# Memorandum

SRF No. 11648

**To:** Michael Maddox
Fargo-Moorhead Metro COG

**From:** Leif Garnass, PE, PTOE, Principal
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**Date:** April 3, 2020

**Subject:** US 10/75 Corridor Study – Purpose and Need Technical Memorandum

## Purpose of the Study

The purpose of this study is to develop a vision to improve system deficiencies, multi-modal traffic operations, and safety along the US 10 corridor between the Red River and 34th Street and along US 75 between Main Avenue (US 10) and 20th Avenue South.

This purpose and need statement and the subsequent corridor study recommendations are intended to serve as a planning tool to initiate the identification of suitable and feasible alternatives for the US 10 and US 75 corridors. The corridor study results serve to inform staff and elected officials so that sound land use, economic development, and transportation planning decisions made during the planning phase can be fully linked with, and integrated into, the later phases of project development.

There are three other ongoing studies that overlap with the study area of the US 10/75 Corridor Study. The US 10/75 project team has been coordinating with the project teams from those studies to ensure a cohesive vision and plan for the corridors. Those studies include:

- Downtown Grade Separation Study and Environmental Documentation
- 12th Avenue Corridor Study
- Downtown Moorhead Master Planning

## Needs Identified

The need for the multimodal transportation improvements and the relationship to regional transportation need is based on the transportation analyses completed as part of this study. The Study Review Committee (SRC) determined sufficient need was identified to inform the framework for MnDOT's year 2025-2026 reconstruction project and warranted the development of future corridor improvement concepts for both corridors.

It was determined that future corridor planning and improvements should address the following critical needs and considerations for each respective corridor:

**US 10**

- Pavement Condition
- Vehicle Safety
- Vehicle Mobility
- Walkability/Bikeability
- Systemic Safety Risk Location

**US 75**

- Pavement Condition
- Vehicle Safety
- Vehicle Mobility
- Walkability/Bikeability
- Systemic Safety Risk Location

### Pavement Condition

The pavement along the project segment of US 10 is a composite of original grading concrete with several bituminous asphalt overlays and full depth bituminous asphalt widening for additional lanes and turn lanes. Bituminous cores collected along the segment show overlay thicknesses ranging from 4.5" to 5.0". Along the study area of US 10, the full depth bituminous asphalt widened section has a thickness ranging from 7.5" to 13.0" and the turn lane widened section has a thickness ranging from 6.0" to 7". The most recent pavement improvements include:

- Red River to 8th Street (US 75) – 2.0" mill & overlay in 2013
- 8th Street (US 75) to 14th Street – 2.0" mill & overlay in 2016
- 14th Street to 34th Street – 2.0" mill & overlay in 2009/2010

The pavement along the project segment of 8th Street (US 75) is a composite of original grading concrete with several bituminous overlays and full depth bituminous asphalt widening for additional lanes and turn lanes. The most recent pavement improvements include:

- 2nd Avenue to 20th Avenue – 2.0" mill & overlay in 2009/2010
- Center Avenue (US 10/75) to 2nd Avenue – 2.0" mill & overlay in 2016

MnDOT typically uses the ride quality index (RQI) to measure pavement smoothness but considering the urban setting of the project and potentially skewed results from features in the roadway, like manhole castings and gate valve riser boxes, it was decided to use Surface Rating (SR) to represent pavement condition and distress. The SR is based on visible defects in the pavement surface, which indicate some problem or phenomenon of pavement deterioration such as cracks, patches, and/or ruts. The SR varies from 0.0 to 4.0 and is reported to the nearest tenth. A higher SR means a better condition. A road in need of major rehabilitation or reconstruction will generally have an SR near or below 2.0 to 2.5. From the data, MnDOT estimates an "Estimate Need Year" for when pavement is expected to reach "poor" SR conditions and thus, require attention.

Roadway infrastructure data was provided by MnDOT and is summarized in Table 1. As shown in the table, based on the SR the estimated need year for the corridor ranges from year 2021 to 2027.

**Table 1. Pavement Condition – Surface Rating (SR)**

| Segment | Length | Surface Rating (2018) | AADT | Last Year Worked on | Estimated Need Year |
|---|---|---|---|---|---|
| Main Avenue (US 10) from the River to 8th Street | 0.428 | 2.7 | 17,858 | 2013 | 2021 |
| Center Avenue (US 10/US 75) from 8th Street to 11th Street | 0.244 | 3.7 | 9,498 | 2016 | 2027 |
| Center Avenue (US 10/US 75) from 11th Street to14th Street | 0.25 | 3.5 | 9,498 | 2016 | 2026 |
| Center Avenue (US 10/US 75) from 14th Street to 21st Street/1st Avenue | 0.66 | 3.6 | 12,886 | 2009 | 2026 |
| Center Avenue (US 10) from 21st Street/1st Avenue to 34th Street | 2.494 | 3.6 | 16,221 | 2010 | 2026 |
| 8th Street (US 10/US 75) from Main Avenue to Center Avenue | 0.16 | 3.7 | 16,452 | 2016 | 2026 |
| 8th Street (US 75) from 2nd Avenue to 10th Avenue | 0.619 | 2.9 | 16,452 | 2010 | 2022 |
| 8th Street (US 75) from 10th Avenue to 20th Avenue | 0.673 | 3.1 | 25,563 | 2010 | 2024 |

