2011 Fargo-Moorhead Metropolitan Bicycle and Pedestrian Plan

For Policy Board Approval
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Final Draft

Prepared by the Fargo-Moorhead Metropolitan Council of Governments (Metro COG)

2011 Fargo-Moorhead
Metropolitan Bicycle and Pedestrian Plan

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Vision Statement

The 2011 Plan Update has been developed to ensure a cooperative, coordinated and continuous planning effort for bicyclists and pedestrians in the F-M Metropolitan Area. The Vision Statement was developed cooperatively by the Metropolitan Bicycle and Pedestrian Committee, the member local units of government as well as the general public. The Vision Statement reads:

To develop and maintain a regional bicycle and pedestrian network that is sustainable, interoperable, efficient and holistic in nature: thus encouraging regular bicycling and walking for purposes of utility and recreation while improving safety for all users of the network.

Chapter 1: INTRODUCTION AND BACKGROUND

1.1 Background

The Fargo-Moorhead Metropolitan Council of Governments (Metro COG) is the designated Metropolitan Planning Organization (MPO) for the Fargo-Moorhead Metropolitan Area (Figure 1.1). Metro COG is responsible for maintaining a comprehensive, coordinated, and continuous transportation planning process for the region.

The Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) emphasizes multimodal forms of transportation resulting in greater attention to alternative means of transportation. As a result, federal planning requirements encourage MPOs to incorporate bicycle and pedestrian elements into their transportation plan. In December of 2009 the Consistency Review of the 2006 Metropolitan Bicycle and Pedestrian Plan was completed, reviewed by Metro COG's Transportation Technical Committee (TTC), and moved forward to Metro COG's Policy Board for approval. Metro COG's Policy Board approved the Consistency Review in December of 2009. Development of the 2011 Metropolitan Bicycle and Pedestrian Plan Update began in January of 2010.

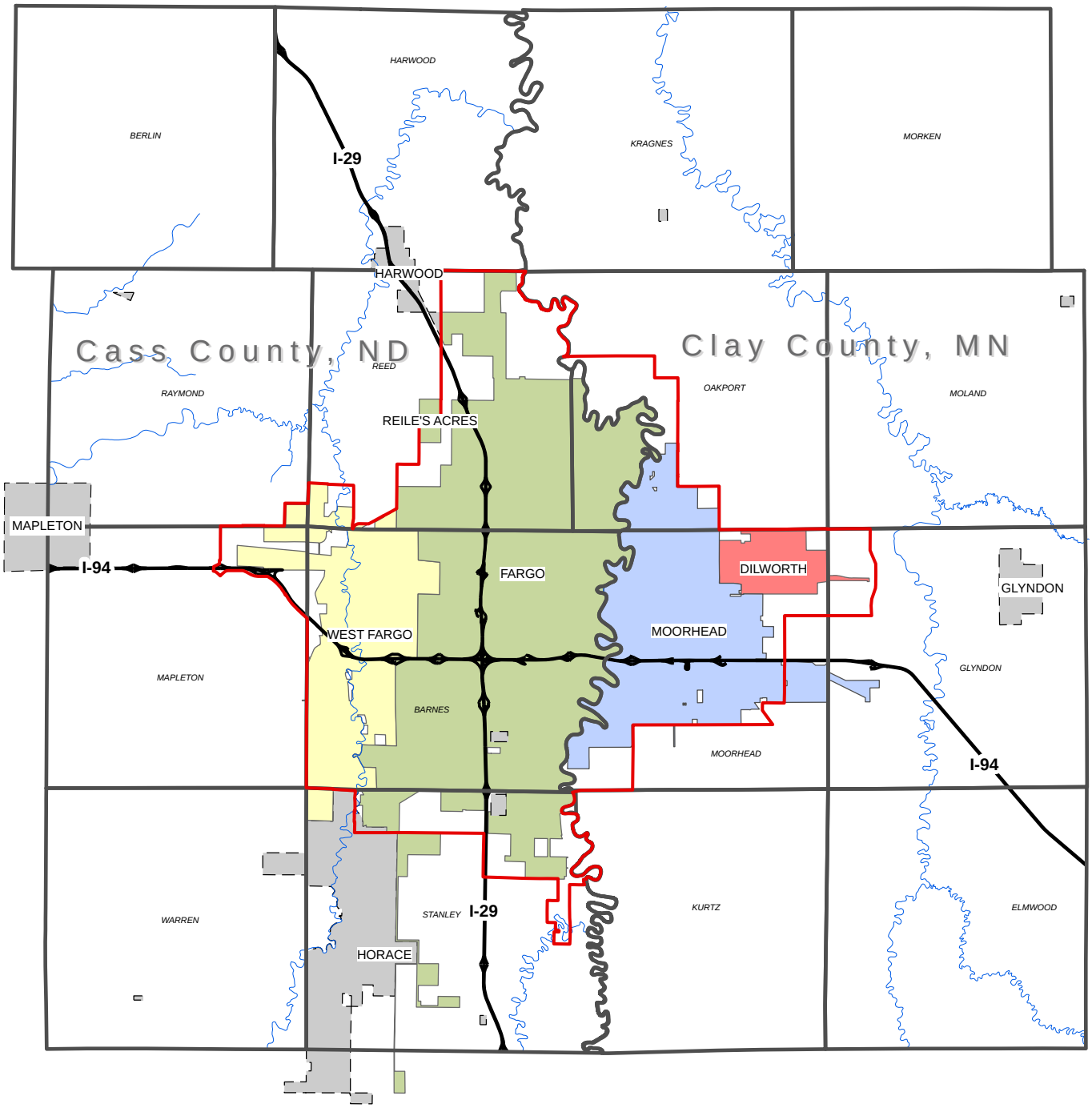
The 2011 Metropolitan Bicycle and Pedestrian Plan Update (2011 Plan Update) is a sub-element of the Long Range Transportation Plan (LRTP). The 2011 Plan Update acts as the update to the 2006 Metropolitan Bicycle and Pedestrian Plan. The 2011 Plan Update ensures the accommodation of bicycle and pedestrian facilities into the design of highway and street projects when they contribute to the transportation elements of the corridor. The 2011 Plan Update has a twenty year planning horizon which is broken down into two short range project lists (five year project lists) for each member local unit of government and a long range project list (years 6-20).

The 2011 Plan Update includes identification of existing facilities and conditions of the bicycle and pedestrian network. Analysis of the existing conditions along with public input assisted with the identification of issues for the bicycle and pedestrian system. The identified issues were then used to develop recommendations and guidance to improve the bicycle and pedestrian network in support of the 2011 Plan Update Vision Statement.

Study Area Map

Figure 1.1

FM Metropolitan Planning Area (MPA)



Map References

- City of Dilworth
- City of Fargo
- Municipal Boundaries (outside UAB)
- City of Moorhead
- City of West Fargo
- Township Boundary
- Urban Area Boundary (UAB) - 2006
- Rivers (Major)
- Principal Arterial (interstate)

0 1 2 4 Miles

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1.2 Purpose of Plan Update

The 2011 Plan Update establishes a 20-year vision for bicycle and pedestrian facilities in the Fargo-Moorhead Metropolitan Area. It is the intent of the Metropolitan Bicycle and Pedestrian Committee, which guided the preparation of this document, that the 2011 Plan Update be implemented and maintained by Metro COG in cooperation with Mn/DOT, NDDOT, and MATBUS. The purpose of the 2011 Plan Update is to:

- Identify current issues and mitigation measures for the bicycle and pedestrian network.
- Develop goals, objectives, and strategies which will provide guidance for the development of the bicycle and pedestrian network.
- Identify existing and planned facilities to determine gaps within the bicycle and pedestrian network.
- Develop a set of criteria to assist with prioritization and implementation of projects.
- Implement recommendations from previously adopted plans, such as the 2009 Long Range Transportation Plan.

1.3 Need for Plan Update

The 2011 Plan Update is needed to:

- **Provide a safe and continuous bicycle and pedestrian network for all types of groups of users in the Fargo-Moorhead Metropolitan Area.**
  Residents use the regional bicycle and pedestrian networks for reasons of need, recreation and utility. New Americans, persons with physical disabilities, post-secondary students, recreational bicyclists, and those legally restricted from driving often depend on non-motorized forms of transportation. Residents have also embraced bicycling and walking as a form of transportation for economic and health benefits.
- **Increase the amount of education being provided to bicyclists and motorists as to how to operate safely around each other.**
  The lack of education surrounding bicycle issues was frequently cited during the public input process. This involves the rights of bicyclists and pedestrians, as well as safety precautions on behalf of bicyclists. This need is further supported by the bicycle and pedestrian crashes with motorized vehicles in the region.
- **Respond to national, regional, and local policies which promote encouragement of bicycles and walking for economic, environmental, and health reasons.**
  Since the adoption of the 2006 Metropolitan Bicycle and Pedestrian Plan, planning for bicycling and walking has grown in sophistication and sensitivity toward the needs of its constituents. Federal, state, regional and local planning agencies have come to recognize a greater value in bicycling and walking for economic, environmental and health reasons. These policies include the Metro COG Complete Streets Policy Statement, active living policies, and the United States Department of Transportation's March 2010 Updated Policy Statement which promotes bicycle and walking facilities.

- **Respond to recommendation and public input received under this and other completed studies which were adopted by Metro COG's Policy Board.**
  Since the 2006 Bicycle and Pedestrian Plan several studies have been undertaken in the region which address bicycle and pedestrian issues. Metro COG will continue to explore the potential of expanding the bicycle network in key gap locations as roads are reconstructed.

  Historically, most bicycling accommodations in the Metropolitan Area have been in the form of shared use paths either within roadway rights-of-way or in separate rights-of-way such as in parkland settings. Thus, what exists today is a regional bikeway system that is composed of mostly shared use paths. In general, city and county policies have become much more supportive of the installation of sidewalks in residential developments. The adoption of Metro COG's Complete Streets Policy supports providing for all modes of transportation. The Fargo-Moorhead Metropolitan Area has been proactively providing bicycle facilities for all cycling skill levels since the 2006 Bicycle and Pedestrian Plan Update. This has included on- and off-road facilities.

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Chapter 2: EXISTING SYSTEM CONDITIONS AND ANALYSIS

2.1 Study Area Profile

As shown in Figure 1.1 the Fargo-Moorhead Metropolitan Planning Area, which acts as the study area, includes Cass County, Fargo and West Fargo, North Dakota as well as Clay County, Moorhead and Dilworth, Minnesota. According to the 2010 Census the population of the Fargo-Moorhead Metropolitan Area was approximately 180,000. Portions of sixteen townships are incorporated into the area immediately surrounding the urban core. The regional roadway network has been designed to efficiently carry significant volumes of motorized vehicles into and out of the main cities.

The Metropolitan Area's terrain is flat, with an annual average wind speed of 12.2 MPH; thus making wind a very real factor in the ease of moving through the Metropolitan Area by bicycle or foot, especially in the winter. January, the coldest month of the year averages a high of 16 F and a low of -2 F. July, the warmest month of the year has an average high temperature of 82.5 F and an average low temperature of 58.9 F. In between the extremes of temperature there are six or seven months of comfortable weather for walking, running and bicycling. Bicycling and walking occurs year-round though the numbers diminish significantly from December through February due to low temperatures and road conditions.

2.2 Existing Land Use

The relationship between land use and how viable walking and bicycling are as a form of transportation for commuter and utility trips is closely tied. It is essential that land use planning take into consideration all forms of transportation for the development of the most efficient transportation network possible. The goal should be to provide an equal opportunity for non-motorized users of the transportation network to access as many destinations as possible.

Table 2.1 provides a general land use picture of the Metropolitan Area by showing approximate 2008 land use acreage/percentages. It is evident that single-family residences make up the majority of residential land use. Higher densities and lower distances between residential development and trip generators are important in supporting regular bicycling and walking trips.

Table 2.1 – 2008 Metropolitan Area Land Use Acreage/Percentages (approx.)

Land Use	Fargo	West Fargo	Moorhead	Dilworth	Total	% of Metro Total
Commercial	1,197	211	263	66	**1,737**	**3.70%**
Industrial	1,730	762	603	11	**3,105**	**6.60%**
Single Family	4,679	1,874	2,261	273	**9,087**	**19.30%**
Multi-Family	1,161	226	278	28	**1,694**	**3.60%**
Other/Rural Residential	217	16	37	4	**274**	**0.60%**
Manufactured Housing	177	86	53	36	**351**	**0.70%**
Office/Bank	648	27	106	3	**785**	**1.70%**
Institutional/Community/Public assembly/Military	850	200	322	15	**1,388**	**2.80%**
Schools and Universities	1,076	110	433	3	**1,621**	**3.40%**
Parks & Recreation	2,223	336	1,198	39	**3,795**	**8.10%**
Agriculture/Vacant/ No Code	8,472	2,965	4,164	911	**16,512**	**35.30%**
Transportation/Utility/Non Building Structure	3,027	2,426	807	419	**6,679**	**14.20%**
Un-identified or Un-accounted Acreage	**Approximately 7,409.33 Acres or 14% of Metro Total**					
TOTAL	**25,456**	**9,238**	**10,525**	**1,808**	**47,028**	**25,456**

Source: 2009 Metropolitan Profile, Metro COG

2.3 Related Projects, Plans, Studies, and Policies

Several projects, plans, studies, and policies have been adopted since the completion of the 2006 Bicycle and Pedestrian Plan. Many of these studies are specific to or include recommendations for improvements to the metropolitan bicycle and pedestrian network. Each of those studies is listed in this section including the study findings and recommendations.

2009 Long Range Transportation Plan (LRTP)
The 2009 LRTP includes a number of recommendations that supported public input and key stakeholder input about specific concerns and needs for growing a safer, more complete bicycle and pedestrian network in the Metropolitan Area. Some of the recommendations have been implemented or completed and others are on-going.

Sheyenne Diversion/Sheyenne Street Bicycle and Pedestrian Study
Recommendations from the Study fall into three areas: recommendations for a shared use path along the Sheyenne Diversion (adjacent not on top), bicycle/pedestrian improvements along County Road 17 and bicycle/pedestrian improvements along 9th Street West (south of 40th Avenue West).

2008 Red River Greenway Study
The 2006 Red River Greenway Study covered an area relatively adjacent the Red River from 124th Avenue South and 100th Avenue North in North Dakota. The limits of the Study in Minnesota were 110th Avenue North to 120th Avenue South. No official Red River Greenway had been designated by any local governmental units. For planning purposes only the Greenway Study defined the existing Greenway as those publicly owned spaces, uses, and facilities which are in proximity to the Red River. The Red River Greenway Study provided alternatives for expanding the Greenway which follows the Red River through a large portion of the area. The Greenway Study identified issues and opportunities regarding future system expansion. The study outlined existing social and environmental issues which presented themselves along the corridor, both in terms of limitations (e.g. floodway/plain, property access, etc.) and opportunities (e.g. existing or planned community facilities, cultural/historical land markers, and/or other interpretive enhancements).

The Greenway Study focused on the development of northerly and southerly extension of the existing Greenway System. The intent of adding northerly and southerly extensions to the Greenway System is to expand a safe and efficient transportation corridor of shared use paths for commuting bicyclists, in-line skaters and pedestrians. The study looked to fill gaps within the existing network as identified by the 2006 Metropolitan Bike and Pedestrian Plan. Attention was paid to ensure symmetry between future proposed concepts and the current Greenway. While focusing primarily on transportation, the Greenway Study focused on ancillary issues such as floodway mitigation, habitat preservation, and connecting related community facilities and activity centers.

North Dakota State University (NDSU) Bicycle and Pedestrian Access Study (NDSU Study)
The NDSU Study was received and filed by the City of Fargo, North Dakota at the March 7, 2011 City Commission meeting. The NDSU Study comprised not just the main campus but also the downtown Fargo area. The purpose of the study is to develop a bicycle and pedestrian network to improve access between downtown and NDSU's main campus. The guiding principles are: Improving safety, improving access and mobility, increasing the number of pedestrians and bicyclists moving between downtown Fargo and the main campus of NDSU, community support and cost effectiveness. Both policy and infrastructure recommendations are provided in the study.

Red River Diversion/Local Flood Mitigation Projects
The Metropolitan Area has been coordinating the development of the Red River Diversion (diversion) since 2009 and it is evident that the City of Fargo, West Fargo, Moorhead, Dilworth and Cass and Clay County support the concept. Planning for a Diversion includes the development of a trail system and shared use path system. Metro COG has been included in the review of a conceptual trail system and shared use path system associated with the development of the Diversion. It is possible, depending on the alignment of the Diversion alignment that the trail and shared use path systems could serve as both non-motorized transportation and recreation corridors for bicyclists and pedestrians.

North Dakota State Bicycle Plan
The North Dakota State Bicycle Plan was completed in January 1994. This Plan is now seventeen years old. In the seventeen years since it was written, much has changed relative to planning and engineering for bicycle and pedestrian movement.

Heartland Trail Extension
The Heartland State Trail is one of the oldest rail-trails in Minnesota, currently extending from Park Rapids to Cass Lake, a distance of 49 miles. The Heartland State Trail Extension will link the current western end of the trail at Park Rapids to the city of Moorhead, a distance of approximately 85 to 100 miles. Specific alignments have not been determined yet for the trail. Metro COG supports the growth of the Heartland Trail Extension from Moorhead to outlying western Minnesota communities.

Safe Routes to School (SRTS)
Metro COG's continuing development of SRTS plans in conjunction with communication and cooperation with health planners, city planners, engineers, and school officials has the potential to increase the awareness of the value of increasing the number of students walking and bicycling to K-8 schools. The City of Fargo revised routes to all elementary schools within its jurisdiction in 2009. West Fargo revised the safe route to school maps for its K-8 schools in 2011. The City of Moorhead revised its Safe Routes to School maps in 2009, and Dilworth completed the process in 2008.

The goals of the Safe Routes to School Program are threefold:

1. to enable and encourage children, including those with disabilities, to walk and bicycle to school;
2. to make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age;
3. to facilitate the planning, development and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.

Infrastructure is a key foundational element for getting to school safely but is not the only aspect of bicycle and pedestrian movement to and from school sites that is considered today. Activities such as walking school buses and bicycle pools have become part of the planning toolbox of those planners and interested citizens developing SRTS programs, maps or associated studies. The program embraces these approaches to increasing safety, comfort and environmental consciousness for students and their parents.

Complete Streets

Metro COG in conjunction with member local units of government, other interested stakeholders and the public at large developed the Fargo-Moorhead Metropolitan Area Complete Streets Policy Statement in response to the development of Complete Streets policy statements across the United States including Minnesota in 2010. The Metro COG policy statement was approved by Metro COG's Policy Board in November of 2010, whose purpose is excerpted below:

> *The term Complete Streets means the process of planning, designing, building, and operating streets so they routinely and safely accommodate all modes of local and regional travel.*
>
> *Completing a street will expand its capacity to serve everyone who travels on it, be it by motor vehicle, foot, bicycle, transit, or other means. Complete streets are essential for those who cannot drive – because of age, disability, income, or other reason – and for those who choose not to drive to save money, protect the environment, or be healthier by living a more active lifestyle.*

In the last five years, the Fargo-Moorhead Metropolitan Area's population and enrollment at post-secondary institutions has risen and with it bicycling, walking and running. Bicycle and pedestrian counts since 2005 show general growth in bicycling and walking in the core of the Metropolitan Area. Accommodating motorized and non-motorized users of Metropolitan Area streets has been challenging but not impossible. Member local units of government have recognized that there is a need to accommodate non-motorized users of streets and have begun to provide these accommodations as a part of project planning and design. Since 2008

there has been a concerted effort to provide on-road bicycle facilities.[1] Presently, there is still a significant need for roadway design to invite people to use non-motorized sources of transportation. The provision of bicycle boulevards adjacent to NDSU, MSUM and Concordia College and bicycle lanes on collector and arterial roadways would create an area that is safe, fast and efficient opportunities for bicyclists.

Development of Complete Streets ties directly into the promotion of active lifestyles in the Metropolitan Area. Thus, there is a two-fold benefit in making streets user friendly for as many modes as possible.

2.4 Bicycle Facility Types

In both North Dakota and Minnesota, bicycles are legally recognized as vehicles and have the right to use any public right-of-way, except some interstate highways[2]. In rural areas, bicyclists are encouraged to ride on the shoulders of roadways because of the speed differential between motorized vehicles and bicycles. Within the Fargo-Moorhead Metropolitan Area, adult bicyclists can ride on any local, collector, or arterial roadway except I-94 and I-29. However, bicyclists vary in skill and comfort levels when driving a bicycle on a public roadway and operating near motorized vehicles. A bicycle network that is accessible and safe for a wide range of skill levels, both off-road and on-road accommodations is desirable for the Fargo-Moorhead region.

