



## Highway Department

Telephone: 701-298-2370

Fax: 701-298-2395

SMB-HWY@casscountynd.gov

---

### MEMORANDUM

TO: Cass County Commission

FROM: Jason Benson, County Engineer 

DATE: May 6, 2023

SUBJECT: Agenda Item for May 15<sup>th</sup>, 2023 Cass County Commission. West Metro Perimeter Highway Study with Metro COG

Cass County has been involved and led significant efforts to develop a long term plan for a west metro perimeter highway. This concept was first outlined in the 2018 Cass County Comprehensive and Transportation Plan which serves as a broad vision and guide for the future of Cass County. In 2018 Cass County informally at an internal level discussed potential options to integrate a future Cass County highway to serve as a transportation Reliever Route to Interstate 29 and Interstate 94.

Given the substantial amount of right of way and related earth work required for the FM Area Diversion, it was discussed that there could be the potential to integrate the development of a limited access paved two-lane county corridor developed in tandem with the FM Area Diversion. Right of way would be assumed to allow for the potential conversion of the corridor to a four-lane facility if demands warranted.

In 2018 it was determined that more discussion on this concept should be carried forward for discussion through both the FM Area Diversion Authority and Metro COG. This concept was carried forward to several high level discussions with the NDDOT and Metro COG. It was then forwarded for consideration as part of Metro COG's update of the 2045 Long Range Transportation Plan (LRTP). Following the 2045 LRTP study, this concept was further vetted through the recently completed 2022-2023 Metro COG Interstate Operations Study.

The Interstate Operations Study which analyzes current and projected traffic along the interstate system within the Fargo-Moorhead metropolitan area. As part of this study, a preliminary look at projected traffic volumes on a west metro perimeter highway found that this corridor would be one of the most heavily traveled highways in Cass County.

The Interstate Operations Study showed that as the Fargo-Moorhead metropolitan area continues to grow, traffic volumes continue to increase on the interstate system (I-29 and I-94), as well as other urban corridors. A bypass corridor or 'perimeter highway' could alleviate traffic volumes through the Fargo-Moorhead metro area, cut down on trip lengths, and provide alternate routing

options.

In addition, the FM Area Diversion is currently underway which is constructing a channel west of the metro area. As part of this project, land has been acquired for the FM Area Diversion project. Purchased land adjacent to the channel should be sufficient for other uses such as a highway. With unneeded land being sold back in the near future, it is imperative to analyze whether a west metro perimeter highway is warranted and feasible in the near and/or long-term horizon.

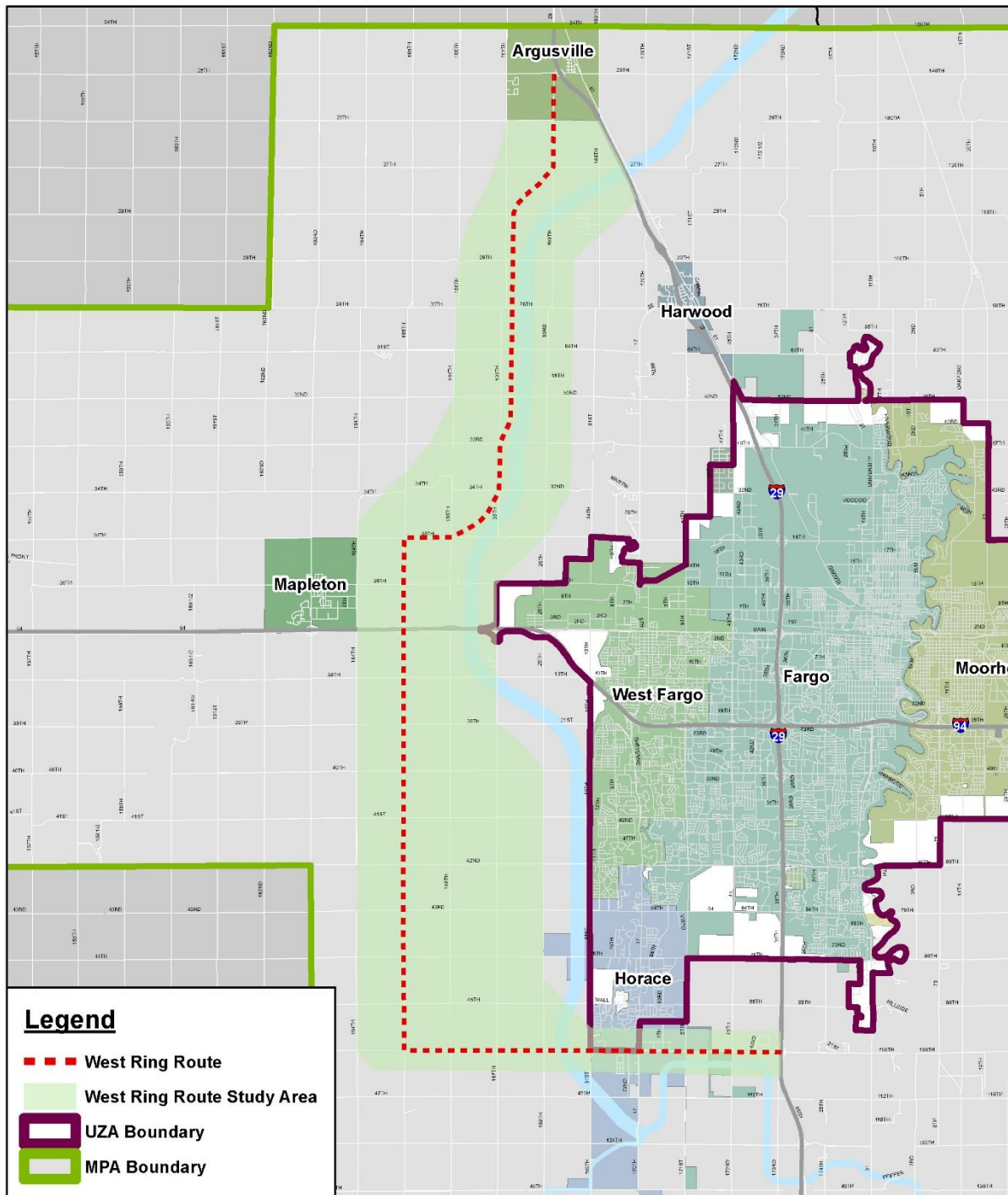
The objective of this planning study is to analyze the need and feasibility of a west metro perimeter highway, develop layouts, alternatives, and planning level cost estimates, determine needed right-of-way, and develop an implementation strategy. This study will also serve as a critical step toward discussions with the NDDOT and for potential FHWA highway funding grants for planning/design and construction. The benefits of this study and potential project grants and project cost savings could be in the 10's of millions of dollars.

