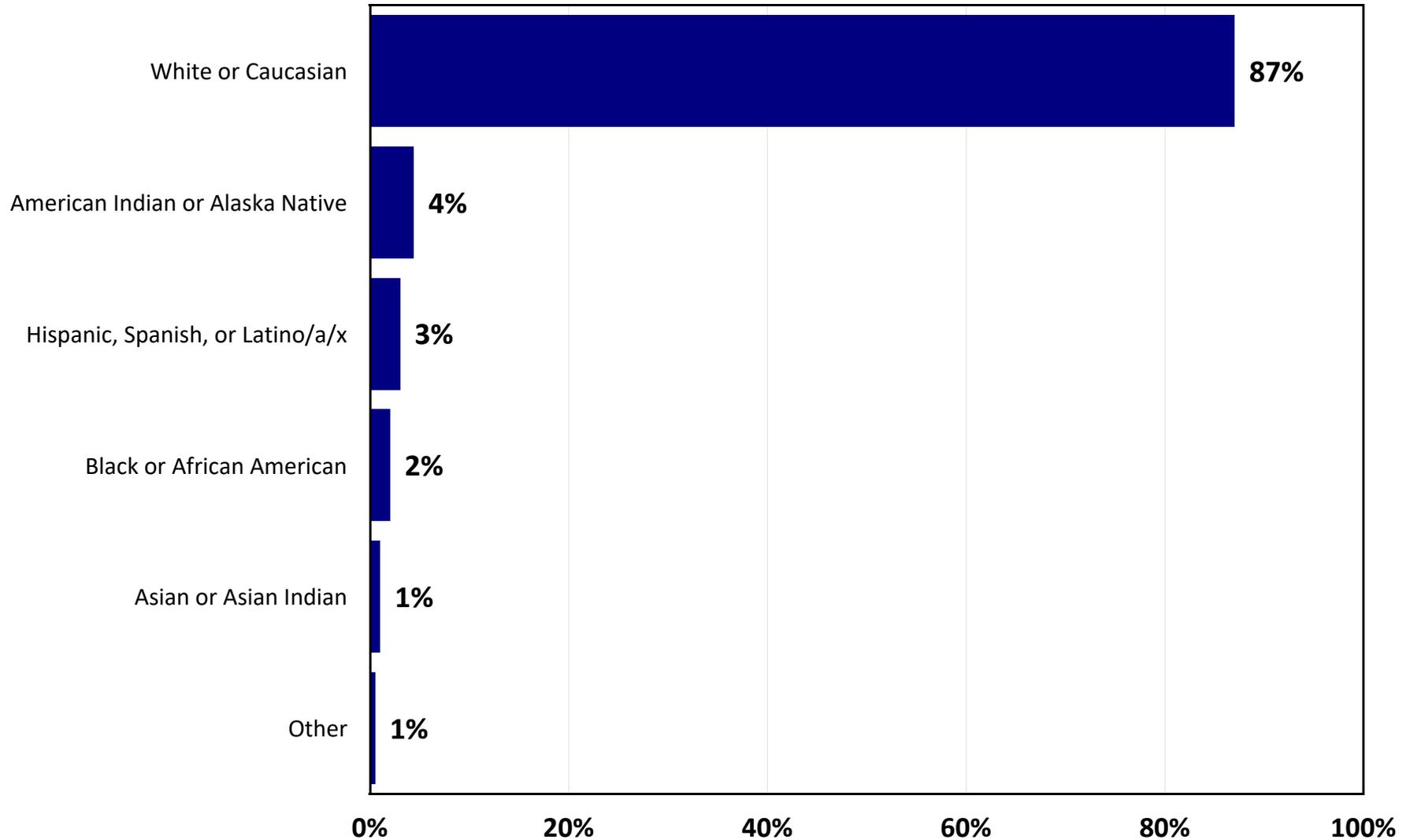
# Q22. Demographics: Ages of Household Members

by percentage of persons in the household



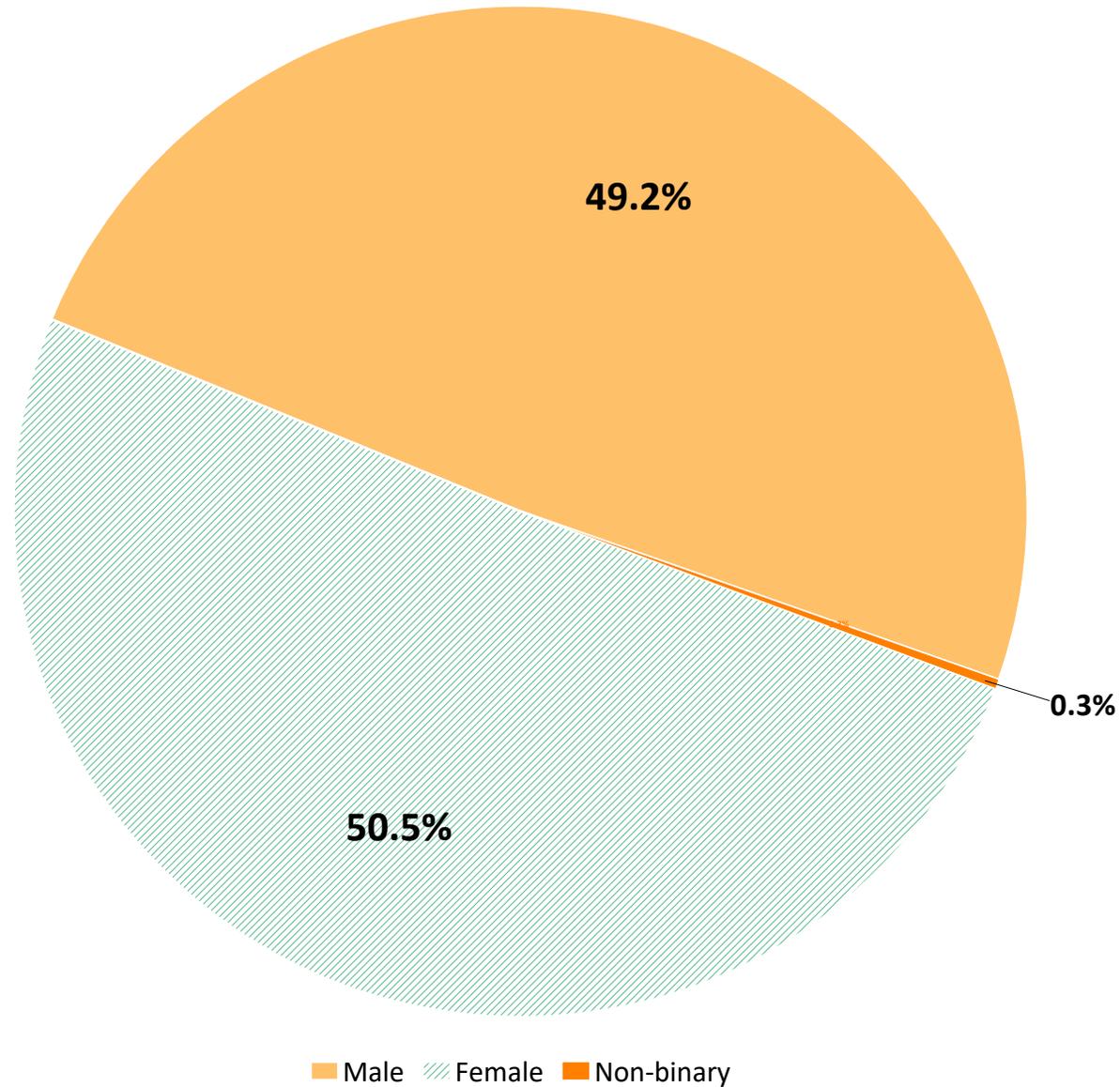
# Q23. Demographics: Race/Ethnicity

by percentage of respondents (multiple selections could be made)



## Q24. Demographics: What is your gender?

by percentage of respondents (excluding "not provided")





# 2 Importance-Satisfaction Analysis

# Importance-Satisfaction Analysis



## Overview

Today, community leaders have limited resources which need to be targeted to activities that are of the most benefit to their citizens. Two of the most important criteria for decision making are (1) to target resources toward services of the highest importance to citizens; and (2) to target resources toward those services where citizens are the least satisfied.

The Importance-Satisfaction (I-S) rating is a unique tool that allows public officials to better understand both of these highly important decision-making criteria for each of the services they are providing. The Importance-Satisfaction (I-S) rating is based on the concept that public agencies will maximize overall customer satisfaction by emphasizing improvements in those areas where the level of satisfaction is relatively low, and the perceived importance of the service is relatively high.

The rating is calculated by summing the percentage of responses for items selected as the first, second, and third most important services for the City to provide. The sum is then multiplied by 1 minus the percentage of respondents who indicated they were positively satisfied with the City's performance in the related area (the sum of the ratings of 4 and 5 on a 5-point scale excluding "Don't Know" responses). "Don't Know" responses are excluded from the calculation to ensure the satisfaction ratings among service categories are comparable.

$$\text{I-S Rating} = \text{Importance} \times (1 - \text{Satisfaction})$$

## Example of the Calculation

Respondents were asked to identify the transportation issues that are the most important to address. Nearly three-fourths (70.4%) of households selected "*flow of traffic at peak times*" as one of the most important transportation issues to address.

With regard to satisfaction, 21% of respondents surveyed rated "*flow of traffic at peak times*" as a "4" or "5" on a 5-point scale (where "5" means "Very Satisfied") excluding "Don't Know" responses. The I-S rating was calculated by multiplying the sum of the most important percentages by one minus the sum of the satisfaction percentages. In this example, 70.4% was multiplied by 79% (1-0.21). This calculation yielded an I-S rating of 0.5562, which ranked first out of fifteen transportation issues analyzed.

The maximum rating is 1.00 and would be achieved when 100% of the respondents select an item as one of their top three choices of importance and 0% indicate they are positively satisfied with the delivery of the service.

The lowest rating is 0.00 and could be achieved under either of the following two situations:

- If 100% of the respondents were positively satisfied with the delivery of the service
- If none (0%) of the respondents selected the service as one of the three most important areas.

# Importance-Satisfaction Analysis



## Interpreting the Ratings

Ratings that are greater than or equal to 0.20 identify areas that should receive significantly more emphasis. Ratings from 0.10 to 0.20 identify service areas that should receive increased emphasis. Ratings less than 0.10 should continue to receive the current level of emphasis.

- Definitely Increase Emphasis (I-S > 0.20)
- Increase Current Emphasis (I-S = 0.10 - 0.20)
- Maintain Current Emphasis (I-S < 0.10)

A table showing the results for the Bismarck-Mandan Regional Travel Study is provided on the following page.

## Importance-Satisfaction Rating

### 2023 Bismarck-Mandan Regional Travel Study

### Perceptions of Current Transportation Issues

| Category of Service                                       | Most Important % | Most Important Rank | Satisfaction % | Satisfaction Rank | Importance-Satisfaction Rating | I-S Rating Rank |
|---|------------------|---------------------|----------------|-------------------|--------------------------------|-----------------|
| <b>Very High Priority (IS &gt; .20)</b>                   |                  |                     |                |                   |                                |                 |
| Flow of traffic at peak times                             | 70%              | 1                   | 21%            | 14                | 0.5562                         | 1               |
| Attentiveness of other drivers                            | 41%              | 3                   | 13%            | 15                | 0.3519                         | 2               |
| Ease of North-South travel                                | 38%              | 4                   | 33%            | 13                | 0.2527                         | 3               |
| Maintenance of major roads in & around Bismarck-Mandan    | 41%              | 2                   | 44%            | 9                 | 0.2306                         | 4               |
| <b>High Priority (IS = .10-.20)</b>                       |                  |                     |                |                   |                                |                 |
| None  |                  |                     |                |                   |                                |                 |
| <b>Medium Priority (IS &lt; .10)</b>                      |                  |                     |                |                   |                                |                 |
| Safety & accessibility of bicycle facilities              | 10%              | 8                   | 36%            | 11                | 0.0661                         | 5               |
| Safety & accessibility of pedestrian facilities           | 12%              | 6                   | 45%            | 8                 | 0.0633                         | 6               |
| Amount of truck traffic                                   | 9%               | 11                  | 42%            | 10                | 0.0542                         | 7               |
| Safety & accessibility of transit facilities              | 8%               | 12                  | 33%            | 12                | 0.0533                         | 8               |
| Ease of East-West travel                                  | 10%              | 9                   | 51%            | 6                 | 0.0501                         | 9               |
| Ease of traveling between Bismarck & Mandan               | 11%              | 7                   | 63%            | 3                 | 0.0413                         | 10              |
| Ability to access Interstate 94                           | 12%              | 5                   | 68%            | 2                 | 0.0381                         | 11              |
| Ease of traveling between Bismarck & Lincoln              | 5%               | 13                  | 50%            | 7                 | 0.0268                         | 12              |
| Flow of traffic at non-peak times                         | 10%              | 10                  | 75%            | 1                 | 0.0251                         | 13              |
| Railroad crossings  | 3%               | 14                  | 59%            | 4                 | 0.0136                         | 14              |
| Ease of traveling between Bismarck-Lincoln & other cities | 3%               | 15                  | 57%            | 5                 | 0.0134                         | 15              |

**Note:** The I-S Rating is calculated by multiplying the "Most Important" % by (1-'Satisfaction' %)

#### Most Important %:

The "Most Important" percentage represents the sum of the first, second, and third most important responses for each item. Respondents were asked to identify the transportation issues that are the most important to address.

#### Satisfaction %:

The "Satisfaction" percentage represents the sum of the ratings "5" and "4" excluding 'don't knows.' Respondents ranked their level of satisfaction with each of the items on a scale of 5 to 1 with "5" being Very Satisfied and "1" being Very Dissatisfied.

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# Tabular Data

**Q1. Perceptions of Current Transportation Issues: Please rate your satisfaction with the following:**

(N=607)

|   | Very satisfied | Satisfied | Neutral | Dissatisfied | Very dissatisfied | Don't know |
|---|----------------|-----------|---------|--------------|-------------------|------------|
| Q1-1. Flow of traffic at peak times                             | 1.8%           | 18.9%     | 20.9%   | 39.7%        | 17.1%             | 1.5%       |
| Q1-2. Flow of traffic at non-peak times                         | 24.9%          | 49.8%     | 15.8%   | 7.4%         | 1.5%              | 0.7%       |
| Q1-3. Maintenance of major roads in & around Bismarck-Mandan    | 6.8%           | 36.7%     | 23.2%   | 23.6%        | 8.7%              | 1.0%       |
| Q1-4. Ability to access Interstate 94                           | 20.1%          | 47.6%     | 17.1%   | 11.4%        | 3.3%              | 0.5%       |
| Q1-5. Amount of truck traffic                                   | 6.8%           | 34.8%     | 40.4%   | 12.0%        | 4.3%              | 1.8%       |
| Q1-6. Ease of traveling between Bismarck-Lincoln & other cities | 6.3%           | 45.8%     | 26.7%   | 9.7%         | 3.0%              | 8.6%       |
| Q1-7. Ease of traveling between Bismarck & Mandan               | 12.7%          | 49.8%     | 21.1%   | 13.0%        | 2.3%              | 1.2%       |
| Q1-8. Ease of traveling between Bismarck & Lincoln              | 6.3%           | 36.6%     | 28.2%   | 10.4%        | 3.6%              | 15.0%      |
| Q1-9. Ease of North-South travel                                | 4.4%           | 28.0%     | 21.3%   | 31.0%        | 14.2%             | 1.2%       |
| Q1-10. Ease of East-West travel                                 | 6.6%           | 44.2%     | 28.7%   | 15.7%        | 3.8%              | 1.2%       |
| Q1-11. Attentiveness of other drivers                           | 1.3%           | 11.7%     | 23.1%   | 36.7%        | 26.0%             | 1.2%       |
| Q1-12. Railroad crossings                                       | 9.9%           | 47.1%     | 33.3%   | 6.3%         | 0.7%              | 2.8%       |
| Q1-13. Safety & accessibility of bicycle facilities             | 5.3%           | 23.9%     | 34.1%   | 11.7%        | 5.3%              | 19.8%      |
| Q1-14. Safety & accessibility of pedestrian facilities          | 5.8%           | 33.9%     | 33.8%   | 11.5%        | 3.1%              | 11.9%      |
| Q1-15. Safety & accessibility of transit facilities             | 4.6%           | 18.5%     | 36.2%   | 7.1%         | 2.6%              | 31.0%      |

**WITHOUT "DON'T KNOW"****Q1. Perceptions of Current Transportation Issues: Please rate your satisfaction with the following: (without "don't know")**

(N=607)

|   | Very satisfied | Satisfied | Neutral | Dissatisfied | Very dissatisfied |
|---|----------------|-----------|---------|--------------|-------------------|
| Q1-1. Flow of traffic at peak times                             | 1.8%           | 19.2%     | 21.2%   | 40.3%        | 17.4%             |
| Q1-2. Flow of traffic at non-peak times                         | 25.0%          | 50.1%     | 15.9%   | 7.5%         | 1.5%              |
| Q1-3. Maintenance of major roads in & around Bismarck-Mandan    | 6.8%           | 37.1%     | 23.5%   | 23.8%        | 8.8%              |
| Q1-4. Ability to access Interstate 94                           | 20.2%          | 47.8%     | 17.2%   | 11.4%        | 3.3%              |
| Q1-5. Amount of truck traffic                                   | 6.9%           | 35.4%     | 41.1%   | 12.2%        | 4.4%              |
| Q1-6. Ease of traveling between Bismarck-Lincoln & other cities | 6.8%           | 50.1%     | 29.2%   | 10.6%        | 3.2%              |
| Q1-7. Ease of traveling between Bismarck & Mandan               | 12.8%          | 50.3%     | 21.3%   | 13.2%        | 2.3%              |
| Q1-8. Ease of traveling between Bismarck & Lincoln              | 7.4%           | 43.0%     | 33.1%   | 12.2%        | 4.3%              |
| Q1-9. Ease of North-South travel                                | 4.5%           | 28.3%     | 21.5%   | 31.3%        | 14.3%             |
| Q1-10. Ease of East-West travel                                 | 6.7%           | 44.7%     | 29.0%   | 15.8%        | 3.8%              |
| Q1-11. Attentiveness of other drivers                           | 1.3%           | 11.8%     | 23.3%   | 37.2%        | 26.3%             |
| Q1-12. Railroad crossings                                       | 10.2%          | 48.5%     | 34.2%   | 6.4%         | 0.7%              |
| Q1-13. Safety & accessibility of bicycle facilities             | 6.6%           | 29.8%     | 42.5%   | 14.6%        | 6.6%              |
| Q1-14. Safety & accessibility of pedestrian facilities          | 6.5%           | 38.5%     | 38.3%   | 13.1%        | 3.6%              |
| Q1-15. Safety & accessibility of transit facilities             | 6.7%           | 26.7%     | 52.5%   | 10.3%        | 3.8%              |

**Q2. Which THREE items from the list in Question 1 do you think are the most important transportation issues to address?**

| <u>Q2. Top choice</u>                                     | <u>Number</u> | <u>Percent</u> |
|---|---------------|----------------|
| Flow of traffic at peak times                             | 232           | 38.2 %         |
| Flow of traffic at non-peak times                         | 8             | 1.3 %          |
| Maintenance of major roads in & around Bismarck-Mandan    | 90            | 14.8 %         |
| Ability to access Interstate 94                           | 11            | 1.8 %          |
| Amount of truck traffic                                   | 6             | 1.0 %          |
| Ease of traveling between Bismarck-Lincoln & other cities | 4             | 0.7 %          |
| Ease of traveling between Bismarck & Mandan               | 19            | 3.1 %          |
| Ease of traveling between Bismarck & Lincoln              | 10            | 1.6 %          |
| Ease of North-South travel                                | 88            | 14.5 %         |
| Ease of East-West travel                                  | 6             | 1.0 %          |
| Attentiveness of other drivers                            | 77            | 12.7 %         |
| Railroad crossings  | 1             | 0.2 %          |
| Safety & accessibility of bicycle facilities              | 9             | 1.5 %          |
| Safety & accessibility of pedestrian facilities           | 13            | 2.1 %          |
| Safety & accessibility of transit facilities              | 17            | 2.8 %          |
| None chosen   | 16            | 2.6 %          |
| Total   | 607           | 100.0 %        |

**Q2. Which THREE items from the list in Question 1 do you think are the most important transportation issues to address?**

| <u>Q2. 2nd choice</u>                                     | <u>Number</u> | <u>Percent</u> |
|---|---------------|----------------|
| Flow of traffic at peak times                             | 115           | 18.9 %         |
| Flow of traffic at non-peak times                         | 29            | 4.8 %          |
| Maintenance of major roads in & around Bismarck-Mandan    | 87            | 14.3 %         |
| Ability to access Interstate 94                           | 29            | 4.8 %          |
| Amount of truck traffic                                   | 19            | 3.1 %          |
| Ease of traveling between Bismarck-Lincoln & other cities | 5             | 0.8 %          |
| Ease of traveling between Bismarck & Mandan               | 20            | 3.3 %          |
| Ease of traveling between Bismarck & Lincoln              | 8             | 1.3 %          |
| Ease of North-South travel                                | 80            | 13.2 %         |
| Ease of East-West travel                                  | 30            | 4.9 %          |
| Attentiveness of other drivers                            | 88            | 14.5 %         |
| Railroad crossings  | 9             | 1.5 %          |
| Safety & accessibility of bicycle facilities              | 25            | 4.1 %          |
| Safety & accessibility of pedestrian facilities           | 24            | 4.0 %          |
| Safety & accessibility of transit facilities              | 7             | 1.2 %          |
| None chosen   | 32            | 5.3 %          |
| Total   | 607           | 100.0 %        |

**Q2. Which THREE items from the list in Question 1 do you think are the most important transportation issues to address?**

| <u>Q2. 3rd choice</u>                                     | <u>Number</u> | <u>Percent</u> |
|---|---------------|----------------|
| Flow of traffic at peak times                             | 81            | 13.3 %         |
| Flow of traffic at non-peak times                         | 24            | 4.0 %          |
| Maintenance of major roads in & around Bismarck-Mandan    | 73            | 12.0 %         |
| Ability to access Interstate 94                           | 32            | 5.3 %          |
| Amount of truck traffic                                   | 32            | 5.3 %          |
| Ease of traveling between Bismarck-Lincoln & other cities | 10            | 1.6 %          |
| Ease of traveling between Bismarck & Mandan               | 29            | 4.8 %          |
| Ease of traveling between Bismarck & Lincoln              | 15            | 2.5 %          |
| Ease of North-South travel                                | 60            | 9.9 %          |
| Ease of East-West travel                                  | 27            | 4.4 %          |
| Attentiveness of other drivers                            | 81            | 13.3 %         |
| Railroad crossings  | 10            | 1.6 %          |
| Safety & accessibility of bicycle facilities              | 29            | 4.8 %          |
| Safety & accessibility of pedestrian facilities           | 33            | 5.4 %          |
| Safety & accessibility of transit facilities              | 24            | 4.0 %          |
| None chosen   | 47            | 7.7 %          |
| Total   | 607           | 100.0 %        |

**SUM OF TOP 3 CHOICES**

**Q2. Which THREE items from the list in Question 1 do you think are the most important transportation issues to address? (top 3)**

| <u>Q2. Sum of top 3 choices</u>                           | <u>Number</u> | <u>Percent</u> |
|---|---------------|----------------|
| Flow of traffic at peak times                             | 428           | 70.5 %         |
| Flow of traffic at non-peak times                         | 61            | 10.0 %         |
| Maintenance of major roads in & around Bismarck-Mandan    | 250           | 41.2 %         |
| Ability to access Interstate 94                           | 72            | 11.9 %         |
| Amount of truck traffic                                   | 57            | 9.4 %          |
| Ease of traveling between Bismarck-Lincoln & other cities | 19            | 3.1 %          |
| Ease of traveling between Bismarck & Mandan               | 68            | 11.2 %         |
| Ease of traveling between Bismarck & Lincoln              | 33            | 5.4 %          |
| Ease of North-South travel                                | 228           | 37.6 %         |
| Ease of East-West travel                                  | 63            | 10.4 %         |
| Attentiveness of other drivers                            | 246           | 40.5 %         |
| Railroad crossings  | 20            | 3.3 %          |
| Safety & accessibility of bicycle facilities              | 63            | 10.4 %         |
| Safety & accessibility of pedestrian facilities           | 70            | 11.5 %         |
| Safety & accessibility of transit facilities              | 48            | 7.9 %          |
| None chosen   | 16            | 2.6 %          |
| Total   | 1742          |                |

**Q3. What method of transportation do you typically use to get to and from routine destinations, including work?**

| <u>Q3. What method of transportation do you typically use</u> | <u>Number</u> | <u>Percent</u> |
|---|---------------|----------------|
| Drive alone   | 578           | 95.2 %         |
| Carpool/vanpool   | 66            | 10.9 %         |
| Walk  | 61            | 10.0 %         |
| Bicycle   | 40            | 6.6 %          |
| Transit/bus   | 12            | 2.0 %          |
| Other   | 5             | 0.8 %          |
| Total   | 762           |                |

**Q3-6. Other:**

| <u>Q3-6. Other</u> | <u>Number</u> | <u>Percent</u> |
|--------------------|---------------|----------------|
| Motorcycle         | 3             | 60.0 %         |
| Uber               | 2             | 40.0 %         |
| Total              | 5             | 100.0 %        |

**Q4. How many vehicles (i.e., car, truck, SUV, motorcycle, scooter) are in your household?**

| Q4. How many vehicles are in your household | Number | Percent |
|---|--------|---------|
| 0   | 8      | 1.3 %   |
| 1   | 115    | 18.9 %  |
| 2   | 241    | 39.7 %  |
| 3   | 138    | 22.7 %  |
| 4   | 57     | 9.4 %   |
| 5   | 19     | 3.1 %   |
| 6+  | 15     | 2.5 %   |
| Not provided                                | 14     | 2.3 %   |
| Total                                       | 607    | 100.0 % |

**WITHOUT "NOT PROVIDED"****Q4. How many vehicles (i.e., car, truck, SUV, motorcycle, scooter) are in your household? (without "not provided")**

| Q4. How many vehicles are in your household | Number | Percent |
|---|--------|---------|
| 0   | 8      | 1.3 %   |
| 1   | 115    | 19.4 %  |
| 2   | 241    | 40.6 %  |
| 3   | 138    | 23.3 %  |
| 4   | 57     | 9.6 %   |
| 5   | 19     | 3.2 %   |
| 6+  | 15     | 2.5 %   |
| Total                                       | 593    | 100.0 % |

**Q5. Which two (2) corridors do you think should be the top priorities for improvement in Burleigh County?**

| Q5. What corridors should be top priorities for improvement in Burleigh County | Number | Percent |
|--|--------|---------|
| 43rd Avenue  | 23     | 3.8 %   |
| Century Avenue   | 39     | 6.4 %   |
| Divide Avenue  | 64     | 10.5 %  |
| Bismarck Avenue  | 18     | 3.0 %   |
| University Drive/ND Highway 804  | 5      | 0.8 %   |
| Washington Street  | 262    | 43.2 %  |
| 4th Street   | 33     | 5.4 %   |
| Interstate 94  | 35     | 5.8 %   |
| Lincoln Road   | 32     | 5.3 %   |
| The 7th St./9th St. one-way pair   | 93     | 15.3 %  |
| US Highway 83/71st Ave.  | 37     | 6.1 %   |
| State St./US Highway 83  | 115    | 18.9 %  |
| Centennial Road  | 56     | 9.2 %   |
| Tyler Parkway  | 57     | 9.4 %   |
| Yegan Road   | 33     | 5.4 %   |
| 66th St.   | 39     | 6.4 %   |
| Main Ave.  | 77     | 12.7 %  |
| Other  | 52     | 8.6 %   |
| Don't know   | 43     | 7.1 %   |
| Total  | 1113   |         |

**WITHOUT "DON'T KNOW"****Q5. Which two (2) corridors do you think should be the top priorities for improvement in Burleigh County? (without "don't know")**

| Q5. What corridors should be top priorities for improvement in Burleigh County | Number | Percent |
|--|--------|---------|
| Washington Street  | 262    | 46.5 %  |
| State St./US Highway 83  | 115    | 20.4 %  |
| The 7th St./9th St. one-way pair   | 93     | 16.5 %  |
| Main Ave.  | 77     | 13.7 %  |
| Divide Avenue  | 64     | 11.3 %  |
| Tyler Parkway  | 57     | 10.1 %  |
| Centennial Road  | 56     | 9.9 %   |
| Other  | 52     | 9.2 %   |
| 66th St.   | 39     | 6.9 %   |
| Century Avenue   | 39     | 6.9 %   |
| US Highway 83/71st Ave.  | 37     | 6.6 %   |
| Interstate 94  | 35     | 6.2 %   |
| 4th Street   | 33     | 5.9 %   |
| Yegan Road   | 33     | 5.9 %   |
| Lincoln Road   | 32     | 5.7 %   |
| 43rd Avenue  | 23     | 4.1 %   |
| Bismarck Avenue  | 18     | 3.2 %   |
| University Drive/ND Highway 804  | 5      | 0.9 %   |
| Total  | 1070   |         |

**Q5-18. Other:**

| <u>Q5-18. Other</u>   | <u>Number</u> | <u>Percent</u> |
|---|---------------|----------------|
| Burleigh Ave  | 5             | 9.8 %          |
| River Road  | 4             | 7.8 %          |
| Expressway  | 4             | 7.8 %          |
| 19th St   | 3             | 5.9 %          |
| Ave C   | 2             | 3.9 %          |
| Hwy 10  | 2             | 3.9 %          |
| Ottawa Street   | 1             | 2.0 %          |
| Better walking paths without traffic noise                  | 1             | 2.0 %          |
| Northern Connection to River Road (57th Ave)                | 1             | 2.0 %          |
| N 19th around Hay Creek area                                | 1             | 2.0 %          |
| Broadway  | 1             | 2.0 %          |
| Another North South arterial west of Washington             | 1             | 2.0 %          |
| Intersection of 66th and Apple Creek Rd                     | 1             | 2.0 %          |
| Additional bridge across Missouri River north of Bismarck   | 1             | 2.0 %          |
| Coleman from 43rd to Tarelle                                | 1             | 2.0 %          |
| Between Washing and U Mary                                  | 1             | 2.0 %          |
| Highway 10 East   | 1             | 2.0 %          |
| S 12th St   | 1             | 2.0 %          |
| Intersection of Century & Tyler Parkway                     | 1             | 2.0 %          |
| Calgary Ave   | 1             | 2.0 %          |
| Terrible traffic light timing at 43rd Ave                   | 1             | 2.0 %          |
| Burnt Boat/River Road                                       | 1             | 2.0 %          |
| Get road over the river on north side of town               | 1             | 2.0 %          |
| Make new road from 83rd to Centennial                       | 1             | 2.0 %          |
| LaSalle   | 1             | 2.0 %          |
| State Street is way too busy. Need bridge to Mandan North   |               |                |
| Bismarck  | 1             | 2.0 %          |
| River Road north of Main St                                 | 1             | 2.0 %          |
| Loop from south to north without stops                      | 1             | 2.0 %          |
| 80th St NE  | 1             | 2.0 %          |
| Ohawa   | 1             | 2.0 %          |
| Rosser traffic  | 1             | 2.0 %          |
| Another north and south                                     | 1             | 2.0 %          |
| Burnt Boat Dr needs lights down the hill to River Road      | 1             | 2.0 %          |
| 26th Street   | 1             | 2.0 %          |
| River crossing needed further north to match growth of Bis- |               |                |
| Man   | 1             | 2.0 %          |
| Timing of stoplights on Expressway                          | 1             | 2.0 %          |
| <u>North Bridge</u>   | <u>1</u>      | <u>2.0 %</u>   |
| Total   | 51            | 100.0 %        |

**Q6. Which of the two (2) corridors do you think should be the top priority for improvement in Morton County?**

Q6. What corridors should be top priorities for improvement in Morton County

|                           | Number | Percent |
|---------------------------|--------|---------|
| Main Street               | 109    | 18.0 %  |
| 10th Ave. SW/ND Highway 6 | 14     | 2.3 %   |
| Memorial Highway          | 198    | 32.6 %  |
| Division St.              | 20     | 3.3 %   |
| Sunset Dr.                | 102    | 16.8 %  |
| 3rd St. SE/SW             | 26     | 4.3 %   |
| Collins Road              | 43     | 7.1 %   |
| 19th St. SE/SW            | 10     | 1.6 %   |
| Old Red Trail             | 69     | 11.4 %  |
| Highway 1806              | 54     | 8.9 %   |
| 6th Ave. SE/ND            | 17     | 2.8 %   |
| Other                     | 14     | 2.3 %   |
| Don't know                | 218    | 35.9 %  |
| Total                     | 894    |         |

**WITHOUT "DON'T KNOW"**

**Q6. Which of the two (2) corridors do you think should be the top priority for improvement in Morton County? (without "don't know")**

Q6. What corridors should be top priorities for improvement in Morton County

|                           | Number | Percent |
|---------------------------|--------|---------|
| Memorial Highway          | 198    | 50.9 %  |
| Main Street               | 108    | 27.8 %  |
| Sunset Dr.                | 102    | 26.2 %  |
| Old Red Trail             | 69     | 17.7 %  |
| Highway 1806              | 54     | 13.9 %  |
| Collins Road              | 43     | 11.1 %  |
| 3rd St. SE/SW             | 26     | 6.7 %   |
| Division St.              | 20     | 5.1 %   |
| 6th Ave. SE/ND            | 17     | 4.4 %   |
| 10th Ave. SW/ND Highway 6 | 14     | 3.6 %   |
| Other                     | 14     | 3.6 %   |
| 19th St. SE/SW            | 10     | 2.6 %   |
| Total                     | 675    |         |

**Q7. Overall, how would you rate the Bismarck-Mandan area roadway and street system?**

| Q7. How would you rate Bismarck-Mandan area roadway & street system | Number | Percent |
|---|--------|---------|
| Excellent   | 25     | 4.1 %   |
| Good  | 256    | 42.2 %  |
| Average   | 252    | 41.5 %  |
| Poor  | 65     | 10.7 %  |
| Not provided  | 9      | 1.5 %   |
| Total   | 607    | 100.0 % |

**WITHOUT "NOT PROVIDED"****Q7. Overall, how would you rate the Bismarck-Mandan area roadway and street system? (without "not provided")**

| Q7. How would you rate Bismarck-Mandan area roadway & street system | Number | Percent |
|---|--------|---------|
| Excellent   | 25     | 4.2 %   |
| Good  | 256    | 42.8 %  |
| Average   | 252    | 42.1 %  |
| Poor  | 65     | 10.9 %  |
| Total   | 598    | 100.0 % |

**Q8. Which I-94 access should be reconstructed?**

| <u>Q8. Which I-94 access should be reconstructed</u> | <u>Number</u> | <u>Percent</u> |
|--|---------------|----------------|
| Tyler Parkway/Burnt Boat Road                        | 170           | 28.0 %         |
| State Street Interchange                             | 156           | 25.7 %         |
| Sunset Drive Interchange                             | 125           | 20.6 %         |
| Midway I-94/I-194 Interchange                        | 112           | 18.5 %         |
| Mandan Avenue Interchange                            | 49            | 8.1 %          |
| McKenzie Interchange                                 | 39            | 6.4 %          |
| ND Highway 25 Interchange                            | 22            | 3.6 %          |
| Total  | 673           |                |

**Q8a. Which location would you prefer for a new I-94 access/overpass/underpass?**

| <u>Q8a. Which location would you prefer for a new I-94 access/overpass/underpass</u> | <u>Number</u> | <u>Percent</u> |
|--|---------------|----------------|
| 66th Street Interchange  | 182           | 30.0 %         |
| Overpass near 32nd Ave NW (Cloverdale/NSIC area)                                     | 146           | 24.1 %         |
| Underpass near 56th Ave NW Mandan (Roughrider Subdivision Area)                      | 94            | 15.5 %         |
| Other  | 55            | 9.1 %          |
| Channel Drive/Hamilton Overpass  | 52            | 8.6 %          |
| Total  | 529           |                |

**Q9. Has anyone in your household used the bus system in the Bismarck-Mandan area?**

| Q9. Has anyone in your household used bus system in Bismarck-Mandan area | Number | Percent |
|--|--------|---------|
| Yes  | 59     | 9.7 %   |
| No   | 539    | 88.8 %  |
| Not provided   | 9      | 1.5 %   |
| Total  | 607    | 100.0 % |

**WITHOUT "NOT PROVIDED"****Q9. Has anyone in your household used the bus system in the Bismarck-Mandan area? (without "not provided")**

| Q9. Has anyone in your household used bus system in Bismarck-Mandan area | Number | Percent |
|--|--------|---------|
| Yes  | 59     | 9.9 %   |
| No   | 539    | 90.1 %  |
| Total  | 598    | 100.0 % |

**Q9a. Of the available transit options, which have you primarily used?**

| Q9a. What transit options have you primarily used | Number | Percent |
|---|--------|---------|
| Paratransit                                       | 10     | 16.9 %  |
| Fixed route (CAT Bus)                             | 39     | 66.1 %  |
| Both systems                                      | 7      | 11.9 %  |
| Not provided                                      | 3      | 5.1 %   |
| Total   | 59     | 100.0 % |

**WITHOUT "NOT PROVIDED"****Q9a. Of the available transit options, which have you primarily used? (without "not provided")**

| Q9a. What transit options have you primarily used | Number | Percent |
|---|--------|---------|
| Paratransit                                       | 10     | 17.9 %  |
| Fixed route (CAT Bus)                             | 39     | 69.6 %  |
| Both systems                                      | 7      | 12.5 %  |
| Total   | 56     | 100.0 % |

**Q9b. If yes, how would you rate the bus system?**

| Q9b. How would you rate bus system | Number | Percent |
|------------------------------------|--------|---------|
| Excellent                          | 7      | 11.9 %  |
| Good                               | 24     | 40.7 %  |
| Average                            | 16     | 27.1 %  |
| Poor                               | 11     | 18.6 %  |
| Not provided                       | 1      | 1.7 %   |
| Total                              | 59     | 100.0 % |

**WITHOUT "NOT PROVIDED"****Q9b. If yes, how would you rate the bus system? (without "not provided")**

| Q9b. How would you rate bus system | Number | Percent |
|------------------------------------|--------|---------|
| Excellent                          | 7      | 12.1 %  |
| Good                               | 24     | 41.4 %  |
| Average                            | 16     | 27.6 %  |
| Poor                               | 11     | 19.0 %  |
| Total                              | 58     | 100.0 % |

**Q9c. For which kinds of trips has someone in your household used the bus system?**

| Q9c. For what kinds of trips has someone in your household used bus system | Number | Percent |
|--|--------|---------|
| Work   | 25     | 42.4 %  |
| Entertainment (movies, dining, etc.)                                       | 15     | 25.4 %  |
| Shopping   | 30     | 50.8 %  |
| School (other than school bus)   | 5      | 8.5 %   |
| Medical or personal business appointments                                  | 22     | 37.3 %  |
| Other  | 6      | 10.2 %  |
| Total  | 103    |         |

**Q9d. How satisfied is your household with various aspects of the bus system?**

(N=59)

|  | Very satisfied | Satisfied | Neutral | Not dissatisfied | Not provided |
|--|----------------|-----------|---------|------------------|--------------|
| Q9d-1. Availability of information on bus routes & times | 22.0%          | 35.6%     | 20.3%   | 18.6%            | 3.4%         |
| Q9d-2. Frequency of service                              | 8.5%           | 35.6%     | 23.7%   | 28.8%            | 3.4%         |
| Q9d-3. Proximity of stops to home or destination         | 11.9%          | 37.3%     | 22.0%   | 23.7%            | 5.1%         |
| Q9d-4. Hours of operation                                | 8.5%           | 28.8%     | 28.8%   | 28.8%            | 5.1%         |

**WITHOUT "NOT PROVIDED"****Q9d. How satisfied is your household with various aspects of the bus system? (without "not provided")**

(N=59)

|  | Very satisfied | Satisfied | Neutral | Not dissatisfied |
|--|----------------|-----------|---------|------------------|
| Q9d-1. Availability of information on bus routes & times | 22.8%          | 36.8%     | 21.1%   | 19.3%            |
| Q9d-2. Frequency of service                              | 8.8%           | 36.8%     | 24.6%   | 29.8%            |
| Q9d-3. Proximity of stops to home or destination         | 12.5%          | 39.3%     | 23.2%   | 25.0%            |
| Q9d-4. Hours of operation                                | 8.9%           | 30.4%     | 30.4%   | 30.4%            |

**Q10. Which of the following reasons address why you or your household does not ride public transit/bus system more often.**

| Q10. What reasons why your household does not ride public transit/bus system more often | Number | Percent |
|---|--------|---------|
| Just prefer to drive  | 433    | 71.3 %  |
| Buses are not frequent enough   | 100    | 16.5 %  |
| It takes too long   | 111    | 18.3 %  |
| I don't know how to use the service   | 81     | 13.3 %  |
| Bus routes/stops are too far from my home or destination                                | 193    | 31.8 %  |
| It's too expensive  | 11     | 1.8 %   |
| Service not offered when I need it  | 83     | 13.7 %  |
| Had a bad experience on the bus   | 4      | 0.7 %   |
| I think it's unsafe   | 23     | 3.8 %   |
| Other   | 27     | 4.4 %   |
| Total   | 1066   |         |

**Q11. Are you, or is anyone in your household, dependent on transit or friends and relatives to get where you/they need to go?**

| Q11. Are you, or is anyone in your household, dependent on transit or friends & relatives to get where you/they need to go | Number | Percent |
|--|--------|---------|
| Yes  | 68     | 11.2 %  |
| No   | 539    | 88.8 %  |
| Total  | 607    | 100.0 % |

**Q12. Has anyone in your household ridden a bike in the last year?**

| Q12. Has anyone in your household ridden a bike in last year | Number | Percent |
|--|--------|---------|
| Yes  | 304    | 50.1 %  |
| No   | 300    | 49.4 %  |
| Not provided   | 3      | 0.5 %   |
| Total  | 607    | 100.0 % |

**WITHOUT "NOT PROVIDED"****Q12. Has anyone in your household ridden a bike in the last year? (without "not provided")**

| Q12. Has anyone in your household ridden a bike in last year | Number | Percent |
|--|--------|---------|
| Yes  | 304    | 50.3 %  |
| No   | 300    | 49.7 %  |
| Total  | 604    | 100.0 % |

**Q12a. If yes, what is the primary reason for the bike use?**

| Q12a. What is the primary reason for bike use | Number | Percent |
|---|--------|---------|
| Recreational                                  | 251    | 82.6 %  |
| Commuting                                     | 6      | 2.0 %   |
| Recreational & commuting                      | 47     | 15.5 %  |
| Total   | 304    | 100.0 % |

**Q13. Which of the following reasons address why you or members of your household do not ride bikes more often.**

| Q13. What reasons why your household does not ride bikes more often | Number | Percent |
|---|--------|---------|
| Don't own bikes   | 163    | 26.9 %  |
| There is no way to shower at work                                   | 43     | 7.1 %   |
| Prefer to drive   | 247    | 40.7 %  |
| There is no bike parking at work                                    | 23     | 3.8 %   |
| It takes too long   | 135    | 22.2 %  |
| There is no bike parking at shopping destinations                   | 29     | 4.8 %   |
| There are no safe routes  | 127    | 20.9 %  |
| There is no bike parking at recreational destinations               | 11     | 1.8 %   |
| Need a car for errands/work trips during the day                    | 232    | 38.2 %  |
| Other   | 73     | 12.0 %  |
| Total   | 1083   |         |

**Q14. How can we make it safer and more convenient for more people to choose to ride a bicycle for at least some of their trips?**

| Q14. How can we make it safer & more convenient for more people to choose to ride a bicycle for at least some of their trips | Number | Percent |
|--|--------|---------|
| More off-street trails & shared use paths  | 248    | 40.9 %  |
| More bicycle lanes, on-street bikeways & bike facilities   | 129    | 21.3 %  |
| Keep bicycle lanes, trails, & other facilities free of ice & snow in winter  | 111    | 18.3 %  |
| Work with police to improve driver & bicyclist behavior  | 101    | 16.6 %  |
| Fewer gaps in routes   | 88     | 14.5 %  |
| Easier travel through intersections  | 86     | 14.2 %  |
| Smoother road & trail surfaces for bicyclists  | 82     | 13.5 %  |
| Painted buffer bicycle lane/separated bicycle lane with a vertical barrier   | 61     | 10.0 %  |
| Other  | 56     | 9.2 %   |
| More shopping, recreation, & employment destinations closer to home  | 55     | 9.1 %   |
| Promote bicycling through ads & education  | 50     | 8.2 %   |
| Better route signs & wayfinding  | 44     | 7.2 %   |
| More bicycle parking   | 44     | 7.2 %   |
| Total  | 1155   |         |

**Q15. Have you walked for any of these reasons in the past year? Walked for...**

| <u>Q15. For what reasons have you walked for in past year</u> | <u>Number</u> | <u>Percent</u> |
|---|---------------|----------------|
| Recreation/exercise   | 543           | 89.5 %         |
| Work  | 90            | 14.8 %         |
| Shopping  | 182           | 30.0 %         |
| School  | 21            | 3.5 %          |
| Total   | 836           |                |

**Q16. How can we make it safer and more convenient for more people to walk?**

| <u>Q16. How can we make it safer &amp; more convenient for more people to walk</u> | <u>Number</u> | <u>Percent</u> |
|--|---------------|----------------|
| Keep sidewalks free of ice & snow in winter  | 328           | 54.0 %         |
| Repair or replace old sidewalks  | 283           | 46.6 %         |
| Make it easier to cross streets  | 149           | 24.5 %         |
| Add sidewalks  | 125           | 20.6 %         |
| Improve traffic signals for pedestrians  | 105           | 17.3 %         |
| Locate more shopping, recreation, & employment destinations closer to home         | 102           | 16.8 %         |
| Work with police to improve safety at crosswalks                                   | 75            | 12.4 %         |
| Curb cuts for people in wheelchairs or with strollers                              | 72            | 11.9 %         |
| Wider sidewalks  | 66            | 10.9 %         |
| Other  | 47            | 7.7 %          |
| Promote walking through ads & education  | 42            | 6.9 %          |
| More distance  | 18            | 3.0 %          |
| Total  | 1412          |                |

**Q17. Which of these transportation goal areas do you think should be most important to Bismarck-Mandan?**

| Q17. What transportation goal areas should be most important to Bismarck-Mandan                         | Number | Percent |
|---|--------|---------|
| Providing a well-maintained system in a good state-of-repair  | 348    | 57.3 %  |
| Limiting or reducing congestion on street & roadway system  | 337    | 55.5 %  |
| Providing a safe system that reduces number of fatalities & serious injuries                            | 294    | 48.4 %  |
| Providing a reliable system that provides predictable travel times with limited unexpected delays       | 180    | 29.7 %  |
| Accelerate transportation project completion/reduce transportation project delivery delays              | 163    | 26.9 %  |
| Providing a system that limits its impacts on adjacent residences, neighborhoods, & natural environment | 118    | 19.4 %  |
| Providing a system that supports & enhances flow of goods & promotes economic development               | 114    | 18.8 %  |
| Providing alternatives to automobile travel, including transit, bicycle, & pedestrian networks          | 98     | 16.1 %  |
| Total   | 1652   |         |

**Q18. How have your transportation habits changed since the COVID-19 pandemic in 2020?**

| Q18. How have your transportation habits changed since COVID-19 pandemic in 2020      | Number | Percent |
|---|--------|---------|
| Less travel to work with remote/hybrid work schedule                                  | 85     | 14.0 %  |
| More personal vehicle travel  | 65     | 10.7 %  |
| Less travel to school & online schooling full/part-time                               | 7      | 1.2 %   |
| More public transportation/carpooling travel  | 8      | 1.3 %   |
| Less travel to stores for food & other merchandise with online shopping/home delivery | 110    | 18.1 %  |
| More biking & walking to destinations   | 15     | 2.5 %   |
| Less time spent traveling due to drive-up/pick-up options at restaurants & stores     | 64     | 10.5 %  |
| My transportation habits have not changed because of COVID-19                         | 406    | 66.9 %  |
| Total   | 760    |         |

**Q19. Support for Funding Transportation Improvements: How supportive are you of providing additional funding for the following transportation issues?**

(N=607)

|   | Very supportive | Supportive | Neutral | Not supportive | Don't know |
|---|-----------------|------------|---------|----------------|------------|
| Q19-1. Increasing funding for new or widened roadways in your area                | 12.9%           | 33.1%      | 26.0%   | 22.1%          | 5.9%       |
| Q19-2. Increasing funding for better maintenance of current roadways in your area | 16.8%           | 44.3%      | 23.4%   | 11.4%          | 4.1%       |
| Q19-3. Increasing funding for improved public transportation service in your area | 8.7%            | 17.8%      | 33.9%   | 32.5%          | 7.1%       |
| Q19-4. Increasing funding for improved bicycle & pedestrian routes in your area   | 10.0%           | 22.4%      | 31.6%   | 30.1%          | 5.8%       |

**WITHOUT "DON'T KNOW"**

**Q19. Support for Funding Transportation Improvements: How supportive are you of providing additional funding for the following transportation issues? (without "don't know")**

(N=607)

|   | Very supportive | Supportive | Neutral | Not supportive |
|---|-----------------|------------|---------|----------------|
| Q19-1. Increasing funding for new or widened roadways in your area                | 13.7%           | 35.2%      | 27.7%   | 23.5%          |
| Q19-2. Increasing funding for better maintenance of current roadways in your area | 17.5%           | 46.2%      | 24.4%   | 11.9%          |
| Q19-3. Increasing funding for improved public transportation service in your area | 9.4%            | 19.1%      | 36.5%   | 34.9%          |
| Q19-4. Increasing funding for improved bicycle & pedestrian routes in your area   | 10.7%           | 23.8%      | 33.6%   | 32.0%          |

**Q20. Transportation improvements are critical, but also costly. The funding for transportation improvements can come from several sources. Which of the following sources of funding would you most support?**

(N=607)

|  | Very supportive | Supportive | Neutral | Not supportive | Don't know |
|--|-----------------|------------|---------|----------------|------------|
| Q20-1. New land developments pay for related transportation improvement needs    | 30.5%           | 40.2%      | 12.4%   | 8.9%           | 8.1%       |
| Q20-2. Increase gas tax  | 5.6%            | 16.1%      | 20.9%   | 50.4%          | 6.9%       |
| Q20-3. Use of tolls  | 2.0%            | 5.8%       | 11.0%   | 71.5%          | 9.7%       |
| Q20-4. Increase vehicle registration fees  | 3.8%            | 20.4%      | 25.0%   | 44.3%          | 6.4%       |
| Q20-5. Apply a usage fee so that those that use a system pay for its improvement | 7.6%            | 27.0%      | 21.4%   | 33.8%          | 10.2%      |
| Q20-6. Sales tax increase  | 3.0%            | 19.8%      | 21.3%   | 50.2%          | 5.8%       |
| Q20-7. Property tax increase   | 1.0%            | 4.3%       | 15.0%   | 73.0%          | 6.8%       |

**WITHOUT "DON'T KNOW"**

**Q20. Transportation improvements are critical, but also costly. The funding for transportation improvements can come from several sources. Which of the following sources of funding would you most support? (without "don't know")**

(N=607)

|  | Very supportive | Supportive | Neutral | Not supportive |
|--|-----------------|------------|---------|----------------|
| Q20-1. New land developments pay for related transportation improvement needs    | 33.2%           | 43.7%      | 13.4%   | 9.7%           |
| Q20-2. Increase gas tax  | 6.0%            | 17.3%      | 22.5%   | 54.2%          |
| Q20-3. Use of tolls  | 2.2%            | 6.4%       | 12.2%   | 79.2%          |
| Q20-4. Increase vehicle registration fees  | 4.0%            | 21.8%      | 26.8%   | 47.4%          |
| Q20-5. Apply a usage fee so that those that use a system pay for its improvement | 8.4%            | 30.1%      | 23.9%   | 37.6%          |
| Q20-6. Sales tax increase  | 3.1%            | 21.0%      | 22.6%   | 53.3%          |
| Q20-7. Property tax increase   | 1.1%            | 4.6%       | 16.1%   | 78.3%          |

**Q21. What is your age?**

| <u>Q21. Your age</u> | <u>Number</u> | <u>Percent</u> |
|----------------------|---------------|----------------|
| 18-40                | 164           | 27.0 %         |
| 41-65                | 232           | 38.2 %         |
| Over 65              | 206           | 33.9 %         |
| Not provided         | 5             | 0.8 %          |
| Total                | 607           | 100.0 %        |

**WITHOUT "NOT PROVIDED"****Q21. What is your age? (without "not provided")**

| <u>Q21. Your age</u> | <u>Number</u> | <u>Percent</u> |
|----------------------|---------------|----------------|
| 18-40                | 164           | 27.2 %         |
| 41-65                | 232           | 38.5 %         |
| Over 65              | 206           | 34.2 %         |
| Total                | 602           | 100.0 %        |

**Q22. Counting yourself, how many people in your household are...**

|              | <u>Mean</u> | <u>Sum</u> |
|--------------|-------------|------------|
| number       | 2.4         | 1426       |
| Under age 16 | 0.5         | 291        |
| Ages 16-19   | 0.1         | 46         |
| Ages 20-24   | 0.1         | 65         |
| Ages 25-34   | 0.2         | 101        |
| Ages 35-44   | 0.4         | 232        |
| Ages 45-54   | 0.3         | 167        |
| Ages 55-64   | 0.3         | 199        |
| Ages 65-74   | 0.4         | 225        |
| Ages 75+     | 0.2         | 100        |

**Q23. Which of the following best describes your race/ethnicity?**

| <u>Q23. Your race/ethnicity</u>  | <u>Number</u> | <u>Percent</u> |
|----------------------------------|---------------|----------------|
| Asian or Asian Indian            | 6             | 1.0 %          |
| Black or African American        | 12            | 2.0 %          |
| American Indian or Alaska Native | 27            | 4.4 %          |
| White or Caucasian               | 528           | 87.0 %         |
| Hispanic, Spanish, or Latino/a/x | 18            | 3.0 %          |
| Other                            | 3             | 0.5 %          |
| Total                            | 594           |                |

**Q23-7. Self-describe your race/ethnicity:**

| <u>Q23-7. Self-describe your race/ethnicity</u> | <u>Number</u> | <u>Percent</u> |
|---|---------------|----------------|
| Mixed   | 1             | 33.3 %         |
| Multi-race                                      | 1             | 33.3 %         |
| Arab  | 1             | 33.3 %         |
| Total   | 3             | 100.0 %        |

**Q24. What is your gender?**

| <u>Q24. Your gender</u> | <u>Number</u> | <u>Percent</u> |
|-------------------------|---------------|----------------|
| Male                    | 297           | 48.9 %         |
| Female                  | 305           | 50.2 %         |
| Non-binary              | 2             | 0.3 %          |
| Not provided            | 3             | 0.5 %          |
| Total                   | 607           | 100.0 %        |

**WITHOUT "NOT PROVIDED"****Q24. What is your gender? (without "not provided")**

| <u>Q24. Your gender</u> | <u>Number</u> | <u>Percent</u> |
|-------------------------|---------------|----------------|
| Male                    | 297           | 49.2 %         |
| Female                  | 305           | 50.5 %         |
| Non-binary              | 2             | 0.3 %          |
| Total                   | 604           | 100.0 %        |



# 4

# Survey Instrument

September 2023

RE: BISMARCK-MANDAN METROPOLITAN PLANNING ORGANIZATION METROPOLITAN  
TRANSPORTATION PLAN SURVEY

Dear Sir or Madam:

Your household has been randomly selected to participate in a survey that will help shape the transportation future of the Bismarck-Mandan area. Your input will be used by community leaders to set transportation priorities for our region. We thank you in advance for taking time out of your day to provide input for this effort.

The Bismarck-Mandan Metropolitan Planning Organization (MPO) is an organization of the local governments in Bismarck, Lincoln, Mandan, Burleigh, and Morton Counties, responsible for the planning and programming of federally funded transportation projects within the region. We are in the process of updating the area's Metropolitan Transportation Plan, which seeks to identify which transportation needs from now to the year 2050. The result of this survey will help identify which transportation improvements are needed most in the region. Currently, many large-scale transportation improvements within the area depend heavily on federal transportation funds. The information you provide will not only help to prioritize transportation improvements but also determine what additional funding sources (if necessary) may be acceptable within the region.

Since only a limited number of households in the region were selected to receive the survey, your participation will ensure residents in your area are well-represented in the development of the Metropolitan Transportation Plan.

We have selected ETC Institute to assist our organization with this survey. Upon receiving the survey responses, ETC Institute will compile the results which will be considered for inclusion in the Metropolitan Transportation Plan. If you prefer to take the survey online, please visit: [bismanmetrosurvey.org](http://bismanmetrosurvey.org).

If you have any questions, please call Rachel Lukaszewski with the MPO at (701) 355-1852.

Thanks again for your assistance.

Sincerely,



Rachel Lukaszewski  
Executive Director, Bismarck-Mandan MPO

# 2023 Bismarck-Mandan Regional Travel Study

We would appreciate your input today to help us shape the future of the Bismarck-Mandan Region. Thank you for taking the time to complete the survey. You may also complete the survey online at: [bismanmetrosurvey.org](https://bismanmetrosurvey.org).

| <b>1. Perceptions of Current Transportation Issues</b> |  | Very Satisfied | Satisfied | Neutral | Dissatisfied | Very Dissatisfied | Don't Know |
|--|--|----------------|-----------|---------|--------------|-------------------|------------|
| Please rate your satisfaction with the following:      |  |                |           |         |              |                   |            |
| 01.  | The flow of traffic at peak times                            | 5              | 4         | 3       | 2            | 1                 | 9          |
| 02.  | The flow of traffic at non-peak times                        | 5              | 4         | 3       | 2            | 1                 | 9          |
| 03.  | The maintenance of major roads in and around Bismarck-Mandan | 5              | 4         | 3       | 2            | 1                 | 9          |
| 04.  | The ability to access Interstate 94                          | 5              | 4         | 3       | 2            | 1                 | 9          |
| 05.  | The amount of truck traffic                                  | 5              | 4         | 3       | 2            | 1                 | 9          |
| 06.  | Ease of traveling between Bismarck-Lincoln and other cities  | 5              | 4         | 3       | 2            | 1                 | 9          |
| 07.  | Ease of traveling between Bismarck and Mandan                | 5              | 4         | 3       | 2            | 1                 | 9          |
| 08.  | Ease of traveling between Bismarck and Lincoln               | 5              | 4         | 3       | 2            | 1                 | 9          |
| 09.  | Ease of North-South travel                                   | 5              | 4         | 3       | 2            | 1                 | 9          |
| 10.  | Ease of East-West travel                                     | 5              | 4         | 3       | 2            | 1                 | 9          |
| 11.  | Attentiveness of other drivers                               | 5              | 4         | 3       | 2            | 1                 | 9          |
| 12.  | Railroad crossings   | 5              | 4         | 3       | 2            | 1                 | 9          |
| 13.  | Safety and accessibility of bicycle facilities               | 5              | 4         | 3       | 2            | 1                 | 9          |
| 14.  | Safety and accessibility of pedestrian facilities            | 5              | 4         | 3       | 2            | 1                 | 9          |
| 15.  | Safety and accessibility of transit facilities               | 5              | 4         | 3       | 2            | 1                 | 9          |

**2. Which THREE items from the list in Question 1 do you think are the most important transportation issues to address?** *[Write in the numbers below using the numbers from the list in Question 1 in the priority of their importance to you.]*

1st: \_\_\_\_ 2nd: \_\_\_\_ 3rd: \_\_\_\_

**3. What method of transportation do you typically use to get to and from routine destinations, including work?** *[Check all that apply.]*

(1) Drive alone                       (3) Walk                       (5) Transit/Bus  
 (2) Carpool/Vanpool               (4) Bicycle                       (6) Other: \_\_\_\_\_

**4. How many vehicles (i.e., car, truck, SUV, motorcycle, scooter) are in your household?**

\_\_\_\_\_ vehicles

**5. Which two (2) corridors do you think should be the top priorities for improvement in Burleigh County? Please choose the two (2) corridors that should be addressed first.**

(01) 43rd Avenue                       (11) US Highway 83/71st Ave.  
 (02) Century Avenue                   (12) State Street/US Highway 83  
 (03) Divide Avenue                     (13) Centennial Road  
 (04) Bismarck Avenue                   (14) Tyler Parkway  
 (05) University Drive/ND Highway 804    (15) Yegan Road  
 (06) Washington Street                   (16) 66th Street  
 (07) 4th Street                             (17) Main Avenue  
 (08) Interstate 94                         (18) Other: \_\_\_\_\_  
 (09) Lincoln Road                         (19) Don't know  
 (10) The 7th St./9th St. one-way pair

6. Which of the two (2) corridors do you think should be the top priority for improvement in Morton County? Please choose the two (2) corridors that should be addressed first.

- |   |   |
|---|---|
| <input type="checkbox"/> (01) Main Street                 | <input type="checkbox"/> (08) 19th Street SE/SW |
| <input type="checkbox"/> (02) 10th Avenue SW/ND Highway 6 | <input type="checkbox"/> (09) Old Red Trail     |
| <input type="checkbox"/> (03) Memorial Highway            | <input type="checkbox"/> (10) Highway 1806      |
| <input type="checkbox"/> (04) Division Street             | <input type="checkbox"/> (11) 6th Avenue SE/ND  |
| <input type="checkbox"/> (05) Sunset Drive                | <input type="checkbox"/> (12) Other: _____      |
| <input type="checkbox"/> (06) 3rd Street SE/SW            | <input type="checkbox"/> (99) Don't know        |
| <input type="checkbox"/> (07) Collins Road                |   |

7. Overall, how would you rate the Bismarck-Mandan area roadway and street system?

- (4) Excellent       (3) Good       (2) Average       (1) Poor

8. Which I-94 access should be reconstructed? [Choose 2.]

- |  |   |
|--|---|
| <input type="checkbox"/> (01) ND Highway 25 Interchange      | <input type="checkbox"/> (05) Mandan Avenue Interchange |
| <input type="checkbox"/> (02) Midway: I-94/I-194 Interchange | <input type="checkbox"/> (06) State Street Interchange  |
| <input type="checkbox"/> (03) Sunset Drive Interchange       | <input type="checkbox"/> (07) McKenzie Interchange      |
| <input type="checkbox"/> (04) Tyler Parkway/Burnt Boat Road  |   |

8a. Which location would you prefer for a new I-94 access/overpass/underpass? [Choose 2.]

- (01) Underpass near 56th Ave NW Mandan (Roughrider Subdivision Area)  
 (02) Channel Drive/Hamilton Overpass  
 (03) Overpass near 32nd Ave NW (Cloverdale/NSIC area)  
 (04) 66th Street Interchange  
 (05) Other: \_\_\_\_\_

**BUS/PUBLIC TRANSIT**

9. Has anyone in your household used the bus system in the Bismarck-Mandan area?

- (1) Yes [Go to Question 9a-9d.]       (2) No [Go to Question 10.]

9a. Of the available transit options, which have you primarily used?

- (1) Paratransit       (2) Fixed Route (CAT Bus)       (3) Both systems

9b. If yes, how would you rate the bus system?

- (4) Excellent       (3) Good       (2) Average       (1) Poor

9c. For which kinds of trips has someone in your household used the bus system? [Check all that apply.]

- |   |  |
|---|--|
| <input type="checkbox"/> (1) Work                                 | <input type="checkbox"/> (4) School (other than school bus)            |
| <input type="checkbox"/> (2) Entertainment (movies, dining, etc.) | <input type="checkbox"/> (5) Medical or personal business appointments |
| <input type="checkbox"/> (3) Shopping                             | <input type="checkbox"/> (6) Other: _____                              |

9d. How satisfied is your household with various aspects of the bus system?

| Various Aspects of the Bus                             | Very Satisfied | Satisfied | Neutral | Not Satisfied |
|--|----------------|-----------|---------|---------------|
| 1. Availability of information on bus routes and times | 4              | 3         | 2       | 1             |
| 2. Frequency of service                                | 4              | 3         | 2       | 1             |
| 3. Proximity of stops to home or destination           | 4              | 3         | 2       | 1             |
| 4. Hours of operation                                  | 4              | 3         | 2       | 1             |

10. Which of the following reasons address why you or your household do not ride public transit/bus system more often? [Check all that apply.]

- (01) Just prefer to drive
- (02) Buses are not frequent enough
- (03) It takes too long
- (04) I don't know how to use the service
- (05) Bus routes/stop are too far from my home or destination
- (06) It's too expensive
- (07) Service not offered when I need it
- (08) Had a bad experience on the bus
- (09) I think it's unsafe
- (10) Other: \_\_\_\_\_

11. Are you, or is anyone in your household, dependent on transit or friends and relatives to get where you/they need to go?

- (1) Yes
- (2) No

## BIKING

12. Has anyone in your household ridden a bike in the last year?

- (1) Yes [Go to Question 12a.]
- (2) No [Go to Question 13.]

12a. If yes, what is the primary reason for the bike use?

- (1) Recreational
- (2) Commuting
- (3) Recreational and Commuting

13. Which of the following reasons address why you or members of your household do not ride bikes more often? [Check all that apply.]

- (01) Don't own bikes
- (02) There is no way to shower at work
- (03) Prefer to drive
- (04) There is no bike parking at work
- (05) It takes too long
- (06) There is no bike parking at shopping destinations
- (07) There are no safe routes
- (08) There is no bike parking at recreational destinations
- (09) Need a car for errands/work trips during the day
- (10) Other: \_\_\_\_\_

14. How can we make it safer and more convenient for more people to choose to ride a bicycle for at least some of their trips? [Please check just **THREE** that are most important in your opinion.]

- (01) More bicycle lanes, on-street bikeways and bike facilities
- (02) Smoother road and trail surfaces for bicyclists
- (03) More off-street trails and shared use paths
- (04) Keep bicycle lanes, trails, and other facilities free of ice and snow in winter
- (05) Fewer gaps in routes
- (06) Work with police to improve driver and bicyclist behavior
- (07) Easier travel through intersections
- (08) Promote bicycling through ads and education
- (09) Better route signs and wayfinding
- (10) More shopping, recreation, and employment destinations closer to home
- (11) Painted buffer bicycle lane/separated bicycle lane with a vertical barrier
- (12) More bicycle parking
- (13) Other: \_\_\_\_\_

## WALKING

15. Have you walked for any of these reasons in the past year?  
Walked for...

- (01) Recreation/exercise
- (02) Work
- (03) Shopping
- (04) School

**16. How can we make it safer and more convenient for more people to walk? [Select the *THREE* most important strategies.]**

- (01) Wider sidewalks
- (02) Repair or replace old sidewalks
- (03) More distance
- (04) Keep sidewalks free of ice and snow in winter
- (05) Add sidewalks
- (06) Work with police to improve safety at crosswalks
- (07) Make it easier to cross streets
- (08) Promote walking through ads and education
- (09) Curb cuts for people in wheelchairs or with strollers
- (10) Locate more shopping, recreation, and employment destinations closer to home
- (11) Improve traffic signals for pedestrians
- (12) Other (please specify): \_\_\_\_\_

**TRANSPORTATION GOALS**

**17. Which of these transportation goal areas do you think should be most important to Bismarck-Mandan? [Please check just *THREE* that are most important in your opinion.]**

- (01) Providing a safe system that reduces the number of fatalities and serious injuries
- (02) Providing a system that supports and enhances the flow of goods and promotes economic development
- (03) Providing a well-maintained system in a good state-of-repair
- (04) Providing a system that limits its impacts on adjacent residences, neighborhoods, and the natural environment
- (05) Limiting or reducing congestion on the street and roadway system
- (06) Accelerate transportation project completion/reduce transportation project delivery delays
- (07) Providing a reliable system that provides predictable travel times with limited unexpected delays
- (08) Providing alternatives to automobile travel, including transit, bicycle, and pedestrian networks

**18. How have your transportation habits changed since the COVID-19 pandemic in 2020? [Check all that apply.]**

- (01) Less travel to work with remote/hybrid work schedule
- (02) More personal vehicle travel
- (03) Less travel to school and online schooling full/part-time
- (04) More public transportation/carpooling travel
- (05) Less travel to stores for food and other merchandise with online shopping/home delivery
- (06) More biking and walking to destinations
- (07) Less time spent traveling due to drive-up/pick-up options at restaurants and stores
- (08) My transportation habits have not changed because of COVID-19

**FUNDING**

**19. How supportive are you of providing additional funding for the following transportation issues?**

| Support for Funding Transportation Improvements |  | Very Supportive | Supportive | Neutral | Not Supportive | Don't Know |
|---|--|-----------------|------------|---------|----------------|------------|
| Please rate your support for the following:     |  |                 |            |         |                |            |
| 1.  | Increasing funding for new or widened roadways in your area                | 4               | 3          | 2       | 1              | 9          |
| 2.  | Increasing funding for better maintenance of current roadways in your area | 4               | 3          | 2       | 1              | 9          |
| 3.  | Increasing funding for improved public transportation service in your area | 4               | 3          | 2       | 1              | 9          |
| 4.  | Increasing funding for improved bicycle and pedestrian routes in your area | 4               | 3          | 2       | 1              | 9          |

**20. Transportation improvements are critical, but also costly. The funding for transportation improvements can come from several sources. Which of the following sources of funding would you most support?**

| Sources for Funding Transportation Improvements |   | Very Supportive | Supportive | Neutral | Not Supportive | Don't Know |
|---|---|-----------------|------------|---------|----------------|------------|
| Please rate your support for the following:     |   |                 |            |         |                |            |
| 1.  | New land developments pay for related transportation improvement needs    | 4               | 3          | 2       | 1              | 9          |
| 2.  | Increase the gas tax  | 4               | 3          | 2       | 1              | 9          |
| 3.  | Use of tolls  | 4               | 3          | 2       | 1              | 9          |
| 4.  | Increase vehicle registration fees  | 4               | 3          | 2       | 1              | 9          |
| 5.  | Apply a usage fee so that those that use a system pay for its improvement | 4               | 3          | 2       | 1              | 9          |
| 6.  | Sales tax increase  | 4               | 3          | 2       | 1              | 9          |
| 7.  | Property tax increase   | 4               | 3          | 2       | 1              | 9          |

**DEMOGRAPHICS**

**21. What is your age?**  
 \_\_\_(1) 18-40      \_\_\_(2) 41-65      \_\_\_(3) Over 65

**22. Counting yourself, how many people in your household are...**  
 Under age 16: \_\_\_      Ages 25-34: \_\_\_      Ages 55-64: \_\_\_  
 Ages 16-19: \_\_\_      Ages 35-44: \_\_\_      Ages 65-74: \_\_\_  
 Ages 20-24: \_\_\_      Ages 45-54: \_\_\_      Ages 75+: \_\_\_

**23. Which of the following best describes your race/ethnicity? [Check all that apply.]**  
 \_\_\_(01) Asian or Asian Indian      \_\_\_(05) Native Hawaiian or other Pacific Islander  
 \_\_\_(02) Black or African American      \_\_\_(06) Hispanic, Spanish, or Latino/a/x  
 \_\_\_(03) American Indian or Alaska Native      \_\_\_(99) Other: \_\_\_\_\_  
 \_\_\_(04) White or Caucasian

**24. What is your gender?**  
 \_\_\_(1) Male      \_\_\_(2) Female      \_\_\_(3) Non-binary      \_\_\_(4) Other: \_\_\_\_\_

**25. Would you be willing to participate in future surveys sponsored by the Bismarck-Mandan Metropolitan Planning Organization?**  
 \_\_\_(1) Yes [Please answer Q25a.]      \_\_\_(2) No

**25a. Please provide your contact information.**  
 Mobile Phone Number: \_\_\_\_\_  
 Email Address: \_\_\_\_\_

**This concludes the survey. Thank you for your time!**  
 Please return your completed survey in the enclosed return-reply envelope addressed to:  
 ETC Institute, 725 W. Frontier Circle, Olathe, KS 66061

Your responses will remain Completely Confidential. The information to the right will ONLY be used to help identify which areas of the Bismarck-Mandan Region are having problems with travel. If your address is not correct, please provide the correct information.