Metro COG recognizes five kinds of accommodations for bicyclists. These follow the general principles of the American Association of State Highway and Transportation Officials *Guide for the Development of Bicycle Facilities,* 1999 as well as the Manual on Uniform Traffic Control Devices (2009 edition).

- A **shared-use path** is a paved surface that is typically between 8 and 12 feet wide and is used by pedestrians, bicyclists, joggers, in-line skaters, and other people who are moving under their own power. Shared-use paths can be found adjacent to, but separate from, a roadway much like a sidewalk, or can occupy their own right-of-way, such as along a river or other natural feature where a roadway is impractical, infeasible, or unnecessary.
- A **bicycle lane** is an area on a roadway surface, at least 4 feet wide, that is designated for use by bicyclists. The bicycle lane is separated from the automobile lane by a 6-inch stripe, along with stenciling and signing.

[1] E.g. Striped, stenciled, and signed bicycle lanes; signed shared roadways (aka bicycle routes); shared lane markings and enhanced county roadway shoulders.

[2] Minnesota does not allow riding of bicycles on its interstate highways, whereas North Dakota does except within urban areas such as Fargo.

- A **shoulder** is similar to a bicycle lane in that it is separated from the driving lane by a stripe, but it is typically found on rural roadways and also serves as a break-down lane for motor vehicles.
- A **signed-shared roadway** does not have a designated area striped off for use by bicyclists, but adjacent bicycle route or trailblazing signage alerts motorists to be on the look-out for bicyclists, and identifies the roadway to bicyclists as a preferred route. Standard driving lanes are 11 – 12 feet wide, but may vary.
- **Shared lane markings** a roadway stencil that indicates appropriate bicycle positioning on a shared roadway.

2.5 Bicycle Facility Inventory

The existing metropolitan bikeway network consists of shared use paths, signed shared roadways, bicycle lanes, shared lane markings and paved roadway shoulders. The Metropolitan bikeway network can be further delineated into the urban and rural bikeway networks.

2.5.1 Urban Bikeway Network

The urban bikeway network is intended to provide direct access to major bicycle trip generators in a safe and predictable manner. The availability of on- and off-road bikeways allows all levels of bicyclists to select those bikeways they feel most comfortable using. Figures 2.1 and 2.2 show the urban bikeway network for Fargo/West Fargo and Moorhead/Dilworth areas respectively. Table 2.2 shows the percentage of bikeways that make up the urban bikeway network.

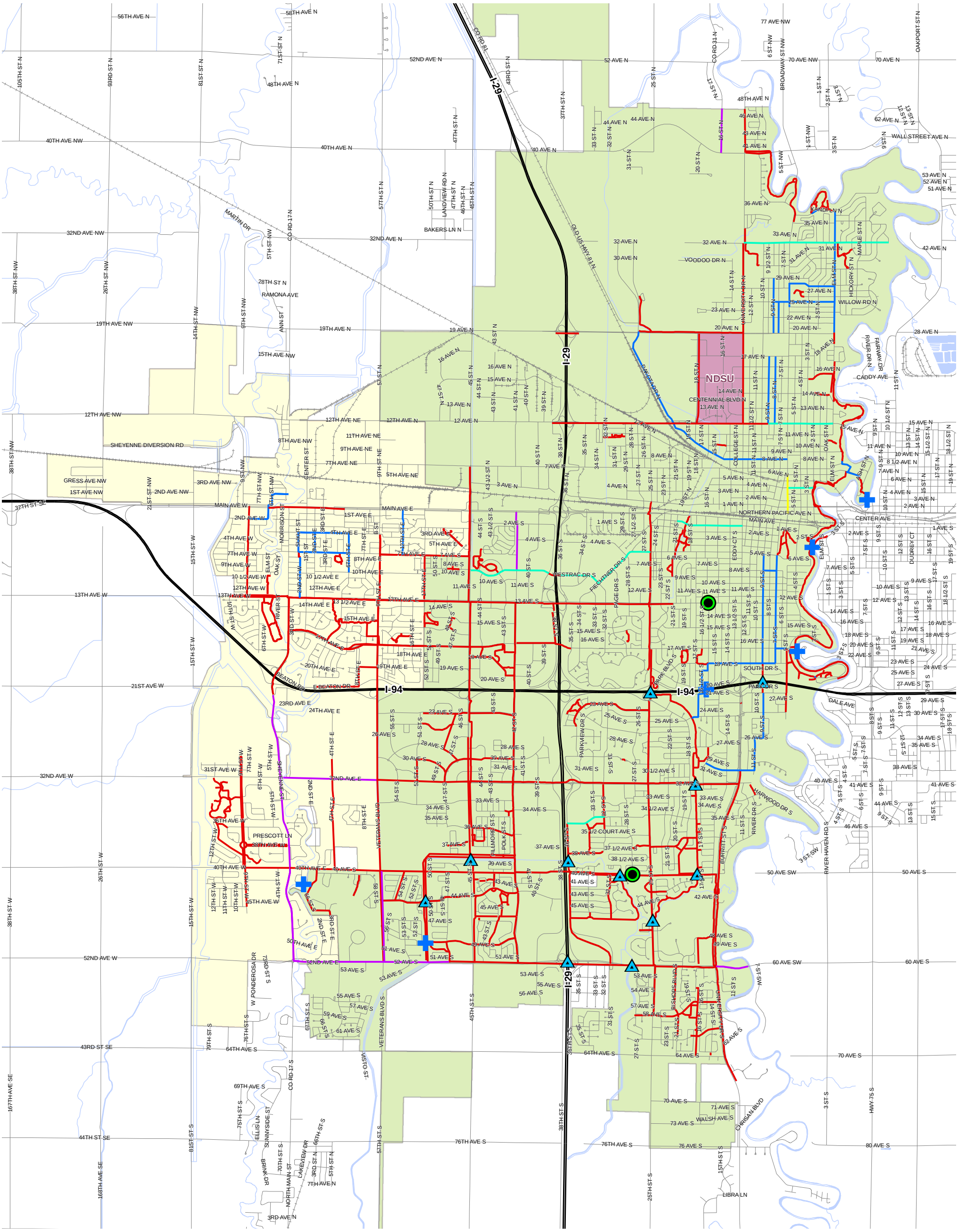
Table 2.2 Mileage of Existing Bikeway Facilities within the Fargo-Moorhead Area

Facility	Miles of Urban Area Bikeway Network				Total (miles)	Percentage
	Dilworth	Fargo	Moorhead	West Fargo		
Shared-Use Path	4	106.18	35.7	33.56	**179**	**79.50%**
Bicycle Lane	0	2.72	1.34	0	**4.06**	**1.80%**
Paved Roadway Shoulder	1.58	3.72	5.59	5.67	**16.56**	**7.40%**
Signed-Shared Roadway	0	13.92	2.85	6.26	**23.03**	**10.20%**
Shared Lane Markings	0	2.49	0	0	**2.49**	**1.10%**
Total	**5.58**	**129.03**	**45.48**	**45.49**	**225.14**	**100%**
Percentage	**2.40%**	**57.20%**	**20.20%**	**20.20%**	**100%**	

Source: Metro COG data, accurate to December 2010

Existing Bicycle Network – Fargo & West Fargo

Figure 2.1



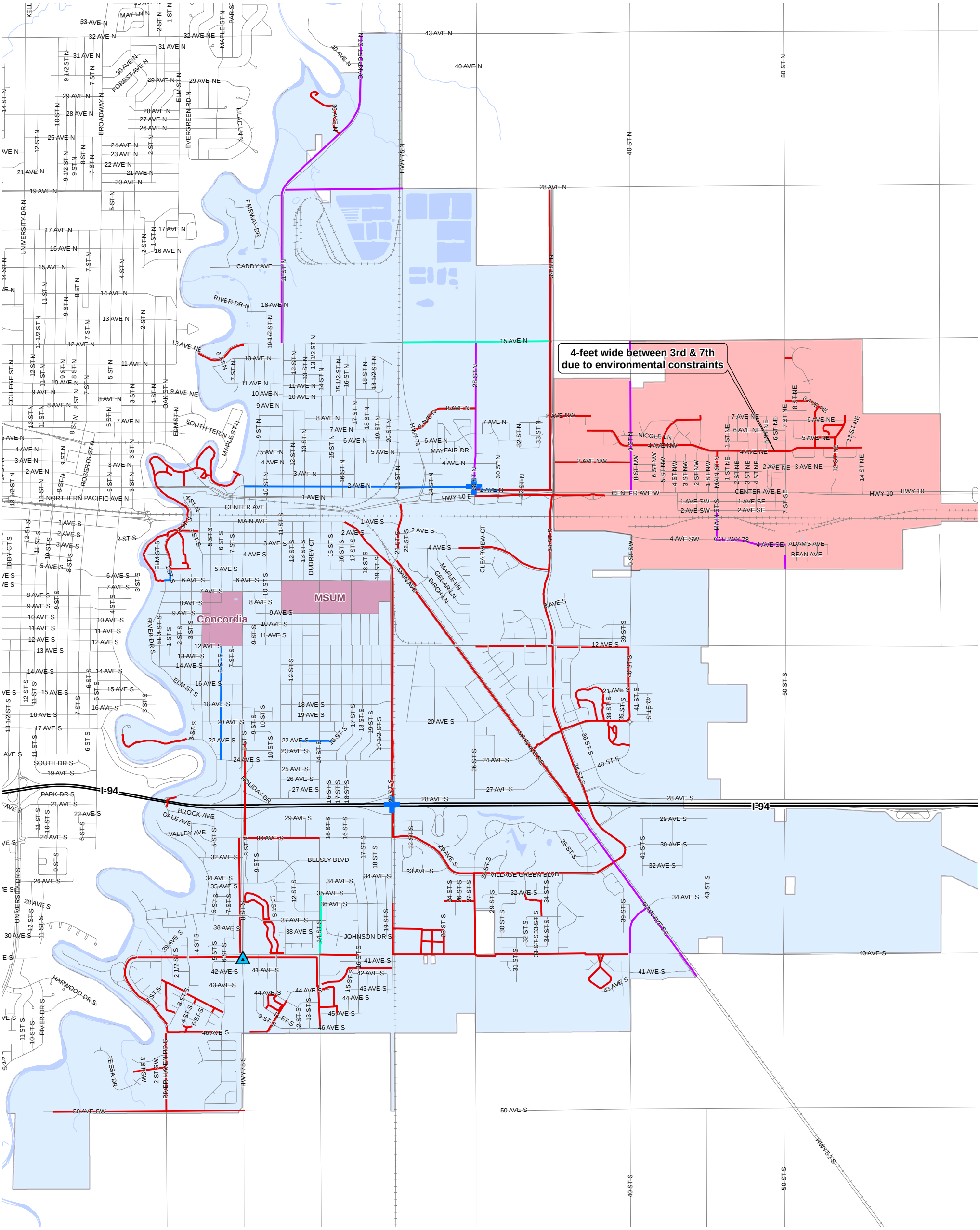
*Data is current as of December 2010

Map References

- Bike Lane
- Shared Use Path
- Shoulders (4' or Wider)
- Signed Shared Roadway
- Shared Lane Markings
- Dedicated Bicycle/Pedestrian Bridge
- Dedicated Bicycle/Pedestrian Underpass
- Pedestrian Hybrid Beacon
- Principal Arterial (Interstate)
- Other Roads
- Railroad
- Rivers, Streams & Drains
- Open Water
- NDSU
- City of Fargo
- City of West Fargo

Existing Bicycle Network – Moorhead & Dilworth

Figure 2.2



*Data is current as of December 2010

Map References

- Bike Lane
- Shared Use Path
- Shoulders (4' or Wider)
- Signed Shared Roadway
- Dedicated Bicycle/Pedestrian Bridge
- Dedicated Bicycle/Pedestrian Underpass
- Principal Arterial (Interstate)
- Other Roads
- Railroad
- Rivers, Streams & Drains
- Open Water
- Colleges
- City of Moorhead
- City of Dilworth

0 0.3 0.6 1.2 Miles

N

2.5.2 Rural Bikeway Network

Rural bikeway facilities provide opportunities for bicyclists to make connections to surrounding townships as well as major bicycle routes. The rural bikeway network is comprised of paved roadway shoulders (four to eight feet in width) and shared use paths. Table 2.3 provides the existing rural bikeway mileage. Figures 2.3 and 2.4 show the existing rural bikeway network for Cass and Clay County respectively.

Table 2.3 Existing Rural Bikeway Mileage for Cass and Clay County (MPO Area Only)

Facility	Miles of Rural Bikeways			
	Cass County	Clay County	Total (miles)	Percentage of system
Shared Use Path	2.5	0	2.5	2%
Paved Roadway Shoulder	41.94	83.76	125.7	98%
Total	**44.44**	**83.76**	**128.2**	**100%**
Percentage	**34.70%**	**65.30%**	**100%**	

Source: Metro COG data, December 2010

2.6 Existing Bicycle Parking Facilities

Bicycle parking is provided near businesses, post-secondary educational institutions, and apartments especially in the downtown area, as well as primary and secondary education sites. There are no inventories of existing bicycle parking spaces in the Metropolitan Area. It is known that there are bicycle lockers available to rent to the public in downtown Fargo[3]. There is one bicycle corral[4] that is located in front of the Cityscapes development on the south side of 1st Avenue North, which is removed during the winter. None of Metro COG's member local units of government currently include bicycle parking requirements in their ordinances. However, the City of Fargo's *Land Development Code* does allow for a reduction in off-street motor vehicle parking spaces for developments that provide bicycle parking or that make other provisions such as bicycle lockers, employee shower facilities and dressing areas for employees.

2.7 Existing Pedestrian Facilities Network

There are 792 miles of pedestrian facilities in the Metropolitan Area as of December 2008. Since 2006, local units of government have continued to add sidewalks and shared use paths to the Metropolitan pedestrian network. The majority of streets within the Metropolitan Area have sidewalks or shared use paths on at least one side of the street. See Figure 2.5 for layout of existing pedestrian facilities in the Metropolitan Area.

[3] These locations include the Elm Tree Parking Lot, Ground Transportation Center, and the NP Avenue City Parking Lot.

[4] On-street bicycle parking.

Each of the cities in the Metropolitan Area have policies providing continuously linked walkways that encourage walking as a means of transportation. Missing pedestrian system links force pedestrians to travel on roadways or to cross roadways at unmarked locations.

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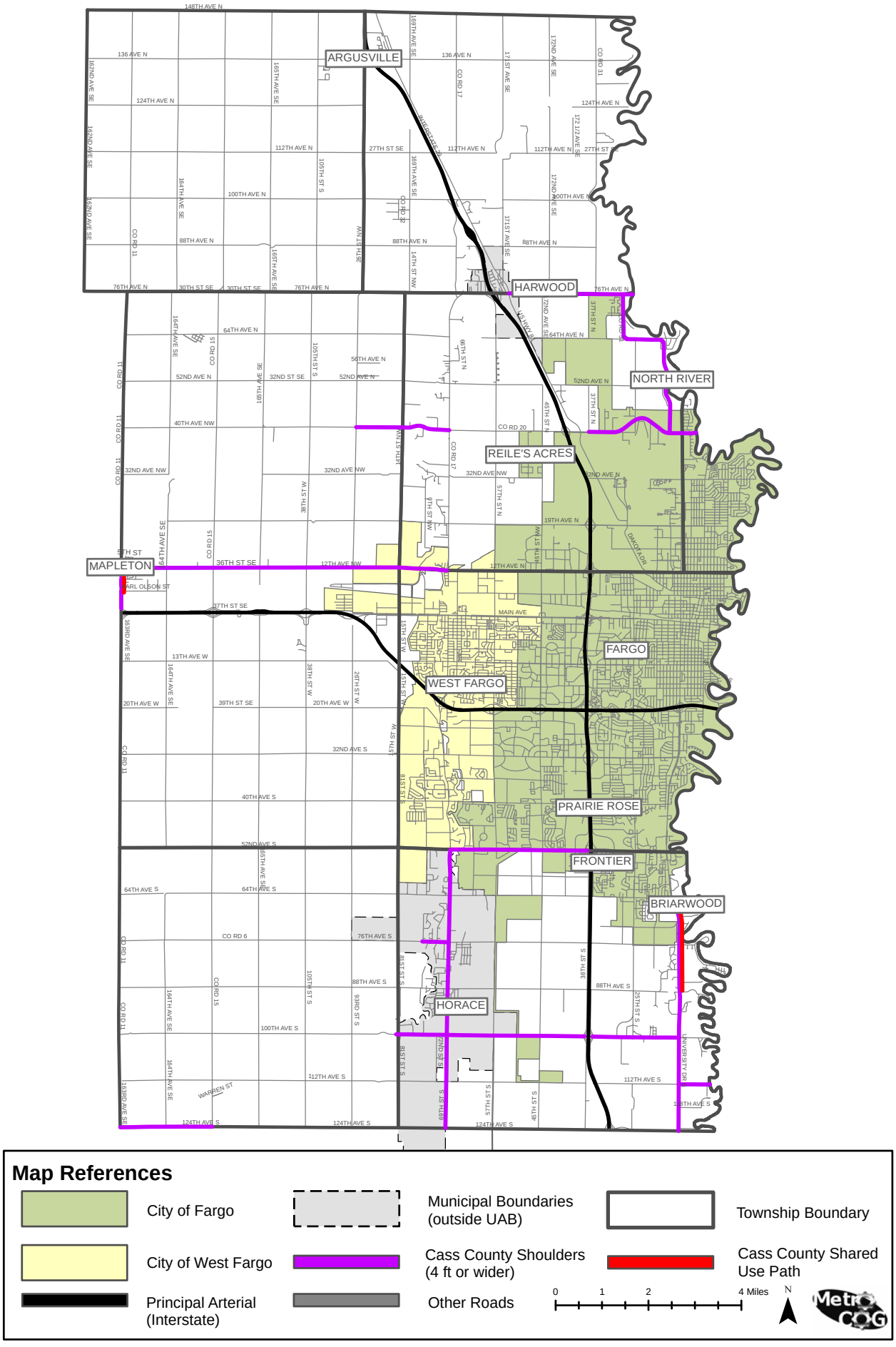
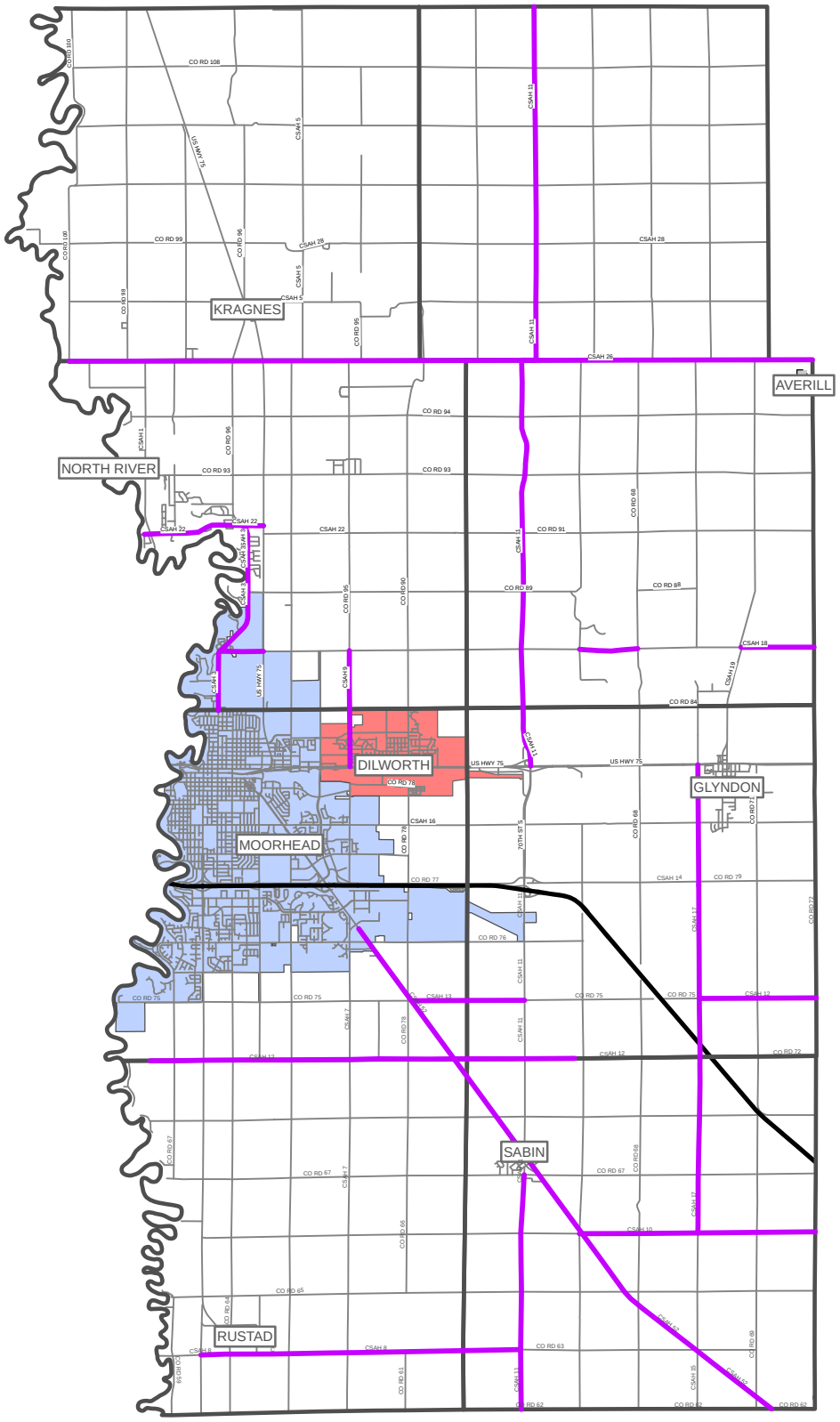
Cass County Existing Bikeway Facilities