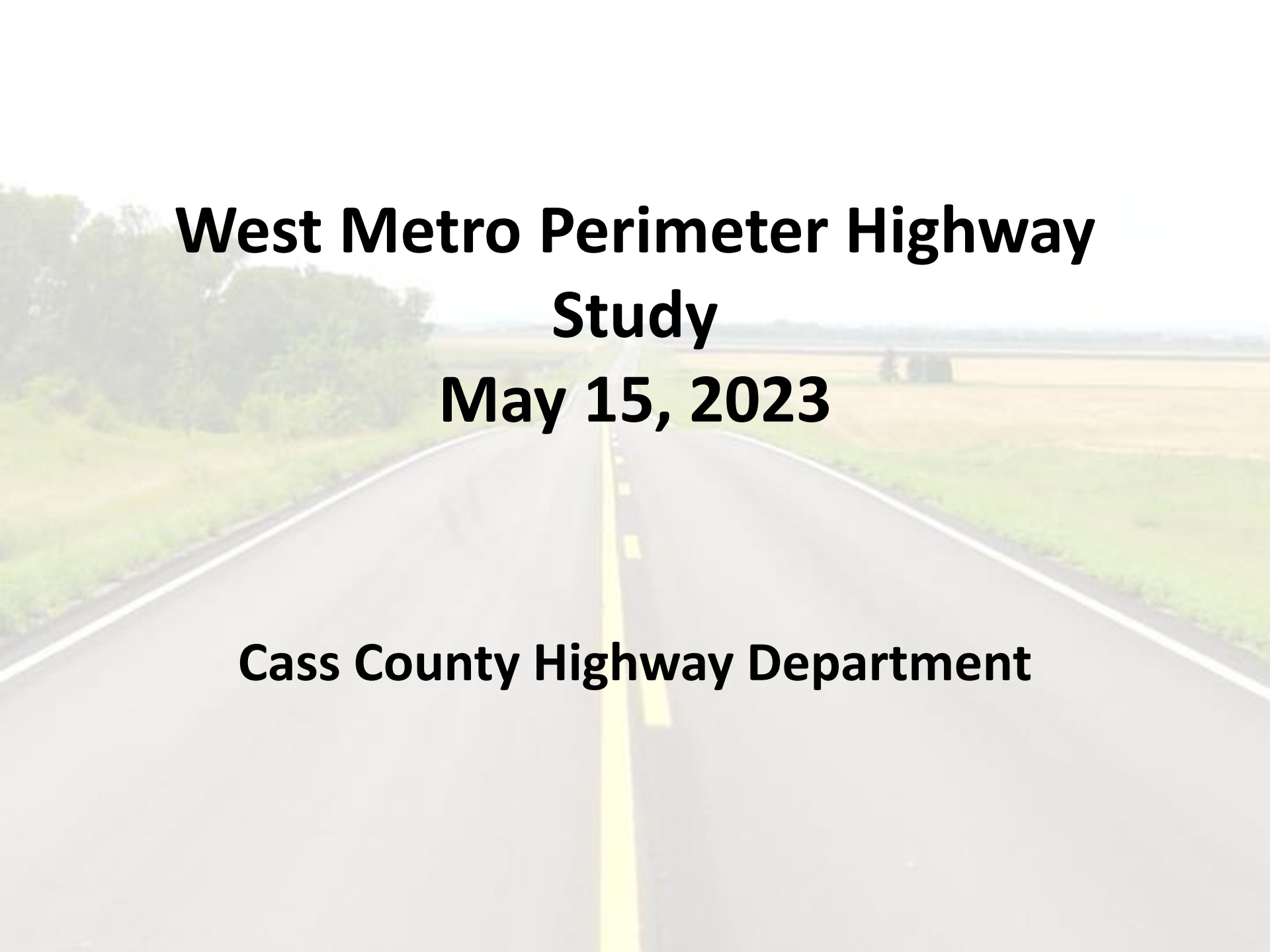
This study is being led by Metro COG with the local cost of \$200,000. Metro COG has asked Cass County to participate in the local funding with a 25% cost share of \$50,000. Due to the timing of the study and completion date, this funding request would be added to the 2024 Highway Department budget.