# 2023 Bismarck-Mandan Regional Travel Study

*...helping organizations make better decisions since 1982*

Open-Ended  
Comments

**Submitted to the Bismarck-Mandan MPO  
by:**

ETC Institute  
725 W. Frontier Lane  
Olathe, Kansas 66061

**December 2023**



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**Q6-12 [Other]. Which of the two (2) corridors do you think should be the top priority for improvement in Morton County?**

- 1st street better crossings
- 46th Ave SE
- 66th st connection for the interstate to Lincoln as well as connection to Silver Ranch. On/Off ramps to the interstate there would solve traffic issues for both communities.
- A bridge to connect N Bismarck and Hwy 1806 would make life a lot easier for many people and clear up congestion on roads. Also, make Hwy 1806 wider - needs lights.
- Additional bridge across Missouri River north of Bismarck.
- Another bridge to Bismarck (north).
- Better walking paths without traffic noise
- Frontage from the truck stop into Mandan
- I-94 should all be 3 lane between Bis, Expwy and Mandan
- McKenzie drive connect to 1806
- McKenzie drive connection to nd1806
- North west bypass around Mandan and Bismarck
- Resurface 2nd St and 3rd St NW.
- Whole area intersection Sunset Dr and Old Red Trail.



- Overpass at 80th St. was just rebuilt. Why not have access to Interstate? Could also be extended as truck bypass. Cheaper than new overpass at 66th St. that no one seems to want.
- river road reconstruction
- S Mandan access bridge
- Should have had a don't know or no opinion box
- Sunset Drive and I94 - Mandan
- underpass east of Scheels baseball complex
- Washington St

**Q9c-6 [Other]. For which kinds of trips has someone in your household used the bus system?**

- For fun of we don't want to drive for the day.
- Testing out how efficient and easy it was to use as a preferred alternative (I absolutely hate driving if I can avoid it).
- To my religious meetings.
- transport elderly
- Wheelchair from nursing home.
- walking routes

**Q10-10 [Other]. Which of the following reasons addresses why you or your household do not ride public transit/bus system more often?**

- Because the routes are not both ways, the ride is much longer half of the time!
- Flexibility of driving is preferred.
- I drive at various times and schedule is fairly random, so it is easier if I just drive myself.
- I wouldn't want to base my travel on a schedule.
- If the buses ran on a fixed schedule and stops so I could count on it to get me somewhere at a fixed time. The cure system of stopping wherever does not allow me to use as I can't count on to get me someplace on time
- Just don't need to.
- Live outside city limits.
- Live outside of town.
- my tools
- My travel doesn't fit in a schedule that would not waste too much time if I used a bus.
- Need a lift to get on the bus. Handicap service?
- need more info
- Need more interconnecting of routes.
- Needs dedicated signed stops with some being shelters. Also there is no reason those huge giant busses should be driving around town empty all the time. Those larger vehicles use more gas and having them run empty is a sad waste. The real reasons people don't use the bus is a multitude of different reasons and I encourage that to be the subject of a in depth study.
- No need
- No need
- no weekend runs
- not needed in my area
- Not needed. It should not be subsidized.
- Our life is too random not scheduled
- Out of town
- Paratransit is always inconsistent with times. They need to be more punctual with getting people to work on time. And please bring back getting people to and from the hospitals for appointments. There have been a lot of complaints with taking that away.
- Too old to walk to pick up points on route.
- Transit has poor pickup/drop off times. Never on time within that 30 min arrival time.
- weather
- Work vehicle
- Worry about head lice.

**Q13-10 [Other]. Which of the following reasons address why you or members of your household do not ride bikes more often?**

- Age
- bad knees
- Bike riders don't obey lights and stop signs.
- Bike rides don't follow laws!!
- Bikers should have to pay taxes like motorists do.
- Biking is for recreation in our household.
- Crossing from home in Bismarck to Mandan not convenient. Required to go a long way south to get to memorial highway bridge crossing then from there the most direct route is memorial highway into downtown Mandan. This is not viable as it adds considerable time to the commute. Further aside from trails, riding in the street (even as an experienced driver) can be harrowing at times with the perceptions towards bicyclists, some drivers inattentiveness and the lack of safety improvements. Winter riding is not a viable alternative in my mind. It requires way too many add-ins /customizations to avoid getting injured whether it be specialty winter clothing or a special bike/ bike tires. Wide spread out land uses not focused on density makes an environment where wind can just blow. If more sense the buildings would provide some buffer and shelter
- disability
- disability
- Do not like the painted bike lanes in Bismarck.
- Don't trust drivers.
- Drive work vehicle.
- Dr's advice not to ride
- Existing bike paths are along side roads and aren't aesthetically pleasing to ride along. Need separate green corridors
- Family rides for recreation.
- Handicapped
- Have kids
- health
- Health limitations.
- I do not know how the bike lane systems work. It's difficult to ride more than recreationally when there's not designated lanes on every street.
- I usually have a child with me.
- I walk to many destinations rather than biking.
- I work at 4am and wouldn't feel safe - I have health issues.
- Job not conducive to riding bike. Would not work in winter. Too far and dangerous.
- Kids
- laziness
- Leaving bike fear of being stolen.
- Live in hilly area (NW)
- Live in the country.
- live out of town
- Live too far from town.
- Many errand trips by bike are not safe
- medical reasons

- Multiple child drop-off and pick-up locations in different areas of town.
- My bike is rusty
- My current state of health precludes the use of a bike.
- Need a car for daycare.
- Need car to take children two and from school
- Need to bring children to childcare.
- No bike lanes.
- no trails close to home
- Not physically able.
- Our neighborhood does not have sidewalks for our kids to bike to school.
- Outside of city limits - too far
- Physical issues.
- Professional attire - too much work to bike.
- Riding on Bismarck streets scares our family. Drivers car don't respect cyclists.
- Road where we live is narrow. No shoulders or bike path. 010203
- Safe bike routes take too long and do not go to where I need to go. Biking on major roadways is unsafe due to in attentive drivers on cell phones or just daydreaming. Times I commute are not conducive for biking - very early morning around 5 am.
- seasons like snow
- some areas are not safe
- Stop signs mean nothing to bikers.
- The roads and sidewalks are not cleared enough in the winter for safe bike riding.
- There are safe routes— but they could be increased substantially. Additionally, the weather for half the year makes this prohibitive
- Too Cold and bad weather most of the time.
- Too dangerous with cars.
- Too far
- Traffic too busy.
- Unsafe for me.
- Unsafe on major roadways.
- We have to drop off kids at school and at daycare, both of which are too far from our house, requiring use of a vehicle rather than biking.
- We live in North Dakota.....How do you ride a bike in the winter?!?!
- We're in our 80's
- weather
- winter
- winter
- Winter is 6 months long in ND.

**Q14-13 [Other]. How can we make it safe and more convenient for more people to choose to ride a bicycle for at least some of their trips?**

- Better lock systems
- Better weather.
- Bicycles can't compete with auto's on streets.
- Bicycles should be allowed on residential sidewalks and downtown before 8 am and after 5 pm. The streets are already too congested to add bicycle traffic in most locations. Bicyclers need to ride in single file when on streets anywhere in the city.
- Bicycling will always be a seasonal thing here.
- Bike - shared use path on Clairmont and Burnt Boat Road.
- Bike lanes, keep them off the road. They are a danger to us motorists.
- bikes should be on sidewalks when there is no trails
- Biking is not safe due to ND weather - too short of a season for drivers to get used to dealing with bikes on the roadway. Never see anyone use the current bike lane designation in Bismarck that is currently there.
- Bismarck is too hilly.
- Bismarck streets are not set up properly for biking. The bike routes here are so unsafe, and I no longer bike due to my safety
- Don't think bikes should be on the road - dangerous.
- Don't waste time or money on bikes, the streets are no place for slow bikes - keep them on the bike paths!
- Frontage roads - Walmart to Costco and Ale works to Fleet farm.
- Get bike lanes on River Road, or don't allow bikes on that road. They are very dangerous due to no shoulders and no way to pass them.
- Get rid of street paths as they are too dangers for the way people drive in this town
- Get the bicycle lanes off the roadways, and especially don't make cyclists cross traffic lanes like on Divide and 26th Street. I feel the sidewalks and walking paths are safer for bicycling, and worked fine for many years.
- I don't bike so I wouldn't know
- I don't feel we need more biking. It is not like we see bicyclists everywhere and they are clamoring for more routes. We are congested with car traffic meaning we need better vehicle routes first.
- Improve street light timing so there are less vehicles being congested on roadway.
- KEEP BIKES OFF MAIN ROADS.
- Keep bikes off of thru streets, like Divide Ave.
- Keep bikes off the street. We have enough walking / bike trails.
- Keep bikes off the streets. They don't pay any usage fees.
- Make bicycles use the sidewalk and trails. Get rid of the bike lanes on the streets
- Make sure they follow the same rules as a driver.
- Make sure they obey the traffic laws
- Make them ride on side walks so they don't hold up traffic
- more walking paths
- Move Winters further north.
- Need safe bicycle lanes. Need bright paint to indicate a bicycle lane. Need to repaint some lanes.
- No bike riders should be allowed on river Road North of Bismarck. Way too dangerous, for them and drivers.

- No desire to ride bikes. We live in the country
- Nobody uses what is already there. Waste of money
- None. We have long winters and city is not set up for it. Not worth the substantial cost of roadway/street improvements coming from an engineer.
- Not necessary.
- Not sure for 3 months warrants
- penalties for infractions
- promote bike specific events
- Remove the bike lanes on Divide and other heavily traveled streets. I have never seen a bike use the bike lanes on these routes since installed and have encountered unsafe situations where motorists use the bike lanes as passing lanes/turning lanes. In my professional transportation engineering opinion, the bike lanes create more dangerous situations for cyclists and vehicle traffic alike.
- Rental bikes in Mandan.
- Roads are not built for bikes. They are rude and arrogant( cyclists). They need to pay an annual fee like motorists.
- Safety ND vehicle drivers are the worst.
- Safety training for bike riders.
- seldom see a bike
- The distances for Bike traffic to do normal traveling make no sense in this area. When I was 25 years old I rode my bike to work one summer. But I live 10 miles from where I work. It cost me close to 2 hours per day to just commute.. It takes 40 minutes with a vehicle. Simple math.. Takes too much time.
- the weather is not good most of the year
- too cold/ice/snow to ride a bike
- too many unused bike lanes/trails already
- waste of money.
- We live in a cold climate. Biking works half of the year.
- We need better weather.
- We need more left turn arrows.
- Weather is the only problem in winter!
- Wider shoulders on roads to allow for bikes on ALL county roads. I bike to work from north of town to work on 43rd street. 15th St SW has nice wider shoulders and I feel pretty safe riding on that road (I also wear helmet, have high visibility vest, flashing red taillights)
- winter time road blockage

**Q16-12 [Other]. How can we make it safe and more convenient for more people to walk?**

- add seating/rest areas, snow shielding place
- Bismarck is too spread out to walk - no outdoor public bathrooms - winter weather with ice and snow.
- cleaner, dogs, trees dropping
- discourage vagrants
- Downtown crossings path to walk in winter.
- Educate pedestrians to be alert of their surroundings. Keep their head up and look.
- extend path on N Washington
- Finish sidewalks, empty lots.
- fix the water shutoffs that are sticking up on sidewalks , they cause tripping.
- Fix Water curb stops so they are not sticking up above the curb.
- Flatten out curbs for tight right turns / too much rear wheels going over the curbs.
- For a “car centric culture” city in general— I actually think Bismarck does sidewalks quite well overall. I’ve found that if you want to walk somewhere, the ability to do is technically there in the vast majority of the city. However, places of business and cultural amenities can be spread out if not right Downtown.
- Help everyone understand that bikes and sidewalks should not mix. Training. St Paul community councils held annual "bike derby's" where firefighters, police, community volunteers, businesses would set up an obstacle course and have advisors, parents, etc. help to teach bike safety. Some volunteers would to a look over to the bikes for maintenance/safety issues, I remember a bike parade one year.
- Homeowner maintenance and cleaning of sidewalks.
- I tripped on the uneven sidewalk and broke my wrist.
- incentives like rebate for shoes after legging miles.
- It's not realistic to expect people to want to bike/walk when we have 6 months of winter.
- Keep dogs leashed/fenced.
- Keep intersections free of parked vehicles within 20 feet of curb corners so pedestrians are visible to drivers. That is especially a problem when “vehicle” is a parked commercial trailer exceeding 20 feet in length, 9 feet in width and 10 feet in height. City ordinance limiting parking to 48 hours for trailers is not enforced. Trailers labeled as a local business are allowed to park continuously as long as they move on Wednesdays. (Weekends don’t count, 48 hours starts sometime Monday mid day. Wednesday noon works to move. Back by 3 is good until Friday and the free weekend starts it over again. Same is not allowed for vehicles owned by residents parking adjacent to their property on the street because driveway is encumbered by large commercial trailer routinely parked across the street owned by someone living a block away. They were told they needed to move 1500 feet away. Would not have been necessary if trailer routinely parking across from their driveway was treated the same. That enforcement requires a citizen complaint allows some to control the neighborhood while others deal with the consequences. Witnessed 3 vehicle near collisions within a single 1.5 hour time I happened to be outside. Fortunately the large number of pedestrians that frequent the intersection happened not to be there.
- keep pedestrians off streets with stiff penalties.
- Less sprawl

- longer trails for hikers
- Make roads less wide in residential areas. Stop putting in commercial in residential areas.
- Make sure homeowners leash dogs in parks and not let them run free.
- Make walking paths more pleasant no traffic noise and with green areas
- more tickets for offenders
- Pedestrians had the right of way in the past. That seems to be long forgotten. If you ever have used the walkways on the Capitol campus, you will notice that the stop signs are for pedestrians where there is a crossing with traffic. Drivers believe that they have the right of way. I have been hit by a vehicle making a left turn. The light had just turned green, the walk sign was on. I looked left, right, left again, and started to cross the street. The next thing I remember was waking up in the hospital. As far as I know, no charges were ever brought against the driver of the vehicle. That is Bismarck driving in a nutshell
- People do not stop for pedestrians in crosswalks.
- People need to have the desire.
- People need to quit blocking sidewalks with vehicles, trailers, campers, etc....
- put sidewalks where needed
- repaint existing lines that are worn off in the winter
- Safety for pedestrians.
- stop people from parking on sidewalks
- Support walkable neighborhoods.
- The sidewalk system within the Bis-Man area provides good connectivity between shopping, rec, and employment destinations and is sufficiently maintained. No improvements are necessary based on my experiences. Nice work!
- Too much is spent on paths, sidewalks and trails that few people use 2 or 3 months a year. Waste of money to keep them clean in winter for a few people.
- Too old to walk very far
- Trim Boulevard trees and have home owners trim yard trees that go into and over sidewalks.
- Walking to work is a non starter in this area.
- We are elderly and like to walk in the parks
- Winter safety.

# Arrive 2050

Final Approval Presentations  
October - December, 2024



**ARRIVE 2050**

METROPOLITAN  
TRANSPORTATION PLAN

# Agenda

- Draft Plan Content Overview
- Answer Your Questions
- Seek Approval



# Arrive 2050 Contents

- 01** Introduction
- 02** Goals, Objectives, and Performance Measures
- 03** Public Engagement
- 04** The Bismarck-Mandan MPO Area Today
- 05** Baseline Transportation System Performance
- 06** Future Transportation System Trends and Needs
- 07** MTP Strategies, Trends, and Drivers
- 08** Arrive 2050 Funding Plan
- 09** Fiscally Constrained Plan
- 10** Environmental Mitigation
- 11** Federal Compliance



# Bismarck-Mandan MPO Core Products

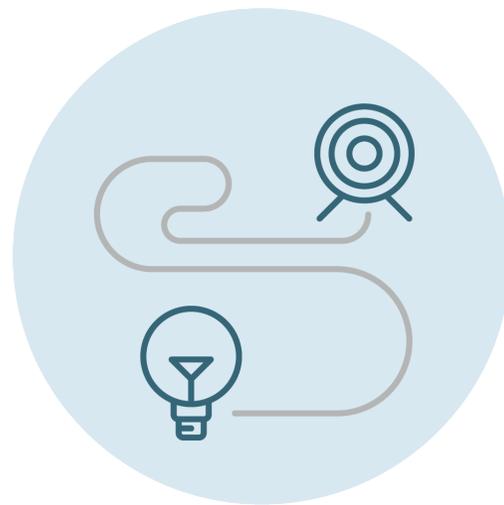
|  |  |
|--|--|
| <b>Metropolitan Transportation Plan (MTP)</b><br>   | <ul style="list-style-type: none"><li>• MTP updated every 5 years</li><li>• Looks 20+ years</li><li>• Addresses transportation system needs for all modes</li><li>• Fiscally-constrained list of projects and strategies</li></ul>           |
| <b>Transportation Improvement Program (TIP)</b><br> | <ul style="list-style-type: none"><li>• Identifies federally funded transportation improvements in the area over a 4-year time frame</li><li>• TIP is developed annually</li></ul>   |
| <b>Unified Planning Work Program</b><br>           | <ul style="list-style-type: none"><li>• Describes the MPO's transportation planning projects for a 2-year period</li><li>• Covers the MPO's anticipated scheduling, budgeting, and monitoring the transportation planning process.</li></ul> |
| <b>Public Participation Plan</b><br>              | Identifies the role of the MPO regarding public participation and provides guidelines to be followed in achieving public involvement through advertising, public meetings, hearings, and other relevant forums.                              |



# Goals, Objectives, and Performance Measures



Details on Federal  
Metropolitan  
Transportation  
Requirements



Alignment with  
NDDOT Long-Range  
Planning



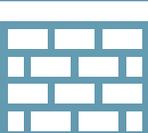
Arrive 2050  
Performance Measures  
and Targets

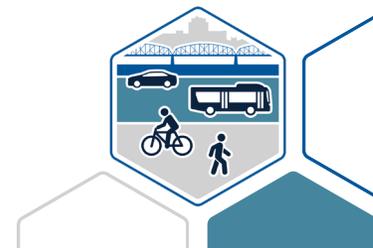


Arrive 2050 Project  
Alignment with  
Regional Vision



# Arrive 2050 Goals

|                            |   |                                   |  |
|----------------------------|---|-----------------------------------|--|
| Safety                     |    | Maintenance                       |   |
| Economic                   |    | Forward-Thinking                  |   |
| Resilient                  |    | Active Transportation and Transit |   |
| Efficiency and Reliability |  | Equity                            |  |



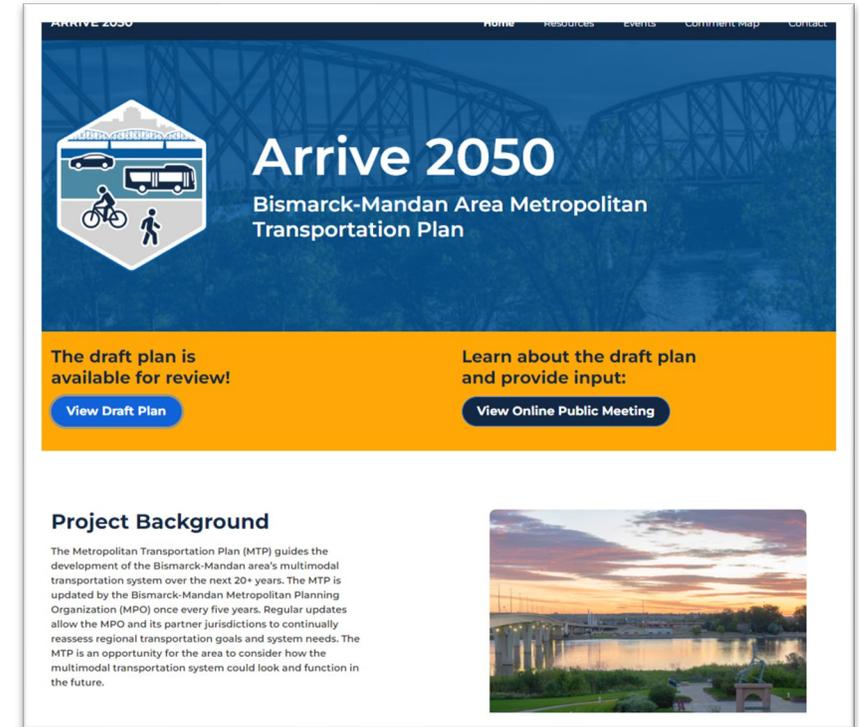
# Public Engagement

 **Project Website**

 **Public Open House**

 **Online Engagement**

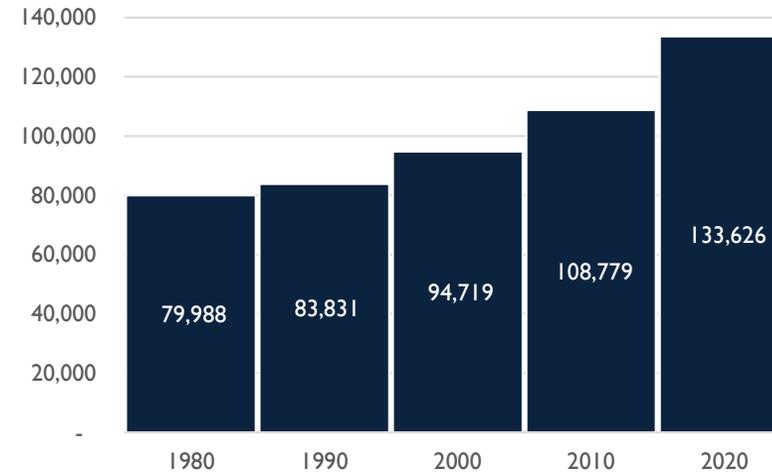
 **Stakeholders, Steering Committee, TAC and Policy Board**



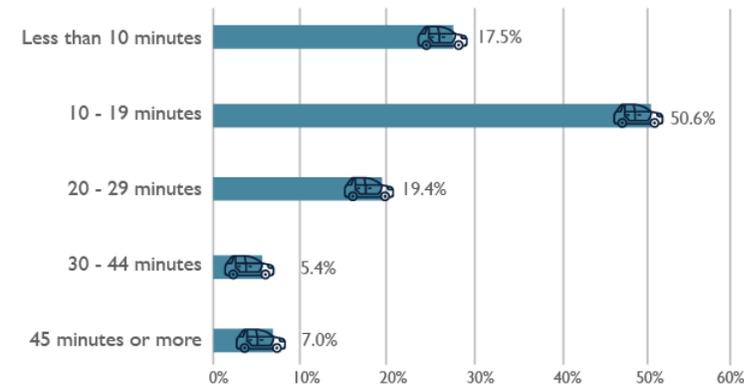
# The Bismarck-Mandan MPO Area Today

- Community profile detailing demographic and socioeconomic trends
  - Historic population growth
  - Age
  - Housing
  - Employment
  - Commuting

Historic Population for the Bismarck-Mandan Metropolitan Area, 1980-2020



Travel Time to Work for the Bismarck-Mandan Metropolitan Area Workers, 2022



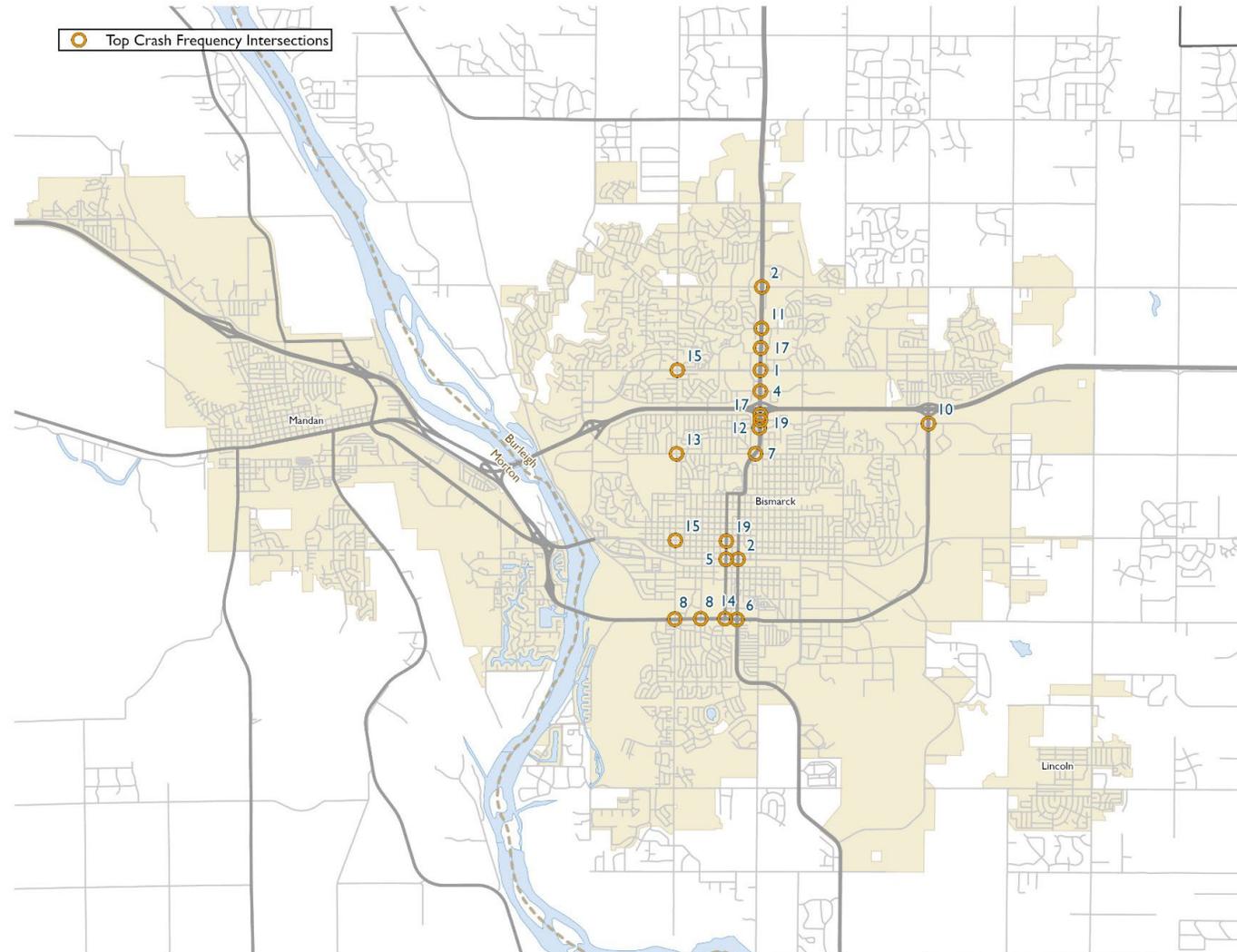
# Baseline Transportation System Performance

## Analysis of Existing Multimodal System

| Safety  | Traffic Operations  | Freight   | Bicycle and Pedestrian  | Transit System  | Regional Connection   | Asset Conditions  |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |



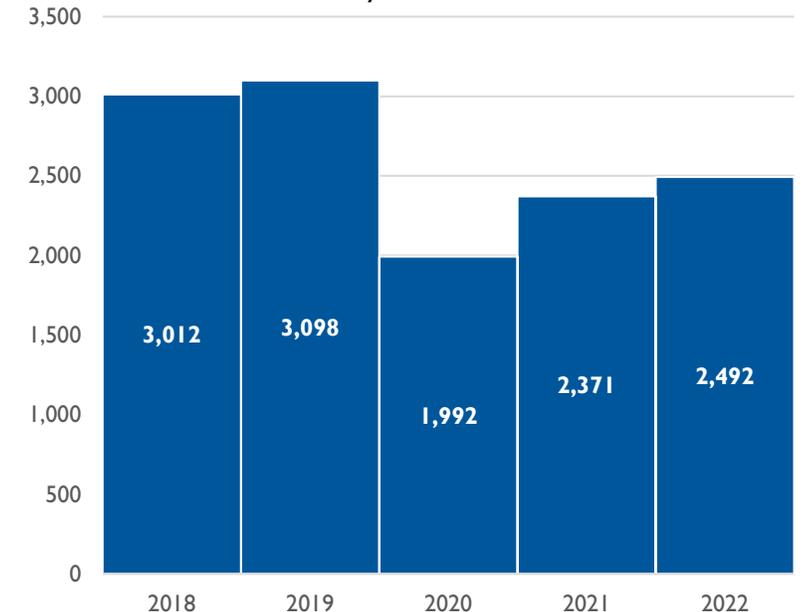
# Baseline Transportation System Performance – System Safety



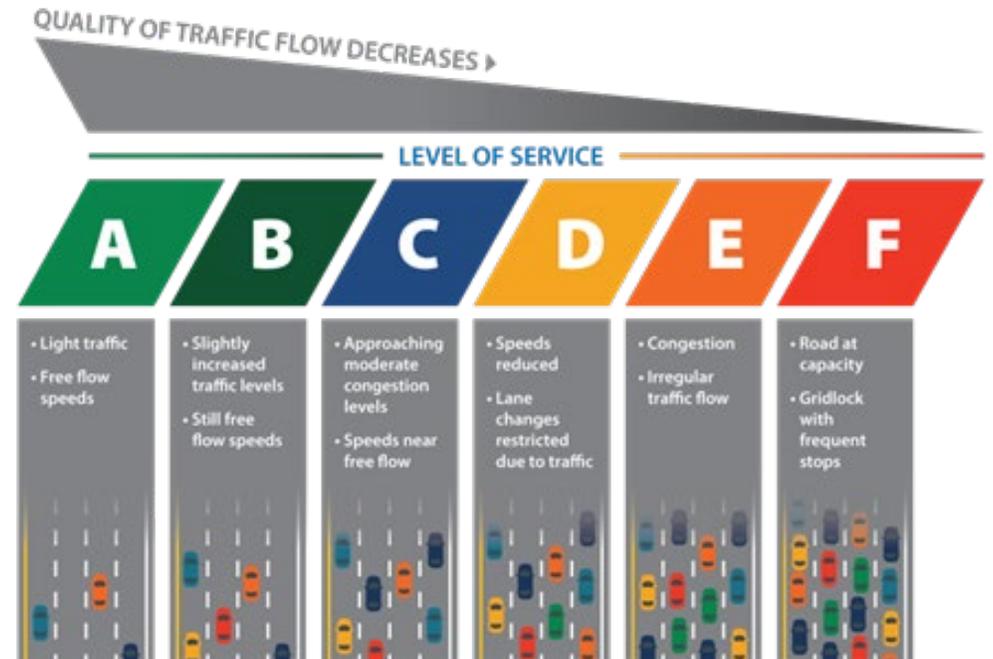
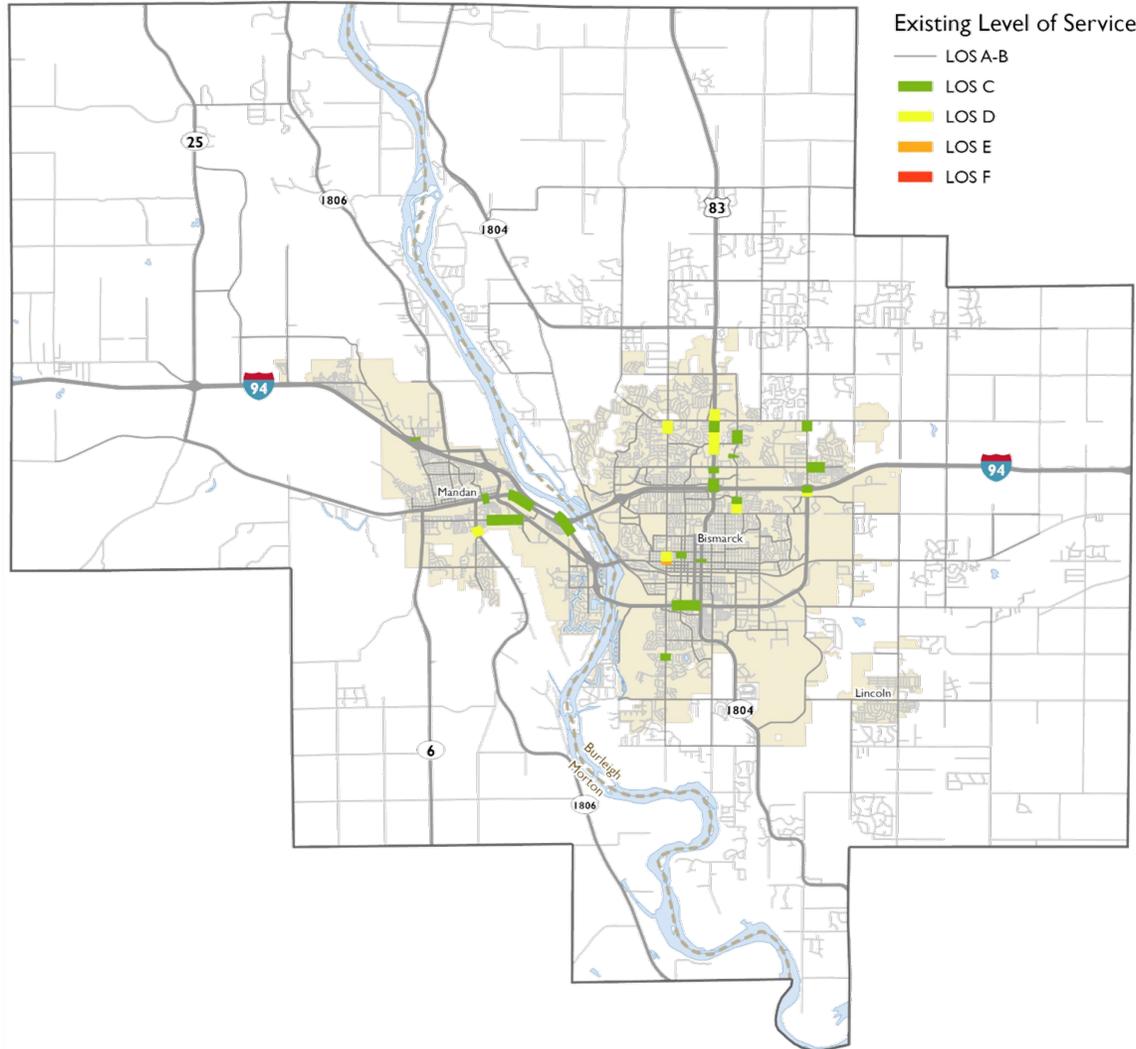
Bicycle- and Pedestrian-Involved Crashes by Year, 2018-2022

| Type                       | 2018 | 2019 | 2020 | 2021 | 2022 | Total |
|----------------------------|------|------|------|------|------|-------|
| <b>Bicycle-Involved</b>    | 20   | 16   | 15   | 14   | 13   | 78    |
| <b>Pedestrian-Involved</b> | 23   | 22   | 15   | 20   | 9    | 89    |
| <b>Total</b>               | 43   | 38   | 30   | 34   | 22   | 167   |

Crashes by Year, 2018-2022



# Baseline Transportation System Performance – Traffic Operations

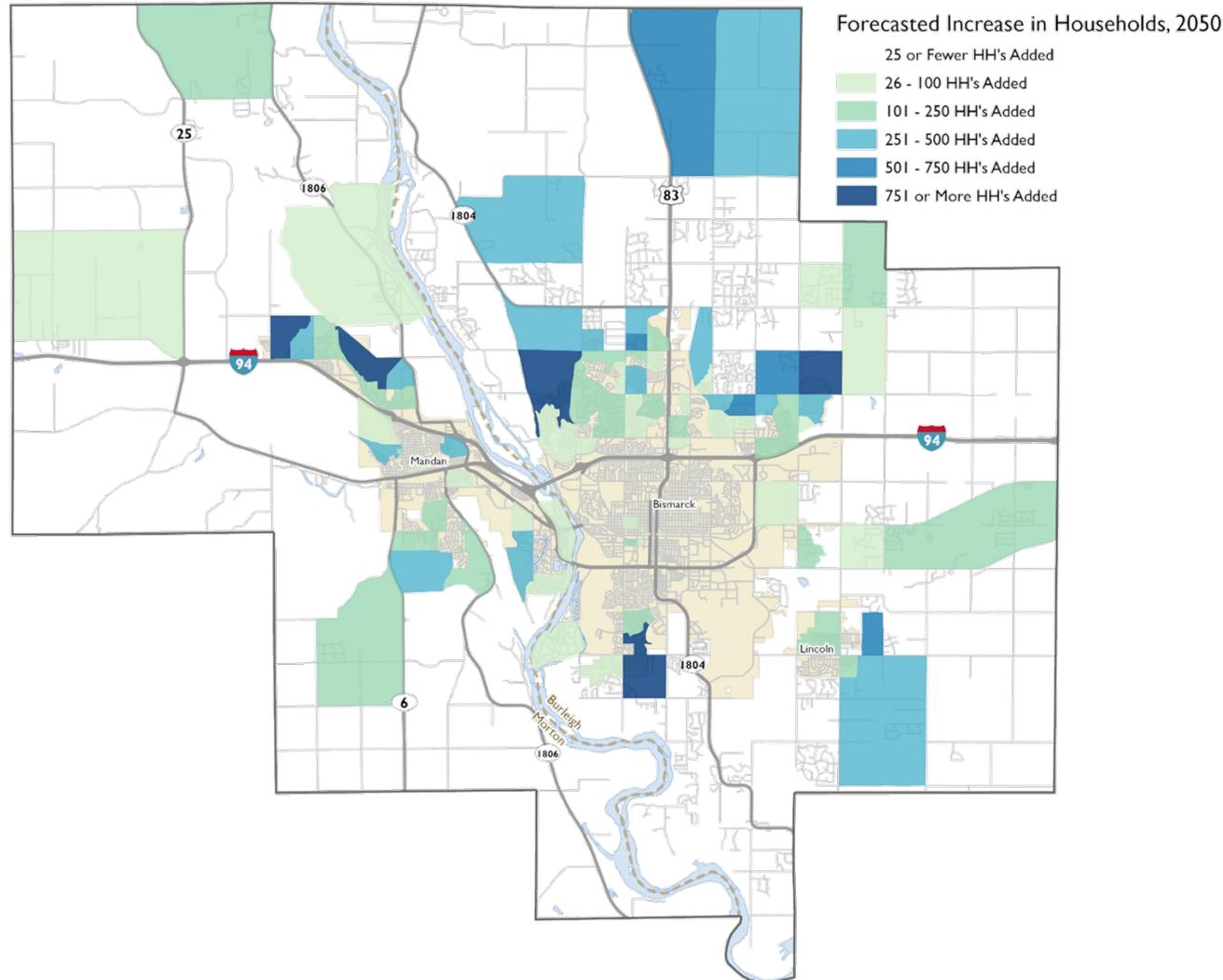


# Baseline Transportation System Performance

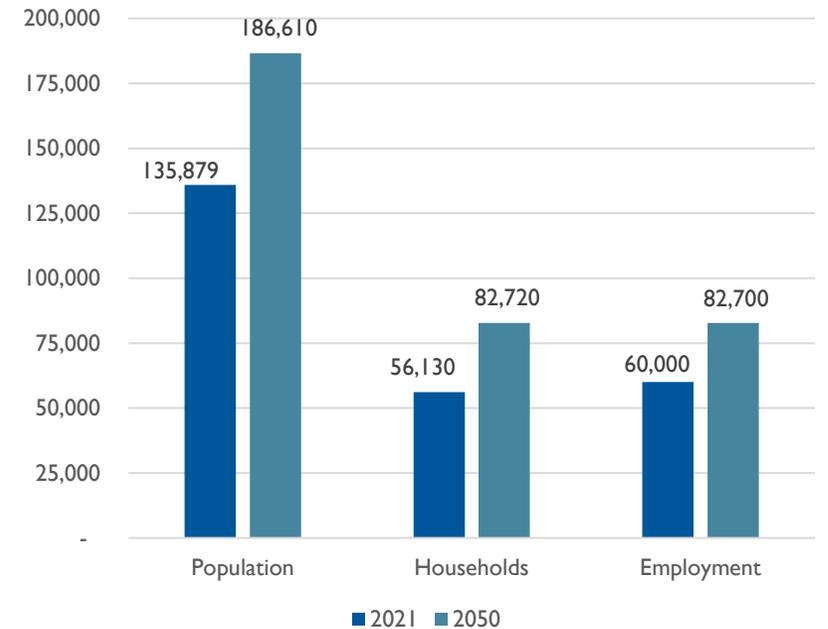
| Area  |                                | Issues   |
|---|--------------------------------|--|
|    | Safety                         | Frequent crashes along higher-volume arterials   |
|    | Traffic Operations             | AM and PM peak hour congestion today due to high numbers of road users, future growth expected to lead to additional congestion.   |
|    | Freight                        | High freight-generation highlights the need to provide efficient connections among freight destinations  |
|    | Bicycle and Pedestrian         | Current bicycle and pedestrian network provides a strong foundation for future expansion for increased access to community destinations  |
|    | Transit                        | Transit ridership saw significant declines in 2020 and has begun to recover toward pre-2020 levels.  |
|  | Pavement and Bridge Conditions | Some areas of pavement and bridge issues, but community has maintenance plans in place   |
|  | Cross-Area Travel              | Barriers to continuous corridors and high levels of arterial access impact: <ul style="list-style-type: none"> <li>•<b>North-South</b> travel in Bismarck</li> <li>•<b>East-West</b> travel in Mandan</li> </ul> |



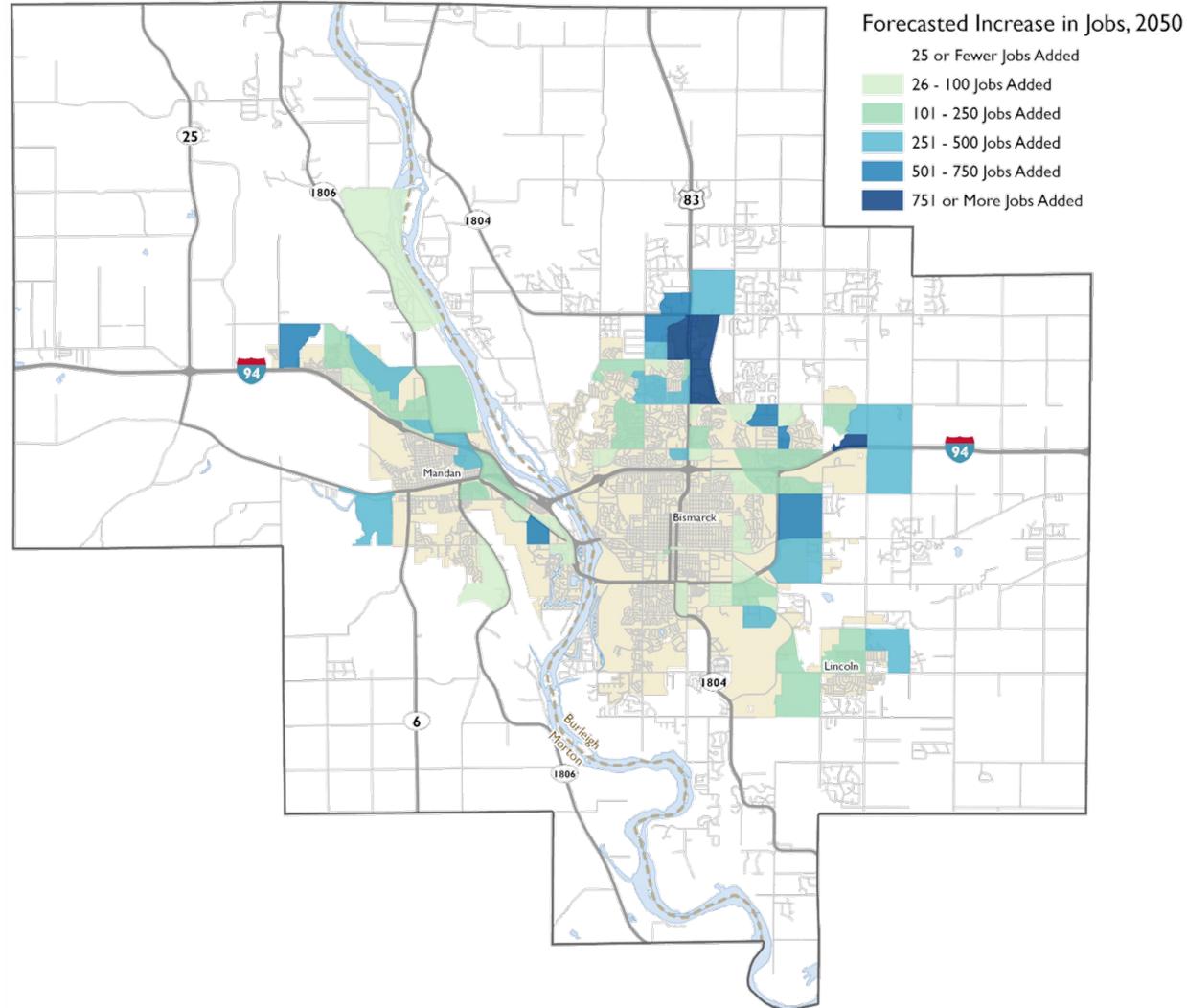
# Forecasted Growth in MPO Households, 2021 - 2050



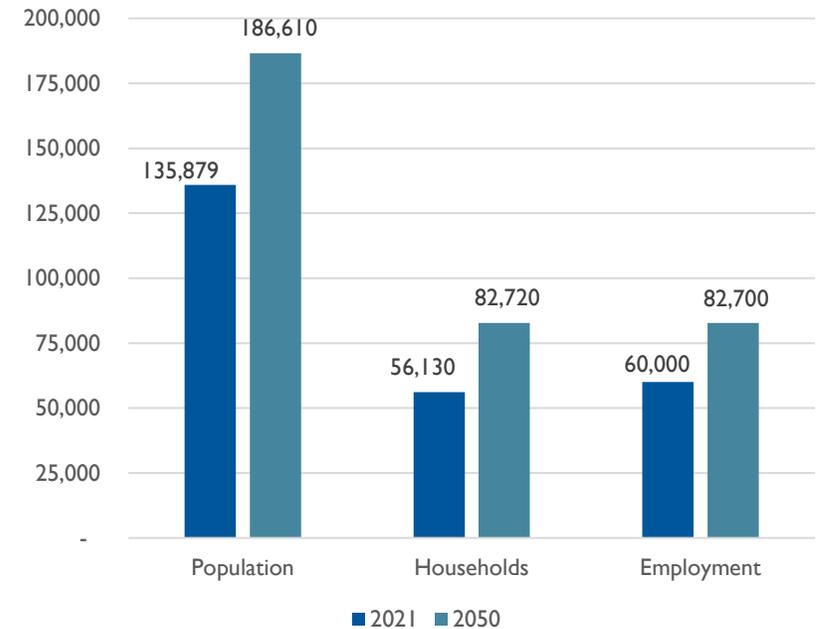
Forecasted Growth in Population, Households, and Employment, 2021-2050



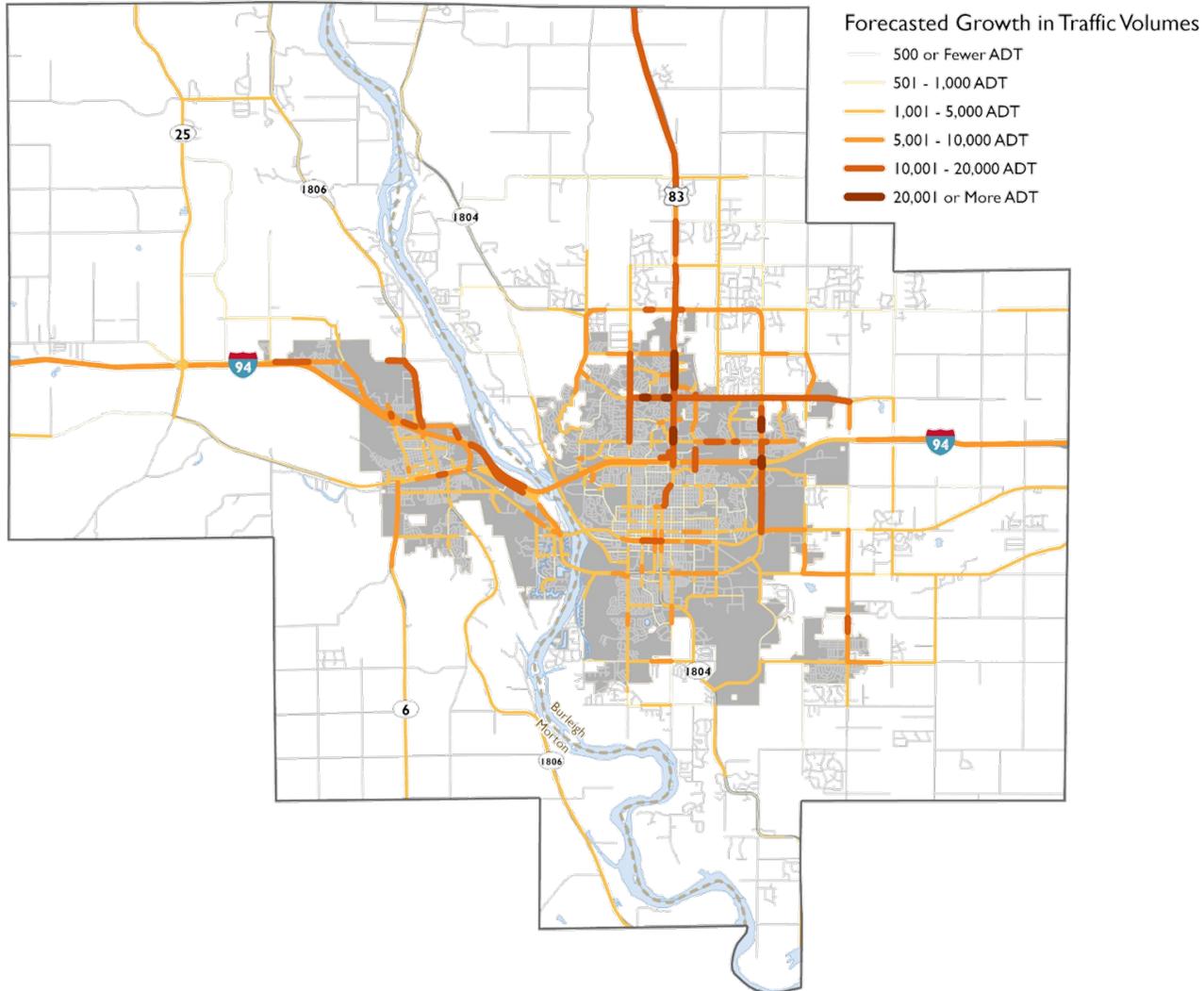
# Forecasted Growth in MPO Employment, 2021 - 2050



Forecasted Growth in Population, Households, and Employment, 2021-2050



# Forecasted Growth in Traffic Volumes, 2021-2050



Daily Trips – 48% Increase



Vehicle Miles Traveled – 60% Increase



Vehicle Hours Traveled – 79% Increase



Average Trip Length (miles) – 8% Increase

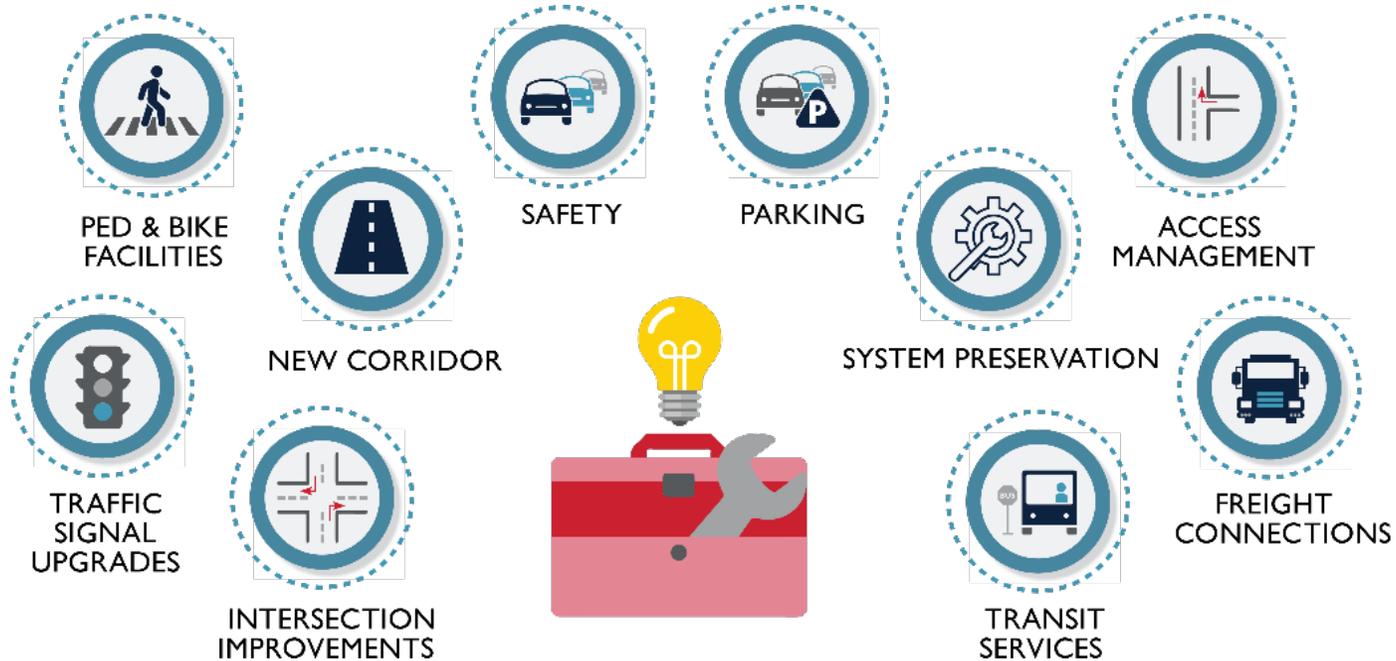


Average Travel Speed (miles per hour) – 11% Decrease

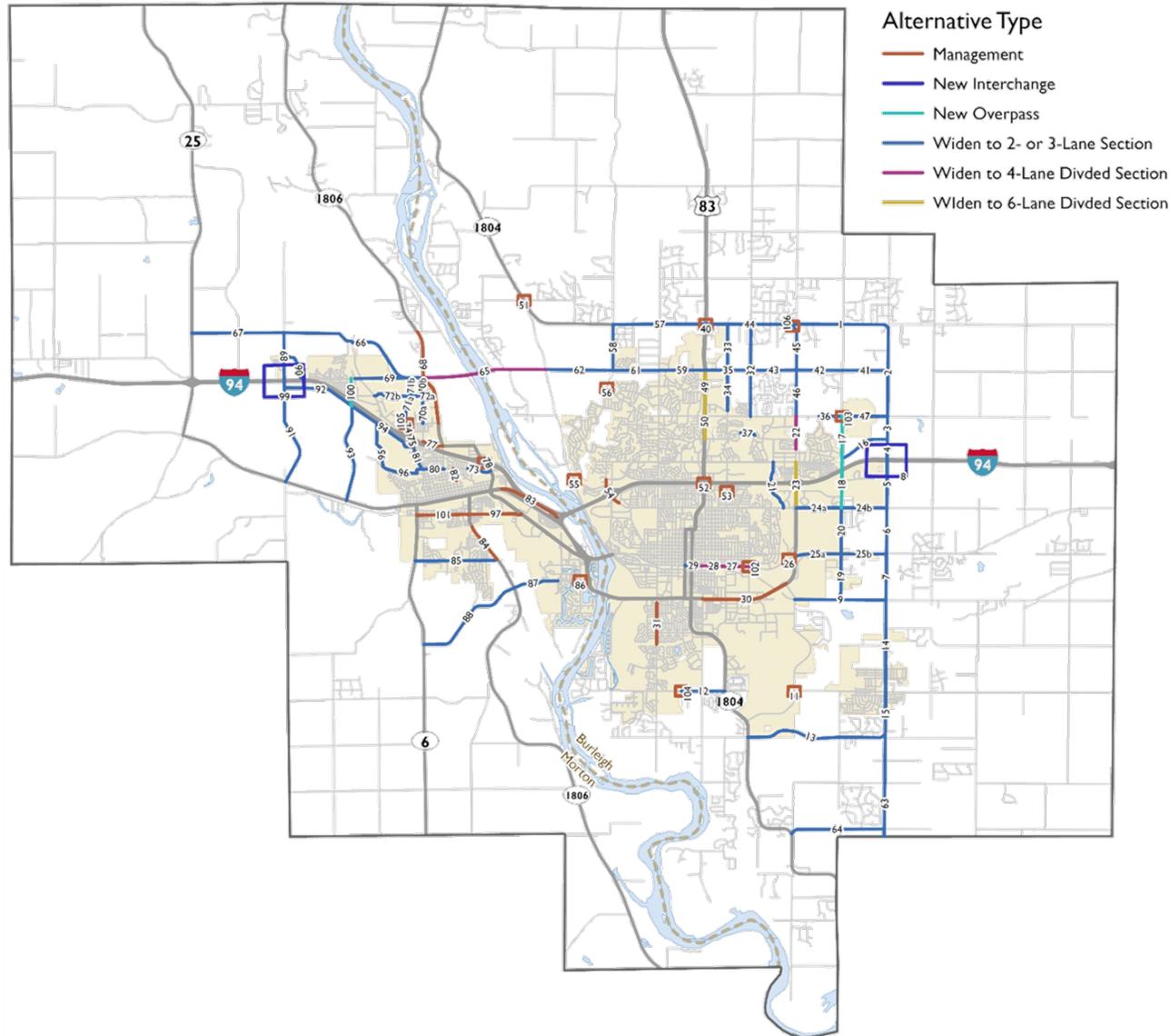


# MTP Strategies, Trends, and Drivers

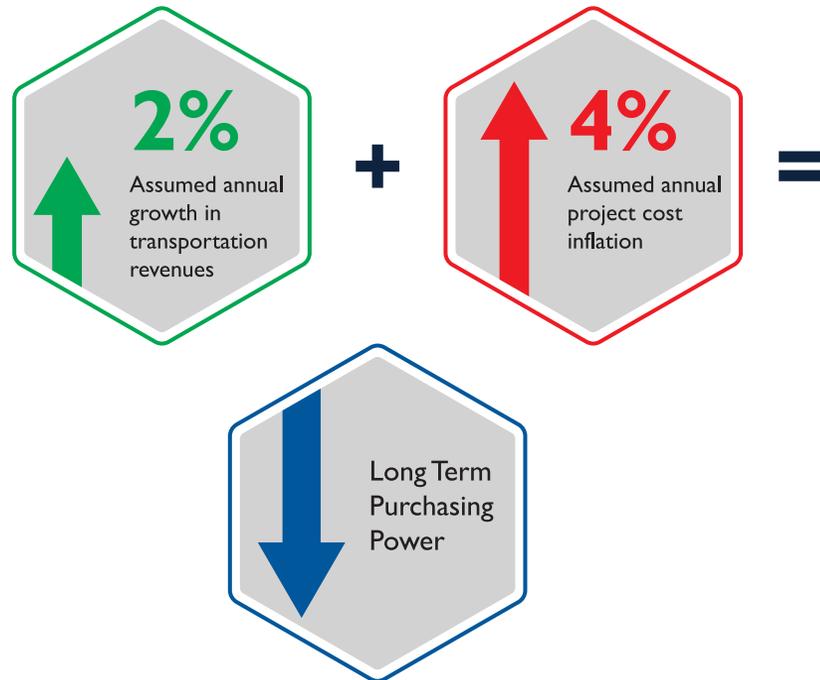
## Arrive 2050 Toolbox of Strategies



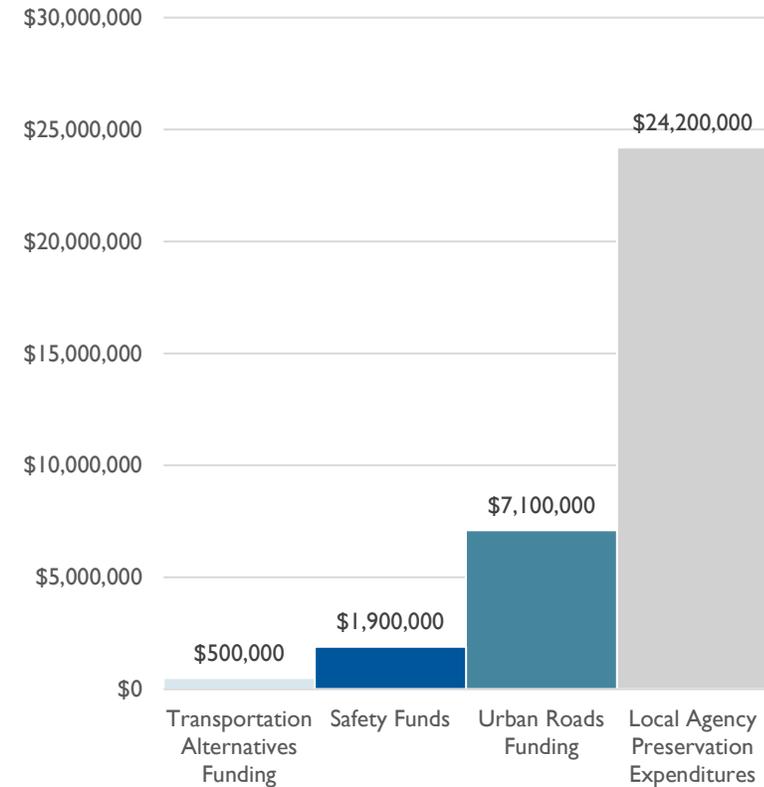
# Project Alternatives Considered



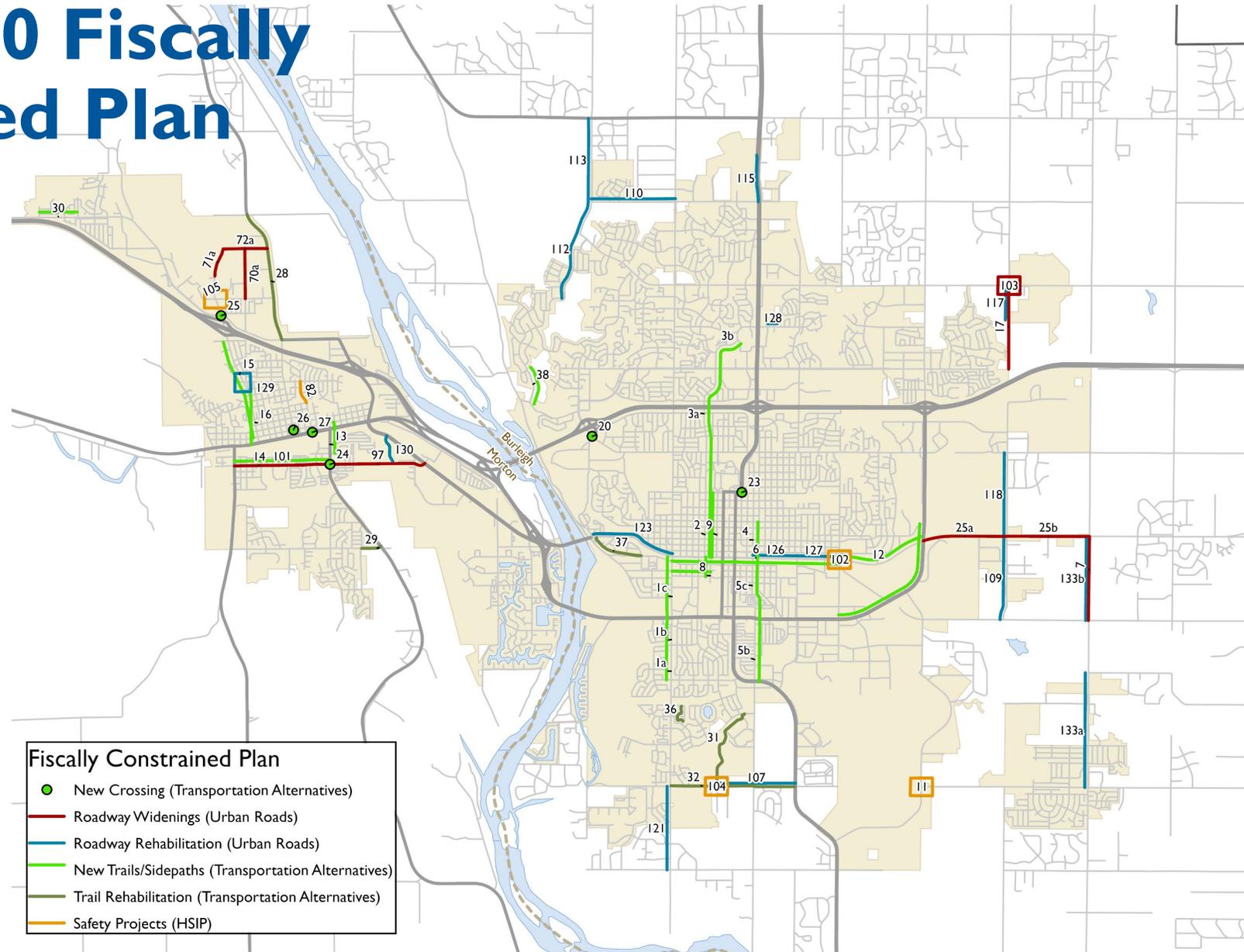
# Arrive 2050 Funding Assessment



## Arrive 2050 Annual Funding Levels

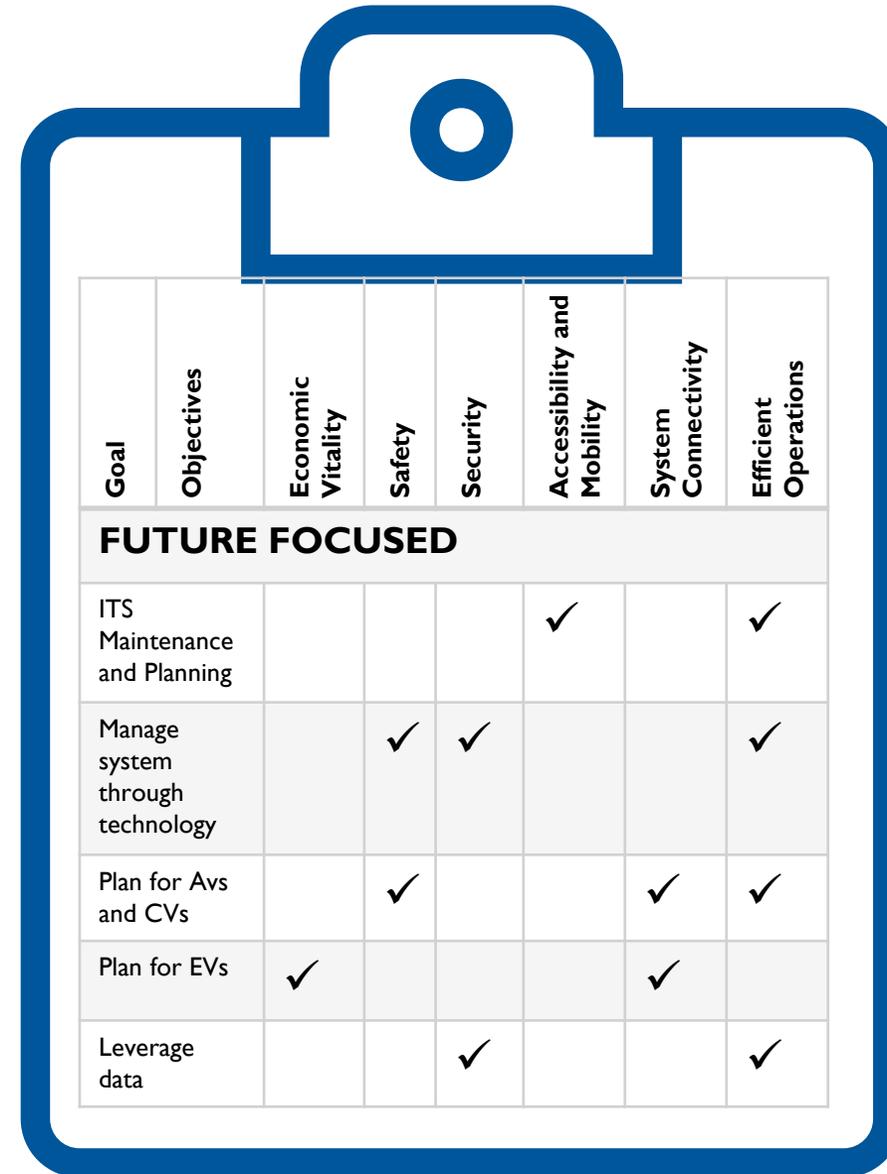


# Arrive 2050 Fiscally Constrained Plan



# Federal Compliance

- Demonstrate MTP alignment with Federal regulations



| Goal                             | Objectives | Economic Vitality | Safety | Security | Accessibility and Mobility | System Connectivity | Efficient Operations |
|----------------------------------|------------|-------------------|--------|----------|----------------------------|---------------------|----------------------|
| <b>FUTURE FOCUSED</b>            |            |                   |        |          |                            |                     |                      |
| ITS Maintenance and Planning     |            |                   |        |          | ✓                          |                     | ✓                    |
| Manage system through technology |            |                   | ✓      | ✓        |                            |                     | ✓                    |
| Plan for Avs and CVs             |            |                   | ✓      |          |                            | ✓                   | ✓                    |
| Plan for EVs                     |            | ✓                 |        |          |                            | ✓                   |                      |
| Leverage data                    |            |                   |        | ✓        |                            |                     | ✓                    |



# Thank You!





# Bismarck-Mandan MPO 2050 MTP Comments Received Summary

## Member Agency Comments

### City of Mandan Comments

| Location   | Comment   | Source                   | Addressed? | MTP Team Response  |
|--|---|--------------------------|------------|--|
| Figure 13: Bismarck-Mandan MPO Roadways Jurisdictions  | there are some roads shown as “local” colored in a way that makes it seem like City of Mandan responsibility but which are “County”. Adjusting the color to grey for roads outside of Mandan City Limits would help with this.  | Stromme (City of Mandan) | Yes        | Map update to show streets outside of City limits with grey symbology                    |
| Figures 16: Fatal and Serious Injury Crashes, 2018-2022; Figure 18: Bicycle- and Pedestrian-Involved Crashes, 2018-2022; Figure 19: Bicycle- and Pedestrian-Involved Fatal and Serious Injury Crashes, 2018-2022 | Could these be enlarged or include inset maps? The information is valuable, but higher point-density areas are challenging to interpret.  | Stromme (City of Mandan) | Yes        | Symbologies reduced in size to give better geographical perspective                      |
| Figure 26: Rail Lines and Public Crossings in the MPO Region   | A significant number of the mapped crossings fall outside public areas of the community (e.g., within the power plant's private property or inside the rail yard). Not a huge deal but it sort of makes it seem like there are a lot more RR crossings than we know about/plan around and are affected by. Perhaps there is good reason to include those on private property that I’m not considering.  | Stromme (City of Mandan) | Yes        | Map and section text updated to focus on public crossings only                           |
| Figure 28: Existing Bicycle and Pedestrian Facilities, Urban Inset   | We have updates for this figure. It’s possible that the initial data we provided was not the most recent – we ran into this with another ongoing study. We can supply additional information if feasible to include. Could the MPO provide an example to City of Mandan of what is currently on file for Mandan bike/ped infrastructure in GIS? I think it could be a situation where we haven’t communicated our improvements to them, and therefore they are “under the GIS radar”. | Stromme (City of Mandan) | Yes        | Map updated per Andrew's shared list of bike/ped facilities                              |
| Figure 52: Cultural Resources in the Bismarck-Mandan MPO Area (dropped from final MTP, available in Baseline Conditions Appendix)  | Downtown Mandan should be categorized as a historic district, using the appropriate color, instead of a cultural resource area. Additionally, Bismarck may have desire to map another historic district, "Highland Acres," established during this project.   | Stromme (City of Mandan) | Yes        | Downtown Mandan categorization changed to Historic District, Highland Acres added to map |
| Table 43: Transportation Alternatives Long-Term Projects   | Project 5b should be reassigned to Bismarck.  | Stromme (City of Mandan) | Yes        | Project reassigned to Bismarck   |
| Appendix A: Project Alignment with Regional Vision Scorecards and Scoring Rubric   | Could a legend be added near this section to clarify what the shields represent?  | Stromme (City of Mandan) | Yes        | Legend added to denote what shields mean   |