Figure 2.3



Clay County Existing Bikeway Facilities

Figure 2.4



Map References

- City of Dilworth
- City of Moorhead
- Principal Arterial (Interstate)
- Municipal Boundaries (outside UAB)
- Clay County Shoulders (4 ft or wider)
- Other Roads
- Township Boundary

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0 1.25 2.5 5 Miles

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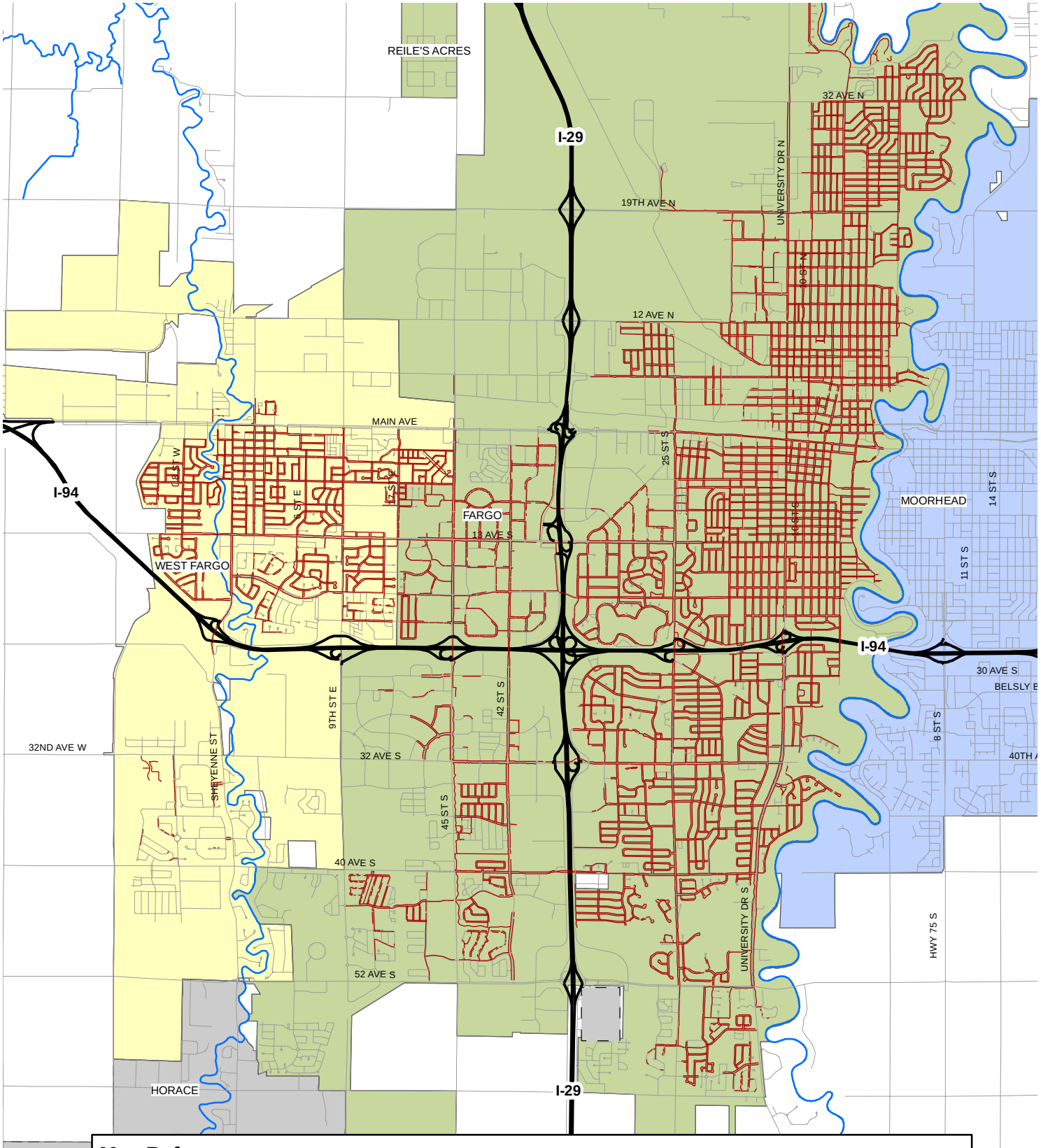
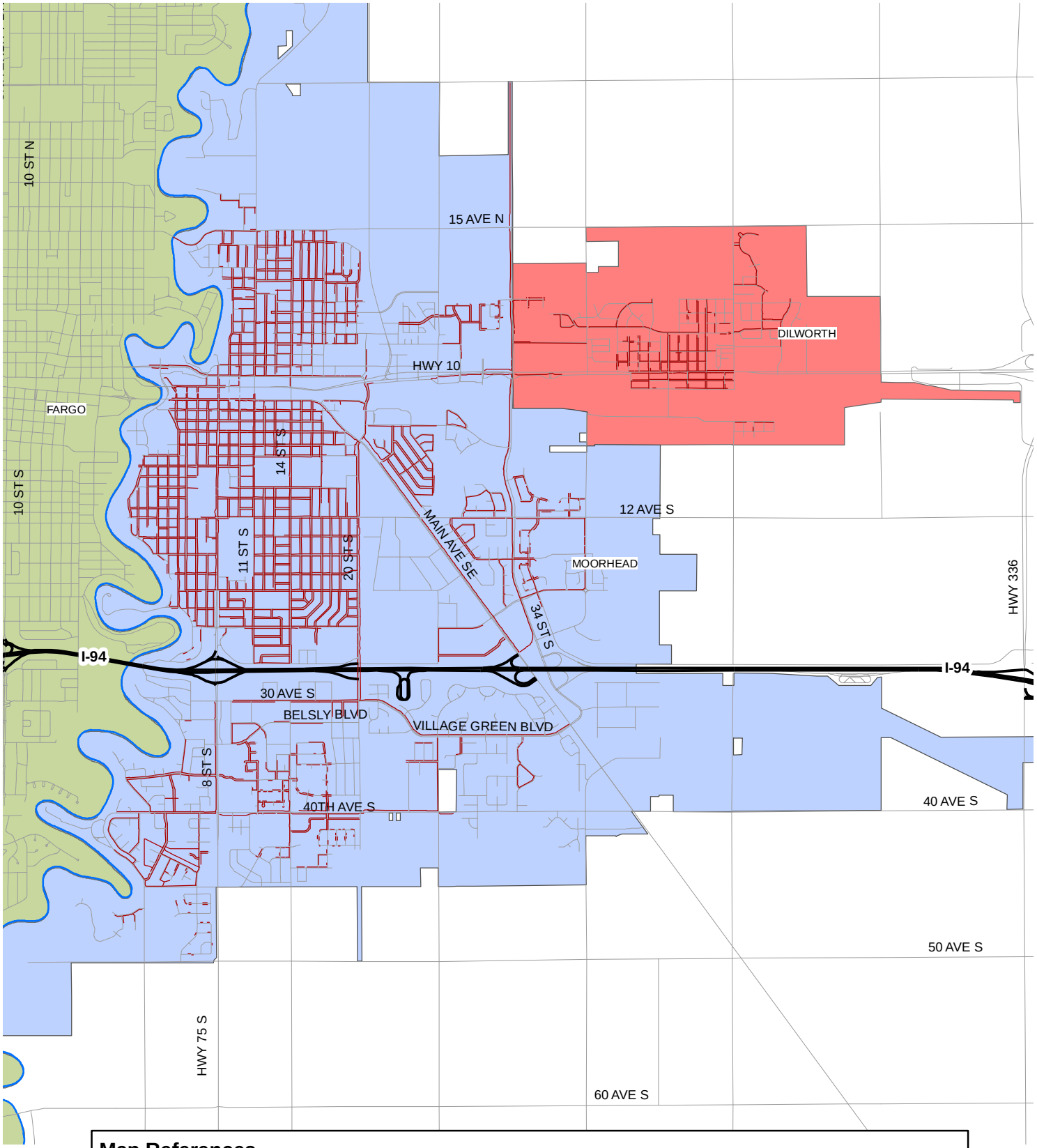
Existing Fargo/West Fargo Pedestrian Facilities

Figure 2.5



Existing Moorhead/Dilworth Pedestrian Facilities

Figure 2.6



2.8 Bicycle and Pedestrian Counts

Understanding the demand for bicycle and pedestrian facilities allows local member units of government and Metro COG to plan for future bicycle and pedestrian use in the Metropolitan Area. Usage patterns over several years begin to show general trends that allow for an understanding of how bicycle and pedestrian facilities are being used and where they are needed. Metro COG has been conducting bicycle and pedestrian counts since 1993. During the summers of 1993 and 1994 Metro COG used hose counters to conduct bicycle counts at over 38 locations. Peak bicycle use on average appeared to be between 12:00 p.m. and 7:00 p.m.

In the summer of 2000 counts included pedestrians and in-line skaters. Bicycle and pedestrian counts were conducted at 14 sites. In 2000, seven of the 1993/1994 sites were counted thus comparisons could be made for the 7 year period, demonstrating a 17.3 % increase in bicycle traffic.

In 2005, changes were made to the season in which some of the counts were done. Feedback from the public and the Metropolitan Bicycle and Pedestrian Committee suggested that maybe fall bicycle and pedestrian counts would be higher since many residents leave the Metropolitan area for several weeks at a time for vacations during the summer. What was found was that fall counts are not as high as summer counts thus the fall counts were recounted in the summer of 2006. Bicycle and pedestrian counts were not conducted during the summer of 2010 or 2011.

Table 2.5 provides a comparison of ten bicycle and pedestrian counts from 1993-2009. It is clear from this table that there has been a general increase in the numbers of bicyclists and pedestrians counted. This table demonstrates that continuing to grow the Fargo-Moorhead Metropolitan Area's bicycle facilities network may increase the number of users. Fluctuations in user numbers are evident and suggest that variables such as weather, roadway and sidewalk construction, time of year etc. can have significant effects on the number of people willing to bicycle or walk for recreational or utilitarian purposes.

The 2011 Metropolitan Bicycle and Pedestrian Plan Update explored more efficient and meaningful options for collecting bicycle and pedestrian count data. Recommended revisions to counting methods are discussed in Chapter 6.

Table 2.4 1993 to 2009 Bicycle and Pedestrian Counts Comparison																
Location	**1993/1994**		**2000**		**2004**		**2005**		**2006**		**2007**		**2008**		**2009**	
	Bike	Ped	Bike	Ped	Bike	Ped	Bike	Ped	Bike	Ped	Bike	Ped	Bike	Ped	Bike	Ped
13th Ave S near Gateway Dr, Fargo	140		79	57					110	52			182	58		
9th Street Underpass, Fargo	115		117	66			118	73			179	54				
20th Street South@12th Ave. South, Moorhead			43	47					67	16	74	37				
Belsley Blvd. @ 8th St. S. (TH75), Moorhead			20	16			31	19							11	3
Highway 10, shared use path near Kmart, Moorhead	77		98	62											244	211
Lindenwood/Gooseberry Bridge (Fargo/Moorhead) (bike/ped only)			10	15	275	327	22	21			54	16				
Main Avenue SE @ Oak Way			98	31			69	128							152	100
Mickelson Trail near 9th Ave. North, Fargo	75		139	153			266	233							198	152
Milwaukee Trail, just south of 32nd Ave. S., Fargo	46		83	48	151	116									86	74
Oak Grove Memorial Bridge (Fargo/Moorhead) (bike/ped only)			173	64					115	49			106	67		
University Drive @ 35th Avenue South, Fargo	68		109													
13th Ave S near 2nd St W, West Fargo	87		88													
Source: Metro COG Bicycle and Pedestrian Counts																

2.9 Bicycle and Pedestrian Crashes

Bicycling and walking are generally considered safe activities. However, the results of bicycle and pedestrian crashes with motor vehicles are typically serious incidents which often result in injuries to those not in the vehicle. As a part of this plan, bicycle and pedestrian crash data were obtained from the state DOT's for a 5-year period. A total of 331 crashes occurred within the FM Metropolitan Area for this time period period. Statistics from the 5-years of crash data are summarized in Table 2.6 for Minnesota and North Dakota. Unfortunately, many crashes between bicyclists, pedestrians and motorists go unreported thus it is likely that the actual number of crashes is higher than shown here. Note that the 5-year periods of crash data for the two states are not the same.

From the statistics shown in Table 2.5, we can conclude that the majority of bicycle and pedestrian crashes occurring within our FM Metropolitan Area are occurring on arterial roadways at intersections and result in injury.

It is difficult to analyze bicycle and pedestrian crash data based on a crash rates because up to date bicycle and pedestrian counts are not readily available at most locations. However, since most bicycle and pedestrian vs. motor vehicle crashes have a severe result, it was determined that the intersections and corridors which had a high number of crashes should be studied in further detail to develop mitigation measures to reduce the number of crashes. Figure 2.6 is a point map that shows the location of the reported bicycle and pedestrian crashes as described in the Tables above. The point map was used to recommend high crash corridors for additional study in Chapter 6: Recommendations.

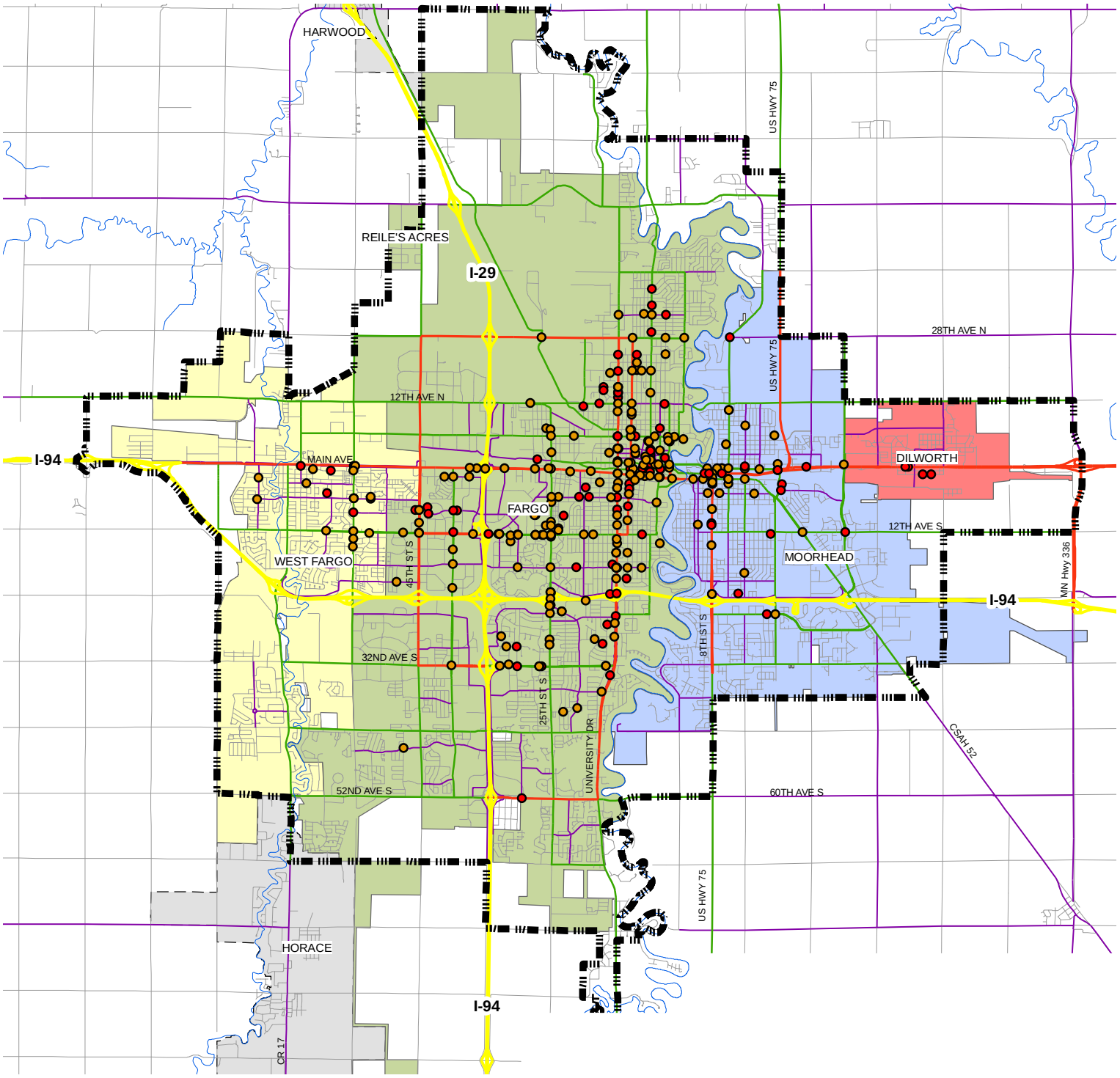
Table 2.5: Bicycle and Pedestrian Crash Data within the FM Metropolitan Area

Minnesota Crash Data from Jan. 1, 2004 through December 31, 2008		
Crash Characteristic	**Number of Crashes**	**Percentage**
Mode v. Motor Vehicle		
Bicycle Crashes	38	63%
Pedestrian Crashes	22	37%
Severity of Crash		
Property Damage Only	1	2%
Injury	59	98%
Roadway Classification		
Arterial	45	75%
Collector	7	12%
Local Road	8	13%
Junction		
Intersection	42	70%
Non-Intersection	18	30%
North Dakota Crash Data from Jan. 1, 2005 through December 31, 2009		
Crash Characteristic	**Number of Crashes**	**Percentage**
Mode v. Motor Vehicle		
Bicycle Crashes	183	68%
Pedestrian Crashes	88	32%
Severity of Crash		
Property Damage Only	14	5%
Injury	253	94%
Fatality	4	1%
Roadway Classification		
Arterial	212	78%
Collector	41	15%
Local Road	15	6%
Rural	3	1%
Junction		
Intersection	180	67%
Non-Intersection	91	33%

Source: Mn/DOT and NDDOT

Bicycle & Pedestrian Crash Map

Figure 2.7



Pedestrian Crash

Bicycle Crash

2006 Federal Aid Urban Area Boundary (FAUA)

City of Dilworth

City of Moorhead

City of Fargo

City of West Fargo

Municipal Boundaries (outside FAUB)

Principal Arterial (interstate)

Principal Arterial (other)

Minor Arterial

Collector

Other Roads

Rivers (Major)

N

0 1.25 2.5 5 Miles

2.10 Bicycle and Pedestrian Trip Generators

A trip generator is any facility which produces or attracts bicycle or pedestrian trips. From a regional planning perspective it is imperative to understand where major trip generators exist and where there are concentrations of trip generators. This allows initial analysis and ultimately a prioritization of projects based on the highest and best use of limited federal, state and local funding. Standalone major trip generators (i.e. major trip generators more than one mile from residential development) may not provide the same level of trip attraction as those trip generators within a mile of residential development, especially those not supported by well connected on and off-road bicycling and walking facilities.