## Vehicle Safety

A crash analysis was performed for key intersections and roadway segments along the US 10 and US 75 corridors based on data from the time period of January 1, 2013 to December 31, 2017. Two study intersections and two segments were identified to have a crash rate above the critical crash rate:

- **Center Avenue (US 10)/34th Street:**
  - 64 crashes, no severe crashes reported.
- **8th Street (US 75)/2nd Avenue:**
  - 16 crashes, no severe crashes reported.
- **Main Avenue (US 10) from the River to 9th Street:**
  - 71 crashes, one injury type A crash reported.
- **Center Avenue (US 10) from 21st Street/1st Avenue to 34th Street:**
  - 152 crashes, no severe crashes reported.

Detailed crash information is provided in the *Existing Conditions Technical Memorandum*, dated March 2019, in the Safety Analysis section.

## Vehicle Mobility

### Existing Conditions

Results of the existing capacity analysis indicate that all study intersections currently operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours with existing the traffic controls and geometric layout. Detailed traffic operations information is provided in the *Existing Conditions Technical Memorandum*, dated March 2019, in the Existing Intersection Capacity Analysis section. While the intersections operate at overall acceptable levels of service, the following should be noted:

- **Center Avenue (US 10)/30th Street:**
  - During the p.m. peak hour, the northbound and southbound left/thru movements operate at LOS F.
  - Observations were conducted at this intersection to understand current driver behavior. A majority of northbound and southbound vehicles entering this intersection do not utilize the intersection as a two-stage crossing. This intersection (unlike the 24th Street, 26th Street, and 28th Street intersections) is not signed as a two-stage crossing (i.e., there is no yield sign in center median.
  - Since this is not a two-stage crossing, this creates a long crossing distance (approximately 125 feet) for northbound/southbound vehicles making left/thru movements.
  - Northbound/southbound vehicles were observed to reverse/turn around to avoid taking a left/thru movement.
- **8th Street (US 75)/2nd Avenue:**
  - During the p.m. peak hour, the westbound approach operates at LOS E.

Typical traffic operations during a train event for the Prosper Line and the KO Line are illustrated in Figure 1 and Figure 2, respectively. In Downtown Moorhead, there are at-grade train crossings at five (5) locations between Main Avenue and Center Avenue and four (4) locations between 1st Avenue and Center Avenue. The trains impact intersection operations resulting in poor travel time reliability in the downtown area:

- Generally during train events, queuing will extend into the adjacent intersection. After the train events (i.e. the gate arms raise), many vehicles can clear in one signal cycle, with a portion of vehicles taking two cycles to clear.
- Trains along the KO Line trains on average were observed to last 2 minutes and 50 seconds, with a maximum observed train length of 5 minutes. Trains along the Prosper Line on average lasted 7 minutes and 15 seconds, with a maximum observed train length of 13 minutes.
- During train events, vehicles were observed to reroute through the study area to avoid the train. While train events were analyzed, the analysis did not account for dynamic travel pattern shifts

that occur during these events. The traffic modeling software was calibrated to account for current travel patterns collected/observed.