North Dakota Department of Transportation Comments

| Location                                  | Comment   | Source          | Addressed? | MTP Team Response   |
|---|---|-----------------|------------|---|
| Page 12, MTP description in table         | This is true, but this also reads like a definition, so should we also point out that if this area would ever become a non-attainment area the MTP would need to be updated every 4 years?  | Zacher (NDDOT)  | Yes        | Added statement: MPOs that are designated as air quality non-attainment areas are required to update the MTP every 4 years  |
| Page 12, TIP description in table         | May want to consider defining "area" as the MPA.  | Zacher (NDDOT)  | Yes        | Revised to "...improvements in the Metropolitan Planning Area (MPA)"  |
| Page 12, UPWP description in table        | Is BMMPO going back to a 2-year UPWP? Rachel has been talking about annual UPWPs.   | Zacher (NDDOT)  | Yes        | Language updated to state the UPWP is for any specified 1- or 2-year period.  |
| Page 17, Safety Goal Objective I          | How is this being done? Are these actual numbers and locations or more "these conditions exist, which may lead to that"?  | Zacher (NDDOT)  | Yes        | Detailed crash prediction was not used in the MTP alternatives prioritization but major safety features like introduction of medians were introduced into the MTP process. Crash prediction is anticipated to more widely applied as a corridor-based tool that would be used when considering projects/prioritizing projects for the short term program. |
| Page 32, Public Open House I summary      | I understand that the only other place this is shown is in a title, but I found it confusing thinking that the "I" a the end was a typo or the start of a different thought that was later revised and the "I" didn't get removed. Later I came back to reread and did notice this matches the title of this section minus the caps indicating the title. | Zacher (NDDOT)  | Yes        | Capitalized in-text reference of Public House I for clarification and consistency with section heading  |
| Page 47, Figure 12 NHS                    | Appears that 7th St is not colored like the rest of the arterials; was that for a reason?   | Zacher (NDDOT)  | Yes        | Added 7th Street as Other Arterial  |
| Page 48, Figure 13 Roadway Jurisdictions  | Is this correct; the segments don't connect to anything. There appear to be a lot of stub routes. I get it that the road may not continue, but would the state then have jurisdiction on that road?   | Zacher (NDDOT)  | Yes        | State-owned stub routes are roads within state-owned lands; these were removed from the map   |
| Page 52, Table 14 Crash Frequencies       | Is it worth footnoting this table to explain State Street from Divide Ave to Calgary Ave received roadway improvements in 2023 to address the crash history and improve overall operations?   | Johnson (NDDOT) | Yes        | Added statement in text: "It is noted that roadway improvements to address crash history and overall traffic operations along State Street from Divide Avenue to Calgary Avenue were completed in 2023."  |
| Page 67, Multimodal Conditions intro      | I assume this is transportation within the MPO, but I found the wording odd and read through a few times. Is this phrase needed?  | Zacher (NDDOT)  | Yes        | Rephrased as "Existing conditions for the MPO's multimodal network were also reviewed..."   |
| Page 71, Ash Coulee Drive bullet          | Is there not an intersection here? Seems like there could be bigger issues if the designation starts randomly at a water tower; there isn't a location that the truck can turn if on Ash Coulee when it gets to the water tower?  | Zacher (NDDOT)  | Yes        | Ash Coulee reference removed-- this was formerly a 6-ton load restriction (prior to 2023); updated truck routes from city staff removed Ash Coulee restriction.   |
| Page 74, Daily Truck Trips summary        | This is ND Hwy 6; US 6 is thru WY and over to Chicago.  | Zacher (NDDOT)  | Yes        | Revised to ND 6   |
| Page 74, Annual Tonnage summary           | ND  | Zacher (NDDOT)  | Yes        | Revised to ND 6   |
| Page 83, Figure 38 Bike/Ped Facilities    | There are 3 RRFBs in Lincoln (2 on Lincoln Rd; 1 where it is shown and the other is on the west end of the loop where the street crosses to the north) there is also 1 on 66th St and Dolen Ave (north side of school)  | Zacher (NDDOT)  | Yes        | Map updated to include RRFBs in Lincoln   |
| Page 85, Transit Development Plan link    | Not sure if these are intended to be links but currently are not (includes foot notes).   | Zacher (NDDOT)  | Yes        | Updated links   |
| Page 88, Fleet and Facilities             | From FTA: I suggest adding text stating where the Red Route departs and returns to.   | Zacher (NDDOT)  | Yes        | Adding west and east endpoints for Red Route  |
| Page 95, Table 28 Avg Pavement Conditions | What are the IRI ranges for each IRI category?  | Beise (NDDOT)   | Yes        | Added IRI ranges on preceding page to conclude discussion of IRI  |
| Page 98, Bridge Conditions                | Are these structural culverts (i.e. box culverts, Structural plate pipes) that have structure numbers?  | Zacher (NDDOT)  | Yes        | These would be all culverts registered with National Bridge Inventory. The data include structure numbers   |



| Location   | Comment   | Source          | Addressed? | MTP Team Response  |
|--|---|-----------------|------------|--|
| Page 126, Northern Bridge Crossing bullet        | This is a significantly larger number than has been shown in past studies; is there something unique this time around affecting this number?  | Johnson (NDDOT) | Yes        | These estimates reflect the latest results received from ATAC's latest 2050 model and this particular future scenario model traffic run. A more detailed bridge study could elevate all of the parameters more closely, and this number could change.  |
| Page 127, Figure 64 and 65                       | Are these two colors too close to each other? Could be hard to differentiate for some readers.  | Johnson (NDDOT) | Yes        | Line color for Morton County projections revised to better distinguish from Burleigh County  |
| Page 132, Funding Plan Interstate Program        | This program also addresses mainline Interstate.  | Johnson (NDDOT) | Yes        | Revised statement to note eligibility of mainline Interstate segments  |
| Page 132, Funding Plan NHPP                      | This is old news; no need to restate it here.   | Johnson (NDDOT) | Yes        | Removed statement that NHPP replaced former Interstate Maintenance program   |
| Page 132, Funding Plan NHPP                      | NHPP also provides funding for work on non-Interstate NHS roadways; this should be clarified here.  | Johnson (NDDOT) | Yes        | Revised intro sentence to read "The National Highway Performance Program (NHPP) provides funding for projects that support the condition and performance of the state's Interstate NHS and non-Interstate NHS routes..."   |
| Page 133, Urban Roads Program                    | "NDDOT does not solicit funding..." Question for LGD; isn't this statement wrong?   | Johnson (NDDOT) | Yes        | removed statement that NDDOT does not solicit funding for improvements   |
| Page 133, Urban Roads Program                    | calculated based  | Johnson (NDDOT) | Yes        | Revised to "calculated based on each LPA's proportion of population..."  |
| Page 133, Urban Roads Program                    | or 100% funding   | Johnson (NDDOT) | Yes        | added "or 100% of funding"   |
| Page 133, Urban Roads Program                    | or 100% funding   | Johnson (NDDOT) | Yes        | added "or 100% of funding"   |
| Page 133, Urban Roads Program                    | This is not correct. Funding provided to the MPO under the Urban Roads program is distributed through the Urban Roads formula and is based on the annual funding available in the program.  | Hanson (NDDOT)  | Yes        | Revised statement to "Funding provided to the MPO under the Urban Roads program is distributed through the Urban Roads formula and is based on annual funding available in the program."   |
| Page 133, Urban Roads Program                    | plus a base amount  | Hanson (NDDOT)  | Yes        | Added "plus a base amount" to end of sentence  |
| Page 133, Safety Program                         | or could be 5% state and 5% LPA if on the Secondary Regional system   | Hanson (NDDOT)  | Yes        | Added sentence "If the improvement is on the Secondary Regional System, the 10% match could be 5% state and 5% LPA."   |
| Page 134, Recent Federal Funding Programs        | While these are new funding categories, they are not additional or increased funding. For example, the Carbon Reduction program is part of the overall urban program and is not additional funding to the program.  | Hanson (NDDOT)  | Yes        | Revised to "In the MPO region, several formula funding programs authorized through IIJA are incorporated into existing programs such as the Urban Roads Program"   |
| Page 136, Historic Revenue Levels                | Reviewing TIPs to determine funding levels is not the best idea. Some projects get included in a TIP and then move to another year and are listed again or are canceled and not necessarily removed from the TIP. It would be best to review the annual listing of obligations to see what was obligated each year. | Hanson (NDDOT)  | Yes        | Agree that past performance doesn't guarantee future results. We understand that many of these programs are state discretionary and are balanced across statewide needs. We've updated the Funding chapter to reflect no projections for NHPP and Urban Regional Secondary revenues. Language has been added to note that past revenue does not indicate future revenue. |
| Page 136, Historic Urban Regional Roads Revenues | This is an average that can't reasonably be assumed to be replicated in the future.   | Hanson (NDDOT)  | Yes        | See note above- Urban Regional Secondary future revenue projections were removed.  |
| Page 137, Table 34                               | Are you duplicating the Urban Regional and NHPP in this column? An Urban Regional project could be funded with NHPP apportionment but that is not additional funding! Make sure you aren't doing this with the NHPP category.   | Hanson (NDDOT)  | Yes        | NHPP and Urban Regional forecasts dropped since they are not used for fiscal constraint. Footnote added to historic revenue tables that notes Urban Regional may contain a portion of NHPP revenues.   |
| Page 137, Table 34                               | There is clearly an error in the Urban Regional amount for 2023 and 2024.   | Hanson (NDDOT)  | Yes        | See above.   |
| Page 141, Table 39                               | The baseline revenue level for the Urban Roads program is greater than the current annual allocation to the MPO for this program.   | Hanson (NDDOT)  | Yes        | the \$5.39 million value came from the Obligation Authority value the MPO had for 2023. Have added footnote to indicate baseline level came from 2023 Solicitation OA amount and future funding levels may vary.   |



| Location                                       | Comment   | Source            | Addressed? | MTP Team Response   |
|--|---|-------------------|------------|---|
| Page 141, Table 39                             | The Carbon Reduction apportionment for the MPO area is included in the Urban Program and is not additional funding revenue for the MPO area.  | Hanson (NDDOT)    | Yes        | Dropped from forecasts table  |
| Page 141, Table 39                             | Protect is a new funding category but is not truly additional funding to the state and it is very unlikely to have an annual revenue expectation for the MPO.   | Hanson (NDDOT)    | Yes        | Dropped from forecasts table  |
| Page 154, Table 54 Committed Projects          | Construction year is 2024. This is an AC project so in 2026 is the federal reimbursement to the city.   | Hanson (NDDOT)    | Yes        | Revised year to 2024, changed to ID 1   |
| Page 154, Table 54 Committed Projects          | This is a 100% city funded project.   | Hanson (NDDOT)    | Yes        | Revised funding source to "City Funded"   |
| Page 154, Table 54 Committed Projects          | What is this? Is it a duplicate of the above?   | Hanson (NDDOT)    | Yes        | Clarified in the project descriptions that these are two separate projects (Expressway/Washington and Expressway/26th)  |
| Page 154, Table 54 Committed Projects          | This project is no longer in the 2025-2028 funding program. There wasn't enough funding available to keep it in 2028.   | Hanson (NDDOT)    | Yes        | Removed project from table/map  |
| Page 157, Table 55 Short Term UR project #101  | ND 6?   | Hanson (NDDOT)    | Yes        | Revised to ND 6   |
| Page 159, Figure 68                            | R8 - Washington Street from 57th Ave NW to ND 1804 was not listed on pages 147 to 149. Should this roadway improvement be included on these pages? This roadway was reconstructed in 2019.  | Frisinger (NDDOT) | Yes        | City staff directed removal of this project; removed from map/table   |
| Page 162, Long Term UR project #7              | It would be very challenging to fund projects of this size. They would likely need to be broken down into smaller pieces to be fundable.  | Hanson (NDDOT)    | Yes        | The steering committee kept all projects in the short-term within that smaller, single-year urban roads budget. However, with the uncertainty of future funding policy and the higher project costs we see with inflation in the Mid-term and Long-term, the committee wanted to show priority projects that do fit within overall funding even if it required multiple years. This project is only 1-mile long so would ideally be staged like this. If 5-years from now the policy is still intact the next MTP can break these mid-term and long-term projects up some more. |
| Appendix                                       | There are plan development type process comments posted by Jason Carbee that are visible in the provided Appendix. Starting on page 129 of the PDF. Recommend Reviewing these to see if they should be included   | Hutchings (NDDOT) | Yes        | Comments reviewed and removed, no further action.   |
| Plan Page 111 -List under urban regional roads | Add<br>- Structural Improvement<br>- Major Rehabilitation   | Hutchings (NDDOT) | Yes        | Added Structural Improvement and Major Rehabilitation to list under Urban Regional Roads  |
| Appendix and Plan Document                     | General Comment for all comments and changes made between December, 2024 and February 2025: Due to the fact that the overall document format and layout changed during this period and many things were moved to the appendix or was added to the appendix but kept summary portions, figures and tables of importance to the plan, some things that were not updated may be in two locations. Where NDDOT noticed this occurring they left a comment, but it became more difficult and terribly time consuming to check both documents while referencing the comment response matrix, the December submittal and the Original draft. MPO and Consultant must conduct an exhaustive review to correct these still outstanding issues. | Hutchings (NDDOT) | Yes        | Review conducted to ensure all comments addressed   |



Federal Highway Administration Comments

| Location   | Comment   | Source        | Addressed? | MTP Team Response  |
|--|---|---------------|------------|--|
| Page I, Cover  | Just a reminder per 23 CFR 450.324 - "...in attainment areas, the effective date of the transportation plan shall be its date of adoption by the MPO."  | Sperry (FHWA) | Yes        | Cover date will be adjusted to timing of Plan adoption   |
| Page I I, Figure I                                   | Is this the MPO Planning Area Boundary?   | Sperry (FHWA) | Yes        | Yes- the gray border represents the MPO boundary   |
| Page 12, MTP description in table                    | for MPOs that are in attainment, more frequently for MPOs not in attainment.  | Sperry (FHWA) | Yes        | Added statement: MPOs that are designated as air quality non-attainment areas are required to update the MTP every 4 years   |
| Page 12, TIP description in table                    | 23 CFR 450.326(f) all regionally significant projects whether or not funded with federal funds does not matter.   | Sperry (FHWA) | Yes        | Revised to "Identifies regionally significant and federally funded transportation improvements..."   |
| Page 12, UPWP description in table                   | Your UPWP is annual are you changing to biennial?   | Sperry (FHWA) | Yes        | Language updated to state the UPWP is for any specified 1- or 2-year period.   |
| Page 45, Figure I I                                  | The Urbanized Area Boundary is not shown after this - would it be important to show to know where funding pots may change? STBG is suballocated into pots based on population.<br><a href="https://www.fhwa.dot.gov/bipartisan-infrastructure-law/stbg.cfm">https://www.fhwa.dot.gov/bipartisan-infrastructure-law/stbg.cfm</a> | Sperry (FHWA) | Yes        | Added UAB to fiscally constrained maps, illustrative projects map  |
| Page 47, Figure 12 NHS                               | Show the Urbanized Area Boundary.   | Sperry (FHWA) | Yes        | Map updated to include UAB   |
| Page 47, Figure 12 NHS                               | Is this dot on the NHS? The FHWA NHS map does not show anything here.   | Sperry (FHWA) | Yes        | Linked map has small dot in same location as the document map-- data was retrieved from FHWA GIS site. Maybe an error in the FHWA data?  |
| Page 95, Pavement Conditions                         | How do PCI and IRI compare - do they look at similar aspects?   | Sperry (FHWA) | Yes        | Added discussion of differences between PCI and IRI  |
| Page 103, Figure 52                                  | The NPS has a map showing all publicly known locations -figure is missing a few locations. <a href="https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466">https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466</a>  | Sperry (FHWA) | Yes        | Added Highland Acres to the map. Map was moved from body of report to Appendix   |
| Page 106, Section 4(f) and 6(f)                      | ND Park and Recreation keep the full list of projects - there are more than those listed here. <a href="https://www.parkrec.nd.gov/business/grants/land-and-water-conservation-fund">https://www.parkrec.nd.gov/business/grants/land-and-water-conservation-fund</a>  | Sperry (FHWA) | Yes        | For the final report, this section was cut back and original content was moved to the Appendix. The Appendix content will be updated to include reference to the ND Parks and Recreation program and list of projects  |
| Page 125, Figure 63                                  | State what the individual numbers for each segment mean.  | Sperry (FHWA) | Yes        | Added sentence stating the numbers on the map correspond to IDs that match mapped projects to projects listed in Appendix table  |
| Page 126, Alternatives Benefitting Cross Area Travel | Consider adding the number from Figure 63 with these for those that may not be familiar with one jurisdiction over another for another frame of reference..   | Sperry (FHWA) | Yes        | ID's added to help guide viewer towards specific alternatives referenced in this section   |
| Page 134, Recent Federal Funding Programs            | NEVI?   | Sperry (FHWA) | Yes        | Added a bullet/description for NEVI  |
| Page 148, Table 48                                   | No 2018 funding?  | Sperry (FHWA) | Yes        | Will add footnote stating that the MPO did not have a TIP in 2018  |
| Page 182, Environmental Mitigation                   | The environmental section previous to this had more categories - why is only EJ included here? Where would mitigation occur for wetland impacts on expansion or new roadway segments? Are there any projects in 4f or 6f areas - would additional purchase of right of way for a swap be needed etc...?                         | Sperry (FHWA) | Yes        | Added section that states at this planning-level view, we don't know impacts on wetlands, 4f,6f, etc.  |
| Page 202, Appendix B                                 | Were any state or federal agencies other than NDDOT, FHWA, and FTA included?  | Sperry (FHWA) | Yes        | There were no additional federal agencies, but the contact was made with several state agencies during stakeholder meetings earlier in 2024 and for the PIMs. The MPO maintains a list of community stakeholders and about a dozen state departments and councils were notified of the plan during development. The feedback from these groups was light, but did get a representative from ND Protection and Advocacy provide feedback at our PIM #2. |



## APPENDIX C: EXISTING CONDITIONS SUMMARY



# Baseline System Conditions

## Introduction

The baseline conditions of the Bismarck-Mandan MPO’s multi-modal transportation system were analyzed so that the issues and needs of the system could be identified. The identification of these existing issues and needs informs the development of the baseline scenario used to evaluate future multi-modal system scenarios, as well as the development of potential strategies available to the MPO in addressing these issues and needs.

This report summarizes the resulting analyses conducted for the multi-modal system, which reviewed existing safety, traffic operations, multi-modal, and asset conditions. A summary of identified multi-modal issues and needs identified through the baseline system analyses concludes the report.



| Safety | Traffic Operations | Freight | Bicycle and Pedestrian | Transit System | Regional Connection | Asset Conditions |
|--------|--------------------|---------|------------------------|----------------|---------------------|------------------|
|        |                    |         |                        |                |                     |                  |



Baseline System Conditions

## The MPO Area Today

A review of current demographic and employment data was conducted to gain an understanding of those residing and working within the MPO region. Through developing a demographic and employment profile of the community, the Bismarck-Mandan MPO can better understand the current transportation needs of residents and workers.

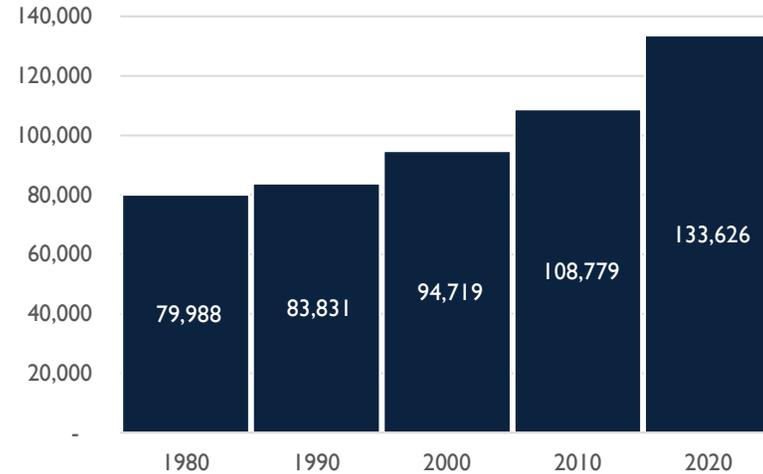
The demographic and employment data reviewed as part of this community profile was for the Bismarck-Mandan Metropolitan Area.

## Historic Population Growth

Historic population levels for the Bismarck-Mandan Metropolitan Area were obtained from past U.S. decennial censuses to illustrate how the region has grown since 1980. **Figure 1** presents these historic population levels. **Figure 1** illustrates that the metro’s population grew modestly between 1980 and 1990. By the year 2000, the population had grown by over 10,000 and growth continued to accelerate over the next two decades with the 2020 census recording a population of 133,626.

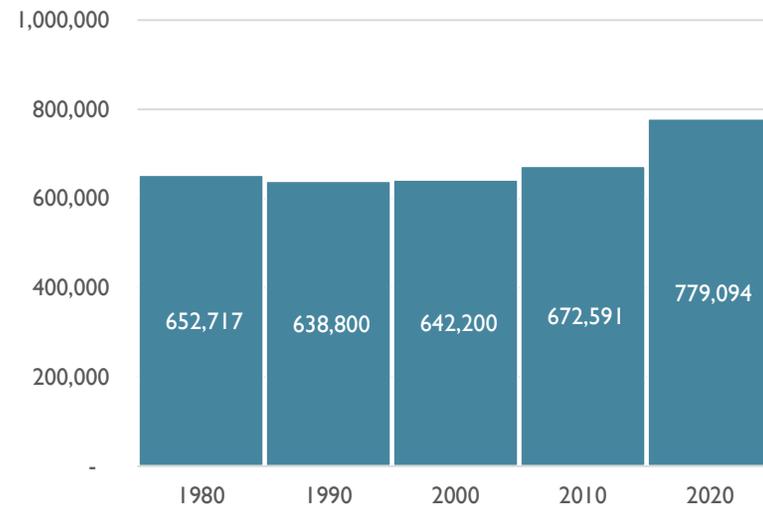
To provide a comparison of how the Bismarck-Mandan Metropolitan Area has grown over the past five decades, historic population levels for the State of North Dakota were also reviewed and are shown in **Figure 2**. The state’s population experienced a decline between 1980 and 1990 before experiencing a slight increase in population by the year 2000. Since 2000, North Dakota’s population has grown at a substantial rate which reflects the trend seen for the Bismarck-Mandan Metropolitan Area.

Figure 1: Population Growth for the Bismarck-Mandan Metropolitan Area, 1980 - 2020



Source: U.S. Decennial Census, 1980 – 2022

Figure 2: Population Growth for the State of North Dakota, 1980 - 2020



Source: U.S. Decennial Census, 1980 – 2022



## Age

Age is an important factor in determining travel demand as different age groups have varying transportation needs. Data related to median age and proportions of the population aged 65 years or older were reviewed to identify the current trends related to these topics.

### Median Age

**Table 1** summarizes the current median age of residents in the Bismarck-Mandan Metropolitan Area and provides a comparison to the median age of residents across the state of North Dakota and the United States based on the American Community Survey (ACS) 1-year estimates for the year 2022.

The current median age for residents of the Bismarck-Mandan Metropolitan Area is 38.5 which is slightly higher than the median age of 36.2 for the state of North Dakota. Compared to the United States, the median age for both the metro area and the state is lower than that of the nation.

### Percent of Population Over 65 Years of Age

The proportion of the population aged 65 years and older in the Bismarck-Mandan Metropolitan Area has grown since 2010 as illustrated in **Table 2**. In 2010, 13.5 percent of the metro area's population was 65 or older and this proportion grew to 16.3 percent in 2020. A similar trend was observed for the state of North Dakota as well as the United States for this same period, which highlights an overall shift towards an older population.

Table 1: Median Age for the Bismarck-Mandan Metropolitan Area, State of North Dakota, and United States, 2022

| Median Age                        |      |
|-----------------------------------|------|
| Bismarck-Mandan Metropolitan Area | 38.5 |
| State of North Dakota             | 36.2 |
| United States                     | 39.0 |

Source: American Community Survey 1-Year Estimates, 2022

Table 2: Percent of the Population Over 65 Years of Age for the Bismarck-Mandan Metropolitan Area, State of North Dakota, and United States

| Percentage of Population Over 65 Years | 2010  | 2015  | 2020  |
|--|-------|-------|-------|
| Bismarck-Mandan Metropolitan Area      | 13.5% | 14.6% | 16.3% |
| State of North Dakota                  | 14.6% | 14.2% | 15.3% |
| United States                          | 12.8% | 14.8% | 16.1% |

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



## Housing

Housing characteristics are an additional demographic indicator that is related to travel demand. The average household sizes for the Bismarck-Mandan Metropolitan Area, the state of North Dakota, and the United States were identified based on ACS 1-year estimates for the year 2022 and are shown in **Table 3**. It was found that the average household size for the Bismarck-Mandan Metropolitan Area is 2.38 for owner-occupied households and 2.07 for renter-occupied households; the resulting average household size is 2.23. Compared to the state of North Dakota, the average household size is slightly larger than the state’s average of 2.19. Households across the United States are larger on average than those of both the metro area and the state of North Dakota.

Table 3: Average Household Size for the Bismarck-Mandan Metropolitan Area, State of North Dakota, and the United States

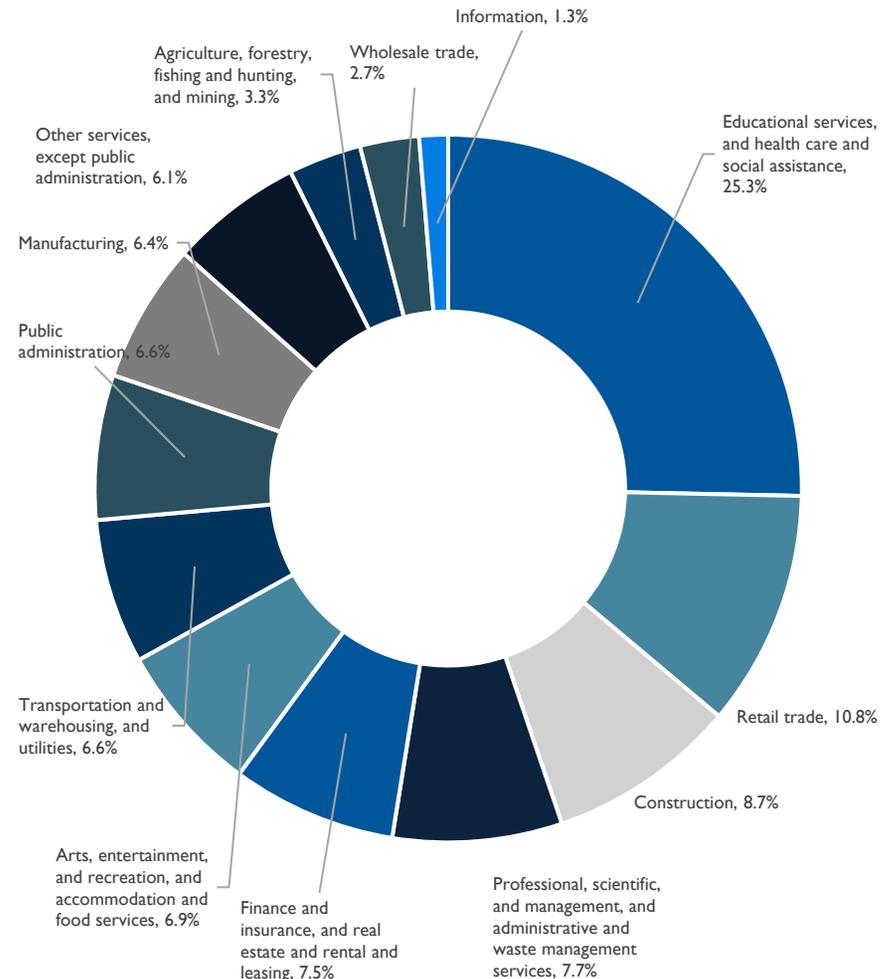
| Average Household Size            | Owner-Occupied | Renter-Occupied | Average |
|-----------------------------------|----------------|-----------------|---------|
| Bismarck-Mandan Metropolitan Area | 2.38           | 2.07            | 2.23    |
| State of North Dakota             | 2.42           | 1.96            | 2.19    |
| United States                     | 2.63           | 2.27            | 2.45    |

Source: American Community Survey 1-Year Estimates, 2022

## Employment

Data on employment by industry for the Bismarck-Mandan Metropolitan Area is summarized in **Figure 3**. The largest proportion of workers, at 25.3 percent, in the metro area are employed in educational services, health care, and social assistance. The retail trade employs the second largest proportion of workers at 10.8 percent while the construction industry employs almost 9 percent of the metro area’s workers.

Figure 3: Employment by Industry for the Bismarck-Mandan Metropolitan Area



Source: American Community Survey 1-Year Estimates, 2022



## Commuting

Commuting trends for workers within the Bismarck-Mandan Metropolitan Region were analyzed based on ACS 1-year estimates for the year 2022 so that a profile of modal share, time of departure, and travel time to work could be developed.

### Means to Work

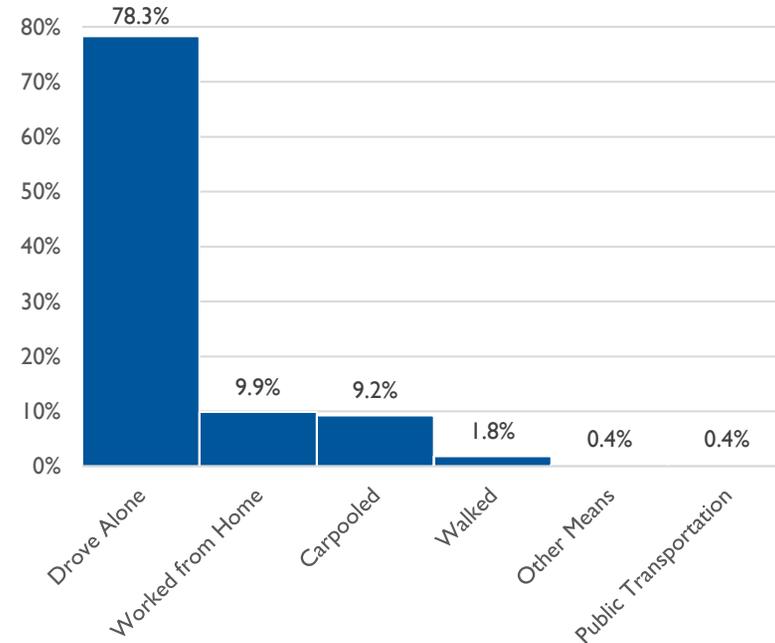
Means to work refers to the primary transportation mode used by workers for commuting purposes. **Figure 4** provides a summary of the current modal share for the metro area’s workers.

Approximately 78 percent of workers in the metro area drive alone during their commute while an additional 9.2 percent carpool; this indicates that over 87 percent of workers commute to work via automobile each day. **Nearly 10 percent of metro area workers are reported as working from home which marks a significant increase in the proportion of workers who worked from home in 2019, which was reported as 3.2 percent.**

This increase marks a trend in working arrangements that began with the COVID-19 public health pandemic in 2020 that saw a major shift in the number of individuals working from home due to local shelter-in-place ordinances. Since 2020, the number of workers with a work from home arrangement has declined when compared to the numbers reported during the pandemic but are still above pre-COVID-19 levels.

Of the remaining commuting modes, roughly 2 percent of metro area workers are estimated to walk to work, while 0.4 percent use public transportation, and the remaining 0.4 percent use other means for their commute.

Figure 4: Means of Commuting to Work for the Bismarck-Mandan Metropolitan Area



Source: American Community Survey 1-Year Estimates, 2022

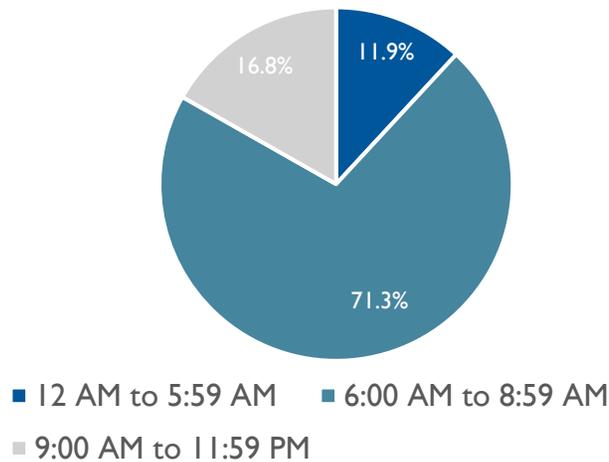


### Time of Departure

Time of departure refers to the hour with which workers begin their commutes. This measure provides insight into when peak period travel times likely occur as peak travel is typically associated with the morning and afternoon commute period.

**Figure 5** illustrates the current breakdown of times of departure for metro area works. As the figure shows, over 70 percent of the metro area’s commutes depart home between the hours of 6 AM and 8 AM. The second largest proportion of commutes begin between the hours of 9 AM and 11 PM. Almost 12 percent of commutes depart from between the hours of 12 AM and 5 AM.

Figure 5: Time of Departure to Work for the Bismarck-Mandan Metropolitan Area



Source: American Community Survey 1-Year Estimates, 2022

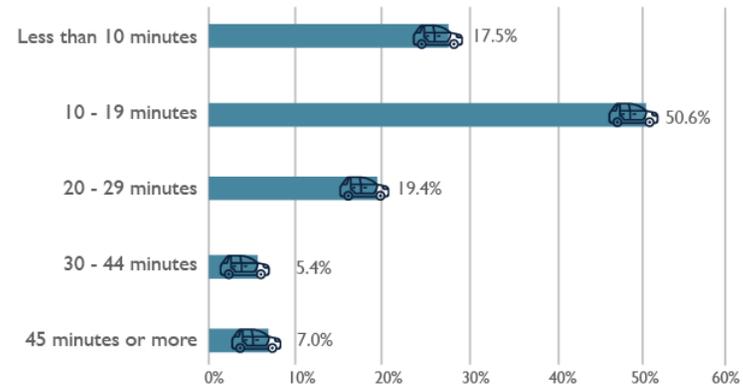
### Travel Time to Work

Travel time to work looks at the length of commutes in terms of minutes to provide a picture of how long a worker typically spends commuting to their place of employment. **Figure 6** summarizes the travel times for the metro area’s workers.

The largest share of commuters, 26.3 percent, spend between 15 to 19 minutes traveling to work while 24.3 percent spend between 10 and 14 minutes. The third largest share of workers typically spend less than 10 minutes commuting to work.

Commutes beyond 25 minutes are not common for workers in the Bismarck-Mandan Metropolitan Area but it is noted that 5 percent of workers commute 60 or more minutes to their place of employment.

Figure 6: Travel Time to Work for the Bismarck-Mandan Metropolitan Area  
Source: American Community Survey 1-Year Estimates, 2022





### Commuting Inflow/Outflow

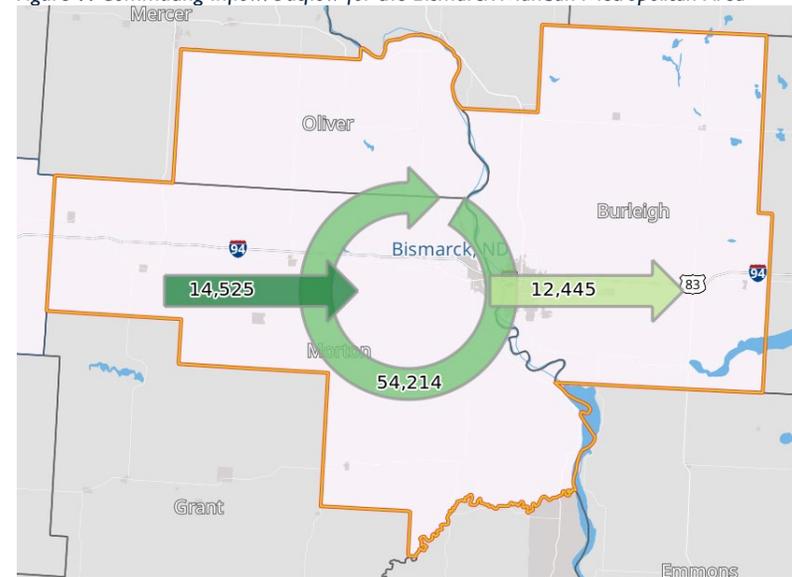
Commuting inflow/outflow is an analysis that looks at commuting flows into, out of, and within a defined area. A commuting inflow/outflow analysis was conducted for the Bismarck-Mandan Metropolitan Area so that commuting flow patterns for the region's workers could be identified.

The results of the analysis are shown in **Figure 7**. Of the nearly 69,000 workers employed within the Bismarck-Mandan Metropolitan Area, 54,214 are reported as both living and working within the metro area while approximately 12,445 individuals employed within the metro area live outside of it. The remaining 14,525 of the metro area's workers are reported as living outside the metro but commute into the area for their jobs.

Data related to the top commuting corridors within the MPO Area was collected from Replica HQ, which is a platform that integrates location-based data from mobile devices with land use and ACS demographic data to estimate travel in a geographic area via an activity-based travel demand model. The Replica data was filtered to private auto trips taken to work locations within the MPO Area during a typical weekday in Spring 2023.

**Figure 8** shows the resulting number of commute trips on a typical weekday for the MPO Area. As **Figure 8** shows, the major corridors used for commuting trips include I-94 in Bismarck and Mandan, and US 83 within Bismarck. Overall, the MPO's functionally classified system was shown to carry the majority of commute trips as most corridors are estimated to facilitate at least 1,000 commute trips on a typical weekday.

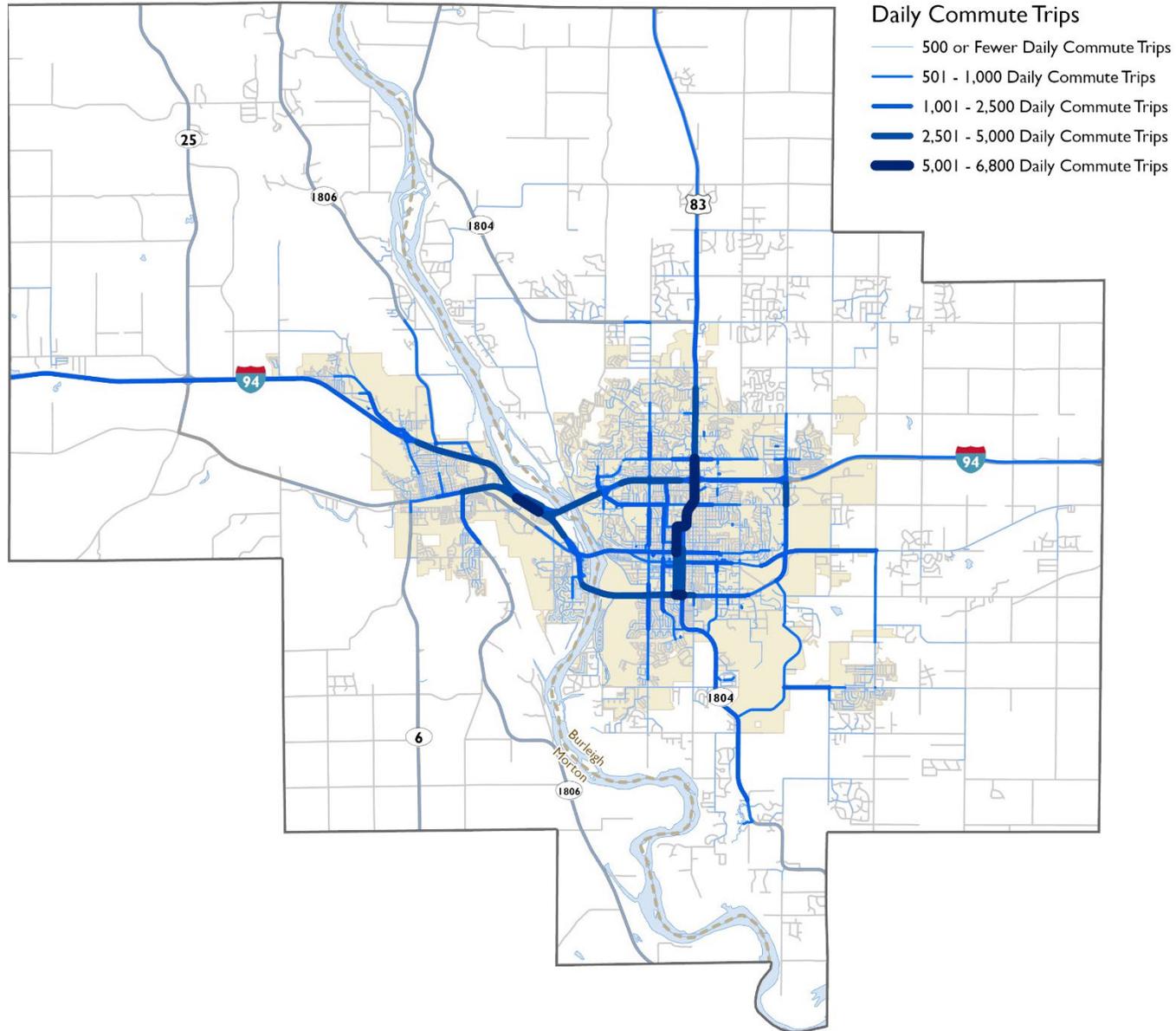
Figure 7: Commuting Inflow/Outflow for the Bismarck-Mandan Metropolitan Area



Source: United States Census Bureau, [OnTheMap](#)



Figure 8: Top Commuting Corridors in the MPO Area





Baseline System Conditions

## MPO Area Street and Highway Network

The streets and highways of the Bismarck-Mandan MPO area are the central feature of the multi-modal transportation system. Facilitating mobility and access to regional residential, employment, and recreational destinations, the MPO’s streets and highways are a critical element in supporting the region’s development and economy.

This section of the report summarizes the current classifications of the MPO’s streets and highways, including Federal functional classifications, National Highway System (NHS) designations, and the jurisdictions responsible for the maintenance and operation of these roadways.

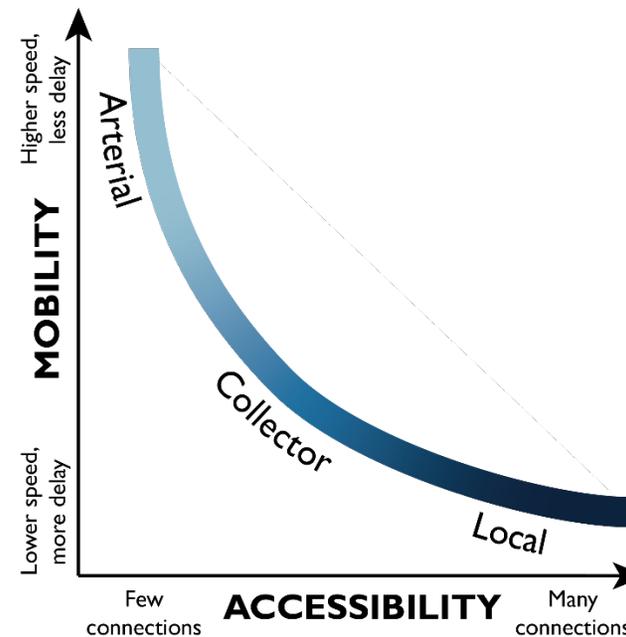
### Functional Classifications

Functional classifications are a series of designations used to classify streets and highways based on the character of service provided by them. The purpose of assigning roadways a functional classification is to organize the network so that the proper balance between mobility and accessibility is provided to road users, as demonstrated in **Figure 9**. High mobility roadways typically are designed to carry higher daily traffic volumes at higher speeds with limited access, while roadways are designed to provide higher degrees of accessibility carrying lower daily traffic at lower speeds so that adjacent land uses can be easily accessed.

In addition to the balance of mobility and accessibility provided by the functional classification system, the Federal Highway Administration (FHWA) uses functional classifications for planning purposes. Roadways identified under the Federal functional classification system are considered part of the Federal-aid system, meaning they are eligible to receive Federal funding for transportation-related improvements. The MPO area’s proposed Federal functional classification system is delineated between urban

and rural functional classifications, which are determined based upon the MPO’s urbanized area boundary (UZA); MPO roadways that fall within the UZA are considered urban, while those outside of the UZA are considered rural. The MPO’s proposed functionally classified system and UZA are shown in **Figure 10**.

Figure 9: Accessibility and Mobility Characteristics of the Functionally Classified Roadway System



Source: Federal Highway Administration



The UZA also has importance regarding the suballocation of federal funds, including the Surface Transportation Block Grant Program (STBG); current regulations contained within the Bipartisan Infrastructure Law direct states to allocate 55% of STBG funds between the following:<sup>1</sup>

- **Urbanized areas with populations greater than 200,000:** This portion is to be divided among those areas based on their relative share of population unless the Secretary approves a joint request from the State and relevant MPO(s) to use other factors.
- **Urbanized areas with population of at least 50,000 but no more than 200,000:** The State is to establish a process to consult with relevant metropolitan planning organizations and describe how funds will be allocated equitably.
- **Urbanized areas with population of at least 5,000 but no more than 49,999:** The State is to consult with regional transportation planning organizations, if any, before obligating funds for projects in these areas.
- **Areas with population of less than 5,000:** The State is to consult with regional transportation planning organizations, if any, before obligating funds for projects in these areas.

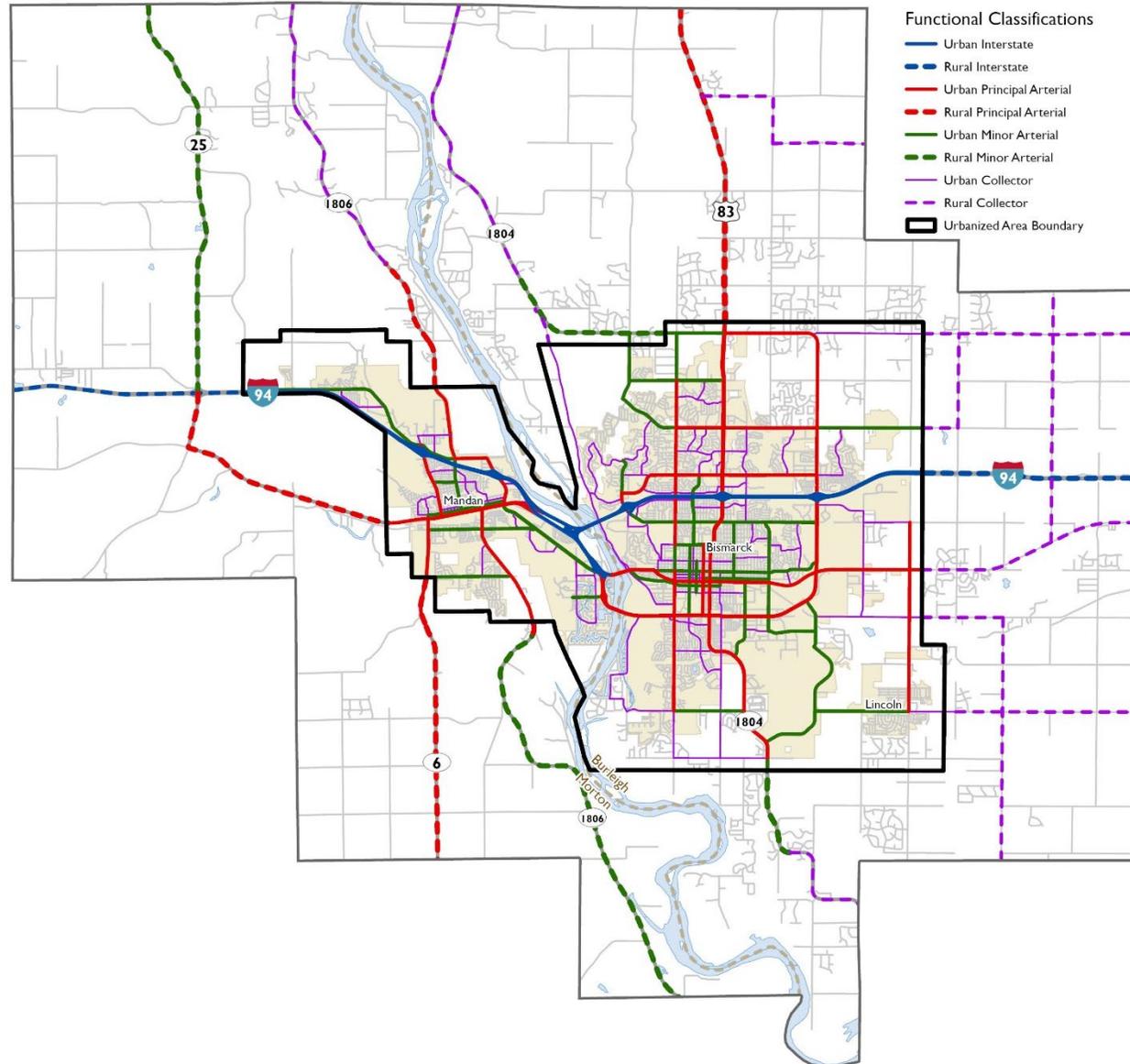
The remaining 45% of a state's STBG funding may be obligated in any are of the state.

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<sup>1</sup> Federal Highway Administration, [Infrastructure Investment and Jobs Act Surface Transportation Block Grant \(STBG\)](#).



Figure 10: Bismarck-Mandan MPO's Proposed Functional Classification System



Source: Bismarck-Mandan MPO, Burleigh County, North Dakota Department of Transportation



## National Highway System

The National Highway System (NHS) is a network of roadways that are deemed as critical to the nation’s economy, defense, and mobility. This network was developed through cooperation between the United States Department of Transportation (USDOT), states, local governments, and MPOs and consists of a series of subsystems, including:<sup>2</sup>

- **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 which are important to the United States strategic defense policy, and which provide defense access, continuity, and emergency capabilities for defense purposes.
- **Major Strategic Highway Network Connectors:** Highways which provide access between major military installations and highways which are part of STRAHNET.
- **Intermodal Connectors:** Highways that provide access between major intermodal facilities and the other four subsystems of the NHS.

Designation as part of the NHS has planning implications for the roadways identified as part of this network. Eligibility for funds

under certain Federal funding programs require NHS designation while Federal performance reporting requirements are based on each state’s NHS segments.

The MPO’s roadways designated as part of the NHS are shown in **Figure 11**.

## Roadway Jurisdiction

Roadway jurisdiction pertains to the primary agency responsible for the maintenance and operation of a roadway. For the Bismarck-Mandan MPO area, jurisdictions responsible for roadways include state, county, township, and local agencies. Within the MPO area, the specific agencies responsible for maintaining and operating roadways include:

- **State Agencies:** North Dakota Department of Transportation (NDDOT)
- **County Agencies:** Burleigh and Morton Counties
- **Townships:** Hay Creek, Gibbs, and Apple Creek
- **Local Agencies:** Bismarck, Mandan, and Lincoln

**Figure 12** shows the MPO area’s roadways and their current jurisdictional responsibilities.

<sup>2</sup> Federal Highway Administration, [National Highway System](#)



Figure 11: National Highway System within the Bismarck-Mandan MPO Region

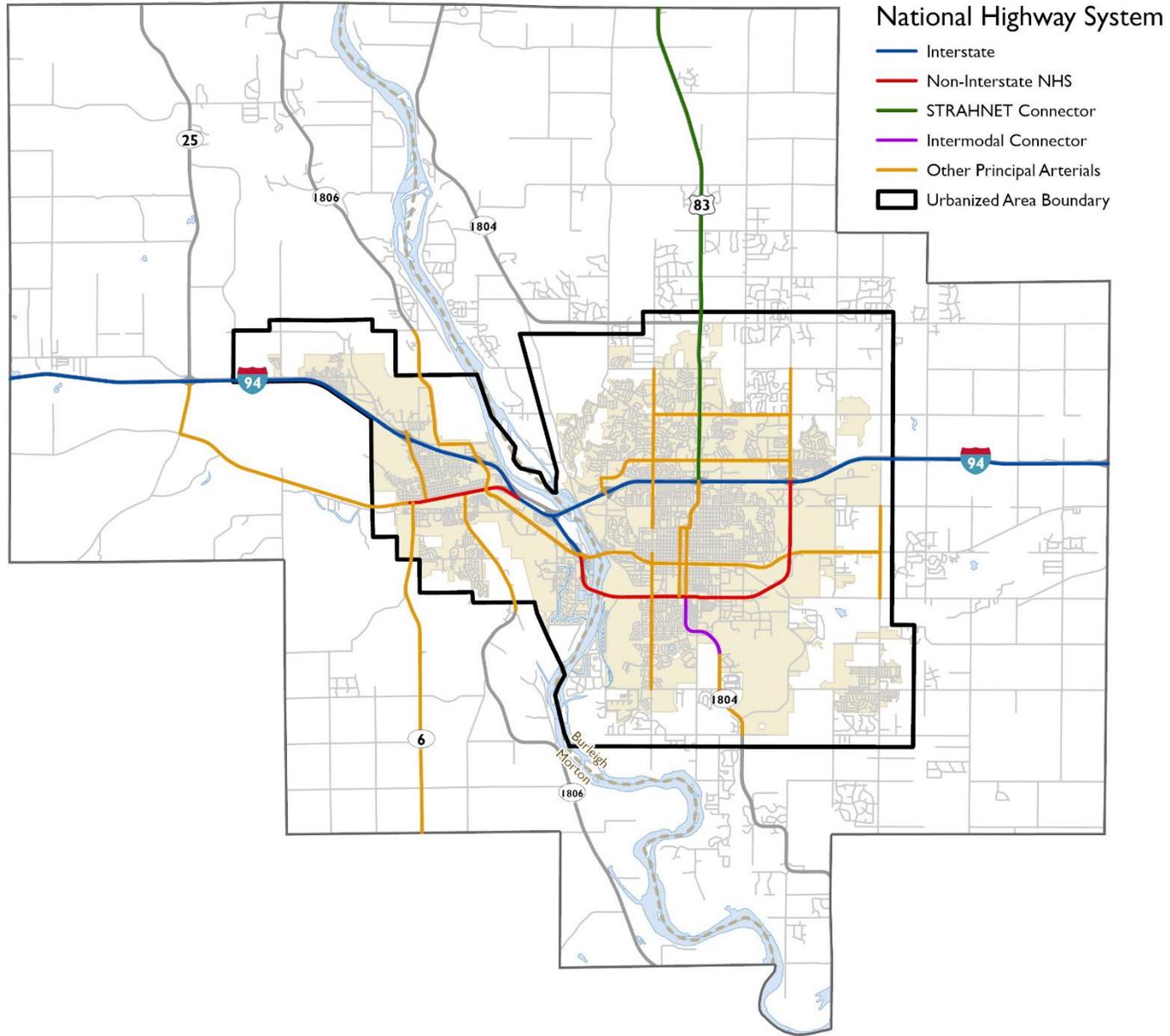
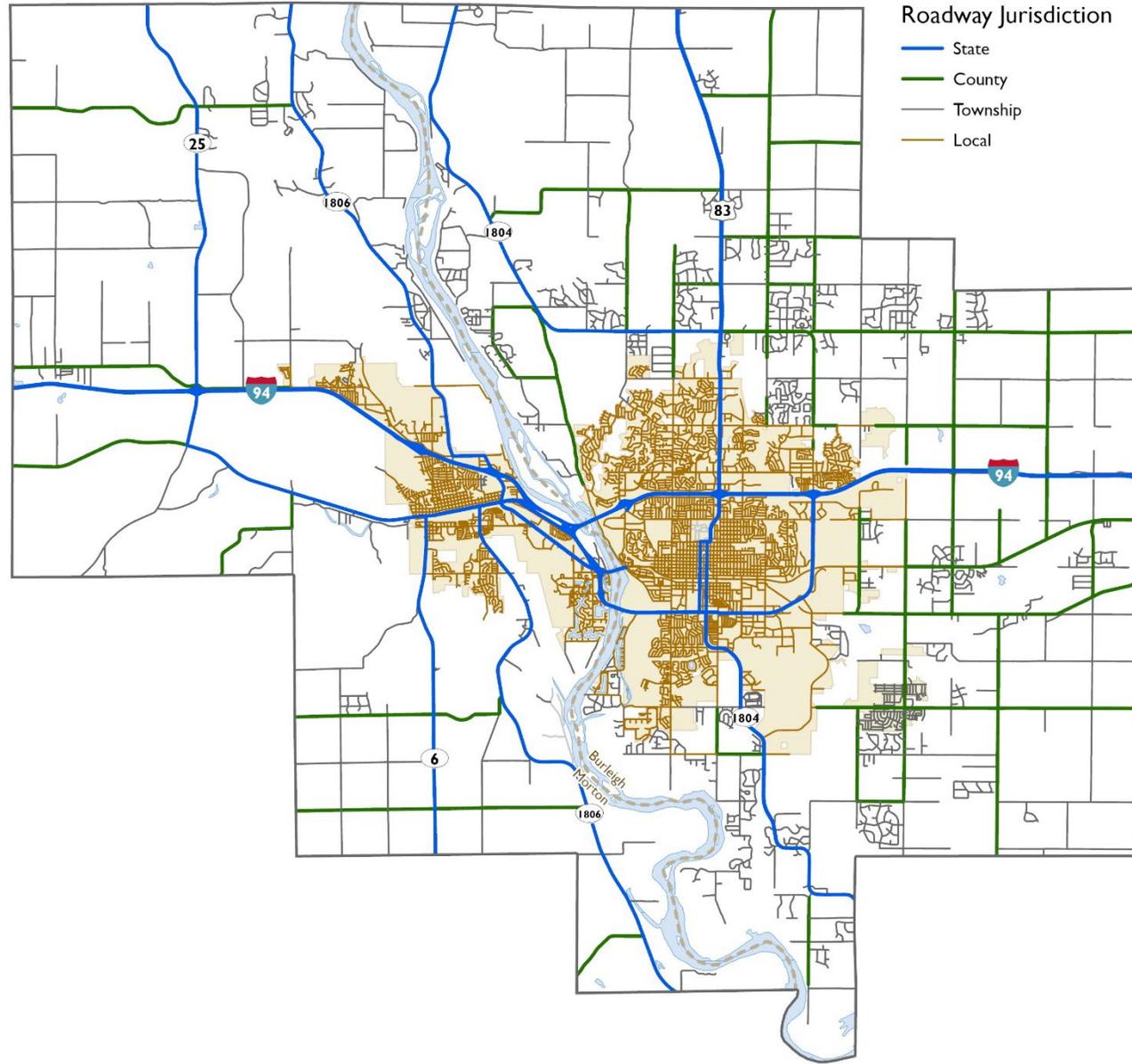




Figure 12: Bismarck-Mandan MPO's Roadway Jurisdictions





## Safety

Multi-modal safety conditions for the Bismarck-Mandan MPO area were analyzed through a review of historic crash data. The data spans the years 2018 through 2022 and was sourced from NDDOT.

### Annual Crash Trends

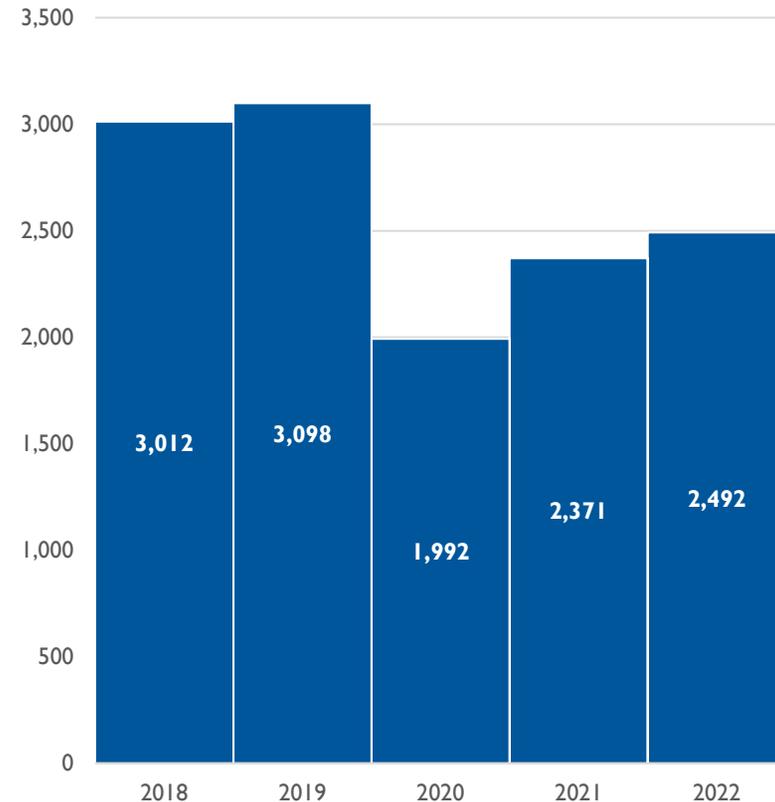
Annual crashes occurring in the MPO area between 2018 and 2022 are shown in **Figure 13**.

Several events occurred during the crash analysis period that impacted the annual trends shown in **Figure 13**:

- NDDOT revised the reporting requirements of Property Damage Only Crashes (PDO) in 2019, increasing the threshold for reporting from \$1,000 in damage to \$4,000 in damage.
- The COVID-19 pandemic in 2020 saw some local shelter-in-place activities that reduced travel, thereby lowering the number of vehicle miles traveled (VMT) during this period. The reduction in VMT resulted in fewer overall crashes.

As **Figure 13** demonstrates, annual crashes within the MPO for the years 2018 and 2019 exceeded 3,000 and saw a slight increase from 2018 to 2019. The year 2020 saw a reduction in crashes to just 2,000 and this was mainly attributed to reduced travel associated with the COVID-19 public health pandemic. Annual crashes experienced increases in both 2021 and 2022 as travel patterns began returning to pre-COVID levels. However, the revision in reporting requirements for PDO crashes exhibited fewer annual crashes for these years when compared to 2021 and 2022.

Figure 13: Annual Crashes within the MPO Area, 2018-2022



Source: North Dakota Department of Transportation Data



Baseline System Conditions

### Crash Timing

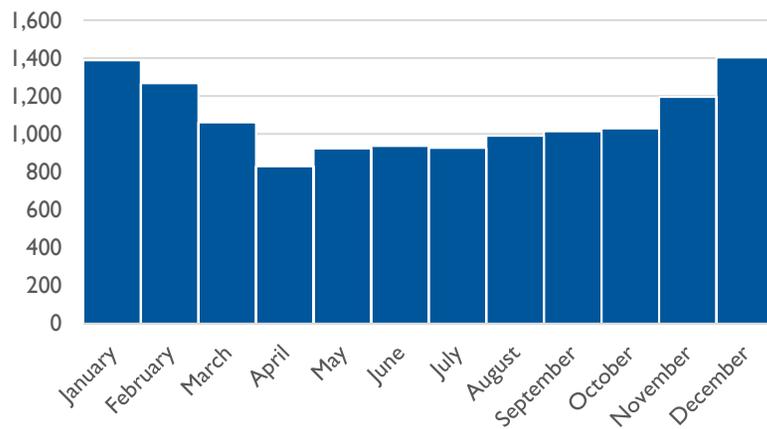
Crash timing analyzes when crashes occurred so that temporal factors influencing crash events can be identified. For the purposes of this baseline safety analysis, crash timing reviewed crashes by month and crashes by day of the week.

#### Crashes by Month

Through reviewing the timing of crash events on a monthly basis, an understanding of seasonal patterns that could be influencing crashes can be gained. Winter weather conditions can be especially impactful on safety due to the accumulation of snow and ice on roadways.

**Figure 14** illustrates historic crashes by month for the MPO Area. Based on the crash data sourced from NDDOT, winter months were associated with higher occurrences of crash events. The months of January, February, November, and December exhibited the highest levels of crashes which was likely due to winter weather and low light conditions that impacted safety conditions for motorists.

Figure 14: Crashes by Month, 2018 - 2022

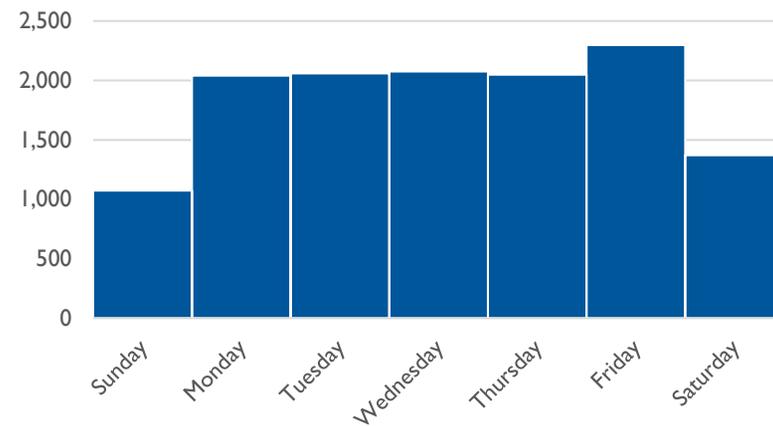


Source: North Dakota Department of Transportation Data

### Crashes by Day of Week

The observed trend for historic crashes by day of the week is shown in **Figure 15**. As **Figure 15** illustrates, weekdays recorded the highest frequencies of crash events with Fridays recording the highest level of crashes. Weekend days were shown to record lower frequencies of crashes. Sundays were identified as the day of the week that recorded the lowest level of crashes.

Figure 15: Crashes by Day of Week, 2018 - 2022



Source: North Dakota Department of Transportation Data



Baseline System Conditions

## Crash Severity

Crash severity refers to the most severe injury sustained by an individual as a result of a crash event. Currently, NDDOT uses five categories when determining crash severity:

- Fatal crash
- Serious injury crash (also referred to as Incapacitating Injury)
- Minor injury crash (also referred to as Non-Incapacitating Injury)
- Possible injury crash
- Property damage only (PDO)

Understanding the types of crashes that have occurred in the MPO area in terms of severity can help inform the development of strategies and safety countermeasures that can be implemented to reduce crash severities and improve the overall safety of the multi-modal system.

**Table 4** summarizes crash severities by year for the MPO region. Between 2018 and 2022, there were 32 fatal crashes that occurred within the region; fatal crashes peaked in 2020 when a total of 9 occurred. Serious injury crashes demonstrated a general increase each year between 2018 and 2022 and totaled 209 during the analysis period. Minor injury and possible injury crashes totaled 1,241 and 1,342, respectively while PDO crashes were the most common severity with 10,141 recorded between 2018 and 2022.

**Figure 16** provides more look at the annual trends related to fatal and serious injury crashes between 2018 and 2022. As the figure demonstrates, both fatal and serious injury crashes increased during the 5-year analysis period. The key takeaway from the figure is the sharp increase in serious injury crashes as this crash severity rose from a 2018 level of 32 to a high of 52 in both 2021 and 2022.

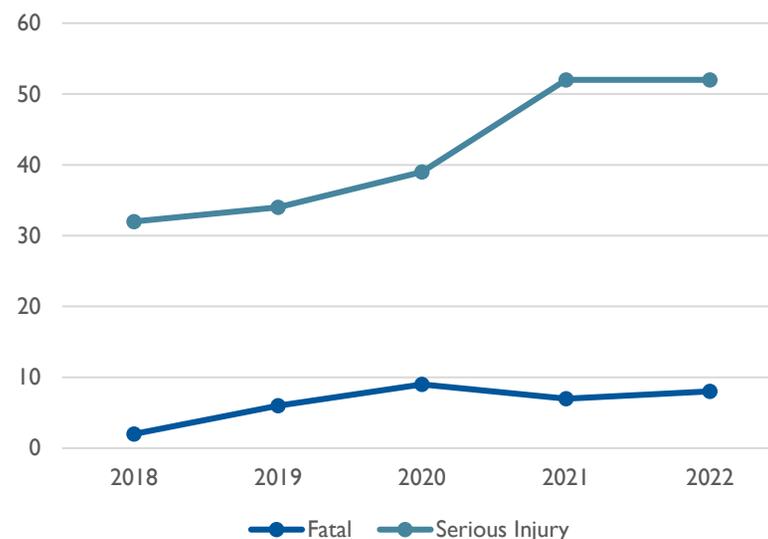
**Figure 17** shows the locations of fatal and serious injury crashes that occurred in the MPO Area between 2018 and 2022.

Table 4: Crashes by Severity, 2018 - 2022

| Year  | Fatal | Serious Injury | Minor Injury | Possible Injury | PDO    | Total  |
|-------|-------|----------------|--------------|-----------------|--------|--------|
| 2018  | 2     | 32             | 197          | 328             | 2,453  | 3,012  |
| 2019  | 6     | 34             | 233          | 329             | 2,496  | 3,098  |
| 2020  | 9     | 39             | 212          | 238             | 1,494  | 1,992  |
| 2021  | 7     | 52             | 287          | 258             | 1,767  | 2,371  |
| 2022  | 8     | 52             | 312          | 189             | 1,931  | 2,492  |
| Total | 32    | 209            | 1,241        | 1,342           | 10,141 | 12,965 |

Source: North Dakota Department of Transportation Data

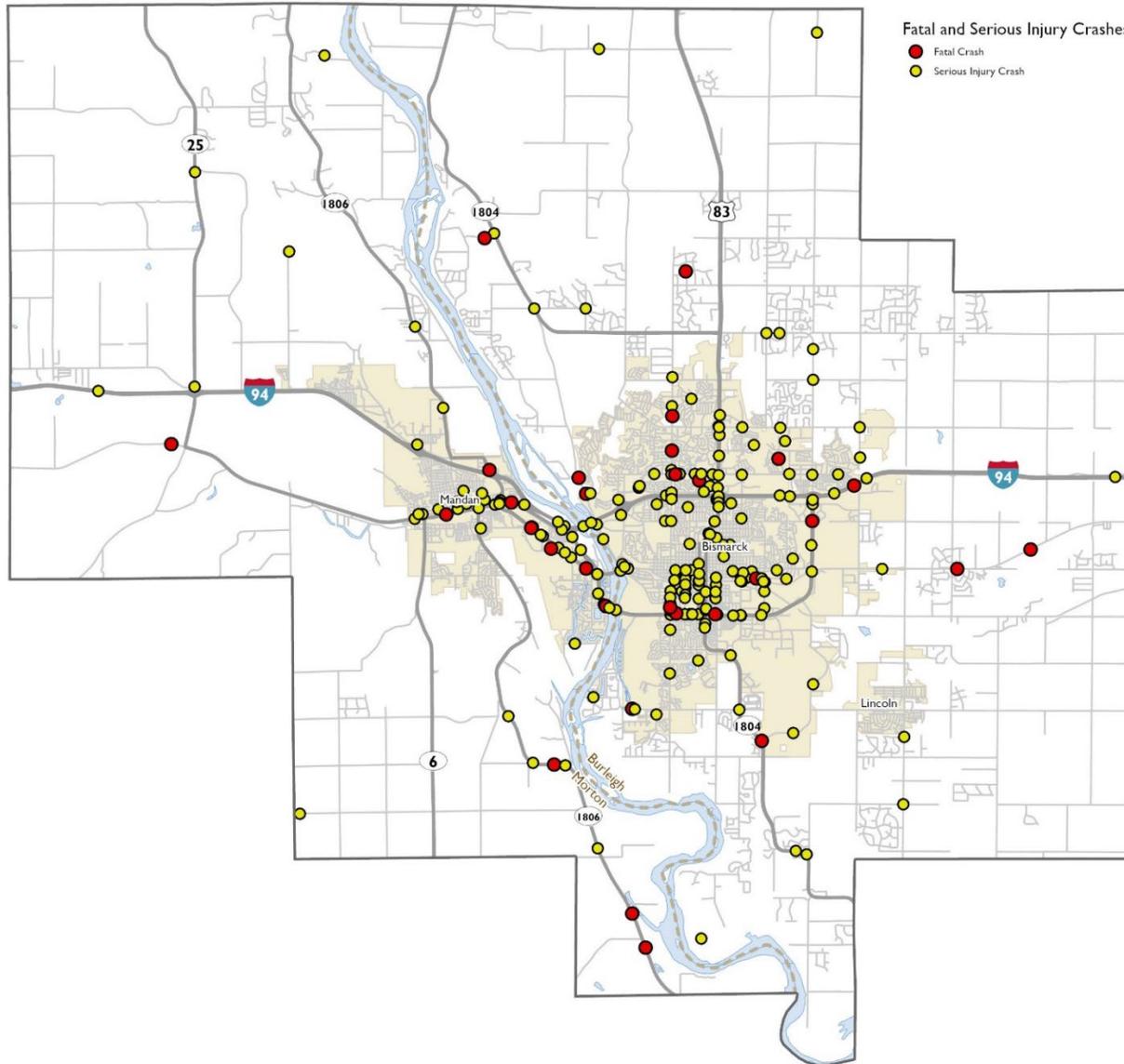
Figure 16: Annual Fatal and Serious Injury Crashes in the MPO Area, 2018 - 2022



Source: North Dakota Department of Transportation Data



Figure 17: Fatal and Serious Injury Crashes, 2018 - 2022



Source: North Dakota Department of Transportation Data



## Manner of Crash

Manner of crash refers to the way two vehicles come together in a crash event, such as a rear-end or head-on collision. Similar to crash severity, an understanding of the manner in which crashes occur can inform the development of strategies and safety countermeasures at high crash frequency or high crash rate locations.

**Table 5** shows the manner of crash trends observed for the MPO region between 2018 and 2022. Rear end crashes were the most common and accounted for roughly 33 percent of all crashes. Angle, single vehicle, and sideswipe (same direction) were also common types of crashes that occurred within the MPO during the analysis period.