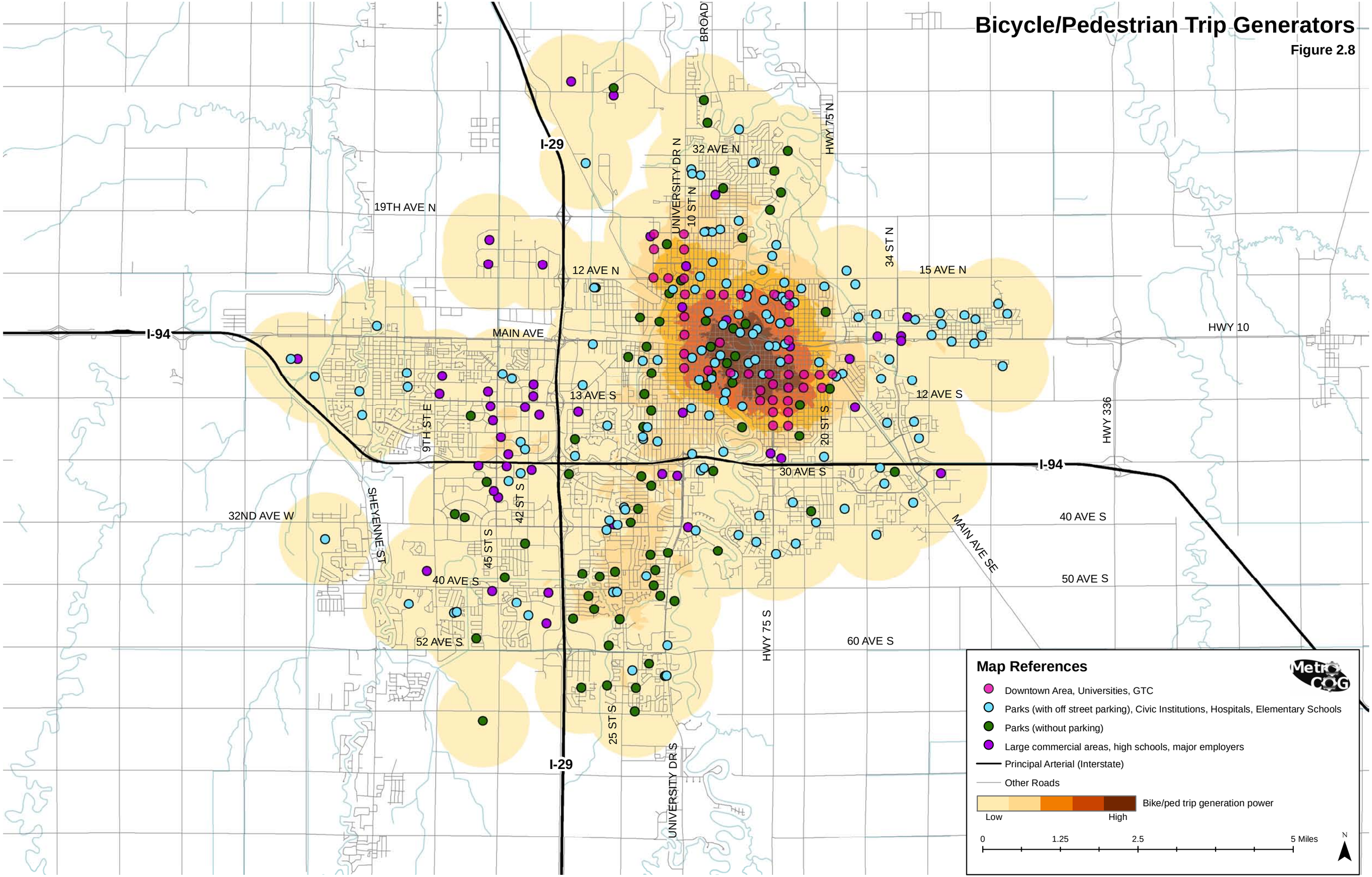
Major trip generators were selected through the development of a four level trip generation typology. Level 1 trip generators generate very few bicycle and pedestrian trips whereas level 4 trip generators generate a lot of bicycle and pedestrian trips. The generators are as follows:

- Fargo-Moorhead Downtown (4)
- Ground Transportation Center (4)
- Post-Secondary Education Institutions (4)
- Local Parks (no standalone automobile parking) (3)
- Schools (K-8) (3)
- Civic Nodes – Justice/Government/Hospitals, Libraries/Museums, Recreation Centers/Event Centers, Social Services (2)
- Regional Parks (parks with standalone automobile parking) (2)
- Schools (9-12) (2)
- Concentrated Commercial - West Acres Mall/Super Wal-Mart/Kmart/Target, Grocery Stores (1)
- Transit Transfer Points (1)
- Major Employers [500 or more employees at one site] (1)

A key element of bicycle and pedestrian planning is to provide a network which provides safe and easy access to major trip generators thus enhancing mobility options. Where concentrations of major trip generators are found, bicycle and pedestrian facilities have a much greater potential to provide viable transportation options. National data suggests that many people are open to walking ¼ of a mile or more for commuting trips or errands; distances for bicycling are slightly higher at ¾ to 1 mile for a one-way trip. The 2011 Plan Update uses ¾ of a mile buffer around the identified trip generators as our shaded area. The level of shading is dependent on the level of trip generation (identified as 1 through 4 above). Figure 2.7 shows the major trip generators and regions of high to low trip generation for bicycle and pedestrian activity within the Metropolitan Area.

Bicycle/Pedestrian Trip Generators

Figure 2.8



Map References

- Downtown Area, Universities, GTC
- Parks (with off street parking), Civic Institutions, Hospitals, Elementary Schools
- Parks (without parking)
- Large commercial areas, high schools, major employers
- Principal Arterial (Interstate)
- Other Roads
- Bike/ped trip generation power

Low — High

0 — 1.25 — 2.5 — 5 Miles

N

2.11 Transit Relationship with Bicycles and Pedestrians

The regional transit system consists of fixed-route and paratransit bus services operated by Metro Area Transit (MATBUS). The fixed-route system includes 25 routes that provide extensive coverage of Fargo and Moorhead and provide a single line into West Fargo. Dilworth is not currently served by transit

In 2010, the MATBUS fixed-route system recorded over two million trips. Much of the growth of the transit system in the Metropolitan Area has been due to the development of the U-Pass program allowing unlimited trips by NDSU and MSUM staff and students. In 2010 routes 31, 32, 34, and 35, which serve primarily NDSU and Minnesota State University – Moorhead, provided 378,025 rides. Efforts to encourage private companies to provide transit pass incentive programs to their employees, such as Sanford Health, have been on-going. Bicycle boarding data collected between 2005 and 2009 for each transit route shows continuous growth in bicycle boarding numbers. Total fixed route and NDSU circulator transit trips recorded and bicycle boardings from 2005 to 2010 are found in Table 2.4. Metro COG has prepared a list and map of transit generators for the 2011 Transit Development Plan Update. Five different categories of transit trip generators were created and five different areas in the Region were designated as major transit generators. See Figure 2.8 for this information.

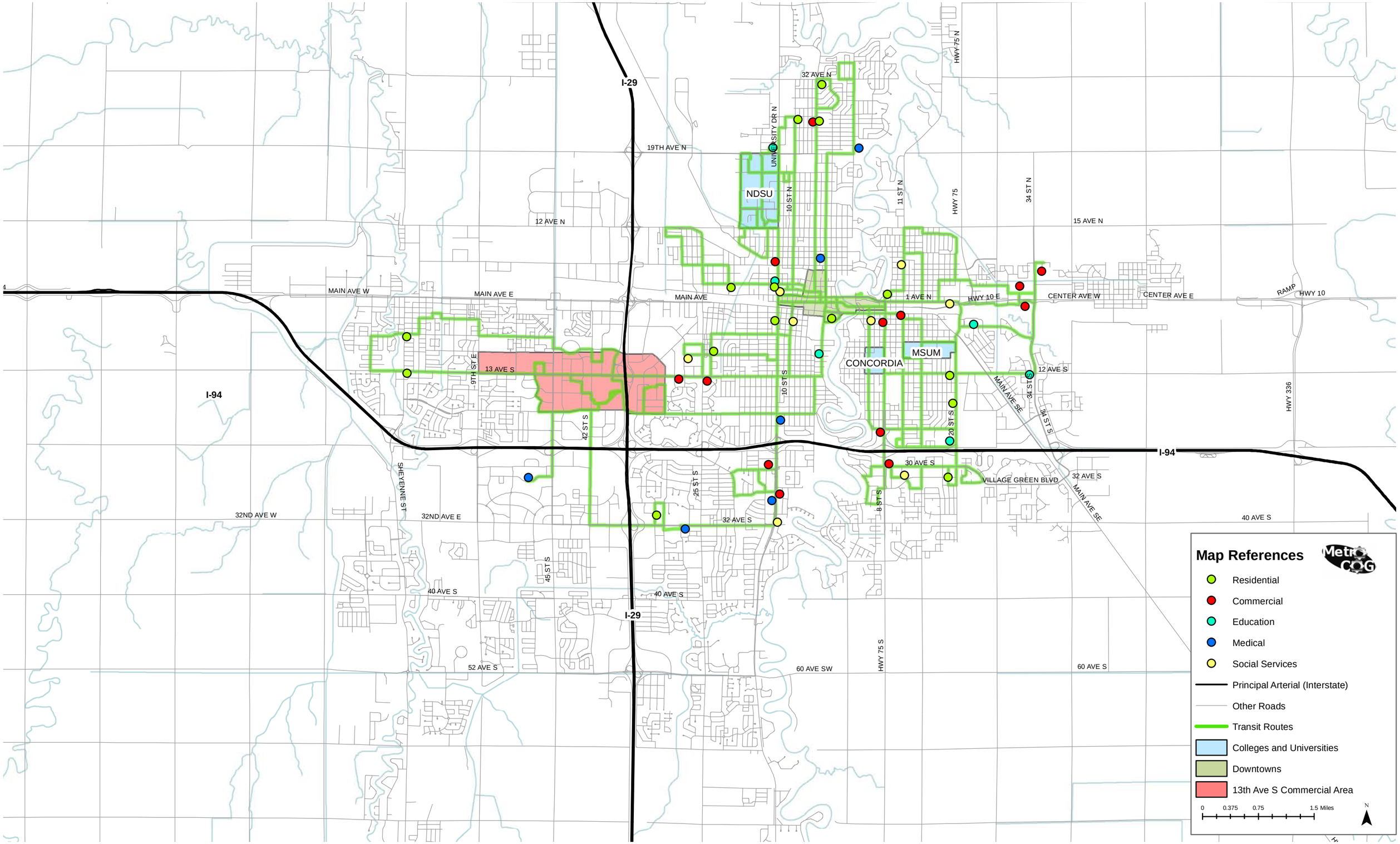
Table 2.6 Fixed Route Historical Total Transit Ridership and Bicycle Boardings

Total Fixed and Circulator Route Ridership		Total Bicycle Boarding		Total Bicycle Boardings	As a Percent of Total Boardings
Year	Trips	Fargo	Moorhead		
2005	1,138,466	5,442	1,945	7387	0.65%
2006	1,248,800	7,188	3,072	10,260	0.82%
2007	1,318,762	12,262	4,854	17,116	1.30%
2008	1,626,909	12,974	6,309	19,283	1.19%
2009	1,872,630	10,031	4,277	14,308	0.76%
2010	2,001,334	9,009	4,291	13,300	0.66%

Source: Metro Area Transit

Transit Generators

Figure 2.9



2.12 Maintenance of the Bicycle and Pedestrian Network

Maintenance of active transportation facilities is crucial to ensuring that they remain comfortable, attractive and safe for users. Additional monitoring activities, such as law enforcement, also contribute to an overall secure environment. Table 2.7 describes the existing maintenance policies for Metro COG's member local units of government

Table 2.7: Existing Maintenance Policies in Metro COG Region

City of Fargo		
Resident	Sidewalk Clearing	Snow and ice must be cleared within 24 hours after the end of snowfall or owners are billed by the city.
City	Snow Clearing	Plow primary then secondary snow routes before conducting city-wide plowing.
	Street Maintenance	Street Department maintains a repair schedule and a reporting system for residents.
	Tree Trimming	Trees are pruned to maintain sufficient clearance over the street and sidewalk.
	Street Sweeping	Conducted monthly starting after the spring thaw and ending after the fall leaf drop.
	Signage	Street Department maintains street name signs / Traffic Engineering maintains traffic control signs.
	Litter Control	Volunteer groups clean up entrances into Fargo through the Adopt-A-Street program.
City of West Fargo		
Resident	Sidewalk Repairs	Responsible for the cost of maintaining and repairing the sidewalk in front of their property.
	Sidewalk Clearing	Snow and ice must be cleared. Uncooperative owners are billed by the city.
	Tree Trimming	Responsible for pruning street trees to maintain a sidewalk clearance of eight feet.
Cass County		
County	Snow Removal	Roadways are cleared first then shared use paths are cleared.
	Roadway Maintenance	Maintenance is regularly scheduled and maintenance of shoulders is concurrent with roadway maintenance.
	Shared Use Path Maintenance	Shared use paths are maintained as needed.
	Signage	GPS inventory of signs and maintained by sign foreman. Shared use paths are signed.
	Litter Control	Handled by staff. Adopt-a-Highway Program on hold for time being.
	Roadway Sweeping	Roadway sweeping includes paved shoulders and is done typically once in the spring. If conditions warrant, an additional sweep will be done by request.

Table 2.7: Existing Maintenance Policies in Metro COG Region (continued)

City of Moorhead		
Resident	Sidewalk Repairs	Homeowners are responsible for the cost of maintaining and repairing sidewalk in front of their property.
	Sidewalk Clearing	Snow and ice must be removed prior to 9 pm each day. Uncooperative owners are billed by the city the cost of clearing and an administration fee.
City	Snow Clearing	First pass clears to approx. 1 to 2 feet away from the curb. Second pass (made the next scheduled day) is made as close to the curb as possible.
	Street Maintenance	Street Division fills potholes and cracks, seal coating and minor overlay work. Routine inspections of all streets are carried out each year.
	Tree Trimming	Forestry division prunes trees that hang over the edge of public sidewalks (to a clearance of eight feet). Residents are responsible for trees on private property.
City of Dilworth		
Resident	Sidewalk Clearing	It is "highly recommended" that property owners clear snow from their sidewalks. The City does not clear snow from sidewalks.
City	Snow Clearing	Snow will be plowed as close as possible to the boulevard so as to minimize any traffic obstructions. A second pass may be required to totally clear streets of snow.
	Signage	The Maintenance Department is responsible for maintaining traffic signs, street & regulatory signs, and pavement markings.
	Street Maintenance	The Maintenance Department is responsible for maintaining streets.

Clay County		
County	Snow Removal	Roadways are cleared first then shared use paths are cleared.
	Roadway Maintenance	Maintenance is regularly scheduled and maintenance of shoulders is concurrent with roadway maintenance.
	Shared Use Path Maintenance	Shared use paths are maintained as needed.
	Signage	No specific signage for bicyclists or pedestrians
	Litter Control	Adopt-a-Highway Program
	Roadway Sweeping	Requests for sweeping are handled by the Highway Department Office Manager

Source: Metro COG Jurisdictions

2.13 Americans with Disabilities Act Compliance

Providing access for people with disabilities is a civil rights mandate that is not subject to limitation by project costs, levels of use, or exceptional circumstances. The Americans with Disabilities Act (ADA) of 1990 is a civil rights statute that prohibits discrimination against people with disabilities in all areas of public life. The ADA addresses state and local government services, activities and policy making under the Department of Justice's ADA Title II implementing regulations. Title II, Subpart A over the law discusses public rights-of-way. The ADA requires that recipients of federal aid and state and local entities ensure that people with disabilities have equitable opportunities to use the public rights-of-way system.

All new projects are constructed to be ADA compliant. However there are several existing pedestrian facilities which are not in compliance. Currently, the City of Fargo sets aside $100,000 per year to continue to bring its sidewalks up to ADA standards by rehabilitating crosswalks with detectable warning panels. The City of Dilworth sets aside about $4000 per year to install curb cuts. The Cities of Moorhead and West Fargo replace sidewalks on a request basis to provide accessibility for individuals with disabilities or in conjunction with street reconstruction and new construction projects.

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Chapter 3: PUBLIC PARTICIPATION

3.1 2011 Plan Update Steering Committee

The Fargo-Moorhead Metropolitan Bicycle and Pedestrian Plan Update was developed by Metro COG in cooperation with the NDDOT, MnDOT, The Federal Transit Administration (FTA), the Federal Highway Administration (FHWA), the local Jurisdictions of City of Fargo, City of West Fargo, City of Moorhead, City of Dilworth, Cass County, Clay County, Metropolitan Area MATBUS Transit, The Freedom Resource Center for Independent Living and bicycle and pedestrian interest groups such as The Fargo-Moorhead Community Bicycle Workshop, River Keepers and the Great Plains Cycling Club. The planning process was guided by the Metropolitan Bicycle and Pedestrian Committee representing the member local units of government and key stakeholders listed below.

The 2011 Metropolitan Bicycle and Pedestrian Plan Update Steering Committee Members were:

Voting Members
Robert Backman, River Keepers
Tim Solberg, Cass County
Nicole Crutchfield, City of Fargo
Steve Zimmer, City of West Fargo
Jeremy Gorden, Transportation Engineer
Ruth Danuser, Citizen
Keely Ihry, Public Health
Chad Martin, City of Moorhead
Chris Potter, Public Safety
Vic Pellerano, Fargo Park District
Stan Thurlow, City of Dilworth
Margaret Mowery, Citizen
Kim Lipetzky, Public Health
Tim Magnusson, Clay County

Advisory Members
Matt Stahl, Citizen
Mark Dixon, Concordia College
Chris Pinkney, Public Schools
Rob Lynch, NDSU
Cathi Chial, Child Safety Representative
Tom Smith, Bicycling Advocate
Kelli Sinner, MSUM

Additional Key Stakeholders
Andrew Bushaw, FMCBW
Bob Walton, NDDOT
Keven Anderson, Mn/DOT
Lori Van Beek, MATBUS
Nate Aalgaard, Freedom Resource Center for Independent Living
Rory Beil, Cass County Healthy People Initiative

Public input meetings were held during the study process. Notices for all public input meetings were published in the local newspaper, The Forum. Interest groups and advocacy groups were contacted through e-mails and by phone. Suggestions, comments and feedback received from technical advisors and the general public was taken into consideration while developing the plan's goals and objectives as well as the programming and prioritization of short and long-range projects. Summaries of each public input meeting are as follows. Sign-in sheet and comment forms from the public input meetings are located in Appendix G.

3.2 Public Input Meetings

2011 Metropolitan Bicycle and Pedestrian Plan Update Public Input (Spring 2010)

In March 2010, Metro COG conducted two public input meetings for the update to the 2006 Metropolitan Bicycle and Pedestrian Plan. Metro COG announced the early public input meetings through The Forum newspaper as well as through its interested persons list.

The first input meeting was held on March 4th, 2010 at the Dr. James Carlson Library. The second early public input meeting was held on March 9th, 2010 at the Main Fargo Library. Metro COG staff provided poster boards that provided background information to the 2011 Plan Update, information regarding regional bicycle and pedestrian crash data, regional bicycle and pedestrian count data as well as two bicycle/pedestrian issue identification activities. A total of 30 people attended the public input meetings. No comments were received electronically or by mail.

The issues and opportunities along with the public input ranking are as follows:

- Bicycle culture is desired in the Fargo-Moorhead Region (i.e. need a more bicycle friendly community, bicycles should be given equal and active consideration in all transportation projects, bicycles should be an everyday part of the landscape) = 10
- Bicyclist and motorist education is desired in the Fargo-Moorhead Region = 9
- Bicycle network connectivity = 6 (3 votes for bicycle lanes, 1 vote for bike/ped bridges)
- Bicycle/pedestrian facility maintenance (i.e. pavement improvements) = 5
- Bicycle advocacy = 3
- Sidewalk conditions = 2
- Intersection treatments = 2
- Bicycle parking and storage = 1
- Lack of snow shoveling = 1
- Lighting along Red River Bicycle Path = 1
- Bicycle Network Signage and Wayfinding = 0

The second identification activity afforded an opportunity for the public to identify, through the application of notes and mark-ups, areas where there was a perceived gap between or within a bicycle or pedestrian facility and or areas where safety issues existed for bicyclists and pedestrians. The public was invited to identify these connectivity issues and safety issues using

maps of North Fargo, South Fargo, West Fargo and Moorhead/Dilworth. Comments are as follows:

Moorhead/Dilworth Map

- More Red River bicycle and pedestrian crossings
- Main Avenue westbound to Fargo – bad surface dangerous for cars and bicycles, sidewalks narrow and poor surfaces
- 4th Street South in Moorhead has very poor roadway surface for riding a bicycle
- Juano's sidewalk signs on southeast end of Main Avenue Bridge are dangerous. Signs reduce available width of sidewalk.
- Need bicycle infrastructure connecting downtown Moorhead and Fargo with MSUM and Concordia College
- Parking around Moorhead colleges is an issue
- Intersection control 4th Avenue in Dilworth
- Update Bicycle Infrastructure layer for 4th Avenue NE in Dilworth
- Dilworth sidewalk shoveling ordinance (Ken Parke, City Administrator of Dilworth notes that the ordinance exists but is not codified or enforced.)
- Need a shared use path connection on east side of Old 52 (County Road 52). The 30th Avenue shared use path stops at old 52 until it connects to the shared use path that goes over I-94.
- Missing connection from Westmoor Drive in Moorhead to shared use path on 40th Avenue South.