**SUGGESTED MOTION:**

Move to authorize adding \$50,000 to the 2024 Highway Department budget for the West Metro Perimeter Highway Study with Metro COG.

# Study Area Map



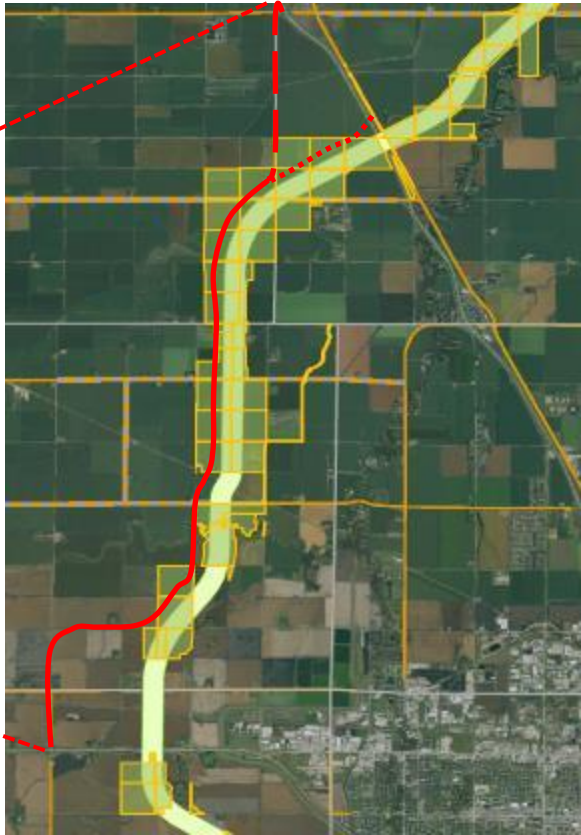
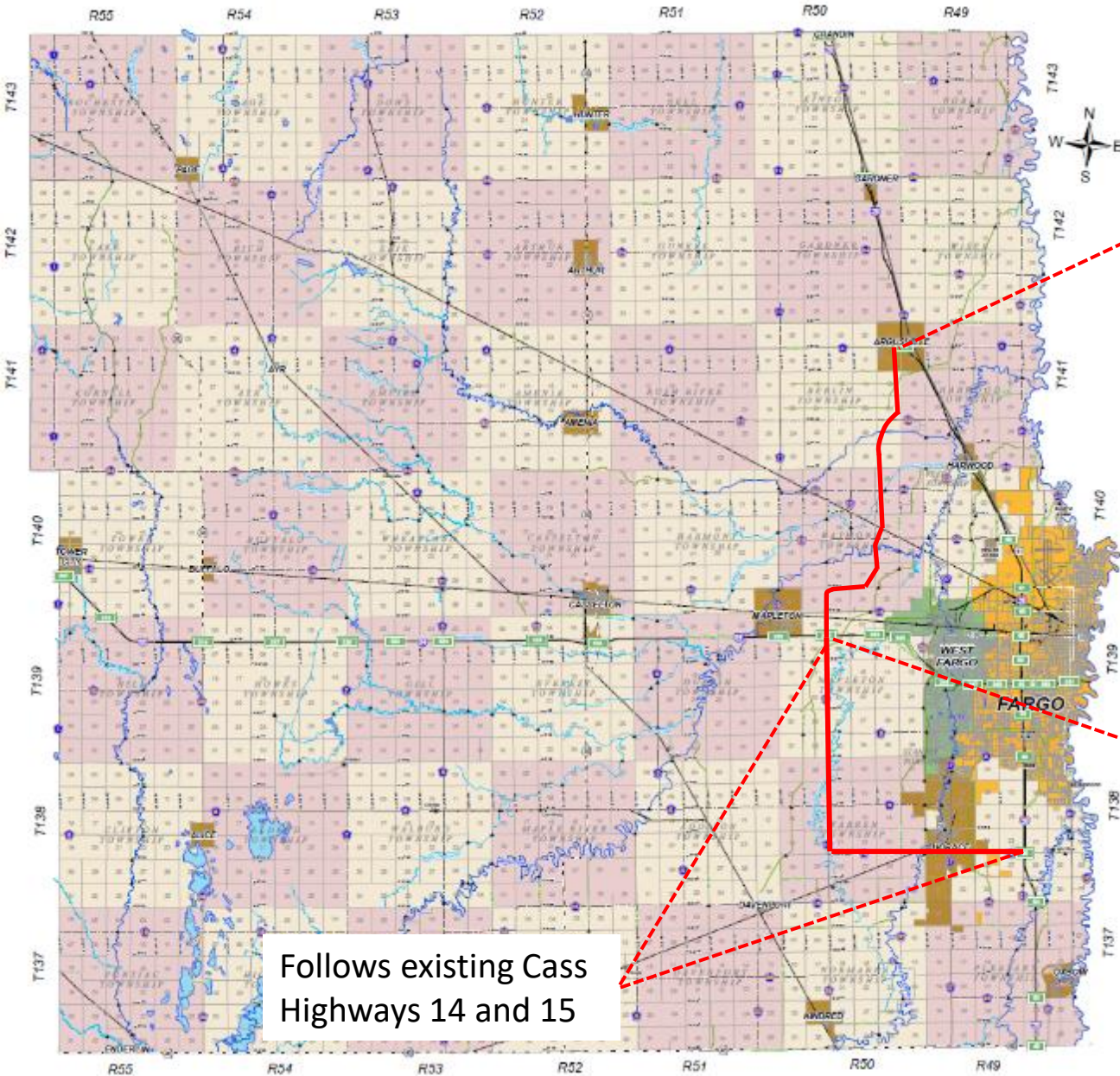