Table 5: Manner of Crash, 2018 - 2022

| Manner of Crash                | 2018  | 2019  | 2020  | 2021  | 2022  | Total  |
|--------------------------------|-------|-------|-------|-------|-------|--------|
| Rear End                       | 1,019 | 1,051 | 636   | 831   | 754   | 4,291  |
| Angle                          | 749   | 822   | 550   | 611   | 742   | 3,474  |
| Single Vehicle                 | 814   | 810   | 548   | 603   | 625   | 3,400  |
| Sideswipe (same direction)     | 254   | 254   | 173   | 194   | 226   | 1,101  |
| Head On                        | 95    | 72    | 50    | 74    | 80    | 371    |
| Rear to Side                   | 45    | 45    | 13    | 26    | 27    | 156    |
| Sideswipe (opposite direction) | 26    | 33    | 17    | 26    | 33    | 135    |
| Rear to Rear                   | 10    | 11    | 5     | 6     | 5     | 37     |
| Total                          | 3,012 | 3,098 | 1,992 | 2,371 | 2,492 | 12,965 |

Source: North Dakota Department of Transportation



## Intersection Crash Frequency

An intersection crash frequency analysis reviews intersection-related crashes so that they can be tied to specific locations within a study area. This analysis is a useful approach for identifying high-crash locations that can be considered candidates for safety improvements.

The intersection crash frequency analysis conducted for this baseline conditions report reviewed crashes occurring within a 250-foot radius of each intersection; all crashes occurring within that radius were assumed to be associated with that specific intersection. To supplement the intersection crash frequency in a manner consistent with NDDOT’s approach to identifying high-crash urban and rural intersections, intersection polygons developed by NDDOT for urban arterial roadways were incorporated to select rear-end crashes associated with these intersections in addition to crashes occurring within the 250-foot buffer. Once the intersection-related crashes were associated with an intersection location, the top 20 were identified as shown in **Table 6**; intersections that were identified in NDDOT’s 2019-2021 urban high crash location list are highlighted in light blue. **Figure 18** and **Figure 19** show the locations of the top 20 crash frequency intersections.

## Intersection Crash Rates

Intersection crash rates build off the intersection crash frequency analysis described above by integrating entering volumes and calculating a crash rate per one million entering vehicles. This approach refines the crash frequency analysis by taking into account exposure, which normalizes crash events to reduce the influence of higher volume intersections. The crash rates and entering volumes used to calculate the rates for the top 20 crash frequency intersections are included in **Table 6**. **Table 7** summarizes crash severities for the top crash frequency intersections.

Table 6: Top 20 Crash Frequency Intersections

| Rank | Intersection  | Crash Frequency | Entering Volume | Crash Rate* |
|------|---|-----------------|-----------------|-------------|
| 1    | State Street & Century Avenue                       | 174             | 50,000          | 1.91        |
| 2    | Main Avenue & 9th Street                            | 136             | 23,000          | 3.20        |
| 2    | State Street & 43rd Avenue N                        | 136             | 35,000          | 2.11        |
| 4    | State Street & Interstate Avenue                    | 131             | 42,000          | 1.69        |
| 5    | Main Avenue & 7th Street                            | 115             | 24,000          | 2.64        |
| 6    | Bismarck Expressway & 9th Street / University Drive | 114             | 33,000          | 1.89        |
| 7    | State Street & Divide Avenue                        | 105             | 35,000          | 1.66        |
| 8    | Bismarck Expressway & 3rd Street                    | 103             | 33,000          | 1.71        |
| 8    | Bismarck Expressway & Washington Street             | 103             | 39,000          | 1.46        |
| 10   | Bismarck Expressway & Miriam Avenue                 | 100             | 29,000          | 1.87        |
| 11   | State Street & Calgary Avenue                       | 86              | 38,000          | 1.25        |
| 12   | State Street & Capitol Avenue                       | 82              | 32,000          | 1.39        |
| 13   | Washington Street & Divide Avenue                   | 80              | 22,000          | 2.00        |
| 14   | Bismarck Expressway & 7th Street                    | 77              | 23,000          | 1.84        |
| 15   | Washington Street & Rosser Avenue                   | 74              | 21,000          | 1.91        |
| 15   | Century Avenue & Washington Street                  | 74              | 26,000          | 1.55        |
| 17   | State Street & Weiss Avenue / Harvest Lane          | 72              | 39,000          | 1.02        |
| 17   | State Street & I-94 EB Ramps                        | 72              | 41,000          | 0.96        |
| 19   | 7th Street & Rosser Avenue                          | 70              | 20,000          | 1.90        |
| 19   | State Street & Interchange Avenue                   | 70              | 33,000          | 1.15        |

\*Per Million Entering Vehicles



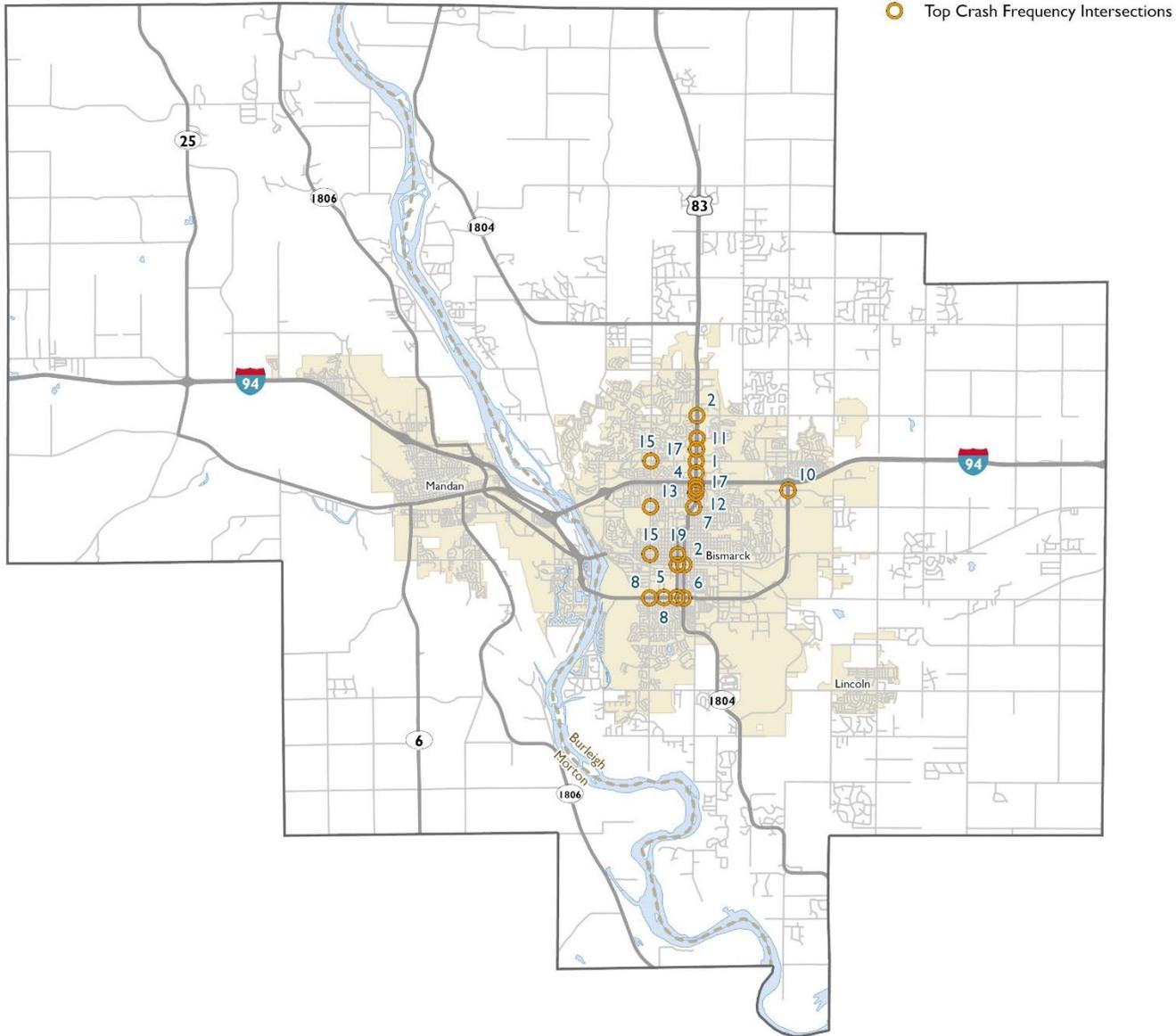
Table 7: Crash Severities for the Top 20 Crash Frequency Intersections

| Rank | Intersection  | Fatal | Serious Injury | Minor Injury | Possible Injury | PDO | Total |
|------|---|-------|----------------|--------------|-----------------|-----|-------|
| 1    | State Street & Century Avenue                       | 0     | 1              | 11           | 23              | 139 | 174   |
| 2    | Main Avenue & 9th Street                            | 0     | 0              | 12           | 18              | 106 | 136   |
| 2    | State Street & 43rd Avenue N                        | 0     | 3              | 24           | 26              | 83  | 136   |
| 4    | State Street & Interstate Avenue                    | 0     | 1              | 9            | 22              | 99  | 131   |
| 5    | Main Avenue & 7th Street                            | 0     | 3              | 11           | 12              | 89  | 115   |
| 6    | Bismarck Expressway & 9th Street / University Drive | 0     | 0              | 9            | 13              | 92  | 114   |
| 7    | State Street & Divide Avenue                        | 0     | 1              | 9            | 16              | 79  | 105   |
| 8    | Bismarck Expressway & 3rd Street                    | 0     | 2              | 7            | 22              | 72  | 103   |
| 8    | Bismarck Expressway & Washington Street             | 0     | 1              | 12           | 16              | 74  | 103   |
| 10   | Bismarck Expressway & Miriam Avenue                 | 0     | 2              | 4            | 23              | 71  | 100   |
| 11   | State Street & Calgary Avenue                       | 0     | 0              | 9            | 12              | 65  | 86    |
| 12   | State Street & Capitol Avenue                       | 0     | 1              | 9            | 10              | 62  | 82    |
| 13   | Washington Street & Divide Avenue                   | 0     | 1              | 6            | 13              | 60  | 80    |
| 14   | Bismarck Expressway & 7th Street                    | 0     | 1              | 5            | 12              | 59  | 77    |
| 15   | Washington Street & Rosser Avenue                   | 0     | 0              | 7            | 13              | 54  | 74    |
| 15   | Century Avenue & Washington Street                  | 0     | 1              | 5            | 8               | 60  | 74    |
| 17   | State Street & Weiss Avenue / Harvest Lane          | 0     | 0              | 9            | 8               | 55  | 72    |
| 17   | State Street & I-94 EB Ramps                        | 1     | 1              | 7            | 8               | 55  | 72    |
| 19   | 7th Street & Rosser Avenue                          | 0     | 0              | 4            | 10              | 56  | 70    |
| 19   | State Street & Interchange Avenue                   | 0     | 1              | 10           | 8               | 51  | 70    |

Source: North Dakota Department of Transportation



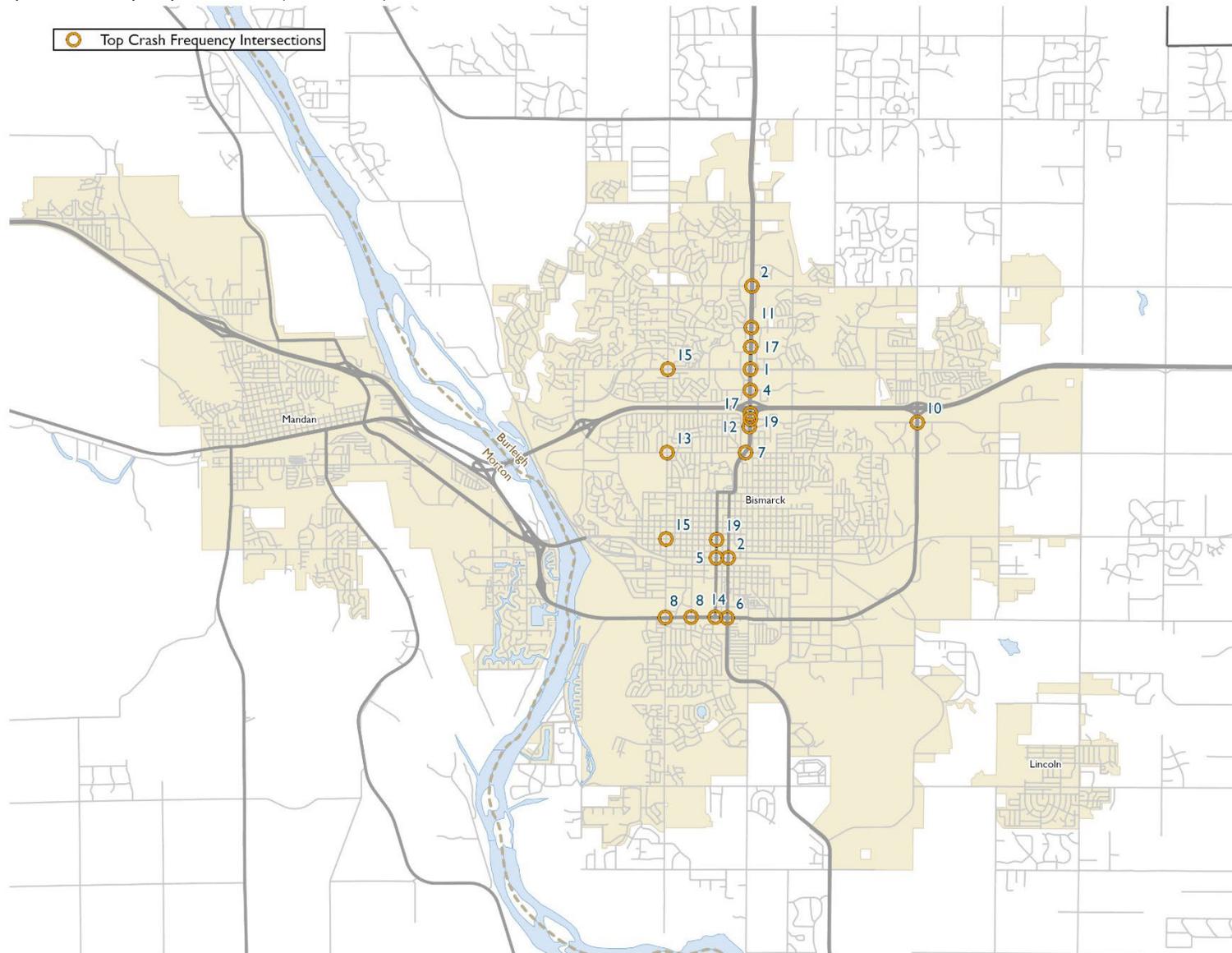
Figure 18: Top 20 Crash Frequency Intersections in the Bismarck-Mandan MPO Area, 2018 - 2022



Source: North Dakota Department of Transportation Data



Figure 19: Top 20 Crash Frequency Intersections (2018 - 2022), Urban Inset



Source: North Dakota Department of Transportation Data



## Bicycle and Pedestrian Safety Conditions

While the previous safety analyses relate to vehicle-related crashes, it is important to understand safety conditions for non-vehicle users including bicyclists and pedestrians. Through identifying areas of concern for bicycle and pedestrian user safety, a multi-modal view of the transportation system can be retained. This section of the report presents the findings of bicycle and pedestrian safety conditions for the MPO area, including historic bicycle and pedestrian crash trends and bicycle- and pedestrian-involved fatal and serious injury crashes.

### Historic Bicycle and Pedestrian Crashes

Historic bicycle and pedestrian crashes that occurred within the MPO area are summarized by year in **Table 8** while the locations of these crashes are shown in **Figure 20**.

Bicycle-involved crashes saw a decrease each year from 2018 through 2022, with a total of 78 crashes recorded during these five years. Pedestrian-involved crashes followed a similar trend, peaking in 2018 with 23 crashes and exhibiting a general decline each year between 2018 and 2022. A total of 89 pedestrian-involved crashes occurred within the MPO area

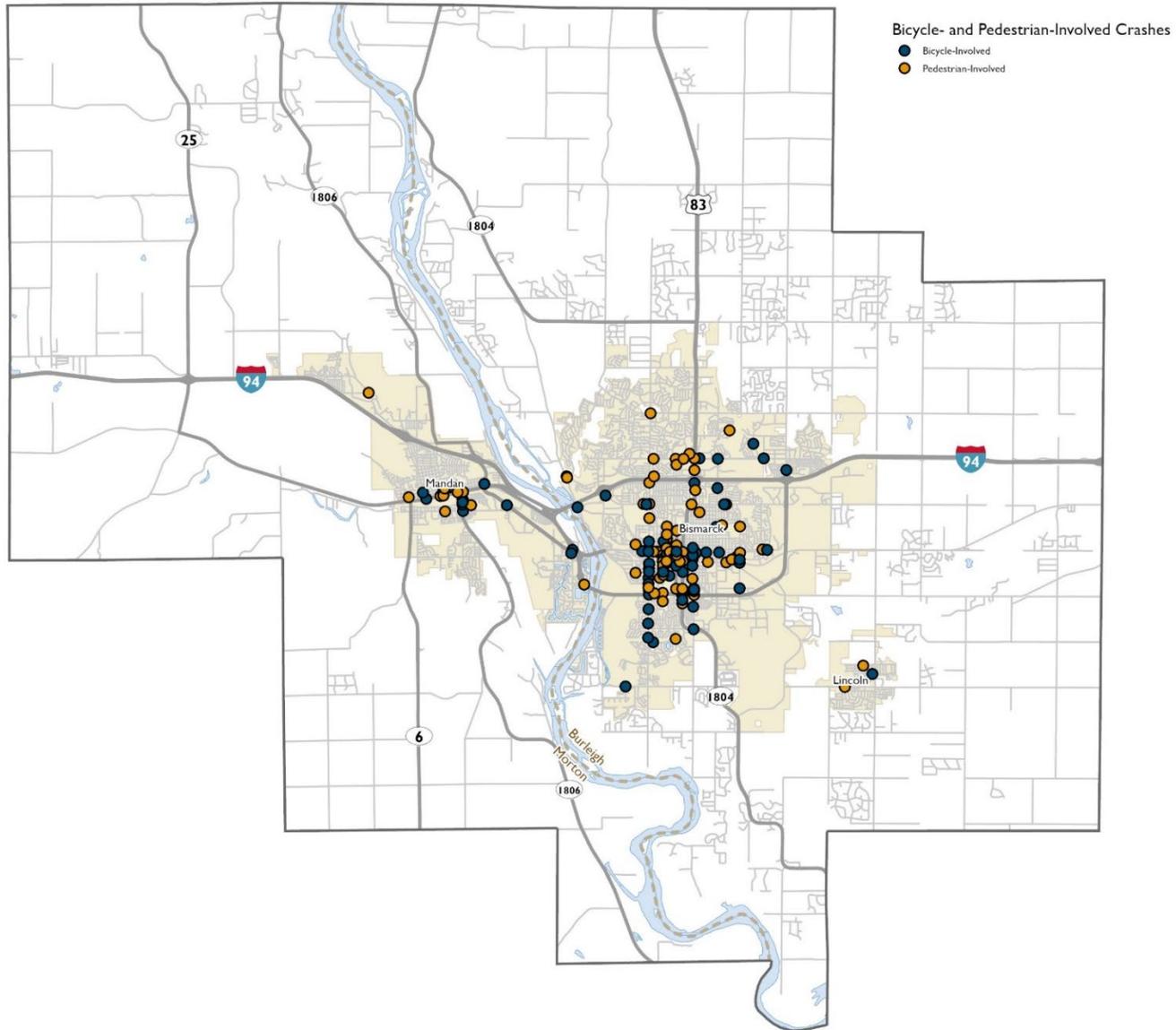
Table 8: Bicycle- and Pedestrian-Involved Crashes, 2018 - 2022

| Type                | 2018 | 2019 | 2020 | 2021 | 2022 | Total |
|---------------------|------|------|------|------|------|-------|
| Bicycle-Involved    | 20   | 16   | 15   | 14   | 13   | 78    |
| Pedestrian-Involved | 23   | 22   | 15   | 20   | 9    | 89    |
| Total               | 43   | 38   | 30   | 34   | 22   | 167   |

Source: North Dakota Department of Transportation Data



Figure 20: Bicycle- and Pedestrian-Involved Crashes, 2018 - 2022



Source: North Dakota Department of Transportation Data



### Bicycle- and Pedestrian-Involved Fatal and Serious Injury Crashes

**Table 9** summarizes fatal and serious injury crashes that involved bicyclists and pedestrians while **Figure 21** shows the locations of these crashes within the MPO area.

A total of six fatal crashes involving a bicyclist or pedestrian were reported between 2018 and 2022. Only one of these fatal crashes involved a bicyclist and occurred in 2019, while five pedestrian-involved fatal crashes occurred between 2020 and 2022.

Serious injury crashes involving a bicyclist or pedestrian totaled 26, with 10 of these crashes classified as bicycle-involved and 16 classified as pedestrian-involved. Bicycle-involved serious injury crashes peaked in 2020, when four serious injury crashes were reported. The year 2021 saw the highest level of pedestrian-involved serious injury crashes which totaled seven.

Table 9: Bicycle- and Pedestrian-Involved Crashes Fatal and Serious Injury Crashes, 2018 - 2022

| Type                  | 2018 | 2019 | 2020 | 2021 | 2022 | Total |
|-----------------------|------|------|------|------|------|-------|
| <b>Fatal</b>          |      |      |      |      |      |       |
| Bicycle-Involved      | 0    | 1    | 0    | 0    | 0    | 1     |
| Pedestrian-Involved   | 0    | 0    | 1    | 2    | 2    | 5     |
| <b>Serious Injury</b> |      |      |      |      |      |       |
| Bicycle-Involved      | 2    | 1    | 4    | 3    | 0    | 10    |
| Pedestrian-Involved   | 1    | 4    | 2    | 7    | 2    | 16    |

Source: North Dakota Department of Transportation Data

### Vehicle-Train Crashes

Safety is a critical concern for locations where roadways intersect railroads at-grade. Collisions between vehicles and trains typically result in more severe crashes due to the momentum of trains colliding with a smaller automobile. The United States Department of Transportation (USDOT) has recognized the safety issues related to at-grade rail crossings and authorized over \$570 million in discretionary grant funding for eliminating grade crossings as part of the IIJA.

Within the Bismarck-Mandan MPO Area, collisions between vehicles and trains were reviewed based on NDDOT's crash data for the years 2018 through 2022. An analysis of the data found that two vehicle-train collisions were recorded during these five years; **Figure 22** shows where these crashes occurred within the MPO Area while **Table 10** details each of the crash events.

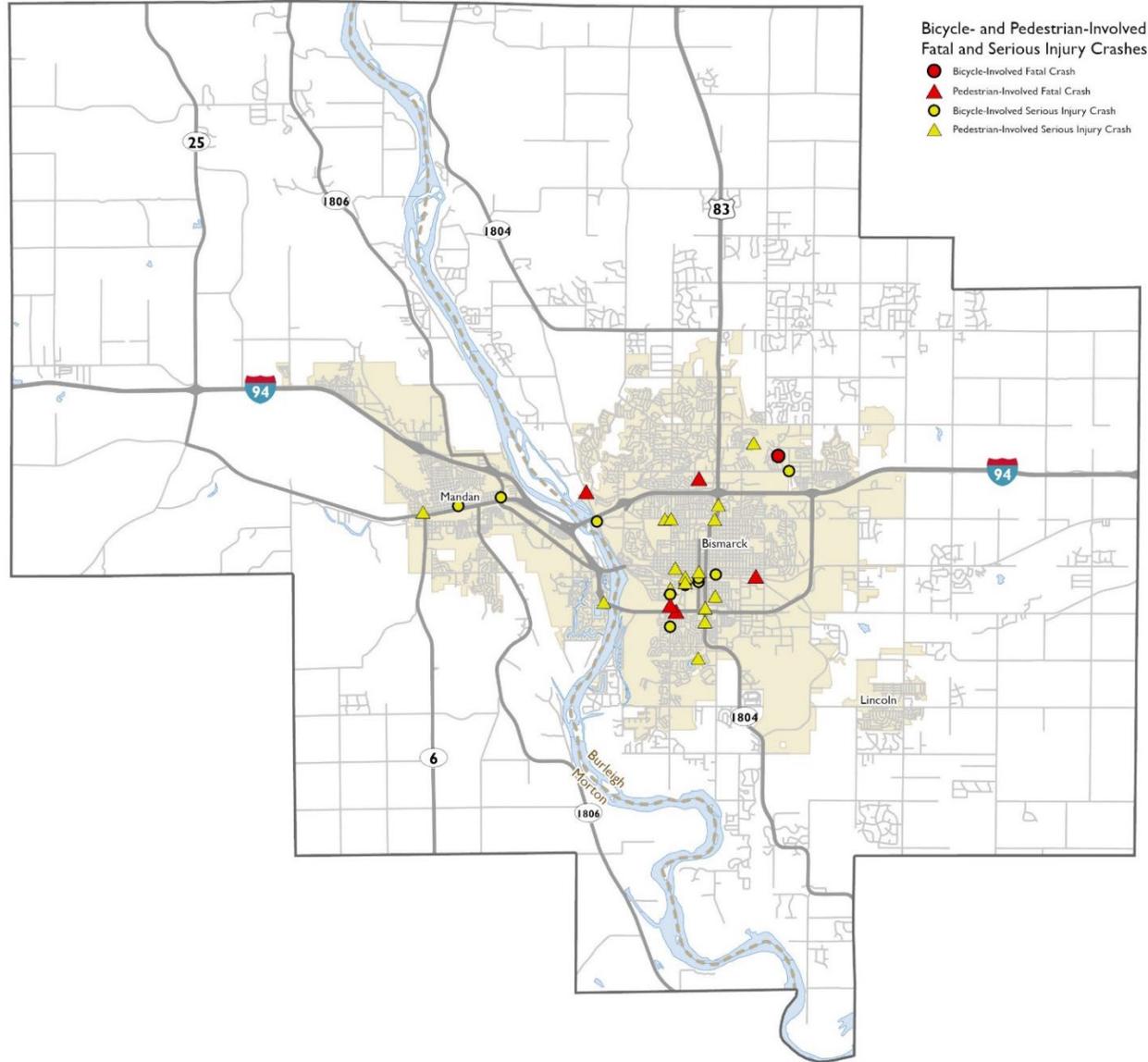
Table 10: Vehicle-Train Crashes in the Bismarck-Mandan MPO Area, 2018 - 2022

| Location                                 | Crash Severity       | Year |
|--|----------------------|------|
| S 5th Street and BNSF (City of Bismarck) | Property Damage Only | 2018 |
| 31st Street and BNSF (Morton County)     | Serious Injury       | 2022 |

Source: North Dakota Department of Transportation Data



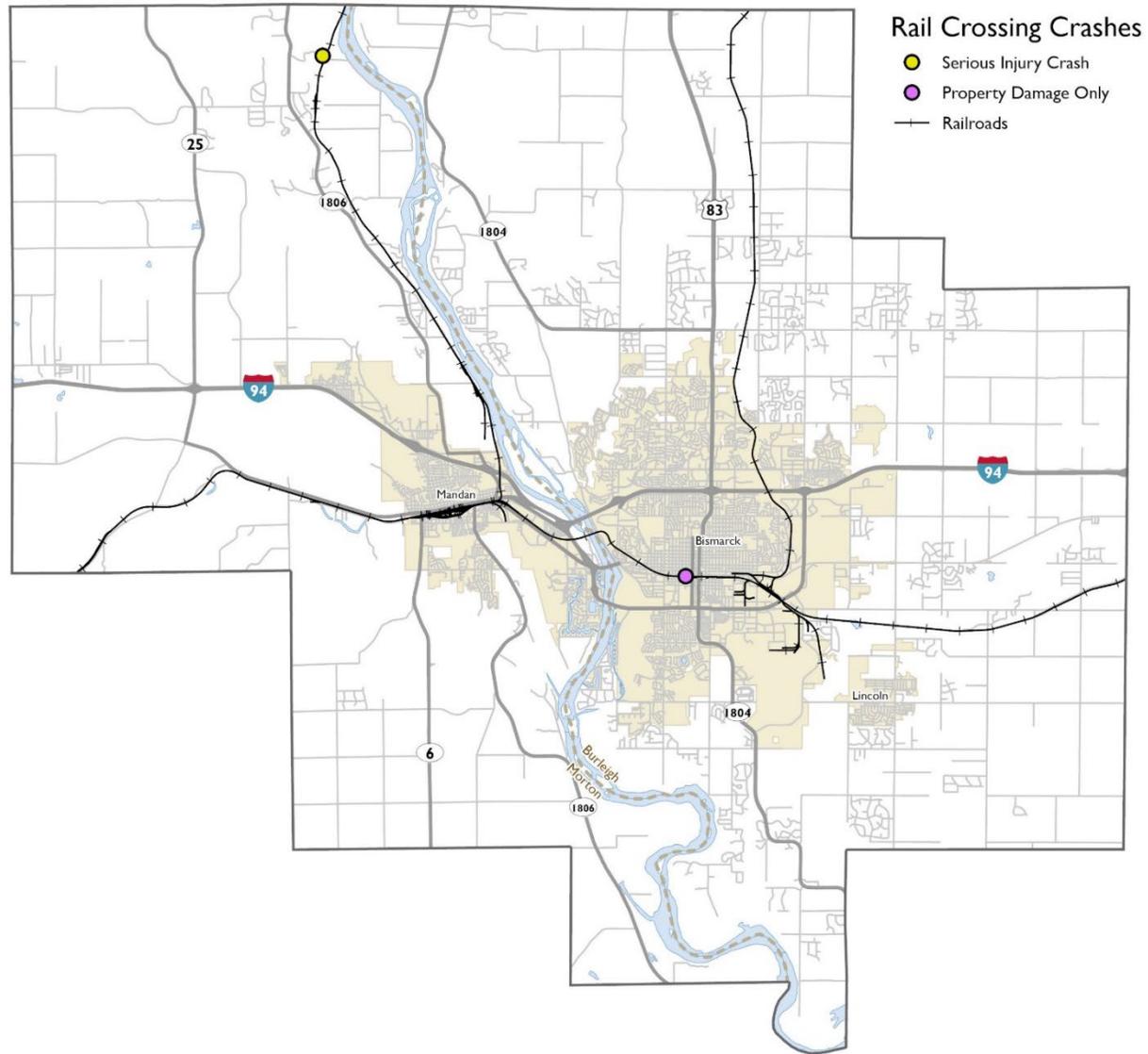
Figure 21: Bicycle- and Pedestrian-Involved Fatal and Serious Injury Crashes, 2018 – 2022



Source: North Dakota Department of Transportation Data



Figure 22: Rail Crossing Crashes



Source: North Dakota Department of Transportation Data



## Traffic Operations

Baseline traffic operations for roadways within the MPO area were analyzed to identify the corridors experiencing operational issues. Traffic operations were reviewed from three perspectives:

- Peak Hour Speed Reduction
- Planning Level-of-Service
- Passenger travel reliability

### Peak Hour Speed Reduction

Existing peak hour travel conditions were analyzed using travel speed data obtained from the National Performance Research Dataset (NPRMDS) for the year 2022. This data was collected in 15-minute intervals and was used to identify the largest reductions in travel speeds on the NHS. Based on the NPRMDS data, the peak hours within the MPO Area were determined to be:

- **AM Peak Hour**
- **PM Peak Hour**

After defining the peak hour periods, the travel delays were calculated by segment through comparing the average observed travel speed during peak conditions to a typical off-peak travel speed. The resulting speed reduction coefficient between average observed travel speeds during the peak hour and typical off-peak travel speeds then served as the delay measure for peak hour speed reductions.

**Figure 23** and **Figure 24** show the AM and PM peak hour speed reduction coefficients for the MPO Area. During the AM peak hour, the main corridors experiencing substantial delay, considered as peak speeds at 40 percent or below typical off-peak free flow speeds are:

- **43<sup>rd</sup> Avenue NE**, from US 83 to Centennial Road
- **ND 1804**, from E Divide Avenue to I-94
- **E Main Avenue**, from N Washington Street to N 9<sup>th</sup> Street
- **E Bismarck Expressway**, from University Drive to S 7<sup>th</sup> Street

It is noted that events such as road construction, winter weather, and recurring traffic crashes can influence travel times. Understanding this, the speed reduction coefficients illustrate travel conditions at a certain point in time and consideration of these events should be made when using this data to inform planning decisions. For instance, there was long-term road construction on 43<sup>rd</sup> Avenue NE during 2022 which likely influenced the resulting speed coefficient for this segment.

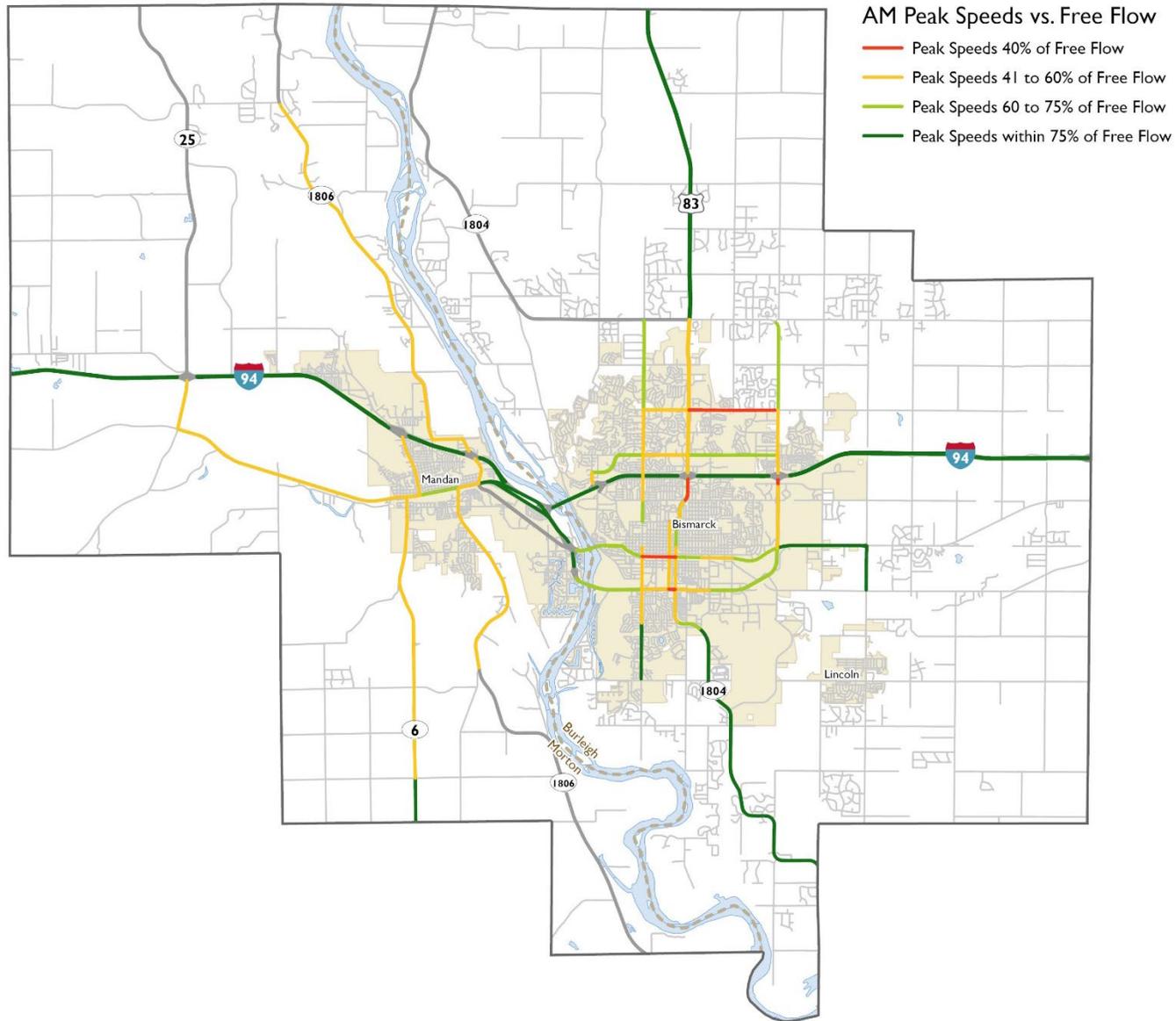
During the PM peak hour, the main corridors experiencing substantial delay include:

- **E Main Avenue**, from N Washington Street to S 9<sup>th</sup> Street
- **E Bismarck Expressway**, from S Washington Street to University Drive
- **Tyler Parkway**, from W Century Avenue to I-94

As **Figure 24** indicates, less delay was observed in the PM peak hour when compared to the AM peak hour. One possible factor influencing this could be due to a wider dispersion of commute trips home from work in the afternoon/evening during the PM peak hour as travelers leave work at varying hours whereas commute trips made to work during the AM peak hour are likely more concentrated, with more individuals beginning their commute trips at approximately the same time in the morning.



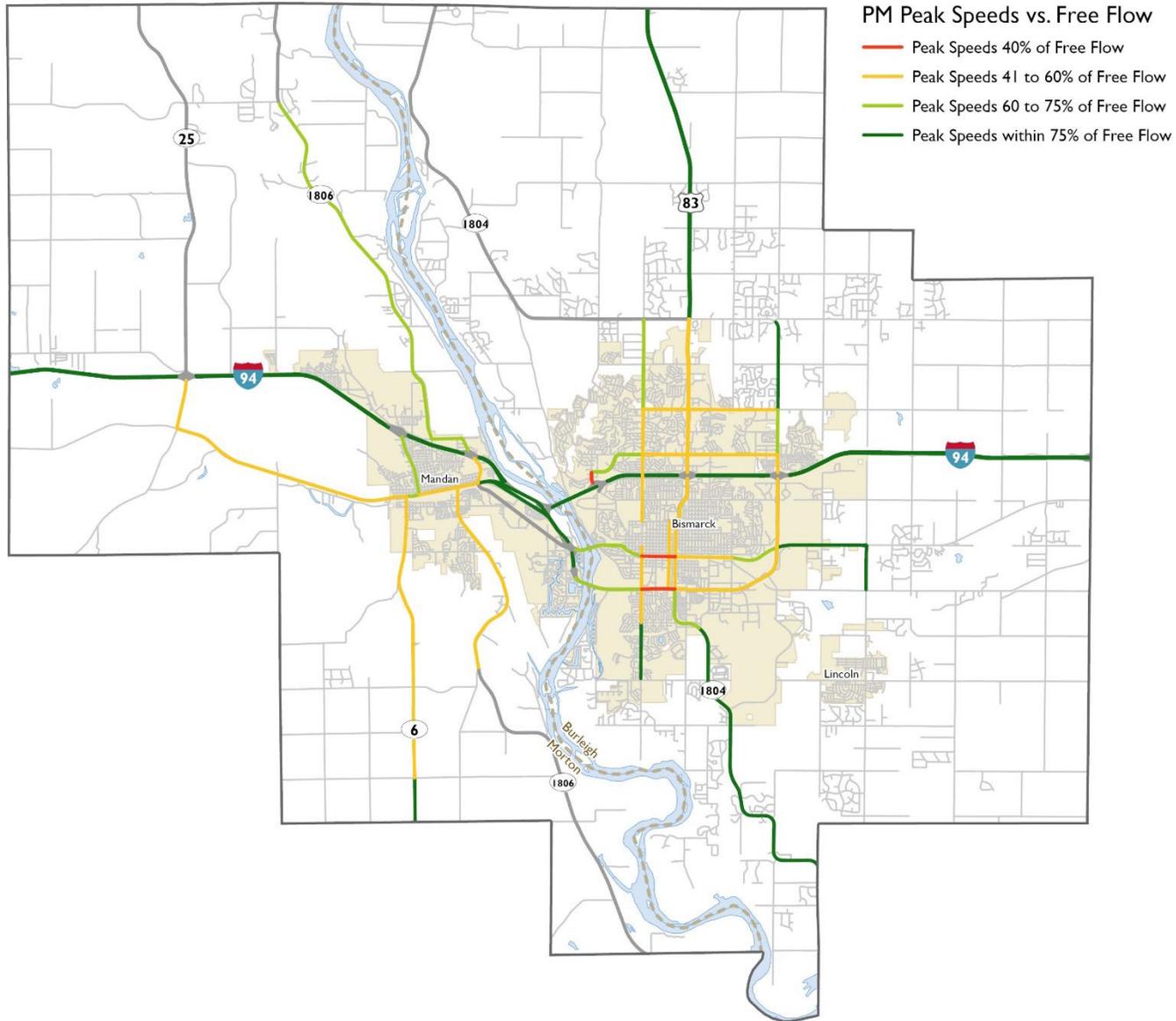
Figure 23: AM Peak Hour Speed Reductions



Source: National Performance Research Dataset, 2022



Figure 24: PM Peak Hour Speed Reductions



Source: National Performance Research Dataset, 2022



## Planning Level-of-Service

Planning level-of-service (LOS) is a high-level approach to estimating peak hour traffic operations that compares the annual average daily traffic volumes (AADTs) of a roadway to its design capacity. Central to this comparison is the calculation of a volume-to-capacity (V/C) ratio that estimates the efficiency of traffic operations for that roadway segment. The resulting segment V/C ratio, which is the metric used to describe the roadway’s LOS, are associated with letter grades that reflect the estimated peak hour traffic operations, with a grade of “A” indicating free flow conditions and a grade of “F” indicating complete gridlock. **Figure 25** details each LOS grade. This approach to analyzing traffic operations goes beyond the peak 15-minute delay analysis described in the preceding section and offers a more complete view of traffic operations during a full peak hour rather than the worst 15 minutes of the day.

The resulting LOS for the MPO Area is shown in **Figure 26**. As **Figure 26** shows, the majority of roadways within the region are operating at LOS B or better and do not exhibit congestion issues during peak travel hours. The corridors that do exhibit congestion issues are estimated to operate at LOS C and D; these corridors will be considered as candidates for potential improvements such as widenings, turn lanes, access management, and other enhancements to improve peak hour traffic operations.

Figure 25: Level of Service Definitions

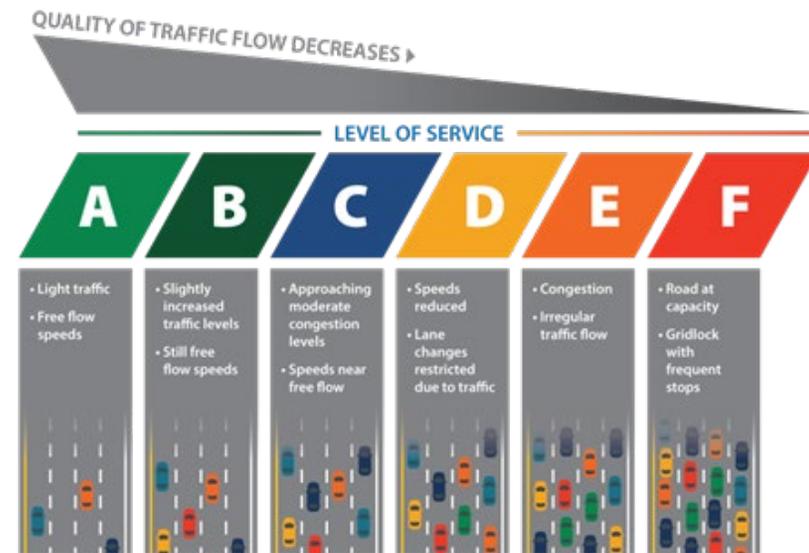
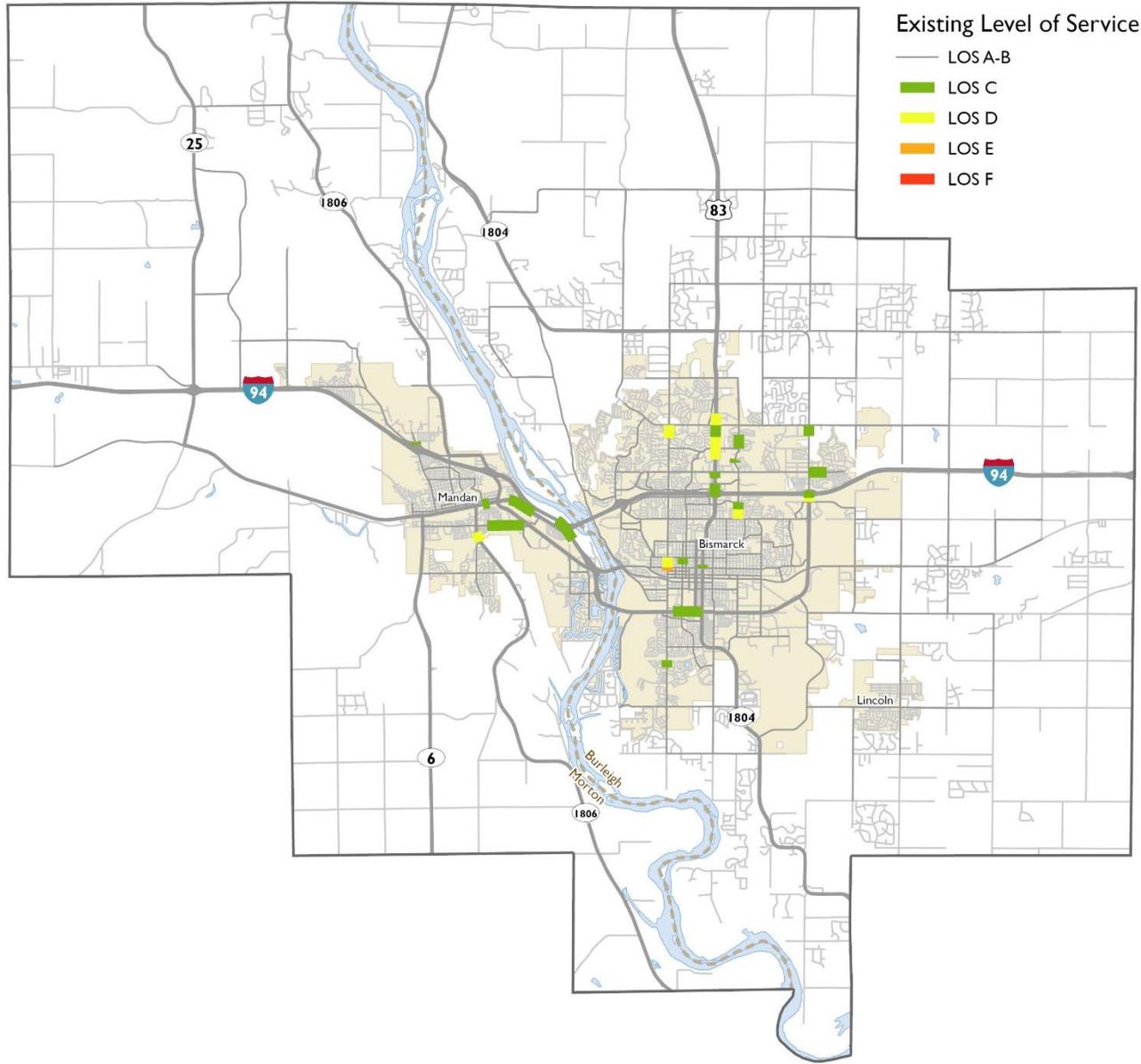




Figure 26: Existing Planning Level of Service for the Bismarck-Mandan MPO Area





Baseline System Conditions

### Travel Reliability

Travel reliability measures the predictability of travel times along a corridor. This approach to analyzing traffic operations differs from the planning LOS approach due to the focus on understanding how travel times for a given corridor differ; a corridor identified as being congested during peak hour travel times can still be deemed reliable if that congestion is easily predicted by travelers who can then anticipate this congestion and plan their travel around it.

The metric used to describe travel reliability conditions for passenger vehicles is referred to as Level of Travel Time Reliability (LOTTR) while travel reliability conditions for freight traffic is quantified using a metric referred to as Truck Travel Time Reliability Index (TTTR).

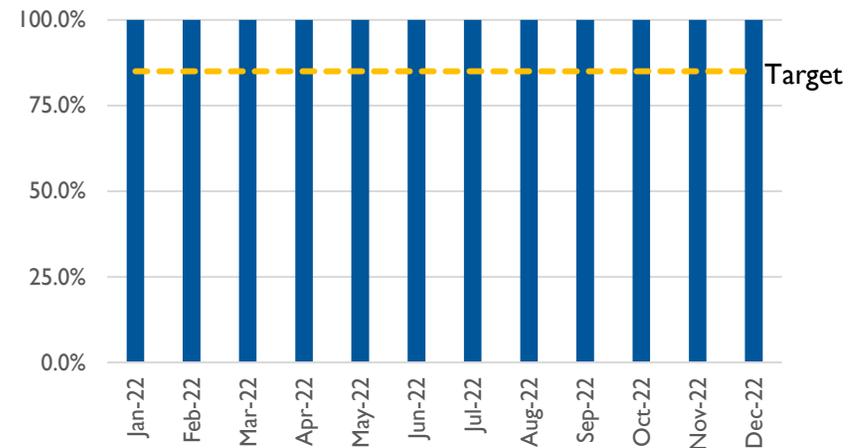
Reliability data analyzed for the MPO’s current travel reliability conditions was sourced from NPMRD for the year 2022. Travel reliability conditions for passenger vehicles are discussed here while travel reliability conditions for freight vehicles are discussed in the **Freight System** section of this report.

A series of Federal performance measures are concerned with travel reliability for state DOTs and MPOs. As such, the Bismarck-Mandan MPO has adopted performance targets for the region’s transportation system which include system reliability targets; the MPO has elected to adopt the same reliability targets used by NDDOT. For the Interstate system within the MPO Area, the current reliability target is 85 percent of person-miles traveled are reliable. The same target of 85 percent of person-miles traveled was adopted for the non-Interstate NHS System.

### Figure 27 and Figure 28

summarize progress made towards these targets based on NPMRDS data for the year 2022. **Figure 27** summarizes the percentage of person-miles traveled on the Interstate, by month, that were considered reliable for the year 2022. As the figure shows, the percentage of person-miles traveled on the Interstate system within the MPO Area was 100 percent reliable in 2022, while the performance target was 85 percent. The main takeaway is that users of I-94 were able to anticipate any sort of delay along the Interstate and adjust their travel plans accordingly.

Figure 27: Percent of Person-Miles Traveled that Were Reliable by Month for the Interstate System, 2022

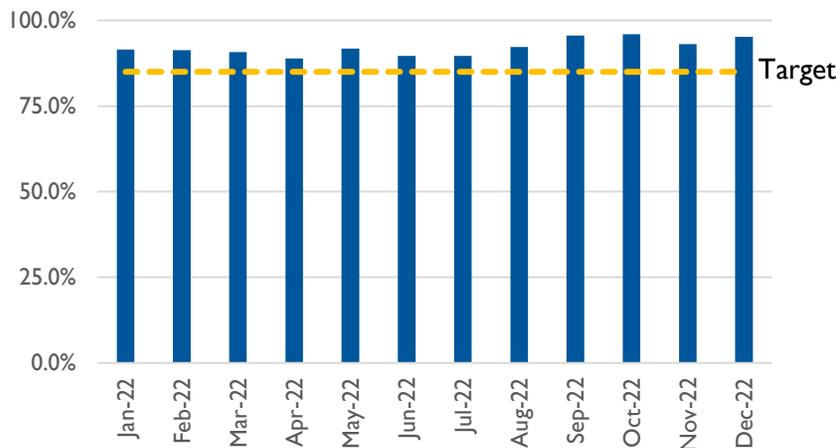


Source: National Performance Management Research Dataset, 2022



**Figure 28** summarizes the percentage of person-miles traveled on the non-Interstate NHS, by month, that were considered reliable for the year 2022. Monthly travel reliability conditions for the non-Interstate NHS were more variable when compared to the Interstate system but each the percentage of person-miles traveled that were reliable exceeded the MPO’s target of 85 percent each month. The months demonstrating the highest percentage of reliable person-miles traveled included September, October, and December while April, June, and July recorded the lowest percentages of reliable person-miles traveled.

Figure 28: Percent of Person-Miles Traveled that Were Reliable by Month for the Non-Interstate NHS, 2022



Source: National Performance Management Research Dataset, 2022

**Figure 29** shows LOTTR results for the MPO Area’s Interstate and non-Interstate NHS based on NPMRDS data for the year 2022. This data represents the annual measure of LOTTR for both systems, in which a LOTTR at or below 1.5 is considered reliable while anything over 1.5 is considered unreliable.

I-94 segments within the MPO Area were shown to have LOTTRs below 1.25 which supports the findings of **Figure 27** in that I-94 was reliable each month in 2022.

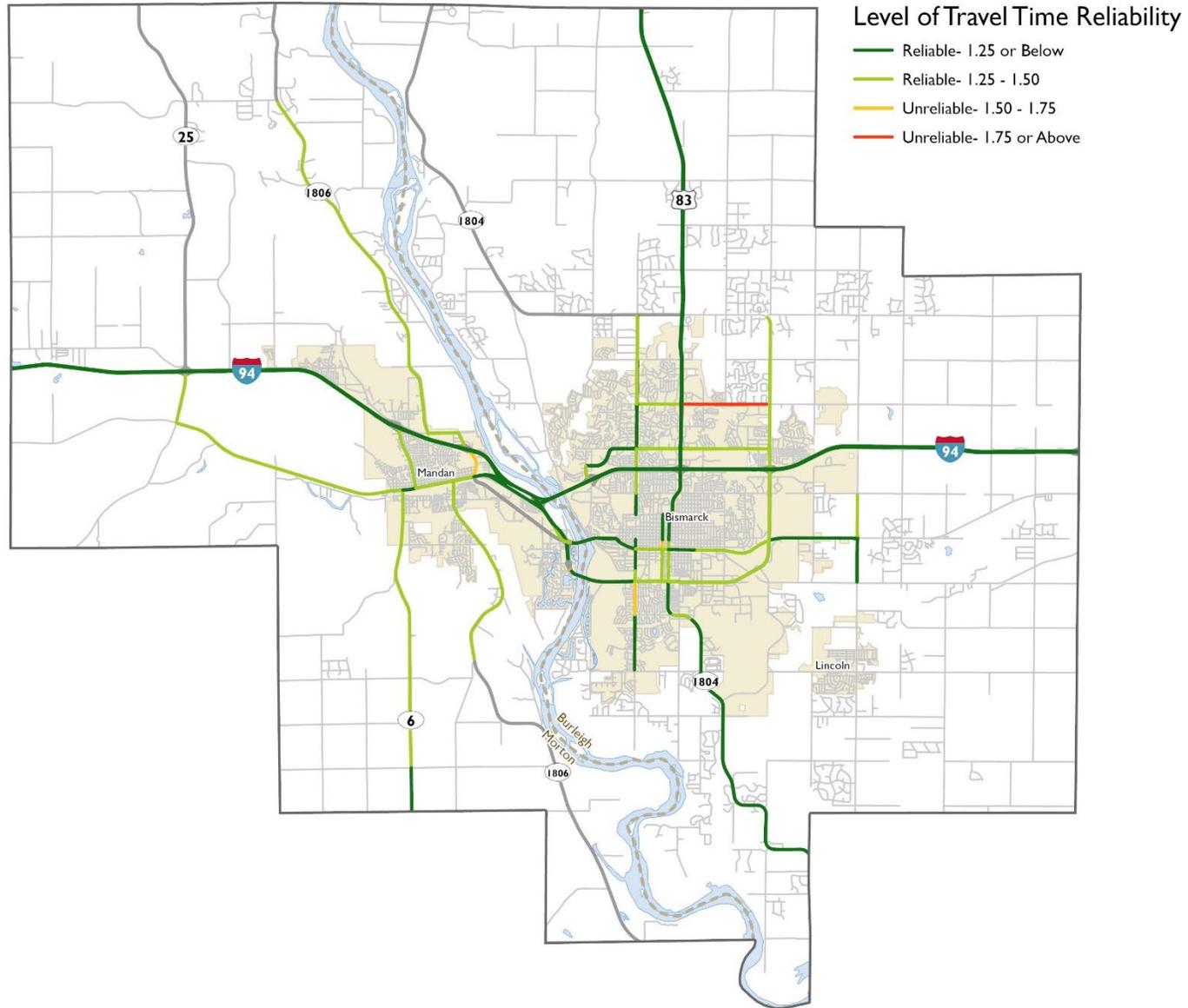
As detailed in the preceding section, LOTTR for the NHS displayed much more variation across the system than was recorded for the Interstate System. While most segments of the NHS recorded and LOTTR between 1.25 and 1.50 and were considered reliable, several segments exhibited LOTTRs above 1.50. These corridors include:

- **43<sup>rd</sup> Avenue NE**, from US 83 to Centennial Road
- **N 7<sup>th</sup> Street**, from E Main Avenue to E Rosser Avenue
- **S Washington Street**, from E Wachter Avenue to W Bismarck Expressway
- **Mandan Avenue NE**, from I-94 to Main Street E

It was noted that during the reliability analysis year of 2022, 43<sup>rd</sup> Ave North was under construction likely leading to the elevated levels of unreliable travel.



Figure 29: Passenger Level of Travel Time Reliability for the Bismarck-Mandan MPO Area



Source: National Performance Management Research Dataset, 2022



## Multi-Modal Conditions

Existing multi-modal conditions for the MPO's transportation were also reviewed, with a focus on the existing freight, bicycle and pedestrian, transit systems, as well as regional connections including intercity bus service, passenger rail, aviation, waterways, pipelines, and alternate mobility providers.

### Freight System

Freight plays a key role in the Bismarck-Mandan region's economy by facilitating the movement of goods through the area. The main freight assets found within the MPO region are the network of Federal, state, and local truck routes that provide mobility and accessibility for highway freight movements, and rail lines that support rail freight movements.

The importance of the freight system to the MPO region was highlighted in the [Regional Freight Study](#) completed in 2018. This study sought to identify critical freight routes, typical freight movements, and investment needs for freight-supportive infrastructure. Key findings of the study are included in this section of the Baseline System Conditions report.

An additional planning effort related to Bismarck-Mandan's multi-modal freight system is NDDOT's [State Freight and Rail Plan](#) published in 2023; this plan assessed all freight modes to identify current needs and issues facing the state's multi-modal freight system and provided policy, program, and process recommendations while identifying potential projects to support the state's freight system in terms of efficiency, reliability, and safety.

<sup>3</sup> USDOT, [National Highway Freight Network](#)

### Freight Highway Assets

The MPO's assets that support freight highway movements include Federally, state, and locally designated truck routes. This section of the report summarizes these routes and summarizes the operational characteristics of the freight highway system, including truck generators, daily truck trips, and annual tonnage moved on freight routes. Also included is a discussion of the MPO's Truck Travel Time Reliability Index performance.

#### *Federally Designated Routes*

The adoption of the Fixing America's Surface Transportation (FAST) Act in 2015 established the National Highway Freight Network (NHFN). The NHFN is a series of subsystems that provide the strategic direction of Federal resources and policies to improve the performance of the nation's freight highway system. The subsystems comprising the NHFN include:<sup>3</sup>

- **Primary Highway Freight System (PHFS):** Highways identified as the most critical highway portions of the nation's freight transportation system.
- **Other Interstate portions not on the PHFS:** Remaining Interstate highways that are not included in the PHFS and provide important continuity and access to freight transportation facilities.
- **Critical Rural Freight Corridors (CRFCs):** Public roads outside of urbanized areas that provide access and connectivity to the PHFS and Interstate with critical freight facilities.
- **Critical Urban Freight Corridors (CUFCs):** Public roads within urbanized areas that provide access and connectivity to the PHFS and Interstate with critical freight facilities.



Baseline System Conditions

Currently, there are no PHFS corridors within the Bismarck-Mandan MPO region. I-94 is designated as part of the Other Interstate portions not on the PHFS.

Several CUFCs are found in the MPO region, as shown in **Figure 32**. There are no routes designated as CRFCs in the MPO region at this time.

*State Designated Routes*

NDDOT has developed a Strategic Freight System Index to classify key freight-related infrastructure for roadways, rail, air, and pipeline modes. The tiered index classifies infrastructure based on the relationship to Federal, state/regional, and local freight networks:<sup>4</sup>

- **Level One:** Infrastructure that supports international and interstate freight movements and CRFCs.
- **Level Two:** Infrastructure that supports regional and intrastate freight movements.
- **Level Three:** Infrastructure that facilitates local freight movements.

**Table II** summarizes the freight highway components of the Strategic Freight System Index while **Figure 30** presents the state’s strategic freight routes. **Figure 31** shows the existing state strategic freight routes within the MPO Area as published in the previous State Freight Plan in 2015.

Table II: NDDOT Strategic Freight System Index- Freight Highway Components

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

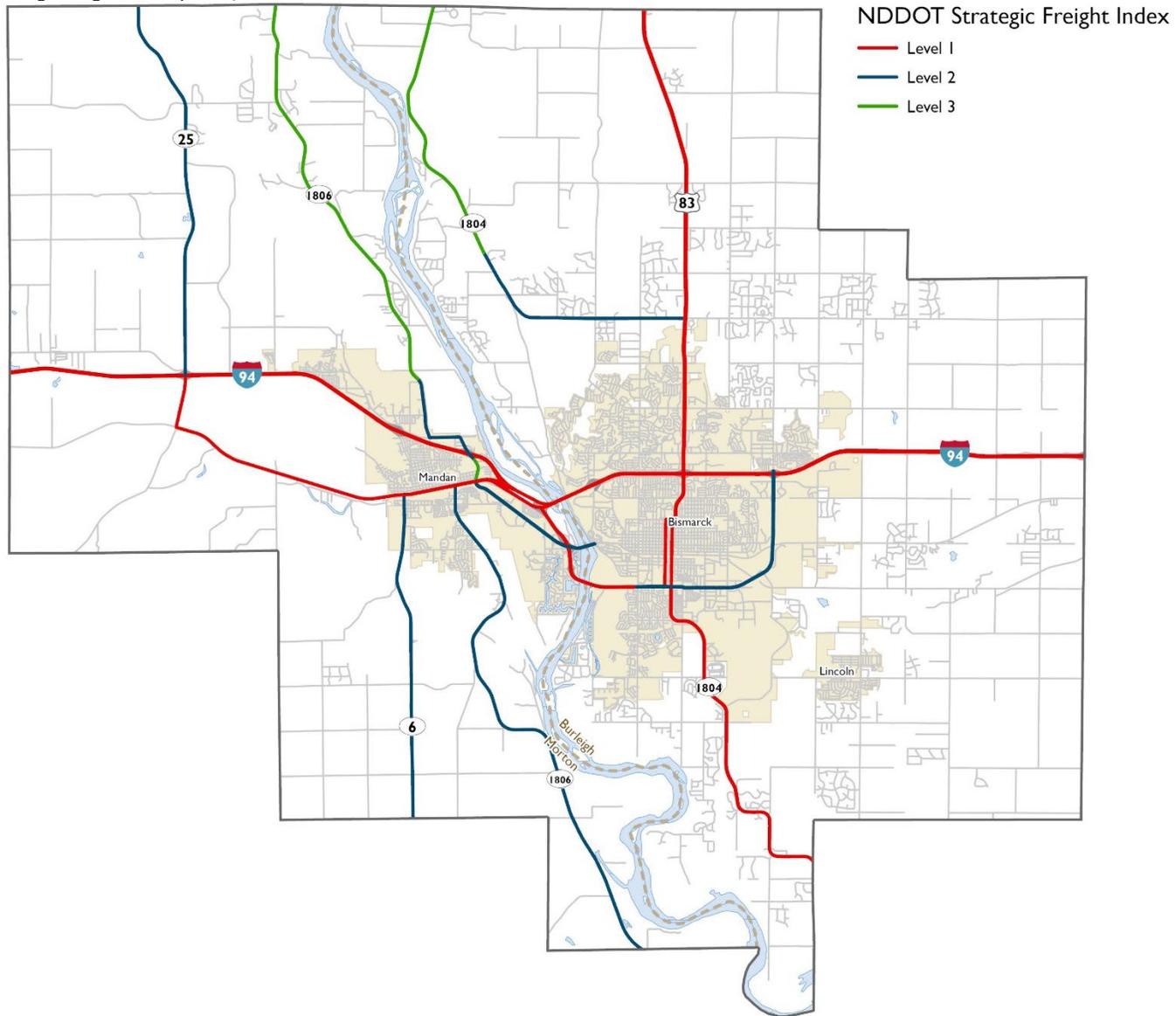
Source: North Dakota Department of Transportation, *State Freight and Rail Plan*

<sup>4</sup> North Dakota Department of Transportation, [State Freight and Rail Plan](#)





Figure 31: NDDOT Strategic Freight Index System for the Bismarck-Mandan MPO Area



Source: North Dakota Department Transportation



### Local Routes

#### City of Bismarck

The City of Bismarck has designated local truck routes, and these routes are required for use by any vehicle with an actual or registered gross vehicle weight at or exceeding 10,000 pounds.<sup>5</sup> These vehicles may leave the designated routes to access a destination via the shortest path possible via non-truck route streets. Trucks making local deliveries and pickups are also required to use the designated routes except for when making the delivery or pickup, in which case they are required to use the shortest distance route possible between the delivery or pickup destination and the designated truck route.

In addition to the designated truck routes, several streets within the City of Bismarck are posted as year-round 6-Ton Load Restrictions. No vehicle with a divisible load exceeding the 6-ton limit may use these routes at any time. The 6-Ton Load Restriction routes include:

- **Country West Road**, from Clydesdale Drive to Century Avenue;
- **Century Avenue**, from Centennial Avenue east to the end of the pavement;
- **Burnt Boat Road**, from Clairmont Road to North Grandview Lane;
- **Ash Coulee Drive**, from the intersection of Northern Sky Drive and Ash Coulee to Tyler Parkway/15th Street;
- **Airway Avenue**, from Airport Road to Northern Plains Drive.

The local truck routes also include roadways in which fringe agreements have been entered into with Burleigh County for the purposes of delineating operations and maintenance responsibilities.

<sup>5</sup> City of Bismarck, [Load Permits, Restrictions & Truck Routes](#)

#### City of Mandan

The City of Mandan's locally designated truck routes are allowed for use under NDDOT's permitting procedures and allow freight operators holding the required permits to transport freight through the city.<sup>6</sup>

There is not a seasonal load restriction in the City of Mandan as the City does not have a truck regulatory department at this time.

#### Freight Generation

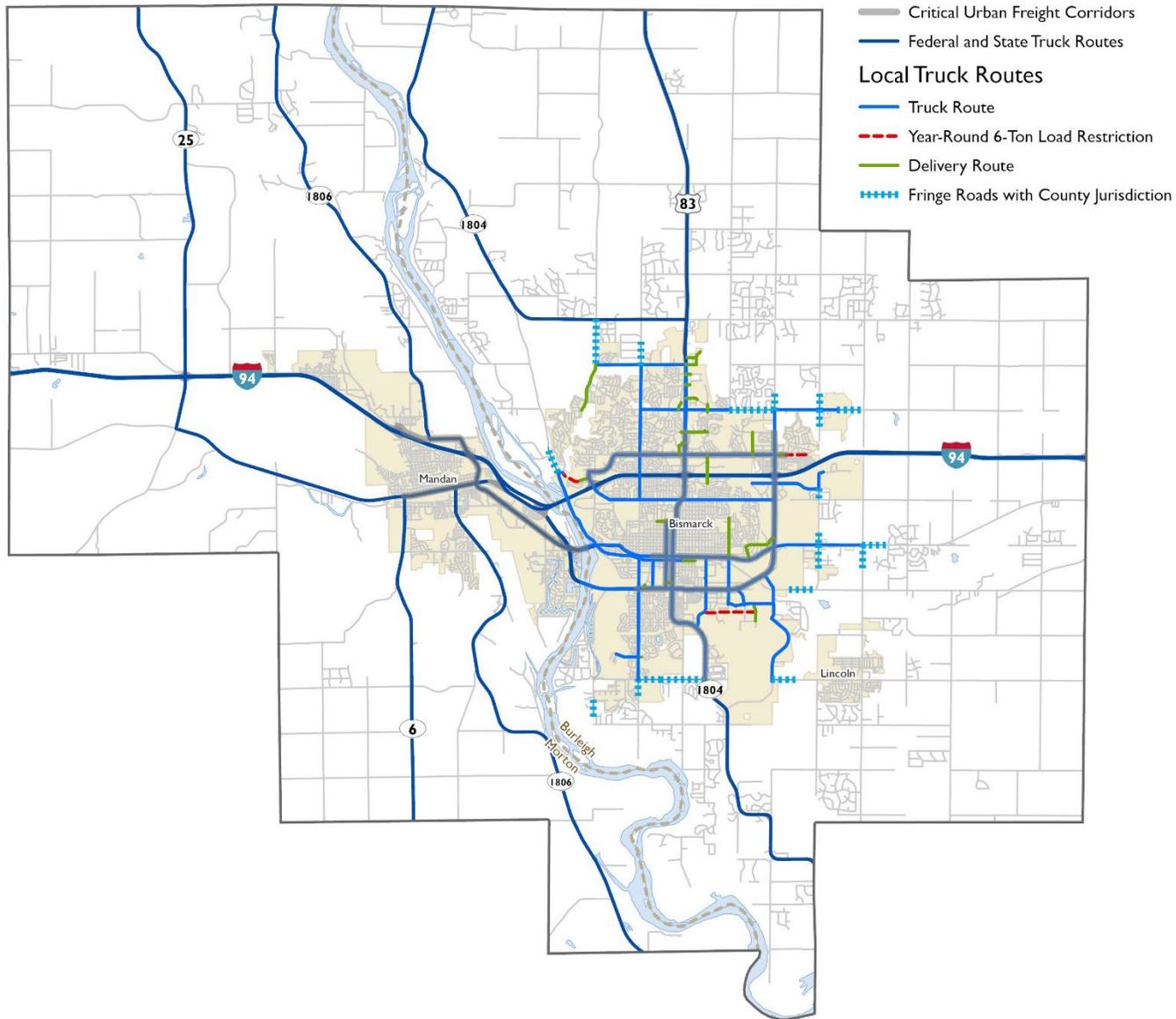
Freight generation provides insight into the relationship between existing land uses and freight activity. An analysis of the current freight generators within the Bismarck-Mandan MPO Area was conducted to identify the top locations that generate truck movements today. The analysis was based on trip generation rates sourced from FHWA's Quick Response Freight Methods, which were applied to 2019 employment by industry data sourced from the U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) dataset. The data was then aggregated to the 2020 census block group level and represents the number of trucks generated in each block group daily.

The results of the freight generation analysis are shown in **Figure 33**. The block groups estimated to generate the highest number of trucks daily are found east and north of the City of Bismarck. Other areas of high daily truck generation are found in the eastern portion of the City of Mandan. The general trend observed from the daily truck generation analysis is the presence of high truck generation block groups that are in close proximity to state highways and Interstate 94 (I-94). This observation would indicate the importance of access to the region's highway system for freight trucks, as well as the industrial land uses that rely on freight trucks for their operations.