West Fargo

- Improve bicycle connections along Main Avenue to West Fargo from the east.

North Fargo/Downtown Fargo

- Improve routes to West Fargo.
- Complete shared use path gap on University Drive North from Monte Carlo Drive North to 40th Avenue North.
- Pedestrian crossing of railroad tracks.
- 2nd Street North underpass is scary when busy, sidewalks very narrow.
- Main Avenue sidewalks between University Drive and 25th Street poorly lit, narrow and have poor surface conditions.
- Exit for underground city parking (4th Street North) a concern for some bicyclists and pedestrians.
- Connect shared use path from Oak Street between 10th Avenue North and 11th Avenue North to Red River shared use path.
- Add bike lanes and bike boxes in Downtown Fargo.

South Fargo

- Connect Hawthorne Neighborhood to Red River with a shared use path at 9th Avenue South. Too few accesses to the Red River Shared Use Path from the Hawthorne Neighborhood.
- Discomfort with the free right turn on to 2nd Street South from 4th Avenue South.
- Put yield signs, not stop signs, on shared use paths.
- More bicycle and pedestrian bridges over the Red River between I-94 and 52nd Avenue South.

General Comments/Questions

- Consider implementing *Stop as Yield* Law[5].
- Consider different lighting standard for on-road bicycle facilities.
- Will temporary clay levees affect any of the shared use paths?

Comments of a Regional Nature

- More Red River bicycle and pedestrian crossings.
- Main Avenue westbound to Fargo – bad surface dangerous for cars and bicycles, sidewalks narrow and poor surfaces.
- Need bicycle infrastructure connecting downtown Moorhead and Fargo with MSUM and Concordia College.
- Improve bicycle connections along Main Avenue to West Fargo from the east.
- Improve routes to West Fargo.
- 2nd Street North underpass a bit scary when busy, sidewalks very narrow.
- More bicycle and pedestrian bridges over the Red River between I-94 and 52nd Avenue South.

2011 Metropolitan Bicycle and Pedestrian Plan Update Public Input (Summer 2011)

Metro COG hosted a final public input meeting on August 24, 2011 at the downtown Fargo library. Metro COG announced this meeting through a Forum newspaper box ad on August 15; the Forum also ran a short article the day of the meeting. A local television station broadcast a notice of the meeting the morning of August 24, came to the event, and ran a story afterwards as well. Information about the meeting was distributed through the Metro COG interested persons list regarding bicycle and pedestrian issues. The Metro COG website registered 215 hits during the public comment period.

Metro COG staff provided poster boards that showed figures 4.1-4.6 and 6.1 and 6.2 from this document. A total of 11 people attended the meeting. Several comments were received electronically and are included in Appendix H.

[5] First developed in Idaho in 1982, this law allows bicyclists to proceed slowly through a stop sign without putting their foot on the ground.

The meeting was handled as an open house where attendees could browse the maps on display and ask questions about how conclusions were reached in the report. As in the meetings from the spring of 2010, the main concerns were regarding safety and education.

3.3 Active in Moorhead/Partnership for Health

In 2009 the Active in Moorhead (AIM) Partnership conducted several neighborhood and local college meetings. AIM is an active living partnership comprised of representatives from the City of Moorhead, Clay County Public Health, and Metro COG. The intent of the meetings was to gather information from residents and local college students of the City of Moorhead regarding active living and life in their neighborhoods. The neighborhood meetings were held after a survey was conducted in Moorhead. Survey participants stated that they do not take public transportation in the Fargo-Moorhead Metropolitan Area on a weekly basis. Barriers to active living included climate, and lack of facilities and services such as pools, winter activities, parks, a community center, natural walking areas and lighting. Neighborhood meeting participants desired more sidewalks, striped crosswalks, shared use paths, better connectivity of bicycle and pedestrian facilities and a central location to find information on events and ways to report problems with bicycling and walking facilities. Neighborhood meeting participants recommended several improvements to the transit system in Moorhead. Transit users were interested in better maintenance of bus shelters (specifically shoveling), more frequent bus service, more shelters, and the addition of more bus routes and bus trips with fewer transfers.

An Active Living Study was conducted for the City of Dilworth in 2010 by the North Dakota State Data Center. Of the respondents, 38% get most of their physical activity using city amenities like parks, sidewalks, and trails. Sidewalks and trails are used by survey respondents for walking or running by 83% and 44% for biking. As development continues in Dilworth, 76% believe that sidewalks should be required in all future development, with 42% stating that sidewalks should be required on both sides of every new street.

Chapter 4: IDENTIFICATION OF ISSUES

Issues were identified based on the existing conditions analysis, public input, and guidance from the steering committee. The issues identified include bicycle network gaps, safety concerns, need for additional education, need for bicycle parking and other support facilities, connectivity between the transit and bicycle networks, system maintenance, and preservation.

4.1 Bicycle and Pedestrian Network Gaps

Planning for a bicycle and pedestrian network that is efficient, connected, and safe requires understanding the network's gaps.

Creation of Locally and Federally Funded Projects

Metro COG staff reviewed the Long Range Transport Plan project lists for both short and long term bicycle and pedestrian improvement projects. These are projects that are planned but not currently constructed. Metro COG staff then met with each local jurisdiction to update the short and long term project lists. Most of these projects are often identified as improvements which will be made along with roadway improvements. Therefore the project lists often do not identify what type of facility is to be constructed or what funds will be used to construct the project.

Major Barriers

Regionally significant gaps are gaps which prevent a bicyclist or pedestrian from reaching a major trip generator or group of trip generators. Dedicated bicycle and pedestrian crossings of major barriers such as the Red River, railroad tracks, and the interstates are very limited yet have the potential to produce a high level of connectivity in the Metropolitan Area. These gaps often require the construction of an expensive bridge and are difficult to fund. However, this increased connectivity could act as a major encouragement to those who would like to travel by bicycle or foot more often but cannot due to a major barrier. A list of regionally significant bicycle and pedestrian gaps has been developed. These gaps include:

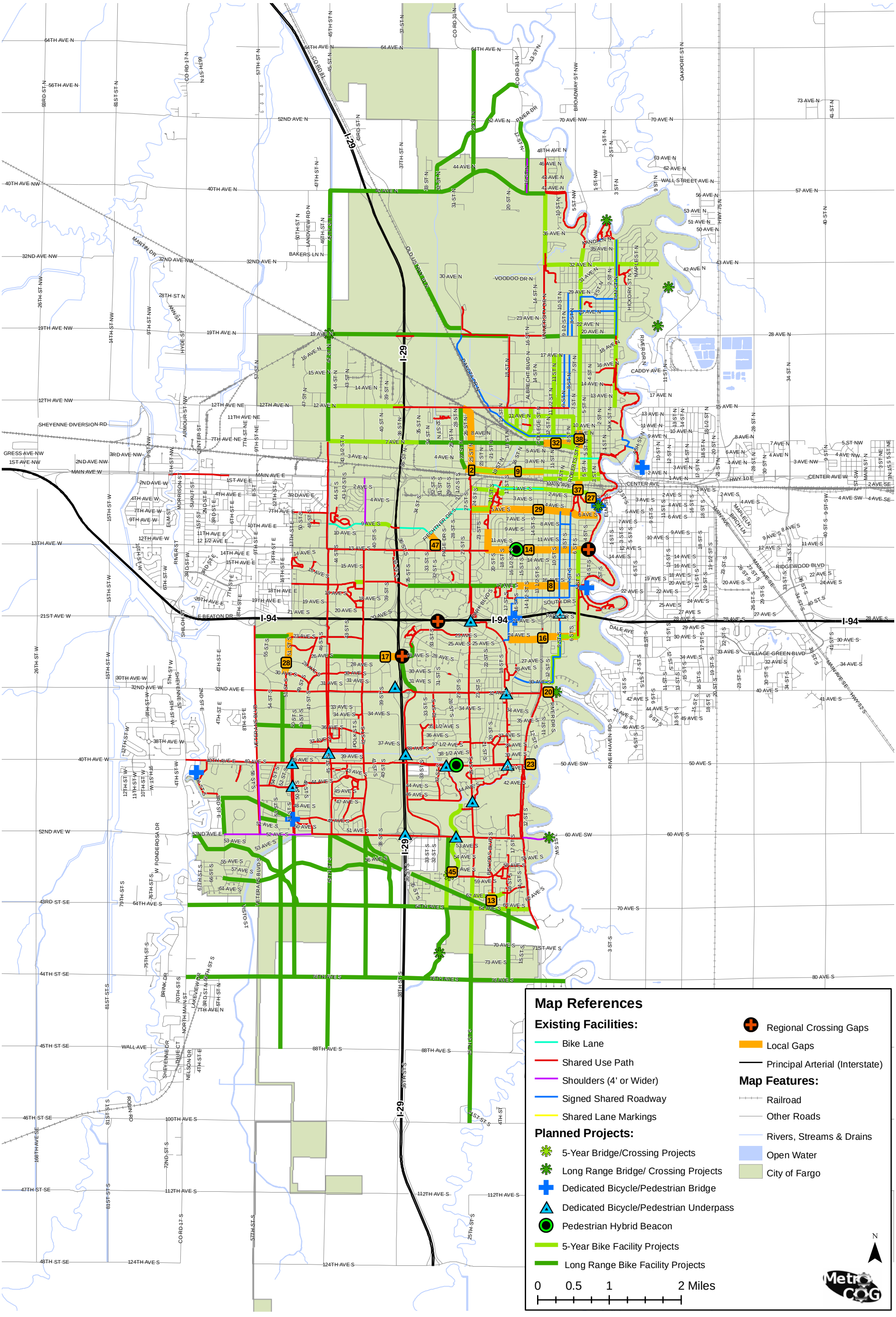
- Crossing over Red River from 40th Ave S (Fargo) to Bluestem Center for the Arts
- Crossing of I-94 at 14th St S (28th Ave S to 30th Ave S) (Moorhead)
- Crossing of I-29 at 28th Ave S (Fargo)
- Crossing over Red River at 13th Ave S (Fargo) to 12th Ave S (Moorhead)
- Crossing of I-29 from 32nd St S to Prairiewood Dr S

Local Network Gaps

Bicycle and pedestrian network gaps are gaps within the system that would make good connections to existing and/or future planned facilities. Network gaps were identified by first locating existing and planned facilities. Areas where existing or programmed facilities were not connected or encountered a barrier were designated as network gaps. This process was completed with the assistance of the relevant jurisdiction members and staff. Maps illustrating these findings can be found in Figures 4.1-4.6.

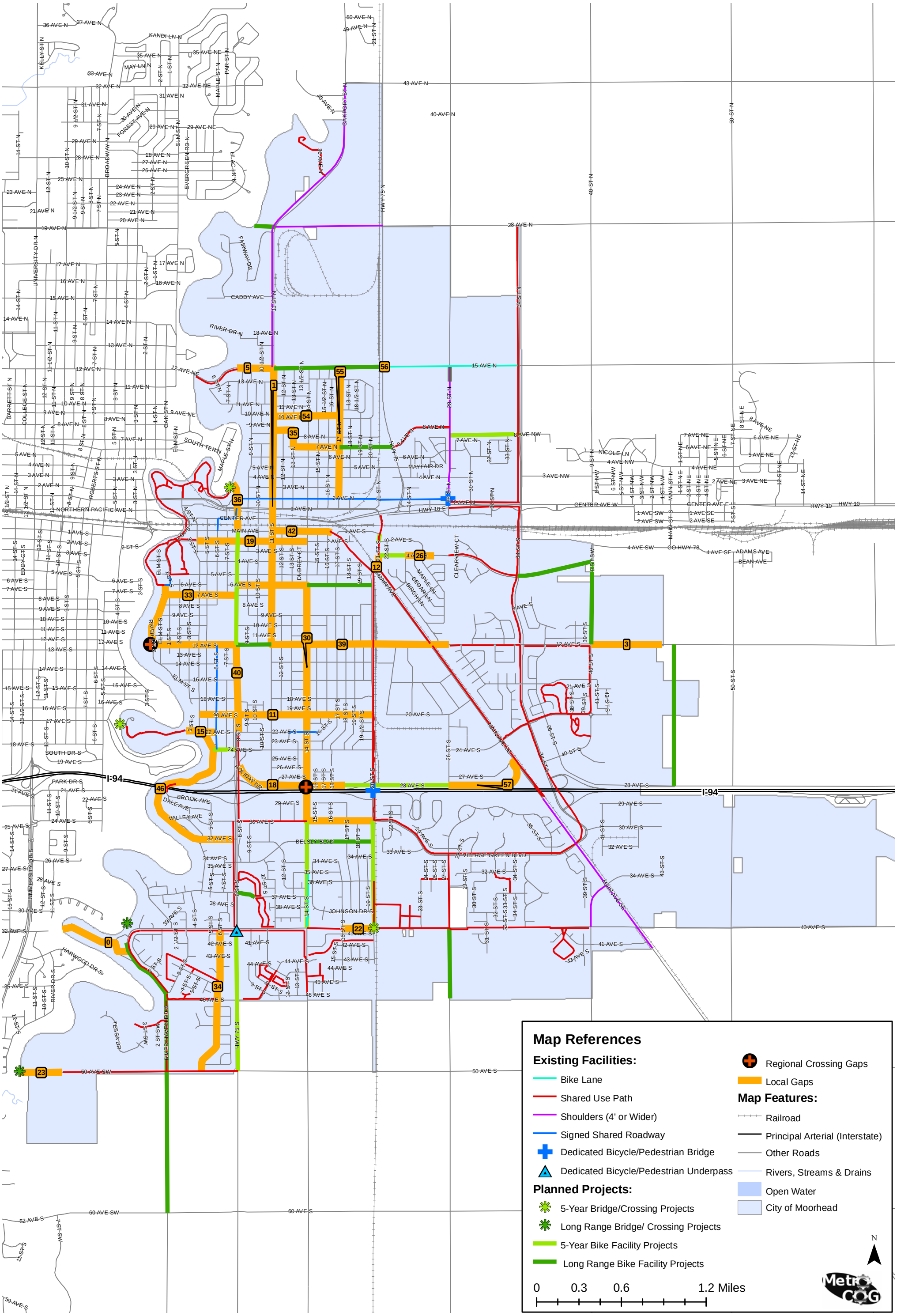
City of Fargo Facilities, Projects & Gaps

Figure 4.1



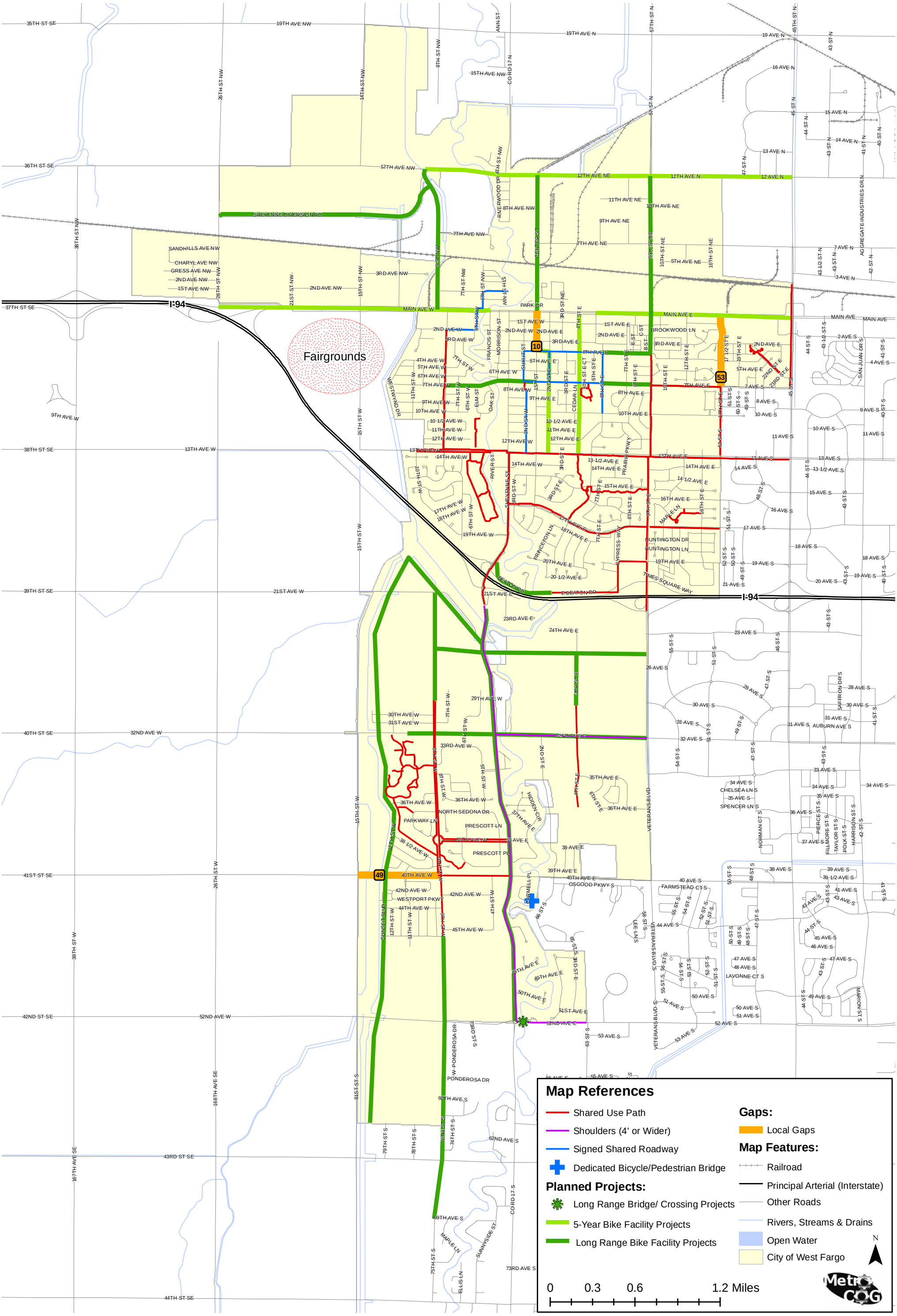
City of Moorhead Facilities, Projects & Gaps

Figure 4.2



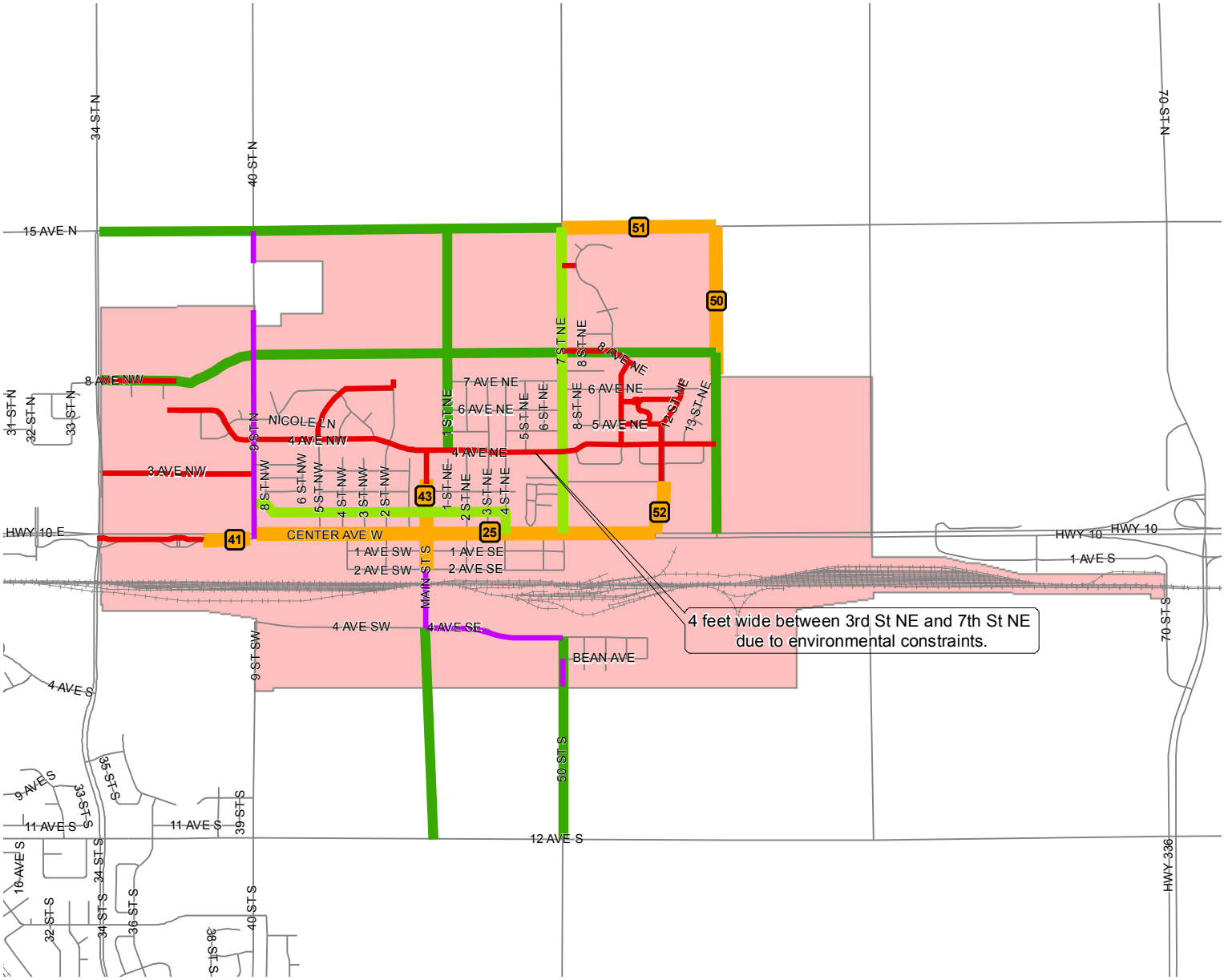
City of West Fargo Facilities, Projects & Gaps