**West Metro Perimeter Highway  
Study**

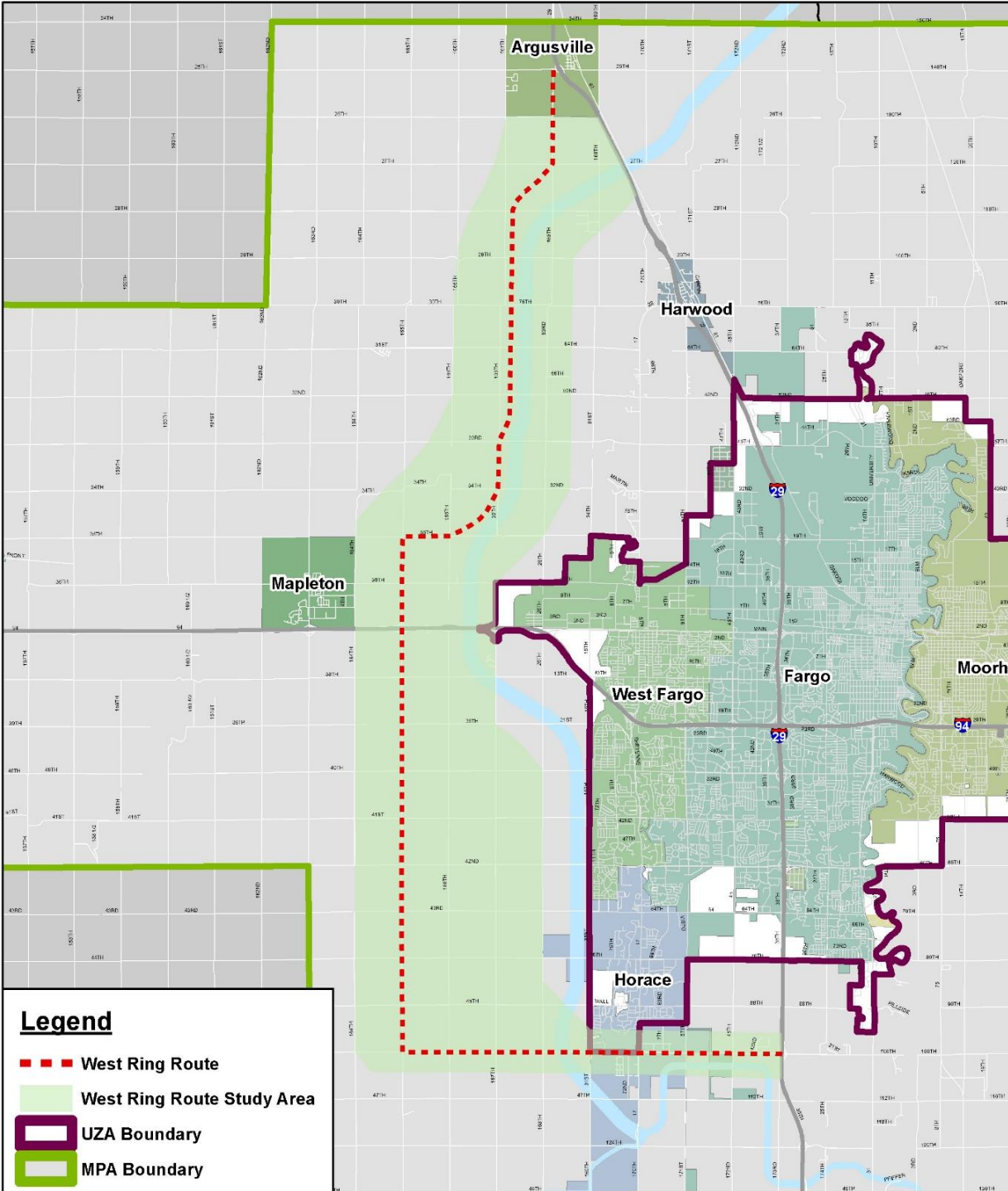
**May 15, 2023**

**Cass County Highway Department**

# Study Location



# Study Area



**Legend**

- West Ring Route
- West Ring Route Study Area
- UZA Boundary
- MPA Boundary

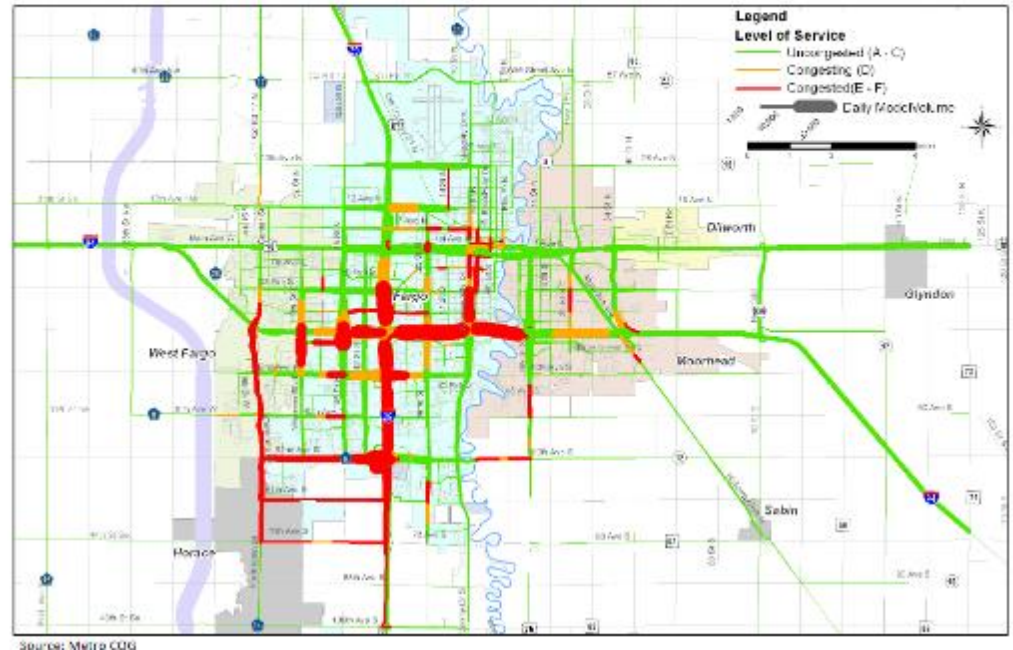


# Need for a Bypass

- 2014 Metro COG LRTP identified the I29/I94 interchange being LOS F in 2040
- Bypass is 10 miles shorter than traveling from north I-29 to west I-94 through Fargo

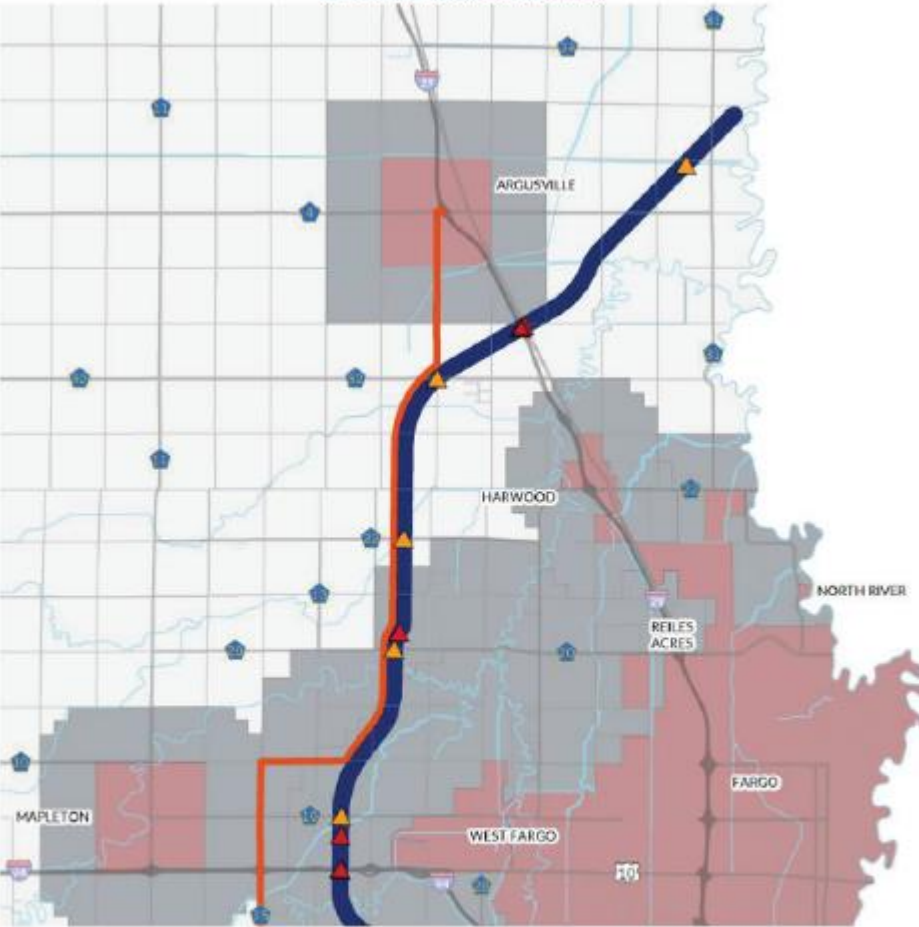
## CHAPTER 6 – GROWTH, TRENDS, AND FORECASTS