<sup>6</sup> City of Mandan, [Load Restrictions](#)



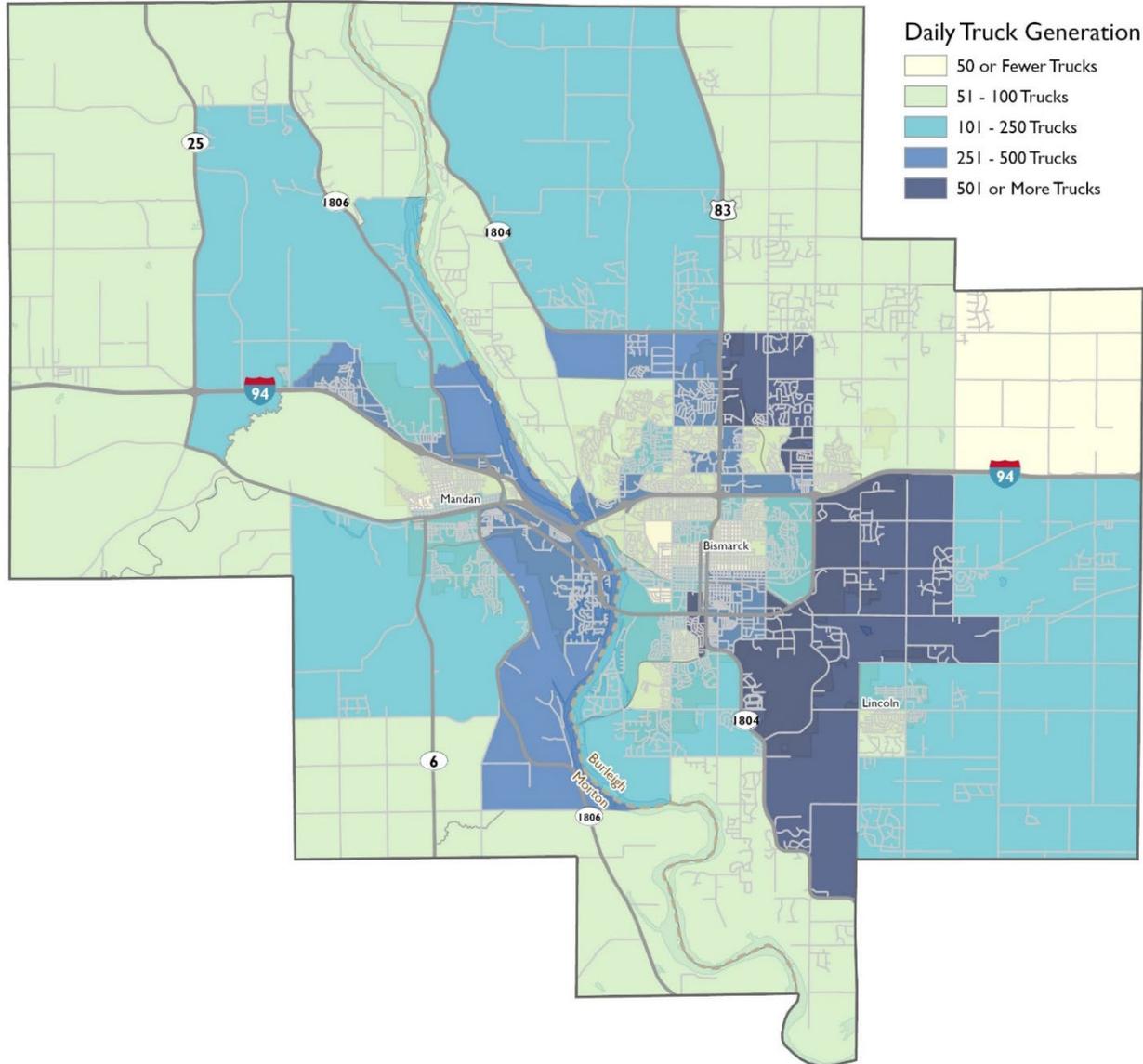
Figure 32: Federal, State, and Local Truck Routes



Source: City of Bismarck, February 2024



Figure 33: Daily Truck Generation Estimates for the Bismarck-Mandan MPO Area



Source: United States Census Bureau Longitudinal Employer-Household Dynamics, United States Department of Transportation Quick Response Freight Manual



### Daily Truck Trips

Additional data related to freight that was reviewed as part of the Baseline System Performance analysis were daily truck trips and annual tonnage moved by freight trucks on MPO roadways. The data reviewed for these topics was sourced from FHWA’s Freight Analysis Framework 5 (FAF 5), which models national freight movements for all modes using the base year of 2017.

Estimates of daily truck trips for routes within the MPO Area are shown in **Figure 35**. The routes estimated to support the highest numbers of daily trips include I-94, which is estimated to facilitate over 500 truck trips per day, and N.D. 6 and U.S. 83, which are both estimated to facilitate over 251 daily truck trips.

### Annual Tonnage

Estimates for the annual tonnage, in terms of kilotons, moved on roadways within the MPO Area are also provided by FAF 5, and are shown in **Figure 36**. The routes estimated to carry the highest levels of annual tonnage reflect those that are estimated to facilitate the highest levels of daily trips, with I-94 estimated to carry over 5,000 kilotons annually. N.D. 6 and U.S. 83 are estimated to carry over 2,501 kilotons per year.

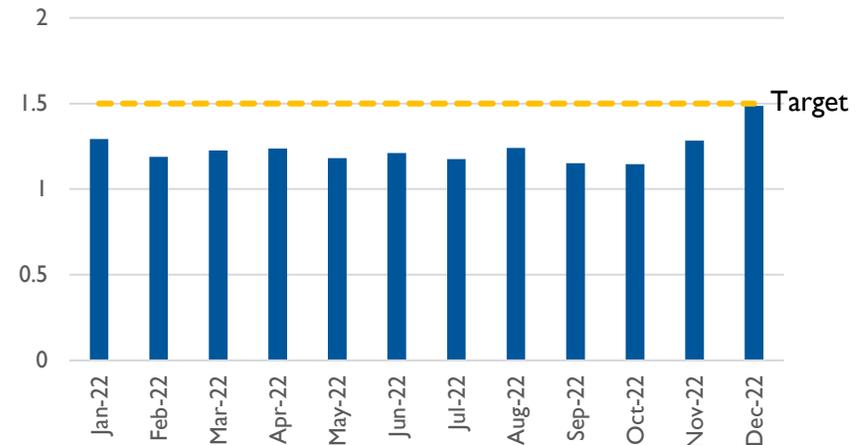
### Truck Travel Time Reliability Index

Truck Travel Time Reliability Index (TTTR), as stated in the **Traffic Operations** section of this report, indicates the reliability of travel for freight trucks along the Interstate system. TTTR data sourced from the NPMRDS for the year 2022 was used to calculate the TTTR index for I-94 within the MPO Area.

### Figure 34

shows the resulting Interstate TTTR index for the Interstate within the MPO Area. Using a TTTR of 1.5 as the threshold for determining reliable and unreliable Interstate segments, the TTTR index calculated for I-94 found that the majority of the MPO’s Interstate system was reliable in 2022. The only I-94 segments that demonstrated an unreliable TTTR index were the ramp terminals at 46<sup>th</sup> Avenue SE in the City of Mandan; the narrow design and lower speeds of these ramp terminals are likely factors influencing the unreliability of these segments for freight trucks. **Figure 37** presents the annual TTTR performance for the MPO’s Interstate System based on 2022 NPMRDS data.

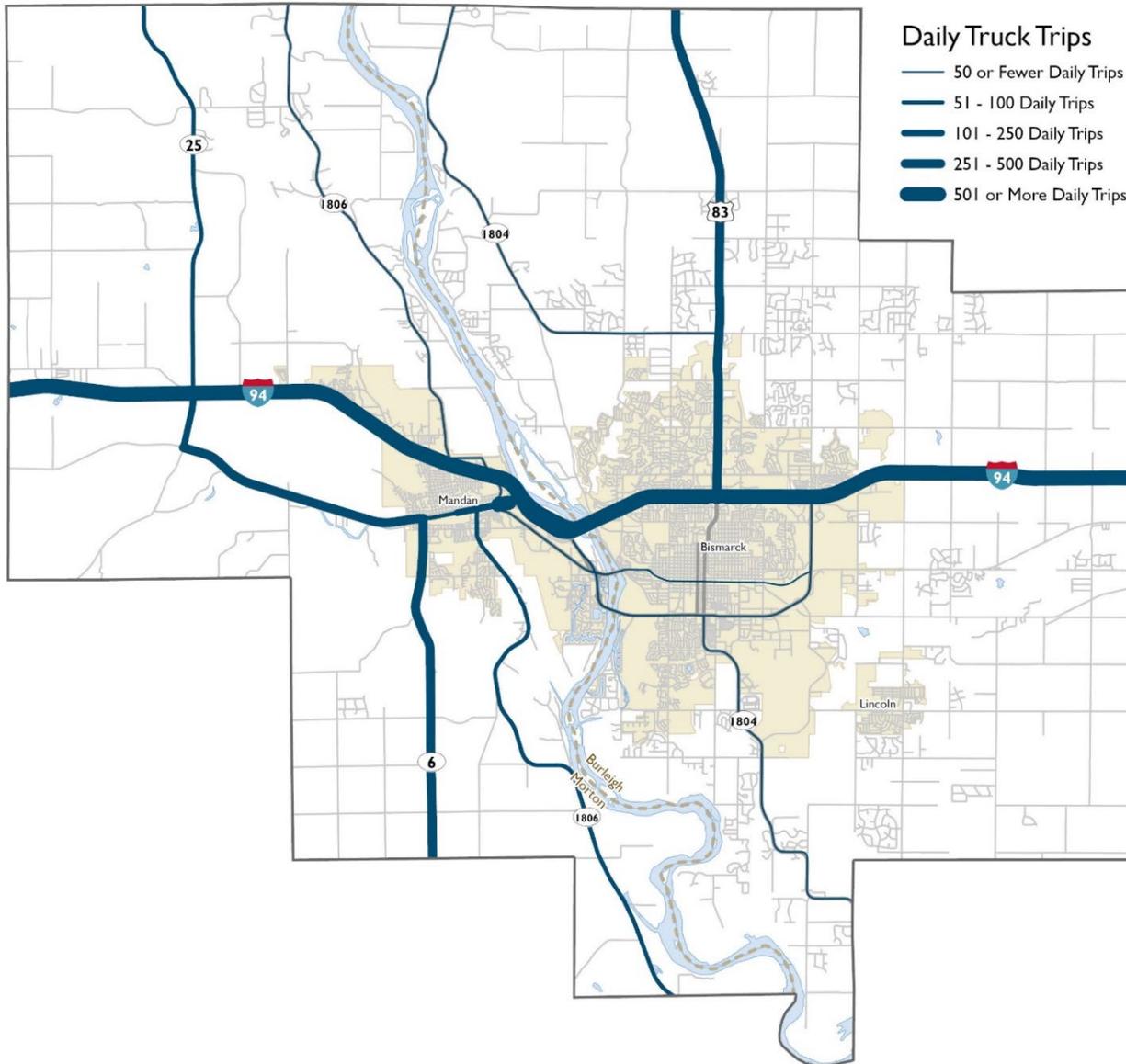
Figure 34: Monthly TTTR for the Interstate System, 2022



Source: National Performance Management Research Dataset, 2022



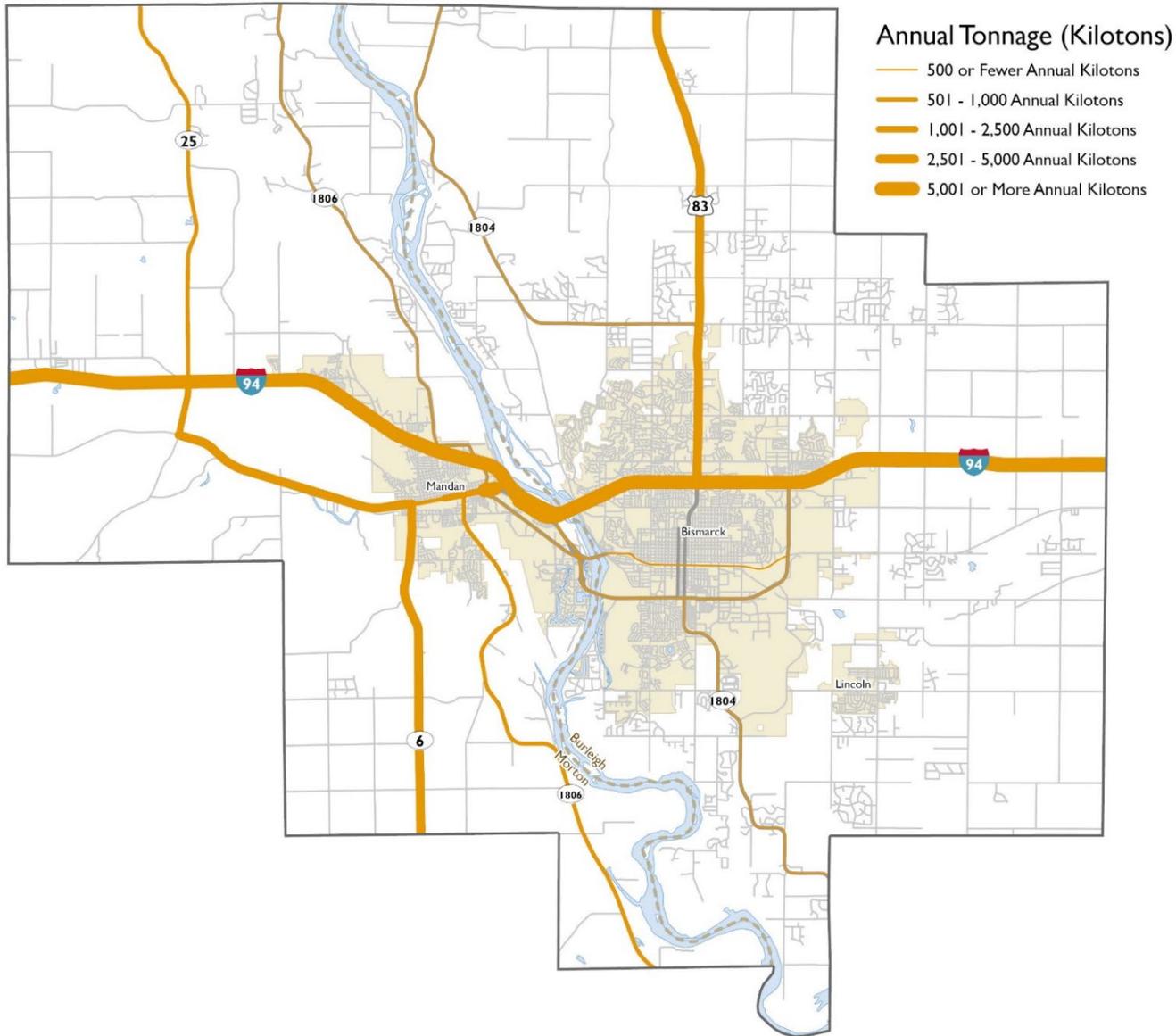
Figure 35: Daily Truck Trips



Source: Federal Highway Administration, Freight Analysis Framework 5



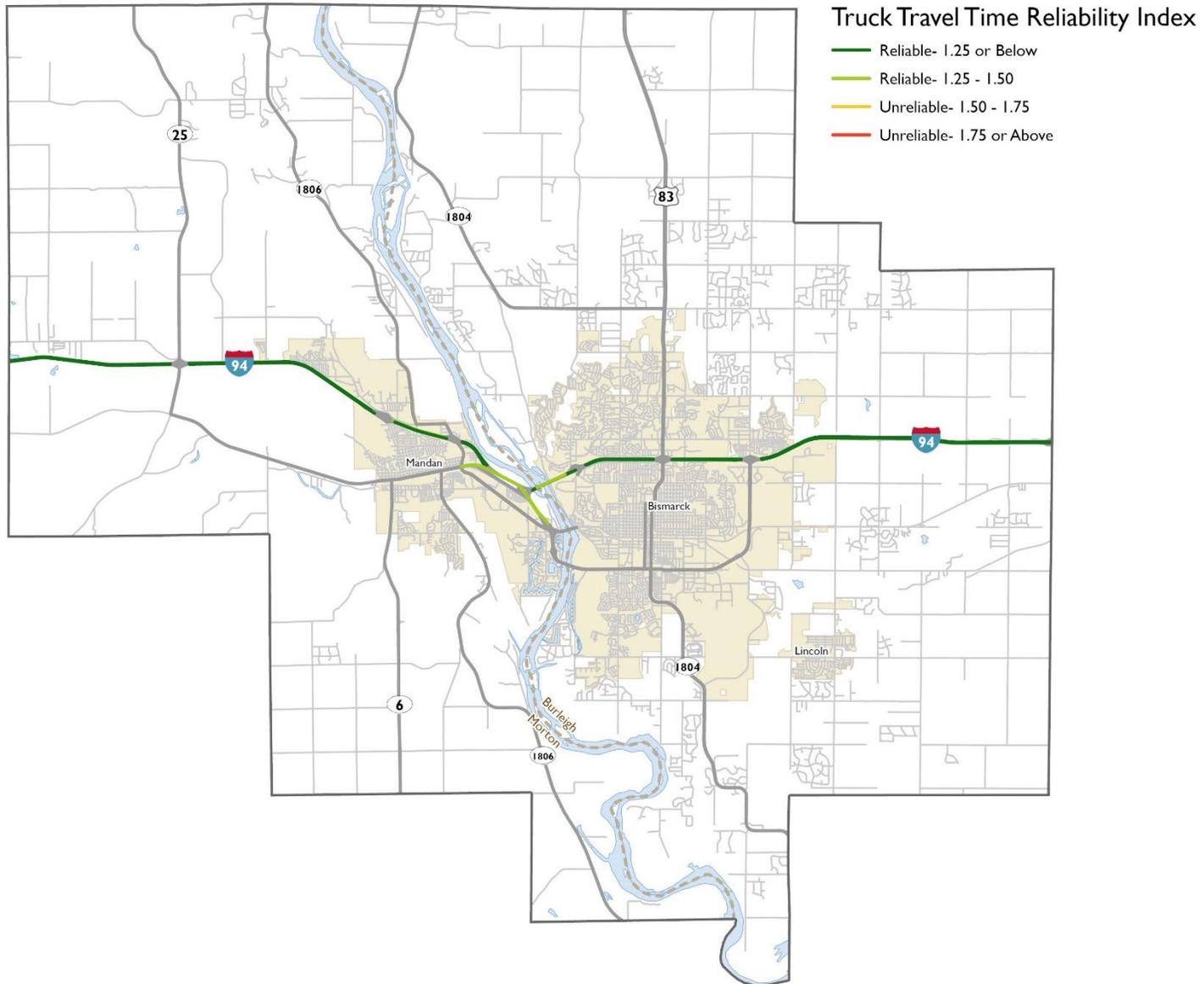
Figure 36: Annual Tonnage (Kilotons)



Source: Federal Highway Administration, Freight Analysis Framework 5



Figure 37: Truck Travel Reliability Index for the MPO Area, 2022



Source: National Performance Management Research Dataset, 2022



### Freight Rail Assets

Rail operations are a vital component of the freight system as well as the overall multi-modal transportation network. The intersection of rail lines with roadways presents safety and mobility concerns when these crossings are at-grade owing to potential collisions and vehicle delays during train crossing events.

Freight railroads within North Dakota facilitate the movement of large quantities of commodities across the state. The State Freight and Rail Plan acknowledges the importance of freight rail operations and includes this mode in the Strategic Freight System Index as shown in **Table 12** while the locations of the MPO’s freight rail assets are shown in **Figure 38**.

Table 12: NDDOT Strategic Freight System Index- Freight Rail Components

| Level One  | Level Two  | Level Three  |
|--|--|--|
| <ul style="list-style-type: none"> <li>• Class I Mainlines</li> <li>• Strategic Rail Corridor Network</li> </ul> | <ul style="list-style-type: none"> <li>• Branch lines capable of carrying 286,000-pound rail cars</li> </ul> | <ul style="list-style-type: none"> <li>• Branch lines capable of carrying 268,000-pound rail cars</li> </ul> |

Source: North Dakota Department of Transportation, *State Freight and Rail Plan*

### Rail Lines

Rail operations serving the Bismarck-Mandan MPO Area are operated by Burlington Northern Santa Fe (BNSF) and Dakota, Missouri Valley, and Western Railroad (DMVW).

BNSF is a Class I railroad that provides freight rail service in the MPO Area. The BNSF line in the MPO Area is part of the designated BNSF coal network and transload network and provides a critical connection to the coal mines and coal fired power plants north of the City of Mandan.<sup>7</sup> The BNSF transload facility found in

the MPO Area is an intermodal facility that mainly facilitates pipeline to rail transfers.

DMVM is a Class III railroad that serves the state’s agriculture, energy, and biofuel industries. DMVM is a regional railroad serving North Dakota, South Dakota, and Montana and operates a fleet of 24 locomotives. Due to the majority of DMVM tracks that do not meet industry standards, there are numerous speed and weight restrictions for DMVM locomotives. The railroad interchanges traffic with BNSF within the City of Bismarck.

### Rail Crossings

A total of 84 rail crossings are located within the Bismarck-Mandan MPO Area. Of the 84 crossings, 63 are at-grade while the remaining crossings are grade separated with the railroad either passing over (overpass) or under (underpass) roadways.

**Table 13** summarizes the current rail operations in the MPO Area, including trains per day, miles of track, and rail crossings for the BNSF and DMVM railroads.

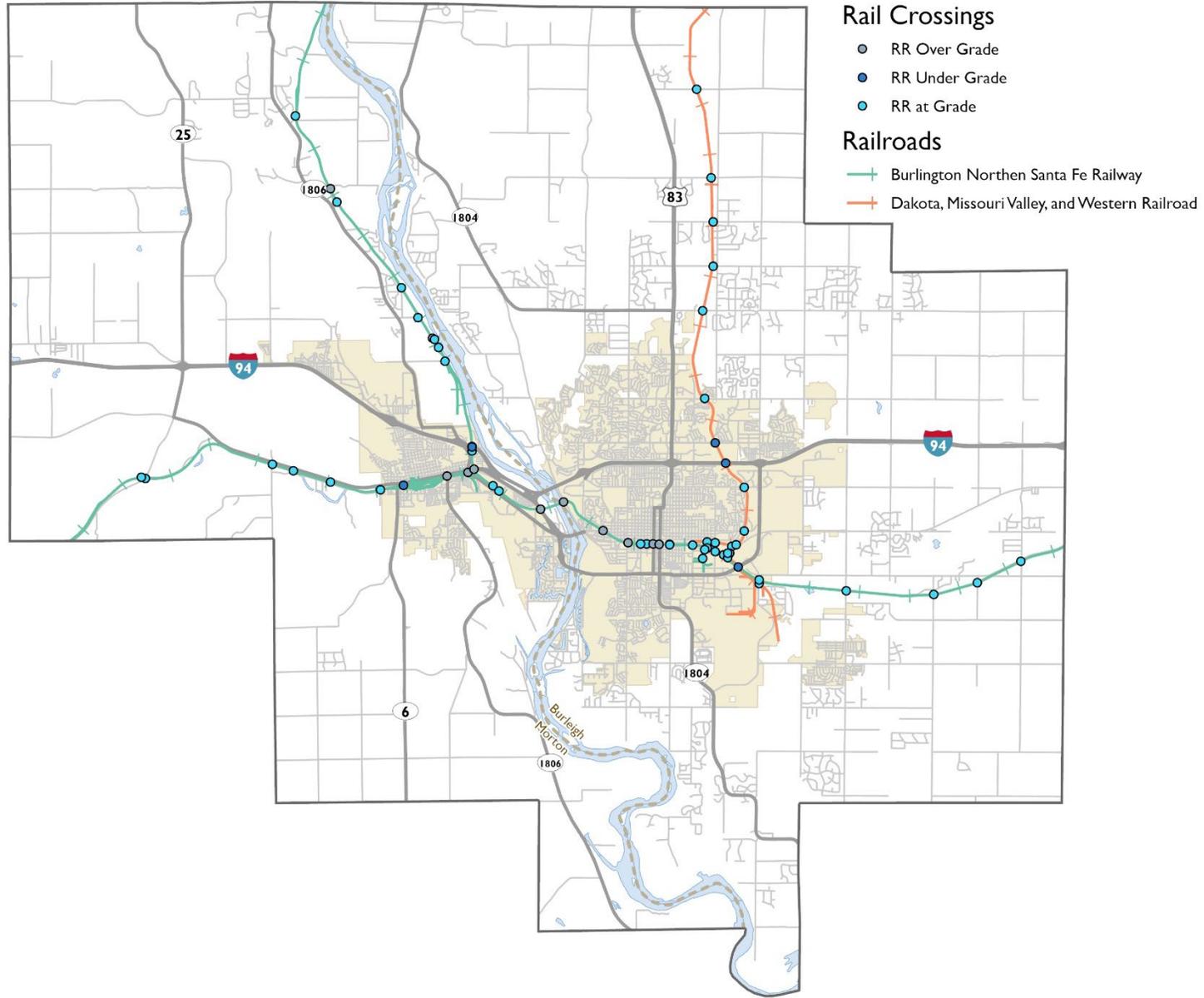
Table 13: Existing BNSF and DMVM Operations in the MPO Area

|                           | BNSF | DMVM |
|---------------------------|------|------|
| Trains per Day            | 4-22 | 1    |
| Miles of Track            | 57.5 | 17.9 |
| At-Grade Crossings        | 30   | 18   |
| Grade Separated Crossings | 15   | 2    |

<sup>7</sup> Bismarck-Mandan MPO, [Bismarck-Mandan Regional Freight Study](#)



Figure 38: Rail Lines and Rail Crossings within the MPO Region





Baseline System Conditions

### Pipelines

Pipelines are the number one freight mode in terms of tonnage moved to, from, and within the state of North Dakota, accounting for 53 percent of the state’s total freight tonnage. These facilities are instrumental in supporting the state’s energy sector as they are the most cost-effective solution to transport crude oil, natural gas, and refined products that heat our homes, fuel our vehicles, and power our businesses. NDDOT recognizes the importance of pipelines in the State’s freight system and included this mode in the State’s strategic freight system index as shown in **Table 14**.

Several pipelines are located within the Bismarck-Mandan MPO Area. Based on data obtained from the National Pipeline Mapping System (NPMS), these facilities carry natural gas (gas transmission) and crude oil (hazardous liquid) through the region; **Figure 40** shows pipelines located in Burleigh County while **Figure 41** shows pipeline facilities found in Morton County.

Table 14: NDDOT Strategic Freight System Index- Pipeline Components

| Level One   | Level Two   | Level Three  |
|---|---|--|
| <ul style="list-style-type: none"> <li>• Interstate transmission pipelines</li> </ul> | <ul style="list-style-type: none"> <li>• Gathering pipelines</li> </ul> | <ul style="list-style-type: none"> <li>• Distribution pipelines</li> </ul> |

Source: North Dakota Department of Transportation, *State Freight and Rail Plan*

### Air Freight

Air freight services within the Bismarck-Mandan MPO Area are facilitated through the Bismarck Municipal Airport. Bismarck Municipal Airport is designated as a Level One facility per NDDOT’s Strategic Freight System Index based on the cargo movements through the airport that are carried on passenger services. **Table 15** summarizes the complete air component of the state’s Strategic Freight System Index.

### The Airport Master Plan,

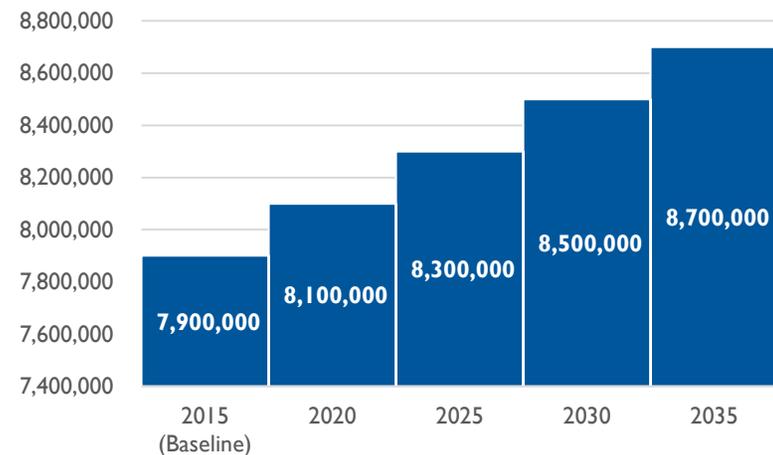
published in 2019, forecasts cargo operations at the Bismarck Airport through the year 2035 with 2015 serving as the baseline forecast year. These forecasts, shown in **Figure 39**, see an annual growth rate of 0.5 percent per year in cargo volumes moving through the airport. It is estimated that nearly 9 million pounds of cargo will move through the airport in 2035.

Table 15: NDDOT Strategic Freight System Index- Air Components

| Level One   | Level Two  | Level Three  |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Integrator hub airports</li> <li>• Airports with cargo carried on passenger services</li> <li>• Air Force Bases</li> </ul> | <ul style="list-style-type: none"> <li>• Integrator feeder airports</li> </ul> | <ul style="list-style-type: none"> <li>• Airports with infrequent cargo use</li> </ul> |

Source: North Dakota Department of Transportation, *State Freight and Rail Plan*

Figure 39: Forecasted Air Cargo Operations at the Bismarck Airport, 2015 – 2035



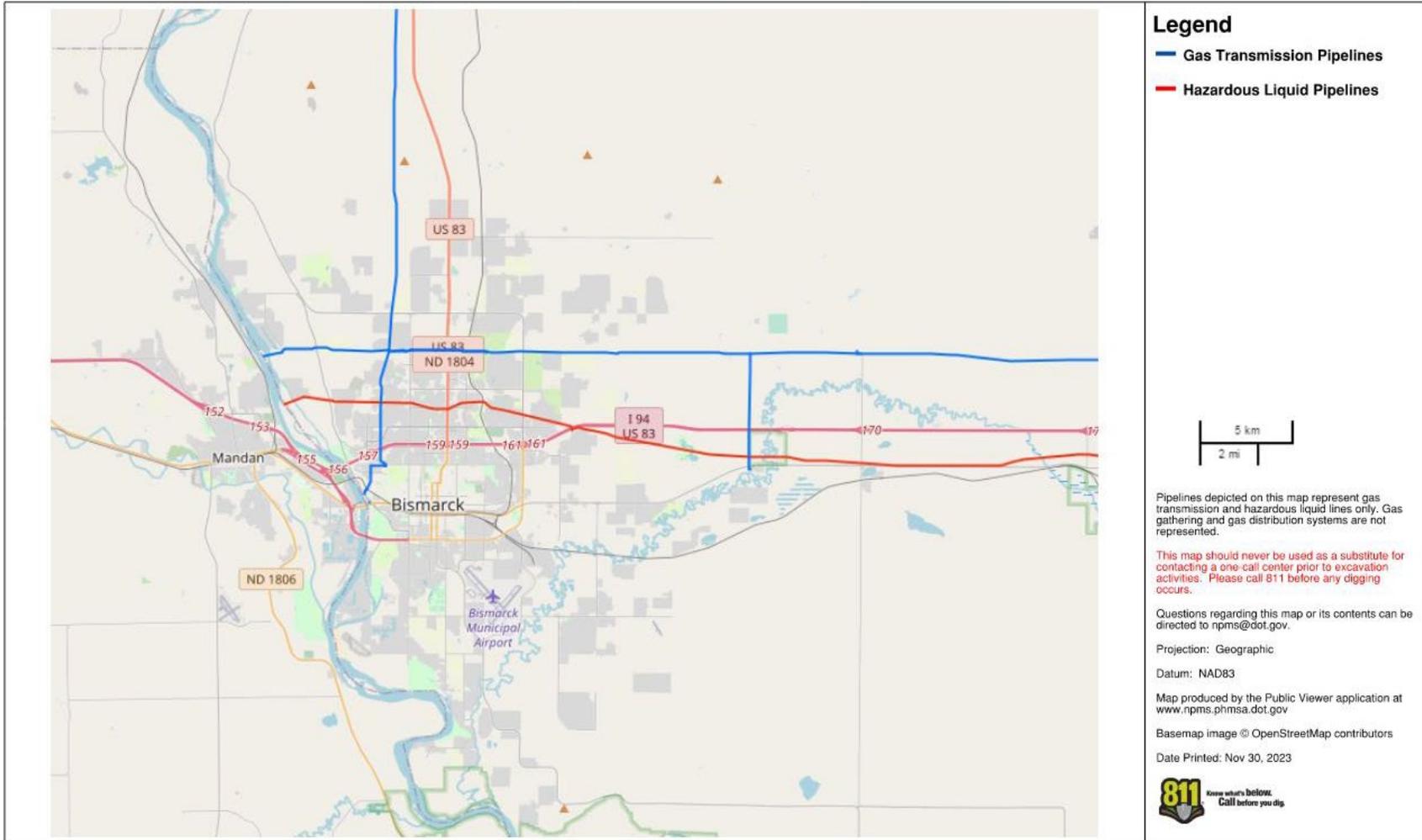
Source: City of Bismarck, *Airport Master Plan*



Figure 40: Pipelines in Burleigh County



## NATIONAL PIPELINE MAPPING SYSTEM



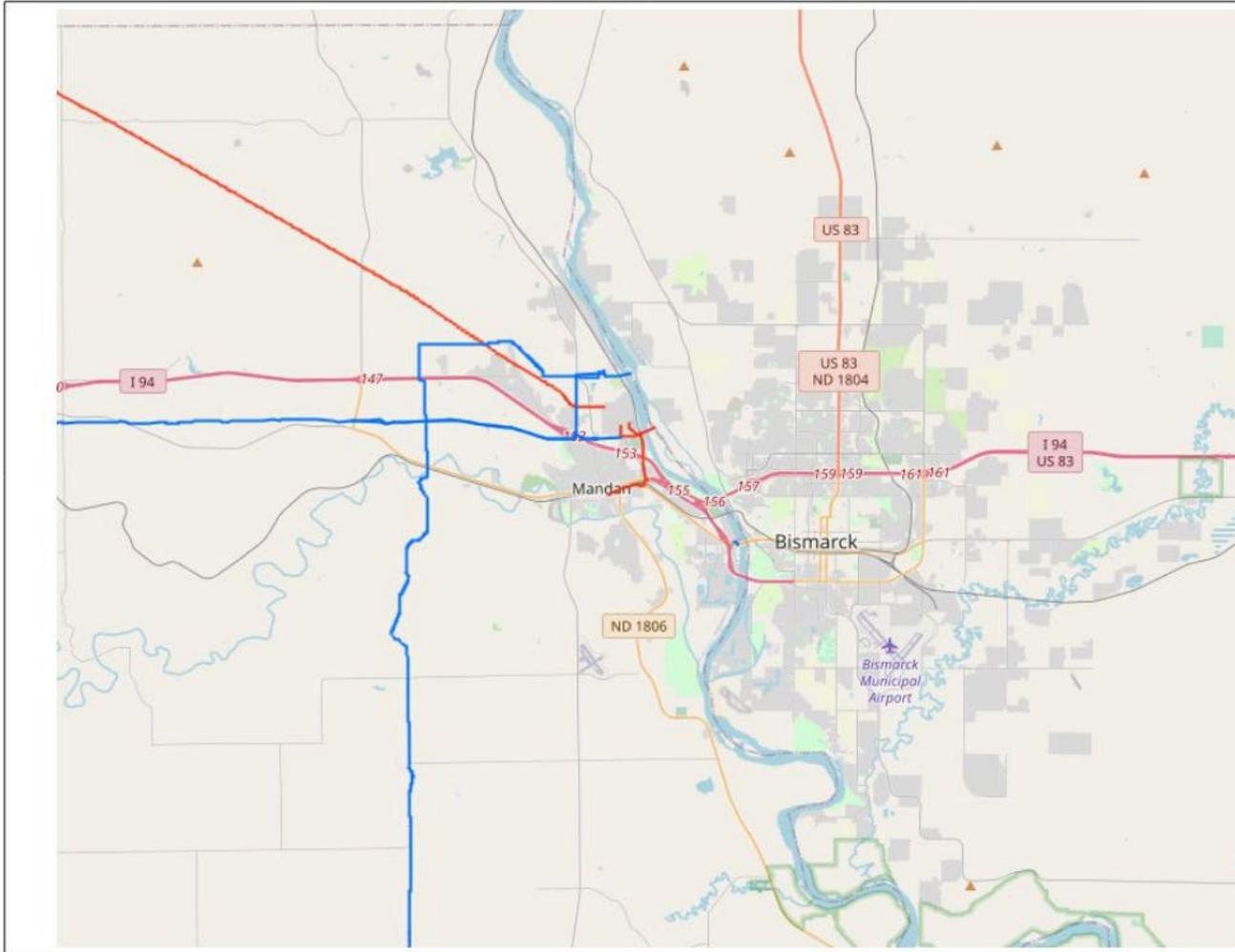


Baseline System Conditions

Figure 4I: Pipelines in Morton County

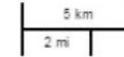


# NATIONAL PIPELINE MAPPING SYSTEM



## Legend

- Gas Transmission Pipelines
- Hazardous Liquid Pipelines



Pipelines depicted on this map represent gas transmission and hazardous liquid lines only. Gas gathering and gas distribution systems are not represented.

This map should never be used as a substitute for contacting a one-call center prior to excavation activities. Please call 811 before any digging occurs.

Questions regarding this map or its contents can be directed to [npms@dot.gov](mailto:npms@dot.gov).

Projection: Geographic

Datum: NAD83

Map produced by the Public Viewer application at [www.npms.phmsa.dot.gov](http://www.npms.phmsa.dot.gov)

Basemap image © OpenStreetMap contributors

Date Printed: Nov 30, 2023





## Bicycle and Pedestrian System

The bicycle and pedestrian system of the Bismarck-Mandan MPO Region is a valued network of off-street and on-street facilities that provide users with mobility and access to the region’s recreational destinations.

To continue developing the MPO Area’s bicycle and pedestrian network into a strength of the region’s multi-modal transportation system, a [Bicycle and Pedestrian Plan](#) was completed in 2017. This Plan aims to grow the 5 E’s—engineering, education, encouragement, enforcement, and evaluation efforts—so that bicycling and walking within the region is safe, comfortable, and reliable.

The vision-driven Plan was informed through community engagement, an existing conditions assessment, and consideration of the 5 E’s to develop an implementation schedule that provides the necessary infrastructure and strategies to achieve the goals and objectives set for the bicycle and pedestrian system. The goals set forth in the Bicycle and Pedestrian Plan are summarized in **Table 16**.

### Existing Bicycle and Pedestrian Facilities

Today, the existing bicycle and pedestrian infrastructure found within the Bismarck-Mandan MPO Region consists of off-street facilities that provide infrastructure separated from vehicular traffic and on-street facilities that are located within the roadway adjacent to vehicular travel lanes. The off-street facilities that exist today include sidewalks and multi-use trails while the on-street facilities include bicycle lanes and shared road routes. In addition to these facilities, a number of Rapid Rectangular Flashing Beacons (RRFBs) are found throughout the region. A description of each of these facilities is in **Table 17** and their locations within the MPO region are shown in **Figure 42** and **Figure 43**.

Table 16: Goals of the Bismarck-Mandan Bicycle and Pedestrian Plan

| Goal               | Description  |
|--------------------|--|
| Network Use        | Increase the number of bicycling and walking trips made by people in Bismarck and Mandan.  |
| Connectivity       | Develop a connected network of bicycling and walking throughout both communities in partnership with local, regional and state partners. Connect bicycling and walking routes to community destinations and other transportation systems, including transit. |
| Safety and Comfort | Build and maintain safe and comfortable bicycling and walking facilities for people of all ages and abilities. Support driving, walking, and bicycling behaviors that increase the safety of people who walk and bicycle.                                    |
| Maintenance        | Protect the public’s investment in the bicycling and walking system over the long-term and ensure system accessibility all year round.   |
| Planning           | As new commercial and residential projects are planned, integrate bicycle and pedestrian facilities with project designs during the development review process.  |

Source: Bismarck-Mandan Bicycle and Pedestrian Plan

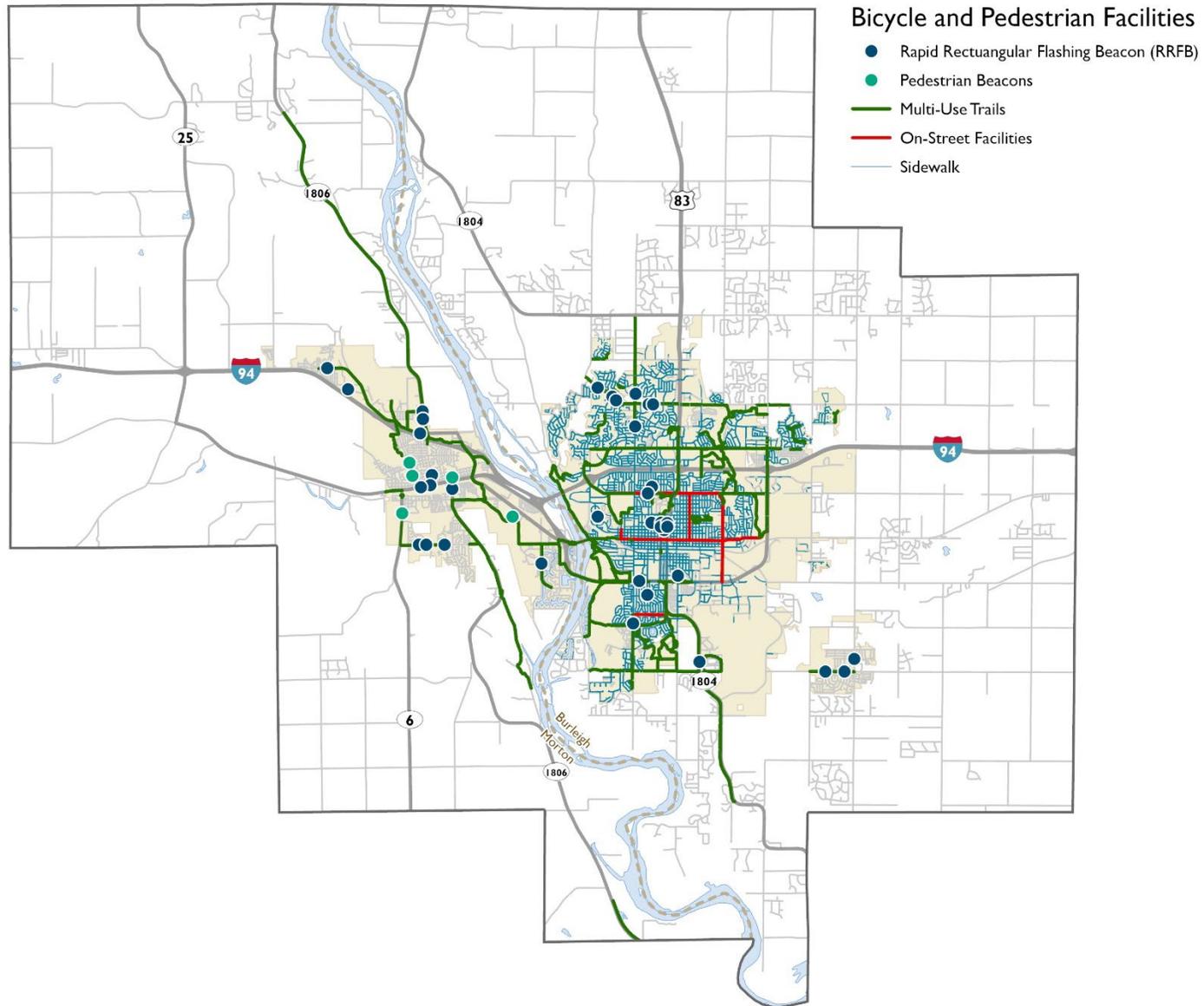


Table 17: Existing Bicycle and Pedestrian Infrastructure within the Bismarck-Mandan MPO Area

| Facility Type  | Description  |
|--|--|
| <p style="text-align: center;"><b>Sidewalks</b></p>                                     | <p>A paved pedestrian facility is located along a street. Sidewalks are located on most streets in Bismarck and are typically located on both sides of the street once a property is developed.</p>  |
| <p style="text-align: center;"><b>Multi-Use Trails</b></p>                              | <p>Trails are separated from the roadway and used for bicycling, walking, running, or other non-motorized activities. There are multi-use trails in both Bismarck and Mandan. Many of these trails continue past city limits into Morton and Burleigh County.</p>  |
| <p style="text-align: center;"><b>Bicycle Lanes</b></p>                                 | <p>A dedicated portion of roadway space for preferential or exclusive use by bicyclists. Some roads in Bismarck include dedicated bicycle lanes, which are between 4 and 6 feet wide and marked with paint.</p>  |
| <p style="text-align: center;"><b>Shared Road Routes</b></p>                           | <p>Lower speed and lower volume roads that use signage and lane markings to indicate the roadway space is intended to be shared by all users. Some residential and collector roads in Bismarck are marked with Share the Roads signs and/or street markings to encourage motorists to make space for bicyclists.</p> |
| <p style="text-align: center;"><b>Rapid Rectangular Flashing Beacons (RRFBs)</b></p>  | <p>Rapid Rectangular Flashing Beacons (RRFBs) are crossing treatments applied at uncontrolled, marked crosswalks that provide flashing lights as indicators to alert motorists of pedestrian usage of the crossing.</p>  |



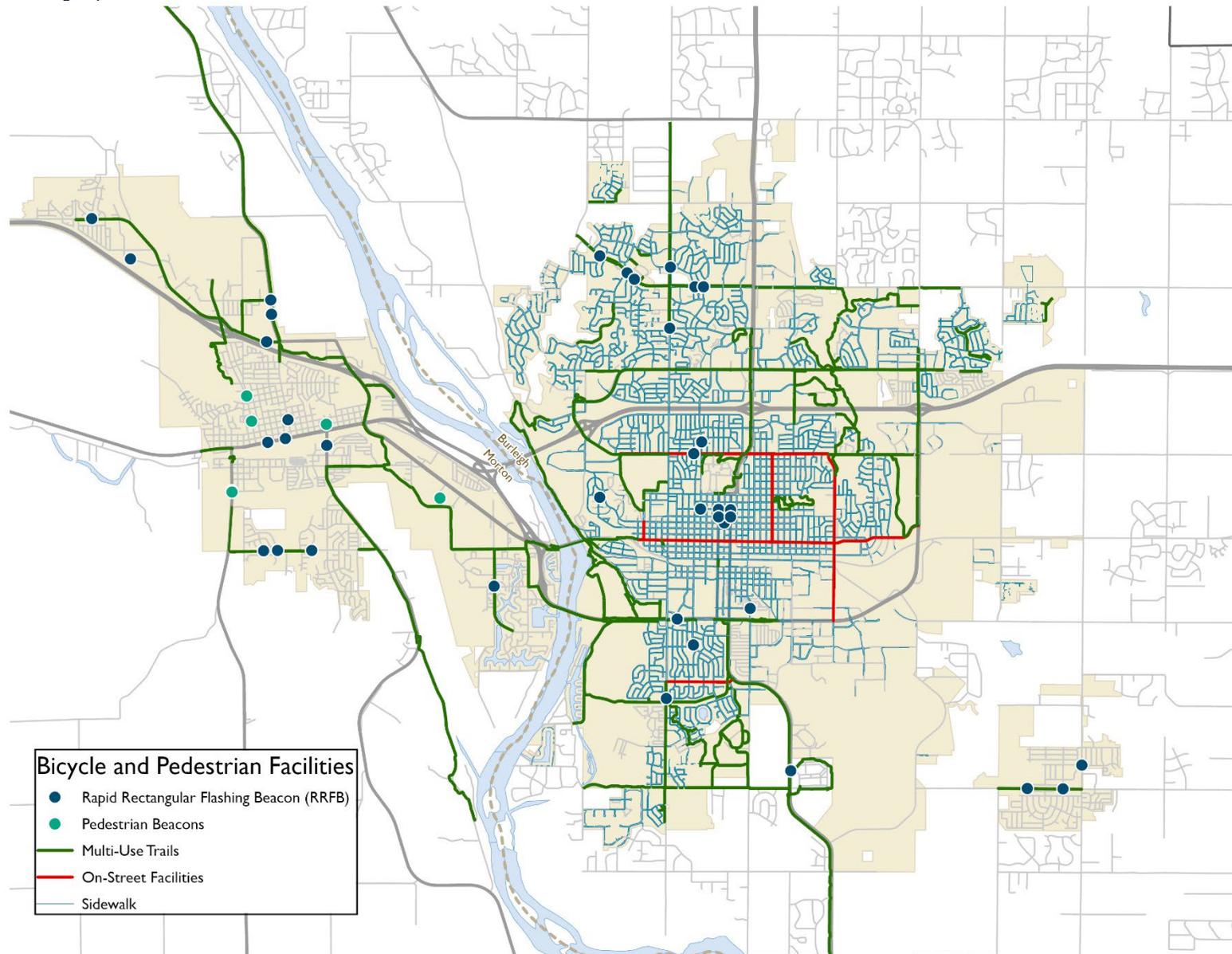
Figure 42: Existing Bicycle and Pedestrian Facilities



Source: City of Bismarck, City of Mandan, Morton County, February 2024



Figure 43: Existing Bicycle and Pedestrian Facilities





## Transit System

Public transit service in the Bismarck-Mandan MPO region is provided by Bis-Man Transit. More information on Bis-Man Transit’s history and structure is available in the 2023 update to its [Transit Development Plan](#), which guides transit service and investment. Below is a summary of existing conditions drawn from that plan.

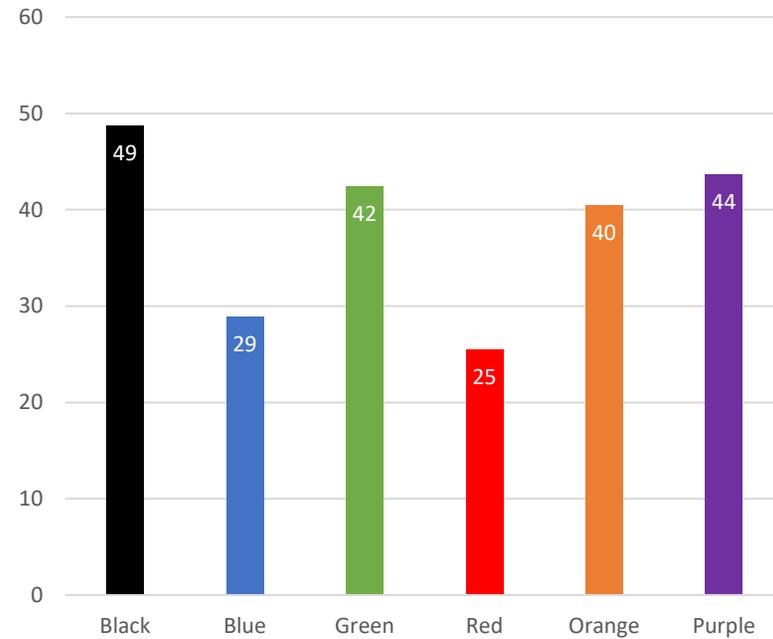
### Fixed-Route Service

Capital Area Transit (CAT) operates fixed-route service in the MPO region. CAT operates six regular fixed routes on weekdays and Saturdays. Weekday service runs from 6:30 AM to 7:00 PM and Saturday service starts an hour later at 7:30 AM. Four of the routes operate on an hourly pulse schedule, with all buses arriving at the same time at a stop on Front Avenue and departing ten minutes later. The exceptions are the Purple Route to Mandan, which serves this stop every two hours, and the Red Route, which provides hourly service to the north end of Bismarck between Bismarck State College and North 14<sup>th</sup> Street/Mapleton Avenue. The routes are shown in **Figure 45**.

As **Figure 44** shows, ridership varies by route. The Black Route has the highest ridership in the system, with 49 boardings on an average weekday. The Red Route has only about half that ridership, at 25 average boardings. The Purple Route has the second-highest ridership in the system despite its limited schedule.

**Table 18** shows several key operating statistics reported by Bis-Man Transit for its fixed-route service over five years. Both revenue hours and passenger trips dipped in 2020. Revenue hours recovered to pre-pandemic levels, while passenger trips did not.

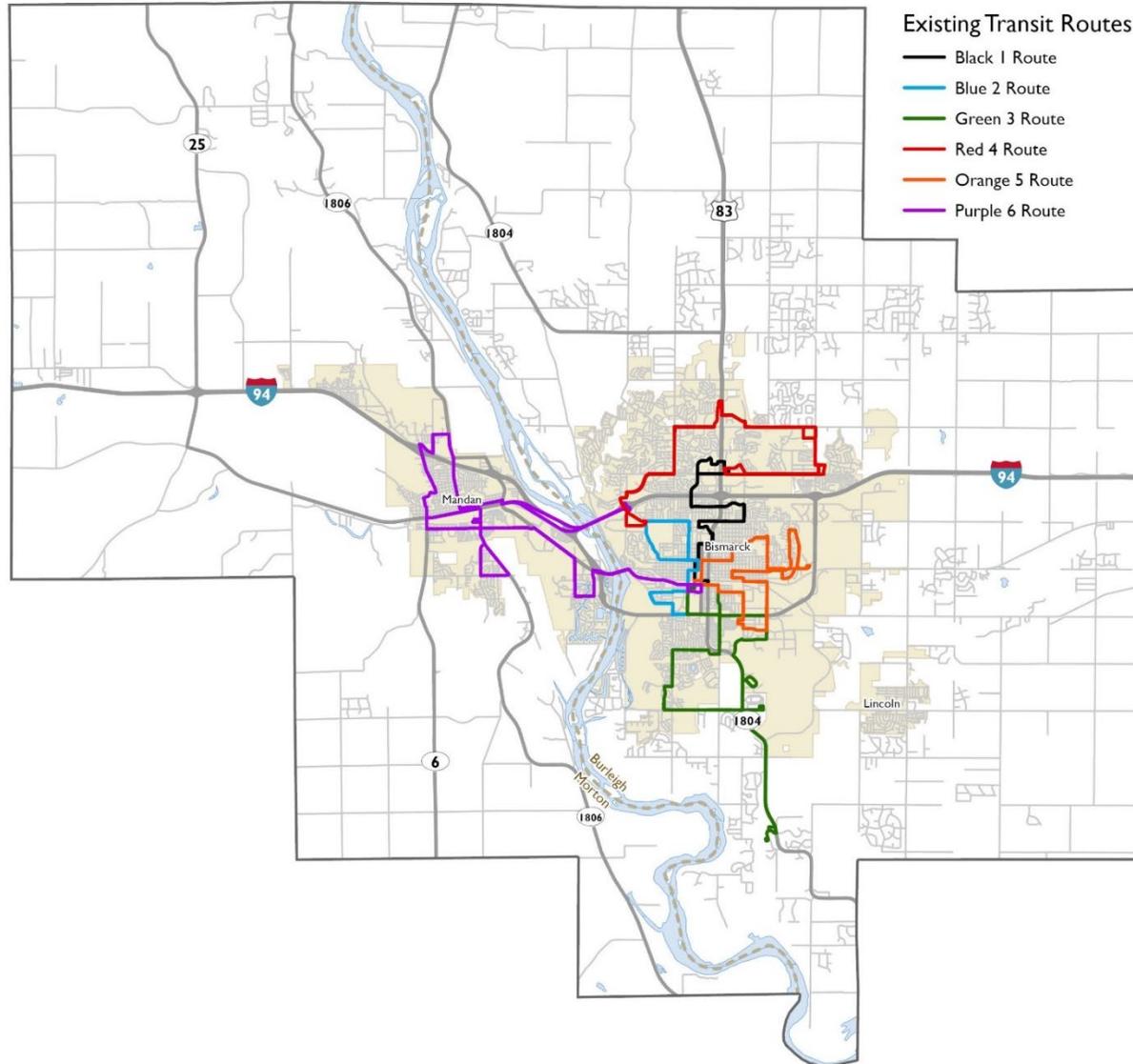
Figure 44: Average Weekday Boardings by Route (August 2021 – July 2022)



Source: Bismarck-Mandan, [2023 Transit Development Plan](#)



Figure 45: Current Fixed-Route Network



Source: Capital Area Transit



Table 18: Fixed-Route Service Indicators, 2017-2021

| Service Indicator                    | 2017        | 2018        | 2019        | 2020        | 2021        |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Revenue Hours                        | 24,146      | 21,340      | 20,811      | 18,400      | 21,707      |
| Passenger Trips                      | 98,646      | 107,172     | 102,538     | 55,445      | 56,744      |
| Operating Expenses                   | \$1,610,875 | \$1,574,148 | \$1,558,069 | \$1,420,374 | \$1,699,835 |
| Passenger Revenue                    | \$66,516    | \$78,141    | \$74,006    | \$51,884    | \$50,929    |
| Operating Expense Per Passenger Trip | \$16.33     | \$14.69     | \$15.20     | \$25.62     | \$29.96     |
| Operating Expense Per Revenue Hour   | \$66.71     | \$73.77     | \$74.87     | \$77.19     | \$78.31     |
| Passenger Trips Per Revenue Hour     | 4.09        | 5.02        | 4.93        | 3.01        | 2.61        |
| Average Fare Per Passenger Trip      | \$0.67      | \$0.73      | \$0.72      | \$0.94      | \$0.90      |
| Operating Ratio                      | 4%          | 5%          | 5%          | 4%          | 3%          |
| Subsidy Per Passenger Trip           | \$15.66     | \$13.96     | \$14.47     | \$24.68     | \$29.06     |

Source: Bismarck-Mandan, [2023 Transit Development Plan](#)



### Paratransit Service

Paratransit door-to-door services are available to senior citizens 70 years of age or older and to individuals with any type of certifiable disability. This service operates within the city limits of Bismarck, Mandan, and Lincoln; on the U-Mary campus; and within three-quarters of a mile from fixed-route service. Reservations can be scheduled for a specific pickup time (such as for a commute home from work), drop-off time (such as for a commute to work or an appointment), or for “will-calls,” which send the first available bus for pickup using only approximate time windows.

**Table 19** shows key service indicators for paratransit during the period between 2017 and 2021.

Table 19: Paratransit Service Indicators, 2017 – 2021

| Operating Statistic                  | 2017        | 2018        | 2019        | 2020        | 2021        |
|--------------------------------------|-------------|-------------|-------------|-------------|-------------|
| Revenue Hours                        | 45,012      | 40,047      | 38,615      | 28,715      | 28,950      |
| Passenger Trips                      | 147,332     | 121,520     | 108,609     | 71,635      | 86,203      |
| Operating Expenses                   | \$2,151,561 | \$2,288,926 | \$2,537,027 | \$2,070,486 | \$2,111,094 |
| Passenger Revenue                    | \$443,872   | \$331,958   | \$303,168   | \$168,945   | \$249,680   |
| Operating Expense Per Passenger Trip | \$14.60     | \$18.84     | \$23.36     | \$28.90     | \$24.49     |
| Operating Expense Per Revenue Hour   | \$47.80     | \$57.16     | \$65.70     | \$72.10     | \$72.92     |
| Passenger Trips Per Revenue Hour     | 3.27        | 3.03        | 2.81        | 2.49        | 2.98        |
| Average Fare Per Passenger Trip      | \$3.01      | \$2.73      | \$2.79      | \$2.36      | \$2.90      |
| Operating Ratio                      | 21%         | 15%         | 12%         | 8%          | 12%         |
| Subsidy Per Passenger Trip           | \$11.59     | \$16.10     | \$20.57     | \$26.54     | \$21.59     |

Source: Bismarck-Mandan, [2023 Transit Development Plan](#)



### Historic Fixed-Route and Paratransit Ridership

Fixed-route and paratransit ridership have followed the same trends in recent years (**Figure 46**). Boardings declined from 2017 to 2019, fell sharply in 2020 due to the COVID-19 pandemic, and recovered slightly over the course of 2021-2022. Paratransit consistently generated more than half of each year’s total boardings.

### Fleet and Facilities

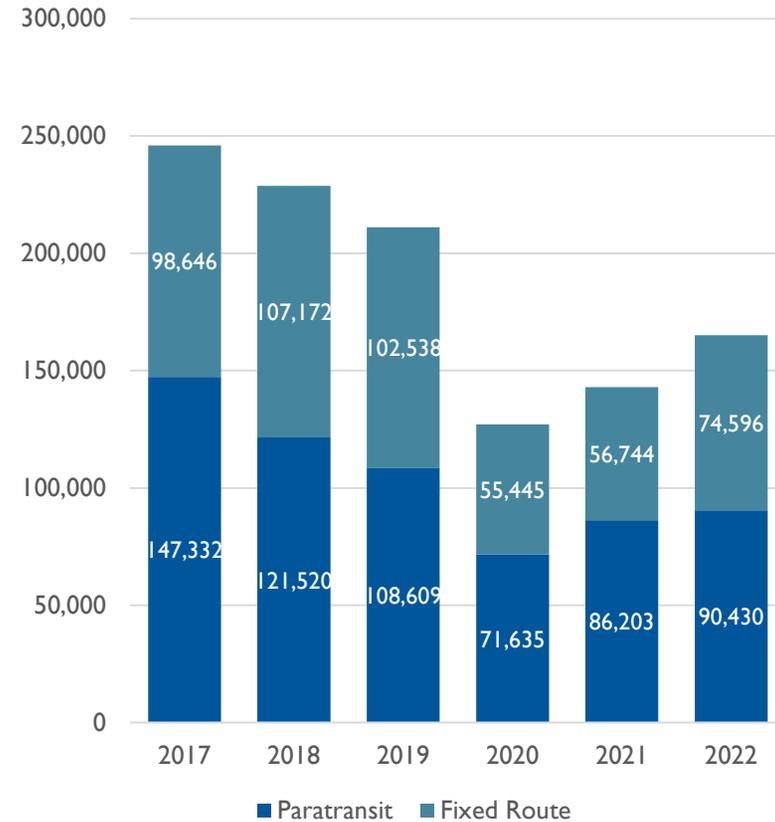
Bis-Man Transit operates 10 heavy-duty buses to provide service on its six fixed routes. The fleet also includes 18 medium- and light-duty cutaway buses and two vans for paratransit service.

All CAT routes except the Red Route depart from and return to the bus shelter at 500 Front Avenue. The Purple Route departs alternately from Front Avenue and from a second transfer point with a shelter at Bismarck State College. Of all locations served by CAT routes, the Bis-Man Transit Facility (served by the Orange 5 Route) is the only site with additional amenities, such as restrooms, vending machines, and bus pass purchase options. The Bis-Man Transit Board holds regular monthly meetings in this building, and the facility also serves as the agency’s bus depot.

### Coverage

The fixed-route network currently covers 90 percent of the area considered transit-supportive on the basis of its housing density, job density, or both. **Figure 47** displays transit-supportive census blocks in green if they are within a quarter-mile of bus service and orange if they are not.

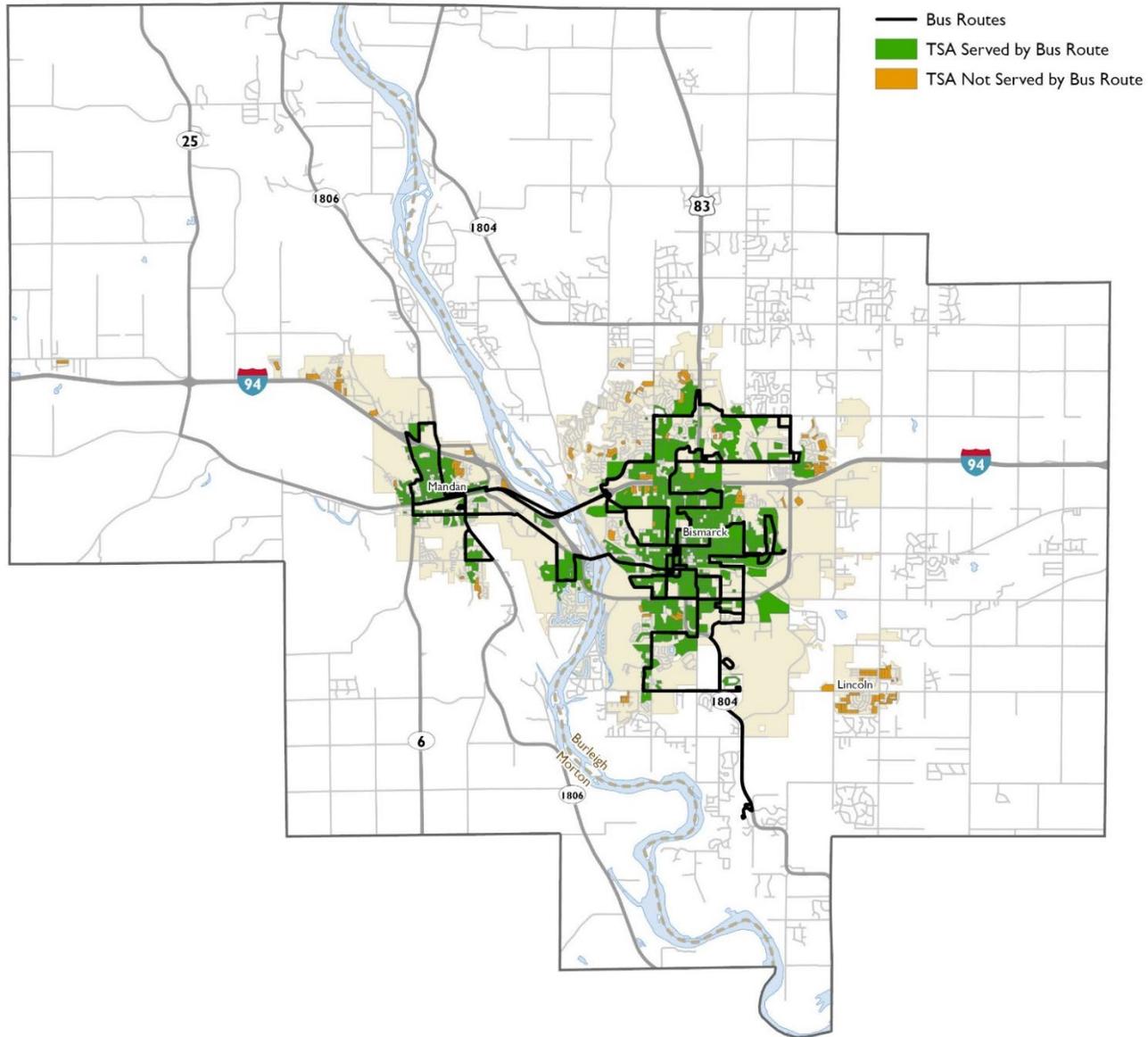
Figure 46: Ridership by Mode, 2017 – 2022



Source: Federal Transit Administration, National Transit Database



Figure 47: Transit-Supportive Areas



Source: Bismarck-Mandan, [2023 Transit Development Plan](#)



### Regional Connections

Regional connections are additional transportation modes that support mobility and the regional economy through helping people, goods, and services move through the MPO area. The key modes facilitating regional connectivity include intercity bus service, passenger rail, aviation, waterways, pipelines, and alternate mobility providers such as Transportation Network Companies (TNCs), bikeshare, and electric scooters.

### Intercity Bus Service

Current intercity bus service is provided by Jefferson Lines, who operates two routes that connect to the MPO area. These routes include:

- **East-West Route:** Service along I-94 beginning in Fargo and traveling east with stops in Valley City, Jamestown, Bismarck, and Dickinson
- **North-South Route:** Service along U.S. 83/U.S. 12/ND 1806 from Agar, South Dakota and serving stops in Fort Yates, North Dakota, and Bismarck.

Jefferson Lines' routes within the state of North Dakota are shown in **Figure 48**.

Users of Jefferson Lines service within the Bismarck-Mandan MPO Area can board at a stop located at the Bis-Man Transit Board on E Rosser Avenue in downtown Bismarck. Tickets are available for purchase at this site.

### Passenger Rail

Passenger rail service is currently not offered in the MPO area. The nearest passenger rail station, operated by Amtrak, is located in Minot, North Dakota which is located approximately 100 miles north of the Bismarck-Mandan area.

Figure 48: Jefferson Lines Routes within North Dakota



Source: Jefferson Lines



Baseline System Conditions

## Passenger Aviation

Passenger aviation services are available at two locations within the MPO area—the Bismarck Municipal Airport and the Mandan Regional Airport.

### *Bismarck Municipal Airport*

The Bismarck Municipal Airport is found within southern Bismarck, on ND 1804 and University Drive. Allegiant, American Airlines, Delta, and United provide round trip commercial service to locations including Chicago, Dallas/Fort Worth, Orlando/Sanford, Denver, Las Vegas, Minneapolis/St. Paul, and Phoenix/Mesa.<sup>8</sup> **Figure 49** summarizes historic enplanements for commercial service at the Bismarck Municipal Airport.

As **Figure 49** indicates, passenger enplanements increased each year between 2015 and 2019 before experiencing a sharp decline in 2020 due to the COVID-19 public health pandemic. Enplanements began to trend towards pre-COVID-19 levels in 2021 and are expected to continue increasing in the future.

### *Mandan Regional Airport*

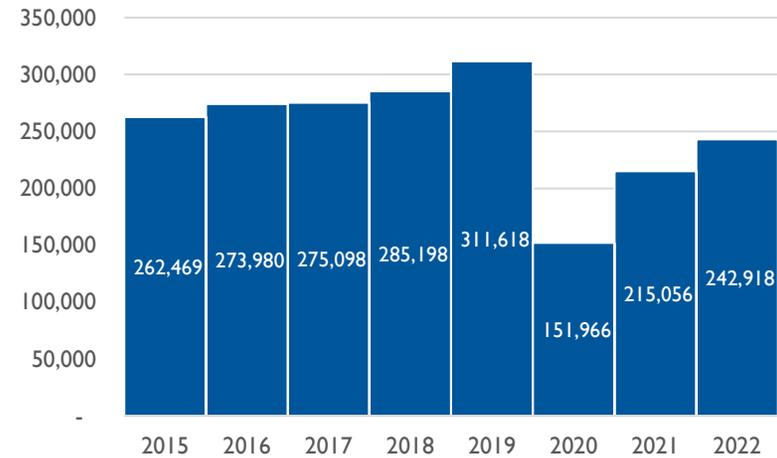
The Mandan Regional Airport, located south of Mandan city limits, is one of North Dakota’s busiest general aviation facilities. The facility averages 70 flights per day, with 60 percent of flights being general aviation, 33 percent transient general aviation, 2 percent military, and 4 percent air taxi.<sup>9</sup>

Operational statistics for the Mandan Regional Airport, sourced from the City of Mandan include:

- **Aircraft based on the field: 99**
  - Single engine airplanes: 89
  - Multi-engine airplanes: 4
  - Jets: 2
  - Helicopters: 1

<sup>8</sup> Bismarck Airport, [Master Plan Update](#)

Figure 49: Historic Passenger Enplanements for the Bismarck Municipal Airport, 2015 – 2022



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



Source: Bismarck Airport

<sup>9</sup> City of Mandan, North Dakota, [Mandan Regional Airport-Lawler Field](#)



Baseline System Conditions



### Water Trails

Currently, there are no designated water trails within the MPO region. While not designated as a water trail, the segment of the Missouri River within the MPO region is a popular destination for recreational activities such as kayaking.

### Alternate Mobility Providers

Alternate mobility providers refer to a broad range of emerging transportation modes that have been implemented throughout the United States and offer new ways for users to meet their travel needs. Examples of alternate mobility providers include Transportation Network Companies (TNCs) like Uber and Lyft, carsharing, bike share programs, electric scooters, and vanpool programs. Several alternate mobility providers currently operate in the Bismarck-Mandan MPO Area and are effective transportation options that provide users with critical first and last mile service that supports transit and active transportation users with mobility to begin and complete their trips.

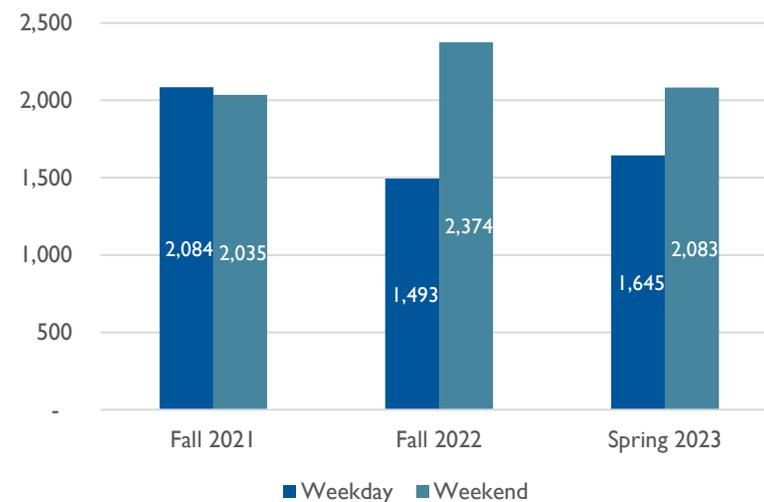
### Transportation Network Companies

TNCs provide on-demand transportation services to users. Taxicabs are an example of a traditional TNC and have been operated in communities throughout the country for decades. Due to technological advancement, most TNCs today operate through applications for mobile devices that match users who request a ride with a driver in real time. Within the MPO region, Uber, Lyft, Metro Taxi, and Taxi 9000 provide TNC services.

Data related to TNC usage within the region was sourced from Replica HQ and analyzed to understand trends related to the service, including total trips taken, TNC trip purposes, and time of departure for TNC trips. The data analyzed represents a typical weekday and typical weekend day in Fall 2021, Fall 2022, and Spring 2023.

**Figure 50** summarizes the number of trips taken via TNCs and taxicabs on typical weekdays and weekend days in the MPO Area during Fall 2021, Fall 2022, and Spring 2023. Total trips taken on a typical weekday exceeded those taken on a typical weekend day in Fall 2021. In Fall 2022 the number of trips taken on a typical weekday saw a substantial decline while the number of trips taken on a typical weekend day increased by over 300. By Spring 2023, the number of typical weekday trips increased while the number of typical weekend day trips declined towards Fall 2021 levels.

