Bismarck-Mandan
Metropolitan Transportation Plan

Executive Summary
January 2020

ARRIVE 2045
Bismarck-Mandan MPO
Metropolitan Transportation Plan

SUMMARY

Arrive 2045 is the long-range transportation plan (LRTP), now known as the metropolitan transportation plan (MTP), for the Bismarck-Mandan Metropolitan Planning Organization (BMMPO) area, which includes the City of Bismarck, the City of Mandan, City of LIncoln, Burleigh County, and Morton County. Arrive 2045 is designed to help realize BMMPO's adopted outcomes to meet current and future transportation needs and to gauge the success of these efforts with established performance measures. Arrive 2045 will guide the development of multimodal transportation systems throughout the Bismarck-Mandan metropolitan area for the next 25 years. It will be used to prioritize most of transportation spending throughout this period, and as such, it is vitally important that the plan reflect the choices and desires of the Bismarck-Mandan metropolitan area's residents, workers, and visitors. Since transportation has a broad impact on society, long-range transportation planning must consider concerns, such as impact upon the environment, land use, and economic development, in addition to traditional transportation-related issues, such as mobility and safety.

In accordance with Federal law, metropolitan transportation plans are updated every five years to accommodate the changing needs of the area and to reflect changes in the socio-economic composition of the area, as well as changes in local transportation policy. The last MTP for the Bismarck-Mandan metropolitan area was adopted in 2015. While 2045 extends beyond what can be accurately predicted, a long-range plan's value lies in comprehensively assessing the region's current transportation system and charting a course of action for coming years. It presents an opportunity to step back and take a big-picture look at current conditions, challenges, and possible solutions. Arrive 2045 creates a vision that assists in guiding future decisions toward the goal of a safe and efficient transportation system to meet the area's current and future needs.

Arrive 2045 must also consider all modes of transportation; streets and highways, transit, bicycle and pedestrian, air, rail and water, as well as freight movement within and through the Bismarck-Mandan metropolitan area. The Plan must be maintained so local jurisdictions can receive Federal funding for transportation improvements within the Bismarck-Mandan metropolitan area.

Arrive 2045 must present a reasonable expectation of revenue to fund the improvements identified to meet the transportation needs of the Bismarck-Mandan metropolitan area now and in the future. It must be a fiscally-constrained document. Fiscally-constrained, simply stated, is that the expense of accomplishing the projects identified in the Plan does not exceed what the Bismarck-Mandan metropolitan area can reasonably expect to receive in revenues.

Federal Requirements

Arrive 2045 is an integral part of the BMMPO's "continuing, cooperative, and comprehensive" planning process as stipulated by Federal law. This process was established by the Federal government with the intent of fostering better management, operation, and development of the surface transportation system. This Plan is also compliant with the national goals set forth in Fixing America's Surface Transportation (FAST) Act, the current Federal transportation program. Arrive 2045 adheres to all requirements stipulated in the FAST Act.

Plan Development Process

The planning process for the development of Arrive 2045 consisted of six phases:

- Identify the baseline and future conditions which assessed historic growth and development, analyzed the region's transportation system, and evaluated existing issues and needs.
- Create a transportation vision, goals, and objectives to guide the development.
- Establish a fiscal constraint.
- Evaluate options and alternatives that will address the region's transportation issues and needs and help meet the overall transportation vision for Bismarck-Mandan.
- Prioritize projects based on the fiscal constraint and time line for implementation.
- Plan review and approval by the Bismarck-Mandan MPO's Policy Board.

The six phases were part of the overall process, as shown on the next page.

THE PROCESS

ARRIVE 2045
bismarck mandan
Metropolitan Transportation Plan

PUBLIC ENGAGEMENT

The development of Arrive 2045 was conducted with a pro-active public involvement process. BMMPO staff also worked cooperatively with decision-makers of its member jurisdictions, the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the North Dakota Department of Transportation (NDDOT), and the public to execute a continuous, cooperative, and comprehensive planning process and develop the highest quality public investment plans for our changing society.

Steering Committee

A steering committee was established to provide technical direction and guidance of the Metropolitan Transportation Plan (MTP) development. Representation on the committee included:

- City of Bismarck
- City of Mandan
- City of Lincoln
- Burleigh Bounty
- Morton County
- Bismarck International Airport
- Bismarck Public Schools
- Bismarck Police Department
- Bismarck Rural Fire Department
- North Dakota Department of Transportation

There were ten Steering Committee meetings held throughout the development of the MTP.

Information and Marketing

Project Website

Arrive2045.com was the website established for the MTP to serve as the primary warehouse for all project documents and information as well as a forum to submit public comment. The website included:

- A home page with the most recent project updates and links for new information and to provide comment.
- An about page with a general overview, a frequently asked questions section, the schedule, and project partners.
- A documents page with all documents and newsletters produced during the MTP.
- A contact page with an email submission form and other relevant contact information.

Social Media

Facebook was used to keep the community engaged throughout the MTP development. Facebook posts were published as appropriate throughout the process, with key stakeholders sharing the posts as they were able.

Throughout the study process, there were more than 25 Facebook posts that were viewed by more than 900 different users.

Public Input Meetings

PIM #1: Arrive 2045 Futures Summit

On October 9th and 10th, 2018, the Bismarck-Mandan MPO held the first round of public engagement for the Bismarck – Mandan Metropolitan Transportation Plan (MTP). These were advertised as the Arrive 2045 Futures Summit meetings. The first round included three meetings located across the MPO Planning area. At each meeting there was a brief presentation on the issues identified through the technical analysis; small group prioritization exercise for goals, performance areas, and emerging issues; and a table top exercise to identify future transportation improvements to the transportation network.

PIM#2: Options & Alternatives

A second round of public input was deployed at the midway point of developing Arrive 2045. The second round of public input meetings was structured to provide the public and key stakeholder an opportunity to provide input on the universe of projects which had been developed and evaluated.

Meeting participants were provided with a list and map of identified projects being contemplated for inclusion in Arrive 2045. Each project was identified with a relative technical score that had been previously identified by the project Study Committee. Participants were asked to provide a ranking of their top three projects; and then to provide a general listing of the seven other projects they felt were high priority needs for Arrive 2045.

A total of three input meetings were held the week of July 9, 2019. Each meeting was opened with a short background presentation the Arrive 2045 and provided content and guidance to participants on what input was needed from them at this point in the planning process.

PIM #3: Draft Plan Review

The third public input meeting was held after the draft plan of Arrive 2045 was compiled. This meeting was an open house format for people to review the key findings, constrained projects, and the project phasing. A total of three input meetings were held the week of January 22nd, 2020.

VISION, GOALS, OBJECTIVES & PERFORMANCE MEASURES

Transportation Vision

The future of the transportation system in the Bismarck-Mandan metropolitan area will be driven by the vision, goals, objectives, and performance measures developed for Arrive 2045. The vision for Arrive 2045 has been developed as follows:

Arrive 2045 is focused on **preserving** the transportation infrastructure of the Bismarck-Mandan MPO Area. The development of new **funding strategies** will be critical. Future investments in system preservation must be balanced against thoughtful implementation of **new infrastructure** which serve to **expand transportation capacity**. Arrive 2045 establishes a set of **regional priorities** to **balance public expectations** for improved **regional mobility**. Arrive 2045 recognizes the future contains many opportunities to channel **technology** to influence transportation mobility.

Arrive 2045 Goals, Objectives & Performance Measures

The goals developed for Arrive 2045 reflect guidance from MAP-21 planning factors, MAP-21 and FAST Act National Performance Goals, the NDDOT statewide transportation plan, and input from project stakeholders and community outreach. The figure below depicts how the performance measure areas are set as part of MAP-21 and the FAST Act and the requirements for which measures and targets are to be set for NDDOT's Statewide Transportation Plan and the MPO's MTP – Arrive 2045.

Again, the graphic is inclusive of the required performance measure areas. Additional performance measures and desired target trendlines have been set by the MPO as part of Arrive 2045 that pertain specifically to the MPO's system.

Federal Performance Measure Categories	Required for NDDOT Statewide Transportation Plan	Required for MPO MTP – Arrive 2045	Arrive 2045 Additional Local Performance Measures
Pavement Condition [1]	✓	✓	✓
Performance [1]	✓	✓	✓
Bridge Condition [2]	✓	✓	✓
Safety – Fatalities & Serious Injury [3]	✓	✓	✓
Traffic Congestion [5]	✓	Optional	✓
On-road Mobile Source Emissions [5]	✓	Optional	Not Included
Freight Movement [4]	✓	✓	Not Included

Roadways "Required" for the Federal Performance Categories:

(1) Required for Interstate and Non-Interstate NHS Roadways; (2) Required for all NHS Roadways; (3) Required for all Public Roadways; (4) Required for Interstate System Roadways; (5) Required Roadways Not Specified

ARRIVE 2045 GOAL 1:

Safety & Security

Goal 1 incorporates the following goals, performance measures, and planning factors:

- National Performance Goal for safety
- National Performance Measure for Safety - Fatalities and Serious Injuries
- MAP-21 Planning Factors to increase the safety of the transportation system for motorized and non-motorized users and to increase the security of the transportation system for motorized and non-motorized users.

All transportation improvements should be developed with safety of the traveling public in mind. Safety should be considered when developing transportation projects for all modes of motorized and non-motorized transportation. These improvements should consider reducing both the severity and overall number of crashes.

Security of the transportation system includes ensuring users of the transportation system are protected from natural or human disaster (ie flooding, acts of terrorism). Security measures for transportation system users are often considered for public transit riders and non-motorized users of the trail systems. Security of our transportation system also considers the mobility of our emergency service vehicles.