FIGURE 6-8: 2040 CONGESTION WITH THE EXISTING + COMMITTED NETWORK



# Cass County Comprehensive Plan 2018

Figure 8.12: North Side Diversion Bridge Locations



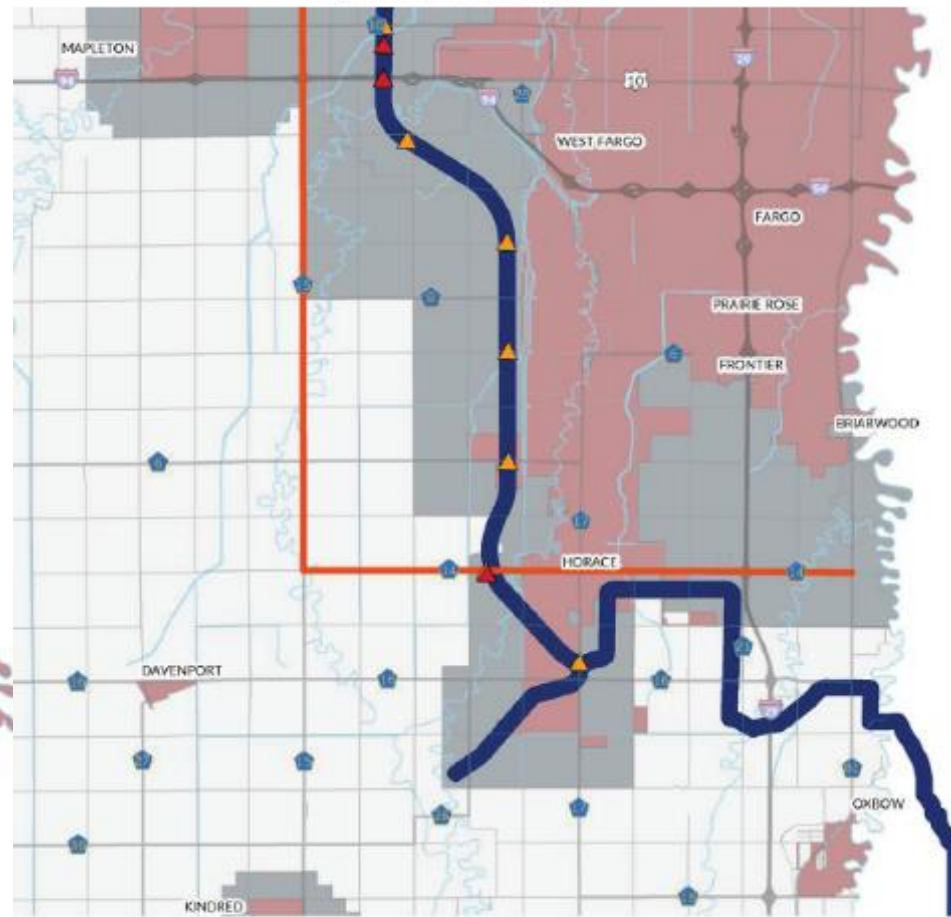
## Diversion Bridges

### Possible New Bridge Locations

- ▲ County and Township System
- ▲ Non-County System
- City Limits
- ET Boundary
- Approximate "Plan B" Diversion Alignment
- Potential Reliever Routes



Figure 8.13: South Side Diversion Bridge Locations



## Diversion Bridges

### Possible New Bridge Locations

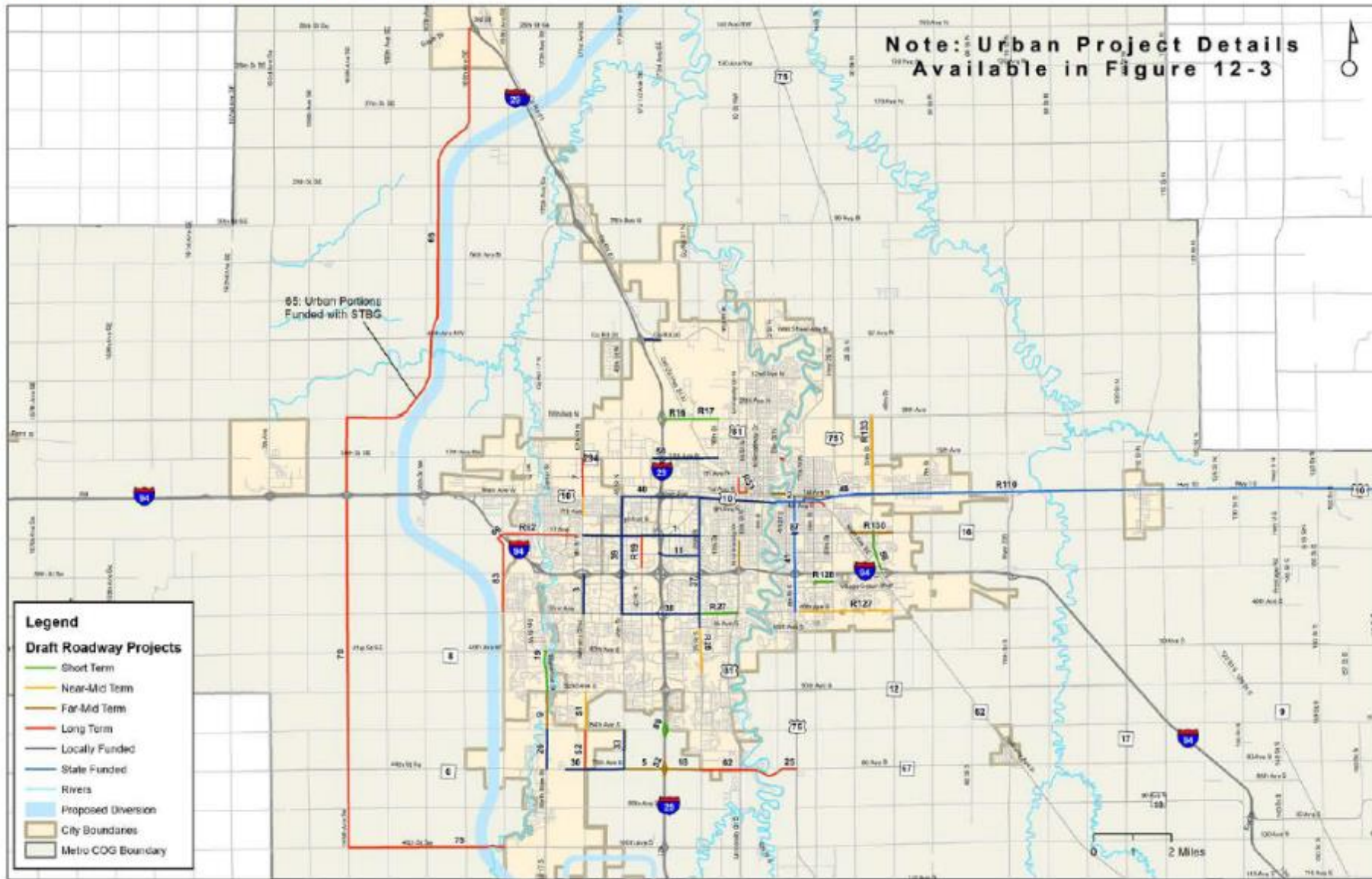
- ▲ County and Township System
- ▲ Non-County System
- City Limits
- ET Boundary
- Approximate "Plan B" Diversion Alignment
- Potential Reliever Routes