Figure 50: Total Trips Taken by TNC/Taxicab, 2021 – 2023



Source: Replica HQ



Baseline System Conditions

Purposes of trips taken via TNC or taxicab were analyzed to understand the usage of these modes. **Figure 51** illustrates TNC and taxicab trip purposes for a typical weekday in Fall 2021, Fall 2022, and Spring 2023 while **Figure 52** illustrates trip purposes for a typical weekend day during the same time periods.

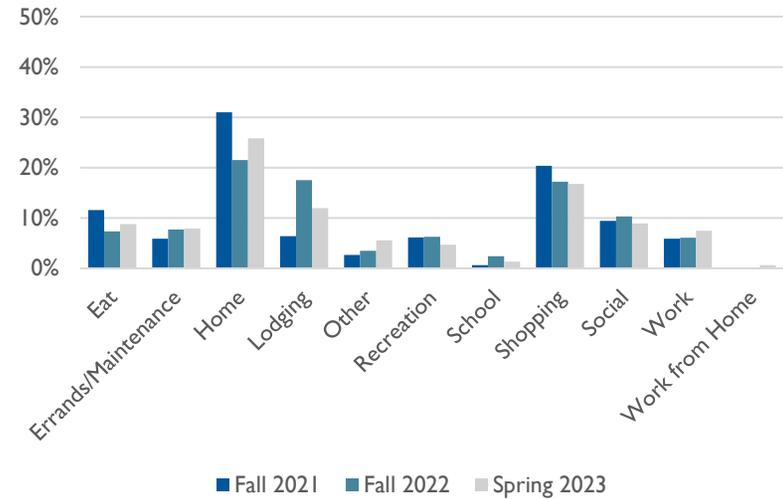
The most common purpose for TNC and taxicab trips on a typical weekday (**Figure 51**) in Fall 2021, Fall 2022, and Spring 2023 were to the trip taker’s home. These trips peaked in Fall 2021 and represented just over 30 percent of all TNC and taxicab trips, before declining to 21 percent of trips in Fall 2022 and 25 percent of trips in Spring 2023.

Other common weekday trips made via TNCs and taxicabs included trips made for shopping, eating, and social purposes.

Purposes for trips made on a typical weekend day in Fall 2021, Fall 2022, and Spring 2023 (**Figure 52**) reflected the trends observed for typical weekdays as trips made home were the most common purpose overall. In Fall 2021, trips made home on a typical weekend day represented 16 percent of all TNC and taxicab trips and this proportion rose to 34 percent in Fall 2022 before increasing to 44 percent of trips in Spring 2023.

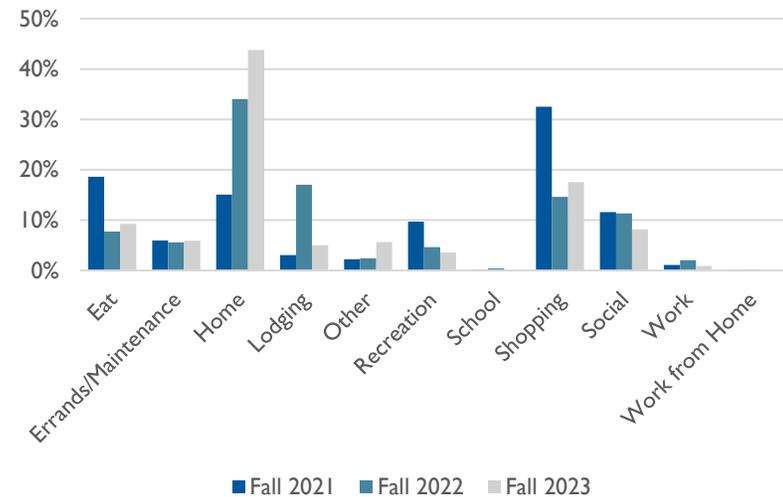
Other common weekend day trips made via TNCs and taxicabs included trips made for shopping, eating, and social purposes.

Figure 51: Purposes for Weekday TNC/Taxicab Trips, 2021 – 2023



Source: Replica HQ

Figure 52: Purposes for Weekend TNC/Taxicab Trips, 2021 – 2023



Source: Replica HQ



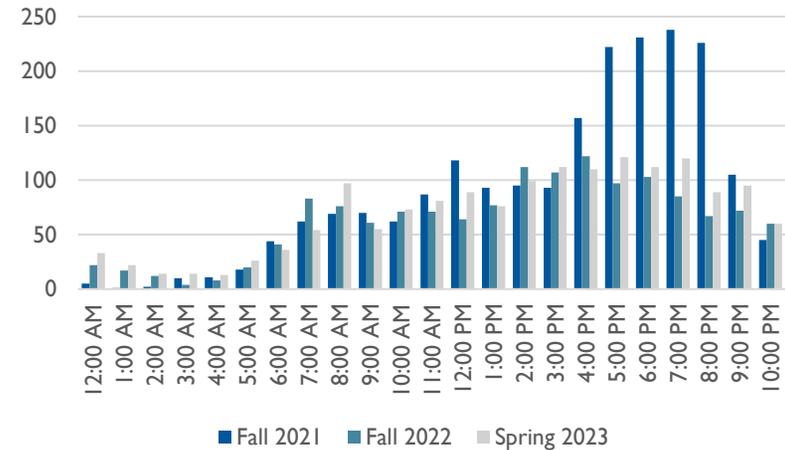
Baseline System Conditions

A third trend related to TNC and taxicab usage within the MPO Region looked at the time of departure for when these trips originated. Through understanding when TNC and taxicab trips are being taken, potential strategies, such as dedicating curb space for pick-ups and drop-offs, that address issues related to these modes can be identified. **Figure 53** summarizes time of departure for typical weekday TNC and taxicab trips while **Figure 54** summarizes time of departure for trips made on a typical weekend day.

The majority of TNC and taxicab trips made on a typical weekday in Fall 2021, Fall 2022, and Spring 2023 (**Figure 53**) were made in the afternoon and evening hours. In Fall 2021, trip departures were concentrated between the hours of 4 and 8 PM. For both Fall 2022 and Spring 2023, TNC and taxicab trips departed earlier in the day between the hours of 2 and 6 PM. The lowest proportions of TNC and taxicab trips taken on a typical weekday departed in the early morning between the hours of 12 and 5 AM.

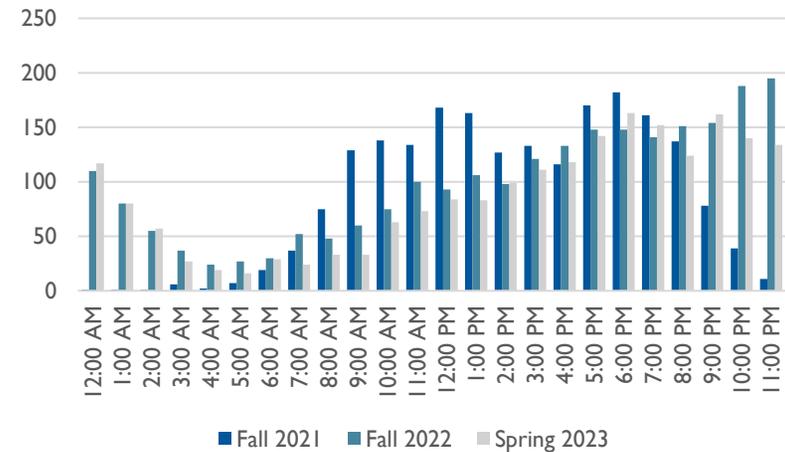
Time of departure for TNC and taxicab trips taken on a typical weekday in Fall 2021, Fall 2022, and Spring 2023 (**Figure 54**) were more spread out throughout the day when compared to a typical weekday during these time periods. In Fall 2021, the highest proportions of trips departed between 12 and 1 PM and 5 and 7 PM. Trips taken in Fall 2022 and Spring 2023 were concentrated during late the late evening hours of 8 and 11 PM. Compared to typical weekday trips, a larger number of weekend day trips departed in the early morning hours between 12 and 3 AM which reflects the usage of these modes for social purposes.

Figure 53: Time of Departure for Weekday TNC/Taxicab Trips, 2021 – 2023



Source: Replica HQ

Figure 54: Time of Departure for Weekend TNC/Taxicab Trips, 2021 – 2023



Source: Replica HQ



### Bike Share

BisParks Bcycle is a bike share service operated in the city of Bismarck since 2020 and allows users the opportunity to rent a bicycle via an application available on mobile devices. Users can visit one of four stations and check out a bike that can be returned to any of the four stations once the user's trip is completed. The cost of a rental is \$5 for the first hour and \$.07 for each additional minute.

Bicycles can be checked out at any of the stations shown in **Figure 55** between the hours of 7 AM and 11 PM during the spring, summer, and fall months; the bike share service is suspended during winter months and the timeline for when the service is ended is contingent upon weather.

### Scooter Share

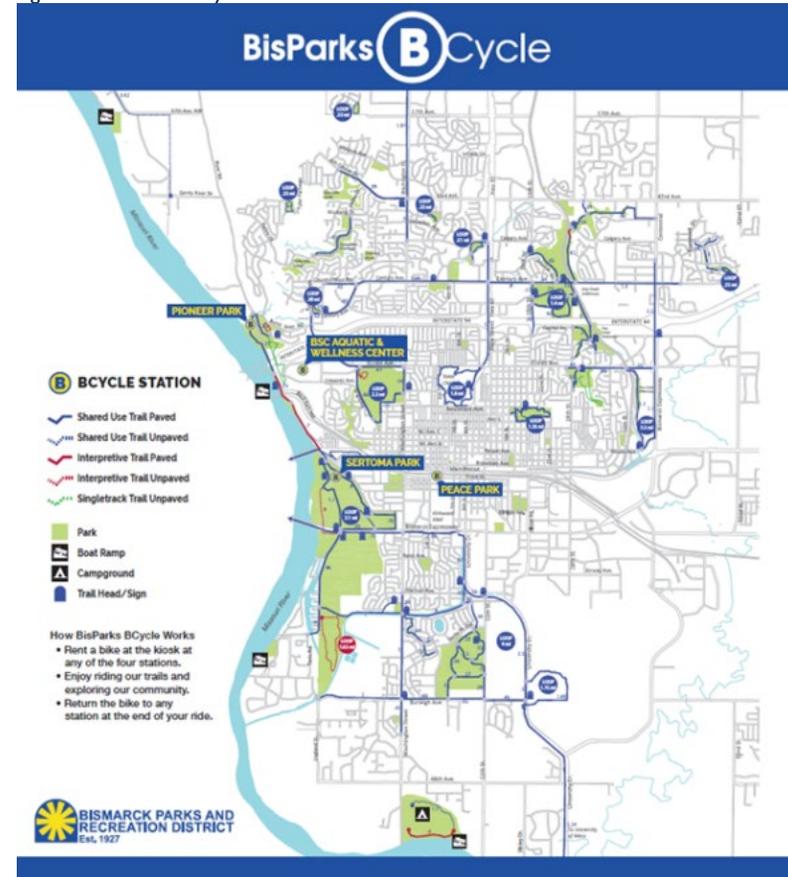
Scooter share services have been an emerging alternate mobility mode that have seen implementation in many communities across the country in recent years. In 2021, the scooter share company Bird launched service in the city of Bismarck and is still in operation today.

The service is operated in a similar fashion to BisParks Bcycle; however, the scooter share service is dockless which means that users are free to return scooters to any location designated as a return zone rather than being required to return scooters to specific stations. Like BisParks Bcycle, users check scooters out via an application for mobile devices are charged on a per minute basis for the duration of their trip.

To accommodate the scooter share service, the Bismarck City Commission recently amended a city ordinance that prohibited the use of motorized scooters on public streets; the amended

ordinance permits the use of motorized scooters on public sidewalks and streets with posted speeds of 30 miles per hour or less, as well as in bike lanes and sidewalks outside of the city's central business district.<sup>10</sup>

Figure 55: BisParks Bcycle Station Locations



Source: Bismarck Parks and Recreation District

<sup>10</sup> Bismarck Tribune, [Bismarck updates electric scooter ordinance after Bird scooter trial period](#)



## Asset Conditions

Asset conditions refers to the MPO’s roadway pavement and bridge infrastructure. This section of the report focuses on the existing conditions of the MPO’s pavement and bridge assets.

### Pavement Condition

In 2020, Bismarck-Mandan MPO roadways were surveyed for pavement condition. The “State of Streets” Final Report surveyed all functionally classified roadways in the City of Bismarck, collectors and arterials in the City of Mandan, and roadways selected by local staff in the City of Lincoln, Morton County, and Burleigh County. According to the 2020 report, roadways surveyed were found to be in overall “adequate” condition with an average Pavement Condition Index (PCI) of 80, refer to **Table 20**. The roadways were found to be in overall “smooth” condition, with an average International Roughness Index (IRI) of 185 inches/mile; the ranges for assessing pavement roughness using IRI values are:<sup>11</sup>

- **“Smooth” pavement:** IRI value less than 200 inches/mile.
- **“Marginally rough” pavement:** IRI value between 200 and 400 inches/mile.
- **“Rough” pavement:** IRI values greater than 400 inches/mile.

In terms of evaluating pavement condition, several indices are used including PCI and IRI. PCI values indicate the structural integrity and surface operational condition of pavement whereas IRI values assess the roughness of pavement surfaces.<sup>12</sup>

Table 20: Bismarck-Mandan MPO’s Pavement Condition Categories

| Category              | Typical Distresses and Typical Level of M&R* Needed   | PCI Range |
|-----------------------|---|-----------|
| <b>Adequate</b>       | More extensive longitudinal and transverse cracking and weathering of surface<br><br><b>Preventative maintenance:</b> Crack sealing and surface treatments  | 71–100    |
| <b>Degraded</b>       | Extensive longitudinal and transverse cracking, early-stage alligator (fatigue) cracking, early-stage rutting, and weathering of surface<br><br><b>Global preventative maintenance and localized repairs:</b> Localized surface and/or full-depth patching, surface treatments, and thin overlays | 56–70     |
| <b>Unsatisfactory</b> | More extensive and more severe longitudinal and transverse cracking, alligator (fatigue) cracking, rutting, weathering of surface, potholes<br><br><b>Major rehabilitation:</b> Full-depth patching, mill and overlays, traditional overlays, and reconstruction                                  | 0–55      |

Source: Bismarck-Mandan MPO, [2020 State of the Streets](#)

\*M&R refers to Maintenance and Rehabilitation

<sup>11</sup> Bismarck-Mandan MPO, [2020 State of the Streets](#)

<sup>12</sup> Ibid.



The North Dakota Department of Transportation (NDDOT) surveys the National Highway System (NHS) to record information related to pavement condition that is reported to FHWA per performance measure reporting guidelines. The most recent survey was performed in 2022. The 2022 pavement data sourced from NDDOT was used to calculate each NHS segment’s Ride Quality Index (RQI) rating, which is a serviceability-performance concept that estimates the relative “roughness” experienced when driving along a roadway’s pavement. RQI ratings range from “Very Poor” to “Very Good” using a 5-point scale:

- **Very Good:** RQI between 4.1 and 5.0
- **Good:** RQI between 3.1 and 4.0
- **Fair:** RQI between 2.1 and 3.0
- **Poor:** RQI between 1.1 and 2.0
- **Very Poor:** RQI between 0.0 and 1.0

The RQI ratings for NHS pavement within the MPO Area illustrate that most of the NHS was in Fair or better condition in 2022. It is noted that the NHS data used in the RQI analysis was collected in 2022 and does not represent the most recent pavement conditions for the MPO Area, as roadway reconstructions and rehabilitations that have occurred since 2022 have improved pavement conditions for certain NHS routes.

**Figure 56** and **Figure 57** show pavement conditions for the MPO’s local system and NHS, respectively. Pavement conditions for the local system are reported using PCI whereas pavement conditions of the NHS are reported using IRI.

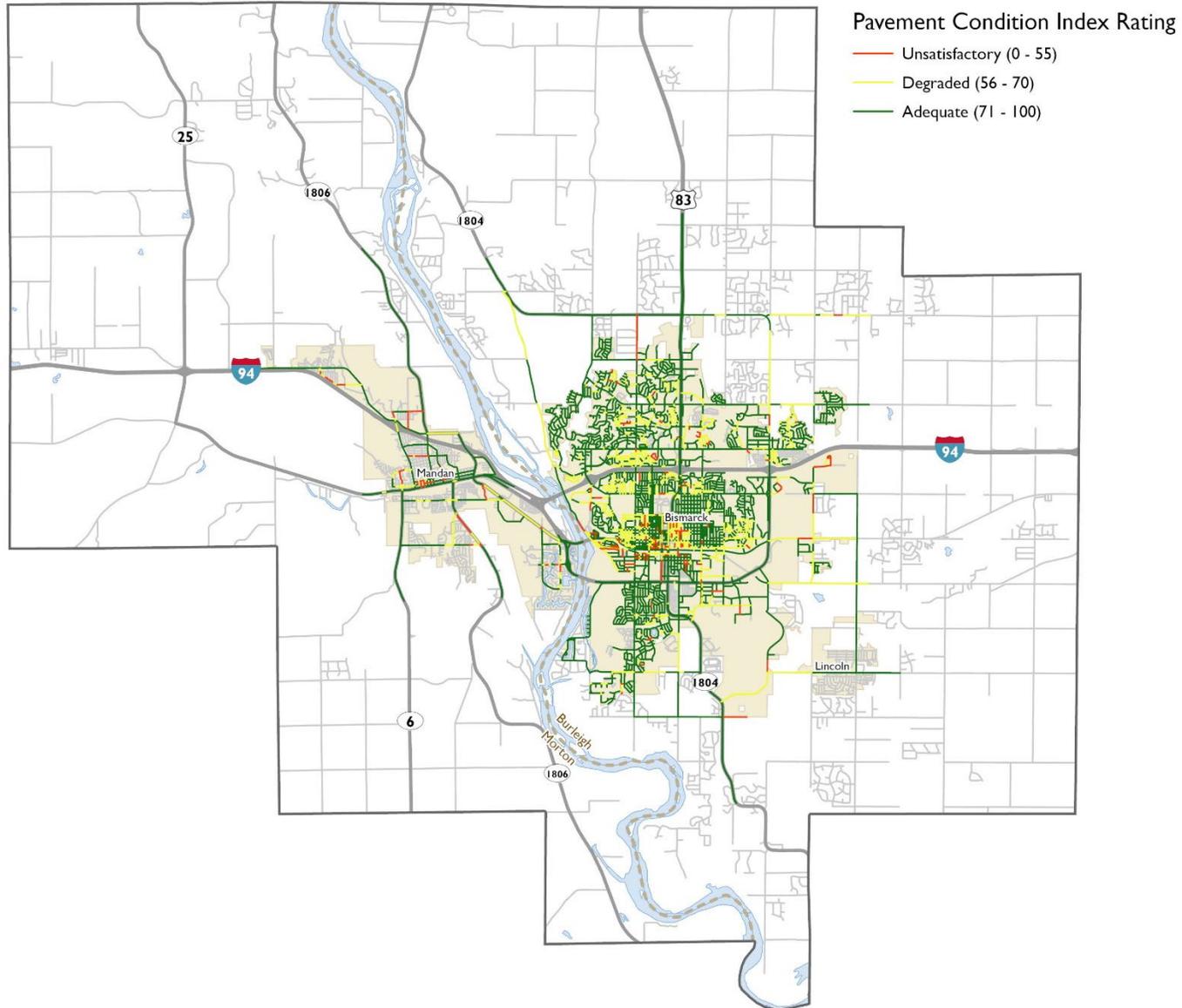
Table 21: Average Pavement Conditions by Jurisdiction

| Jurisdiction     | Centerline Miles | PCI       | PCI Category    | IRI        | IRI Category     |
|------------------|------------------|-----------|-----------------|------------|------------------|
| City of Bismarck | 126.4            | 79.6      | Adequate        | 196        | Smooth           |
| City of Lincoln* | 1.4              | 80.4      | Adequate        | 111        | Smooth           |
| City of Mandan   | 37.6             | 78.9      | Adequate        | 243        | Marginally Rough |
| Burleigh County  | 42.1             | 79.3      | Adequate        | 125        | Smooth           |
| Morton County    | 14.9             | 89.3      | Adequate        | 88         | Smooth           |
| <b>Total</b>     | <b>222.3</b>     | <b>80</b> | <b>Adequate</b> | <b>185</b> | <b>Smooth</b>    |

\*The City of Lincoln’s roadway inventory is managed by Burleigh County  
 Source: Bismarck-Mandan MPO, [2020 State of the Streets](#)



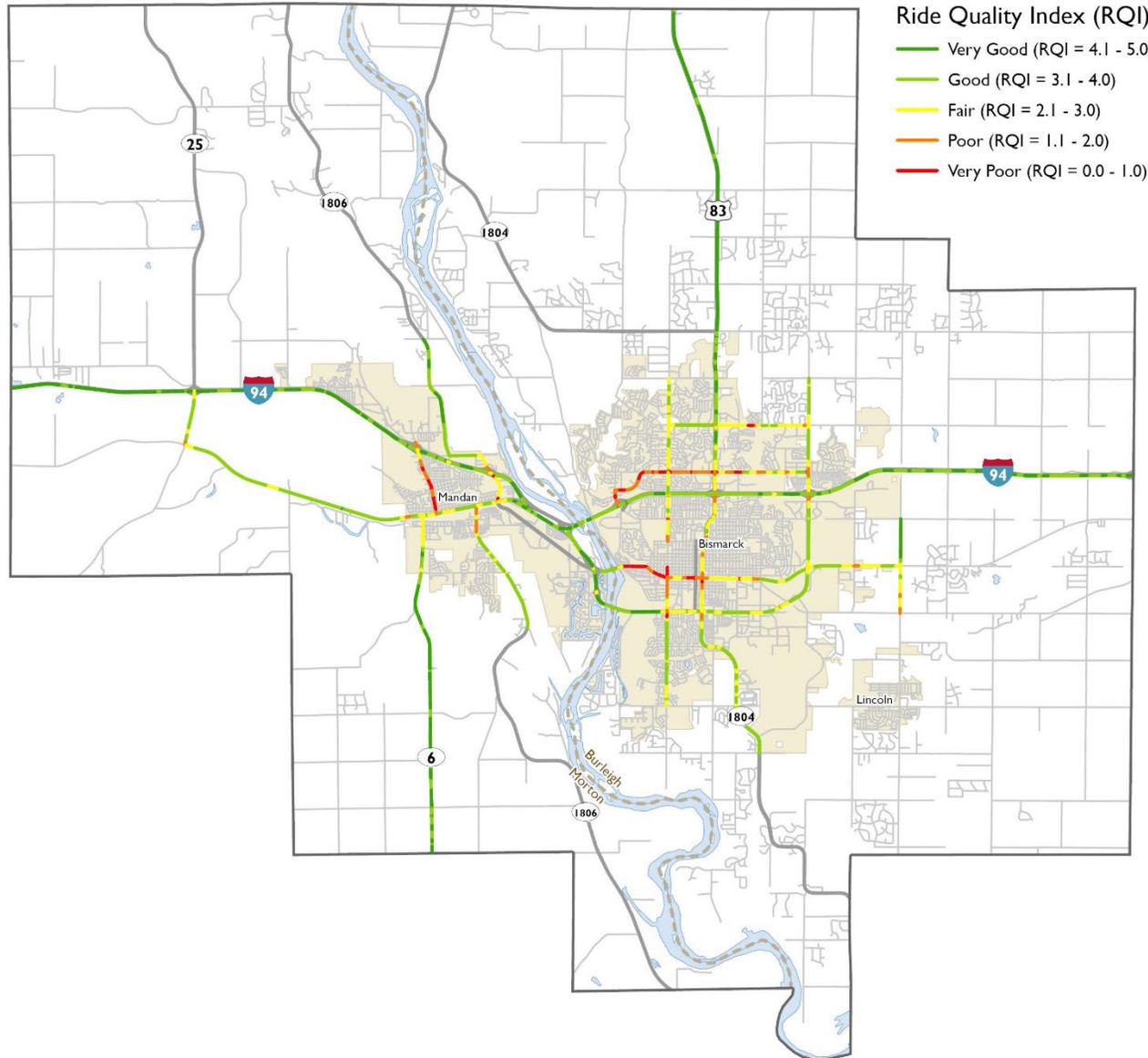
Figure 56: Pavement Conditions for the Local System in the Bismarck-Mandan MPO Area



Source: Bismarck-Mandan MPO, City of Bismarck



Figure 57: Pavement Conditions for the NHS System in the Bismarck-Mandan MPO Area



Source: North Dakota Department of Transportation

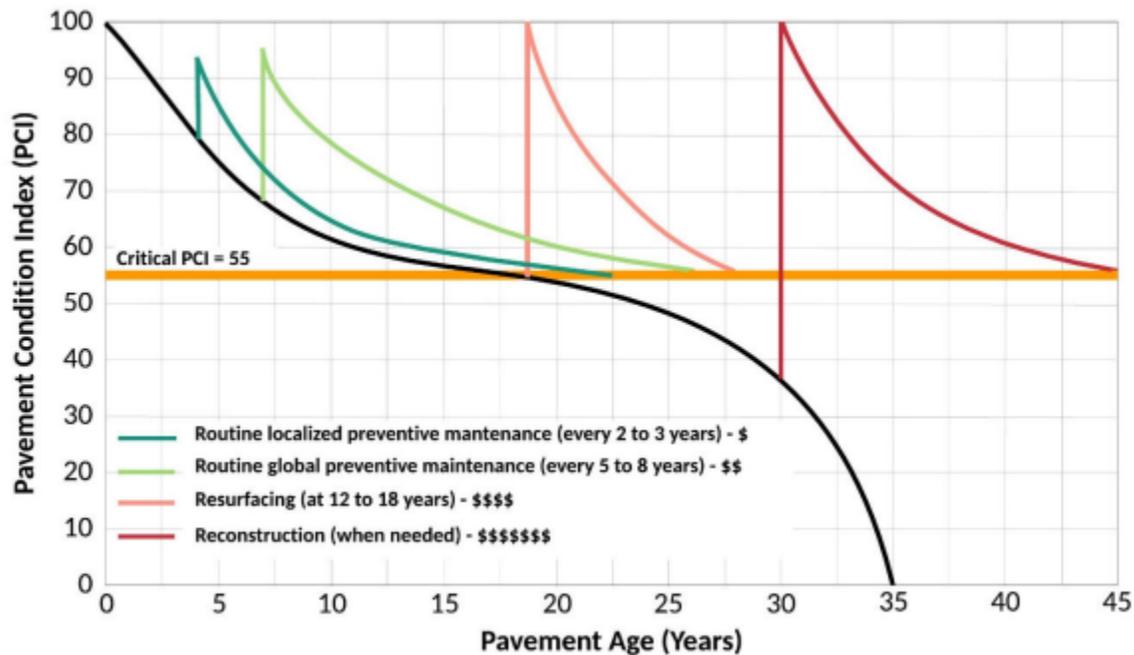


### Pavement Management Strategies

The report found that M&R treatments (e.g., crack sealing, seal coats, and patching) were incorrectly applied as “stop-gap” or “cosmetic” treatments for pavements in poor condition rather than as true preservation activities. The appropriate preventive maintenance treatments should be applied to pavements that are in relatively good condition to increase the extent of the pavement service. This activity should be planned and applied systemically following either the resurfacing or reconstruction of a pavement, as shown in **Figure 58**.

The recommended findings from report were based on an annual pavement deterioration rate from historical work records entered in PAVER and PCI inspection data. The BisMan MPO estimated pavement deterioration rate for asphalt roadways is roughly 2 points per year, equating to a pavement life between major rehabilitations of approximately 17.5 years. A deterioration rate of roughly 1 point per year was used for the concrete roadways, which equated to a pavement life between major rehabilitations of approximately 25 years.

Figure 58: Example of the Increasing Prices and Decreases Benefits of M&R



Source: Bismarck-Mandan MPO, [2020 "State of the Streets"](#)



## Bridge Condition

Bridges are critical transportation assets that provide mobility in areas where geographic features such as rivers and rail lines create physical barriers. Given the importance of bridges in facilitating a healthy multi-modal transportation system, the MPO is tasked with reporting bridge conditions for those structures managed by state and local agencies.

Data provided by the National Bridge Inventory (NBI) was reviewed to determine the current condition of bridges and culverts located within the MPO region. The current condition of all bridges and culverts within the MPO region are summarized in **Table 22**, while **Table 23** provides the condition of bridges and culverts found on the Interstate or non-Interstate NHS. **Figure 59** shows the locations of the MPO's bridges and culverts by condition.

A total of 68 bridges and 25 culverts are found in the MPO region. Of these 68 bridges, over half are rated as being in Good condition, while 38 percent are considered to be in Fair condition. The remaining 3 percent are rated as being in Poor condition. MPO area culverts are all rated as being in either Good condition (44 percent) or Fair condition (56 percent).

For the bridges found on the Interstate or non-Interstate NHS, 45.7 percent are rated as being in Good condition while 54.3 percent are rated as being in Fair condition; no Interstate or non-Interstate NHS bridges are rated as being in Poor condition. For culverts found on the Interstate or non-Interstate NHS, 20 percent are rated as being in Good condition while the remaining 80 percent are in Fair condition.

Table 22: Condition of MPO Area Bridges and Culverts

| Condition | MPO Area Bridges |         | MPO Area Culverts |         |
|-----------|------------------|---------|-------------------|---------|
|           | Count            | Percent | Count             | Percent |
| Good      | 40               | 58.8%   | 11                | 44.0%   |
| Fair      | 26               | 38.2%   | 14                | 56.0%   |
| Poor      | 2                | 2.9%    | 0                 | 0%      |
| Total     | 68               |         | 25                |         |

Source: National Bridge Inventory

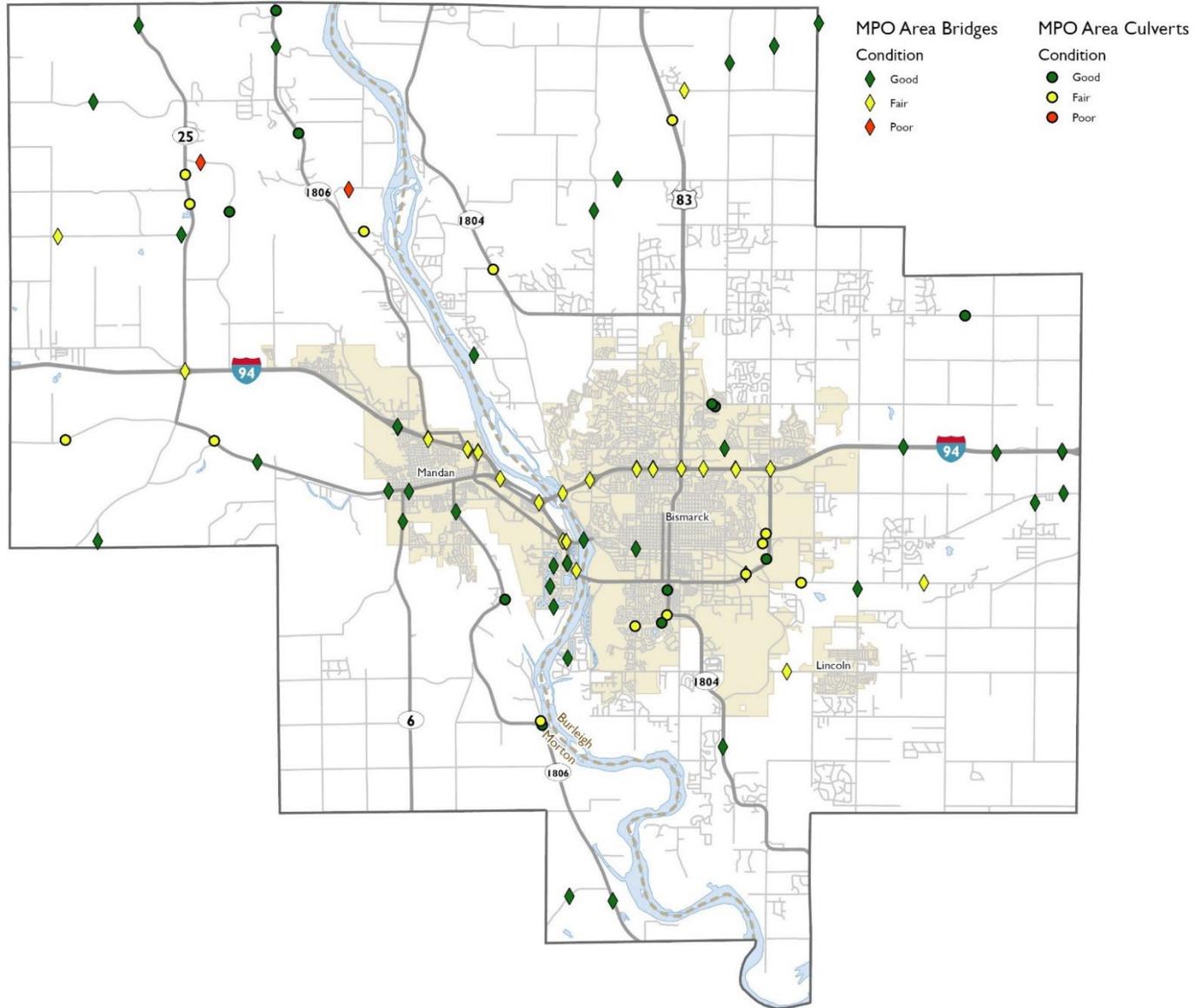
Table 23: Condition of Interstate and non-Interstate MPO Bridges and Culverts

| Condition | Interstate and non-Interstate NHS Bridges |         | Interstate and non-Interstate NHS Culverts |         |
|-----------|---|---------|--|---------|
|           | Count                                     | Percent | Count                                      | Percent |
| Good      | 16  | 45.7%   | 1  | 20.0%   |
| Fair      | 19  | 54.3%   | 4  | 80.0%   |
| Poor      | 0   | 0%      | 0  | 0%      |
| Total     | 35  |         | 5  |         |

Source: National Bridge Inventory



Figure 59: MPO Area Bridge and Culvert Conditions



Source: Federal Highway Administration, National Bridge Inventory



Several bridges within the MPO Area are load posted, meaning they have less load carrying capacity than originally designed for and prohibit vehicles over a certain size from using them. These bridges are a concern for the MPO and member agencies as further deterioration of these structures could result in additional load posting; should the agency responsible for the bridge not be able to provide ongoing maintenance of the structure, the bridge could be further posted until it is necessary to close the bridge for travel. Given the impacted carrying capacity of these structures, they are structures of concern for ensuring safe and efficient mobility for users.

In addition to the load posted bridges, one structure within the MPO Area was constructed prior to 1940. Due to the age of the bridge, which was built in 1914, its ability to safely support today's travelers could be impacted due to older design of the structure that includes a narrower deck than modern bridge standards require. This is currently owned by Burleigh County and stands as an additional bridge for the County to monitor to ensure safe and efficient mobility conditions for its users.

**Table 24** provides detail on the three load posted bridges and the bridge constructed prior to 1940. **Figure 60** shows their locations within the MPO Area.

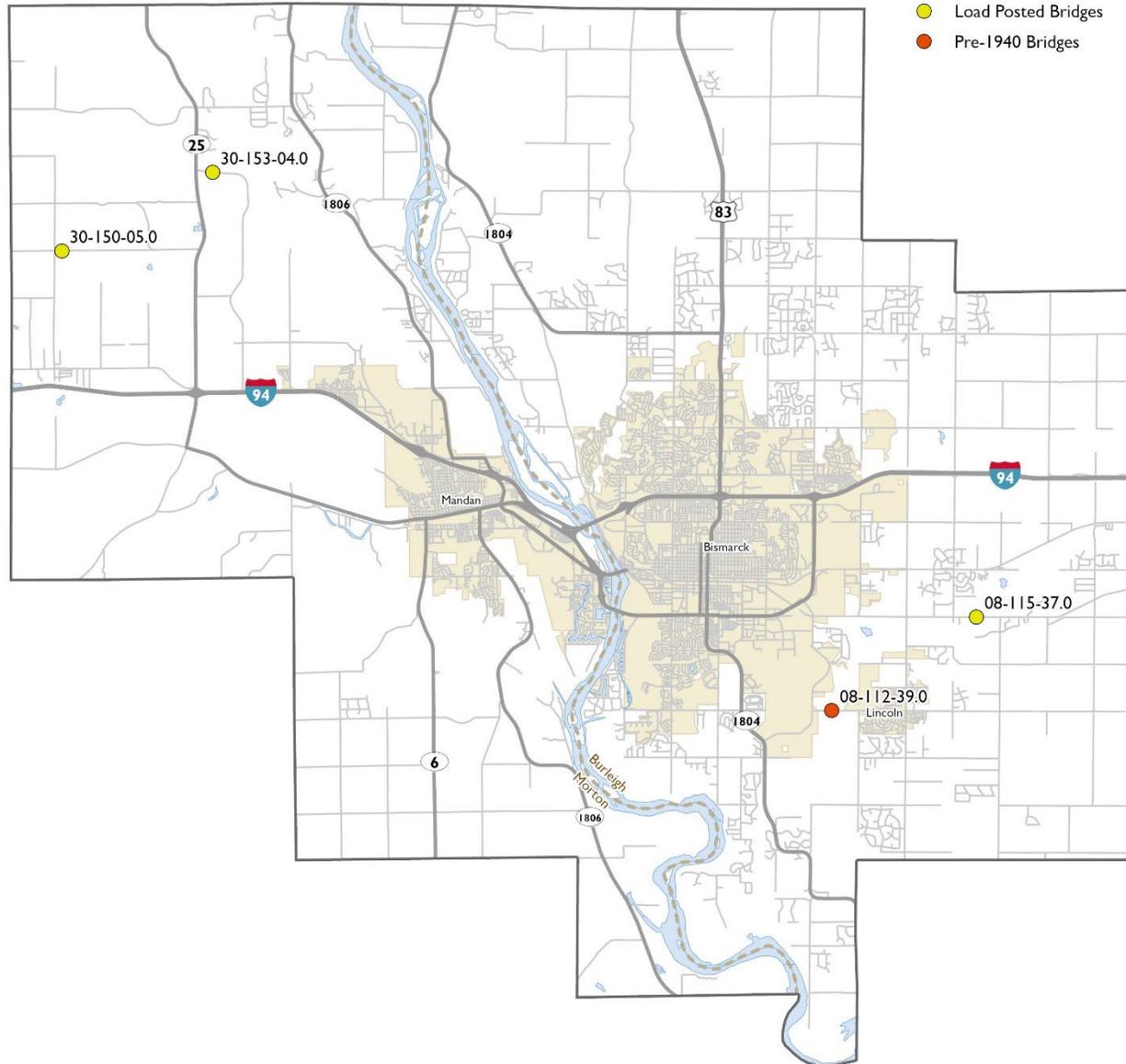
Table 24: Load Posted Bridges and Bridges Constructed Before 1940

| Load Posted Bridges             |                   |                 |
|---------------------------------|-------------------|-----------------|
| NDDOT Structure Number          | Load Posting      | Structure Owner |
| 08-115-37.0                     | 37 Tons           | Burleigh County |
| 30-150-05.0                     | 14 Tons           | Morton County   |
| 30-153-04.0                     | 19 Tons           | Morton County   |
| Bridges Constructed before 1940 |                   |                 |
| NDDOT Structure Number          | Construction Year | Structure Owner |
| 08-112-39.0                     | 1914              | Burleigh County |

Source: North Dakota Department of Transportation



Figure 60: Posted Bridges and Bridges Constructed Before 1940



Source: North Dakota Department of Transportation



Baseline System  
Conditions

and

## Environmental Review

A high-level screening of potential environmental resources that could be impacted from future transportation improvements was conducted so that potential alternatives can avoid negatively impacting them, or appropriate mitigation strategies can be identified.

## Archaeological and Historical Resources

There are for historic and cultural resources to be present within the Bismarck-Mandan MPO Area. Historic and cultural resources are regulated under Section 106 of the National Historic Preservation Act and may require coordination with NDDOT and consultation with the North Dakota State Historic Preservation Office (SHPO).

**Figure 61** identifies areas listed on the National Register of Historic Places or known historic districts. In addition to known listed sites, other cultural resources may be present and regulated under Section 106.

Several cultural resource districts are present within the Bismarck-Mandan MPO Area. Downtown Mandan is home to the Mandan Commercial Historic District. The Downtown Historic District and the Cathedral Historic District are close by each other in downtown Bismarck. Highland Acres was recently designated as a historic district. There are numerous cultural resource buildings within the study area found in both districts. A few include the locations of the former Welsh House, the Lewis and Clark Hotel, the Sunnyside Farm Barn, the former North Dakota Executive Mansion, the Bismarck Civic Auditorium, and the Northern Pacific Railway Depot, and several other blocks, houses, buildings, and schools as shown in **Figure 61**. It is noted that this is not an exhaustive listing of all cultural resources in the region.

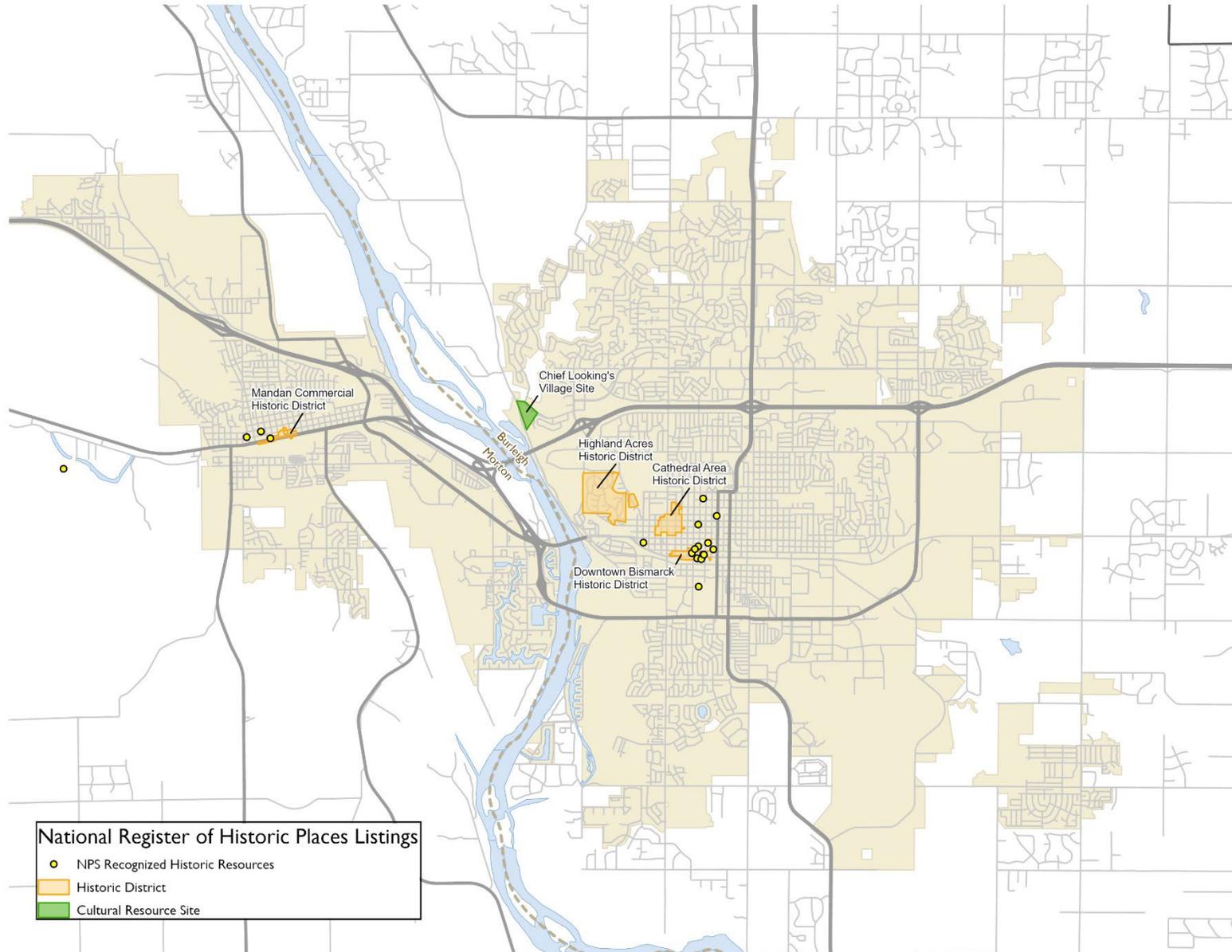
Early in project planning, the jurisdictional entity should notify NDDOT and SHPO of its intent to proceed with a particular

roadway improvement project, request that these agencies advise the jurisdiction on the applicability of Section 106, the need to identify consulting parties, and for a Class I cultural resource literature search. When appropriate, the jurisdiction should anticipate that a Class III identification effort will be conducted, including identification of archaeological, architectural, and traditional cultural properties subject to the effects of the project.

When historic properties are identified, the jurisdiction should anticipate that avoidance or mitigation of adverse effects to such properties may be required. Clarification of these procedures and the expectations of other participants in consultation can be addressed under the terms of a Programmatic Agreement among the parties to the agreement and that tailors the review process to the needs of the Bismarck-Mandan MPO's MTP.



Figure 61: Cultural Resources within the Bismarck-Mandan MPO Area





## Wetlands and Waters of the U.S.

The National Wetlands Inventory (NWI) and aerial photography were reviewed within the MPO Area to determine potential aquatic resources that could be impacted through the implementation of future transportation improvements. The Missouri River (a large perennial river) runs north to south in the MPO Area. A few tributaries of the Missouri River flow out of the region, including Heart River, Square Butte Creek, Burnt Creek, and Apple Creek as shown in **Figure 62**. The creeks and river are likely jurisdictional and any work in the vicinity of those waterways will require a Section 404 permit.

Several smaller wetland areas also occur throughout the MPO Area. Most of the larger wetlands are in the southern and eastern portion of Burleigh County. These mostly include freshwater emergent wetlands and a few lakes. The Morton County side of the MPO Area contains streams that pass through Mandan city limits, as well as small lakes, ponds, and a reservoir. Scattered freshwater emergent wetlands and forested/shrub wetlands are found dispersed throughout the region (**Figure 62**). The area with the least amount of stream or wetland presence is the northwest corner of the MPO Area.

## Floodplains

**Figure 62** also identifies floodways, the 100-year floodplains, and 500-year floodplains occurring within the MPO Area. Regulatory floodway is found along portions of the west and east sides of the Missouri River and along portions of the Heart River, Burnt Creek, and Apple Creek. The 100-year floodplain is found along the Missouri River consistent with the river's curves and along the Heart River, Apple Creek, and parts of Burnt Creek, as well as the Harmon Lake area and portions around the edge of the MPO with numerous wetlands and streams. The 500-year floodplain occurs mainly along the Missouri River in the northern part of the MPO, as well as near its confluence with the Heart River and Burnt Creek. Notably, where the Heart River splits off from the Missouri River, there is a large area in Mandan and southern Bismarck of 500-year flood risk.

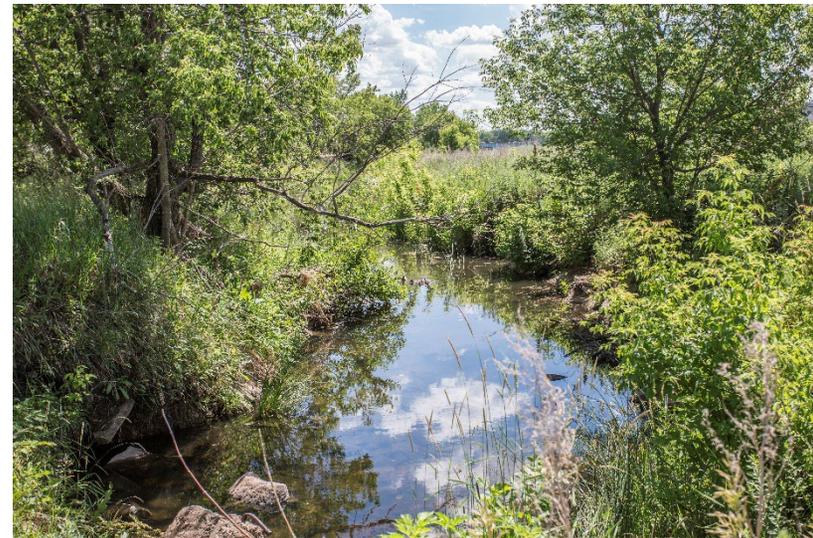
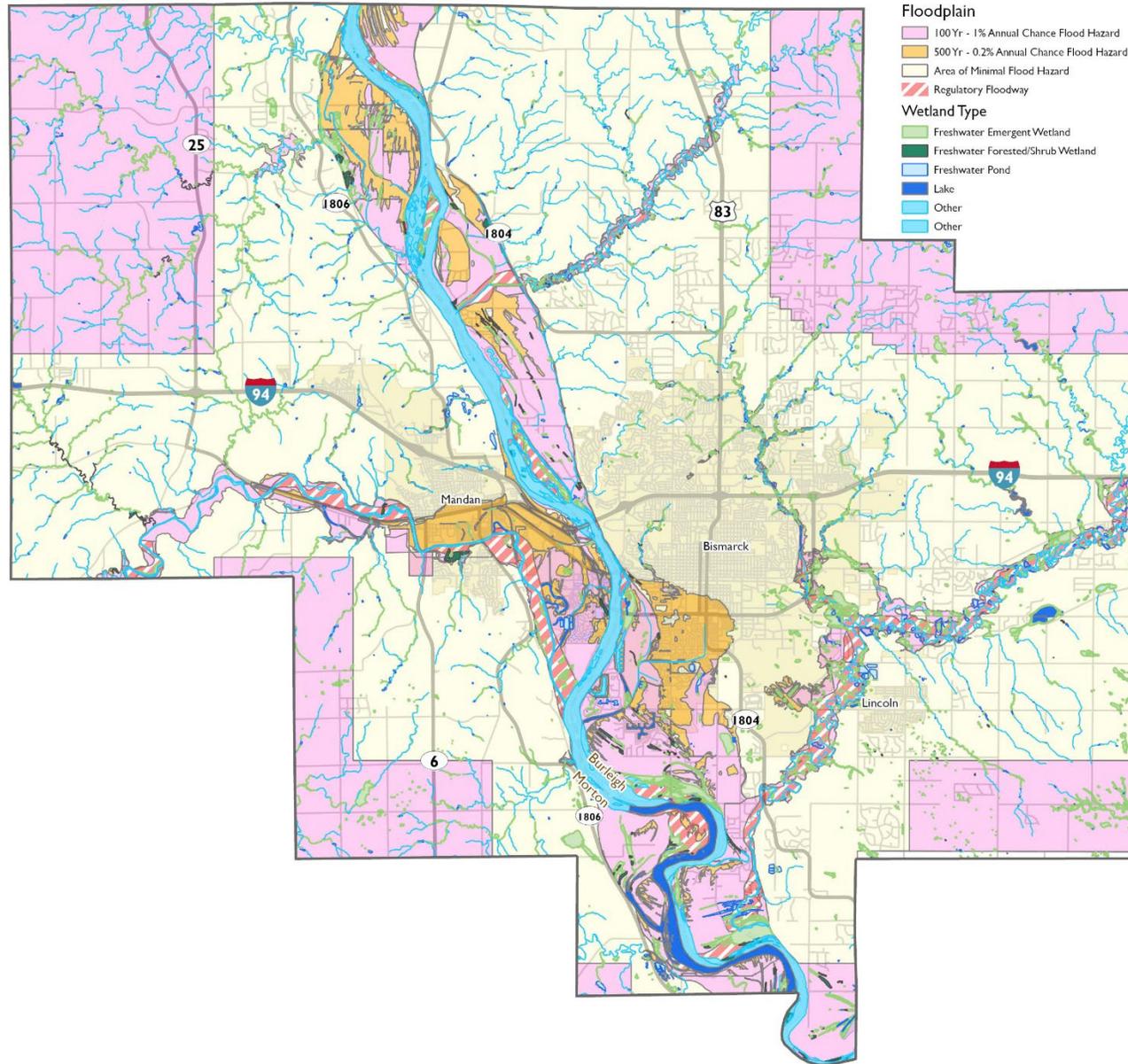




Figure 62: Aquatic Resources within the Bismarck-Mandan MPO Area





### Threatened and Endangered Species

A review of potential threatened and endangered species within the MPO Area was completed using the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) for the study area. ESA-listed species occurring in Burleigh County, ND include the northern long-eared bat, whooping crane, piping plover, rufa red knot, and Dakota skipper. In Morton County, ND, listed species include the northern long-eared bat (listed as endangered), whooping crane (listed as endangered), piping plover (listed as threatened), rufa red knot (listed as threatened), Dakota skipper (listed as threatened), and monarch butterfly (listed as candidate). Critical habitat occurring within the Bismarck-Mandan MPO includes piping plover habitat, which is concentrated along the Missouri River.

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

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

Publicly owned parks and recreation areas are present within the Mandan-Bismarck MPO Area. Legion Park is next to the Heart River on the southwest side of Mandan. Cottonwood Park is on the south side of Bismarck just west of the airport. Bismarck also has several other parks, including Sertoma Park, the McQuade Softball Diamonds, Lions Park, and Elk Ridge Park. There are many other public parks and recreation areas available near both cities within the MPO. Public and private historical sites are also present in the downtown areas of both cities, as shown in **Figure 61**. There are also wildlife-related lands managed by USFWS within the eastern side of the region that are part of the Long Lake Wetland Management

District and shown in **Figure 63**.

Lands managed by USFWS include Waterfowl Production Areas and wetland easements. Some of these lands have the potential to be protected under Section 4(f), and would need to be reviewed if potentially impacted by future projects. If the projects proposed receive Federal Highway Administration (FHWA) funds, the projects will be subject to Section 4(f) consultation.

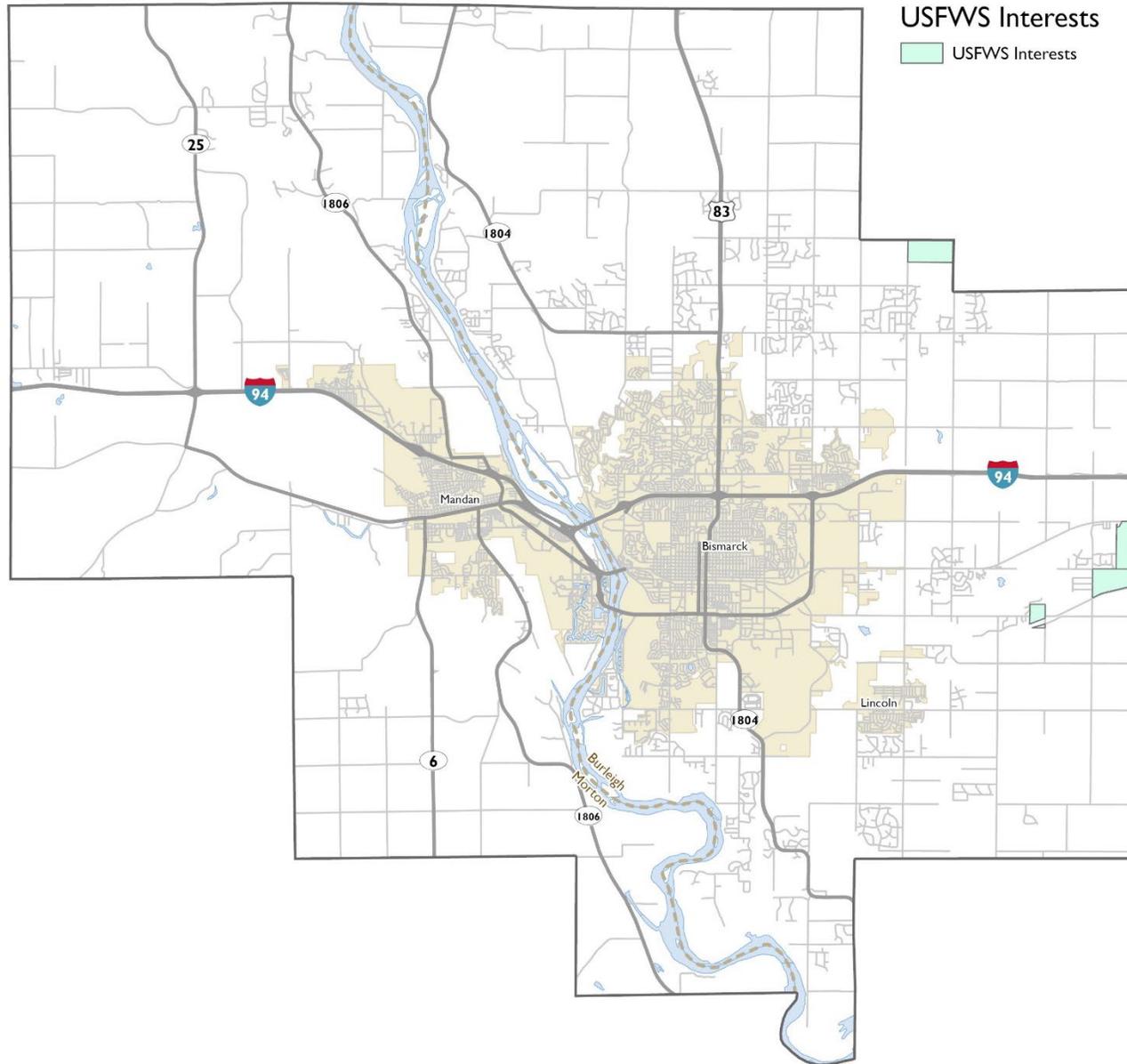
Public spaces within the study area that have received LWCF grant money are subject to Section 6(f) regulations. Several grant funded parks are within the Bismarck-Mandan MPO and are detailed in **Table 25**. This table is not an exhaustive list of all grant funded parks.

Table 25: Grant Funded Parks within the Bismarck-Mandan MPO Area

| County   | Location               | Park                                  |
|----------|------------------------|---------------------------------------|
| Morton   | Mandan Park District   | Legion Park                           |
| Burleigh | Bismarck Park District | McQuade Softball Diamonds             |
| Burleigh | Bismarck Park District | Hay Creek Park                        |
| Burleigh | Bismarck Park District | Lions Park                            |
| Burleigh | Bismarck Park District | Sertoma Park – Fitness Area           |
| Burleigh | Bismarck Park District | Sertoma Park – Shelter 4 Playground   |
| Burleigh | Bismarck Park District | Elk Ridge Park                        |
| Burleigh | Bismarck Park District | Cottonwood Park                       |
| Burleigh | Bismarck Park District | New Generations Park                  |
| Burleigh | Bismarck Park District | Neighborhood Park                     |
| Burleigh | Bismarck Park District | Lions Park – Hillside Aquatic Complex |
| Burleigh | Bismarck Park District | Municipal Ballpark                    |



Figure 63: USFWS Interests





## Environmental Justice

The EPA's Environmental Justice Screening (EJScreen) and Mapping Tool (Version 2.2) was used to determine socioeconomic indicators, pollution, and environmental justice indexes that occur within the study area. Socioeconomic indicators evaluated using the tool include demographic index, low income, and unemployment rates. According to the EJScreen tool, approximately 20% of the population of Bismarck-Mandan MPO falls within low income, which is slightly lower than the state average of 26%. The MPO project area is made up of 14% people of color/minorities, which is roughly the same as the state average of 16%. Based on this information, it is not anticipated that future projects would cause adverse impacts to minority populations. Additionally, the MPO project area has an unemployment rate of 3%. This matches the state average of 3% but is lower than the national average of 6%. Further review should be completed to confirm the presence of EJ populations during future project planning. (**Appendix A**).

*Dykshoorn Park in the City of Mandan*





## Summary of Issues

The analysis of the existing multi-modal transportation system provides insight into the current issues and needs facing the Bismarck-Mandan MPO area. The issues and needs identified include:

|                                       |  |
|---------------------------------------|--|
| <b>Safety</b>                         | Frequent crashes along higher-volume arterials   |
| <b>Traffic Operations</b>             | AM and PM peak hour congestion today due to high numbers of road users, future growth expected to lead to additional congestion.   |
| <b>Freight</b>                        | High freight-generation highlights the need to provide efficient connections among freight destinations  |
| <b>Bicycle and Pedestrian</b>         | Current bicycle and pedestrian network provides a strong foundation for future expansion for increased access to community destinations  |
| <b>Transit</b>                        | Transit ridership saw significant declines in 2020 and has begun to recover toward pre-2020 levels.  |
| <b>Pavement and Bridge Conditions</b> | Some areas of pavement and bridge issues, but community has maintenance plans in place   |
| <b>Cross-Area Travel</b>              | Barriers to continuous corridors and high levels of arterial access impact: <ul style="list-style-type: none"> <li>• <b>North-South</b> travel in Bismarck</li> <li>• <b>East-West</b> travel in Mandan</li> </ul> |

# Existing Condition Appendix EJScreen Results

Baseline System  
Conditions





# EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

## Bismarck, ND

the User Specified Area  
Population: 119,564  
Area in square miles: 394.14

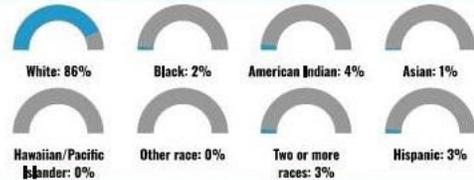
A3 Landscape



### COMMUNITY INFORMATION



### BREAKDOWN BY RACE



### BREAKDOWN BY AGE



### LIMITED ENGLISH SPEAKING BREAKDOWN



### LANGUAGES SPOKEN AT HOME

| LANGUAGE                      | PERCENT |
|-------------------------------|---------|
| English                       | 96%     |
| Spanish                       | 2%      |
| German or other West Germanic | 1%      |
| Total Non-English             | 4%      |

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

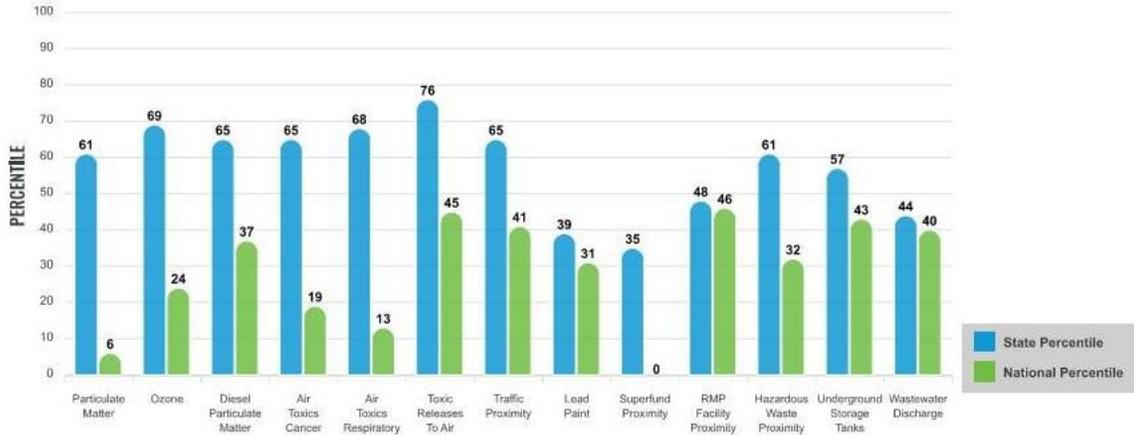
# Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

## EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

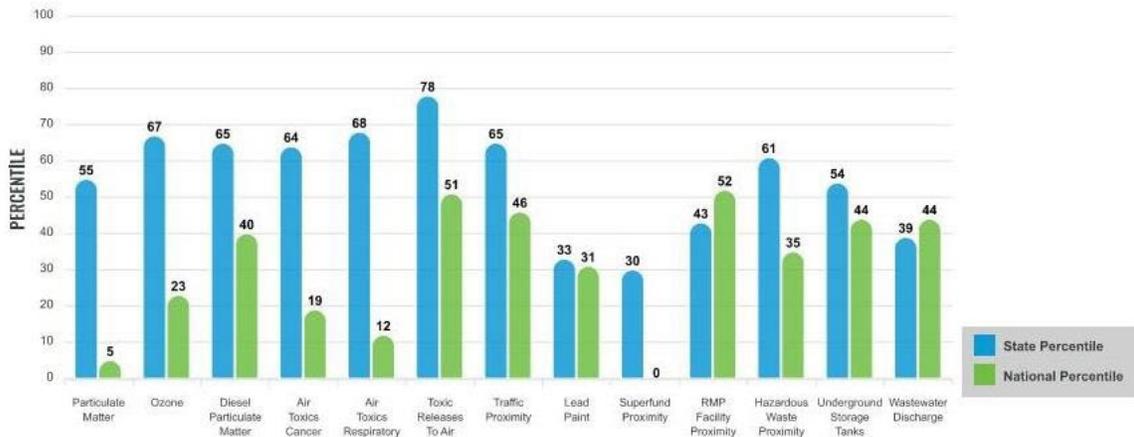
### EJ INDEXES FOR THE SELECTED LOCATION



## SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

### SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for the User Specified Area

# EJScreen Environmental and Socioeconomic Indicators Data

| SELECTED VARIABLES  | VALUE  | STATE AVERAGE | PERCENTILE IN STATE | USA AVERAGE | PERCENTILE IN USA |
|---|--------|---------------|---------------------|-------------|-------------------|
| <b>POLLUTION AND SOURCES</b>                                      |        |               |                     |             |                   |
| Particulate Matter ( $\mu\text{g}/\text{m}^3$ )                   | 5.38   | 5.41          | 53                  | 8.08        | 5                 |
| Ozone (ppb)   | 58.3   | 57.3          | 64                  | 61.6        | 26                |
| Diesel Particulate Matter ( $\mu\text{g}/\text{m}^3$ )            | 0.189  | 0.157         | 71                  | 0.261       | 42                |
| Air Toxics Cancer Risk* (lifetime risk per million)               | 20     | 16            | 0                   | 25          | 1                 |
| Air Toxics Respiratory HI*  | 0.19   | 0.16          | 0                   | 0.31        | 1                 |
| Toxic Releases to Air   | 1,800  | 460           | 95                  | 4,600       | 71                |
| Traffic Proximity (daily traffic count/distance to road)          | 110    | 85            | 72                  | 210         | 59                |
| Lead Paint (% Pre-1960 Housing)                                   | 0.16   | 0.29          | 37                  | 0.3         | 43                |
| Superfund Proximity (site count/km distance)                      | 0.0029 | 0.0049        | 31                  | 0.13        | 0                 |
| RMP Facility Proximity (facility count/km distance)               | 0.39   | 0.64          | 50                  | 0.43        | 72                |
| Hazardous Waste Proximity (facility count/km distance)            | 0.27   | 0.37          | 64                  | 1.9         | 41                |
| Underground Storage Tanks (count/km <sup>2</sup> )                | 1.9    | 2.1           | 64                  | 3.9         | 58                |
| Wastewater Discharge (toxicity-weighted concentration/m distance) | 0.01   | 8.9           | 45                  | 22          | 68                |
| <b>SOCIOECONOMIC INDICATORS</b>                                   |        |               |                     |             |                   |
| Demographic Index   | 17%    | 21%           | 47                  | 35%         | 24                |
| Supplemental Demographic Index                                    | 9%     | 11%           | 38                  | 14%         | 29                |
| People of Color   | 14%    | 16%           | 59                  | 39%         | 29                |
| Low Income  | 19%    | 26%           | 37                  | 31%         | 36                |
| Unemployment Rate   | 3%     | 3%            | 62                  | 6%          | 40                |
| Limited English Speaking Households                               | 1%     | 1%            | 79                  | 5%          | 60                |
| Less Than High School Education                                   | 6%     | 7%            | 50                  | 12%         | 39                |
| Under Age 5   | 6%     | 7%            | 54                  | 6%          | 64                |
| Over Age 64   | 16%    | 17%           | 48                  | 17%         | 52                |
| Low Life Expectancy   | 16%    | 18%           | 28                  | 20%         | 21                |

\*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

**Sites reporting to EPA within defined area:**

|  |     |
|--|-----|
| Superfund .....  | 0   |
| Hazardous Waste, Treatment, Storage, and Disposal Facilities ..... | 2   |
| Water Dischargers .....  | 302 |
| Air Pollution .....  | 42  |
| Brownfields .....  | 2   |
| Toxic Release Inventory .....                                      | 10  |

**Other community features within defined area:**

|                         |    |
|-------------------------|----|
| Schools .....           | 44 |
| Hospitals .....         | 4  |
| Places of Worship ..... | 48 |

**Other environmental data:**

|                          |     |
|--------------------------|-----|
| Air Non-attainment ..... | No  |
| Impaired Waters .....    | Yes |

|  |     |
|--|-----|
| Selected location contains American Indian Reservation Lands* .....            | No  |
| Selected location contains a 'Justice40 (CEJST)' disadvantaged community ..... | No  |
| Selected location contains an EPA IRA disadvantaged community .....            | Yes |

Report for the User Specified Area

## EJScreen Environmental and Socioeconomic Indicators Data

| HEALTH INDICATORS         |              |               |                  |            |               |
|---------------------------|--------------|---------------|------------------|------------|---------------|
| INDICATOR                 | HEALTH VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
| Low Life Expectancy       | 16%          | 18%           | 28               | 20%        | 21            |
| Heart Disease             | 5,5          | 6,4           | 30               | 6,1        | 37            |
| Asthma                    | 9,3          | 9,3           | 65               | 10         | 33            |
| Cancer                    | 6,4          | 6,8           | 36               | 6,1        | 52            |
| Persons with Disabilities | 10,3%        | 11,8%         | 37               | 13,4%      | 34            |

| CLIMATE INDICATORS |              |               |                  |            |               |
|--------------------|--------------|---------------|------------------|------------|---------------|
| INDICATOR          | HEALTH VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
| Flood Risk         | 7%           | 9%            | 48               | 12%        | 53            |
| Wildfire Risk      | 58%          | 19%           | 85               | 14%        | 86            |

| CRITICAL SERVICE GAPS    |              |               |                  |            |               |
|--------------------------|--------------|---------------|------------------|------------|---------------|
| INDICATOR                | HEALTH VALUE | STATE AVERAGE | STATE PERCENTILE | US AVERAGE | US PERCENTILE |
| Broadband Internet       | 13%          | 17%           | 40               | 14%        | 56            |
| Lack of Health Insurance | 5%           | 8%            | 38               | 9%         | 38            |
| Housing Burden           | No           | N/A           | N/A              | N/A        | N/A           |
| Transportation Access    | Yes          | N/A           | N/A              | N/A        | N/A           |
| Food Desert              | Yes          | N/A           | N/A              | N/A        | N/A           |