Performance Measures
Existing Metrics and Targets:

State System Federal Requirements

Safety Performance Measure	NDDOT 5-Year Average (2013 - 2017)	2019 NDDOT 5-Year Average Target
Number of Motorized Fatalities	120.0	108.3
[a]Rate of Fatalities per 100 million VMT	1.2	1.106
Number of Motorized Serious Injuries	458.6	413.9
[a]Rate of Serious Injuries per 100 million VMT	4.59	4.23
Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries	36.2	33.4

[a] *The MPO will adapt current NDDOT targets for rate calculated goals*

Local MPO System Optional Requirements

Safety Performance Measure	MPO 5-Year Average (2013 - 2017)
Number of Motorized Fatalities	4.6
Rate of Fatalities per 100 million VMT	0.642
Number of Motorized Serious Injuries	33.6
Rate of Serious Injuries per 100 million VMT	4.687
Number of Non-Motorized Fatalities and Non-Motorized Serious Injuries	5.2

Desired Target:

Reduction in crashes

How will we achieve the goal?
Objectives:

- **1A**: Reduce the incidence of all motor vehicle and non-motor vehicle (pedestrian and cyclist) crashes, with an emphasis on serious injury and fatal crashes. This may include implementing improvements that are both proven Crash Reduction Measures at locations with an existing crash history or at locations without an existing crash history as a proactive improvement (SMO)
- **1B**: Provide a safe and secure environment for transit system riders (PBO)
- **1C**: Enhance transportation security and reliability 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 (SMO)
- **1D**: Support North Dakota's State Highway Safety Plan (SHSP) "Vision Zero" as a goal to move toward zero fatal resultant crashes (PBO)

SMO: Scoring Metric Objective | PBO: Policy Based Objective

ARRIVE 2045 GOAL 2:

Infrastructure Condition

Goal 2 incorporates the following goals, performance measures, and planning factors:

- National Performance Goals for the infrastructure condition of pavements and bridges.
- National Performance Measure Categories of bridge condition and pavement condition
- MAP-21 Planning Factors to emphasize the preservation of the existing transportation system and to promote efficient system management and operations.

As our transportation system ages, maintenance of our existing system is continuously needed to ensure that the condition of our pavements, bridges, bicycle and pedestrian facilities, transit facilities, and any other components of our existing transportation system are maintained and repaired to serve our traveling public. The challenges with maintaining our existing transportation system typically revolve around funding. The cost of transportation maintenance is continuously rising and there is often a competition between maintenance and operations costs of our existing system versus new facilities.

Performance Measures

Existing Metrics and Targets:

State System Federal Requirements

Pavement Conditions Measures and Targets

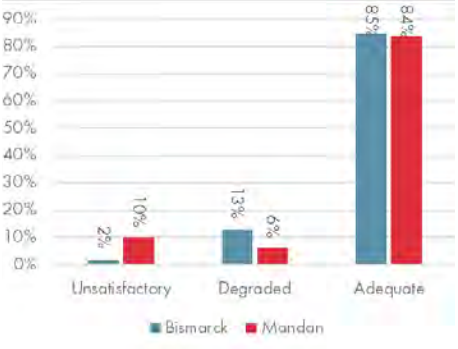
NDDOT Conditions Performance Measure	Existing Condition	Target Condition
Interstate Good	80.2%	75.6%
Interstate Poor	0.1%	3%
Non-Interstate Good	62.8%	58.3%
Non-Interstate Poor	0.3%	3%

Bridge Conditions Measures

Conditions Performance Measure	Structures Good	Structures Poor
Target Condition (NDDOT)	60%	4%
Existing Condition (NDDOT)	64.44%	3.67%

Local MPO System Optional Requirements

Pavement Conditions Measures



Desired Target:

Decrease Percent of Unsatisfactory/ Degraded Pavement

Bridge Conditions Measures

Structures Good:
77.8%

Structures Poor:
5.6%

Desired Target:

Maintain Bridges

How will we achieve the goal?

Objectives:

- **2A**: Maintain pavement quality and bridges at acceptable levels (SMO)
- **2B**: Maintain street signage and visibility (SMO)
- **2C**: Maintain the current bicycle & pedestrian system (SMO)
- **2D**: Maintain transit fleet, equipment, and facilities in a state of good repair as identified within the Transit Development Plan (TDP) (SMO)
- **2E**: Maintain traffic signals, lighting, and other transportation ITS assets at acceptable levels (SMO)
- **2F**: All MPO participating jurisdictions should cost participate in the data collection of pavement system condition on a 5-year cycle (PBO)

SMO: Scoring Metric Objective | PBO: Policy Based Objective

ARRIVE 2045 GOAL 3:

Congestion Reduction

Goal 3 incorporates the following goals, performance measures, and planning factors:

- National Performance Goals for congestion reduction and system reliability
- National Performance Measure Categories of traffic congestion and freight movement.
- MAP-21 Planning Factor to enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

Mobility and connectivity of the transportation system allows users to move from one place to another in a direct route with reduced travel times and reduced delays. Connectivity allows people to make decisions based on traffic conditions, access, and desired trip destinations. Connectivity is not only about a direct route from an origin to a destination, it should also allow users to choose multiple transportation modes and to interchange between the modes in a safe and efficient manner.

Performance Measures

Existing Metrics and Targets:

Local MPO System Optional Requirements

Vehicle Miles Traveled (VMT) Per Capita

County	Population [a]	2017 Annual VMT [b]	Resultant Annual VMT per Capita [c]
Burleigh	95,273	739,236,000	7,800
Morton	31,095	446,409,000	14,500

[a] *Data Source: American Community Survey (ACS) 2018 Population Estimates*
[b] *Data Source: 2017 NDDOT Annual Traffic Report per County*
[c] *Rounded to the nearest 500 miles*

Desired Target:

Reduction of VMT per Capita

Vehicle Hours Traveled (VHT) Per Capita

MPO Population [c]	VHT [d]	VHT per Capita
100,306	47,100	0.47 hours 28.2 minutes

[c] *Data Source: Bismarck Mandan MPO Monitoring Report - US Census, 2010*
[d] *Data Source: 2015 Travel Demand Model*

Desired Target:

Reduction of VHT per Capita

How will we achieve the goal?

Objectives:

- **3A**: Implement projects and programs that will reduce travel delays on corridors that have an existing or proposed Level of Service (LOS) D or worse, to a LOS C or better after the improvement is made (SMO)
- **3B**: Provide and maintain corridors functionally classified as minor arterials and above that facilitate longer-distance travel within the region (SMO)
- **3C**: Improve the continuity of the multimodal systems for pedestrians, cyclists, or transit riders; through improved network connections and reduction of system gaps (SMO)
- **3D**: Support future development that would result in reduced motor vehicle trips (PBO)

SMO: Scoring Metric Objective | PBO: Policy Based Objective

ARRIVE 2045 GOAL 4:

System Reliability for Freight Movement and Economic Vitality

Goal 4 incorporates the following goals, performance measures, and planning factors:

- National Performance Goals for system reliability and freight movement and economic vitality.
- National Performance Measure Category of Freight Movement
- MAP-21 Planning Factors to support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency; enhance the integration and connectivity of the transportation system, across and between modes, for people and freight; and increase accessibility and mobility of people and freight.

A transportation system that provides good access for all modes of transportation can promote future development and employment opportunities which will in return stimulate the region's local economy.

A well connected and efficient transportation system that facilitates the movement of goods between freight modes and facilitates the movement of goods and freight to commercial and industrial centers can lower the cost of doing business. This can both support existing business and attract new business to support and enhance the local economy.

Performance Measures

Existing Metrics and Targets:

State System Federal Requirements

System Performance for the Interstate and Non-Interstate NHS

Conditions Performance Measure	Travel Time Reliability Non-Interstate National Highway System (NHS)	Travel Time Reliability Interstate	Freight Reliability Index
Target Condition	85%	85%	3.0
Existing Condition (NDDOT - 2017)	91.6%	99.4%	1.15

Local MPO System Optional Requirements

There is not an MPO desired performance measure or target for this goal.

How will we achieve the goal?

Objectives:

- **4A**: Enhance the efficient and safe movement of freight and goods including investments in congestion reduction and safety improvements on the critical urban freight corridors and other designated freight corridors (SMO)
- **4B**: Support transportation investments as identified in the most recent Bismarck-Mandan MPO Regional Freight Study (PBO)
- **4C**: Promote transportation investments that enhance the local economy (PBO)

SMO: Scoring Metric Objective | PBO: Policy Based Objective

ARRIVE 2045 GOAL 5:

Alternative Transportation Modes to Automobile Travel

Goal 5 incorporates the following goals, performance measures, and planning factors:

- National Performance Goals for congestion reduction, system reliability and environmental sustainability.
- National Performance Measure Categories of traffic congestion and on-road mobile source emissions.
- MAP-21 Planning Factors to increase accessibility and mobility of people and freight; 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; and enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

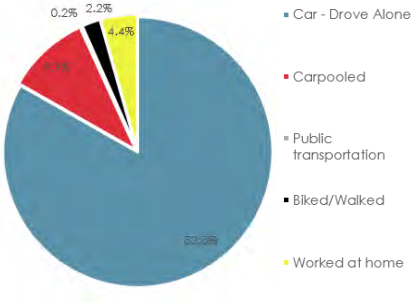
More people are choosing to use alternate modes of transportation to live a healthier lifestyle, reduce their environmental footprint, or spend less money out of their budget on transportation costs. Also, due to various social justice issues, certain portions of the population also are dependent on public transportation or non-motorized transportation. Regardless of the reason, it is important to provide a well-balanced transportation system that supports modes other than a single occupancy motor vehicle. This includes supporting alternative modes of transportation for users of all ages and all abilities.

Performance Measures

Existing Metrics and Targets:

Local MPO System Optional Requirements

Mode Share



Desired Target:

Decrease single vehicle use

CAT Ridership

Desired Target:

Increase fixed route transit ridership

Miles of Facilities

Facility Type	Miles	
	Bismarck	Mandan
Multi-use Trails	52 miles	18 miles
Bicycle Lanes	4 miles	0 miles
Shared-Use Routes	5 miles	0 miles

Desired Target:

Increase miles of bicycle facilities

How will we achieve the goal?

Objectives:

- **5A**: Consider coordination with transit agencies to improve transit route efficiency, system productivity, and community awareness by implementing transportation investments that support the transit system (PBO)
- **5B**: Improve transit and rideshare opportunities for travelers commuting into Bismarck-Mandan from outside the urban area (PBO)
- **5C**: Improve bicycle and pedestrian system accessibility and connectivity opportunities while maintaining safety by implementing transportation investments identified in the most recent Bismarck-Mandan MPO Bicycle and Pedestrian Plan (SMO)
- **5D**: Improve the awareness and safety of bicycling, and educate both bicyclists and motorists on rules and responsibilities (PBO)

SMO: Scoring Metric Objective | PBO: Policy Based Objective

ARRIVE 2045 GOAL 6:

Environmental Sustainability

Goal 6 incorporates the following goals, performance measures, and planning factors:

- National Performance Goal for environmental sustainability.
- National Performance Measure Category for on-road mobile source emissions.
- MAP-21 Planning Factor to promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.