Figure 4.3



City of Dilworth Facilities, Projects & Gaps

Figure 4.4



Map References

Existing Facilities:

- Shared Use Path
- Shoulders (4' or Wider)

Planned Projects:

- 5-Year Bike Facility Projects
- Long Range Bike Facility Projects

Gaps:

- Regional Corridor Gaps
- Local Gaps

Map Features:

- Railroad
- Roads
- City of Dilworth

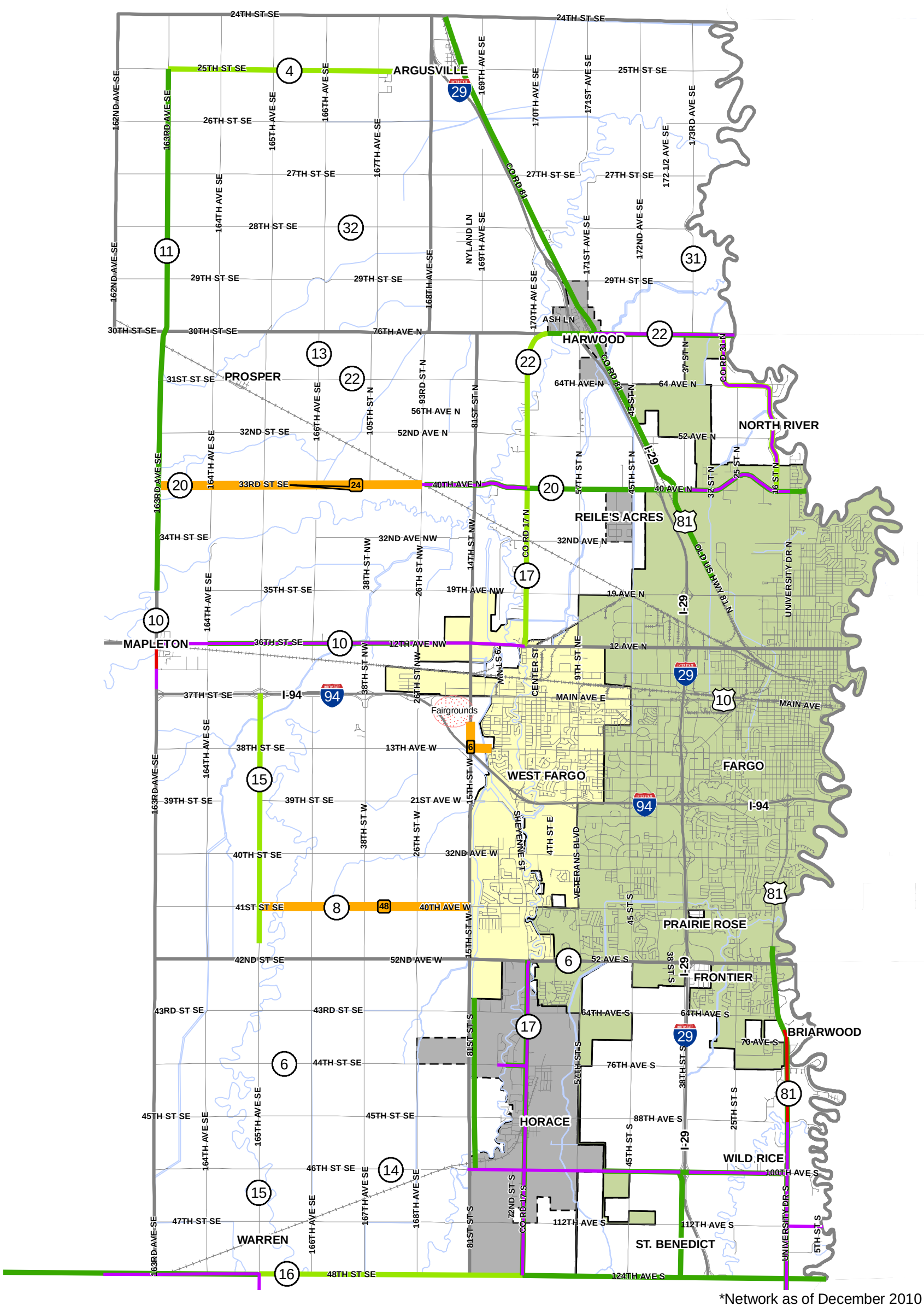
Metro COG

N

0 0.25 0.5 1 Miles

Cass County Facilities, Projects, and Gaps

Figure 4.5



*Network as of December 2010

Map References

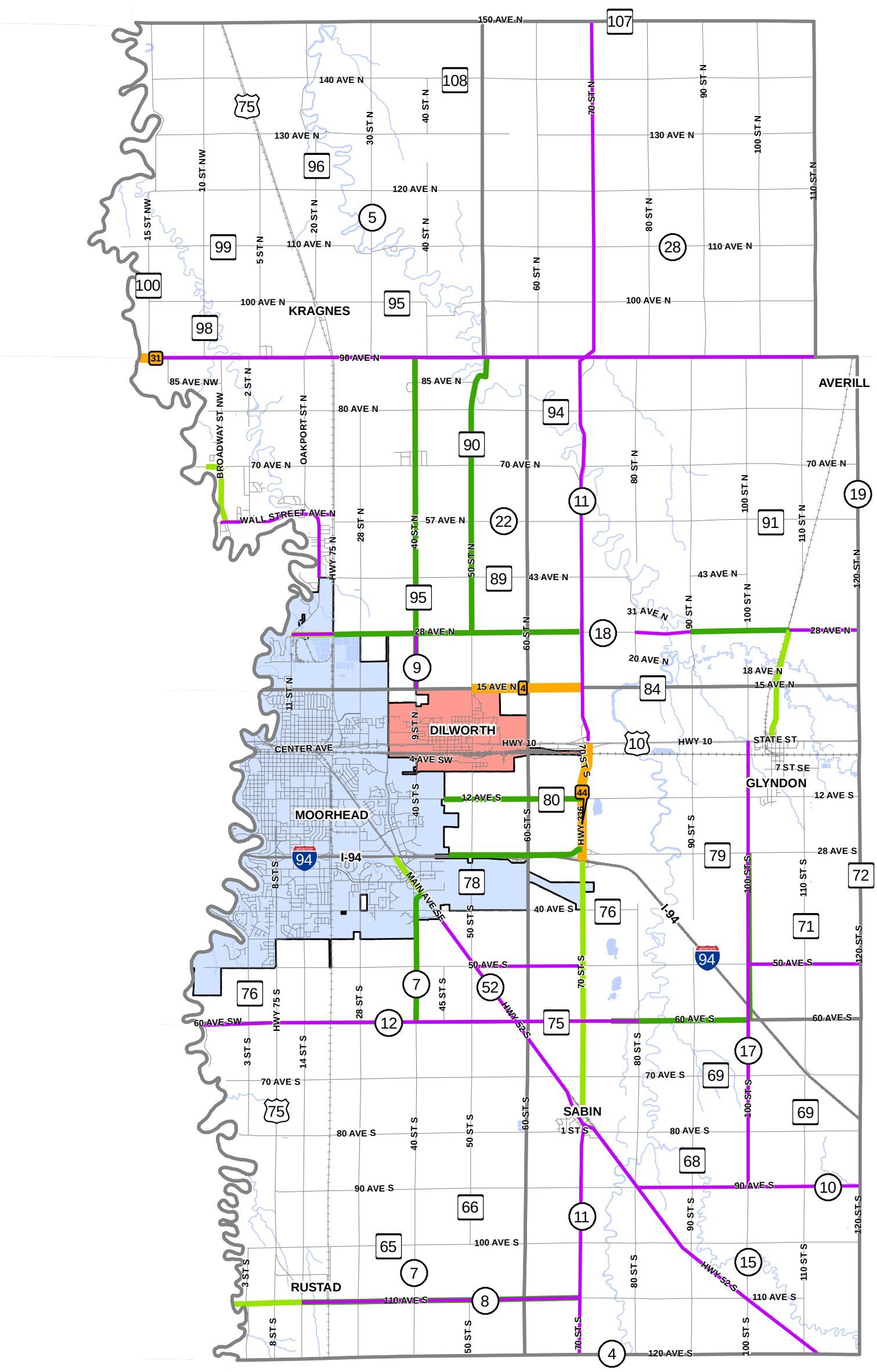
- Existing Shared Use Path
- Existing Shoulders (4' or Wider)
- 5-Year Bike Facility Projects
- Long Range Bike Facility Projects
- Local Gaps
- Roads
- City of Fargo
- City of West Fargo
- Cities Outside of UAB
- Township Boundary

N

0 1 2 4 Miles

Clay County Facilities, Projects, and Gaps

Figure 4.6



*Network as of December 2010

Map References

- Existing Shoulders (4' or Wider)
- 5-Year Bike Facility Projects
- Long Range Bike Facility Projects
- Roads
- Local Gaps
- City of Dilworth
- City of Moorhead
- Cities Outside of UAB
- Township Boundary

N

0 1 2 4 Miles

Route Connectivity

There are few routes available to assist bicycle travelers to get around the region safely. A comprehensive network should be established to assist in moving people from one side of the Metropolitan Area to another. Complete, uninterrupted mobility should be available from north to south and east to west. It was determined that a Trans Metropolitan Bicycle Network should be identified which helps people get from one area of the region to another. This route should be suitable to for less experienced bicyclists as well as more experienced users.

Additionally, there is not a designated route for bicycles moving between NDSU, MSUM, and Concordia College. As demonstrated on the bicycle trip generator map (Figure 2.7) there is a high volume of bicycle traffic to be accommodated.

4.2 Bicycle Safety Education

Educating the public about appropriate operation of bicycles and motor vehicles in relation to each other and pedestrians is a key component in reducing the number of bicycle crashes. Bicycle safety events are offered by all city police departments and school districts on a limited basis due to resource restrictions. Programs are independent of each other as there is no one agency or entity guiding the development of a regional bicycle and pedestrian safety program to educate children and adults. In 2009 members of the Metropolitan Bicycle and Pedestrian Committee stated that there was a need to investigate the potential for developing a regional scale bicycle education program. Metro COG responded to the Committee's desire to examine the state of bicycle education in the Metropolitan Area. Metro COG called a stakeholder group together during the summer of 2010 and completed a summary document of the state of bicycle education in the Metropolitan Area. Key points taken from the bicycle education stakeholder group meeting were:

- There is little communication between agencies conducting bicycle education and safety activities, even though there is willingness to share curricula and activity information.
- Funding is an issue for several police departments because grant monies have been used up and replacement funds have been difficult to find.
- There is interest from several parks and recreation agencies to increase their level of involvement in the implementation of bicycle education activities.
- Clay County Public Health Department is involved in distributing information related to bicycle education through its Active in Moorhead (AIM) effort.
- Fargo-Cass Public Health distributes bicycle education materials at community picnics.
- There is a desire by local stakeholders to develop a more uniform, regional effort to educate children and adults about the need to operate safely and respectfully as bicyclists, motorists.

4.3 Implementation of Other Study Recommendations

Red River Greenway

Much has changed along the Red River on both the Minnesota and North Dakota sides since July 2008. There have been three major floods within the Study Area and numerous buy-outs of residential properties have occurred. There are opportunities to grow the Greenway and that a continual coordinated inventory of member local units of government's buy-outs, development of river set-back policies and other related changes will be valuable in identifying opportunities to grow the Red River Greenway. Member local units of government see value in removing private property directly adjacent to the Red River due to significant flood mitigation costs.

Safe Routes to School (SRTS)

In the Metropolitan Area many parents are driving their children to school and exacerbating the perception that it is not safe to walk or bicycle.[6] Continued refinement and implementation of SRTS Plan recommendations and regional surveys will keep SRTS issues visible and will improve planning for safe routes to school.

Complete Streets

While Metro COG, the State of Minnesota, and some jurisdictions within the Fargo-Moorhead Metropolitan Area have adopted Complete Streets policies, not all of them have. The region lacks a comprehensive strategy of accommodating roads for all users, motorized or not.

4.4 Balanced Bikeway Network

The Metropolitan Area's bikeway network is comprised primarily of shared use paths. Some of these shared use paths are in roadway rights-of-way whereas others are in dedicated rights-of-way (e.g. shared use paths in Lindenwood Park). Shared use paths provide a real option for many bicyclists but often their performance is limited by where they take a person and how directly they take them to desired locations. Several shared use paths[7] experience spring and summer flooding rendering the paths or underpasses that serve the shared use paths unusable for days or weeks at a time. Older neighborhoods do not have available right-of-way to allow for their construction. Historically, shared use paths, have been considered the safest way to accommodate bicyclists in the Metropolitan Area; however this has been disproven at a national level. Since 2006 Metro COG has been able to work with member local units of government to discuss and increase understanding for the need for a balanced bikeway network.

Shared lane marking mileage has grown since 2008 when the first shared lane markings were installed on Broadway Street in Fargo from NP Avenue to 6th Avenue North. Fargo put in its first bicycle lane on 4th Avenue North from 2nd Street North to Broadway Street in 2010.

[6] 2008 Safe Routes to School Parent/Student Survey, Fargo, West Fargo, Moorhead, Dilworth, and Glyndon.

[7] Milwaukee Trail underpasses at 32nd Avenue South and 40th Avenue South; 52nd Avenue; Rose Creek shared use path adjacent to Rose Creek Golf Course; 9th Street underpass in Fargo; Red River Trail.

Moorhead, Minnesota installed a bicycle lane on 14th Street South from 35th Avenue South to 40th Avenue South prior to 2006 and a bicycle lane was installed on 15th Avenue North from 28th Street North to 34th Street North in 2008. Based on public input since 2008, there is a very real need to legitimize on-road bicycle use through the development of a complete on-road bicycle network. Perceptions of operating a bicycle on roadways without designated facilities tend to be negative for those considering becoming bicyclists. As the urban core of the Metropolitan Area grows, transportation management organizations will be able to market the existing balanced bikeway network as a viable tool for getting where one needs to go as cheaply and cleanly as possible.

Additionally, there are a low number of paved roadway shoulder miles in Cass County, which can make bicycling a less attractive mode of transportation. Accommodating bicyclists in the rural areas is a key component of a balanced bicycle network.

4.5 Bicycle and Pedestrian Connections to Transit

Systemic connections to transit for bicyclists and pedestrians (including the support infrastructure such as bicycle racks) increase the usability of the transit system and the bicycle and pedestrian network. This combination adds to the mobility of residents and visitors who are unable to drive or choose not to drive. Metro COG recognizes that the link between bicycles, pedestrians, and transit should be improved but has not yet implemented a plan to do so. In 2010 GIS technology was added to MATBUS buses that make tracking the boarding of bicycles on bus racks possible. From this data it will be possible to better understand where additional amenities (e.g. bicycle racks and benches) need to be placed to improve the security and comfort of transit users who bicycle or walk to a particular transit stop.

4.6 North Dakota Statewide Non-Motorized Transportation Advisory Committee

North Dakota does not have a state non-motorized Transportation Advisory Committee (SNTAC). Though much of North Dakota is rural in nature there is much to be gained by having an active committee to address non-motorized transportation issues.

4.7 System Maintenance and Preservation

Between 2006 and 2010 there has been a consistent level of concern from members of the Metropolitan Bicycle and Pedestrian Committee as well as members of the public related to the maintenance of sidewalks, shared use paths and signed shared roadways. Maintenance issues have included:

- Lack of thorough cleaning of shared use paths in Moorhead along the Red River.
- Lack of consistent signage for bicycle routes.
- Poor drainage in bicycle and pedestrian underpasses.[8]
- Lack of sweeping on shared use path along east side of Southeast Main Avenue at I-94 in Moorhead.

[8] 9th Street South underpass of I-94 in Fargo; underpasses on the Milwaukee Trail at 32nd and 40th Avenues South.

- Lack of clear sidewalks during the winter.
- Information for a public contact for residents to call when they want to report a maintenance issue.
- Lack of scheduled maintenance on paved shoulders and shared use paths on and along county roads.
- Lack of regular snow clearing and street sweeping to the edge of the shoulder along county roads.

4.8 Bicycle and Pedestrian Crash Analysis

Crash analysis is a key planning tool in understanding the nature of crashes and whether infrastructure, education or a combination of both is needed to improve conditions for bicycling and walking.

No detailed bicycle and pedestrian crash analyses have been conducted by Metro COG though some high crash locations have been identified through the development of the 2011 Metropolitan Bicycle and Pedestrian Plan Update. Those locations are as follows:

- **8th Street (TH 75)** in Moorhead from Main Avenue to 12th Avenue South (A 2008 corridor study was completed which looked at the corridor from 20th Avenue South to 60th Avenue South. A new study will begin in 2011 on TH 75 from Main Avenue to 20th Avenue South.)
- **Main Avenue (TH 10)** in Moorhead from the Red River to 11th Street (study to be completed in 2011 from Red River to TH 75)
- **11th Street** in Moorhead from Main Avenue to 3rd Avenue North (no study identified at this time)
- **1st Avenue North** in Moorhead from 3rd Street North to 11th Street North (recently completed construction project from 3rd Street North to Center Avenue included pedestrian amenities)
- **Center Avenue** in Moorhead from 4th Street to 11th Street (study to be completed in 2012 from Red River to 8th Street)
- **14th Street** in Moorhead from 1st Avenue North to Main Avenue (no study identified)
- **Downtown Fargo:** 7th Avenue North; University Drive to 2nd Street North and Main Avenue from University Drive to 2nd Street North. (study being completed on NP and 1st Avenue North from University Drive to 2nd Street will include bicycle and pedestrian improvements)
- **University Drive** in Fargo from I-94 to 17th Avenue North (study to be completed in 2011 from 13th Avenue South to 25th Avenue South)
- **Main Avenue** in Fargo from 25th Street to 2nd Street (study to be conducted in 2011 from 25th Street to the Red River)
- **25th Street** in Fargo from 11th Avenue North to 32nd Avenue South (PCR being completed in 2011, from 17th Avenue South to 25th Avenue South)
- **13th Avenue South** in Fargo from 9th Street E in West Fargo to University Drive (no study identified at this time)

- **42nd Street** in Fargo from I-94 to Main Avenue (no study identified at this time - improvements made to roadway in 2010)
- **9th Street East** in West Fargo from Main Avenue to 17th Avenue East (No study identified at this time).

4.9 Development of a Transportation Management Association (TMA)

Several recently completed studies have pointed towards the need to develop and implement a meaningful transportation demand management (TDM) program within the FM Metropolitan Area. TDM programs are often most successfully implemented when coordinated through a transportation management association/organization (TMA or TMO). A TMA was operated during the late 1990s in the West Acres area during the reconstruction of 13th Avenue and I-29 to assist in managing construction induced congestion. The program was short-lived, however was supported through a mix of private and public funding and serves as a reasonable model for the development of a more region wide TMO/TMA in the years ahead.