Footnotes

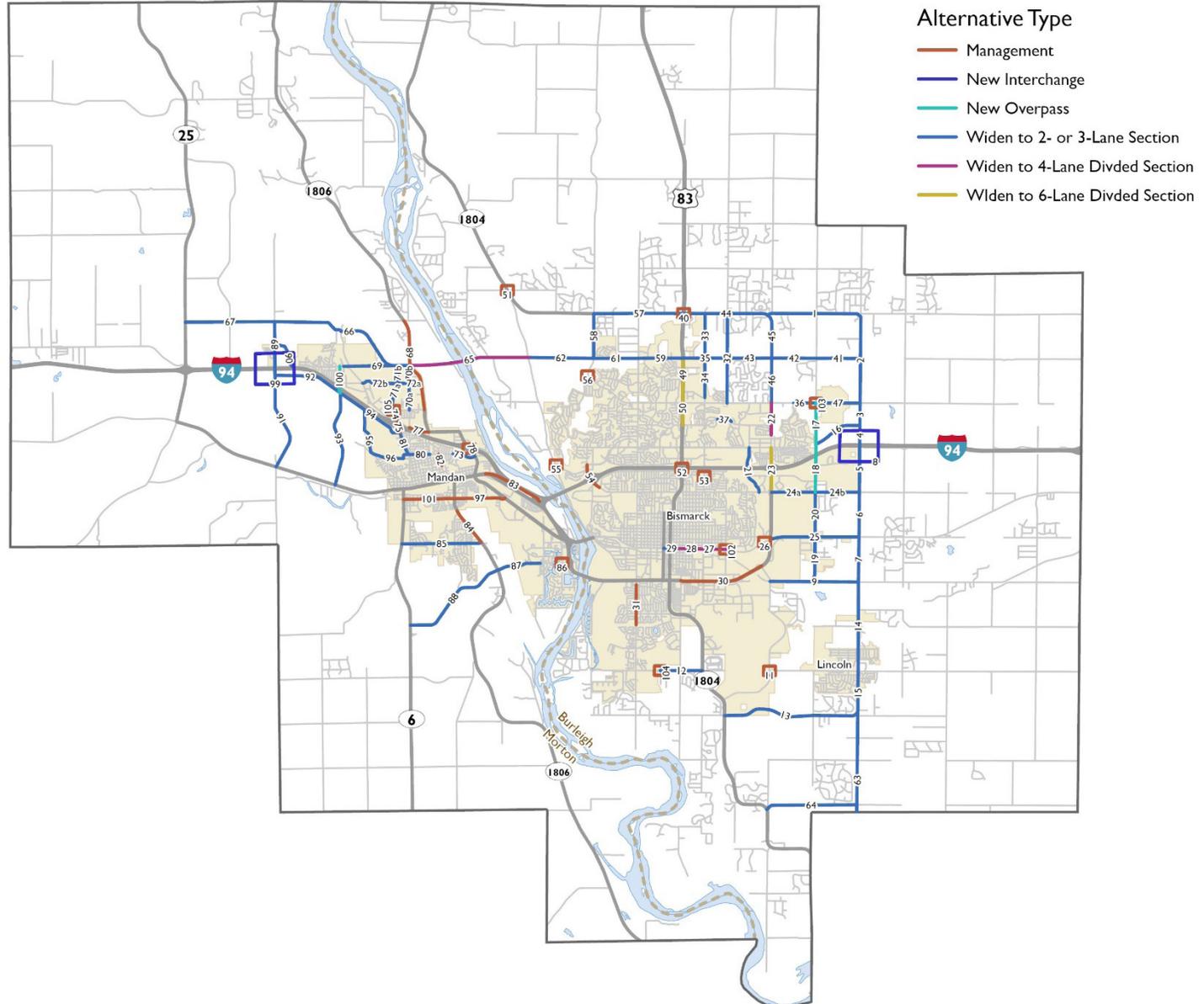
Report for the User Specified Area



## APPENDIX D: ALTERNATIVES SUMMARY



Figure 57: System Expansion Alternatives Considered





**Table 47: System Expansion Alternatives and Planning Level Cost Estimates**

| Project ID | Corridor Location | From                           | To                            | Description   | Estimated Cost (2024\$) |
|------------|-------------------|--------------------------------|-------------------------------|---|-------------------------|
| 1          | 71st Avenue       | Centennial Road                | 66th Street                   | Reconstruct as a 3-lane rural section.  | \$18,744,000            |
| 2          | 66th Street       | 43rd Avenue                    | 71st Avenue                   | Reconstruct/New Construct as a 3-lane urban section.  | \$27,690,000            |
| 3          | 66th Street       | Century Avenue                 | 43rd Avenue                   | Construct as 3-lane urban section (tied with project for interchange with I-94 at 66th Street). | \$6,816,000             |
| 4          | 66th Street       | I-94                           | Century Avenue                | Construct as 3-lane urban section (tied with project for interchange with I-94 at 66th Street). | \$6,390,000             |
| 5          | 66th Street       | 17th Avenue                    | I-94                          | Construct as 3-lane urban section (tied with project for interchange with I-94 at 66th Street). | \$14,910,000            |
| 6          | 66th Street       | Old Highway 10 / E Main Avenue | 17th Avenue                   | Construct as 3-lane urban section (tied with project for interchange with I-94 at 66th Street). | \$14,200,000            |
| 7          | 66th Street       | Apple Creek                    | Old Highway 10/ E Main Avenue | Widen from 2-lane to 3-section.   | \$14,948,000            |
| 8          | I-94              | 66th Street                    |                               | New interchange.  | \$40,000,000            |
| 9          | Apple Creek Road  | Yegen Road                     | 66th Street SE                | Widen to 3-lanes and intersection capacity improvements at Yegen Road                           | \$29,452,000            |
| 11         | Lincoln Road      | Yegen Road / Airway Avenue     |                               | Intersection capacity improvement.  | \$5,925,000             |
| 12         | Burleigh Avenue   | High Plains Road               | University Drive              | Widen to 3-lane urban section, consider roundabout at 12th St intersection                      | \$15,612,000            |
| 13         | 48th Avenue S     | University Drive               | 66th Street                   | Construct 2-lane rural section and structure improvements at Apple Creek crossing.              | \$7,560,000             |
| 14         | 66th Street       | Lincoln Road                   | Northgate Drive               | Widen from 2-lane to 3-section.   | \$20,276,000            |



| Project ID | Corridor Location                     | From                | To               | Description   | Estimated Cost (2024\$) |
|------------|---------------------------------------|---------------------|------------------|---|-------------------------|
| 15         | 66th Street                           | 48th Avenue S       | Lincoln Road     | Reconstruct as 2-lane urban section.  | \$2,440,000             |
| 16         | Century Avenue                        | 52nd Street         | 66th Street      | Construct 3-lane urban section.   | \$16,046,000            |
| 17         | 52nd Street NE                        | 43rd Avenue NE      | E Century Avenue | Widen from 2-lane to 3-lane section / build new 3-lane section.                             | \$15,836,000            |
| 18         | 52nd Street NE                        | E Century Avenue    | 17th Avenue NE   | I-94 overpass and street improvements from Century Ave to Divide Ave                        | \$25,836,000            |
| 19         | 52nd Street                           | Apple Creek Road    | Main Avenue      | Widen to 3-lane urban section, consider roundabout at Highway 10 / Main Street intersection | \$31,448,000            |
| 20         | 52nd Street                           | Main Avenue         | 17th Avenue      | Widen to 3-lane urban section.  | \$14,224,000            |
| 21         | Hamilton Street / Channel Drive       | Divide Avenue       | Century Avenue   | Construct as 2-lane urban section with grade separation.                                    | \$28,770,000            |
| 22         | Centennial Road                       | Jericho Road        | 43rd Avenue      | Widen from 3-lane to 5-lane urban section.  | \$16,776,000            |
| 23         | Bismarck Expressway / Centennial Road | Divide Avenue       | Century Avenue   | Widen from 5-lane to 6-lane section.  | \$28,600,000            |
| 24a        | Divide Avenue                         | Bismarck Expressway | 52nd Street      | Construct as 3-lane urban section.  | \$14,800,000            |
| 24b        | Divide Avenue                         | 52nd Street         | 66th Street      | Reconstruct 3-lane urban section.   | \$14,200,000            |
| 25a        | Main Avenue                           | Bismarck Expressway | 52nd Street      | Widen from 2-lane to 3-lane section (including intersection improvement at 52nd Street).    | \$15,400,000            |
| 25b        | Main Avenue                           | 52nd Street         | 66th Street      | Widen from 2-lane to 3-lane section   | \$15,400,000            |



| Project ID | Corridor Location   | From               | To                         | Description  | Estimated Cost (2024\$) |
|------------|---------------------|--------------------|----------------------------|--|-------------------------|
| 26         | Main Avenue         | Hay Creek Crossing |                            | Structural replacement.  | \$685,000               |
| 27         | East Main Avenue    | Airport Road       | 26th Street                | Reconstruct as a 5-lane urban section  | \$11,271,000            |
| 28         | East Main Avenue    | 12th Street        | Airport Road               | Reconstruct as a 5-lane urban section  | \$11,713,000            |
| 29         | East Main Avenue    | 7th Street         | 12th Street                | Reconstruct as a 5-lane urban section.   | \$7,956,000             |
| 30         | Bismarck Expressway | 12th Street        | Yegen Road                 | Implement 3/4 access control at 5 intersections and add right turn at Airport Road.          | \$1,185,000             |
| 31         | Washington Street   | Drainage Channel   | Denver Avenue              | Turn lane improvements.  | \$924,300               |
| 32         | 26th Street         | 43rd Avenue        | 71st Avenue                | Construct as 3-lane urban section.   | \$17,688,000            |
| 33         | N 19th Street       | 57th Avenue NE     | 71st Avenue                | Reconstruct 3-lane urban section.  | \$14,200,000            |
| 34         | N 19th Street       | Skyline Boulevard  | 57th Avenue NE             | Reconstruct 3-lane urban section.  | \$12,496,000            |
| 35         | 57th Avenue         | State Street       | 26th Street                | Construct 3-lane urban section.  | \$14,058,000            |
| 36         | 43rd Avenue         | N 26th Street      | Roosevelt Drive            | Resconstruct as 3-lane urban   | \$35,358,000            |
| 37         | Calgary Avenue      | DMVW Railroad      | Pebbleview Loop/Koch Drive | Construct 2-lane urban section across DMVW RR with grade separation. (Low priority for MPO). | \$50,690,000            |
| 40         | 71st Street         | State Street       |                            | Intersection capacity and safety improvements.   | \$5,214,000             |



| Project ID | Corridor Location                   | From              | To                | Description   | Estimated Cost (2024\$) |
|------------|-------------------------------------|-------------------|-------------------|---|-------------------------|
| 41         | 57th Avenue                         | 52nd Street NE    | 66th Street       | Pave 2-lane rural section   | \$6,534,000             |
| 42         | 57th Avenue                         | Centennial Road   | 52nd Street NE    | Widen from 2-lane rural to 3-lane urban section, access control   | \$15,400,000            |
| 43         | 57th Avenue                         | 26th Street       | Centennial Road   | Paving  | \$15,400,000            |
| 44         | 71st Avenue                         | State Street      | Centennial Road   | Widen to 3-lane section, consider roundabout at 26th Street intersection  | \$30,806,000            |
| 45         | Centennial Road                     | 57th Avenue       | 71st Avenue       | Widen to 3-lane section.  | \$10,092,000            |
| 46         | Centennial Road                     | 43rd Avenue       | 57th Avenue       | Widen from 2-lane to 3-lane rural section.  | \$15,400,000            |
| 47         | 43rd Avenue                         | 52nd Street       | 66th Street       | Widen to 3-lane urban section, consider a roundabout at 52nd Street   | \$24,646,000            |
| 49         | State Street                        | Skyline Boulevard | 57th Avenue       | Widen to 6-lanes from N of Skyline Boulevard through 57th Avenue; intersection improvement at 57th. (Not preferred by NDDOT).   | \$21,450,000            |
| 50         | State Street                        | Calgary Avenue    | Skyline Boulevard | At grade improvements: Calgary Avenue and 43rd Avenue; widening to 6-lane urban section from Calgary Avenue through Skyline Boulevard intersection. (Not preferred by NDDOT). | \$35,988,450            |
| 51         | Burnt Creek Loop North / River Road | ND 1804           |                   | Intersection capacity improvement.  | \$5,925,000             |
| 52         | State Street                        | I-94              |                   | Interchange reconstruction  | \$49,770,000            |
| 53         | N 19th Street                       | Capitol Avenue    |                   | Intersection capacity improvement.  | \$1,777,500             |
| 54         | Tyler Parkway                       | Schafer Road      | Burnt Boat Drive  | Intersection capacity improvement. Add turn lanes and include safety improvements.  | \$1,777,500             |



| Project ID | Corridor Location       | From                      | To                    | Description   | Estimated Cost (2024\$) |
|------------|-------------------------|---------------------------|-----------------------|---|-------------------------|
| 55         | Apple Creek Road        | Yegen Road                |                       | Intersection capacity improvement.  | \$11,850,000            |
| 56         | Ash Coulee Drive        | Tyler Parkway             |                       | Roundabout.   | \$3,000,000             |
| 57         | 71st Avenue/<br>ND 1804 | 15th Street/Tyler Parkway | State Street          | Widen from 2-lane to 3-lane section.  | \$31,262,000            |
| 58         | Tyler Parkway           | 57th Avenue               | ND 1804 / 71st Avenue | Construct as 3-lane urban section.  | \$14,200,000            |
| 59         | 57th Avenue             | Washington Street         | State Street          | Widen to 3-lane urban section, improve Washington Street intersection   | \$14,652,000            |
| 61         | 57th Avenue             | Tyler Parkway             | Crested Butte Road    | Construct as 3-lane urban section.  | \$14,342,000            |
| 62         | 57th Avenue             | River Road                | Tyler Parkway         | Construct as 3-lane urban section.  | \$20,874,000            |
| 63         | 66th Street SE          | ND 1804                   | Woodrow Drive         | Pave and improve to 2-lane rural section.   | \$15,576,000            |
| 64         | 76th Avenue SE          | ND 1804                   | 66th Street SE        | Extend 76th Avenue SE, pave and construct 2-lane rural section.   | \$13,662,000            |
| 65         | Northern Bridge         | 38th Street (Mandan)      | River Road            | Construct as 4-lane rural roadway from River Road (Bismarck) to 38th Street (Mandan), including construction of Missouri River Bridge.        | \$85,556,500            |
| 66         | 37th Street NW          | 56th Avenue               | ND 1806               | Construct 3-lane urban section.   | \$49,700,000            |
| 67         | 37th Street NW          | ND 25                     | 56th Avenue           | Construct 2-lane urban section.   | \$24,924,000            |
| 68         | ND 1806                 | Old Red Trail             | 37th Street           | Intersection capacity improvement, add turn lanes at key intersections. (Assume minor intersection improvements to match new 37th St section) | \$6,425,070             |



| Project ID | Corridor Location     | From               | To                       | Description   | Estimated Cost (2024\$) |
|------------|-----------------------|--------------------|--------------------------|---|-------------------------|
| 69         | 38th Street NW        | Old Red Trail      | Collins Avenue / ND 1806 | Construct as 3-lane urban section.  | \$21,300,000            |
| 70a        | 8th Avenue NW         | 27th Street NW     | 37th Street NW           | Construct 3-lane urban section.   | \$7,100,000             |
| 70b        | 8th Avenue NW         | 37th Street NW     | 38th Street              | Construct 3-lane urban section.   | \$7,100,000             |
| 71a        | Sunset Drive          | Middle School      | 37th Street NW           | Construct as 3-lane urban section.  | \$5,325,000             |
| 71b        | Sunset Drive          | 37th Street NW     | 38th Street              | Construct as 3-lane urban section.  | \$5,325,000             |
| 72a        | 37th Street NW        | Sunset Drive       | ND 1806                  | Construct urban 3-lane for arterial connection                              | \$9,585,000             |
| 72b        | 37th Street NW        | Old Red Trail      | Sunset Drive             | Construct urban 3-lane for arterial connection                              | \$9,585,000             |
| 73         | Division Street NE    | Chippewa Avenue NE | Mandan Avenue            | Construct as 2-lane urban section.  | \$6,324,000             |
| 74         | Sunset Drive          | Old Red Trail      | 31st Street NW           | Reconstruct as 3-lane urban section   | \$6,532,000             |
| 75         | Sunset Drive Corridor | 27th Street N      | Boundary Street          | Intersection improvements along Sunset at 27th, Old Red Trail, and Boundary | \$5,925,000             |
| 77         | Old Red Trail         | 8th Avenue NW      | ND 1806 / Collins Avenue | Restripe for 3-lane urban section.  | \$93,615                |
| 78         | Mandan Avenue         | I-94               |                          | Interchange reconstruction.   | \$59,250,000            |
| 80         | Division Street       | Sunset Drive       | ND 1806 / Collins Avenue | Reconstruct as 3-lane urban section   | \$6,816,000             |
| 81         | Sunset Drive          | Division Street    | Boundary Street          | Reconstruct as 3-lane urban section   | \$7,526,000             |



| Project ID | Corridor Location | From                             | To                     | Description  | Estimated Cost (2024\$) |
|------------|-------------------|----------------------------------|------------------------|--|-------------------------|
| 82         | 3rd Avenue NE     | 5th Street NE                    | Division Street NW     | Narrow pavement  | \$5,925,000             |
| 83         | I-94              | I-194                            | Main Street / Exit 155 | Recommendation pending Grant Marsh Bridge Feasibility Study  | \$0                     |
| 84         | Highway 1806      | 19th Street SW                   | Heart River Bridge     | Pavement preservation project, including addition of turn lanes and signals at 8th Avenue and 19th Street. | \$4,147,500             |
| 85         | 19th Street SE    | ND 6                             | ND1806                 | Reconstruct as 3-lane urban section.   | \$25,560,000            |
| 86         | McKenzie Drive    | 46th Avenue SE                   |                        | Intersection capacity improvement  | \$5,925,000             |
| 87         | McKenzie Drive    | ND 1806                          | 40th Ave S             | Construct as 2-lane rural section.   | \$25,000,000            |
| 88         | McKenzie Drive    | ND 6                             | ND 1806                | Construct as 2-lane rural section.   | \$16,632,000            |
| 89         | 56th Avenue       | Old Red Trail                    | 37th Street            | Reconstruct as 3-lane urban section.   | \$14,200,000            |
| 90         | Old Red Trail     | 47th Avenue NW                   | 57th Avenue NW         | Old Red Trail realignment to accommodate future interchange  | \$4,884,000             |
| 91         | 56th Avenue NW    | I-94 Business Loop (Main Street) | Old Red Trail          | Construct as 3-lane urban section.   | \$34,222,000            |
| 92         | Boundary Road     | 56th Avenue / I-94 Interchange   | 32nd Avenue NW         | Construct as 3-lane urban section.   | \$22,436,000            |
| 93         | 32nd Avenue W     | I-94 Business Loop (Main Street) | Boundary Road (Future) | Construct as 2-lane urban section.   | \$26,536,000            |
| 94         | Boundary Road     | 32nd Avenue                      | Sunset Drive           | Construct as 3-lane urban section.   | \$23,430,000            |



| Project ID | Corridor Location | From                | To                     | Description  | Estimated Cost (2024\$) |
|------------|-------------------|---------------------|------------------------|--|-------------------------|
| 95         | 31st Street NW    | Lohstreter Road     | Boundary Road (Future) | Construct as 2-lane urban section.   | \$12,276,000            |
| 96         | Division Street   | Sunset Drive        | Lohstreter Road        | Construct urban 3-lane to extend Division Street   | \$13,490,000            |
| 97         | 3rd Street SW     | 6th Avenue / NDI806 | Memorial Highway       | Restripe / overlay to include turn lanes or restripe to 3-lane section with center turn lane and no parking. | \$500,000               |
| 99         | 56th Avenue NW    | I-94                |                        | New interchange.   | \$34,250,000            |
| 100        | 32nd Avenue       | I-94                |                        | Grade separation- overpass / underpass.  | \$20,550,000            |
| 101        | 3rd Street SW     | 6th Avenue SE       | Highway 6              | Restripe / overlay to include turn lanes or restripe to 3-lane section with center turn lane and no parking. | \$500,000               |
| 102        | Main Ave          | 26th St             |                        | Intersection capacity improvement / Roundabout   | \$3,000,000             |
| 103        | 43rd Ave N        | 52nd St             |                        | Intersection capacity improvement / Roundabout   | \$3,000,000             |
| 104        | Burleigh Ave      | 12th St             |                        | Intersection capacity improvement / Roundabout   | \$3,000,000             |
| 105        | 27th St           | Sunset Dr           |                        | Intersection capacity improvement / Roundabout   | \$2,250,000             |
| 106        | 71st Avenue NE    | Centennial Road     |                        | Intersection capacity improvement / Roundabout   | \$5,000,000             |



## APPENDIX E:ARRIVE 2050 FUNDING PLAN



## Arrive 2050 Funding Plan

This chapter provides a summary of the funding plan developed as part of the Arrive 2050 planning process. The funding plan details analyses related to the following:

- **Current funding programs**
- **Historic revenue levels by program**
- **Forecasted revenue levels that can reasonably be expected through the year 2050**

These analyses provide a baseline funding plan to support the development of Arrive 2050's Fiscally Constrained Plan.

### Financial Plan in the MTP

Federal metropolitan transportation planning requirements articulated in 23 CFR 450.324 require that an MPO's MTP contain a financial plan that demonstrates how the MTP can be implemented based on an understanding of the reasonable transportation funding levels expected through the life of the plan.<sup>1</sup> These regulations also require a demonstration of fiscal constraint and the ability of the MPO to adequately operate and maintain the federal-aid transportation system. This section of the report will discuss the current funding programs providing transportation revenues to the Bismarck-Mandan MPO and sources of local revenues used for transportation purposes.

### Relevant Funding Programs

The following funding programs comprise the key sources of transportation revenues for the Bismarck-Mandan MPO's partner agencies. The funding sources direct federal transportation dollars

(not including local matching funds), with NDDOT leading the program administration.

NDDOT allocates federal transportation funds to the state's MPOs for use on federally eligible transportation projects.

#### *Interstate Program*

The Interstate Program directs NDDOT funding toward improvements and modifications to mainline Interstate segments or existing and new interchanges needed to alleviate congestion due to mainline traffic. While NDDOT is responsible for funding interstate improvements, local public agencies (LPAs) are required to fund grade-separated non-interchange roads and interchange projects stemming from cross-road traffic.

Under the Interstate Program, NDDOT provides the match for federal funds, which is 10 percent for improvements that do not add capacity and 19.07 percent for improvements that add capacity.

#### *National Highway Performance Program*

The National Highway Performance Program (NHPP) provides funding for projects that support the condition and performance of the state's Interstate NHS and non-Interstate NHS routes, including new NHS facilities that further the state's progress toward performance measure targets. NDDOT directs NHPP funding allocated to the MPO region, who does not annually solicit these funds. NDDOT continues to program projects under an Interstate or IM category. It is noted that this is a project category and does not constitute a separate funding program.

<sup>1</sup> [23 CFR Part 450](#).



## Urban and Regional Programs

### Urban Roads Program

Urban roads refers to roadways owned by LPAs that are located on the federal aid system. Funding provided to the MPO under the Urban Roads program is allocated through collaboration between the MPO and NDDOT based on annual funding available to the state's LPAs. LPAs are responsible for the prioritization of improvements within their jurisdictions.

Urban Roads funds are calculated based on each LPA's proportion of population compared to the state's total urban population per the most recent decennial census plus a base amount. Eligible project types that can receive federal funds under the Urban Roads program include preliminary engineering (PE), construction engineering (CE), right-of-way acquisition, utility relocation, and construction. Each LPA is responsible for providing the local match for federal funds, which is 19.07 percent of total project cost.

### Urban Regional Roads Program

Urban regional roads are defined as state highways that run through cities with populations of 5,000 or more. NDDOT coordinates annually with eligible LPAs to program projects based on available Urban Regional Roads funding. NDDOT annually solicits for projects that qualify under this program and distributes funds based on needs.

Activities eligible for Urban Regional Roads funds include PE, CE, right-of-way acquisition, utility relocations, and construction. The Urban Regional Road Program consists of two sub-programs that determine local match requirements:<sup>2</sup>

- **Primary Regional Program:** The match for federal funds is provided by NDDOT (19.07 percent), except for service road

improvements and items not eligible for federal aid. In these instances, the LPA is responsible for providing a local match, or 100% of funding.

- **Secondary Regional Program:** The match for federal funds is provided by NDDOT (9.07 percent) and the LPA (10 percent), except for service road improvements and items not eligible for federal aid. In these instances, the LPA is responsible for providing the local match, or 100% of funding.

### Safety Program

NDDOT's Safety Program allocates funding from the federal Highway Safety Improvement Program (HSIP) that are to be used on safety projects. NDDOT allocates these funds to projects that reduce fatal and serious injury crashes. Projects funded under the Safety Program are selected based on NDDOT's annual list of high-crash locations and local safety needs submitted by LPAs. Based on the LPA's safety needs, eligibility criteria, and available HSIP funds, NDDOT develops its safety program for the next 4 years; projects located in MPO boundaries require LPAs to go through the MPO prioritization process.<sup>3</sup>

Eligible activities under the Safety Program include PE, CE, right-of-way acquisition, utility relocations, and construction for projects located on the state highway system; CE and construction are the only activities eligible for safety funds for projects located on the LPA roads system. Federal funds provide 90 percent of funding for safety projects, and the 10 percent match is provided by either NDDOT or NDDOT and the LPA, depending on the project location. If the improvement is on the Secondary Regional System, the 10% match could be 5% state and 5% LPA.

<sup>2</sup> North Dakota Department of Transportation, [Local Government Manual](#)

<sup>3</sup> Ibid.



### Transportation Alternatives Program

The Transportation Alternatives (TA) Program provides funding for programs and projects defined as transportation alternatives, including bicycle and pedestrian facilities, Safe Routes to School projects, safe routes for non-drivers, community improvement activities, and environmental mitigation projects.<sup>4</sup> TA funds are distributed on a discretionary basis, with projects selected by NDDOT's TA project selection committee.

Construction is the only activity eligible for funding under the TA Program. PE, CE, environmental impact mitigation, right-of-way acquisition, and utility relocations are not eligible for TA funding and are the responsibility of the LPA. Federal funds allocated under the TA Program cover 80.93 percent of total project costs, and the LPA is responsible for a 19.07 percent local match.

### Additional Federal and State Sources of Transportation Funds

The programs described above provide the majority of annual transportation funds for the MPO region. However, NDDOT administers several additional programs that aid the MPO in funding regional transportation improvements. These programs include:

- **Flexible Transportation Fund Program (Flex Fund):** Established by the 68th Legislative Assembly in 2023, the Flex Fund Program provides LPAs with funding for projects that meet or advance economic development, safety, complete streets, multimodal system, roadway restriction (height or weight limitations), and innovation goals. Funds are allocated on a discretionary basis and awarded through the state's Flex Fund committee.
- **Urban Grant Program (UGP):** This program distributes approximately \$4.6 million each year to North Dakota cities with populations of 5,000 or more. These funds are used for

<sup>4</sup> North Dakota Department of Transportation, [Transportation Alternatives](#)

improvements on federal aid roadways in urbanized areas and are intended to improve bicycle, pedestrian, or other multimodal facilities that enhance downtown areas.

- **Recreational Trails Program (RTP):** This program is a discretionary grant program that provides funding for motorized and non-motorized recreational trail projects. It is administered at the state level by the North Dakota Parks and Recreation Department and federally through the FHWA. Grant awards range from a minimum of \$30,000 to a maximum of \$250,000 and require a 20 percent local match.<sup>5</sup>

### Recent Federal Funding Programs

The Bipartisan Infrastructure Law, signed into legislation as the Infrastructure Investment and Jobs Act, introduced new formula and discretionary transportation grant programs that address the areas of safety, modernization, climate, and equity. In the MPO region, several formula funding programs authorized through IIJA are incorporated into existing programs such as the Urban Roads Program. These programs include:

- **Carbon Reduction Program (CRP):** This program provides funding for projects that reduce carbon dioxide emissions from on-road highway sources.
- **Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT):** This program provides funding to increase the resiliency of surface transportation to natural hazards.
- **National Electric Vehicle Infrastructure Formula Program (NEVI):** This program provides funding to states for the strategic deployment of electric vehicle charging infrastructure.

<sup>5</sup> North Dakota Parks and Recreation, [Recreational Trails Program](#)



### Local Funding Programs

The LPAs in the MPO region have local funding programs that are used to supplement the MPO funding programs discussed above and provide funding for transportation improvements that do not receive federal funding assistance. Major local funding programs for the Bismarck and Mandan, as well as Burleigh and Morton Counties, are discussed below.

#### City of Bismarck

Local funding programs that Bismarck uses for transportation improvements include the following:<sup>6</sup>

- **Special Assessments Fund:** Funds received from the city's special assessments
- **Sales Tax Fund:** Special revenues collected from the city's self-imposed 1.5 percent sales tax revenue for voter-approved eligible expenditures
- **Special Deficiency Fund:** Funds made up of transfers from the city's general fund to supplement special assessment revenues and bridge gaps in funding for capital projects
- **Street Light Utility Fund:** Accounts for the cost of providing electricity and maintenance of the city's residential street lights and traffic signals

#### City of Mandan

Local funding programs that Mandan uses for transportation improvements include the following:<sup>7</sup>

- **Highway Distribution Fund:** Money distributed by the state treasurer and allocated to incorporated cities
- **Special Assessments Fund:** Funds received from special assessments, which include sidewalks, curbs, gutters, and streets

<sup>6</sup> City of Bismarck, [Annual Budget Fiscal Year 2024](#)

<sup>7</sup> City of Mandan, [Budget Policies](#)

- **1 Percent City Sales Tax Fund:** Accounts for the 1 percent city sales and use tax for reducing property taxes and municipal debt; street, water, and sewer system improvements; and jobs and economic development
- **Street Light Utility Fund:** Accounts for the activities of the city's street lighting system operations

#### Burleigh County

Local funding programs that Burleigh County uses for transportation improvements include the following:<sup>8</sup>

- **County Road and Bridge Fund:** Revenues made available from NDDOT to assist North Dakota counties in implementing projects on federal aid routes that are owned by the respective county. Funding for bridges more than equal to or greater than 20 feet in span is also available to North Dakota counties for replacement or rehabilitation projects.
- **Highway Tax Distribution:** Money distributed by the state treasurer and allocated to North Dakota's counties.

#### Morton County

Local funding programs that Morton County uses for transportation improvements include the following:<sup>9</sup>

- **County Road and Bridge Fund:** Revenues made available from NDDOT to assist North Dakota counties in implementing projects on federal aid routes that are owned by the respective county. Funding for bridges more than equal to or greater than 20 feet in span is also available to North Dakota counties for replacement or rehabilitation projects.
- **Unorganized Road Fund:** Funding for roadway improvements on roads in unorganized townships.

<sup>8</sup> Burleigh County, [Budget of Burleigh County, North Dakota, 2024](#)

<sup>9</sup> Morton County, [Morton County 2023 Budget Revenue YTD](#)



- **Highway Distribution Tax Fund:** Money distributed by the state treasurer and allocated to North Dakota's counties.

## Historic Revenue Levels

### MPO Programs

Historic revenues levels received by the MPO for the years 2017–2024 were analyzed based on historic TIP documents for this period. Based on the analysis of these documents, baseline revenue levels for the MPO's key funding programs were identified and then used to forecast reasonably expected revenues through the year 2050. These forecasted revenues comprise Arrive 2050's fiscally constrained plan.

**Table I** summarizes the historic revenues for the Urban Roads, Urban Regional Roads, Interstate, NHPP, Safety, Urban Grant, and TA Programs on an annual basis and provides total and average revenue levels received between 2017 and 2024.

### *Historic Urban Roads Revenues*

Urban Roads revenues received by the MPO between 2017 and 2024 were reviewed based on the agency's funding amounts granted through the Obligation Authority, which totaled a little more than \$33 million and averaged nearly \$4.2 million per year during this period.

### *Historic Urban Regional Roads Revenues*

Urban Regional Roads revenues received by the MPO between 2017 and 2024 totaled roughly \$43 million and averaged \$6.1 million per year during this period.

### *Historic Interstate Revenues*

Interstate revenues received by the MPO between 2017 and 2024 total \$94.3 million and averaged \$11.8 million per year. Several years saw higher revenue levels due to the programming of higher-cost projects in 2019, 2023, and 2024.

### *Historic NHPP Revenues*

NHPP revenues received by the MPO between 2017 and 2024 totaled \$66.7 million and averaged \$8.3 million per year during this period. While historic NHPP revenues saw fluctuation on an annual basis, the fluctuations were not as significant as other MPO funding programs.

### *Historic Safety Revenues*

Safety revenues received by the MPO between 2017 and 2024 totaled nearly \$20.8 million and averaged \$2.6 million per year.

### *Historic TA Revenues*

TA revenues received by the MPO between 2017 and 2024 totaled \$3.5 million and averaged a little less than \$432,000 per year. The trend in historic TA revenues received on an annual basis was stable, with only the year 2022 seeing a higher-than-normal receipt of TA funds.

### *Historic Urban Grant Revenues*

Urban Grant revenues received by the MPO between 2017 and 2024 totaled \$6.7 million and averaged roughly \$842,000 per year during this time. Given the discretionary nature of this funding source, the MPO does not anticipate receiving Urban Grant funding each year.



Table 1: Historic MPO Funding Revenues

| Program                     | 2017        | 2018*       | 2019         | 2020        | 2021         | 2022         | 2023         | 2024         | Total        | Average      |
|-----------------------------|-------------|-------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Urban Roads</b>          | \$3,692,312 | \$3,756,158 | \$3,926,416  | \$4,370,382 | \$4,470,216  | \$4,248,520  | \$4,404,943  | \$4,499,223  | \$33,368,170 | \$4,171,021  |
| <b>Urban Regional Roads</b> | \$364,994   | \$1,200,000 | \$4,141,055  | \$9,949,670 | \$10,698,645 | \$11,620,400 | \$5,060,239  | \$1,070,488  | \$42,905,491 | \$6,129,356  |
| <b>Interstate</b>           | \$8,708,196 | \$7,410,545 | \$15,602,600 | \$0         | \$9,959,851  | \$3,000,000  | \$19,416,231 | \$30,248,768 | \$94,346,191 | \$11,793,274 |
| <b>NHPP</b>                 | \$201,000   | \$0         | \$5,117,378  | \$9,652,000 | \$23,068,789 | \$10,294,966 | \$15,639,069 | \$2,741,006  | \$66,714,207 | \$8,339,276  |
| <b>Safety</b>               | \$580,000   | \$0         | \$3,782,000  | \$0         | \$6,599,820  | \$7,063,473  | \$2,593,104  | \$140,000    | \$20,758,397 | \$2,594,800  |
| <b>TA</b>                   | \$206,000   | \$0         | \$412,110    | \$0         | \$639,000    | \$1,210,879  | \$473,000    | \$514,499    | \$3,455,488  | \$431,936    |
| <b>Urban Grant</b>          | \$0         | \$0         | \$1,976,099  | \$0         | \$0          | \$2,851,000  | \$1,912,000  | \$0          | \$6,739,099  | \$842,387    |

Source: Bismarck-Mandan MPO, 2017–2024 Transportation Improvement Programs

\*The MPO did not publish a TIP in 2018, so these values represent funds programmed in 2018 that were provided in the 2017 TIP publication.



## Local Programs

Historic revenues received by the LPA's in the MPO region, including the cities of Bismarck and Mandan and Burleigh and Morton Counties, were analyzed based on historic agency budgets and capital improvement programs. Based on the historic revenue levels identified in these documents, baseline revenue levels for the LPA's key funding programs were identified and then used to forecast reasonably expected revenues through the year 2050. These forecasted revenues comprise fiscally constrained revenue levels for the LPAs.

### City of Bismarck

Revenues received by Bismarck were identified based on capital improvement program information for transportation improvements between 2017 and 2024 for the city's Special Assessments, Sales Tax, Special Deficiency, and Street Light Utility funds. A summary of historic revenues received for each fund is shown in **Table 2**.

As **Table 2** shows, revenues received by Bismarck for the Special Assessments fund totaled more than \$121 million between 2017 and 2024, averaging \$15.1 million per year. Revenues received for the Sales Tax fund total \$109.6 million during this period and averaged \$13.7 million per year, while revenues received for the Special Deficiency fund total \$18.1 million, at an average of \$2.2 million per year between 2017 and 2024. Street Light Utility fund revenues amounted to \$6.4 million and averaged a little less than \$1.1 million per year.

### City of Mandan

Revenues received by Mandan were identified based on the city's annual budget documents for the years 2022–2024. Sources of transportation-related revenues for Mandan include the Highway Distribution fund, Special Assessments fund, 1 Percent City Sales

Tax fund, and the Street Light Utility fund. **Table 3** shows historic revenues received for these funds between 2022 and 2024.

As **Table 3** shows, Mandan received a little less than \$3.4 million in Highway Distribution funds between 2022 and 2024, averaging \$1.1 million per year. Revenues received for the Special Assessments fund totaled \$12.1 million at an average of \$4 million per year, while 1 Percent City Sales Tax revenues equaled roughly \$9.6 million and averaged \$3.2 million per year. Street Light Utility fund revenues received between 2022 and 2024 totaled \$1.4 million at an average of \$470,000 per year.

### Burleigh County

Revenues received by Burleigh County were identified based on the county's historic budgets for the years 2018 and 2024, which identify revenue levels for the county's County Road and Bridge fund and Highway Tax Distribution fund. A summary of historic revenues received for each fund is shown in **Table 4**.

As **Table 4** shows, revenues for the County Road and Bridge fund totaled \$91.1 million between 2018 and 2024, with annual revenues averaging a little more than \$13 million. Highway Tax Distribution fund revenues totaled \$48.7 million at an average of a little less than \$7 million per year.

### Morton County

Revenues received by Morton County were identified based on historic county budget documents for the years 2015–2023, which provide historic annual revenues for the county's County Road and Bridge fund, Unorganized Road fund, and Highway Distribution Tax fund. **Table 5** summarizes historic revenues by program for Morton County.



As **Table 5** shows, Morton County received \$21.3 million in County Road and Bridge funds between 2015 and 2023, with revenues for this program averaging \$2.4 million annually.

Unorganized Road fund revenues amounted to \$8.5 million, with an average of \$944,000 per year, while Highway Distribution Tax fund revenues equaled \$48.2 million, or \$5.4 million per year.

Table 2: City of Bismarck

| Program                          | 2017         | 2018        | 2019         | 2020         | 2021         | 2022         | 2023         | 2024         | Total         | Average      |
|----------------------------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|
| <b>Special Assessments Fund</b>  | \$11,797,921 | \$9,104,475 | \$10,715,550 | \$13,797,536 | \$23,763,773 | \$20,885,274 | \$16,531,628 | \$14,533,000 | \$121,129,158 | \$15,141,000 |
| <b>Sales Tax Fund</b>            | \$0          | \$0         | \$5,199,989  | \$17,101,356 | \$6,341,044  | \$46,196,396 | \$9,976,606  | \$24,808,000 | \$109,623,390 | \$13,703,000 |
| <b>Special Deficiency Fund</b>   | \$8,435,772  | \$4,888,611 | \$90,213     | \$888,363    | \$839,059    | \$0          | \$274,041    | \$2,680,000  | \$18,096,059  | \$2,262,000  |
| <b>Street Light Utility Fund</b> | \$0          | \$0         | \$565,345    | \$676,665    | \$728,111    | \$977,956    | \$1,291,216  | \$2,116,045  | \$6,355,338   | \$1,059,000  |

Source: City of Bismarck Capital Improvement Program Summaries

Table 3: City of Mandan

| Program                              | 2022        | 2023        | 2024        | Total        | Average     |
|--------------------------------------|-------------|-------------|-------------|--------------|-------------|
| <b>Highway Distribution Fund</b>     | \$1,094,864 | \$1,094,864 | \$1,178,110 | \$3,367,838  | \$1,123,000 |
| <b>Special Assessments Fund</b>      | \$4,261,135 | \$4,261,135 | \$3,586,239 | \$12,108,509 | \$4,036,000 |
| <b>1 Percent City Sales Tax Fund</b> | \$3,172,347 | \$3,172,347 | \$3,232,482 | \$9,577,176  | \$3,192,000 |
| <b>Street Light Utility Fund</b>     | \$472,502   | \$466,090   | \$472,589   | \$1,411,181  | \$470,000   |

Source: City of Mandan



Table 4: Burleigh County

| Program                              | 2018         | 2019         | 2020         | 2021        | 2022        | 2023         | 2024         | Total        | Average      |
|--------------------------------------|--------------|--------------|--------------|-------------|-------------|--------------|--------------|--------------|--------------|
| <b>County Road and Bridge Fund</b>   | \$15,482,793 | \$16,821,945 | \$10,733,765 | \$9,498,849 | \$9,645,164 | \$14,771,527 | \$14,189,672 | \$91,143,715 | \$13,021,000 |
| <b>Highway Distribution Tax Fund</b> | \$6,502,000  | \$7,215,000  | \$7,211,000  | \$6,033,164 | \$6,621,622 | \$8,200,000  | \$6,950,000  | \$48,732,786 | \$6,962,000  |

Source: Burleigh County

Table 5: Morton County

| Program                              | 2015       | 2016        | 2017        | 2018        | 2019        | 2020        | 2021        | 2022        | 2023        | Total        | Average     |
|--------------------------------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|
| <b>County Road and Bridge Fund</b>   | \$6,437,37 | \$7,721,543 | \$1,061,467 | \$1,180,120 | \$746,557   | \$1,070,958 | \$1,046,980 | \$1,006,461 | \$1,039,817 | \$21,311,275 | \$2,368,000 |
| <b>Unorganized Road Fund</b>         | \$1,039,39 | \$786,590   | \$787,368   | \$845,433   | \$909,682   | \$947,699   | \$1,401,686 | \$884,861   | \$888,815   | \$8,491,530  | \$944,000   |
| <b>Highway Distribution Tax Fund</b> | \$2,960,00 | \$2,488,185 | \$26,190,00 | \$2,769,582 | \$2,779,234 | \$2,523,613 | \$2,596,289 | \$2,628,000 | \$3,271,837 | \$48,206,740 | \$5,356,000 |

Source: Morton County



### Future Forecasted Revenue Levels

Federal metropolitan transportation planning regulations require the MTP to include an estimate of future revenues that the MPO may reasonably expect to receive over the life of the plan. Based on the historic revenue levels and input from MPO staff, future revenue levels were forecasted to reasonably estimate the level of transportation revenues the MPO may receive through 2050.

### Baseline Revenue Levels for MPO Programs

Baseline revenue levels represent the basis for forecasting future revenue levels for the key MPO programs detailed in **Table 6**. Baseline revenue levels were developed based on the average annual revenue received for each program between 2017 and 2024, with several adjustments made for certain programs.

**Table 6** summarizes the baseline revenue levels for each MPO program.

#### Baseline Urban Roads Revenues

The baseline level used for forecasting future Urban Roads revenues was identified through the Obligation Authority allotment from NDDOT for the MPO region. The current allotment spans the years 2023–2028, and the allotments for the years 2025–2028 were used as the Urban Roads revenue level forecast for this time frame; using this approach, the Urban Roads baseline revenue level is \$5,339,971 as shown in **Table 6**. Urban Roads revenues for the year 2029 and beyond were then forecasted by applying the revenue growth rate discussed in the following section to the Obligation Authority allotment for the year 2028.

#### Baseline Urban Regional Roads Revenues

The baseline level used for forecasting future Urban Regional Roads revenues was \$6,129,356, as shown in **Table 6**.

Table 6: Estimated Baseline Annual Revenue Levels by MPO Program

| Program              | Baseline Revenue Level |
|----------------------|------------------------|
| Urban Roads          | \$5,339,971            |
| Urban Regional Roads | \$6,129,356            |
| Safety (State)       | \$1,540,000            |
| Safety (Urban)       | \$1,430,000            |
| TA                   | \$361,452              |
| Urban Grant          | \$580,000              |

Note: See page 12 for a description of the approach used for forecasting future funding levels.



### *Baseline Safety Revenues*

The baseline revenue level used for forecasting future safety revenues was identified by carrying forward the historic average annual revenue level shown in **Table 6**. It is noted that forecasted Safety funds were split into state and urban funds, which carries forward the approach used for the development of Arrive 2045. To split the funds between state and urban revenues, the same ratio used in Arrive 2045 was carried forward: 52 percent revenues being allocated to state Safety revenues and 48 percent to urban Safety revenues. The resulting baseline Safety revenues are \$1,540,00 for state funds and \$1,430,000 for urban funds, as shown in **Table 6**.

### *Baseline Transportation Alternatives Revenues*

The baseline revenue level used for forecasting future TA revenues was identified based on the Obligation Authority allotment for the year 2028, which is \$391,874. This allotment was then deflated to the base year 2025 using the revenue growth rate discussed in the following section. The resulting baseline revenue level used for forecasting TA funds was \$361,452, as shown in **Table 6**.

### *Baseline Urban Grant Revenues*

The baseline revenue level used for forecasting future Urban Grant revenues was identified by adjusting the historic annual average amount shown in **Table 6** to account for the percentage of the MPO's population in proportion to the total population of North Dakota living in the state's urban areas. The resulting baseline revenue level was \$580,000, as shown in **Table 6**. The Urban Grant forecasts also assume that the MPO receives Urban Grant funding every 4 years, beginning in 2025.

### **Baseline Revenue Levels for Local Programs**

Baseline revenue levels used to forecast local funds were developed based on the historic revenue levels discussed in the preceding section. The historic revenue level for each LPA funding program was averaged, and the average amount constituted the baseline

revenue level used to forecast funding through 2050. **Table 7** presents the baseline revenue level for each LPA's funding program.

### *City of Bismarck*

The baseline level used for forecasting future Special Assessments fund revenues for Bismarck used the average annual revenue level this program received between 2017 and 2024, which was \$15,141,000 as shown in **Table 7**. The baseline level used to forecast Sales Tax fund revenues used the same approach and resulted in a baseline revenue level of \$13,703,000, while the Special Deficiency fund baseline revenue level was identified as \$2,262,000. The Street Light Utility fund baseline revenue level used for forecasting this fund's revenues through 2050 was \$1,059,000.

### *City of Mandan*

The baseline revenue level used for forecasting Highway Distribution funds for Mandan carried forward the annual average historic funding level shown in **Table 3**, which was \$1,123,000 as shown in **Table 40** below. The Special Assessments fund baseline revenue level used to forecast revenues for this fund through 2050 was \$4,036,000, while the 1 Percent City Sales Tax fund baseline revenue was identified as \$3,192,000. A baseline revenue level of \$470,000 was identified for the city's Street Light Utility fund.



Table 7: Baseline Annual Revenues for the Cities of Bismarck and Mandan

| Program                              | Baseline Revenue Level |
|--------------------------------------|------------------------|
| <b>City of Bismarck</b>              |                        |
| <b>Special Assessments Fund</b>      | \$15,141,000           |
| <b>Sales Tax Fund</b>                | \$13,703,000           |
| <b>Special Deficiency Fund</b>       | \$2,262,000            |
| <b>Street Light Utility Fund</b>     | \$1,059,000            |
| <b>City of Mandan</b>                |                        |
| <b>Highway Distribution Fund</b>     | \$1,123,000            |
| <b>Special Assessments Fund</b>      | \$4,036,000            |
| <b>1 Percent City Sales Tax Fund</b> | \$3,192,000            |
| <b>Street Light Utility Fund</b>     | \$470,000              |



**Burleigh County**

The baseline level used for forecasting future County Road and Bridge fund revenues for Burleigh County was \$13,021,000, as shown in **Table 8**. The baseline level used to forecast Highway Distribution Tax fund revenues was \$6,962,000.

**Morton County**

The baseline level used for forecasting future County Road and Bridge fund revenues for Morton County was \$2,415,000, as shown in **Table 8**. The baseline level used to forecast Unorganized Road fund revenues was \$963,000, while the baseline revenue level for Morton County’s Highway Distribution Tax fund revenues was \$5,463,000.

Table 8: Baseline Annual Revenues for Burleigh and Morton Counties

| Program                              | Baseline Revenue Level |
|--------------------------------------|------------------------|
| <b>Burleigh County</b>               |                        |
| <b>County Road and Bridge Fund</b>   | \$13,021,000           |
| <b>Highway Distribution Tax</b>      | \$6,962,000            |
| <b>Morton County</b>                 |                        |
| <b>County Road and Bridge Fund</b>   | \$2,415,000            |
| <b>Unorganized Road Fund</b>         | \$963,000              |
| <b>Highway Distribution Tax Fund</b> | \$5,463,000            |

**Revenue Forecast Growth Rates**

The next step in forecasting future revenues for the MPO’s key funding programs was to identify annual growth rates to apply to the baseline revenue levels shown in **Table 8**. Guidance from NDDOT staff for forecasting future Urban Roads and TA funds was to use an annual growth rate between 2 and 4 percent; to ensure a reasonable expectation for future revenues, a more conservative

annual growth rate of 2 percent was selected for forecasting future revenues. This annual growth rate was then applied to all the MPO’s funding programs except the CRP and PROTECT programs, which were grown at a rate of 1.5 percent per year.

Forecasted future revenues for LPA funding programs also applied a 2 percent per year growth rate.

**Forecast Time Bands**

Future forecasted revenues were organized into time bands so that the future funds could reflect year of expenditure (YOE) values that inform the development of Arrive 2050’s fiscally constrained plan. The time bands identified were:

- **Current TIP:** 2025–2028
- **Short Term:** 2029–2033
- **Mid-Term:** 2034–2042
- **Long Term:** 2043–2050

**Future Revenue Forecasts for MPO Programs**

The resulting future revenue forecasts for the MPO’s key funding programs are summarized by time band in **Table 9**.

**Forecasted Urban Roads Revenues**

Applying the 2 percent annual growth rate to the baseline revenue level shown in **Table 9** resulted in a total forecasted revenue level of \$155.7 million in Urban Roads funding for the years 2029–2050. Forecasted short-term Urban Roads revenues amount to \$29.7 million, while forecasted mid-term revenues are \$61.4 million. Forecasted long-term Urban Roads revenues amount to \$64.6 million.

**Forecasted Urban Regional Roads Revenues**

The total forecasted revenue level for the Urban Regional Roads Program amounts to \$184.7 million for the years 2029–2050, as shown in **Table 9**. Forecasted short-term Urban Regional Roads



revenues equal \$35.2 million, while forecasted mid-term revenues are \$72.8 million. Forecasted long-term Urban Regional Roads revenues amount to \$76.6 million.

#### *Forecasted Safety Revenues*

The total forecasted revenue level for the state Safety program amounts to approximately \$46.4 million, while total forecasted urban Safety program revenue levels are \$43.1 million, as shown in **Table 9**. Forecasted short-term state Safety revenues equal \$8.8 million, and urban Safety revenues amount to \$8.2 million. Mid-term state Safety revenues equal a little more than \$18 million, and mid-term urban safety revenues equal \$17 million. State Safety revenues for the long term were forecasted to equal approximately \$19.3 million, while urban Safety revenues for the long term equal \$17.9 million.

#### *Forecasted TA Revenues*

The total forecasted revenue level for the TA Program amounts to approximately \$10.9 million for the years 2029–2050, as shown in **Table 9**. Forecasted short-term TA revenues equal \$2 million, while forecasted mid-term revenues are \$4.3 million. Forecasted long-term TA revenues amount to \$4.5 million.

#### *Forecasted Urban Grant Revenues*

The total forecasted revenue level for the Urban Grant Program amounts to approximately \$3.5 million for the years 2029–2050, as shown in **Table 9**. Given the assumption that the MPO will receive Urban Grant funds every 4 years, the resulting forecasts saw that the MPO would receive roughly \$1.2 million in the short-, mid-, and long-term periods.



Table 9: Forecasted Revenues by Time Band

| Program                     | Short Term (2029–2033) | Mid-Term (2034–2042) | Long Term (2043–2050) | Total                |
|-----------------------------|------------------------|----------------------|-----------------------|----------------------|
| <b>Urban Roads</b>          | \$29,683,000           | \$61,423,000         | \$64,605,000          | \$155,711,000        |
| <b>Urban Regional Roads</b> | \$35,217,322           | \$72,883,175         | \$76,640,026          | \$184,740,523        |
| <b>Safety (State)</b>       | \$8,847,000            | \$18,311,000         | \$19,260,000          | \$46,418,000         |
| <b>Safety (Urban)</b>       | \$8,219,000            | \$17,016,000         | \$17,897,000          | \$43,132,000         |
| <b>TA</b>                   | \$2,080,000            | \$4,303,000          | \$4,527,000           | \$10,910,000         |
| <b>Urban Grant</b>          | \$1,160,000            | \$1,160,000          | \$1,160,000           | \$3,480,000          |
| <b>Total</b>                | <b>\$85,206,322</b>    | <b>\$175,096,175</b> | <b>\$184,089,026</b>  | <b>\$444,391,523</b> |



### Future Revenue Forecasts for Local Programs

The resulting future revenue forecasts for local jurisdictions' key funding programs are summarized by time band in **Table 10** through **Table 13**.

#### *City of Bismarck*

Forecasted future revenues for Bismarck's local funding programs are summarized in **Table 10**. As **Table 10** shows, forecasted revenues for the city's Special Assessments fund total \$21,515,900 for the period 2029–2050; for the purpose of forecasting revenues for this program, an adjustment was made that took the retained 6 percent of total forecasted amounts of Special Assessments revenues for the Arrive 2050 horizon. This 6 percent factor was applied to discount total Special Assessments funds, and the factor was identified through an analysis of historic city budget documents that saw an average of 6 percent of total Special Assessments funding being transferred to Bismarck's Street Improvement Construction fund. The resulting short-term revenue levels from the application of this factor total \$4.4 million, while mid-term revenues were forecasted at \$11.2 million. Long-term Special Assessments revenues amount to \$13.4 million.

A similar approach was used in forecasting future Sales Tax fund revenues, which applied a discount rate of 3.8 percent based on historic allocations of Sales Tax funds to improving the city's roads and streets. Overall, future forecasted revenues amount to \$15.3 million, with \$2.3 million in short-term revenues, \$5.9 million in mid-term funds, and \$7 million in long-term funds.

Future forecasted Special Deficiency fund revenues equal \$66.8 million, with \$10.1 million in short-term revenues, \$25.6 million in mid-term revenues, and \$30.9 million in long-term revenues. Street Light Utility fund revenue forecasts equal \$31.3 million with \$4.7 million in short-term revenues, \$12.1 million in mid-term revenues, and \$14.5 million in long-term revenues.

#### *City of Mandan*

Future forecasted revenues for Mandan's transportation-related programs total roughly \$109.9 million through 2050, with a total of \$20.9 million in short-term revenues, \$43.3 million in mid-term revenues, and \$45.6 million in long-term revenues. Forecasted revenues for the Highway Distribution fund equal \$6.3 million in the short term, while mid-term revenues amount to \$13.1 million. Long-term revenues were forecasted at \$13.8 million. **Table 11** summarizes Mandan's future forecasted revenues.

Special Assessments fund revenues were adjusted using a similar approach to Bismarck's Special Assessments fund revenues in which a discount rate of 25 percent was applied to future revenues to reflect the historic allocation of these funds for transportation improvements. The resulting future revenue forecasts total \$29.8 million, with \$5.7 million in short-term revenues, \$11.8 million in mid-term revenues, and \$12.4 million in long-term revenues.

Mandan's future revenue forecasts for the 1 Percent City Sales Tax fund were also adjusted based on historic transfers of these funds to the city's General fund and for transportation improvements, which found that approximately 65 percent of 1 Percent City Sales Tax revenues were transferred to the General fund while roughly 35 percent were used for transportation-related improvements. The resulting future forecasts equal \$33 million between 2029 and 2050. Short-term 1 Percent City Sales Tax revenues amount to \$6.3 million, while mid-term revenues equaled \$13 million; long-term revenues were forecasted at \$13.7 million.

Future forecasted revenues for Mandan's Street Light Utility fund amount to \$13.9 million with \$2.6 million in short-term revenues, \$5.5 million in mid-term revenues, and \$5.8 million in long-term revenues.



### *Burleigh County*

Total future forecasted revenues for Burleigh County equaled \$590.5 million. Total short-term forecasted revenues amount to \$89.2 million, while mid-term revenues were forecasted at \$228.4 million. Long-term revenues amount to \$272.9 million.

**Table 12** summarizes forecasted future revenues for Burleigh County's funding programs.

Forecasted future revenues for the County Road and Bridge fund equal \$384.7 million for the years 2029–2050. Short-term County and Road Bridge fund revenue forecasts equal \$58.1 million, mid-term forecasted revenues equal \$148.8 million, and long-term revenues amount to \$177.8 million.

Total forecasted future revenues for Burleigh County's Highway Distribution Tax fund forecasts equal \$205.7 million; short-term revenues were forecasted to \$31.1 million, while mid-term revenues are anticipated to equal \$79.6 million. Long-term revenues amount to just over \$95 million.

### *Morton County*

Total future forecasted revenues for Morton County equaled \$261.2 million. Total short-term forecasted revenues amount to a little less than \$50 million, while mid-term revenues were forecasted to \$103 million. Long-term revenues amount to \$108.3 million. **Table 13** summarizes forecasted future revenues for Morton County's funding programs.

Forecasted future revenues for the County Road and Bridge fund equal \$71.3 million for the years 2029–2050. Short-term County Road and Bridge fund revenue forecasts equal \$13.6 million, mid-term forecasted revenues equal \$28.1 million, and long-term revenues amount to \$29.6 million.

Forecasted future revenues for the Unorganized Road fund total \$28.4 million for the years 2029–2050. Short-term Unorganized

Road fund revenues equal \$5.4 million, while mid-term revenues amount to \$11.2 million. Long-term Unorganized Road fund revenues were forecasted to a little less than \$11.8 million.

The Highway Distribution Tax fund is anticipated to provide the largest proportion of future revenues for Morton County. Overall revenue forecasts equal \$161.4 million; short-term revenues were forecasted at \$30.8 million, while mid-term revenues are anticipated to equal \$63.7 million. Long-term revenues amount to a little less than \$67 million.



Table 10: City of Bismarck

| Program                          | Short Term (2029–2033) | Mid-Term (2034–2042) | Long Term (2043–2050) | Total                |
|----------------------------------|------------------------|----------------------|-----------------------|----------------------|
| <b>Special Assessments Fund</b>  | \$4,385,000            | \$11,234,000         | \$13,426,000          | \$29,045,000         |
| <b>Sales Tax Fund</b>            | \$2,315,000            | \$5,930,000          | \$7,087,000           | \$15,332,000         |
| <b>Special Deficiency Fund</b>   | \$10,091,300           | \$25,851,500         | \$30,894,300          | \$66,837,100         |
| <b>Street Light Utility Fund</b> | \$4,724,600            | \$12,103,100         | \$14,465,200          | \$31,292,900         |
| <b>Total</b>                     | <b>\$21,515,900</b>    | <b>\$55,118,600</b>  | <b>\$65,872,500</b>   | <b>\$142,507,000</b> |

Table 11: City of Mandan

| Program                              | Short Term (2029–2033) | Mid-Term (2034–2042) | Long Term (2043–2050) | Total                |
|--------------------------------------|------------------------|----------------------|-----------------------|----------------------|
| <b>Highway Distribution Fund</b>     | \$6,322,000            | \$13,079,000         | \$13,750,000          | \$33,151,000         |
| <b>Special Assessments Fund</b>      | \$5,683,750            | \$11,760,750         | \$12,366,000          | \$29,810,500         |
| <b>1 Percent City Sales Tax Fund</b> | \$6,292,000            | \$13,022,000         | \$13,694,000          | \$33,008,000         |
| <b>Street Light Utility Fund</b>     | \$2,648,000            | \$5,478,000          | \$5,759,000           | \$13,885,000         |
| <b>Total</b>                         | <b>\$20,945,750</b>    | <b>\$43,339,750</b>  | <b>\$45,569,000</b>   | <b>\$109,854,500</b> |



Table 12: Burleigh County

| Program                              | Short Term (2029–2033) | Mid-Term (2034–2042) | Long Term (2043–2050) | Total                |
|--------------------------------------|------------------------|----------------------|-----------------------|----------------------|
| <b>County Road and Bridge Fund</b>   | \$58,091,000           | \$148,812,000        | \$177,842,000         | \$384,745,000        |
| <b>Highway Distribution Tax Fund</b> | \$31,062,000           | \$79,576,000         | \$95,100,000          | \$205,738,000        |
| <b>Total</b>                         | <b>\$89,153,000</b>    | <b>\$228,388,000</b> | <b>\$272,942,000</b>  | <b>\$590,483,000</b> |

Table 13: Morton County

| Program                              | Short Term (2029–2033) | Mid-Term (2034–2042) | Long Term (2043–2050) | Total                |
|--------------------------------------|------------------------|----------------------|-----------------------|----------------------|
| <b>County Road and Bridge Fund</b>   | \$13,595,000           | \$28,134,000         | \$29,586,000          | \$71,315,000         |
| <b>Unorganized Road Fund</b>         | \$5,423,000            | \$11,221,000         | \$11,791,000          | \$28,435,000         |
| <b>Highway Distribution Tax Fund</b> | \$30,772,000           | \$63,691,000         | \$66,971,000          | \$161,434,000        |
| <b>Total</b>                         | <b>\$49,790,000</b>    | <b>\$103,046,000</b> | <b>\$108,348,000</b>  | <b>\$261,184,000</b> |



### Operations and Maintenance Funding

Operations and maintenance (O&M) costs represent a significant financial obligation for the MPO’s partner agencies in the region because they are required to continually invest in the preservation of existing transportation assets. Activities funding through O&M includes winter maintenance, street sweeping, street maintenance, and labor costs associated with the administration and engineering of these activities.<sup>10</sup> Agencies in the region that are responsible for programming O&M funds include Bismarck, Mandan, Burleigh County, Morton County, and NDDOT.

### Sources of O&M Funds

Several sources provide O&M funds for the agencies in the MPO area; they are summarized in **Table 14**.

Table 14: Sources of Operations and Maintenance Funds by Agency

| Agency           | Funding Sources  |
|------------------|--|
| City of Bismarck | Intergovernmental Revenues, Charges for Services, Other Income, General Fund, Sales Tax, SW Disposal, Sales of Assets/Expenses, Snow Gates, Forestry |
| City of Mandan   | Highway Distribution Tax   |
| Burleigh County  | Highway Gas Tax, Mill Levy   |
| Morton County    | Mill Levies, State and Federal Funding, Gas Tax  |

Source: Bismarck-Mandan MPO, [FY2024 – 2027 Transportation Improvement Program](#)

### Historic O&M Funding

Historic O&M funds, including revenues and expenditures, for the MPO region were analyzed to understand the funding trends experienced by each agency during the years 2017–2024.

### Historic O&M Revenues

O&M revenues received by NDDOT, Bismarck, and Mandan, as well as Burleigh and Morton Counties, for the years 2017–2024 are shown in **Table 15**.

O&M revenues for NDDOT saw an overall decline between 2017 and 2024, with revenues averaging roughly \$2.5 million per year. Bismarck’s O&M revenues during this period fluctuated from a high of \$11.9 million in 2022 and a low of \$2 million in 2019, which resulted in an average annual O&M revenue level of approximately \$6.1 million. Burleigh County O&M revenues saw a large decline from 2017 through 2024, averaging nearly \$2.7 million during this period. Mandan’s O&M revenues increased annually from \$362,157 in 2017 to \$1.7 million in 2024 while averaging \$1.3 million annually. Morton County O&M revenues displayed a similar trend to Bismarck’s, experiencing substantial fluctuations on an annual basis while averaging almost \$3.4 million per year between 2017 and 2024.

### Historic O&M Expenditures

O&M expenditures for NDDOT, Bismarck, and Mandan, as well as Burleigh and Morton Counties, incurred in the years 2017–2024 are shown in **Table 16** and are shown to match the historic O&M revenues shown in **Table 15**. Given the match of historic O&M revenues with historic O&M expenditures, it is assumed that NDDOT and the LPAs in the MPO region program their O&M expenditures to match the estimated amounts of revenue available on an annual basis.

<sup>10</sup> Bismarck-Mandan MPO, [FY2024–2027 Transportation Improvement Program](#)



Table 15: Historic Operations and Maintenance Revenues, 2017–2024

| Year           | NDDOT               | City of Bismarck    | Burleigh County     | City of Mandan     | Morton County       |
|----------------|---------------------|---------------------|---------------------|--------------------|---------------------|
| 2017           | \$2,697,468         | \$3,858,070         | \$7,252,597         | \$362,157          | \$8,343,000         |
| 2019           | \$2,386,172         | \$2,029,973         | \$989,387           | \$373,022          | \$25,000            |
| 2020           | \$2,481,619         | \$7,070,730         | \$5,263,609         | \$1,755,062        | \$753,464           |
| 2021           | \$2,481,619         | \$5,690,839         | \$1,186,766         | \$1,846,064        | \$671,350           |
| 2022           | \$2,386,172         | \$11,851,004        | \$1,106,909         | \$1,604,600        | \$6,640,771         |
| 2023           | \$2,386,172         | \$9,382,181         | \$1,395,000         | \$1,598,844        | \$6,450,000         |
| 2024           | \$2,386,172         | \$2,605,000         | \$1,508,832         | \$1,707,588        | \$816,000           |
| <b>Total</b>   | <b>\$17,205,394</b> | <b>\$42,487,797</b> | <b>\$18,703,100</b> | <b>\$9,247,337</b> | <b>\$23,699,585</b> |
| <b>Average</b> | <b>\$2,457,913</b>  | <b>\$6,069,685</b>  | <b>\$2,671,871</b>  | <b>\$1,321,048</b> | <b>\$3,385,655</b>  |

Source: Bismarck-Mandan MPO, FY2017–FY 2024 Transportation Improvement Programs

Table 16: Historic Operations and Maintenance Expenditures, 2017–2024

| Year           | NDDOT               | City of Bismarck    | Burleigh County     | City of Mandan     | Morton County       |
|----------------|---------------------|---------------------|---------------------|--------------------|---------------------|
| 2017           | \$2,697,468         | \$3,858,070         | \$7,252,597         | \$362,157          | \$8,343,000         |
| 2019           | \$2,386,172         | \$2,029,973         | \$989,387           | \$373,022          | \$25,000            |
| 2020           | \$2,481,619         | \$7,070,730         | \$5,263,609         | \$1,755,062        | \$753,464           |
| 2021           | \$2,481,619         | \$5,690,839         | \$1,186,766         | \$1,846,064        | \$671,350           |
| 2022           | \$2,386,172         | \$11,851,004        | \$1,106,909         | \$1,604,600        | \$6,640,771         |
| 2023           | \$2,386,172         | \$9,382,181         | \$1,395,000         | \$1,598,844        | \$6,450,000         |
| 2024           | \$2,386,172         | \$2,605,000         | \$1,508,832         | \$1,707,588        | \$816,000           |
| <b>Total</b>   | <b>\$17,205,394</b> | <b>\$42,487,797</b> | <b>\$18,703,100</b> | <b>\$9,247,337</b> | <b>\$23,699,585</b> |
| <b>Average</b> | <b>\$2,457,913</b>  | <b>\$6,069,685</b>  | <b>\$2,671,871</b>  | <b>\$1,321,048</b> | <b>\$3,385,655</b>  |

Source: Bismarck-Mandan MPO, FY2017–FY 2024 Transportation Improvement Programs



## Forecasted O&M Funding

Future O&M revenues for NDDOT, Bismarck, and Mandan, as well as Burleigh and Morton Counties, were forecasted based on the historic O&M funding levels shown in the MPO's TIPs for the years 2017–2024.

### O&M Funding Forecast Growth Rate

The growth rate used to forecast future O&M funding levels utilizes the same 4 percent annual growth rate that was identified in the 2024–2027 TIP published by the MPO to estimate anticipated O&M revenues and expenditures for the years 2025–2027.

The future forecasted O&M funding levels were organized into the same time bands identified for future forecasted funding levels for the MPOs programs as shown in the **Future Forecasted Revenue Levels** section.

### Forecasted O&M Revenues

Forecasted O&M revenues for NDDOT and the MPO's LPAs are shown in **Table 17**. Based on the 4 percent annual growth rate assumed for future O&M revenues, NDDOT is anticipated to receive a total of \$102.2 million in O&M revenues between the years 2028 and 2050, with approximately \$15.1 million received in the short-term period, \$36 million in the mid-term, and \$51.1 million in the long term. Bismarck's future O&M revenues were forecasted to equal approximately \$111.6 million through the life of Arrive 2050, with \$16.5 million in O&M revenues in the short term, \$39.2 million in the mid-term, and \$55.8 million in the long term. Burleigh County is expected to receive \$64.6 million in O&M revenues, with \$9.6 million forecasted for the short term, \$22.7 million in the mid-term, and \$32.3 million in the long term. Mandan's O&M revenue forecasts amount to \$73.1 million through 2050, with a total of \$10.8 million in short-term O&M revenues, \$25.7 million in the mid-term, and \$36.6 million in the long term.

Morton County is anticipated to receive a total of roughly \$35 million in future O&M revenues, with \$5.1 million expected in the short term, \$12.3 million in the mid-term, and \$17.5 million in the long term.

The overall amount of future O&M revenues for the MPO area was forecasted to amount to \$386.5 million between 2028 and 2050. Short-term O&M revenues equate to \$57.2 million, while mid-term O&M revenues were forecasted to equal \$135.9 million, and long-term O&M revenues are expected to equal \$193.4 million.

### Forecasted O&M Expenditures

Forecasted O&M expenditures for NDDOT and the MPO's LPAs are shown in **Table 18**. It was assumed that O&M expenditures would follow the same trend observed for historic O&M expenditures in which total expenditures match total forecasted O&M revenues. As such, the future forecasted O&M expenditures match the amounts shown in **Table 18** for NDDOT's and each LPA's future forecasted O&M revenues.

Table 17: Forecasted Operations and Maintenance Revenues

| Time Band                     | NDDOT         | City of Bismarck | Burleigh County | City of Mandan | Morton County | Total         |
|-------------------------------|---------------|------------------|-----------------|----------------|---------------|---------------|
| <b>Short Term (2028–2032)</b> | \$15,119,000  | \$16,505,000     | \$9,559,000     | \$10,821,000   | \$5,172,000   | \$57,176,000  |
| <b>Mid-Term (2033–2041)</b>   | \$35,949,000  | \$39,232,000     | \$22,720,000    | \$25,712,000   | \$12,285,000  | \$135,898,000 |
| <b>Long Term (2042–2050)</b>  | \$51,163,000  | \$55,829,000     | \$32,336,000    | \$36,598,000   | \$17,478,000  | \$193,404,000 |
| <b>Total</b>                  | \$102,231,000 | \$111,566,000    | \$64,615,000    | \$73,131,000   | \$34,935,000  | \$386,478,000 |

Table 18: Forecasted Operations and Maintenance Expenditures

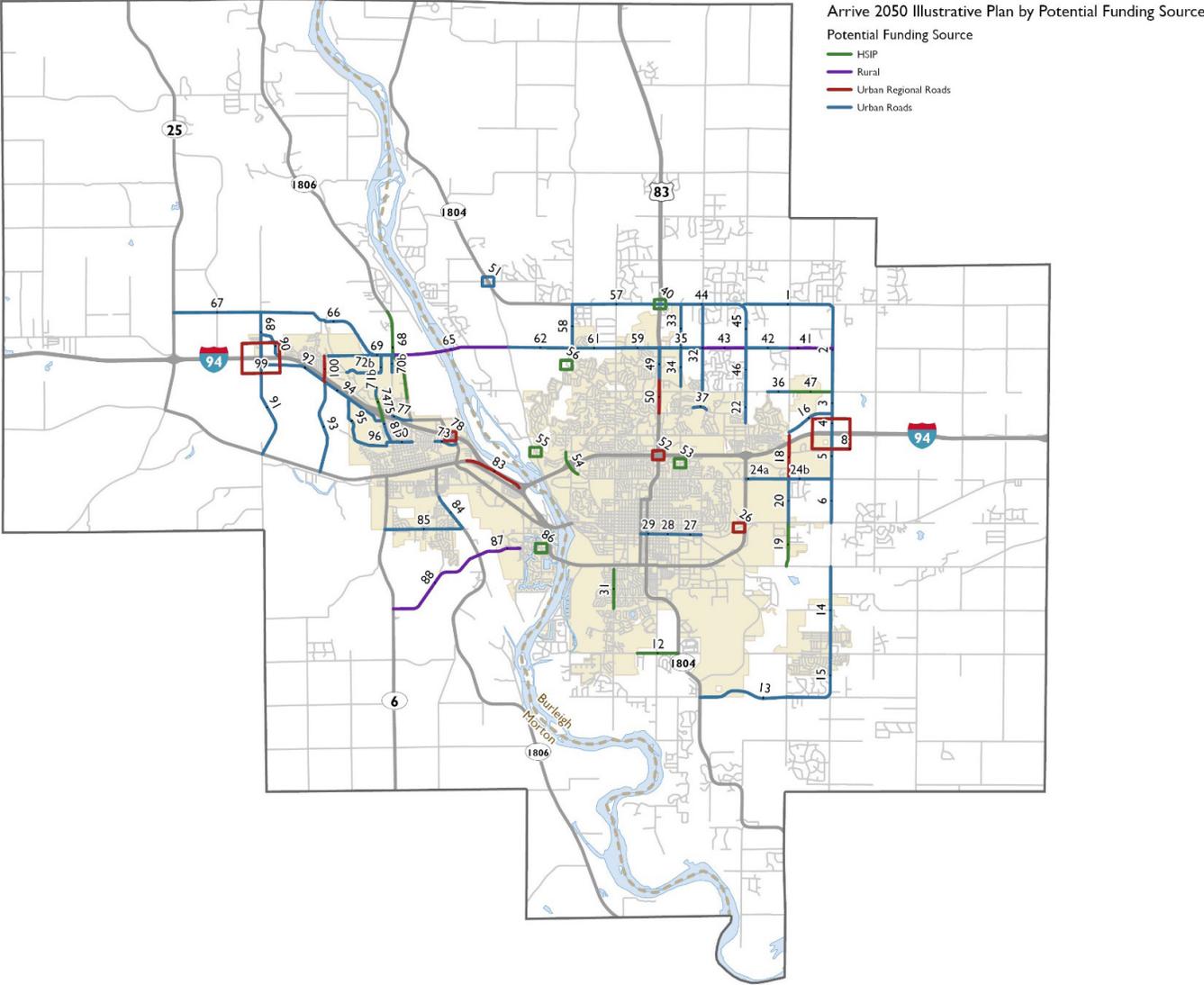
| Time Band                     | NDDOT         | City of Bismarck | Burleigh County | City of Mandan | Morton County | Total         |
|-------------------------------|---------------|------------------|-----------------|----------------|---------------|---------------|
| <b>Short Term (2028–2032)</b> | \$15,119,000  | \$16,505,000     | \$9,559,000     | \$10,821,000   | \$5,172,000   | \$57,176,000  |
| <b>Mid-Term (2033–2041)</b>   | \$35,949,000  | \$39,232,000     | \$22,720,000    | \$25,712,000   | \$12,285,000  | \$135,898,000 |
| <b>Long Term (2042–2050)</b>  | \$51,163,000  | \$55,829,000     | \$32,336,000    | \$36,598,000   | \$17,478,000  | \$193,404,000 |
| <b>Total</b>                  | \$102,231,000 | \$111,566,000    | \$64,615,000    | \$73,131,000   | \$34,935,000  | \$386,478,000 |



## APPENDIX F: REGIONAL ILLUSTRATIVE PROJECT LIST



Figure 58: Illustrative Project List





## APPENDIX G: TRENDS AND DRIVERS

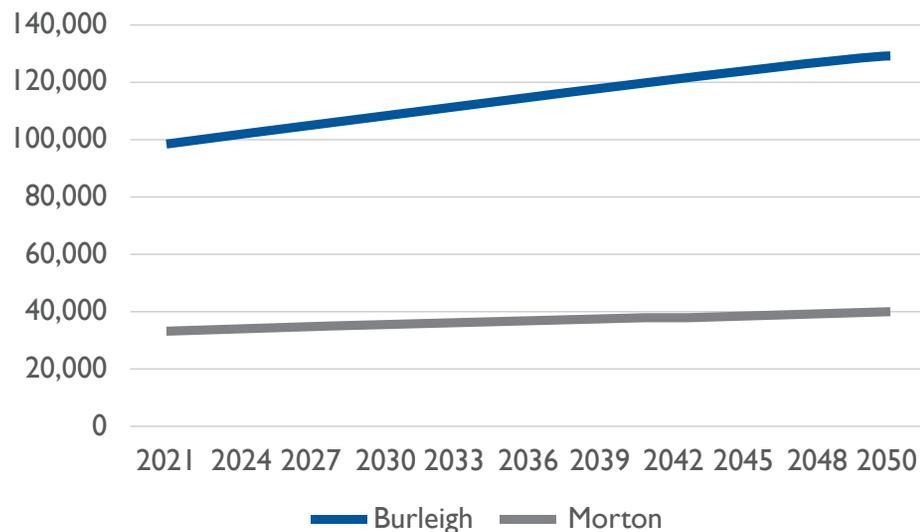
### Bismarck-Mandan Socioeconomic Trends

#### Population Growth

Population growth for the Bismarck-Mandan region was calculated based on current population levels and forecasted 2050 population levels, which took birth, death, and migration rates into account.