Air quality is affected by mobile source emissions resulting from vehicle miles traveled (VMT). Air quality impacts can be reduced through roadway improvements that reduce VMT or provide for transportation modes other than single occupancy vehicles. New and expanded transportation facilities can also negatively impact the environment such as impacting wetlands, historical and cultural resources, existing neighborhoods or properties, and many other potential environmental impacts.

Performance Measures

Existing Metrics and Targets:

Local MPO System Optional Requirements

The performance measures and targets for reduction in VMT/Capita and VHT/Capita as identified in Goal 3 Congestion Reduction, will also support environmental sustainability through reduced on-road mobile source emissions. Please see Goal 3 Congestion Reduction for the performance measures, current system performance, and targets.

How will we achieve the goal?

Objectives:

- **6A**: Minimize the transportation system's impacts on the natural and built environment (PBO)
- **6B**: Ensure that projects located within Environmental Justice (EJ) areas have no negative impacts or have identified mitigation measures (PBO)
- **6C**: Promote transportation investments that support infill, mixed use development patterns (PBO)
- **6D**: Provide transportation infrastructure design guidance that fits within the context of the built environment (PBO)
- **6E**: Plan for and address multimodal transportation system impacts/sufficiency when planning new developments (PBO)

SMO: Scoring Metric Objective | PBO: Policy Based Objective

ARRIVE 2045 GOAL 7:

Reduced Project Delivery

Goal 7 incorporates the following goals, performance measures, and planning factors:

- National Performance Goals for reduced project delivery delay.
- MAP-21 Planning Factors to support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency; promote efficient system management and operation; and emphasize the preservation of the existing transportation system.

A well developed MTP will consider fiscal constraint and develop, prioritize, and program projects to ensure they are within the means of each jurisdiction's transportation budget. This first includes consideration of maintenance and operation costs of the existing transportation system.

Secondly, lower cost alternatives should be considered to improve the performance of the transportation system before more expensive projects such as extending and widening the system are considered.

Performance Measures

Existing Metrics and Targets:

Local MPO System Optional Requirements

There is currently no data available for this performance measure. The MPO, when able, will commit to collecting these data following the completion of this plan. Baseline data will be available in 2020.

Possible Performance Measures:

- Track the number of projects that are delivered on time (as scheduled).

Possible Desired Target:

Reduction of the number of delayed projects

How will we achieve the goal?

Objectives:

- **7A**: Identify Non-Federal funding opportunities (public or private) to support transportation needs to fund entire projects or greater than the required Federal project match (PBO)
- **7B**: Leverage the existing transportation system by emphasizing low-cost, high impact solutions that may include incremental system improvements, system preservation, and technology applications to achieve congestion in lieu of more expensive projects such as roadway widening (SMO)
- **7C**: Develop policies to support consistent application of development-related improvement requirements and streamlined project development (PBO)

SMO: Scoring Metric Objective | PBO: Policy Based Objective

EXISTING SYSTEM PERFORMANCE

The Existing System Performance analysis evaluated the current conditions for all modes of transportation and was used to identify issues and opportunities for investment over the life of Arrive 2045.

Traffic Operations

The travel demand model provides level of service for the functionally classified roadways. Areas of existing concern based on deficient LOS include many of the metro's most heavily traveled arterial roadways:

- Washington Street
- State Street
- I-94
- Divide Avenue
- Bismarck Expressway
- Centennial Road
- 19th Street N
- 7th Street
- 3rd Street (Mandan)
- Memorial Highway
- Downtown Bismarck and Mandan (various streets)

Asset Management

Highways, roads, and bridges are an integral part of the community. These assets keep the economy moving, connect to daily destinations, and provide access in case of an emergency. Asset managemt is defined as a strategic and systematic process of operating, maintaining, and improving physical assets based on engineering and economic analysis. For Arrive 2045 asset management includes pavement conditions and bridge structures.

- Pavement Conditions
  - 75.6 percent of the Interstate in the MPO area is in good condition and 3 percent in poor condition.
  - 58.3 percent of the Non-Interstate National Highway System in the MPO area is in good condition and 3 percent in poor condition.
  - 85 percent of Bismarck's roadways have an adequate pavement condition and 2 percent in unsatisfactory condition.
  - 84 percent of Mandan's roadways have an adequate pavement condition and 10 percent in unsatisfactory condition.
- Bridge Conditions
  - 70 percent of bridge structures in the MPO area are in good condition and just 2 percent in poor condition.

Roadway Safety

The last five years of crash data was analyzed to understand roadway safety patterns and high crash locations. During this timeframe there were 15,039 motorized vehicle and 238 non-motorized crashes. This includes 23 fatal crashes, of which six occurred at intersections, and 186 serious injury crashes.

Bismarck has 17 of 50 high crash urban locations across North Dakota. Mandan, Lincoln, Burleigh, and Morton County had none.

Other Highlights

- Vehicle miles traveled (the sum of the length of each trip driven by every person on the transportation network) has grown faster in Burleigh County than in Morton County, likely associated with larger population growth and suburban style development.
- Vehicle hours traveled (the sum of the travel time for each trip driven by every person on the tranpsortation network) increased 21 percent between 2010 and 2015.
- Passenger trips on Capital Area Transit's fixed routes have declined nearly 11 percent between 2012 and 2016 and about eight percent on the paratransit and demand response service. The Transit Development Plan was recently completed and outlined a variety of potential service improvements and funding mechanisms.
- The Cities of Bismarck and Mandan have 516 miles of bicycle and pedestrian facilities. The 2017 Bicycle and Pedestrian Plan identified priority routes and intersections to improve walking and biking in the Bismarck-Mandan metro.

GROWTH, TRENDS, AND FORECASTS

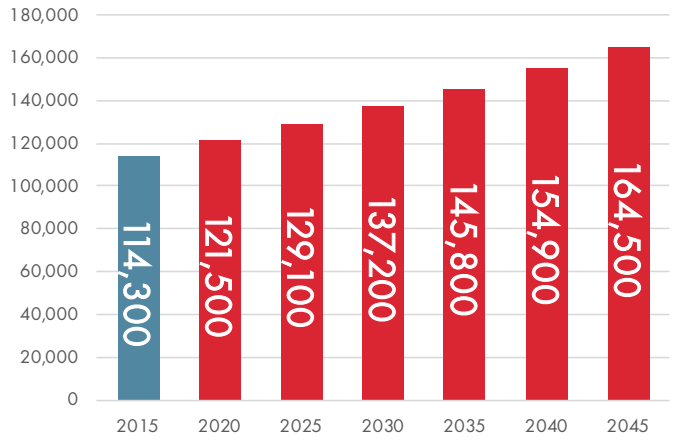
Demographic Trends

Population, household, and employment growth in the Bismarck-Mandan metro area are directly related to the demands placed on the transportation network. As more people and jobs are located in the region, there are more commuting and freight trips. This section includes a review of the population, household, and employment forecasts developed for the Bismarck-Mandan metro area as part of the Bismarck-Mandan Model Review and Socio-Economic Update Study.

Population Growth

The Bismarck-Mandan metro area population has historically grown at a rate of 1.2 percent per year (1985 to 2015), however more recent trends have shown a more significant growth rate, around 2.4 percent per year (2010 to 2015). Recently, the 2045 socioeconomic forecasts were approved using the historic growth rate around 1.2 percent per year, on average, resulting in more than 50,000 new people by 2045, for an expected population of 164,500.

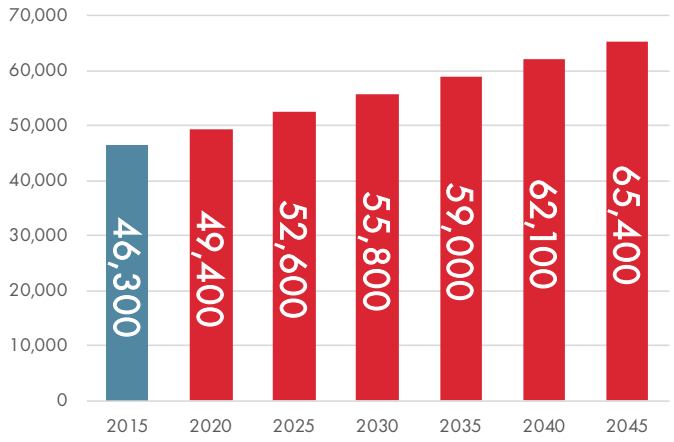
Current and Projected Population



Household Growth

The population growth forecasted through 2045 is allocated to new households based on household size, which reflects a variety of factors, including age and housing type (single-family/multi-family). Household size has declined since the 1970s (3.37) to 2005 (2.39), but has recently stabilized. The demographic forecasts expects a slight increase in household size through 2045. This results in around 65,400 total households in the Bismarck-Mandan metro area by 2045, an increase of more than 19,000 new households. This forecasts is lower (10.5 percent) than previous 25-year forecasts.

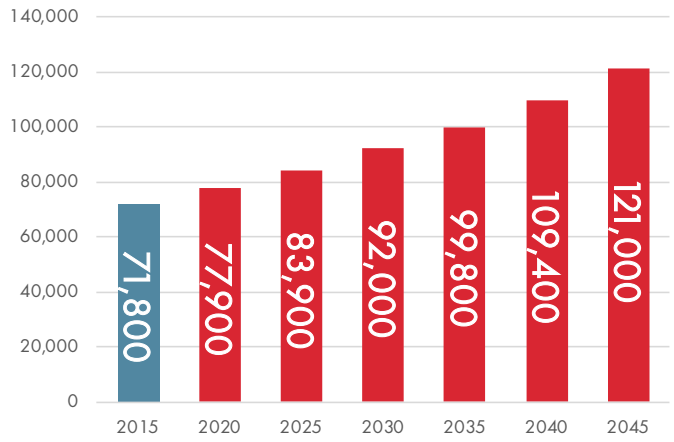
Current and Projected Households



Employment Growth

Employment growth in the Bismarck-Mandan metro area is expected to grow around 1.8 percent per year through 2045, resulting in more than 49,000 new jobs, for a total of 121,000 jobs. This forecast is slightly lower (2.6 percent) than previous 25-year forecasts, likely associated with the uncertainty surrounding energy development in western North Dakota.