4.10 Development of Performance Measures

Performance measures for the bicycle and pedestrian network were developed as part of the 2009 LRTP update. However, Metro COG does not have a baseline condition to begin tracking performance of the bicycle and pedestrian network. Metro COG has used annual bicycle and pedestrian counts as a performance measure since the early 1990's. The bicycle and pedestrian count program is due for a major update because of changes in land use and more on-road use by bicycles. Additionally, counts have not been performed before and after the construction of new bicycle and pedestrian facilities. This type of count is understood to hold very high value in evaluating bicycle and pedestrian facilities.

Mode split for bicycling and walking commute trips is estimated through the American Communities Survey (ACS) and the decennial census. These estimates are of value but due to the timing and limited periodicity of these surveys may not be providing an accurate picture of bicycling and walking mode share for commuting in the Metropolitan Area. There is a need for a better bicycle and pedestrian count system and mode split for non-motorized transportation so that Metro COG can begin to track the performance of the bicycle and pedestrian network.

4.11 Bicycle Parking and Other Support Facilities

The provision of convenient, secure bicycle parking for using a bicycle has the potential to encourage residents and visitors to use the bicycle on a more regular basis. Public input meetings and comments have identified a need for more bicycle parking and support facilities. Areas with significant pedestrian traffic can provide secure and convenient bicycle parking. Parking ramps are an attractive option because they provide built-in protection from rain, snow and the sun. Areas where there pedestrian traffic occurs can help to keep bicycles secure due to the built-in eyes on the street of passing pedestrians. A combination of both features is ideal for long-term bicycle parking. Front door parking is ideal for short-term bicycle (parking three hours or less). Provision of both types of bicycle parking would make bicycling a more viable option for commuting and running errands.

4.12 Signage of Bikeways

Metro COG, in cooperation with the Metropolitan Bicycle and Pedestrian Committee, spent a portion of 2007 and 2008 working to adopt a bikeway logo for the Metropolitan Area. The purpose of the logo is to guide users along principal bikeways that offer circular continuity (e.g., loop-like configuration or grid configurations) so that users never follow the logo to a dead end. A logo was agreed upon by the Metropolitan Bicycle and Pedestrian Committee in 2008. In July of 2008 the Policy Board approved an amendment to the 2006 Metropolitan Bicycle and Pedestrian Committee that provides language explaining the use and placement of the Logo on the Principal Bikeway Network. The language is as follows:

> *In order to assist in the development of a viable bikeway commuter route system, a Metro Trails Logo was developed to guide bikeway system users through the Principal Bikeway Network, which is a sub-system of the Fargo-Moorhead regional bikeway system. The Logo is meant to add a sense of safety, comfort and consistency to the Principal Bikeway Network by consistently guiding users along the Principal Bikeway Network. It is the hope of the Metropolitan Bicycle and Pedestrian Committee (MBPC) that the Metro Trails Logo earns a reputation as a dependable wayfinding guide to important destinations throughout the metropolitan area. Therefore, it is the recommendation of the MBPC that the Metro Trails Logo be placed only on Principal Bikeways that offer circular continuity (e.g. loop-like configuration or grid configurations) so that users never follow the logo to a dead end. Following the Logo should always take the user somewhere, even if only back to their original starting point. The Logo can be used on all types of bikeway facilities including shared use paths, bike lanes, striped shoulders, and signed-shared roadways and ultimately should be found on all of the Principal Bikeways.*

The concept of principal bikeways has faded with the advent of the 2011 Plan Update. The Plan Update still recognizes several primary east-west and north-south bikeways, though development of these bikeways is still needed to make them truly effective and efficient. The Metro Trails logo has not been installed on any bikeways nor has a route system been developed based on this logo. For the Metro Trails Logo to be successful in its purpose there will have to be significant financial commitment to signing bicycle routes with this logo. The City of Fargo applied for federal funding in 2009 with the intent of using this logo for signage on some of its shared use paths. The grant request was not funded. There have been no further attempts to integrate the Metro Trails logo into any of Metro COG's member local units of government bikeway systems. As of the spring of 2011 it is unclear if there are any member local units of government that intend to move forward with use of the Metro Trails sign. There is much room for improving the signing of bicycle routes (especially on-road routes). Bicycle route signs are available through the Manual on Uniform Traffic Control Devices (MUTCD) which provides directionality and uniformity.

Many bicycle route signs in the Metropolitan Area do not include the names of major destinations of distances from them. Oftentimes it is unclear where the bicycle route leads to, and how far from the end of the bicycle route is a person. Lack of consistent placement of bicycle route signage has been frequently mentioned as a problem.

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Chapter 5: GOALS AND OBJECTIVES

The goals within this plan are broad-based and non-specific and they respond to identified issues from Chapter 4 of this document. The objectives under each goal provide **S**pecific, **M**easureable, **A**chievable, **R**ealistic, and **T**imely (SMART) tasks to help achieve each goal. Specific strategy recommendations to help achieve the goals and objectives are identified in Chapter 6: Recommendations. The goals and objectives should also be used as a guidance tool when reviewing bicycle and pedestrian studies and projects with the Fargo-Moorhead Metropolitan Area.

The goals and objectives described below have been organized to follow the five E's of planning. They are:

- Engineering and Planning
- Education
- Encouragement
- Enforcement
- Evaluation

5.1 Engineering and Planning

Goal 1. To improve connectivity of the regional bicycle and pedestrian network:

Objective a. *To develop a bicycle and pedestrian network signage system plan for the F-M Metropolitan Planning Area by 2015.*

Objective b. *To reduce the number of gaps as identified in this plan by 20% by 2015.*

Objective c. *To reduce gaps in the bicycle and pedestrian network between major trip generators as identified in the plan by 30% by 2015.*

Objective d. *To create a web page for members of the general public to provide comments such as identifying missing connections within the bicycle and pedestrian networks by 2015.*

Goal 2. To improve functionality and the contextual relationship of the bicycle and pedestrian network

Objective a. *To encourage the use of Complete Streets Policy Principles and assist all member jurisdictions in adopting their own complete street policy by 2015.*

Objective b. *To make regularly updated bicycling and walking maps available on the internet and in hard copy format every two years.*

Objective c. *To complete a study which identifies needed bicycle and pedestrian amenities such as adequate rest rooms, water fountains, bicycle racks, etc. along major bikeways and pedestrian facilities by 2015.*

Objective d. *To place signage for on-road bicycle facilities at prescribed locations and distances as recommended in the Minnesota Manual on Uniform Traffic Control Devices and the Federal edition of the Manual on Uniform Traffic Control Devices.*

Objective e. *To identify deficiencies in the interface between bicycling and pedestrian facilities with transit; for use as part of the Transit Development Plan being completed in 2011 (i.e. bicycle parking, access to transit stops, etc.).*

Goal 3. To enhance safety features of regional bicycle and pedestrian network

Objective a. *To decrease gaps in bicycle and pedestrian network along collector, minor arterial, and major arterial functionally classified roadways by implementing both on-road and off-road bicycle and pedestrian facilities by 2015.*

Objective b. *To identify locations along bikeways and pedestrian facilities in need of lighting or lighting improvements by 2015.*

Objective c. *To reduce the number of bicycle and pedestrian crashes with motor vehicles within the Metropolitan Planning Area by 10% by 2015.*

Objective d. *To identify the top ten crash locations within the Metropolitan Planning Area with a history of conflicts between motor vehicles and bicyclists and pedestrians and develop mitigation measures by 2015.*

Objective e. *To provide the Americans with Disabilities Act (ADA) compliant pedestrian facilities on all newly constructed facilities and identify and reduce existing non-compliant locations by 25% by 2015.*

Objective f. *To provide a 200% increase of on-road bicycle facilities on collector, and minor arterial, functionally classified roadways by 2015.*

Goal 4. To develop a bikeway system that connects to rural communities in the F-M Metropolitan Planning Area as well as communities beyond its borders.

Objective a*. To encourage 6' wide shoulders on rural highways and identify locations where they don't exist within our F-M Metropolitan area by 2015.*

Objective b. *To continue to participate in planning efforts to connect the Metropolitan Area to the Heartland Trail Extension.*

Objective c. *To develop a plan that identifies and improves connections between the metropolitan bicycle and pedestrian network to a national bicycle route such as Adventure Cycling's Northern Tier Route and the United States Bicycle Route System by 2015.*

5.2 Education

Goal 5. To educate the public regarding rights and responsibilities of motorists and bicyclists and pedestrians as well as the planning, design and construction of bicycle and pedestrian facilities within the F-M Metropolitan Planning Area:

Objective a. *To initiate assessment, track annually thereafter, and continue to encourage educational events and programs for bicyclists and pedestrians by 2012 including the following:*

- *Educating the public on the use of dedicated bicycle facilities and facilities shared with pedestrians.*
- *Promoting proper etiquette on shared use paths.*
- *Promoting bicycle safety and pedestrian safety at primary, secondary and post-secondary schools.*
- *Promoting the use of bicycle helmets as a critical safety measure.*
- *Continuing to support and encourage bicycle education programs for young riders.*

Objective b. *To educate the public about legal interactions between bicyclists, pedestrians and motorists by encouraging state Departments of Transportation to include information in driving manuals and exams.*

Objective c. *To enhance efforts to inform the public about locally and federally funded bicycle and pedestrian projects during their planning phase.*

Objective d. *To encourage involvement of public safety agencies in the implementation of bicycle and pedestrian safety education programs.*

Objective e. *To identify and communicate regularly with advocacy groups and members of the public that support bicycling and walking so as provide them with information about public input opportunities as well as infrastructure and non-infrastructure issues and opportunities.*

5.3 Encouragement

Goal 6. To promote transit use and the use of non-motorized means of transportation:

Objective a. *To initiate assessment, track annually thereafter, and continue to encourage programs and activities which promote the use of transit and non-motorized forms of transportation by 2012 including the following:*

- *Development and distribution of promotional material encouraging employers to provide incentives for transiting, bicycling and walking to work*
- *Provide information about transit, bicycling and walking incentive programs to the public.*
- *Coordinate with media, departments of public health and social service agencies to increase public awareness and to provide information on the benefits and cost savings of regular use of transit, bicycles and walking for daily trips*
- *Continue initiatives and programs (e.g. walking school buses, bicycle clubs, walking clubs) to encourage parents, students, staff and faculty of all educational institutions to bicycle and walk to their respective schools*
- *Encourage neighborhood adoption of bicycle and pedestrian facilities*
- *Promote inter and intra neighborhood bicycle and pedestrian connections*

Objective b. *To encourage a mix of residential and commercial development that makes bicycle and pedestrian trips as convenient as or more convenient than auto trips.*

Goal 7. Preserve and protect existing bicycle and pedestrian network facilities:

Objective a. *To encourage local units of government to have adequate human and capital resources for maintenance of bikeways to avoid bumpy, cracked paths, flooded underpasses, snow piles and construction debris.*

Objective b. *To make the public aware of the responsible agency/agencies for the maintenance of bicycle and pedestrian facilities as part of bikeway and pedestrian facility signage by 2015.*

Objective c. *To work with local units of government to consistently update their bicycle and pedestrian facility inventory to be included annually as part of the Metropolitan Profile.*

Objective d. *To encourage local jurisdictions to adopt, review and update maintenance and replacement policies for bicycle and pedestrian facilities every five years.*

Goal 8. To encourage intergovernmental cooperation in the resolution of bicycle and pedestrian issues

Objective a. *To encourage cities and counties to create river front lots with shared use path easements and encourage the use of buyout lots for making shared use path*

connections. This should be inventoried through the Red River Greenway annual meeting and other relevant studies.

Objective b. *To review state and local policies which impact bicycle and pedestrian facilities.*

Objective c. *To work with the state of North Dakota to cooperatively develop a bicycle and pedestrian plan for the state by 2015.*

Objective c. *To work with the state of North Dakota to cooperatively develop a statewide non-motorized advisory committee by 2015.*

5.4 Enforcement

Goal 9. To encourage on-going enforcement of motorist, bicyclist and pedestrian laws so as to create the safest possible transportation network

Objective a. *To initiate assessment, track annually thereafter, and continue to encourage enforcement of motorist, bicyclist, and pedestrian laws by 2012 including the following:*

- *To encourage regular law enforcement officer training of the most up to date changes in bicycle and pedestrian laws and the most contemporary understanding of bicycle and pedestrian planning, facility design and behavioral characteristics as they relate to bicycle and pedestrian safety education, traffic law enforcement and collision avoidance.*
- *To encourage regular enforcement of school zone speed limits and crosswalk yielding compliance.*
- *To encourage regular enforcement of motor vehicle, bicycle and pedestrian laws.*
- *To encourage regular law enforcement patrols of the most frequently used bicycle and pedestrian facilities.*

5.5 Evaluation

Goal 10. To evaluate the overall value and effectiveness of the Fargo-Moorhead Metropolitan Bicycle and Pedestrian Network.

Objective a. *To evaluate and recommend changes to state and local laws and ordinances that may be outdated or a hindrance to safe and efficient bicycling and walking*

Objective b. *To evaluate the effectiveness of all federally funded bicycle and pedestrian facilities by performing before and after counts*

Objective c. *To evaluate the effectiveness of Regionally Significant locally funded bicycle and pedestrian facilities by performing bicycle and pedestrian before and after counts*

Objective d. *To develop a base set of performance measures for bicycle and pedestrian movement by the year 2013.*

Objective e. *To perform statistically significant, random sample surveys to measure types and levels of bicycle and pedestrian activity within the F-M Metropolitan area as part of the Origin-Destination Survey to be completed by Metro COG in 2011 and within any other survey opportunities as seen beneficial and appropriate.*

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Chapter 6: RECOMMENDATIONS

The following recommendations are based on both the issues identified and the goals and objectives of this plan. Some of the recommendations serve as guidance while others are specific work program items which will assist in the mitigation of an identified issue.

6.1 Bicycle and Pedestrian Network Gaps

Creation of Locally and Federally Funded Project Lists

Metro COG reviewed the 2009 Long Range Transportation Plan and met with member local units of government to confirm which projects should be moved into the 2011 Plan Update and which projects should not. Metro COG met with member local units of government to discuss which locally funded projects (from capital improvement projects list for each unit of government) should be included in the 2011 Plan Update. Both the federally and locally funded projects were moved into one of three categories of projects: short-range locally funded, short-range federally funded and long-term projects. The short term or 5-year project lists are located in Table 6.1. The long range planned project lists can be found in Appendix G. Metro COG recommends that local jurisdictions continue to construct the projects listed within the short-term project lists over the next 5-years and re-evaluate the projects with the update of the next plan.

Major Barriers

Metro COG created a list of five regionally significant bicycle/pedestrian gaps based on public input and feedback from associated agencies and stakeholders. The list of regionally significant gaps was reviewed by the consulting team and a prioritized list of five regionally significant gaps was created. The five prioritized projects were selected based on system connectivity of bicycle and pedestrian trip generators, level of priority by member local units of government, and level of project feasibility based on right of way available to construct the project. Description sheets were created for each project including project description, regional context and associated proposed improvements needed for the project and can be found in Appendix A. They are also listed in prioritized order below

1. Crossing over Red River from 40th Ave S (Fargo) to Bluestem Center for the Arts
2. Crossing of I-94 at 14th St S (28th Ave S to 30th Ave S) (Moorhead)
3. Crossing of I-29 at 28th Ave S (Fargo)
4. Crossing over Red River at 13th Ave S (Fargo) to 12th Ave S (Moorhead)
5. Crossing of I-29 from 32nd St S to Prairiewood Dr S

Regionally significant gaps are long-range projects that will need thorough analysis and support from the public. Regionally significant gaps should be pursued in order of prioritization after the Lindenwood/Gooseberry and Oak Grove/Memorial bicycle/pedestrian bridges are replaced.

Table 6.1
5 Year Bicycle/Pedestrian Projects (All Jurisdictions)

Jurisdiction	Project Location	Project Description
Cass County	CR 31 from CR 20 to CR 22	Overlay
Cass County	CR 20 from CR 17 to Highway 81	Roadway Reconstruction
Cass County	CR17 from 12th Avenue North to CR 20	Roadway Reconstruction
Cass County	CR 15 from 46th Street SE to 36th Street SE	Overlay and add paved shoulders
Cass County	CR 11 from Sabin to TH 336	Roadway Reconstruction
Cass County	CR 15 from CR 16 to CR 10	Overlay roadway surface and add paved 6 foot shoulders.
Cass County	CR 16 from CR 15 to CR 17	Concrete Repair/Overlay and add paved 6 foot shoulders.
Clay County	CSAH 8 from Red River to TH 75	Paved 6 foot shoulder as part of roadway reconstruction
Clay County	CSAH 1 from CSAH 22 to CR 93	Paved 6 foot shoulder as part of roadway reconstruction
Clay County	CSAH 19 from TH 10 to CSAH 18	Paved 6 foot shoulder as part of roadway reconstruction
Clay County	CSAH 18 (CSAH 3 to TH 75)	Roadway Reconstruction
Clay County	Hwy 52 from CR 7 to I-94	Shared Use Path
Fargo	7th Avenue North (35th St to 45th St)	Construct most appropriate on-road or off-road bicycle facility (as part of a larger roadway reconstruction effort).
Fargo	Lindenwood/Gooseberry Bridge	Construct a bike-ped bridge.
Fargo	Oak Grove / Memorial Bridge	Construct a bike-ped bridge.
Fargo	12th Avenue North (45th St to I-29)	Construct most appropriate on-road or off-road bicycle facility.
Fargo	Drain 53 Bicycle-Pedestrian Bridge	Construct a bike-ped bridge over Drain 53 at approximately 58th Avenue South (in the Silver Leaf Addition)
Fargo	12th Avenue North (9th St N to trail along Red River)	Construct most appropriate on-road or off-road bicycle facility (as part of a larger roadway reconstruction effort).
Fargo	25th Street South (58th - 64th)	Construct most appropriate on-road or off-road bicycle facility Project as part of a larger roadway reconstruction effort.
Fargo	25th Street South (64th-73rd)	Construct most appropriate on-road or off-road bicycle facility Project as part of a larger roadway reconstruction effort.
Fargo	62nd Avenue South (18th St to 25th St)	Construct most appropriate on-road or off-road bicycle facility.

Fargo	64th Avenue South (University Dr to 25th St)	Construct most appropriate on-road or off-road bicycle facility as part of a larger roadway reconstruction effort.
Fargo	Broadway (9th Ave N to 35th Ave N)	Construct a bicycle lane.
Fargo	Drain 53 Bikeway	Construct shared use path from Timberline Addition to 52nd Ave S.
Fargo	Elm Street	Provide on-road bicycle facility from 15th Ave N to Golf course Avenue North (Edgewood Golf Course)
Fargo	1st Avenue South	Construct appropriate on- or off-road bicycle facility along 1st Ave S from 18th St S to Broadway, along 18th St S from 1st Ave S to 2nd Ave S and along 2nd Ave S from 18th St to 25th St
Fargo	University Drive (32nd Ave N to CR 20)	Construct most appropriate on-road or off-road bicycle facility as part of a Road Project.
Fargo	Broadway (9th Ave N to 35th Ave N)	Construct a bicycle lane.
Fargo	Drain 53 Bikeway	Construct shared use path from Timberline Addition to 52nd Ave S.
Fargo	Elm Street	Provide on-road bicycle facility from 15th Ave N to Golf course Avenue North (Edgewood Golf Course)
Fargo	1st Avenue South	Construct appropriate on- or off-road bicycle facility along 1st Ave S from 18th St S to Broadway, along 18th St S from 1st Ave S to 2nd Ave S and along 2nd Ave S from 18th St to 25th St
Fargo	University Drive (32nd Ave N to CR 20)	Construct most appropriate on-road or off-road bicycle facility as part of a Road Project.
Fargo	5th Street (13th Ave S to 24th Ave S)	New two-lane road section with Sharrows.
Fargo	24th Ave S (5th St to 9th St)	New two-lane road section with Sharrows.
Fargo	9th Street (24th Ave S to 26th Ave S)	New two-land road section with Sharrows.
Fargo	26th Ave S (9th St to 11th St)	New two-lane road section with Sharrows.
Fargo	11th Ave S (26th Ave S to 30th Ave S)	New two-lane road section with Sharrows.
Fargo	30th Ave S (11th St to University Dr)	New two-lane road section with Sharrows.
Fargo	7th Ave N (38/39th St to 45th St)	New three-lane section with Wide Outside Lane.
Fargo	9th Ave S (42nd St to 38th St)	Mill and overlay project; parking on north side will be removed to stripe 5’ on-street bike lanes.
Fargo	5th Ave S (25th St to 21st St)	Two-lane road section with Sharrows.
Fargo	21st St (1st Ave S to 5th Ave S)	Two-lane road section with Sharrows.
Fargo	1st Ave S (4th St to University Dr)	Two-lane road section with Sharrows.