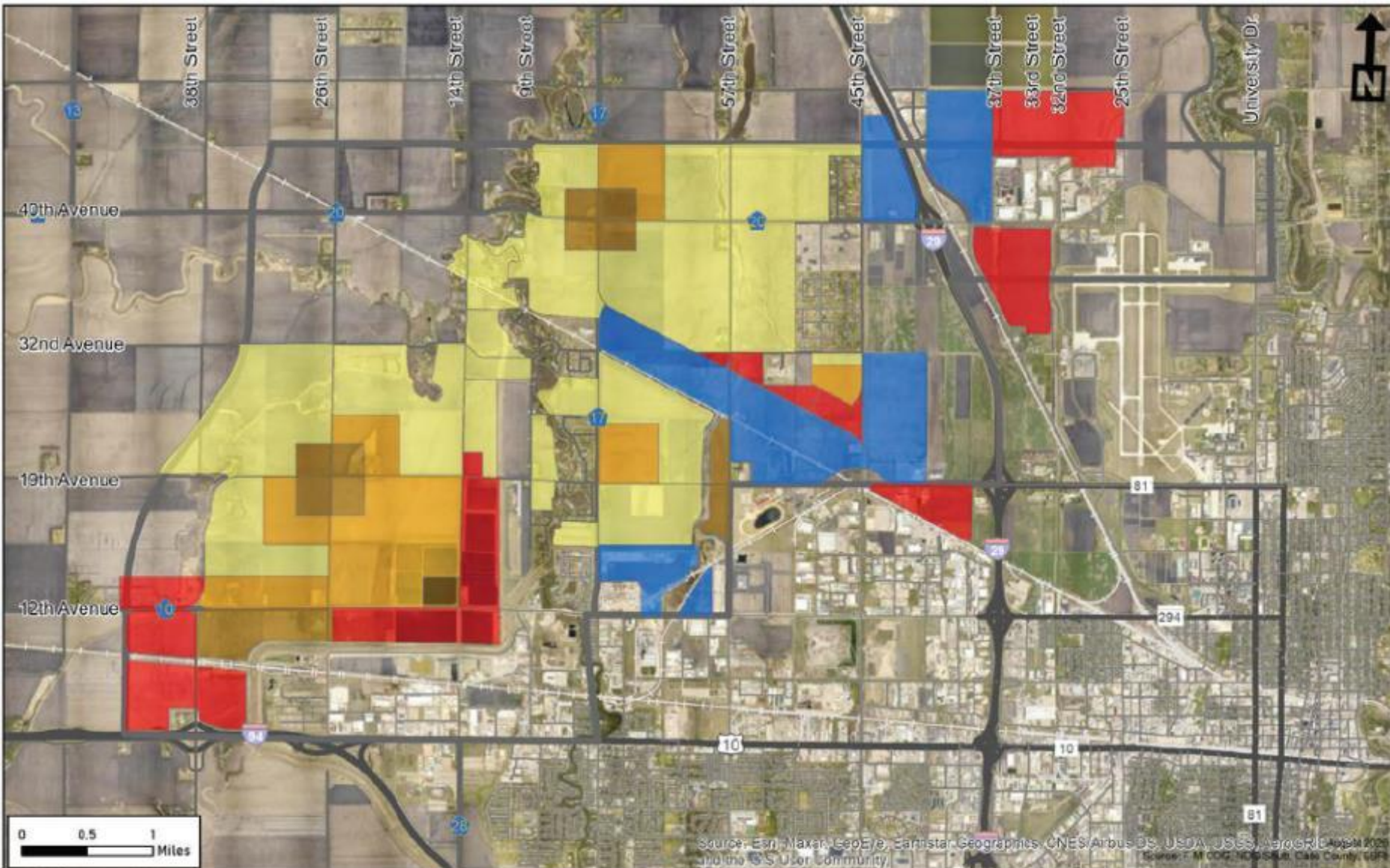




# 2045 Fargo-Moorhead Transportation Plan

FIGURE 12.4: FUTURE ROADWAY PLAN, FISCALLY-CONSTRAINED PROJECTS, REGIONAL VIEW





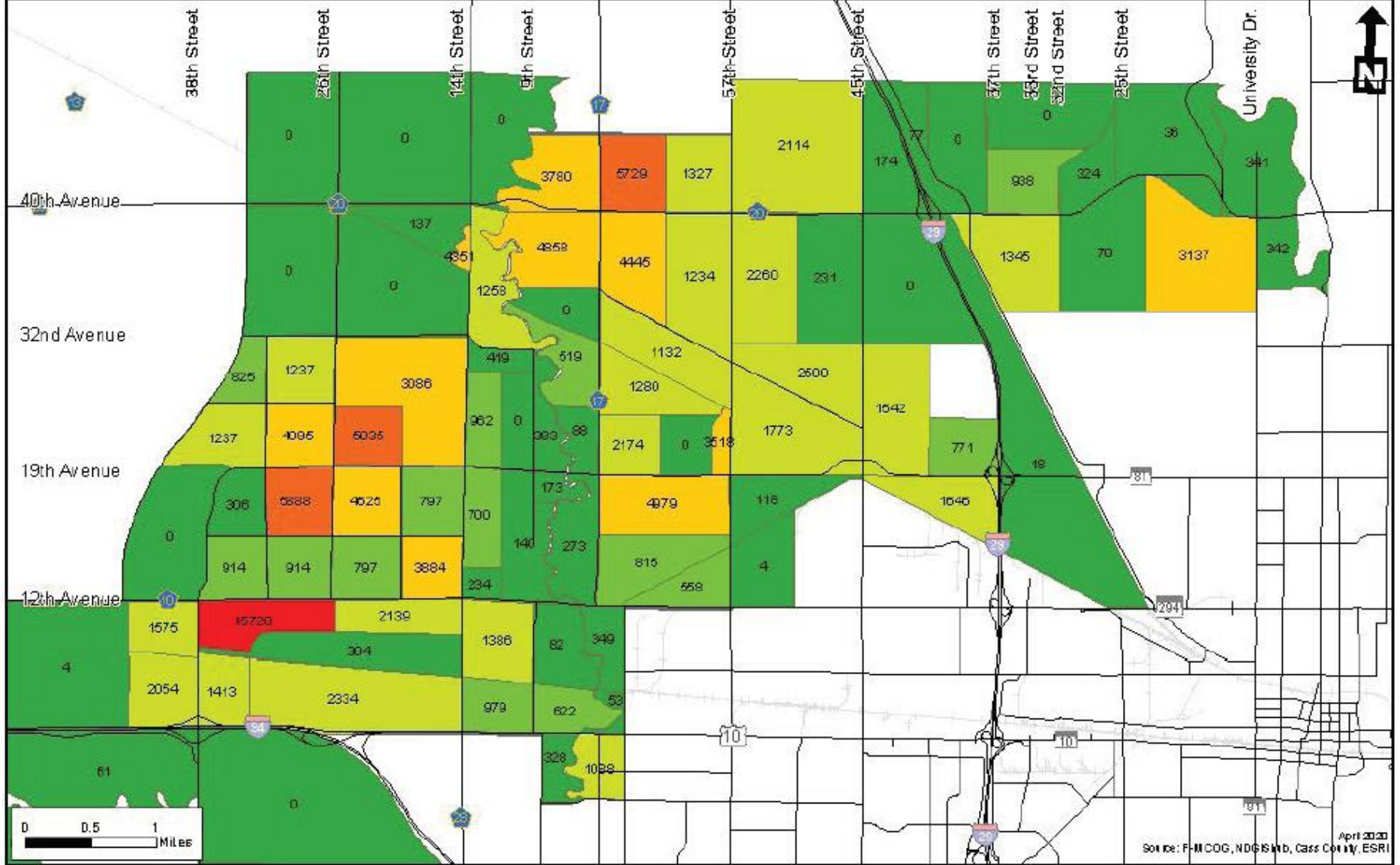
**Legend**

- Low Intensity Residential
- Medium Intensity Residential
- High Intensity Residential
- Business Park/Commercial
- Industrial Park

# Northwest Metro Transportation Plan

**Northwest Metro  
Transportation Plan**

Full Build  
Land Use Concept



2045 Households + Employment  
(Study Area Only)

- 0 - 500
- 501 - 1,000
- 1,001 - 2,500
- 2,501 - 5,000
- 5,001 - 10,000
- 10,000+