Current and Projected Employment



Current and Forecasted Change in Socioeconomic Data

	2015	2020	2025	2030	2035	2040	2045	2015-2045 Percent Change
Metro Population	114,300	121,500	129,100	137,200	145,800	154,900	164,500	43.9%
Metro Households	46,300	49,400	52,600	55,800	59,000	62,100	65,400	41.3%
Metro Jobs	71,800	77,900	83,900	92,000	99,800	109,400	121,000	68.5%

FUTURE SYSTEM PERFORMANCE

The 2020 to 2045 Bismarck-Mandan Metropolitan Transportation Plan uses a year 2045 planning horizon to provide a 25-year time period after plan adoption for prioritizing regional transportation improvements. This chapter provides a performance assessment of the future transportation system.

2030 Future Network Performance

By 2030, the Bismarck-Mandan metro area will add nearly 10,000 households and 20,000 jobs. Even with this anticipated growth, the network will continue to operate effectively through most of the metro, however, there are some areas of growing congestion. Vehicle hours traveled (VHT) by all vehicles on the network will increase 30.3 percent, while vehicle miles traveled (VMT) by all vehicles on the network will increase 28.5 percent. VHT growing at a faster rate than VMT indicates increasing congestion, however mild through 2030.

The 2030 LOS is shown in below. Many of the metro's most heavily traveled arterial roadways will continue to see growing congestion, especially in the northeast.

2030 Model Outputs

	2015	2030	2015-2030 Percent Change
VHT	28,605	37,265	30.3%
VMT	1,753,850	2,253,430	28.5%
% of Links Over Capacity	1.2%	5.1%	322.3%

2045 Future Network Performance

From 2030 to 2045, the Bismarck-Mandan metro area will add another 10,000 households and 29,000 jobs. This anticipated growth begins to overload the network, with many of the functionally classified roadways over capacity. VHT increases far outpace VMT increases, indicating significant congestion on the network. The percent of roadway links over capacity increases more than 10 times when compared to 2015. Many of the metro's most heavily traveled arterial roadways will continue to see growing congestion.

2045 Model Outputs

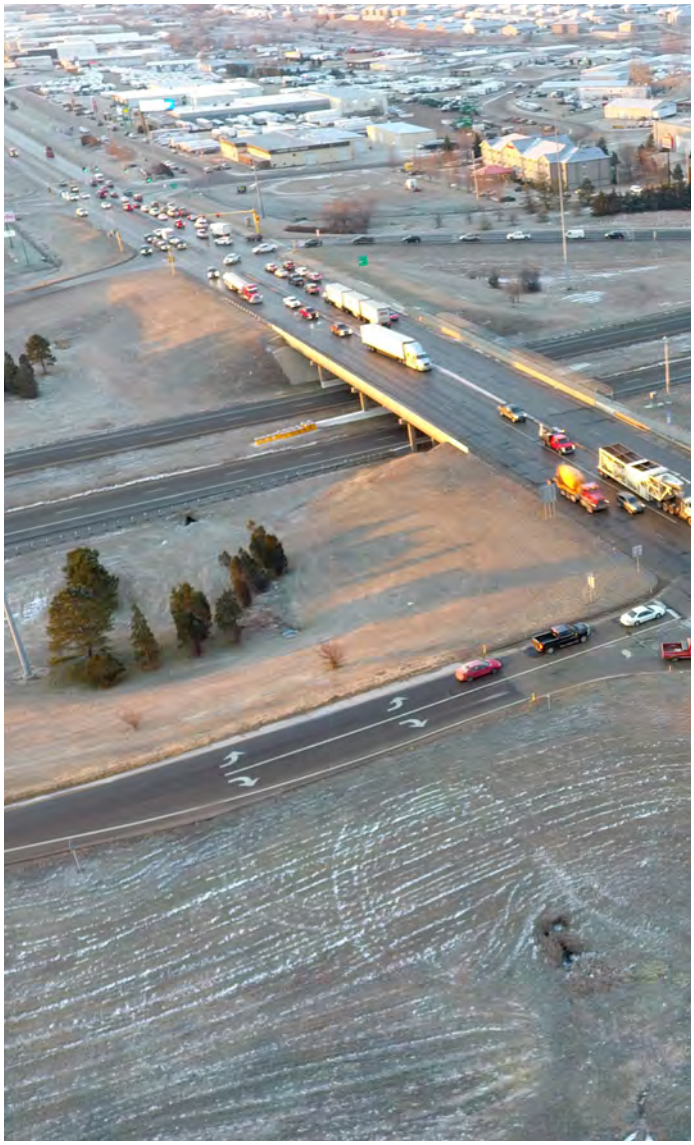
	2015	2045	2015-2045 Percent Change
VHT	28,605	55,650	94.5%
VMT	1,753,850	2,932,685	67.2%
% of Links Over Capacity	1.2%	13.6%	1,033.3%

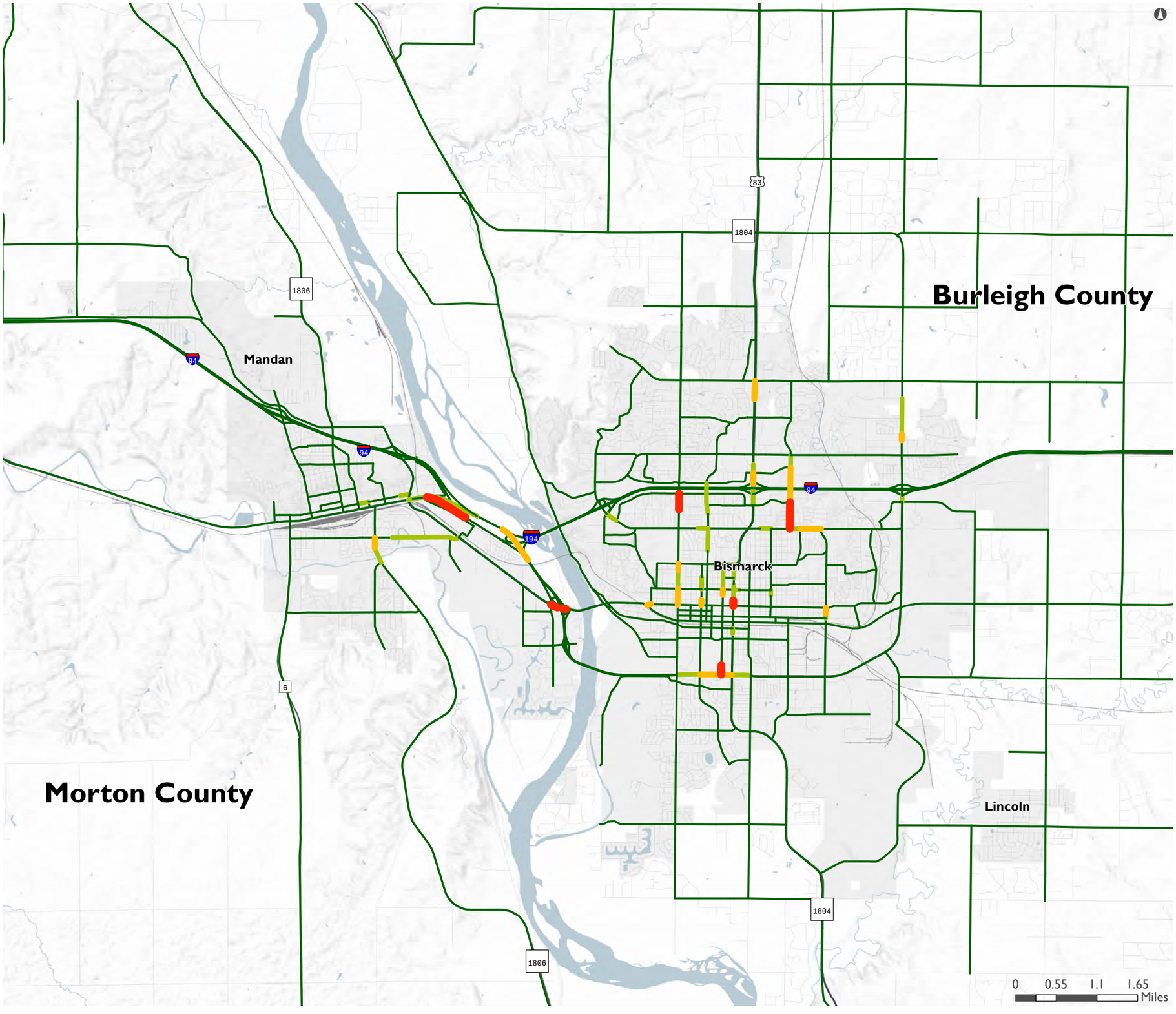
ALTERNATIVE ANALYSIS

The alternatives analysis for Arrive 2045 was a multi-phased approach to assist in the identification of projects that should be evaluated and prioritized through 2045. This process included the following analyses:

- The Macro-Level Analysis evaluated large project concepts that would potentially address some of the most significant transportation issues, like new river crossings, interchanges, and other major connections.
- The Interstate Analysis completed a more detailed evaluation of the I-94 and I-194 mainline and existing interchanges.
- Smart Mobility workshop evaluated the impacts connected and autonomous vehicles and technology solutions could have on the transportation network.
- Project Evaluation and Prioritization scored and ranked the universe of projects included in this MTP.