**Figure 1. Train Operations During the PM Peak Hour - Prosper Line Train Queuing**

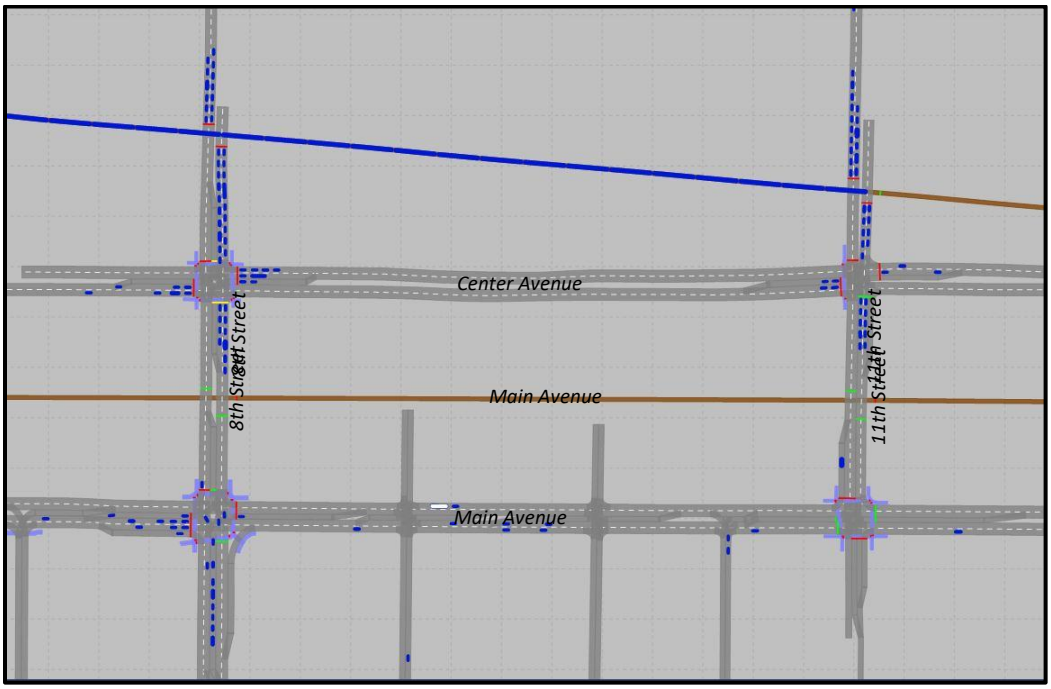
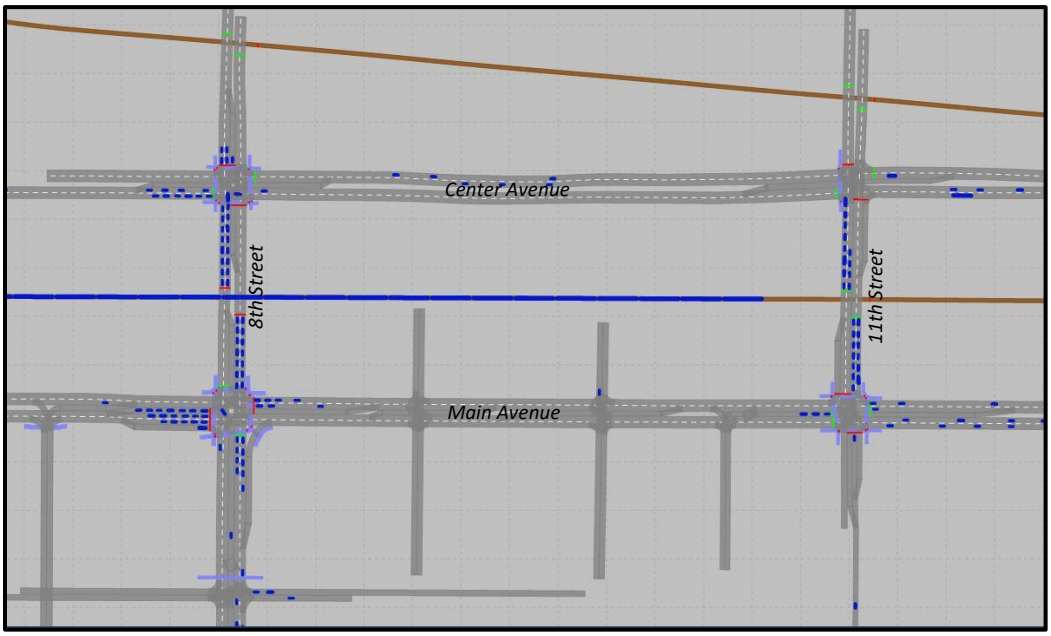


**Figure 2. Traffic Operations During the PM Peak Hour - KO Line Train Queuing**



**Year 2045 No Build Conditions**

Results of the year 2045 no build capacity analysis indicate that all study intersections are expected to continue to operate at an acceptable overall LOS D or better during the a.m. and p.m. peak hours. No modifications to intersection geometry was assumed; however, the analysis does include modifications to the existing signal timing and assumes the jurisdictional transfer of US 10 from Center Avenue to Main Avenue between 8th Street and 11th Street, which is planned to occur prior to year 2045 conditions. Detailed traffic operations information is provided in the *Year 2045 Conditions Technical Memorandum*, dated April 2020, in the Year 2045 No Build Conditions section. While the intersections operate at overall acceptable levels of service, the following should be noted:

- **Main Avenue (US 10)/4th Street:**
  - Eastbound queues are expected to extend approximately 700 feet during the p.m. peak hour.
- **Center Avenue (US 10/75)/11th Street:**
  - The southbound approach is expected to operate in the LOS E/F range with maximum queues extending more than 400 feet during the p.m. peak hour. Operations and queuing are due to a combination of train events and poor lane utilization for vehicles positioning themselves for the Main Avenue/11th Street intersection.
- **Center Avenue (US 10/75)/21st Street/1st Avenue:**
  - The northbound right-turn movement is expected to operate in the LOS D/E range with maximum queues extending 600 feet or greater during the p.m. peak hour.
- **Center Avenue (US 10)/28th Street:**
  - The northbound movement is expected to operate at a LOS E during the p.m. peak hour.
- **Center Avenue (US 10)/30th Street:**
  - Side-street movements are anticipated to operate at a LOS F during p.m. peak hour with delays of two (2) minutes or greater.
- **8th Street (US 75) at 2nd Avenue and 4th Avenue:**
  - Side-street movements are anticipated to operate at the LOS E/F border during a.m. and p.m. peak hours.
- **8th Street (US 75)/12th Avenue:**
  - Maximum mainline queues are anticipated to extend 600 feet or greater during the p.m. peak. The eastbound thru/right-turn lane and westbound left-turn lane maximum queues are expected to extend approximately 450 feet.

### Walkability/Bikeability

Pedestrian and bicycle volumes were collected during the weekday a.m. and p.m. peak hours at the study intersections. Total observed crossings at the study intersections are illustrated in Figure 3 along with key pedestrian/bicycle generators in the study area, such as schools, parks, retail, etc. It should be noted that the crossing data was collected between year 2011 and year 2018 with data collected in warmer weather months while school was in session was utilized for mapping purposes. The 8th Street (US 75)/12th Avenue intersection had the highest observed pedestrian activity. This intersection bisects the Concordia College Campus. During days when school is in session, more than 300 pedestrians per hour have been observed to cross at this intersection. The redevelopment plans in Downtown Moorhead are expected to increase the pedestrian/bicycle activity in the study area.

The existing and proposed bike network is illustrated in Figure 4. There is an existing gap in the sidewalk network along Center Avenue (US 10/75) between 11th Street and 28th Street. As shown in Figure 3, no other existing trails or trails programmed for construction are included elsewhere along the US 10/75 study corridors based on the 2016 *Fargo-Moorhead Metropolitan Bicycle and Pedestrian Plan*.