# Northwest Metro Transportation Plan

**Northwest Metro  
Transportation Plan**

2045 Full Build Scenario



Source: F-H MCOG, NDGIS Web, Cass County, ESRI April 2020

# Metro COG Interstate Operations Info

<http://www.fmmetrocog.org/projects-rfps/InterstateOps2021>

Project Kickoff on September 21st, 2021:

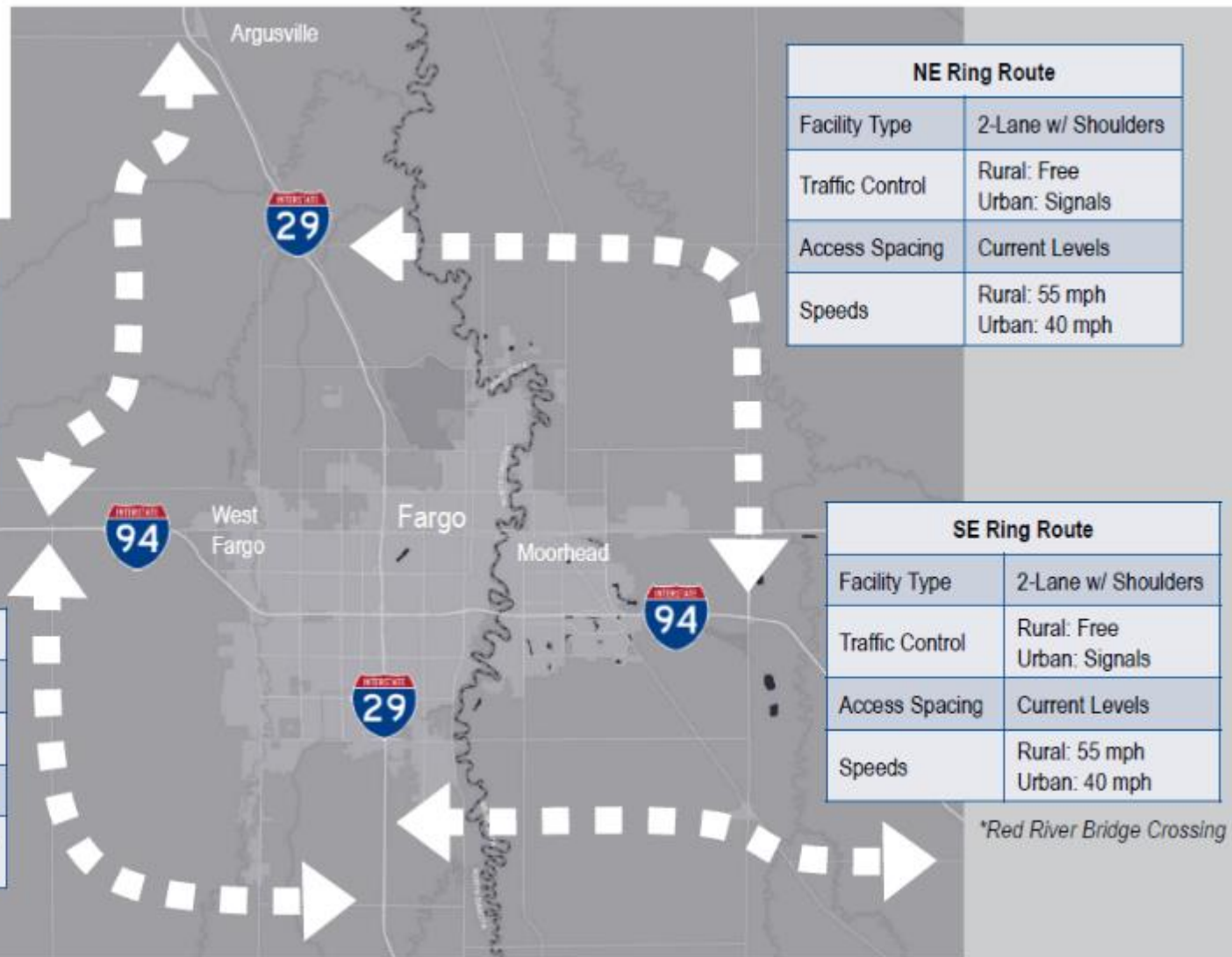
The need for and potential benefit of a ring route around the perimeter of the metro area will also be studied as part of the interstate operations analysis, to determine the extent to which such a facility has the potential to serve as a reliever to regional interstate routes. Ring route alternatives in Minnesota will include MN 336 and Clay County Highway 11. A ring route alignment in ND does not have a defined route, but past studies such as the Cass County Comprehensive and Transportation Plan (2018) and the alignment of the FM Diversion inform potential route alternatives. Metro Grow, the 2045 MTP (2019), called for additional study of a ring route in North Dakota and a similar facility on the Minnesota side, to provide an efficient alternative route around the metropolitan area for regional traffic. The emphasis of the ring route analysis will be to determine the extent to which a ring route relieves traffic on portions of I-94 or I-29 and if that relief is adequate to prevent or delay the need for capacity expansions through 2045, and to determine if the impacts of a ring route are advantageous or disadvantageous compared to interstate improvements.