As shown in **Figure 59**, the population for both Burleigh and Morton Counties is expected to steadily increase through 2050.

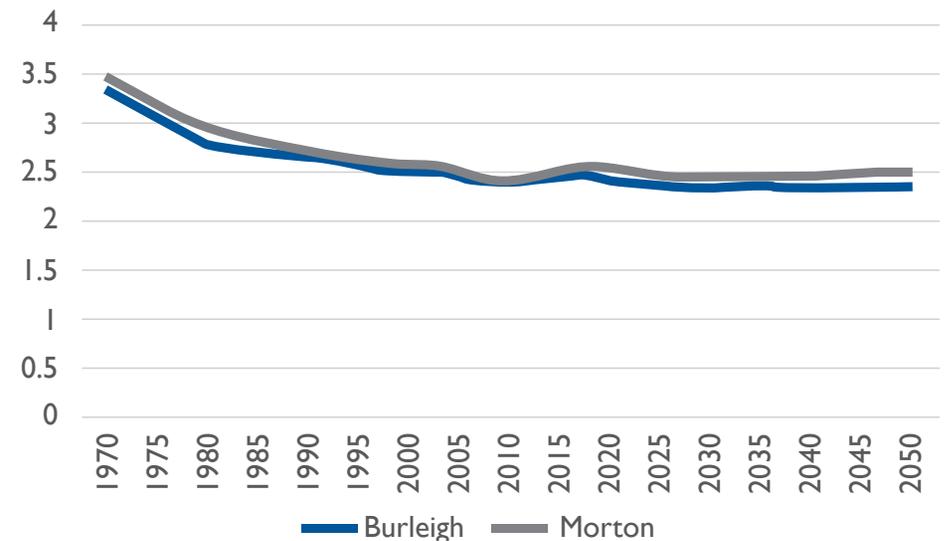
**Figure 59: Woods & Poole Population Projections, 2021–2050**



#### Household Growth

Population through 2050 was allocated to households based on average household size and was developed through analyzing factors such as housing type and age of structure. Average household size experienced a decline in the late twentieth century but stabilized around 2015. Average household size is expected to experience a minor decrease and then remain mostly stable through 2050, as shown in **Figure 60**.

**Figure 60: Woods & Poole Household Size Projections, 1970–2050**

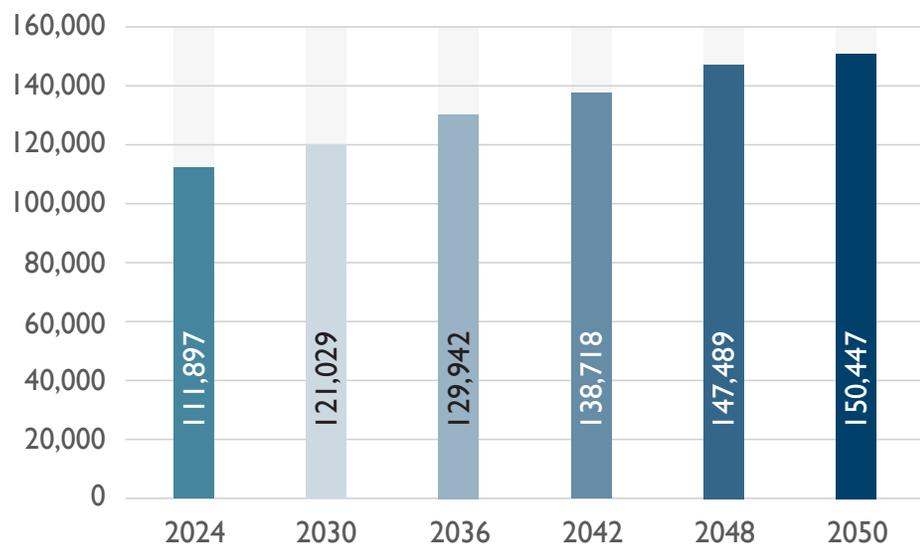




## Employment Growth

Employment is expected to grow by 1.1 percent per year through 2050, producing roughly 38,500 jobs, for a total of an estimated 150,447 jobs. This is a slightly lower forecast than the previous forecast, of 1.8 percent annual growth in employment. The sector projected to see the most growth is health care and social assistance, followed by retail trade. Overall, employment is expected to steadily increase through 2050, as **Figure 61** indicates.

**Figure 61: Current and Projected Employment, 2024–2050**



Source: Woods & Poole

## Changing Travel Patterns

Since the COVID-19 pandemic in 2020, telework and hybrid work models have created a significant shift in residential and commuting patterns. Due to more flexible work schedules, transportation demand during usual commuting hours has decreased and, in some instances, has shifted to other times of the day. Not only has the commuting landscape changed, but other transportation methods have become increasingly popular, such as rideshare and micromobility.

## ARRIVE 2050

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Out of the employed residents in Bismarck-Mandan in 2019, 3.9 percent worked from home, according to American Community Survey data. In 2022, a post-COVID year, residents who worked from home increased to 6.9 percent, demonstrating the significant shift in typical commuting patterns.

Additionally, an increasing reliance on internet connectivity for telework has seen greater demand for internet access and greater use of internet-connected mobile devices and mobile applications that allow for micromobility options, such as scooter share and bikeshare. Currently, BisParks BCycle is available as a bikeshare option in Bismarck, and Bird is an option for scooter share.

## Technology

Almost 25 years into the twenty-first century, technology looks drastically different from technology at the beginning of the century. It is difficult to predict how technology will evolve over the next 25 years and how it will influence transportation. In recent decades, most progress has been made in connectivity, data analytics, digitization, and the emergence of artificial intelligence.

The adaptation of technology is occurring at a fast pace as well, which can be seen through the rapid adoption of EVs, autonomous and connected vehicles, and the use of ITS. With the assistance of new information from ITS, transportation agencies can better leverage the changing pace of how people and goods travel.

## ITS

ITS allows communication between vehicles and nearby infrastructure. The use of loop detectors, cameras, and fiber optic interconnect can improve the efficiency, safety, and reliability of the transportation network. The Bismarck-Mandan MPO maintains a regional ITS architecture to coordinate funding and operations of ITS in the region. The architecture was updated in 2021 and will be updated again 2025. The ITS architecture is a useful local tool to identify areas where new technology could be implemented to improve safety and travel reliability and reduce congestion.



## How Technology Will Impact Travel

Automotive travel became popular in the early twentieth century with the emergence of personal automobiles and led to land use policies that encouraged the use of automobiles over other modes. The development of the Bismarck-Mandan region reflected these policies, which has resulted in low modal shares of walking, biking, and transit. However, the emergence of new technologies could change the landscape for how people choose to travel and create more sustainable methods of travel. The use of big data, which are large and complex datasets such as anonymized location-based service data, and cell phones to navigate and find transportation has already brought substantial change to how people travel today versus 25 years ago.

While there are many ways technology could evolve and influence travel between today and 2050, the main changes anticipated are discussed in the following sections.

### Increased Electric Vehicles on the Road

In 2023, 1 in 10 cars sold in the United States was an EV, and EV registrations increased more than 40 percent compared to 2022.<sup>20</sup> As the trend toward electrifying automobiles continues, other modes are beginning to see electrified fleets, such as buses, bikes, and freight vehicles.

### Automatic and Connected Vehicles

Policies for autonomous vehicles (AVs) and connected vehicles (CVs) have evolved quickly in recent years as additional research and implementation of these technologies continues. Most new vehicles on the market today come equipped with lane detection and precollision braking to increase vehicle safety. However, these vehicles rely on infrastructure on roadways, such as visible lane markings and ITS infrastructure, to be effective. Although many agencies are preparing to adopt AVs and CVs, the associated externalities, such as reduced employment demand for freight operators and taxi drivers, are still not known. Job growth could ensue because of greater implementation of AVs and CVs in vehicle fleets through vehicle operator positions and other support jobs.

20 International Energy Agency, Trends in Electric Cars,  
<https://www.iea.org/reports/global-ev-outlook-2024/trends-in-electric-cars>

## ARRIVE 2050

North Dakota, like many other states, is exploring regulatory changes to integrate AVs and CVs throughout the state. These policies and regulations are supported, although additional research on data use and ownership, insurance, registration, and licensing laws is needed.

### Shared Vehicles

Ridesharing services have taken off in recent years and are now seeing daily use across the country, with some users relying on these services for their daily commute. Just as rapidly as ridesharing and other micromobility services emerged, new forms of personalized transportation services can take shape. Some newer forms of these services are still under development, such as automated shuttles, microtransit, advanced air mobility, and the use of drones. However, trends and investment toward high-speed rail and other mass transit could surpass the use of personalized rideshare or micromobility services.

### More Transportation Choices

As autonomous, connected, electric, and shared vehicles become increasingly popular, transportation choices will become more diverse. Additionally, more forms of not only moving people but goods are emerging, such as the use of robots or drones for delivery methods.

### Other Emerging Trends and Technologies

There are other external factors beginning to impact transportation that may have a lasting effect. Artificial intelligence (AI) has begun to take root in everyday life, ever since the public release of generative AI tools and the use of machine learning across various state departments of transportation. AI has been used for transportation purposes, such as intelligent traffic management and improving system performance.

Additionally, due to the flexibility of work schedules in a post-pandemic economy, technology has begun to replace trips. Workers are increasingly opting out of in-person meetings to hold them virtually to avoid travel and save costs. As mentioned previously, a significant decrease in commuting-to-work trips can be seen, as many workers continue to work remotely from their homes.



The use of AI and the increasing reliance on technology for telework demonstrate the widespread use of technology today and how dependence on technology will only increase in the future. It is difficult to anticipate exactly what new technologies may influence travel in the future, but it can be expected that the use of technology will not go away.

### Climate Change

More frequent and severe weather events across the globe have been attributed to a warmer climate, which will continue to worsen with increasing levels of carbon dioxide in the atmosphere. Since 1990, the Federal Emergency Management Agency has declared 47 weather-related disasters in North Dakota. Most of these disasters include flooding, severe storms, and severe winter storms, all of which have a large impact on transportation infrastructure.

Transportation agencies are facing increasing pressure to address resiliency in their networks, especially considering an increase in flooding events and extreme temperatures every year. The transportation sector is the largest contributor of greenhouse gas emissions in the United States, making up about 28 percent of total emissions.<sup>21</sup> These emissions are continuing to worsen the climate change issue, and the dependence on personal automobile travel is exacerbating the effects of climate change. Transportation agencies across the country are supporting reductions in greenhouse gas emissions by increasing accessibility to alternative transportation modes, such as buses and micromobility options, and supporting bicycle and pedestrian infrastructure.

### Safety Trends

In the past decade, there has been a national effort toward improving safety on roads. The USDOT has adopted a Safe System Approach to provide a holistic guide for transportation agencies to help prevent crashes and minimize the harm of crashes that do occur. Many cities are adopting “vision zero” plans to aim for zero traffic deaths by a certain target date.

Additionally, with increased distracted driving and high speeds, serious injury and fatality crashes are more likely to happen. Many transportation agencies are adopting a Safe System Approach to make travel safer and to abide by federal

21 U.S. Environmental Protection Agency, [Carbon Pollution from Transportation](#)

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performance measures. These safety measures apply to all road users, including bicyclists and pedestrians.

### State and Federal Policy Funding

The federal government has made strong commitments to investing in transportation and improving infrastructure through IIJA, which was signed into law in 2021. The IIJA includes investment for improving roads, bridges, and rails, including the largest federal investment in passenger rail since Amtrak was created. These projects have a focus on resiliency, equity, and safety, as well as reducing greenhouse gas emissions.

North Dakota can expect to receive \$1.9 billion over 5 years in federal highway formula funding for highways and bridges. An additional \$13 billion will be invested in roadway safety across the state. IIJA has a large focus on providing funding specifically to promote equity and environmental justice across the nation. The funding provided for repairing and rebuilding infrastructure is geared toward equity and environmental justice by focusing on populations who have historically faced the disproportionate impacts of climate change. For example, North Dakota will receive an estimated \$110 million over 5 years to provide more sustainable transportation options for North Dakotans and facilitate travel for all.

### Funding Sources

Changes in federal and state policies could impact the priorities and investments of Bismarck-Mandan in future years. Federal transportation legislation in recent years has required state departments of transportation and MPOs to track performance metrics and reach goals set forth in their planning documents. MPOs must also start addressing resiliency, travel and tourism, and housing in their transportation plans and studies. Adherence to these guidelines and future changes could affect federal funding that MPOs receive.

### Gas Tax and Motor Fuel Taxes

As vehicles become more fuel efficient, federal and state motor vehicle tax revenues have started to plateau and may decrease, which could lead to a shortage of funds in the Federal Highway Trust Fund. Transportation agencies



may have to rely on other funding sources, such as a VMT fee, or may have to begin relying on discretionary grant programs. Improved fuel efficiency and the increasing use of EVs and alternative fuels may drastically reduce funding sources for MPOs, which may lead to a shift in federal or state revenues and could cause a change in funding policies.

### Summary of Trends and Technologies

Changes in travel patterns and increasing reliance on technology to support transportation have led to increased choices and mobility for people and goods. The main trends and technology changes affecting transportation include the following:

- **More** automatic, connected, electric, and shared vehicles,
- **Investments** toward carbon reduction in transportation,
- **Increased focus** on safety and reducing injuries and fatalities,
- **Additional funding** opportunities to promote resilient and sustainable transportation.

To accommodate changing travel needs and choice of transportation mode, local jurisdictions may have to consider how to adopt some of the trends mentioned above into the local transportation network.



# Appendix H: MTP Amendments

**AMENDMENT #1 (Amend1)**  
to  
**ARRIVE 2050, 2025-2050 METROPOLITAN TRANSPORTATION PLAN (MTP)**  
  
**BISMARCK-MANDAN METROPOLITAN PLANNING ORGANIZATION**

**AMENDMENT TITLE:** Urban Regional Roads Program, PEA References, and Miscellaneous

**PURPOSE:** Provide revised information regarding the Urban Regional Road Program funds and address numerous miscellaneous changes throughout the document to provide accuracy or clarification of information.

**DESCRIPTION:** Urban Regional Roads Program funding information is revised through changes to text and tables; Planning Emphasis Areas text and table is removed; and additional numerous items are revised or modified for purposes of clarity or accuracy, as detailed below.

- Revisions to text and tables regarding the Urban Regional Roads funding program to address concerns expressed by North Dakota Department of Transportation (NDDOT) regarding inclusion of funding of the Memorial Highway Reconstruction project in historical funding calculations. These funding amounts are reduced and addressed in the revision of text on page 79 and in Table 22 (now Table 21) on page 80. **SEE ATTACHMENT 1**
- Table 27 (now Table 26) on page 84 includes the revised Urban Regional Roads baseline funding levels. **SEE ATTACHMENT 2**
- Revisions related to eliminating the Memorial Highway Reconstruction project funding are also evident through changes made in Appendix E to text regarding Urban Regional Road Revenues on page E-3; Table 1 on page E-7; text indicating the reduced amount of \$184.7M on page E-14; and to Table 9 on page E-16 which indicates forecasted revenues by time band. **SEE ATTACHMENT 3**
- Page 111 includes addition of new text to address NDDOT concerns that the MTP should include reference to investment priorities which may be potentially funded through the Urban Regional Roads Program to eliminate the need for future amendment into the MTP in the event a new project in one of these priority areas is identified. The priority areas as recommended by NDDOT are: Preventative Maintenance / Major rehabilitation / Minor Rehabilitation / Structural Improvement / Safety Improvements / Bicycle and pedestrian improvements. **SEE ATTACHMENT 4**

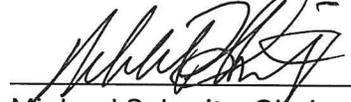
- References to Planning Emphasis Areas were removed in response to Executive Order 14148, including text references on pages 5-6 and Table 2 on page 6. This edit alters all remaining page and table numbers, which are also updated through the document.
- New text to explain the significance of the Urbanized Area (UZA) to funding revised as a new page. **SEE ATTACHMENT 5**
- Plan Cover – originally indicated December 2024, the month and year of Plan adoption. Should this amendment be approved, the Cover will reflect Adoption Date December 2024 and Amended Date.
- Map Revisions
  - Figure 1: Bismarck-Mandan MPO Area map revised to clearly depict the Urbanized Area Boundary and a key to identify it.
  - Figure 12:
    - National Highway System (NHS) map removed small segment in Lincoln incorrectly identifying a portion of roadway on the NHS. The segment is removed from all subsequent maps in the document. **SEE ATTACHMENT 6**
    - NHS map – Designation of 7<sup>th</sup> Street and 9<sup>th</sup> Street in Bismarck and Memorial Highway in Mandan is indicated as “Other Principal Arterials” and color now correctly identifies each as such in the key and on the map. **SEE ATTACHMENT 7**
  - Figure 40: Arrive 2050 Alternatives Map – new text below map reads: “\*Numbers associated with each Alternative represent the project ID. Additional information on each Alternative is found in Appendix D and can be found using each segments ID.”
  - Figure 61: Cultural Resources Map revised as follows:
    - Added labels for each of the historic districts.
    - Added “National Register of Historic Places Listings” to the legend.
    - Highland Acres Historic District Amendment 1- McArthur subdivision—to avoid the boundaries of the Highland Acres Historic District and Amendment 1 district appearing to blend together, the Amendment 1 district polygon is moved away to provide distinguishable space and to demonstrate the exact areas covered by each district.
    - The Mandan Commercial Historic District boundary was redrawn.
    - Revised text of the appendix after the in-text reference to the Cultural Resources map figure: “It is noted that this is not an exhaustive listing of all cultural resources in the region.” **SEE ATTACHMENT 8**
- Miscellaneous text or table revisions to provide accuracy or clarity:
  - Page 3 TIP banner, Line 2 – add text “whether or not” before “using federal transportation funding sources.”
  - Page 57 – Pavement Condition narrative text added: “Further details on the MPO’s pavement conditions are available in Appendix C.”

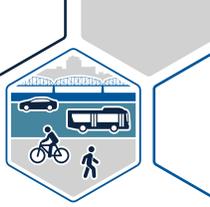
- Page 76 and page E-2 National Highway Performance Program – text update provides clarity: “The National Highway Performance Program (NHPP) provide funding for projects that support the condition and performance of the state’s Interstate NHS and non-Interstate NHS routes”.
- Page 76 and page E-3 Urban Road Program and Safety Program multiple text updates **SEE ATTACHMENT 9**
- Page 77 and page E-4 Recent Federal Funding Programs added text “In the MPO region, several formula funding programs authorized through IIJA are incorporated into existing programs such as the Urban Roads Program.”
- Page 79 Table 22 Historic MPO Funding Revenues and Table 1 page E-7 – added footnote “\*The MPO did not publish a TIP in 2018, so these values represent funds programmed in 2018 that were provided in the 2017 TIP publication.”
- Page 88 Table 33 Committed Projects – South Washington Street widening is 2024 advance construction – revised construction year to 2024 moved to top of table and assigned ID of 1.
- Page B-5 added example of engagement of governmental/non-governmental agencies and response **SEE ATTACHMENT 10**
- Page C-45 – corrected text in 2 places to indicate ND 6 rather than US 6.
- Page C-70 and C-71 Pavement Conditions text and Table 20 & Table 21 – new text to indicate ranges for each IRI category.
- Page C-83 – Table 25 is a partial list of parks; new text above table states: “This table is not an exhaustive list of grant funded parks.”
- Page G-1 – Figure 59 Population Growth and Figure 60 Household Growth graphs now have blue and gray lines to better differentiate the colors.

The overall financially constrained nature of the *Arrive 2050* 2025-2050 Metropolitan Transportation Plan will not be impacted by this amendment.

**Amendment #1, Urban Regional Roads Program, PEA References, and Miscellaneous**

Approved April 15, 2025 by the Bismarck-Mandan MPO Policy Board.

  
 \_\_\_\_\_  
 Michael Schmitz, Chairman



### Burleigh County

Local funding programs that Burleigh County uses for transportation improvements include the following:<sup>17</sup>

- **County Road and Bridge Fund:** Revenues made available from NDDOT to assist North Dakota counties in implementing projects on federal aid routes that are owned by the respective county. Funding for bridges more than equal to or greater than 20 feet in span is also available to North Dakota counties for replacement or rehabilitation projects.
- **Highway Tax Distribution:** Money distributed by the state treasurer and allocated to North Dakota's counties.

### Morton County

Local funding programs that Morton County uses for transportation improvements include the following:<sup>18</sup>

- **County Road and Bridge Fund:** Revenues made available from NDDOT to assist North Dakota counties in implementing projects on federal aid routes that are owned by the respective county. Funding for bridges more than equal to or greater than 20 feet in span is also available to North Dakota counties for replacement or rehabilitation projects.
- **Unorganized Road Fund:** Funding for roadway improvements on roads in unorganized townships.
- **Highway Distribution Tax Fund:** Money distributed by the state treasurer and allocated to North Dakota's counties.

## Historic Revenue Levels

### MPO Programs

Historic revenues levels received by the MPO for the years 2017–2024 were analyzed based on historic TIP documents for this period. Based on the analysis of these documents, baseline revenue levels for the MPO's key funding programs were identified and then used to forecast reasonably expected revenues through the year 2050. These forecasted revenues comprise Arrive 2050's fiscally constrained plan.

<sup>17</sup> Burleigh County, [Budget of Burleigh County, North Dakota, 2024](#)

<sup>18</sup> Morton County, [Morton County 2023 Budget Revenue YTD](#)

## ARRIVE 2050

**Table 21** summarizes the historic revenues for the Urban Roads, Urban Regional Roads, Interstate, NHPP, Safety, Urban Grant, and TA Programs on an annual basis and provides total and average revenue levels received between 2017 and 2024.

### Historic Urban Roads Revenues

Urban Roads revenues received by the MPO between 2017 and 2024 were reviewed based on the agency's funding amounts granted through the Obligation Authority, which totaled a little more than \$33 million and averaged nearly \$4.2 million per year during this period.

### Historic Urban Regional Roads Revenues

Urban Regional Roads revenues received by the MPO between 2017 and 2024 totaled roughly \$43 million and averaged \$6.1 million per year during this period.

### Historic Interstate Revenues

Interstate revenues received by the MPO between 2017 and 2024 total \$94.3 million and averaged \$11.8 million per year. Several years saw higher revenue levels due to the programming of higher cost projects in 2019, 2023, and 2024.

### Historic Safety Revenues

Safety revenues received by the MPO between 2017 and 2024 totaled nearly \$20.8 million and averaged \$2.6 million per year.

### Historic TA Revenues

TA revenues received by the MPO between 2017 and 2024 totaled \$3.5 million and averaged a little less than \$432,000 per year. The trend in historic TA revenues received on an annual basis was stable, with only the year 2022 seeing a higher-than-normal receipt of TA funds.

### Historic Urban Grant Revenues

Urban Grant revenues received by the MPO between 2017 and 2024 totaled \$6.7 million and averaged roughly \$842,000 per year during this time. Given the discretionary nature of this funding source, the MPO does not anticipate receiving Urban Grant funding each year.

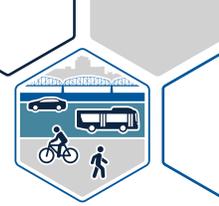


**Table 21: Historic MPO Funding Revenues**

| Program                     | 2017        | 2018*       | 2019         | 2020        | 2021         | 2022         | 2023         | 2024         | Total        | Average      |
|-----------------------------|-------------|-------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Urban Roads</b>          | \$3,692,312 | \$3,756,158 | \$3,926,416  | \$4,370,382 | \$4,470,216  | \$4,248,520  | \$4,404,943  | \$4,499,223  | \$33,368,170 | \$4,171,021  |
| <b>Urban Regional Roads</b> | \$364,994   | \$1,200,000 | \$4,141,055  | \$9,949,670 | \$10,698,645 | \$11,620,400 | \$5,060,239  | \$1,070,488  | \$42,905,491 | \$6,129,356  |
| <b>Interstate</b>           | \$8,708,196 | \$7,410,545 | \$15,602,600 | \$0         | \$9,959,851  | \$3,000,000  | \$19,416,231 | \$30,248,768 | \$94,346,191 | \$11,793,274 |
| <b>Safety</b>               | \$580,000   | \$0         | \$3,782,000  | \$0         | \$6,599,820  | \$7,063,473  | \$2,593,104  | \$140,000    | \$20,758,397 | \$2,594,800  |
| <b>TA</b>                   | \$206,000   | \$0         | \$412,110    | \$0         | \$639,000    | \$1,210,879  | \$473,000    | \$514,499    | \$3,455,488  | \$431,936    |
| <b>Urban Grant</b>          | \$0         | \$0         | \$1,976,099  | \$0         | \$0          | \$2,851,000  | \$1,912,000  | \$0          | \$6,739,099  | \$842,387    |

Source: Bismarck-Mandan MPO, 2017–2024 Transportation Improvement Programs

\*The MPO did not publish a TIP in 2018, so these values represent funds programmed in 2018 that were provided in the 2017 TIP publication. It is noted there were still revenues, including O&M in 2018.



## Future Forecasted Revenue Levels

Federal metropolitan transportation planning regulations require the MTP to include an estimate of future revenues that the MPO may reasonably expect to receive over the life of the plan. Based on the historic revenue levels and input from MPO staff, future revenue levels were forecasted to reasonably estimate the level of transportation revenues the MPO may receive through 2050.

## Baseline Revenue Levels for MPO Programs

Baseline revenue levels are the basis for forecasting future revenue for programs detailed in **Table 26**.

**Table 26: Estimated Baseline Annual Revenue Levels by MPO Program**

| Program                   | Baseline Revenue Level |
|---------------------------|------------------------|
| Urban Roads <sup>19</sup> | \$5,339,971            |
| Urban Regional Roads      | \$6,129,356            |
| Safety (State)            | \$1,540,000            |
| Safety (Urban)            | \$1,430,000            |
| TA                        | \$361,452              |
| Urban Grant               | \$580,000              |

Note that several programs such as the Interstate/NHPP are not included in the future forecasted revenues because they are state discretionary programs directed at the state system. NDDOT looks at needs across the entire state system when allocating these monies, and thus cannot be effectively forecasted on a regional basis.

<sup>19</sup> Urban Roads baseline levels were established based on 2023 allocated levels. Future levels are not guaranteed and may vary.

## Baseline Revenue Levels for Local Programs

Baseline revenue levels used to forecast local funds were developed based on the historic revenue levels discussed in the preceding section. The historic revenue level for each LPA funding program was averaged, and the average amount constituted the baseline revenue level used to forecast funding through 2050. **Table 27** presents the baseline revenue level for each city's funding program. The baseline level used for forecasting future revenues for Burleigh and Morton Counties is shown in **Table 28**.

**Table 27: Baseline Annual Revenues for the Cities of Bismarck and Mandan**

| Program                       | Baseline Revenue Level |
|-------------------------------|------------------------|
| <b>City of Bismarck</b>       |                        |
| Special Assessments Fund      | \$15,141,000           |
| Sales Tax Fund                | \$13,703,000           |
| Special Deficiency Fund       | \$2,262,000            |
| Street Light Utility Fund     | \$1,059,000            |
| <b>City of Mandan</b>         |                        |
| Highway Distribution Fund     | \$1,123,000            |
| Special Assessments Fund      | \$4,036,000            |
| I Percent City Sales Tax Fund | \$3,192,000            |
| Street Light Utility Fund     | \$470,000              |



- **Highway Distribution Tax Fund:** Money distributed by the state treasurer and allocated to North Dakota's counties.

## Historic Revenue Levels

### MPO Programs

Historic revenues levels received by the MPO for the years 2017–2024 were analyzed based on historic TIP documents for this period. Based on the analysis of these documents, baseline revenue levels for the MPO's key funding programs were identified and then used to forecast reasonably expected revenues through the year 2050. These forecasted revenues comprise Arrive 2050's fiscally constrained plan.

**Table I** summarizes the historic revenues for the Urban Roads, Urban Regional Roads, Interstate, NHPP, Safety, Urban Grant, and TA Programs on an annual basis and provides total and average revenue levels received between 2017 and 2024.

### *Historic Urban Roads Revenues*

Urban Roads revenues received by the MPO between 2017 and 2024 were reviewed based on the agency's funding amounts granted through the Obligation Authority, which totaled a little more than \$33 million and averaged nearly \$4.2 million per year during this period.

### *Historic Urban Regional Roads Revenues*

Urban Regional Roads revenues received by the MPO between 2017 and 2024 totaled roughly \$43 million and averaged \$6.1 million per year during this period.

### *Historic Interstate Revenues*

Interstate revenues received by the MPO between 2017 and 2024 total \$94.3 million and averaged \$11.8 million per year. Several years saw higher revenue levels due to the programming of higher-cost projects in 2019, 2023, and 2024.

### *Historic NHPP Revenues*

NHPP revenues received by the MPO between 2017 and 2024 totaled \$66.7 million and averaged \$8.3 million per year during this period. While historic NHPP revenues saw fluctuation on an annual basis, the fluctuations were not as significant as other MPO funding programs.

### *Historic Safety Revenues*

Safety revenues received by the MPO between 2017 and 2024 totaled nearly \$20.8 million and averaged \$2.6 million per year.

### *Historic TA Revenues*

TA revenues received by the MPO between 2017 and 2024 totaled \$3.5 million and averaged a little less than \$432,000 per year. The trend in historic TA revenues received on an annual basis was stable, with only the year 2022 seeing a higher-than-normal receipt of TA funds.

### *Historic Urban Grant Revenues*

Urban Grant revenues received by the MPO between 2017 and 2024 totaled \$6.7 million and averaged roughly \$842,000 per year during this time. Given the discretionary nature of this funding source, the MPO does not anticipate receiving Urban Grant funding each year.



Table 1: Historic MPO Funding Revenues

| Program                     | 2017        | 2018*       | 2019         | 2020        | 2021         | 2022         | 2023         | 2024         | Total        | Average      |
|-----------------------------|-------------|-------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Urban Roads</b>          | \$3,692,312 | \$3,756,158 | \$3,926,416  | \$4,370,382 | \$4,470,216  | \$4,248,520  | \$4,404,943  | \$4,499,223  | \$33,368,170 | \$4,171,021  |
| <b>Urban Regional Roads</b> | \$364,994   | \$1,200,000 | \$4,141,055  | \$9,949,670 | \$10,698,645 | \$11,620,400 | \$5,060,239  | \$1,070,488  | \$42,905,491 | \$6,129,356  |
| <b>Interstate</b>           | \$8,708,196 | \$7,410,545 | \$15,602,600 | \$0         | \$9,959,851  | \$3,000,000  | \$19,416,231 | \$30,248,768 | \$94,346,191 | \$11,793,274 |
| <b>NHPP</b>                 | \$201,000   | \$0         | \$5,117,378  | \$9,652,000 | \$23,068,789 | \$10,294,966 | \$15,639,069 | \$2,741,006  | \$66,714,207 | \$8,339,276  |
| <b>Safety</b>               | \$580,000   | \$0         | \$3,782,000  | \$0         | \$6,599,820  | \$7,063,473  | \$2,593,104  | \$140,000    | \$20,758,397 | \$2,594,800  |
| <b>TA</b>                   | \$206,000   | \$0         | \$412,110    | \$0         | \$639,000    | \$1,210,879  | \$473,000    | \$514,499    | \$3,455,488  | \$431,936    |
| <b>Urban Grant</b>          | \$0         | \$0         | \$1,976,099  | \$0         | \$0          | \$2,851,000  | \$1,912,000  | \$0          | \$6,739,099  | \$842,387    |

Source: Bismarck-Mandan MPO, 2017–2024 Transportation Improvement Programs

\*The MPO did not publish a TIP in 2018, so these values represent funds programmed in 2018 that were provided in the 2017 TIP publication.



**Burleigh County**

The baseline level used for forecasting future County Road and Bridge fund revenues for Burleigh County was \$13,021,000, as shown in **Table 8**. The baseline level used to forecast Highway Distribution Tax fund revenues was \$6,962,000.

**Morton County**

The baseline level used for forecasting future County Road and Bridge fund revenues for Morton County was \$2,415,000, as shown in **Table 8**. The baseline level used to forecast Unorganized Road fund revenues was \$963,000, while the baseline revenue level for Morton County’s Highway Distribution Tax fund revenues was \$5,463,000.

Table 8: Baseline Annual Revenues for Burleigh and Morton Counties

| Program                              | Baseline Revenue Level |
|--------------------------------------|------------------------|
| <b>Burleigh County</b>               |                        |
| <b>County Road and Bridge Fund</b>   | \$13,021,000           |
| <b>Highway Distribution Tax</b>      | \$6,962,000            |
| <b>Morton County</b>                 |                        |
| <b>County Road and Bridge Fund</b>   | \$2,415,000            |
| <b>Unorganized Road Fund</b>         | \$963,000              |
| <b>Highway Distribution Tax Fund</b> | \$5,463,000            |

**Revenue Forecast Growth Rates**

The next step in forecasting future revenues for the MPO’s key funding programs was to identify annual growth rates to apply to the baseline revenue levels shown in **Table 8**. Guidance from NDDOT staff for forecasting future Urban Roads and TA funds was to use an annual growth rate between 2 and 4 percent; to ensure a reasonable expectation for future revenues, a more conservative

annual growth rate of 2 percent was selected for forecasting future revenues. This annual growth rate was then applied to all the MPO’s funding programs except the CRP and PROTECT programs, which were grown at a rate of 1.5 percent per year.

Forecasted future revenues for LPA funding programs also applied a 2 percent per year growth rate.

**Forecast Time Bands**

Future forecasted revenues were organized into time bands so that the future funds could reflect year of expenditure (YOE) values that inform the development of Arrive 2050’s fiscally constrained plan. The time bands identified were:

- **Current TIP:** 2025–2028
- **Short Term:** 2029–2033
- **Mid-Term:** 2034–2042
- **Long Term:** 2043–2050

**Future Revenue Forecasts for MPO Programs**

The resulting future revenue forecasts for the MPO’s key funding programs are summarized by time band in **Table 9**.

**Forecasted Urban Roads Revenues**

Applying the 2 percent annual growth rate to the baseline revenue level shown in **Table 9** resulted in a total forecasted revenue level of \$155.7 million in Urban Roads funding for the years 2029–2050. Forecasted short-term Urban Roads revenues amount to \$29.7 million, while forecasted mid-term revenues are \$61.4 million. Forecasted long-term Urban Roads revenues amount to \$64.6 million.

**Forecasted Urban Regional Roads Revenues**

The total forecasted revenue level for the Urban Regional Roads Program amounts to \$184.7 million for the years 2029–2050, as shown in **Table 9**. Forecasted short-term Urban Regional Roads



revenues equal \$35.2 million, while forecasted mid-term revenues are \$72.8 million. Forecasted long-term Urban Regional Roads revenues amount to \$76.6 million.

#### *Forecasted Safety Revenues*

The total forecasted revenue level for the state Safety program amounts to approximately \$46.4 million, while total forecasted urban Safety program revenue levels are \$43.1 million, as shown in **Table 9**. Forecasted short-term state Safety revenues equal \$8.8 million, and urban Safety revenues amount to \$8.2 million. Mid-term state Safety revenues equal a little more than \$18 million, and mid-term urban safety revenues equal \$17 million. State Safety revenues for the long term were forecasted to equal approximately \$19.3 million, while urban Safety revenues for the long term equal \$17.9 million.

#### *Forecasted TA Revenues*

The total forecasted revenue level for the TA Program amounts to approximately \$10.9 million for the years 2029–2050, as shown in **Table 9**. Forecasted short-term TA revenues equal \$2 million, while forecasted mid-term revenues are \$4.3 million. Forecasted long-term TA revenues amount to \$4.5 million.

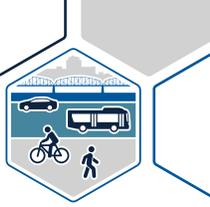
#### *Forecasted Urban Grant Revenues*

The total forecasted revenue level for the Urban Grant Program amounts to approximately \$3.5 million for the years 2029–2050, as shown in **Table 9**. Given the assumption that the MPO will receive Urban Grant funds every 4 years, the resulting forecasts saw that the MPO would receive roughly \$1.2 million in the short-, mid-, and long-term periods.



Table 9: Forecasted Revenues by Time Band

| Program                     | Short Term (2029–2033) | Mid-Term (2034–2042) | Long Term (2043–2050) | Total                |
|-----------------------------|------------------------|----------------------|-----------------------|----------------------|
| <b>Urban Roads</b>          | \$29,683,000           | \$61,423,000         | \$64,605,000          | \$155,711,000        |
| <b>Urban Regional Roads</b> | \$35,217,322           | \$72,883,175         | \$76,640,026          | \$184,740,523        |
| <b>Safety (State)</b>       | \$8,847,000            | \$18,311,000         | \$19,260,000          | \$46,418,000         |
| <b>Safety (Urban)</b>       | \$8,219,000            | \$17,016,000         | \$17,897,000          | \$43,132,000         |
| <b>TA</b>                   | \$2,080,000            | \$4,303,000          | \$4,527,000           | \$10,910,000         |
| <b>Urban Grant</b>          | \$1,160,000            | \$1,160,000          | \$1,160,000           | \$3,480,000          |
| <b>Total</b>                | <b>\$85,206,322</b>    | <b>\$175,096,175</b> | <b>\$184,089,026</b>  | <b>\$444,391,523</b> |



## Alternative Sources of Funds

In addition to the projects identified for Urban Roads and HSIP funding as part of the Arrive 2050 Fiscally Constrained Plan, other sources of funds serve as opportunities for the MPO and its member jurisdictions to fund additional multimodal transportation improvements. These sources include NDDOT's Urban Grant Program and North Dakota Parks and Recreation Department's (NDPRD) RTP. Further detail about both programs is available in the **Arrive 2050 Funding Plan** section.

### Urban Grant Program Candidate Projects

Candidate projects for the UGP were identified by local jurisdiction staff and focus on improvements to roadways found in the core business districts of Bismack and Mandan. NDDOT's UGP policy stipulates that eligible jurisdictions found in the state's MPO areas must comply with their respective MPO's processes for submitting applications to NDDOT.<sup>20</sup>

**Table 42** details the Arrive 2050 projects that were identified as candidates under the UGP; **Figure 49** displays their locations in the MPO area. As these projects are funded on a discretionary basis, they do not include timing in the Fiscally Constrained Plan's time bands. An 'R' indicates the project is a rehabilitation or reconstruction project.

### Urban Regional Roads

NDDOT's Urban Regional Roads program provides funding to address the state's critical highway needs. These funds are state-directed and NDDOT works with LPAs, such as the MPO, to program improvements; given the nature of this program, Arrive 2050 did not identify individual projects that would anticipate the use of Urban Regional Roads funds but rather forecasts reasonably expected future revenue levels (available in Appendix E) for the MPO region that could fund eligible projects. Projects funded through the Urban Regional Roads program are intended to address NDDOT's investment priorities and include:

- Preventative maintenance
- Major rehabilitation
- Minor rehabilitation
- Structural improvement
- Safety improvements
- Bicycle and pedestrian improvements

<sup>20</sup> North Dakota Department of Transportation, Urban Grant Program Policy

## ARRIVE 2050

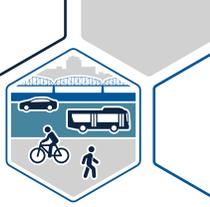
## Recreational Trails Program Candidate Projects

A series of RTP candidate projects were identified by the Bismarck Parks Department and would seek funds for maintenance activities, including removal and replacement of recreational trails and recreational trail overlays. **Table 43** details the Arrive 2050 RTP candidate projects, while **Figure 50** shows their locations in the MPO area.



Trail in the Scheels Sports Complex

Source: Bismarck Parks and Recreation District



## MPO Area Street Network

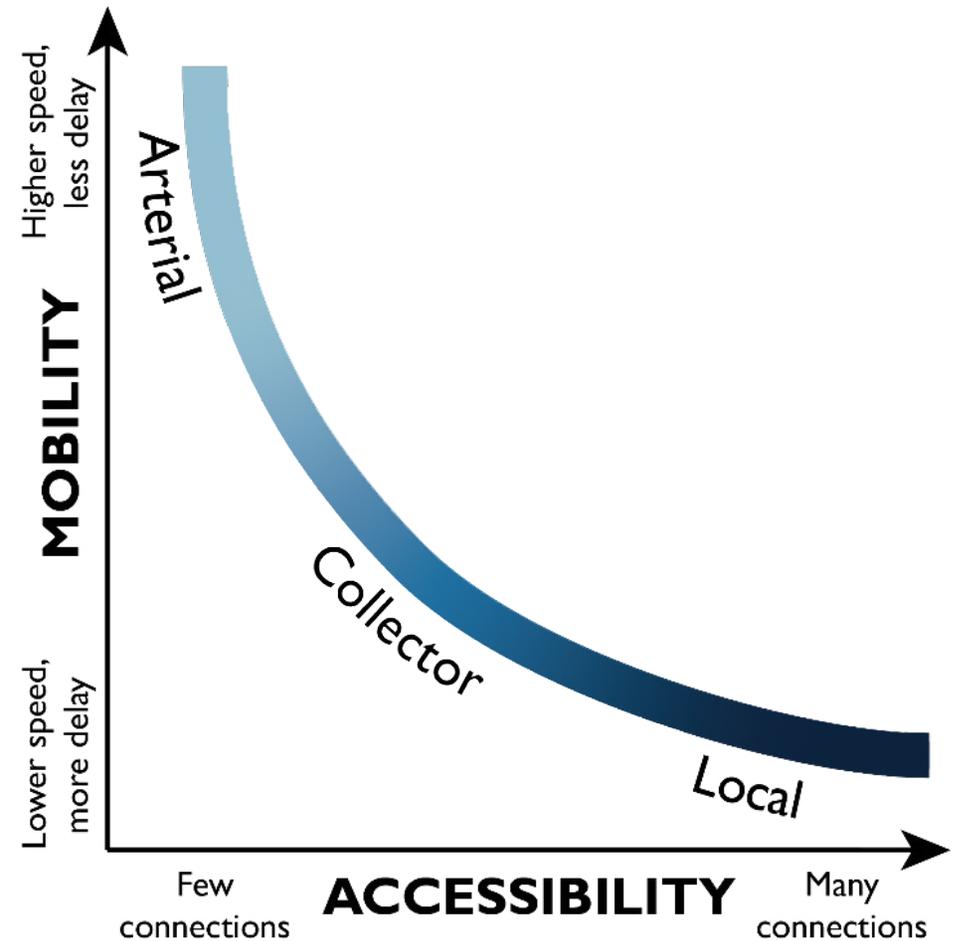
The streets and roadways of the Bismarck-Mandan MPO area are the central feature of the multimodal transportation system. Facilitating mobility and access to regional residential, employment, and recreational destinations, the MPO's streets and highways are a critical element in supporting the region's development and economy.

### Functional Classifications

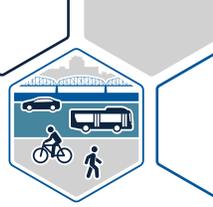
Functional classification is a series of designations used to classify streets and highways based on the character of the service they provide. Functional classification organizes the network to provide a balance between mobility and accessibility to road users, as demonstrated in **Figure 10**. High mobility roadways typically are designed to carry higher daily traffic volumes at higher speeds with limited access, while low mobility roadways are designed to provide higher degrees of accessibility carrying lower daily traffic at lower speeds so that adjacent land uses can be easily accessed.

Functional classification is also used for planning purposes. Roadways identified under the federal functional classification system are considered part of the federal aid system, meaning they are eligible to receive federal funding for transportation-related improvements. The MPO area's proposed federal functional classification system is delineated between urban and rural functional classifications, which are determined based on the MPO's urban area boundary (UA); MPO roadways that fall in the UA are considered urban, while those outside the UA are considered rural. The MPO's proposed functionally classified system and UA are shown in **Figure 11**.

**Figure 10: Accessibility and Mobility Characteristics of the Functionally Classified Roadway System**



Source: Federal Highway Administration



The UZA also has importance regarding the suballocation of federal funds, including the Surface Transportation Block Grant Program (STBG); current regulations contained within the Bipartisan Infrastructure Law direct states to allocate 55% of STBG funds between the following:<sup>1</sup>

- Urbanized areas with populations greater than 200,000: This portion is to be divided among those areas based on their relative share of population unless the Secretary approves a joint request from the State and relevant MPO(s) to use other factors.
- Urbanized areas with population of at least 50,000 but no more than 200,000: The State is to establish a process to consult with relevant metropolitan planning organizations and describe how funds will be allocated equitably.
- Urbanized areas with population of at least 5,000 but no more than 49,999: The State is to consult with regional transportation planning organizations, if any, before obligating funds for projects in these areas.
- Areas with population of less than 5,000: The State is to consult with regional transportation planning organizations, if any, before obligating funds for projects in these areas.

The remaining 45% of a state's STBG funding may be obligated in any area of the state.

<sup>1</sup> Federal Highway Administration, [Infrastructure Investment and Jobs Act Surface Transportation Block Grant \(STBG\)](#).

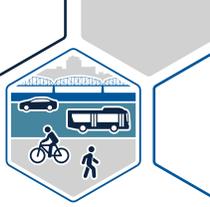
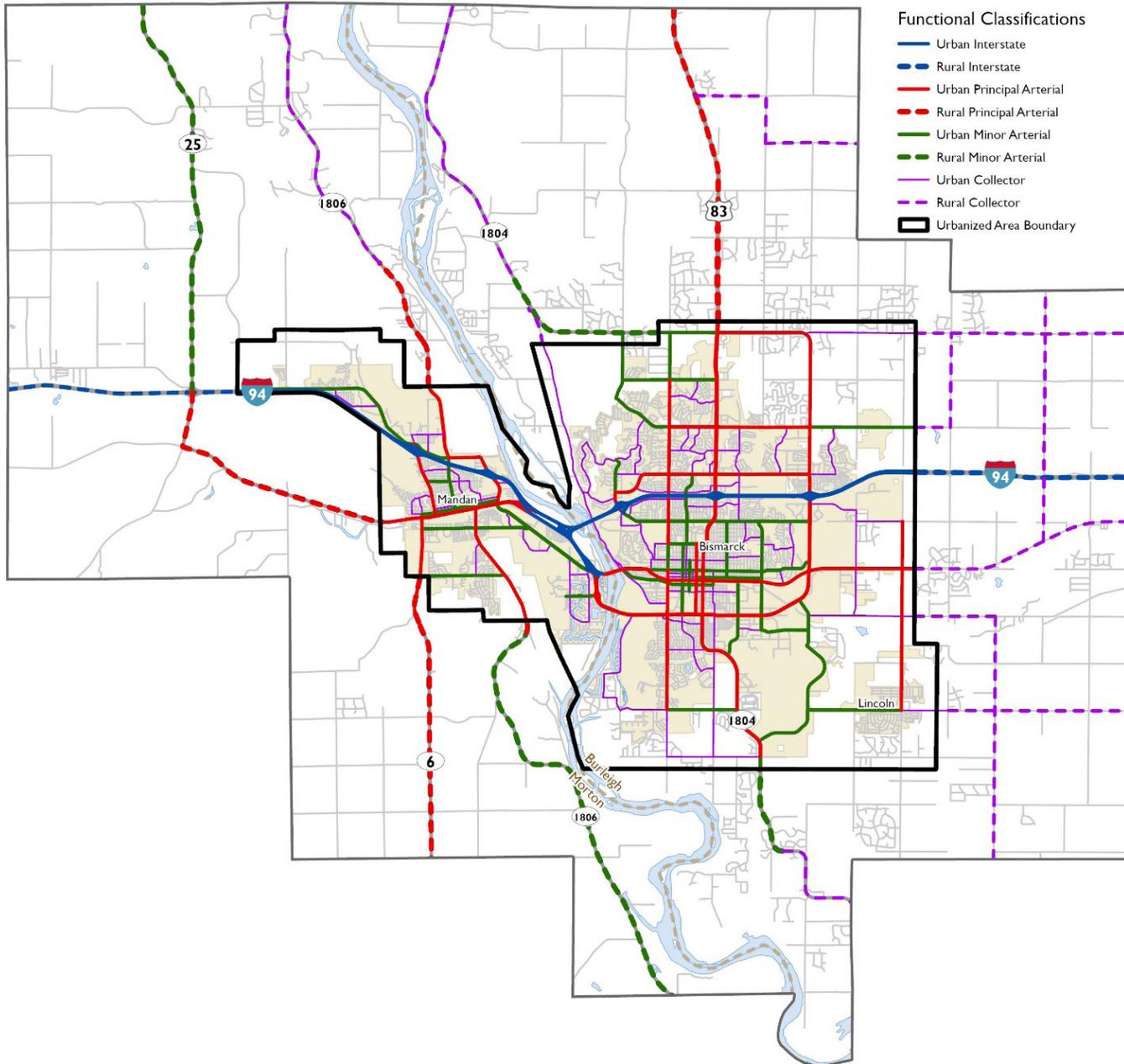
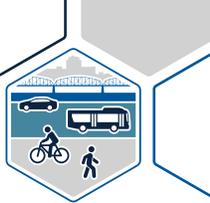


Figure 11: Bismarck-Mandan MPO's Proposed Functional Classification System

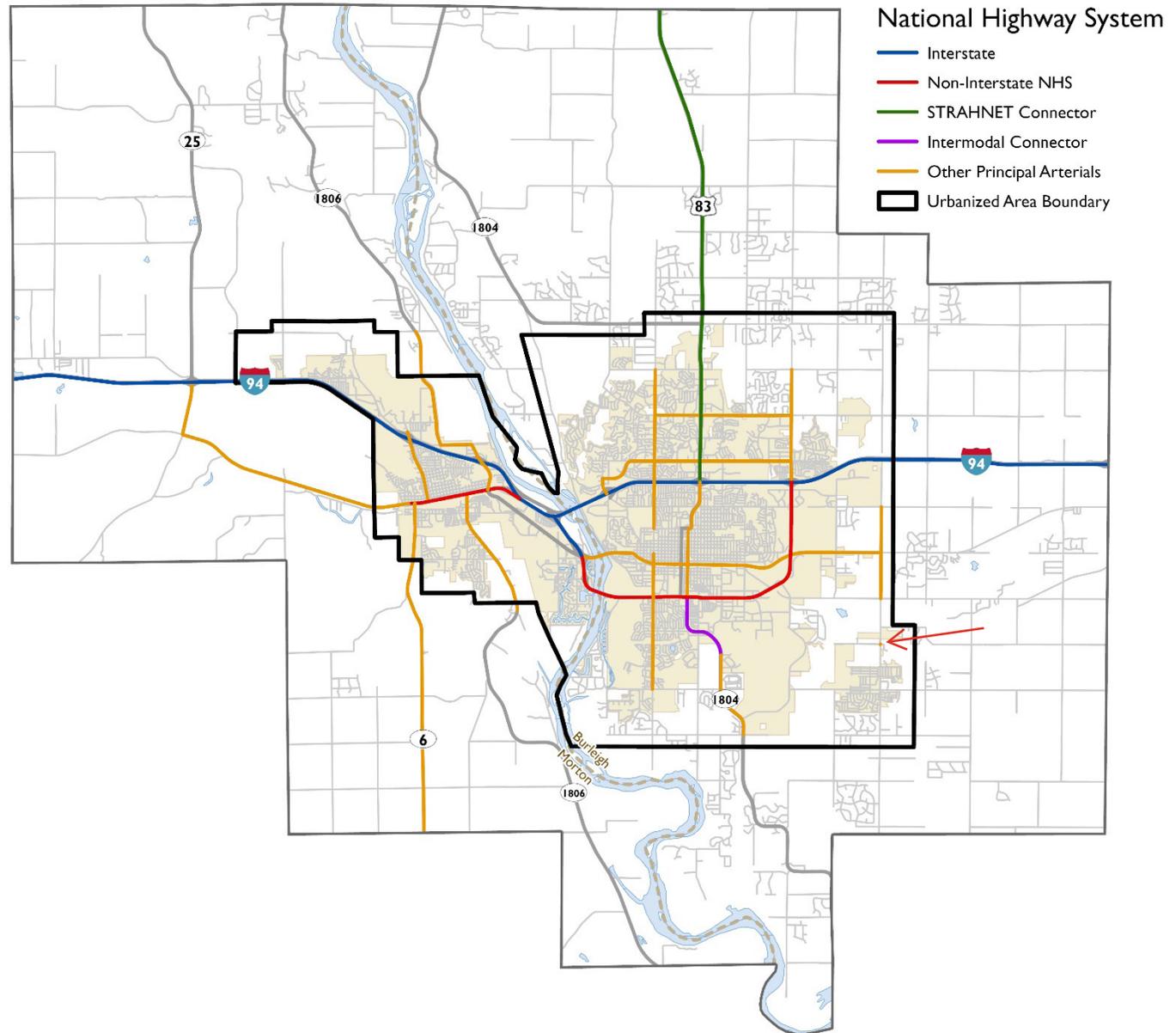




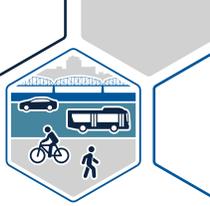
## National Highway System

The NHS is a network of roadways that are deemed critical to the nation's economy, defense, and mobility. This network was developed through cooperation between the United States Department of Transportation (USDOT), states, local governments, and MPOs and consists of a series of subsystems.<sup>1</sup> The MPO roadways designated as part of the NHS are shown in **Figure 12**.

**Figure 12: National Highway System Within the Bismarck-Mandan MPO Region**



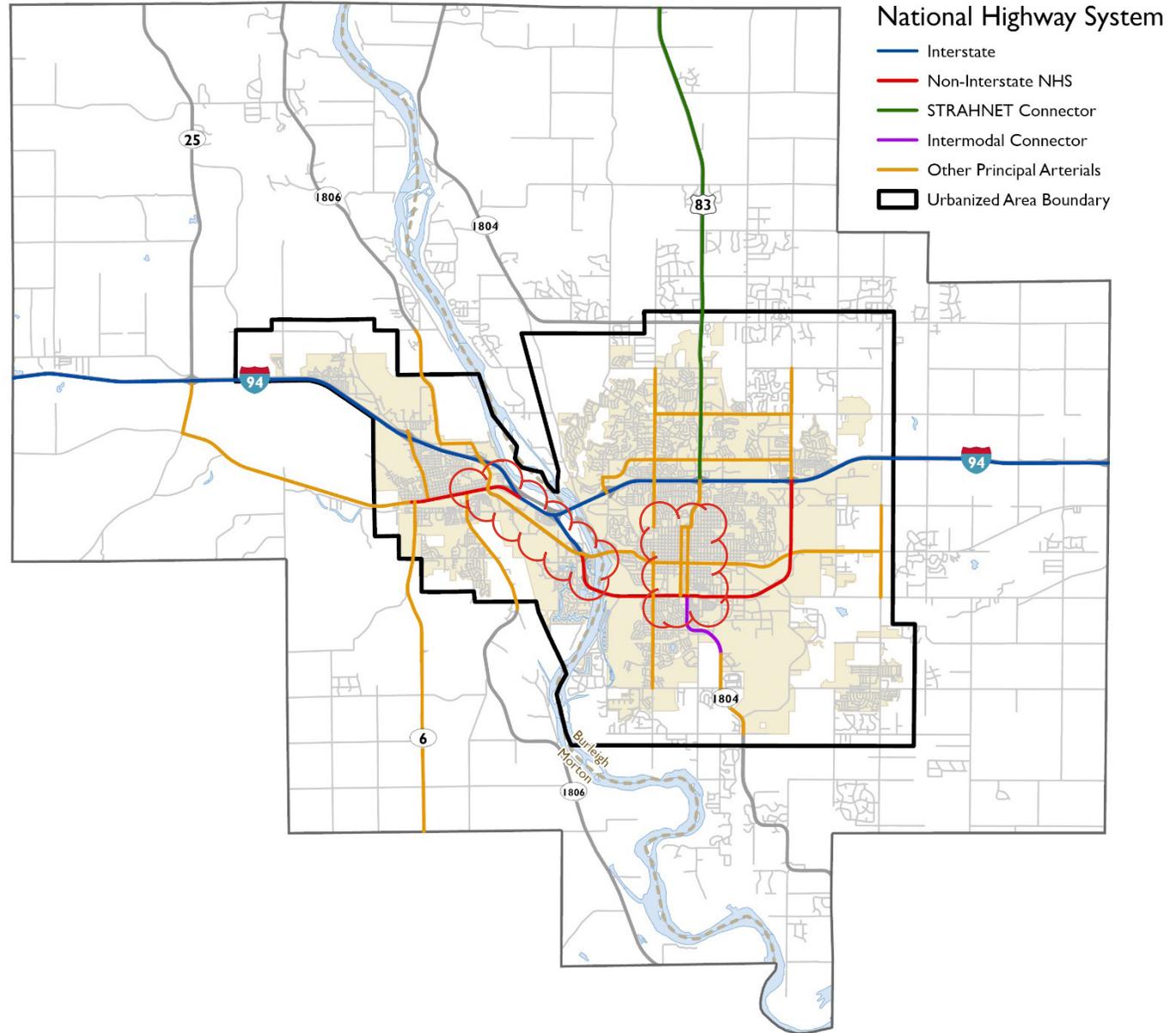
<sup>1</sup> Federal Highway Administration, [National Highway System](#)



## National Highway System

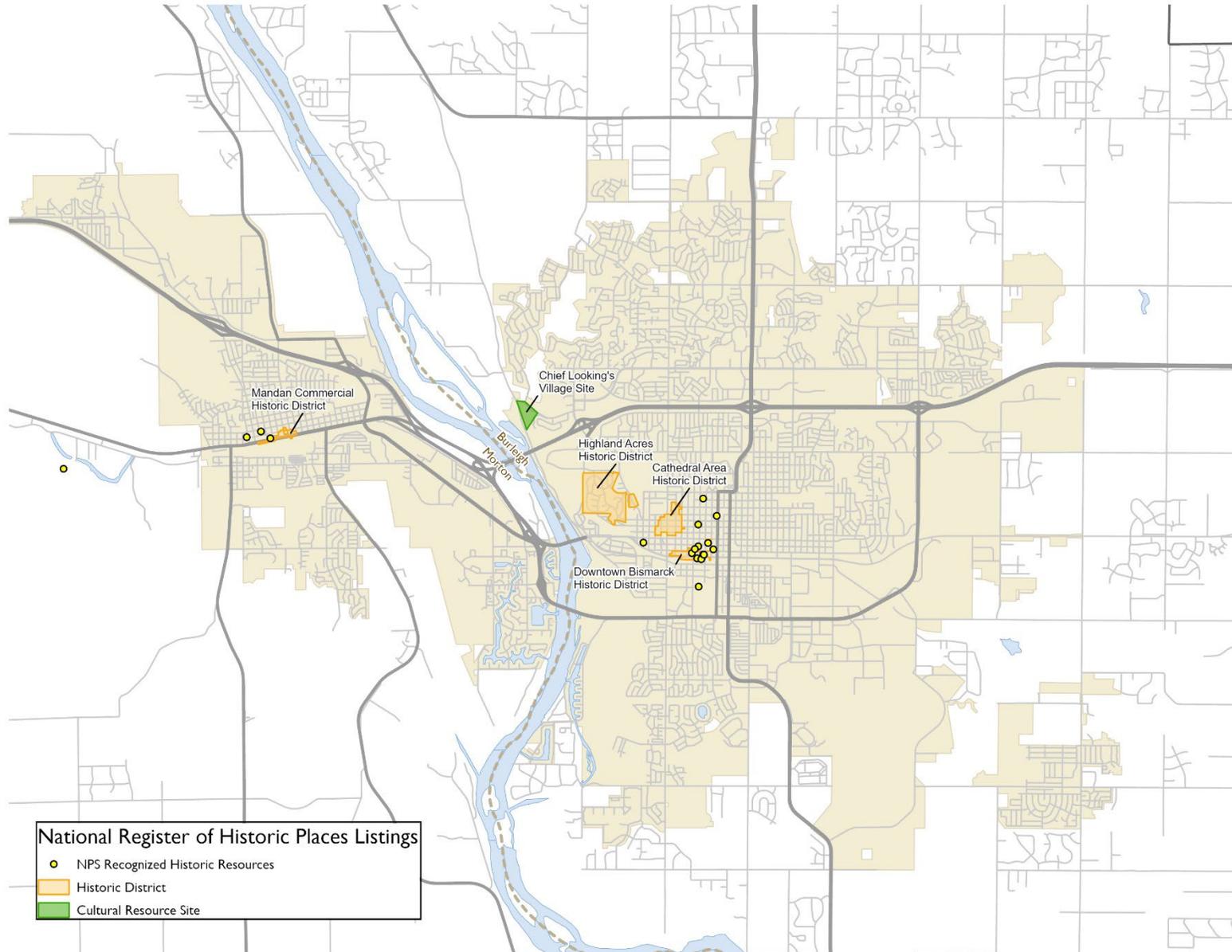
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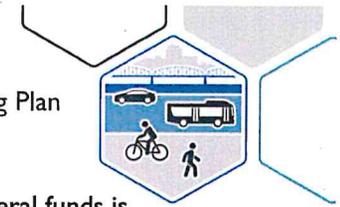
**Figure 12: National Highway System Within the Bismarck-Mandan MPO Region**



<sup>2</sup> Federal Highway Administration, [National Highway System](#)

Figure 61: Cultural Resources within the Bismarck-Mandan MPO Area





### Urban and Regional Programs

#### Urban Roads Program

Urban roads refers to roadways owned by LPAs that are located on the federal aid system. Funding provided to the MPO under the Urban Roads program is allocated through collaboration between the MPO and NDDOT based on annual funding available to the state's LPAs. LPAs are responsible for the prioritization of improvements within their jurisdictions; NDDOT does not solicit funding for improvements that qualify under the program.<sup>18</sup>

Urban Roads funds are distributed to LPAs on each LPA's proportion of population compared to the state's total urban population per the most recent decennial census. Eligible project types that can receive federal funds under the Urban Roads program include preliminary engineering (PE), construction engineering (CE), right-of-way acquisition, utility relocation, and construction. Each LPA is responsible for providing the local match for federal funds, which is 19.07 percent of total project cost.

#### Urban Regional Roads Program

Urban regional roads are defined as state highways that run through cities with populations of 5,000 or more. NDDOT coordinates annually with eligible LPAs to program projects based on available Urban Regional Roads funding. NDDOT annually solicits for projects that qualify under this program and distributes funds based on needs.

Activities eligible for Urban Regional Roads funds include PE, CE, right-of-way acquisition, utility relocations, and construction. The Urban Regional Road Program consists of two sub-programs that determine local match requirements:<sup>19</sup>

- **Primary Regional Program:** The match for federal funds is provided by NDDOT (19.07 percent), except for service road improvements and items not eligible for federal aid. In these instances, the LPA is responsible for providing a local match.
- **Secondary Regional Program:** The match for federal funds is provided by NDDOT (9.07 percent) and the LPA (10 percent), except for service road improvements and items not eligible for federal aid. In these instances, the LPA is responsible for providing the local match.

#### Safety Program

NDDOT's Safety Program allocates funding from the federal Highway Safety Improvement Program (HSIP) that are to be used on safety projects. NDDOT allocates these funds to projects that reduce fatal and serious injury crashes. Projects funded under the Safety Program are selected based on NDDOT's annual list of high-crash locations and local safety needs submitted by LPAs. Based on the LPA's safety needs, eligibility criteria, and available HSIP funds, NDDOT develops its safety program for the next 4 years; projects located in MPO boundaries require LPAs to go through the MPO prioritization process.<sup>20</sup>

Eligible activities under the Safety Program include PE, CE, right-of-way acquisition, utility relocations, and construction for projects located on the state highway system; CE and construction are the only activities eligible for safety funds for projects located on the LPA roads system. Federal funds provide 90 percent of funding for safety projects, and the 10 percent match is provided by either NDDOT or NDDOT and the LPA, depending on the project location.

<sup>18</sup> North Dakota Department of Transportation, [State Funding Programs](#)

<sup>19</sup> North Dakota Department of Transportation, [Local Government Manual](#)

<sup>20</sup> Ibid.



## Urban and Regional Programs

### Urban Roads Program

Urban roads refers to roadways owned by LPAs that are located on the federal aid system. Funding provided to the MPO under the Urban Roads program is distributed through the Urban Roads formula and is based on annual funding available in the program. LPAs are responsible for the prioritization of improvements within their jurisdictions.

Urban Roads funds are calculated based on each LPA's proportion of population compared to the state's total urban population per the most recent decennial census plus a base amount. Eligible project types that can receive federal funds under the Urban Roads program include preliminary engineering (PE), construction engineering (CE), right-of-way acquisition, utility relocation, and construction. Each LPA is responsible for providing the local match for federal funds, which is 19.07 percent of total project cost.

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- **Primary Regional Program:** The match for federal funds is provided by NDDOT (19.07 percent), except for service road improvements and items not eligible for federal aid. In these instances, the LPA is responsible for providing a local match, or 100% of funding.
- **Secondary Regional Program:** The match for federal funds is provided by NDDOT (9.07 percent) and the LPA (10 percent), except for service road improvements and items not eligible for federal aid. In these instances, the LPA is responsible for providing the local match, or 100% of funding.

### Safety Program

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Eligible activities under the Safety Program include PE, CE, right-of-way acquisition, utility relocations, and construction for projects located on the state highway system; CE and construction are the only activities eligible for safety funds for projects located on the LPA roads system. Federal funds provide 90 percent of funding for safety projects, and the 10 percent match is provided by either NDDOT or NDDOT and the LPA, depending on the project location. If the improvement is on the Secondary Regional System, the 10% match could be 5% state and 5% LPA.

### Transportation Alternatives Program

The Transportation Alternatives (TA) Program provides funding for programs and projects defined as transportation alternatives, including bicycle and pedestrian facilities, Safe Routes to School projects, safe routes for non-drivers, community improvement activities, and environmental mitigation projects.<sup>13</sup> TA funds are distributed on a discretionary basis, with projects selected by NDDOT's TA project selection committee.

Construction is the only activity eligible for funding under the TA Program. PE, CE, environmental impact mitigation, right-of-way acquisition, and utility relocations are not eligible for TA funding and are the responsibility of the LPA. Federal funds allocated under the TA Program cover 80.93 percent of total project costs, and the LPA is responsible for a 19.07 percent local match.

11 North Dakota Department of Transportation, [Local Government Manual](#)

12 Ibid

13 North Dakota Department of Transportation, [Transportation Alternatives](#)



may RSVP by accepting one of the attached calendar links. While the meetings have been divided into 'non-governmental' and 'governmental' sectors, you are welcome to attend whichever best fits your schedule.

**Non-Governmental Stakeholders:**

Tuesday, April 2<sup>nd</sup>

Noon – 1:00 PM

[Click here to join the meeting](#)

Meeting ID: 287 586 679 115

Passcode: 2j6Y5K

**Governmental Stakeholders:**

Tuesday, April 2<sup>nd</sup>

4:00 – 5:00 PM

[Click here to join the meeting](#)

Meeting ID: 242 592 040 433

Passcode: wSzdTy

If you do not have access to online participation, a conference room has been reserved at the Bis-Man MPO offices. This room can hold approximately 10 people. Please contact me if you plan to participate from the conference room.

Bismarck Engineering Conference Room  
Second floor of the City/County Building  
221 N 5<sup>th</sup> Street  
Bismarck, ND 58554

Kind Regards,  
Rachel Lukaszewski

**Rachel Lukaszewski**

Executive Director

Bismarck-Mandan Metropolitan Planning Organization

221 North 5<sup>th</sup> Street

PO Box 5503

Bismarck ND 58506-5503

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# Protection & Advocacy Project

400 E. BROADWAY, SUITE 409

BISMARCK, ND 58501

701-328-2950

FAX 701-328-3934

April 29, 2024

Re: Comments on Bismarck-Mandan Area MPO Metropolitan Transportation Plan

To Whom It May Concern:

North Dakota Protection & Advocacy Project recommends the Bismarck-Mandan Metropolitan Transportation Plan include improvements to access to public transportation, particularly the city bus and paratransit.

The city bus is essential for many individuals, including those who may not be able to drive because of a disability. While the bus goes to many parts of the city, there are gaps, including in many areas with new apartment buildings, which may be more accessible than apartments located on the bus route. Because bus routes do not go to all parts of the city, individuals may be forced to choose between accessible housing and housing located on a bus route. The city should review its bus routes and determine where the need is for more routes. Increased access will benefit residents of Bismarck and Mandan. It will also benefit the community because more individuals may be able to go to work, shop, and participate in the community if they have reliable public transportation.

Increasing the hours of operation for the city bus will also benefit residents of Bismarck and Mandan. While the bus schedule may be useful to and from work during the week and allow individuals to run errands on Saturday, it has limitations. There is no service on Sunday or after 7 pm. People who wish to go to church or other activities on Sunday must find alternative transportation. Ending service at 7 pm also limits activities for people who may want to participate in evening activities or who work at night. It would be beneficial to increase evening hours. Even offering increased hours during special events would be an improvement and would allow for individuals to have greater engagement in the community.

[www.ndpanda.org](http://www.ndpanda.org)

Relay ND: 711 (TTY)

Centralized Intake: 1-800-472-2670

Finally, improvements to paratransit would benefit residents who rely on it. Individuals report that they must schedule a ride at least 24 hours in advance, and often this is not enough time to guarantee a ride. Because paratransit goes to places not on the bus route, it may be the only option for accessible transportation. An on-call option for paratransit would benefit individuals who are unable to take other forms of public transportation but need same-day transportation. Increasing hours to allow for more evening and weekend transit would also be beneficial.

Sincerely,

Micah Olson

North Dakota Protection & Advocacy Project

[www.ndpanda.org](http://www.ndpanda.org)

Relay ND: 711 (TTY)

Centralized Intake: 1-800-472-2670