Figure 3. Existing Pedestrian Crossing Volumes

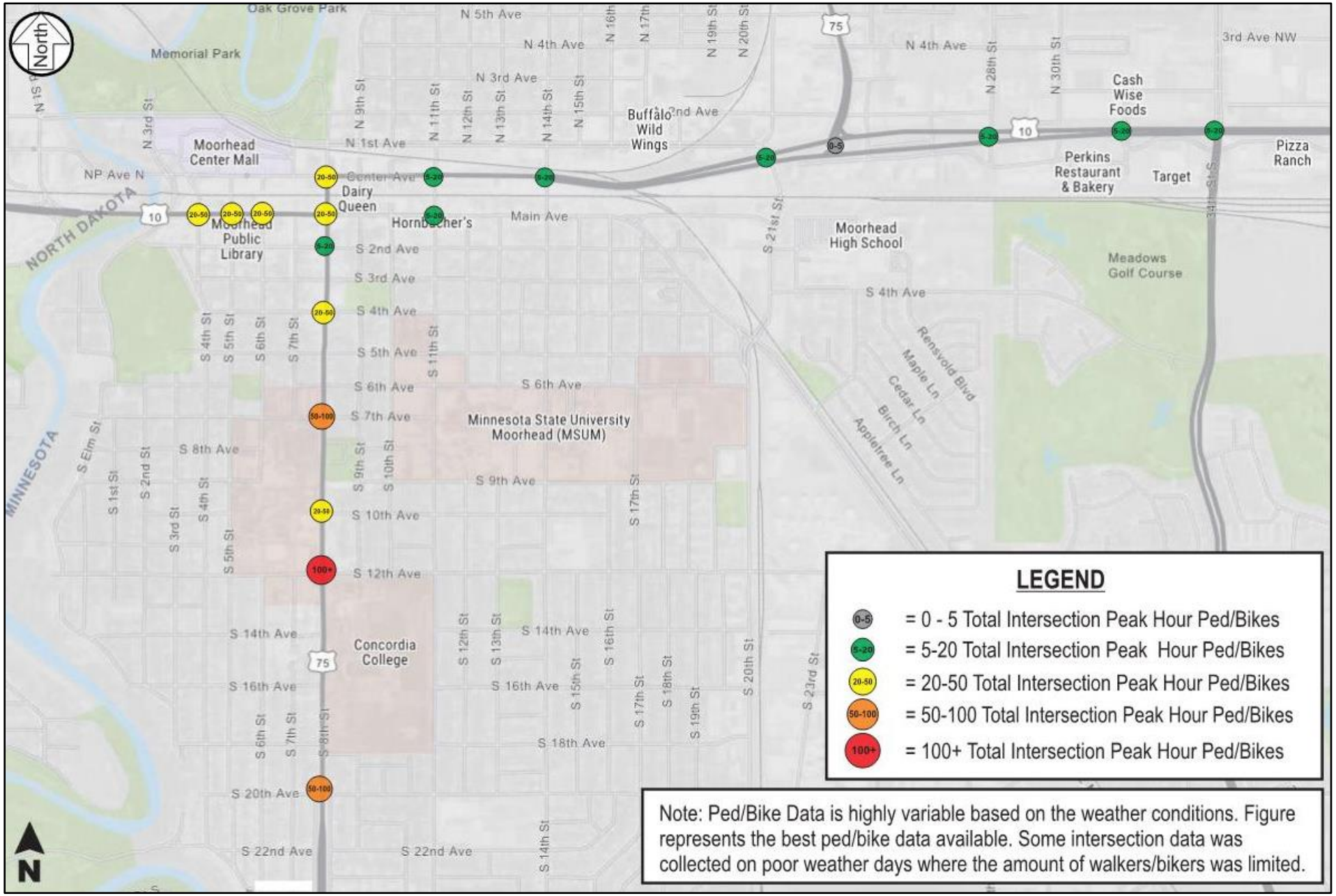
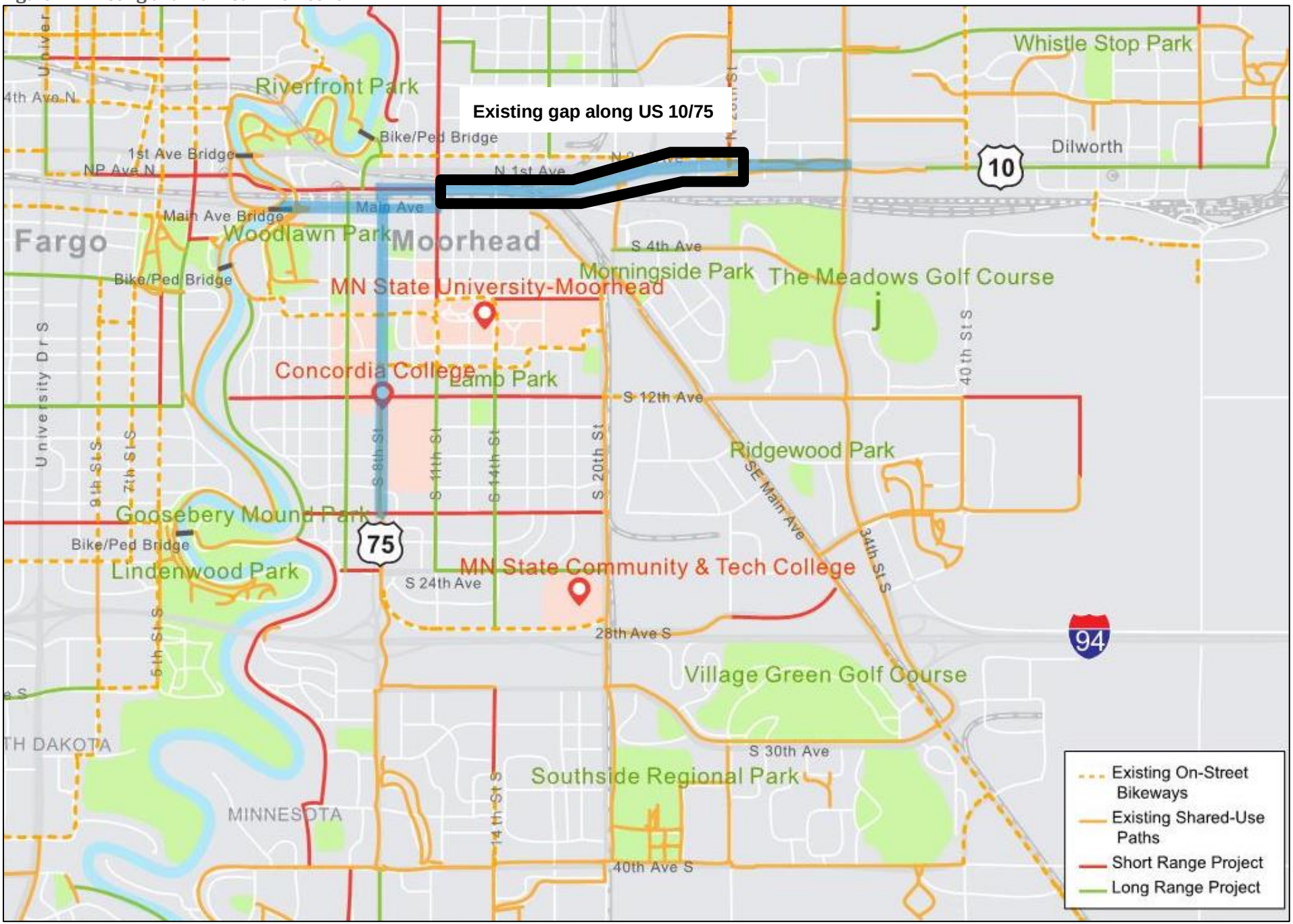