Growing Traffic Demands Along Centennial Road





Existing and Committed Projects Only

Level of Service 2015

Level of Service

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

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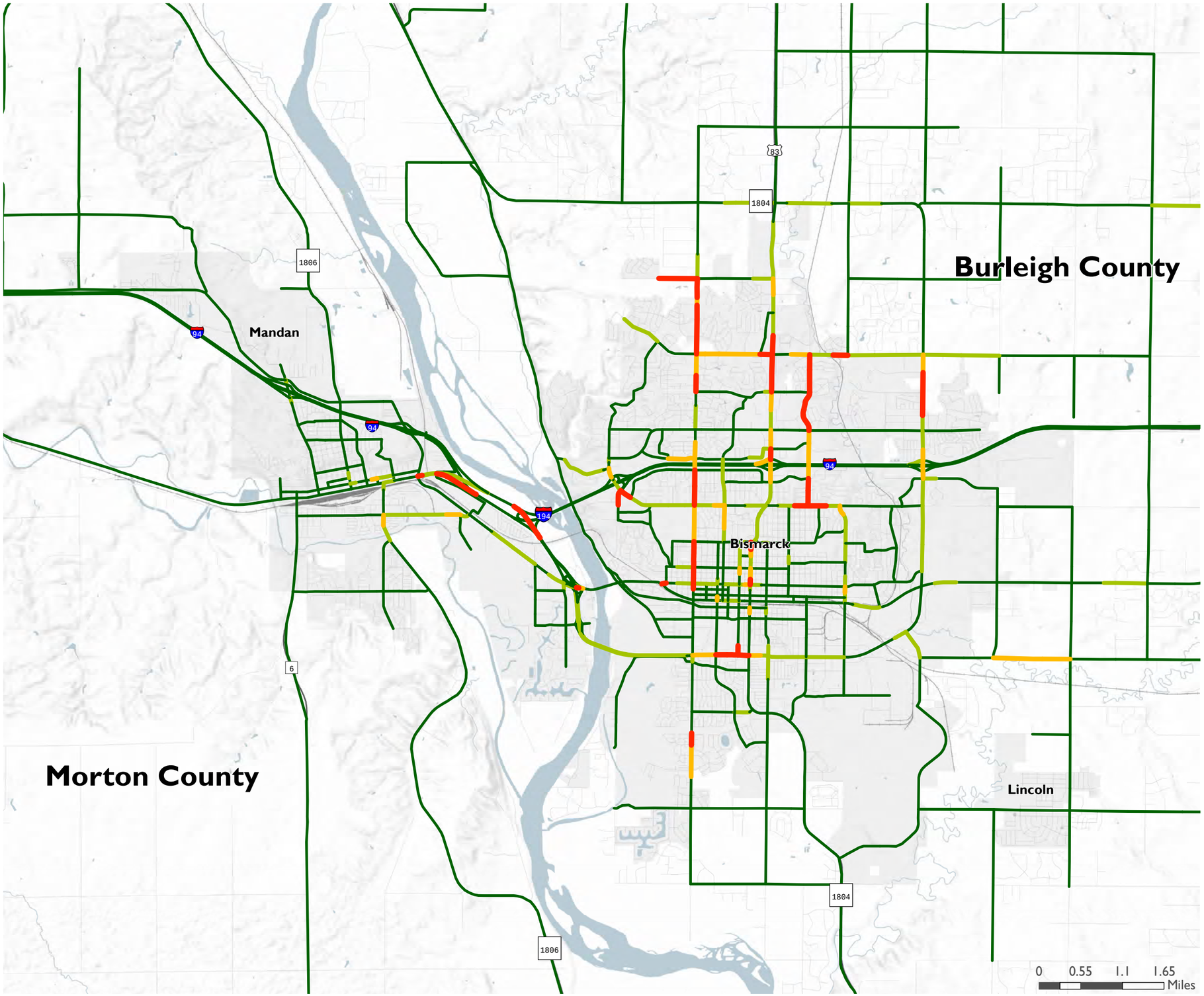

Existing and Committed Projects Only

Level of Service 2030

LOS 2030

- F
- E
- D
- A-C

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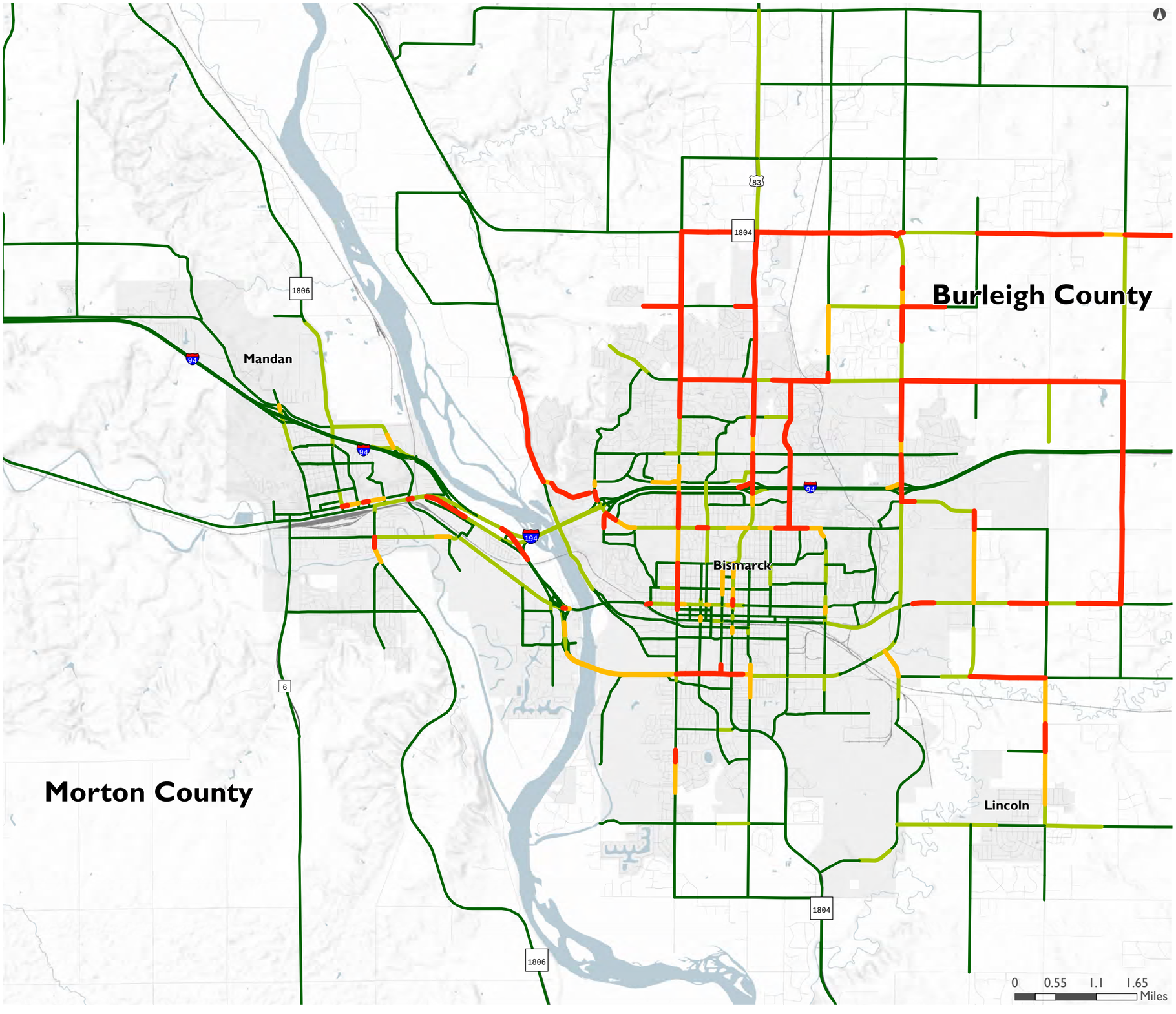

Existing and Committed Projects Only

Level of Service 2045

LOS 2045

- F
- E
- D
- A-C

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FISCALLY CONSTRAINED PLAN

Development of the Fiscal Constraint

Development of the project list for Arrive 2045 must be based on an established fiscal constraint agreed to between the Bismarck-Mandan MPO and NDDOT. Development of a fiscal constraint can be based on a variety of scenarios and data points regarding transportation funding programs. Five potential scenarios were evaluated based on historical spending and future programmed funds from the current Transportation Improvement Programs. These trends were extrapolated to 2045 and allocated to the different funding programs, including Urban Roads, Regional Roads, Interstate, Safety, and Transportation Alternatives. The scenario selected was reduced by expected preservation and maintenance costs and operations costs to ensure the fiscal constraint is sufficient to manage the existing transportation network before expansion projects were considered. The table below shows the funding available across all project areas and across the short-term (2024-2031), mid-term (2032-2038), and long-term (2039-2045).

Prioritization of Projects

To determine which projects would be selected given limited funds and in what time period the project would be proposed, all projects were prioritized through a three-step process including

- Technical project evaluation based on the project goals and evaluation criteria. A composite score was calculated for each project based on the goal score times the goal weight which was developed as part of the public involvement process.
- Public involvement during the second round of public meetings where the public could select their top priorities.
- Steering Committee review of technical needs and construction feasibility.

Year	Urban	Regional	Interstate	Safety (State)	Safety (Urban)	TA + RTP
Base Year	**$3,936,368**	**$4,581,824**	**$5,120,750**	**$699,713**	**$651,250**	**$233,750**
2024	$4,172,550	$428,524	$3,321,051	$741,695	$690,325	$247,775
2025	$4,235,138	$399,247	$3,318,193	$752,821	$700,680	$251,492
2026	$4,298,666	$366,977	$3,313,186	$764,113	$711,190	$255,264
2027	$4,363,145	$331,568	$3,305,912	$775,575	$721,858	$259,093
2028	$4,428,593	$292,866	$3,296,250	$787,208	$732,686	$262,979
2029	$4,495,022	$250,712	$3,284,073	$799,016	$743,676	$266,924
2030	$4,562,447	$204,939	$3,269,248	$811,002	$754,831	$270,928
2031	$4,630,884	$155,372	$3,251,638	$823,167	$766,154	$274,992
Subtotal	**$29,967,507**	**$2,430,206**	**$26,359,550**	**$6,254,597**	**$5,821,400**	**$2,089,447**
2032	$4,700,347	$1,976,831	$3,231,098	$835,514	$777,646	$279,117
2033	$4,770,852	$1,919,128	$3,207,477	$848,047	$789,311	$283,303
2034	$4,842,415	$1,857,064	$3,087,523	$848,047	$789,311	$283,303
2035	$4,915,051	$1,790,436	$3,055,866	$860,768	$801,150	$287,553
2036	$4,988,777	$1,719,029	$2,926,125	$860,768	$801,150	$287,553
2037	$5,063,608	$1,642,620	$2,885,684	$873,679	$813,168	$291,866
2038	$5,139,563	$1,560,977	$2,745,356	$873,679	$813,168	$291,866
Subtotal	**$28,298,190**	**$12,466,086**	**$21,139,129**	**$6,000,502**	**$5,584,903**	**$2,004,562**
2039	$5,216,656	$1,473,859	$2,695,322	$886,784	$825,365	$296,244
2040	$5,294,906	$1,381,012	$2,640,890	$900,086	$837,746	$300,688
2041	$5,374,329	$1,282,174	$2,581,847	$913,587	$850,312	$305,198
2042	$5,454,944	$1,177,072	$2,517,971	$927,291	$863,066	$309,776
2043	$5,536,769	$1,065,420	$2,449,034	$941,201	$876,012	$314,423
2044	$5,619,820	$946,920	$2,374,794	$955,319	$889,153	$319,139
2045	$5,704,117	$821,264	$2,295,002	$969,648	$902,490	$323,926
Subtotal	**$30,144,852**	**$8,147,721**	**$17,554,860**	**$6,493,916**	**$6,044,144**	**$2,169,395**
Total	**$88,410,549**	**$23,044,013**	**$65,053,539**	**$18,749,015**	**$17,450,447**	**$6,263,404**

Fiscally Constrained Project List

Projects are assigned a time period based on their relative need. So, even if a project could be funded in a later phase, it is kept in the phase at which it is needed and would be listed as "illustrative" which allows for a better representation of unmet funding needs.