# Metro COG

## Interstate Operations Study

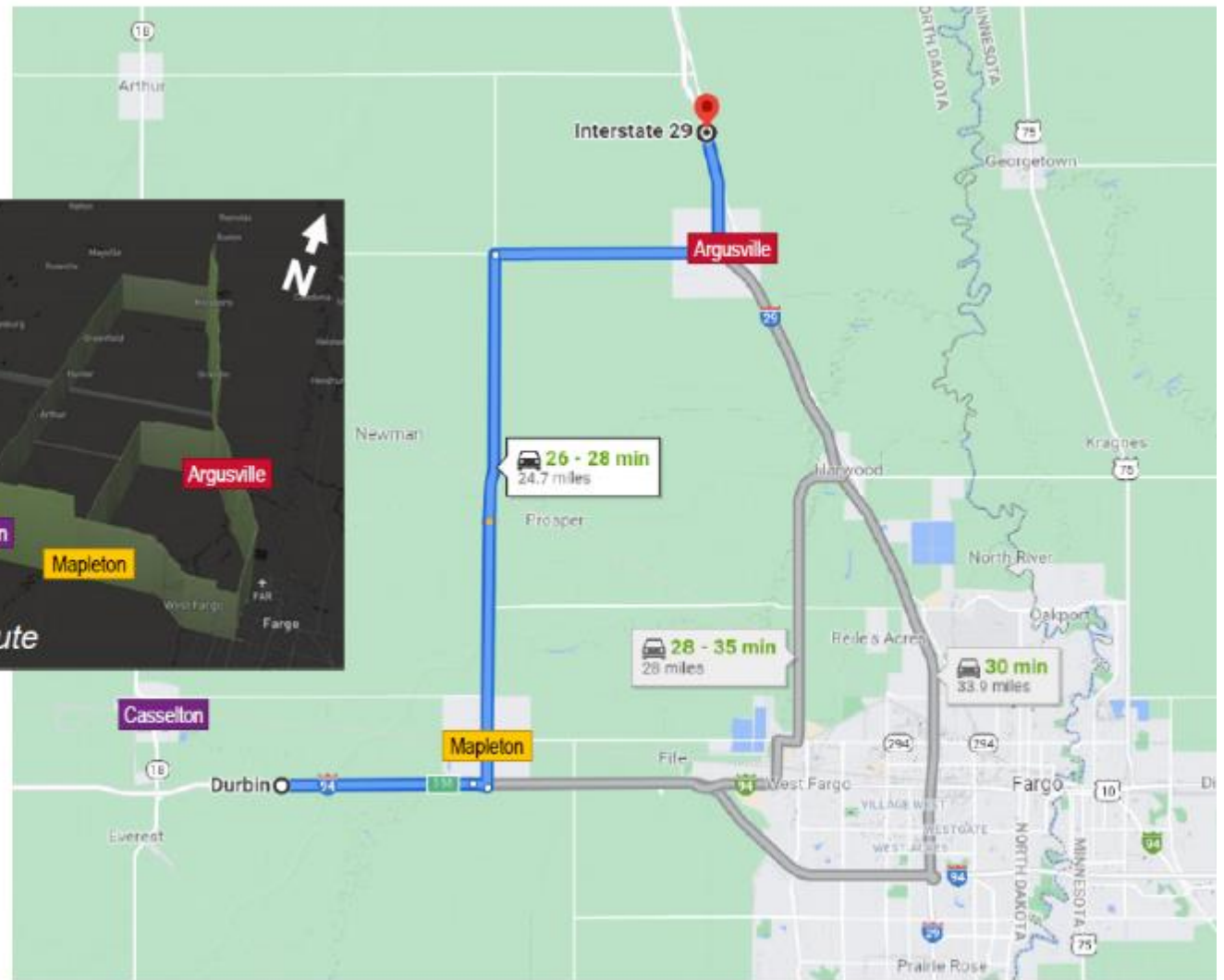
### Ring Route Analysis



# Metro COG

## Interstate Operations Study

### Ring Route Google Maps



# Metro COG

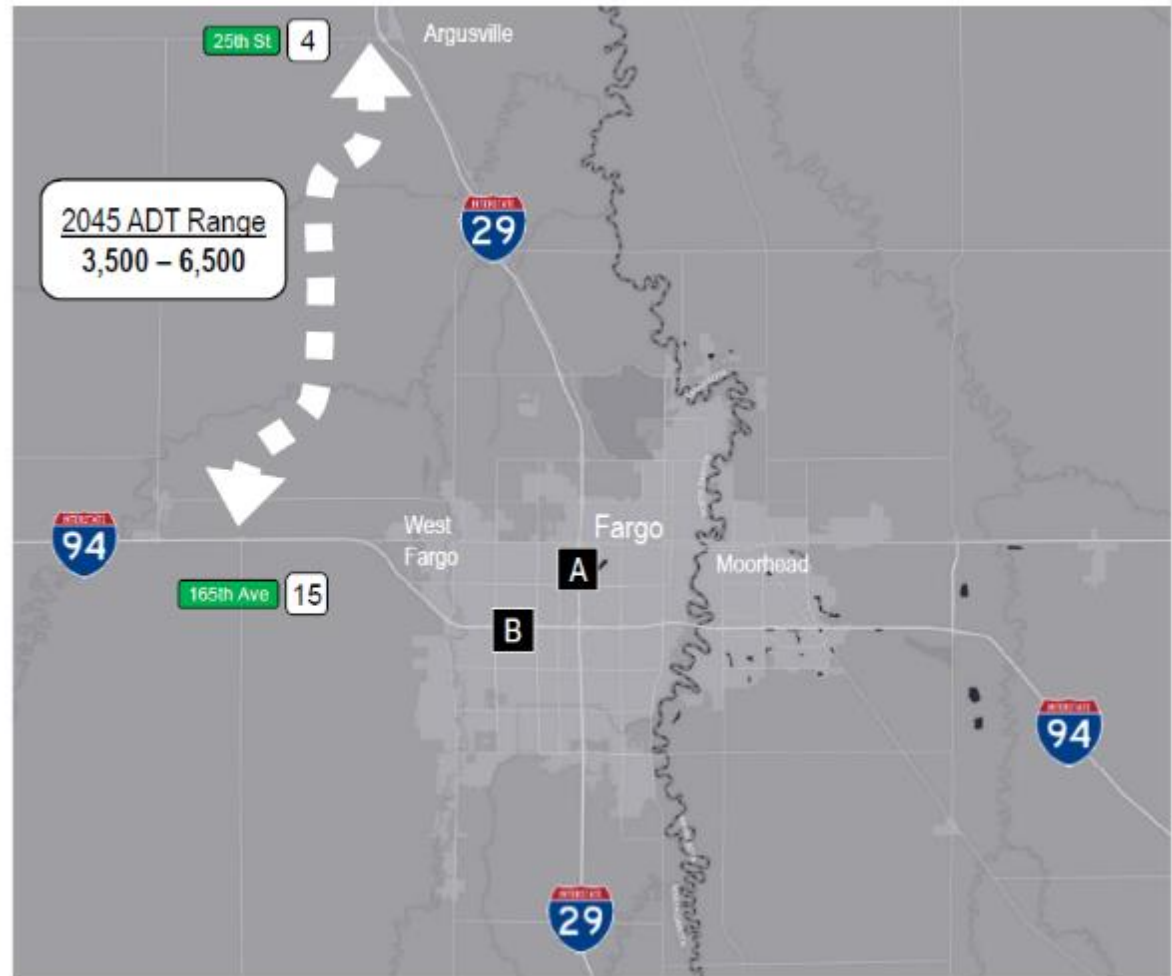
## Interstate Operations Study

### Ring Route Analysis

NW Ring Route	
Facility Type	2-Lane w/ Shoulders
Traffic Control	Free
Access Spacing	At Diversion Crossings
Speeds	65 mph

*Bridges Crossings at Diversion*

Interstate Trips Diverted	
A.	I-29: ~800 - 1,200
B.	I-94: ~400 - 800



# Metro COG

## Interstate Operations Study

### Ring Route Summary

- **NW Route**
  - Minimal Through Trips (Existing & Forecasted)
  - Utilized by internal to external & internal fringe trips
- **SW Route**
  - Potential for “True” bypass when combined with SE Route
  - Bypass volume increases when located close to 76<sup>th</sup> Ave S
- **SE Route**
  - Highest volume quadrant / Highest number of Interstate trips diverted
  - Potential for “True” bypass when combined with SE Route
  - Bypass volume increases when located close to 76<sup>th</sup> Ave S
- **NE Route**
  - Currently used today
  - Limited opportunities for spot improvements

Short Term: Reserve ROW

Long Term: Build for local circulation needs (by quadrant basis)

Full Buildout: TBD