Figure 4. Existing and Planned Bike Network



### Systemic Safety Risk Location

Severe crashes may be widely (but not randomly) scattered around the highway system. Therefore, the basic premise behind the systemic risk assessment approach is to examine the system to prioritize candidates according to the similar characterizes attributed to severe crashes. Locations with more characteristics associated with locations with severe crashes are more "at-risk" and, therefore, are a higher priority for safety investment. A systemic safety analysis can be used to prioritize locations with few or no crashes that may be good candidates for safety investments. Therefore, a systemic risk location is an opportunity, not an existing transportation "issue".

The May 2016 *MnDOT District 4 Safety Plan Update* identified all study segments and 18 intersections along the US 10/75 corridor study areas as being "at risk" locations. Note that for segments, 1 star = lowest risk, and 5 stars = highest risk. For intersections, 1 star = lowest risk and 8 stars = highest risk. In urban areas, 78 percent of severe crashes occur on conventional roadways (as opposed to 22 percent on roadways with some level of access management) and 61 percent of severe crashes occur at intersections, of which 48 percent occur at intersections with traffic signal control and 48 percent at thru-stop controlled intersections.

As shown in Table 2, all study segments were identified as "at risk" locations. Segments range from three (3) to four (4) stars. Stars were given for segments based on the average daily traffic volumes, roadway geometry, access density, speed limit, and primary land use, as described below:

- **Traffic volume range:** a star is given for segments with daily traffic volumes greater than 9,000 vehicles per day (vpd). All study segments received a star.
- **Roadway geometry:** a star is given for segments that are multi-lane (four or more lanes). All study segments received a star.
- **Access density:** a star is given for segments with 36 or more accesses per mile. Stars were given to the three segments closest to Downtown Moorhead, including along Main Avenue (US 10) between the River and 8th Street, along Center Avenue (US 10/75) between 8th Street and 14th Street, and along 8th Street (US 75) between Center Avenue (US 10/75) and 14th Avenue.
- **Speed limit:** a star is given for segments with speeds between 35 and 45 miles per hour (mph). A star was given to the segment along Center Avenue (US 10/75) between 14th Street and 34th Street and along 8th Street (US 75) between 14th Avenue and 20th Avenue.
- **Primary land use:** a star is given for segments with urban or suburban retail; therefore, a star was given to the three US 10 segments.

**Table 2. District 4 – Urban Segment Ranking**

| # | Corridor ID | Route System | Route No. | Start | End | Length | Speed Limit | ADT Range | Road Geometry | Access Density | Speed Limit Range | Primary Land Use | Severe HO + RE + SSP + SSO Crash Density | Total Stars | Crash Cost | Access Density |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4.010.003 | USTH | 10 | .1 MI W 14TH ST (SL 45) | W DILWORTH (SL 30) | 2.37 | 45 | ★ | ★ | | ★ | ★ | | ★★★★ | $5,579,000 | 11.4 |
| 5 | 4.010.001 | USTH | 10 | NORTH DAKOTA STATE LINE (SL 30) | S JCT US 75 | 0.40 | 30 | ★ | ★ | ★ | | ★ | | ★★★★ | $4,395,200 | 55.0 |
| 6 | 4.010.002 | USTH | 10 | W JCT US 75 (SL 30) | .1 MI W 14TH ST (SL 45) | 0.41 | 30 | ★ | ★ | ★ | | ★ | | ★★★★ | $1,945,600 | 72.5 |
| 12 | 4.075.028 | USTH | 75 | 1 MI S W JCT US10 (SL 30) | W JCT US 10 | 1.01 | 30 | ★ | ★ | ★ | | | | ★★★ | $6,038,000 | 55.2 |
| 13 | 4.075.027 | USTH | 75 | .47 MI S JCT I 94 (SL 40) | 1 MI S W JCT US 10 (SL 30) | 1.39 | 40 | ★ | ★ | | ★ | | | ★★★ | $5,705,800 | 12.2 |

The *MnDOT District 4 Safety Plan Update* stated that right-angle collisions and pedestrian involved crashes in urban areas were identified as priorities for safety investment and represent the greatest opportunity for reducing severe crashes in urban areas across the state system. The most common types of severe crashes at traffic signal and thru-stop controlled intersections are right-angle collisions (45 percent) and pedestrian or bicyclist involved collisions (13 percent). Therefore, intersections were prioritized based on right-angle crashes and pedestrian crashes.