Short-Range Projects

The most significant time period and project list is the short-range list, which reflects projects from which to choose for developing the next five TIPs until Arrive 2045 is updated in 2025. Projects with a yellow fill are recommended for inclusion in the constrained plan and would reflect the MPO's prioritized list.

Based on the identification of short range projects, below reflects the financial analysis for the years 2024 to 2031 of Arrive 2045, with a summary of the revenue programs below.

- Urban Program
  - Requires $16M to $19M in Bismarck sales tax to balance program.
  - All Bismarck projects are sales tax eligible; sales tax benefit to the urban system is not fully shown in MTP financial analysis.
- Regional Program
  - Program is balanced; however, P&M revenues needed to support low cost improvements on State Street.
  - Assumes constraint of low cost improvements on State Street while high cost improvements on State Street remain illustrative.
- Interstate Program
  - Generally balanced, includes reconstruction of Exit 161.

Mid Range Projects

Projects with a yellow fill are recommended for inclusion in the constrained plan. Unlike the short-range project lists, there is no Urban Program priority. These projects can be prioritized as necessary.

Mid-Range Financial Analysis

Based on the identification of mid-range range projects, below reflects the financial analysis for the years 2032 to 2038 of Arrive 2045, with a summary of the revenue programs below.

- Urban Program
  - Program slightly out of balance, likely balanced with use of Bismarck Sales Tax.
- Regional Program
  - Program is balanced; however, requires use of P&M revenue to support program.
  - Assumes constraint of low cost improvements on State Street but high cost improvements on State Street remain illustrative.
- Interstate Program
  - Requires more capacity investment to support reconstruction of Exit 159; program still balanced.

Long-Range Projects

Projects with a yellow fill are recommended for inclusion in the constrained plan and can be prioritized as necessary.

Based on the identification of long-range range projects, below reflects the financial analysis for the years 2039 to 2045 of Arrive 2045, with a summary of the revenue programs below.

- Urban Program
  - Program balanced.
- Regional Program
  - Program is balanced; however, requires use of P&M revenue to support program.
  - Assumes constraint of low cost improvements on State Street while high cost improvements on State Street remain illustrative.
- Interstate Program
  - No capacity programmed in long range (e.g. 66th Street Interchange not included in constrained MTP).

Fiscally Constrained Projects and Future Network Performance

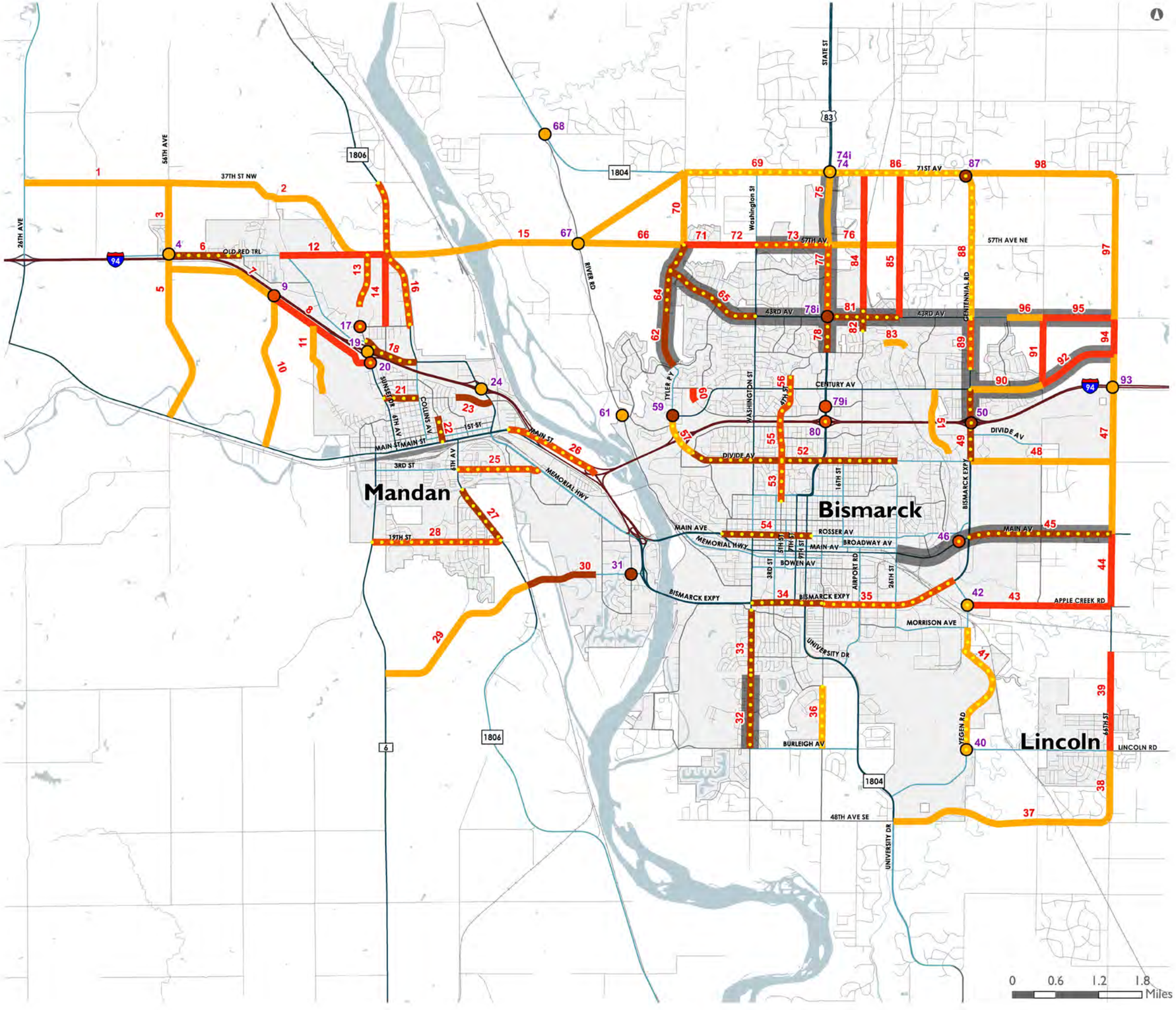
Projects that were cost constrained in the short-, mid-, and long-term were applied to the travel demand model. The prioritized and constrained projects reduce congestion, when compared to the 2030 and 2045 networks without these projects, but increase vehicle miles traveled.

2030 Fiscally Constrained Projects Model Outputs

	2015	2030	2015-2030 Percent Change
VHT	28,605	37,415	30.8%
VMT	1,753,850	2,489,035	41.9%
% of Links Over Capacity	1.2%	2.8%	133.3%

2045 Fiscally Constrained Projects Model Outputs

	2015	2045	2015-2045 Percent Change
VHT	28,605	49,235	72.1%
VMT	1,753,850	3,291,190	87.7%
% of Links Over Capacity	1.2%	7.6%	533.3%



Project Phasing

- Short Range Projects
- Mid Range Projects
- Long Range Projects
- Short Range Projects for Constrained Plan
- Mid Range Projects for Constrained Plan
- Long Range Projects for Constrained Plan
- Bismarck Sales Tax Eligible Corridors

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Short-Range Project List

ID	Location	Termini	Termini	Description	Phase	Cost	Year of Expenditure [YOE]	Program	Urban Program Priority
6	Old Red Trail	56th Avenue	40th Avenue NW	Reconstruct as 3-lane urban section.	Short	$8,400,000	$9,826,812	Urban	2
18	Old Red Trail	Sunset Drive	ND1806 / Collins Avenue	Restripe for 3-lane urban section.	Short	$39,500	$46,209	Safety	
21	Division Street	Sunset Drive	ND 1806 / Collins Avenue	Reconstruction.	Short	$2,500,000	$2,924,646	Urban	5
22	3rd Avenue NE	Main Street	5th Street	Reconstruction.	Short	$2,500,000	$2,924,646	Urban (P&M)	7
23	Division Street	8th Avenue E	Mandan Avenue	Construct as 2-lane urban section.	Short	$2,880,000	$3,369,193	Urban	
27	Highway 1806	19th Street	Heart River Bridge	Pavement preservation project, including addition of turn lanes and signals at 8th Avenue and 19th Street.	Short	$1,750,000	$2,047,252	Regional	
30	McKenzie Road	Highway 1806	39th Avenue E	Construct as 2-lane rural section. Include new bridge across Heart River. Add signals at McKenzie Drive/ Bismarck Expressway ramps and at McKenzie Drive/40th Avenue.	Short	$15,650,000	$18,308,286	Urban	
31	McKenzie Road	46th Avenue SE		Intersection capacity improvement.	Short	$2,500,000	$2,924,646	Urban	
32	Washington Street	Burleigh Avenue	Drainage Channel	Reconstruct as 3-lane urban arterial.	Short	$8,720,000	$10,201,167	Urban	3
33	Washington Street	Drainage Channel	Denver Avenue	Turn lane improvements including restripe south of Reno Avenue as 3-lane section.	Short	$39,000	$45,624	Safety	
34	Bismarck Expressway	Washington Street	12th Street	Safety improvements.	Short	$5,000,000	$5,849,293	Safety	
45	Main Avenue	Bismarck Expressway	66th Street	Widen from 2-lane to 3-lane section (including intersection improvement at 52nd Street).	Short	$10,020,000	$11,721,983	Urban	6
49	Bismarck Expressway / Centennial Road	Divide Avenue	Century Avenue	Widen from 5-lane to 6-lane section.	Short	$3,960,000	$4,632,640	Mix	
50	Bismarck Expressway / Centennial Road	I-94		Interchange reconstruction.	Short	$25,000,000	$29,246,464	Interstate	
52	Divide Avenue	Turnpike Avenue	26th Street	Restripe as 3-lane urban section.	Short	$143,500	$167,875	Safety	
54	Rosser Avenue	Main Avenue	10th Street	Restripe as 3-lane urban section.	Short	$62,000	$72,531	Safety	
59	Century Avenue	Tyler Parkway		Intersection capacity improvement.	Short	$2,500,000	$2,924,646	Urban	
62	Tyler Parkway	Valley Drive	43rd Avenue	Construct as 2-lane urban section.	Short	$4,260,000	$4,983,597	Urban	
64	Tyler Parkway	43rd Avenue	57th Avenue	Overlay existing roadway to 2-lane rural section.	Short	$500,000	$584,929	Urban	8
65	Ash Coulee Drive	Tyler Parkway	Washington Street	Widen from 2-lane to 3-lane urban section.	Short	$5,240,000	$6,130,059	Urban	4
78	State Street	Calgary Avenue	43rd Avenue	At grade improvements: Calgary Avenue and 43rd Avenue; widening to 6-lane urban section from Calgary Avenue through 43rd Ave intersection.	Short	$15,185,000	$17,764,302	Regional	
78i	State Street	43rd Avenue		Grade separation.	Short	$30,000,000	$35,095,757	Regional	
81	43rd Avenue	State Street	26th Street	Construct 3-lane or 5-lane urban section.	Short	$10,000,000	$11,698,586	Urban	1
82	19th Street	North Valley Loop/Yucca Avenue	43rd Avenue	Reconstruct as 3-lane urban section.	Short	$1,380,000	$1,614,405	Urban	1
87	71st Avenue	Centennial Road		Intersection capacity improvement.	Short	$2,500,000	$2,924,646	Safety	
TBD	State Street	Calgary Avenue	43rd Avenue	Shared use path.	Short	$1,000,000	$1,169,859	Regional	