As shown in Table 3, 18 intersections were identified to be at-risk based on right-angle collisions. At-risk intersections range from three (3) to seven (7) stars. Stars were given for intersections based on the average daily traffic volumes, volume cross product, traffic control, major corridor speed, skew, adjacent curve, primary land use, and severe right-angle crash history, as described below:

- **Volume cross product:** a star is given if the cross product (vehicles per day) exceeds 3,000,000. All intersections in Table 3 received a star.
- **Traffic control:** a star is given for intersections that are signalized. 12 of the 18 intersections received a star.
- **Major corridor speed:** a star is given for locations where traffic volumes exceed 40 mph. 8 of the 18 intersections received a star.
- **Skew:** a star is given for intersections where the skew is five (5) degrees or greater. 6 of the 18 intersections received a star.
- **Adjacent curve:** a star is given for intersections where a curve is present. 5 of the 18 intersections received a star.
- **Primary land use:** a star is given for segments with urban or suburban retail 16 of the 18 intersections received a star.
- **Severe right-angle crash history:** a star is given for intersections with 0.006 crashes per intersection per year. Center Avenue (US 10)/30th Street was the only intersection to receive a star.

**Table 3. District 4 – Urban Intersections – Right-Angle Ranking**

| # | Intersection ID | Route System | Route No. | Description | Speed Limit | Total Entering ADT | Cross Product | Traffic Control | Major Corridor Speed | Skew | On/Near Curve | Primary Land Use | Severe RA Crash Density | Total Stars |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4.010.009 | US | 10 | 21ST ST SRT 1ST AVN/MOORHEAD | 45 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | | ★★★★★★★ |
| 5 | 4.010.012 | US | 10 | 30TH ST/MOORHEAD | 45 | ★ | ★ | | ★ | ★ | ★ | ★ | ★ | ★★★★★★★ |
| 6 | 4.010.010 | US | 10 | E JCT TH 75/MOORHEAD | 45 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | | ★★★★★★★ |
| 9 | 4.010.008 | US | 10 | 14TH ST MSAS 122/MOORHEAD | 45 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | | ★★★★★★★ |
| 15 | 4.075.107 | US | 75 | 7TH AVE/MOORHEAD | 45 | ★ | ★ | | ★ | ★ | ★ | ★ | | ★★★★★★ |
| 22 | 4.010.011 | US | 10 | 28TH ST/MOORHEAD | 45 | ★ | ★ | | ★ | ★ | | ★ | | ★★★★★ |
| 26 | 4.010.013 | US | 10 | 32ND ST RTM 417/MOORHEAD | 45 | ★ | ★ | ★ | ★ | | | ★ | | ★★★★★ |
| 29 | 4.010.005 | US | 10 | S JCT TH 75 MAIN &8TH/MRHD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ |
| 31 | 4.075.103 | US | 75 | 12TH AVE S/MOORHEAD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ |
| 32 | 4.010.006 | US | 10 | W JCT TH 75 CENTER& 8TH/MRHD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ |
| 34 | 4.075.102 | US | 75 | 20TH AVE S/MOORHEAD | 40 | ★ | ★ | ★ | ★ | | | | | ★★★★ |
| 35 | 4.010.007 | US | 10 | 11TH ST CSAH 3MSAS121/MOORHD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ |
| 36 | 4.010.002 | US | 10 | 5TH ST/MOORHEAD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ |
| 37 | 4.010.001 | US | 10 | 4TH ST/MOORHEAD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ |
| 54 | 4.075.104 | US | 75 | 7TH AVE S/MOORHEAD | 30 | ★ | ★ | ★ | | | | | | ★★★ |
| 55 | 4.075.106 | US | 75 | 2ND AV S MSAS111 M32/MOORHEAD | 30 | ★ | ★ | | | | | ★ | | ★★★ |
| 59 | 4.010.004 | US | 10 | 7TH ST MSAS 107/MOORHEAD | 30 | ★ | ★ | | | | | ★ | | ★★★ |
| 60 | 4.075.105 | US | 75 | 4TH AV S MSAS116/MOORHEAD | 30 | ★ | ★ | | | | | ★ | | ★★★ |