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Mid-Range Project List

ID	Location	Termini	Termini	Description	Phase	Cost	Year of Expenditure [YOE]	Program
8	Boundary Road	32nd Avenue	Sunset Drive	Construct as 3-lane urban section.	Mid	$12,640,000	$20,237,047	Urban
9	32nd Avenue	I-94		Grade separation.	Mid	$15,000,000	$24,015,483	Urban
12	38th Street NW	Old Red Trail	Collins Avenue / ND 1806	Construct as 2-lane urban section.	Mid	$8,700,000	$13,928,980	Urban
13	Sunset Drive	Middle School	38th Street	Construct as 2-lane urban section.	Mid	$4,500,000	$7,204,645	Urban
14	8th Avenue NW	27th Street	38th Street	Construct as 2-lane urban section.	Mid	$6,000,000	$9,606,193	Urban
16	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)	Mid	$2,711,000	$4,340,398	Regional (P&M)
17	27th Street N / Sunset Drive Intersection	Sunset Drive		Intersection capacity improvement.	Mid	$2,500,000	$4,002,581	Safety
20	Boundary Road	Sunset Drive		Signalize and stripe turn lanes on all approaches.	Mid	$350,000	$560,361	Safety
25	3rd Street	6th Avenue / ND1806	Memorial Highway	Restripe to include turn lanes or restripe to 3-lane section with center turn lane and no parking.	Mid	$57,000	$91,259	Safety
26	I-94	I-194		Additional westbound lane from I-94/I-194 to Main St/Exit 155.	Mid	$6,000,000	$9,606,193	Interstate
28	19th Street SE	ND 6	ND1806	Reconstruct as 3-lane urban section.	Mid	$14,400,000	$23,054,864	Urban
35	Bismarck Expressway	12th Street	Yegen Road	Implement 3/4 access control at 5 intersections and add right turn at Airport Road.	Mid	$500,000	$800,516	Regional (P&M)
39	66th Street	Lincoln Road	Northgate Drive	Widen from 2-lane to 3-section.	Mid	$5,480,000	$8,773,657	Urban
43	Apple Creek Road	Yegen Road	66th Street	Intersection capacity improvements at all intersections.	Mid	$5,000,000	$8,005,161	Urban
44	66th Street	Apple Creek	Highway 10/ Old Main Avenue	Widen from 2-lane to 3-section.	Mid	$4,040,000	$6,468,170	Urban
46	Main Avenue	Hay Creek Crossing		Structural replacement.	Mid	$500,000	$800,516	Regional (P&M)
53	4th Street	Boulevard Avenue	Divide Avenue	4th Street signal timing Improvements, stripe turn lanes at key intersections, potential new signal at Turnpike.	Mid	$278,500	$445,887	Safety
55	4th Street	Divide Avenue	Century Avenue	4th Street signal timing Improvements, stripe turn lanes at key intersections, potential new signal at Turnpike.	Mid	$303,000	$485,113	Safety
56	4th Street	Century Avenue	Montreal Street	4th Street signal timing Improvements, stripe turn lanes at key intersections, potential new signal at Turnpike.	Mid	$275,000	$440,284	Safety
60	Interstate Avenue	Country West Road	Country West Road	Construct as 2-lane urban section.	Mid	$1,140,000	$1,825,177	Urban
71	57th Avenue	Tyler Parkway	Crested Butte Road	Construct as 3-lane rural section.	Mid	$3,150,000	$5,043,251	Urban
72	57th Avenue	Crested Butte Road	Washington Street	Construct as 3-lane rural section.	Mid	$3,710,000	$5,939,830	Urban
73	57th Avenue	Washington Street	State Street	Construct as 3-lane rural section.	Mid	$7,000,000	$11,207,226	Urban
77	State Street	43rd Avenue	57th Avenue	Widen to 6-lanes from N of 43rd through 57th; intersection improvement at 57th.	Mid	$11,350,000	$18,171,716	Regional
79i	State Street	Interstate Boulevard		Grade separation.	Mid	$23,000,000	$36,823,741	Regional
80	State Street	I-94		Interchange reconstruction.	Mid	$21,000,000	$33,621,677	Interstate
84	19th Street	Skyline Boulevard	71st Avenue	Construct as 3-lane urban section.	Mid	$15,040,000	$24,079,525	Urban
85	26th Street	43rd Avenue	71st Avenue	Construct as 3-lane rural section.	Mid	$16,000,000	$25,616,515	Urban
89	Centennial Road	Jericho Road	43rd Avenue	Widen from 3-lane to 5-lane urban section.	Mid	$2,800,000	$4,482,890	Urban
91	52nd Street	Century Avenue	43rd Avenue	Reconstruct as 3-lane rural section.	Mid	$7,440,000	$11,911,680	Urban
92	Century Avenue	52nd Street	66th Street	Construct 3-lane urban section.	Mid	$9,040,000	$14,473,331	Urban
94	66th Street	Century Avenue	43rd Avenue	Reconstruct as 3-lane urban section.	Mid	$4,190,000	$6,708,325	Urban
95	43rd Avenue	52nd Street	66th Street	Widen from 2-lane to 3-lane or 5-lane urban section.	Mid	$8,000,000	$12,808,258	Urban

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Long-Range Project List

ID	Location	Termini	Termini	Description	Phase	Cost	Year of Expenditure [YOE]	Program
1	37th Street NW	ND 25	56th Avenue	Construct 2-lane urban section.	Long	$12,060,000	$24,431,347	
2	37th Street NW	56th Avenue	ND 1806	Construct 3-lane urban section.	Long	$27,920,000	$56,560,797	
3	56th Avenue	Old Red Trail	37th Street	Reconstruct as 3-lane urban section .	Long	$8,000,000	$16,206,532	Urban
4	56th Avenue NW	I-94		New interchange.	Long	$25,000,000	$50,645,413	Interstate
5	56th Avenue NW	I-94 Business Loop (Main Street)	Old Red Trail	Construct as 3-lane urban section.	Long	$19,280,000	$39,057,742	Urban
7	Boundary Road	56th Avenue / I-94 Interchange	32nd Avenue	Construct as 3-lane urban section.	Long	$13,200,000	$26,740,778	Urban
10	32nd Avenue W	I-94 Business Loop (Main Street)	Boundary Road (Future)	Construct as 2-lane urban section.	Long	$12,660,000	$25,646,837	Urban
11	31st Street	Lohstreter Road	Boundary Road (Future)	Construct as 2-lane urban section.	Long	$5,940,000	$12,033,350	Urban
15	Northern Bridge Corridor	38th Street (Mandan)	River Road	Construct as 2-lane rural section. Include new bridge across Heart River. Add signals at McKenzie Drive / Bismarck Expressway ramps and at McKenzie Drive / 40th Avenue.	Long	$62,450,000	$126,512,241	
19	Sunset Drive	I-94		Interchange reconstruction.	Long	$25,000,000	$50,645,413	Interstate
24	Mandan Avenue	I-94		Interchange reconstruction.	Long	$25,000,000	$50,645,413	Interstate
29	McKenzie Road	ND 6	ND 1806	Construct as 2-lane rural section.	Long	$12,550,000	$25,423,997	Urban
36	12th Street	Burleigh Avenue	Santa Fe Avenue	Add turn lanes at Santa Fe Avenue and Burleigh Avenue.	Long	$1,000,000	$2,025,817	Safety
37	48th Avenue S	University Drive	66th Street	Construct 2-lane rural section and structure improvements at Apple Creek crossing.	Long	$19,800,000	$40,111,167	Urban
38	66th Street	48th Avenue S	Lincoln Road	Reconstruct as 2-lane urban section.	Long	$5,880,000	$11,911,801	Urban
40	Lincoln Road	Yegen Road / Airway Avenue		Intersection capacity improvement.	Long	$2,500,000	$5,064,541	Safety
41	Yegen Road	Lincoln Road	Morrison Avenue	Add 6 new turn lanes in key locations.	Long	$1,500,000	$3,038,725	Safety
42	Apple Creek Road	Yegen Road		Intersection capacity improvement.	Long	$2,500,000	$5,064,541	Safety
47	66th Street	Highway 10 / Old Main Avenue	Century Avenue	Construct as 3-lane urban section (tied with project for interchange with I-94 at 66th Street).	Long	$19,920,000	$40,354,265	Urban
48	Divide Avenue	Bismarck Expressway	66th Street	Reconstruct as 3-lane urban section.	Long	$15,200,000	$30,792,411	Urban
51	Hamilton Street / Channel	Divide Avenue	Century Avenue	Construct as 2-lane urban section with grade separation.	Long	$20,940,000	$42,420,598	Urban
57	Tyler Parkway	Schafer Road	Burnt Board Drive	Intersection capacity improvement. Add turn lanes and include safety improvements.	Long	$750,000	$1,519,362	Urban
61	Burnt Boat Drive	River Road		Intersection capacity improvement.	Long	$2,500,000	$5,064,541	Urban
66	57th Avenue	River Road	Tyler Parkway	Construct as 3-lane rural section.	Long	$10,220,000	$20,703,845	Urban
67	Burnt Creek Loop South (57th Avenue)	River Road		Intersection capacity improvement.	Long	$2,500,000	$5,064,541	Urban
68	Burnt Creek Loop North / River Road	ND 1804		Intersection capacity improvement.	Long	$2,500,000	$5,064,541	Regional
69	71st Avenue/ ND 1804	15th Street/Tyler Parkway	State Street	Widen from 2-lane to 4-lane section.	Long	$10,150,000	$20,562,038	Regional
70	Tyler Parkway	57th Avenue	ND 1804 / 71st Avenue	Construct as 3-lane urban section.	Long	$7,920,000	$16,044,467	Urban
74	71st Street	State Street		Intersection capacity improvement.	Long	$2,200,000	$4,456,796	Regional
74i	71st Street	State Street		Grade separation.	Long	$25,000,000	$50,645,413	Regional
75	State Street	57th Avenue	71st Avenue	Widen to 6-lanes from 57th Avenue to ND 1804/ 71st Avenue.	Long	$12,600,000	$25,525,288	Regional
76	57th Avenue	State Street	26th Street	Construct 3-lane urban section.	Long	$7,680,000	$15,558,271	Urban
83	Calgary Avenue	DMVW Railroad	Haycreek Road	Construct 2-lane urban section across DMVW RR with grade separation.	Long	$36,980,000	$74,914,695	Urban
86	71st Avenue	State Street	Centennial Road	Widen from 2-lane to 3-lane rural section.	Long	$7,280,000	$14,747,944	Urban
88	Centennial Road	43rd Avenue	71st Avenue	Widen from 2-lane to 3-lane rural section.	Long	$7,960,000	$16,125,499	Urban
90	Century Avenue	Centennial Road	52nd Street	Reconstruct as 5-lane urban section.	Long	$10,875,000	$22,030,755	Urban
93	I-94	66th Street		New interchange.	Long	$25,000,000	$50,645,413	Interstate
96	43rd Avenue	Roosevelt Drive	52nd Street	Widen from 2-lane to 3-lane urban section.	Long	$1,960,000	$3,970,600	Urban
97	66th Street	43rd Avenue	71st Avenue	Reconstruct/New Construct as a 3-lane urban section.	Long	$15,600,000	$31,602,738	Urban
98	71st Avenue	Centennial Road	66th Street	Reconstruct as a 3-lane urban section.	Long	$16,160,000	$32,737,195	Urban

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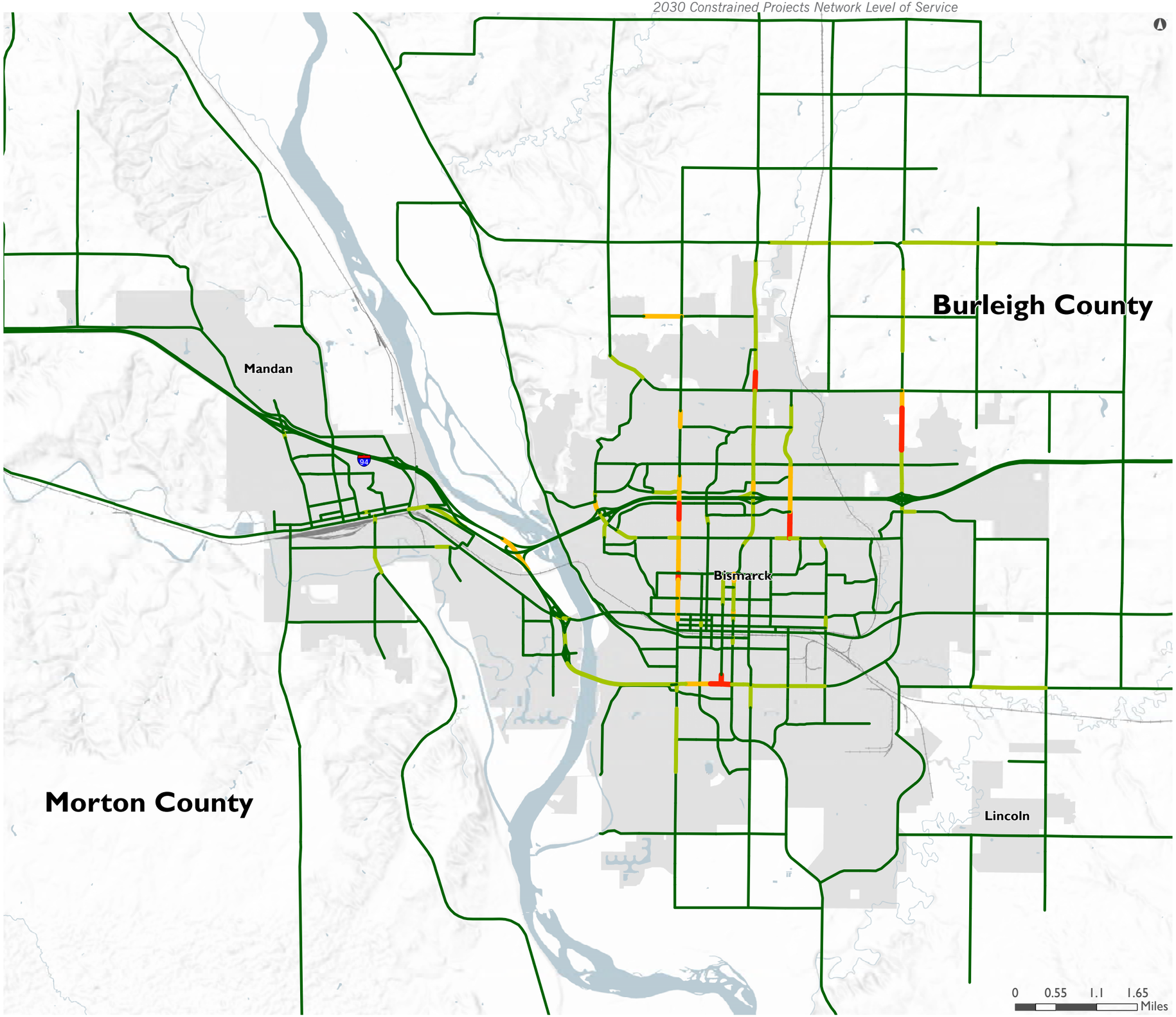
2030 Constrained Projects Network Level of Service



Constrained Projects

Level of Service 2030

LOS 2030

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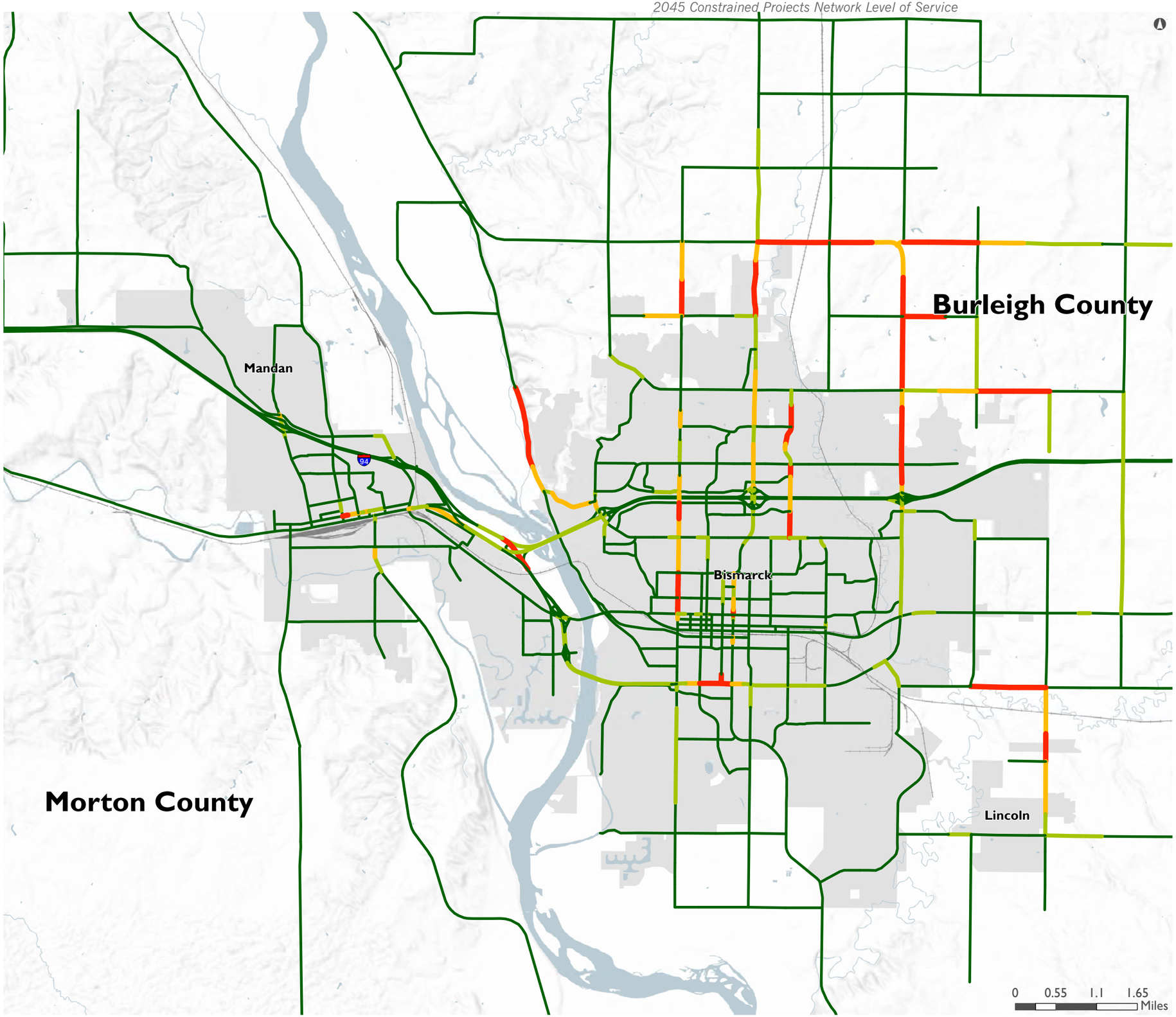
2045 Constrained Projects Network Level of Service



Constrained Projects

Level of Service 2045

LOS 2045

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