As shown in Table 4, 19 intersections were identified to be at-risk based on pedestrian and bicycle concerns. At-risk intersections range from three (3) to seven (7) stars. Stars were given for intersections based on the average daily traffic volumes, volume cross product, traffic control, major corridor speed, skew, adjacent curve, primary land use, and severe right-angle crash history. roadway geometry, access density, speed limit, primary land use, and pedestrian/bicycle crash density, as described below:

- **Volume cross product:** a star is given if the cross product (vehicles per day) exceeds 3,000,000. All intersections in Table 3 received a star.
- **Traffic control:** a star is given for intersections that are signalized. 13 of the 19 intersections received a star.
- **Major corridor speed:** a star is given for locations where traffic volumes exceed 35 mph. 8 of the 19 intersections received a star.
- **Skew:** a star is given for intersections where the skew is five (5) degrees or greater. 6 of the 19 intersections received a star.

- **Adjacent curve:** a star is given for intersections where a curve is present. 5 of the 19 intersections received a star.
- **Primary land use:** a star is given for segments with urban or suburban retail 17 of the 19 intersections received a star.
- **Severe pedestrian/bicycle crash history:** a star is given for intersections with 0.001 crashes per intersection per year. Main Avenue (US 10)/6th Street was the only intersection to receive a star.

**Table 4. District 4 – Ped/Bike Ranking**

| # | Intersection ID | Route System | Route No. | Description | Speed Limit | Total Entering ADT | Cross Product | Traffic Control | Major Corridor Speed | Skew | On/Near Curve | Primary Land Use | Severe Ped/Bike Crash Density | Total Stars | Crash Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4.010.009 | US | 10 | 21ST ST SRT 1ST AVN/MOORHEAD | 45 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | | ★★★★★★★ | $1,114,800 |
| 5 | 4.010.010 | US | 10 | E JCT TH 75/MOORHEAD | 45 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | | ★★★★★★★ | $885,400 |
| 9 | 4.010.008 | US | 10 | 14TH ST MSAS 122/MOORHEAD | 45 | ★ | ★ | ★ | ★ | ★ | ★ | ★ | | ★★★★★★★ | $88,400 |
| 13 | 4.010.012 | US | 10 | 30TH ST/MOORHEAD | 45 | ★ | ★ | | ★ | ★ | ★ | ★ | | ★★★★★★ | $1,098,600 |
| 15 | 4.075.107 | US | 75 | 7TH AVE/MOORHEAD | 45 | ★ | ★ | | ★ | ★ | ★ | ★ | | ★★★★★★ | $329,400 |
| 19 | 4.010.003 | US | 10 | 6TH ST M 123/MOORHEAD | 30 | ★ | ★ | ★ | | | | ★ | ★ | ★★★★★ | $1,290,200 |
| 21 | 4.010.011 | US | 10 | 28TH ST/MOORHEAD | 45 | ★ | ★ | | ★ | ★ | | ★ | | ★★★★★ | $287,400 |
| 25 | 4.010.013 | US | 10 | 32ND ST RTM 417/MOORHEAD | 45 | ★ | ★ | ★ | ★ | | | ★ | | ★★★★★ | $177,200 |
| 28 | 4.010.005 | US | 10 | S JCT TH 75 MAIN &8TH/MRHD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ | $2,535,800 |
| 31 | 4.075.103 | US | 75 | 12TH AVE S/MOORHEAD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ | $1,385,600 |
| 32 | 4.010.006 | US | 10 | W JCT TH 75 CENTER& | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ | $1,200,400 |
| 34 | 4.075.102 | US | 75 | 20TH AVE S/MOORHEAD | 40 | ★ | ★ | ★ | ★ | | | | | ★★★★ | $1,169,800 |
| 35 | 4.010.007 | US | 10 | 11TH ST CSAH 3MSAS121/MOORH | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ | $1,156,000 |
| 36 | 4.010.002 | US | 10 | 5TH ST/MOORHEAD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ | $1,151,000 |
| 37 | 4.010.001 | US | 10 | 4TH ST/MOORHEAD | 30 | ★ | ★ | ★ | | | | ★ | | ★★★★ | $998,000 |
| 54 | 4.075.104 | US | 75 | 7TH AVE S/MOORHEAD | 30 | ★ | ★ | ★ | | | | | | ★★★ | $847,800 |
| 55 | 4.075.106 | US | 75 | 2ND AV S MSAS111 M32/MOORHEAD | 30 | ★ | ★ | | | | | ★ | | ★★★ | $729,800 |
| 59 | 4.010.004 | US | 10 | 7TH ST MSAS 107/MOORHEAD | 30 | ★ | ★ | | | | | ★ | | ★★★ | $191,600 |
| 60 | 4.075.105 | US | 75 | 4TH AV S MSAS116/MOORHE | 30 | ★ | ★ | | | | | ★ | | ★★★ | $140,200 |