Fargo	32nd Ave N (9.5 St to Peterson Pkwy)	Remove parking from one side of street; stripe two on-street bike lanes.
Fargo	4th St (NP Ave to 9th Ave N)	Three-lane section with 5' bike lanes on each side.
West Fargo	Main Avenue (5th St East to 45th Street)	Construct most appropriate on- or off-road bicycle facility.
West Fargo	Main Avenue (Morrison Street to I-94)	Construct most appropriate on- or off-road bicycle facility.
West Fargo	12th Avenue North (CR19 to 45th Street)	Construct most appropriate on- or off-road bicycle facility.
West Fargo	8th Street West (Main Avenue to 2nd Ave West)	Construct most appropriate on- or off-road bicycle facility.
Moorhead	4th Avenue South (21st St to 24th St)	Construct appropriate on- or off-road bicycle facility (as part of a larger roadway reconstruction project).
Moorhead	11th St South, Main to 12th Ave South	Construct appropriate on- or off-road bicycle facility (as part of a larger roadway reconstruction project).
Moorhead	21st Street South (Main Ave SE to 2nd Ave S)	Construct appropriate on- or off-road bicycle facility (as part of a larger roadway reconstruction project).
Moorhead	Lindenwood/ Gooseberry Bridge	Construct a bike-ped bridge over Red River.
Moorhead	Main Avenue (2nd Ave S to 20th St)	Construct appropriate on- or off-road bicycle facility (as part of a larger roadway reconstruction project).
Moorhead	Oak Grove / Memorial Bridge	Construct a bike-ped bridge over Red River.
Moorhead	Pedestrian Underpass at 40th Ave S and 20th St S	Construct an underpass
Moorhead	8th Street South (40th Ave S to 46th Ave S)	Construct appropriate on- or off-road bicycle facility.
Moorhead	8th Street South (46th Ave S to 50th Ave S)	Construct appropriate on- or off-road bicycle facility.
Moorhead	20th Street South (30th Ave S to 34th Ave S)	Construct appropriate on- or off-road bicycle facility.
Moorhead	20th Street South (34th Avenue S to 40th Avenue S)	Construct appropriate on- or off-road bicycle facility.
Moorhead	8th Avenue North (28th to 34th St)	Construct appropriate on- or off-road bicycle facility.
Moorhead	14th Street South (30th Ave S to 40th Ave S)	Construct appropriate on- or off-road bicycle facility as part of a larger roadway reconstruction project.
Moorhead	24th Avenue South (River Shore Dr to 8th St S)	Construct appropriate on- or off-road bicycle facility.
Dilworth	7th Street NE (4th Ave. N to 15th Ave. N)	Bicycle Route Signage
Dilworth	7th Street NE (TH 10 to 15th Ave N)	Construct a concrete shared use path. Costs are designated separate from a larger roadway reconstruction project.

Local Network Gaps

The consulting team took existing bikeways, future bikeways and overlaid these two GIS files to create a localized gap map that demonstrated where there are gaps in the bikeway network. These maps are shown in Chapter 4 of this document. Metro COG recommends that these projects be completed as funds become available. This could be done with local funds, in conjunction with roadway projects, or bundled for a federal grant application. In order to determine which projects should be completed first, the list of local network gaps was prioritized based on safety, connectivity between trip generators, regional significance, and connections over major barriers. A technical memorandum including the project prioritization methodology and a list of prioritized local network gaps can be found in Appendix F. The type of facility should be determined at the time of implementation. The Facility Selection Criteria document (Appendix B) can provide guidance on the type of facility to be used.

Trans-Metropolitan Area Bicycle Routes

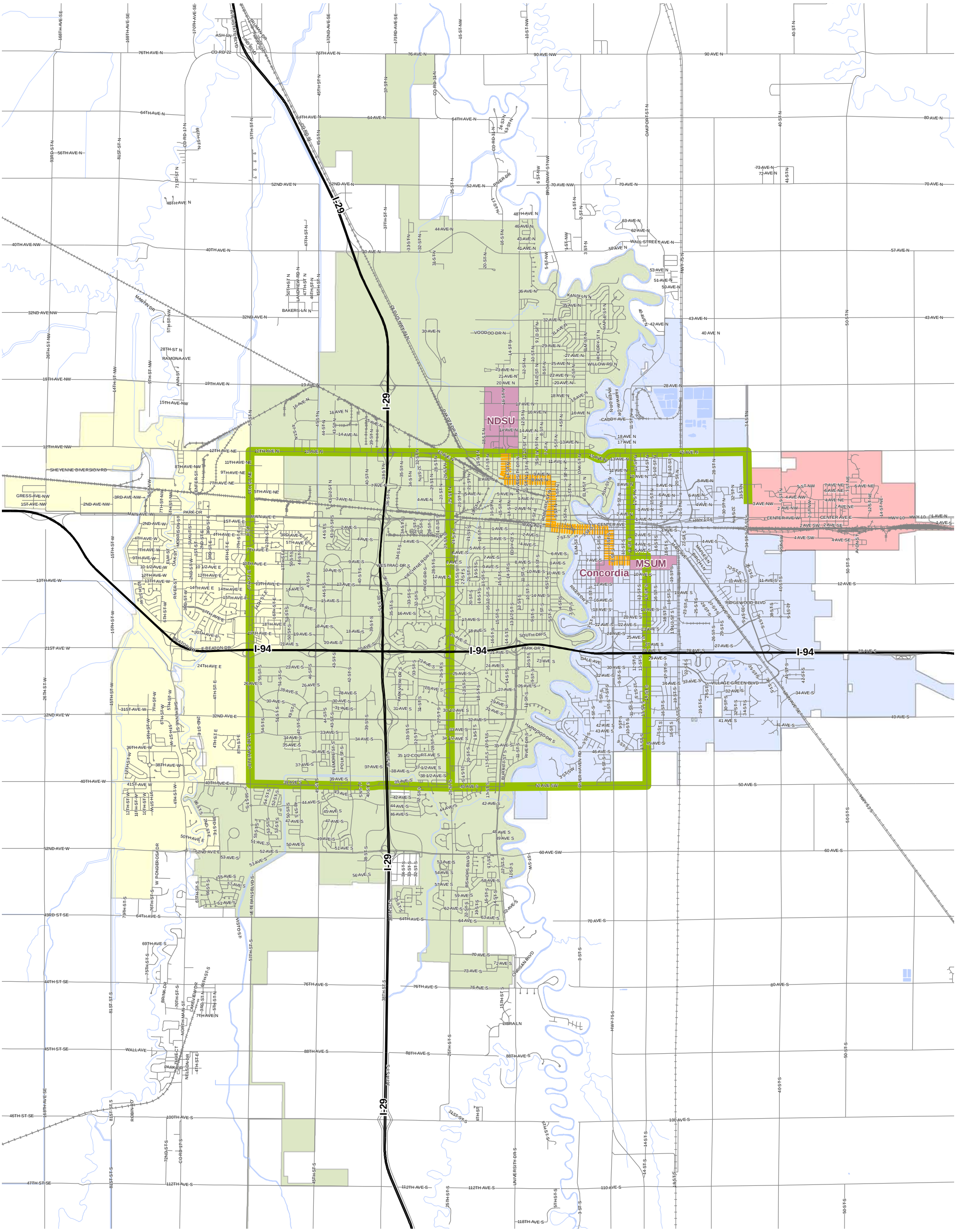
The development of Trans-Metropolitan Bicycle Routes was completed through a coordinated effort between Metro COG and the consulting team and can be viewed in Figure 6.1. This conceptual route shown in Figure 6.1 intends to provide efficient movement by bicycle across all or most of the Metropolitan Area in a north/south or east/west direction. Analysis of routes focused on using lower volume roadways where possible as well as neighborhood connections (on and off-road bikeways) to create as fluid a trip as possible. These routes do not lead to specific sites but are intended to allow a bicyclist to enter a sub-area of the Metropolitan Area for commuting, doing errands or recreational purposes. The intent is that these routes would be accessible to bicyclists of all skill and comfort levels. It is recommended that gaps in these routes be filled as opportunities present themselves and that the project selection criteria have additional points for projects which would make improvements to the Trans-Metropolitan Bicycle Route. It is also recommended that once the route is completed that it be signed (MUTCD guidelines) with major destination plaques attached and directional arrows provided.

College Connector Bicycle Route

The consulting team developed a conceptual bicycle route connecting North Dakota State University, Minnesota State University at Moorhead and Concordia College. The route was developed using existing bicycle routes (on and off-road) and linking them to low volume roadways where possible. Figure 6.2 illustrates this proposed route. It benefits from a year-round river crossing at Main Avenue. Additionally, the College Connector route would be an ideal use for route signage such as the trails logo identified in 4.12. Since all facilities currently exist, the route could be signed in the near future.

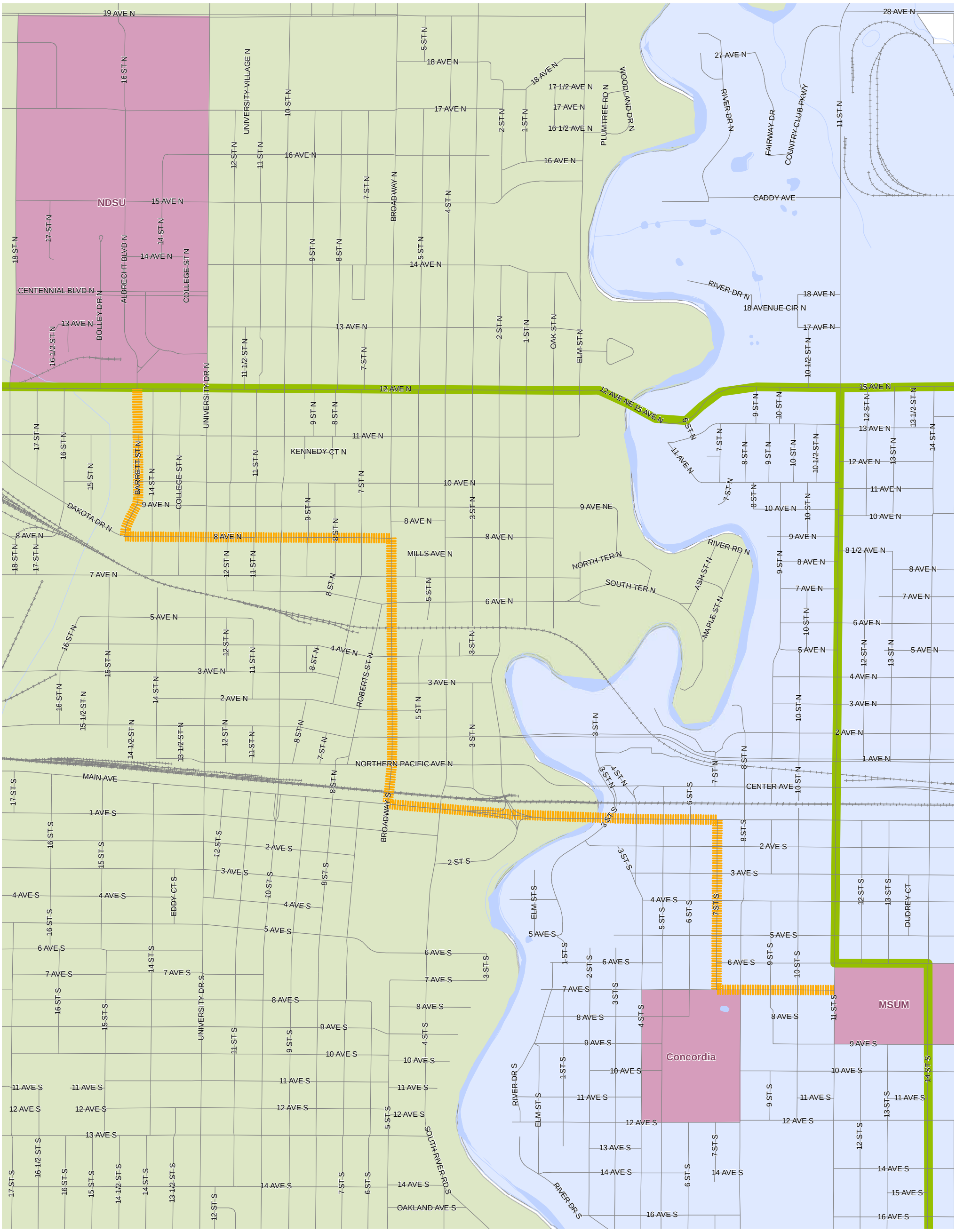
Trans-Metropolitan Area Bikeways Network

Figure 6.1



Trans-Metropolitan Area Bikeways Network - College System

Figure 6.2



Map References

- Trans Metropolitan Bicycle Route
- College Connector Bicycle Route
- Principal Arterial (Interstate)
- Other Roads
- Railroad
- Rivers, Streams & Drains
- Open Water
- Universities
- City of Fargo
- City of West Fargo
- City of Moorhead
- City of Dilworth

N

0 0.125 0.25 0.5 Miles

Metro COG

6.2 Bicycle Safety Education

As identified in section 4.2, the provision of bicycle safety and education is currently dispersed among several agencies with little coordination of time, energy, and resources. Metro COG staff called a roundtable meeting of local bicycle safety stakeholders in June of 2010. The intent of the roundtable meeting was to gather stakeholder input related to bicycle education activities that had occurred in 2010 and to gather ideas how best to move forward with a regional bicycle education program. This information along with opportunities to grow bicycle education are identified in Table 6.2.

Table 6.2 Bicycle Education Activities by Agency

Agency	Bicycle Education Activities	Opportunities to Grow Bicycle Education
Police Departments	Limited provision of bicycle safety activities due to limited funding and staffing resources. Bicycle education activities offered on a request only basis.	Increased state funding as well as possible grant money through federal Safe Routes to School and Transportation Enhancement grant monies could make more activities possible.
Active in Moorhead Partnership (AIM)	Handed out Minnesota Department of Transportation's *Share the Road* safety brochures in 2010 at public events.	In 2011 AIM will have monies to continue handing out *Share the Road* materials and will develop bicycle and pedestrian safety advertisements.
Fargo Cass Public Health Department	Bicycle Safety literature distributed on a limited basis at community picnics.	Can use resources from Metro COG and national bicycling advocate groups
Parks and Recreation	Bicycle education activities offered on a very limited basis in the past (i.e. West Fargo Park District). No bicycle education programs offered at this time.	There is interest in working with local police departments and other community based groups to offer bicycle education activities.
School Districts	Bicycle education activities are offered on a limited basis.	Safe Routes to School and Transportation Enhancement grants could allow for limited future implementation of bicycle education activities. A likely partnership would be with local police departments.

Metro COG staff and MBPC members believe that the first step in formulating a solution is to sponsor a bicycle and pedestrian "summit" with the goal of creating an organized collaborative network of bicycle education and advocacy. Metro COG staff and member jurisdictions, along with applicable agencies, will assemble the "summit" in the coming year.

6.3 Implementation of Studies

Metro COG will continue work on studies previously completed. These projects are incorporated into the 2009 LRTP and future UPWP documents.

Red River Greenway

Metro COG shall continue to meet at least once annually with greenway stakeholders to inventory physical growth of the Greenway and updates to easement and river set back policies. Mapping of the Greenway should continue to be done annually to keep a running record of the growth of the Greenway. As a result Metro COG shall work with member local units of government to develop an annual report/inventory of the Greenway's growth and potential for growth.

North Dakota State Bicycle Plan

The North Dakota State Bicycle Plan should be updated to reflect changes since its implementation in 1994. NDDOT should be the key agency to manage the Plan and see that its recommendations are implemented. Once completed, the plan should be placed on NDDOT's website.

Red River Diversion/Local Flood Mitigation Projects

Metro COG and the Metropolitan Bicycle and Pedestrian Committee will continue to stay abreast of developments associated with the development of a Red River Diversion to ensure connectivity of the existing Metropolitan Bicycle and Pedestrian network to trails and shared use paths associated with the development of the Diversion. Metro COG will remain aware of opportunities to include bicycle and pedestrian facilities as part of local flood mitigation projects.

Active Living

Metro COG will continue to coordinate comprehensive planning efforts between the public health and the transportation planning agencies. Walking and bicycling are important parts of improved quality of life in the Fargo-Moorhead Metropolitan Area which provide numerous qualitative and quantitative benefits to the community. Metro COG will also promote and support the Streets Alive! intiative.

Safe Routes to School

Metro COG should continue refinement of SRTS plans and revisit each SRTS plan every 3-5 years. Local jurisdictions should work to implement the recommendations from these studies once they are completed.

Safe Routes to School maps have been a key component in each of Metro COG's Safe Routes to School studies. The maps are distributed by each school when school opens in the fall in order to establish safe walking patterns and habits that will hopefully carry throughout the school year. It is recommended that the schools distribute the Safe Routes to School maps to parents and students as the backbone of the pedestrian safety program. The teachers are advised to help the students identify on the map the route that they will take from their house to and

from the school. The teachers should then ask the students to take the designated route map home to their parents or guardians with an accompanying letter. The letter should ask the parent to take colored pencil or crayon and help their child to mark the route that should be taken to school. The parent should also go over the route with the child in the field, answering any questions the child may have, noting use of traffic control features. Designated routes should be reviewed and revised whenever there are changes in traffic patterns resulting from road construction and detours, new traffic controls, new developments, or changes in school boundaries. These changes directly impact the safety of pedestrians, and require adjustments in the recommended walking routes.

One area where there is room for increased activity is in the pursuit of non-infrastructure SRTS grants. According to the NDDOT this source of funding is not being applied for by many communities. This may be due to the fact that non-infrastructure grant dollars will require school district employees to manage the implementation of such funding. Many school district employees have several job responsibilities and very little time to accomplish additional tasks that a grant award would create. Nonetheless, pursuit of non-infrastructure SRTS grant monies could bring about a reduction in the number of parents driving their children to school through the development of walking school bus programs as well as incentive programs to reduce the numbers of motor vehicles used to drop off and pick up students at K-8 school sites.

Complete Streets

Metro COG's Fargo-Moorhead Metropolitan Area Complete Streets Policy Statement is a foundational document for the growth of Complete Streets and should be used in the development of all locally and federally funded roadway construction, re-construction and preservation projects. Metro COG should review all Transportation Improvement Program projects during their planning phase to ensure that non-motorized street users are accommodated where possible. Metro COG shall also work with local jurisdictions to either adopt Metro COG's Complete Street Policy or assist them with creating a version of their own policy.

6.4 Balanced Bikeway Network

An on-road bikeway network that will lead bicyclists (residents and visitors) to high demand locations such as local colleges and universities; social service agencies, and downtown area of Fargo and Moorhead is needed. Metro COG will continue to consider all users when determining facility types. Additionally, Metro COG will reach out to the public to get recommendations for on-road facilities. As cities and counties continue to add and refine the bicycle and pedestrian network, Metro COG will ensure that these connections are safe and effective for all users.

6.5 Bicycle and Pedestrian Connections to Transit

Integrating connections between bus and non-motorized users would increase the possibility that each mode of transportation would increase in use. General guidance for improving the integration of bicyclists and pedestrians at these locations are included in Appendix C. There is a need to review data from 2010 and catalogue those MATBUS stops that have the highest

boarding of bicycles. Metro COG staff will work with local jurisdiction and MATBUS to identify specific projects which would improve the integration of bicycles and pedestrians to transit.

6.6 Maintenance and Safety Improvements Recommendations

A series of guidelines developed from existing practice in Metro COG and elsewhere in the mid-west provides suggestions for hazard identification and removal, developing a regular maintenance schedule, and identifying when monitoring and policing of facilities is necessary. Specific policy and programming recommendations can be found in Appendix D.

Additional Recommendations:

- Public works departments should explain how they handle cleaning and maintenance operations with the public through their websites.
- Metro COG (through the Metropolitan Bicycle and Pedestrian Committee) should continue to notify public works departments (as needed) of chronic complaints so as to improve their performance and increase the safety of users of the bicycle and pedestrian network.
- Public input regarding safety issues should be encouraged by Metro COG through its website and quarterly newsletters as well as through contact with local bicycling, walking and running clubs.
- Metro COG should support jurisdiction efforts to create “see, click, fix” interfaces for online categorization of bicycle and pedestrian facility concerns. An alternative would be to place stickers on the back of trail signage indicating a phone number to call to lodge a maintenance concern.
- Metro COG should inventory chronic issues relating to a lack of accessibility and safety (e.g. flooding in bicycle/pedestrian underpasses) through a survey provided to the public on an annual basis (e.g. bicycle shops, interested citizens, stakeholders) and move these forward to the Metropolitan Bicycle and Pedestrian Committee for discussion and resolution (e.g. finding accessible local funds to fix a small issue that causes or has the potential to cause big problems).

6.7 Bicycle and Pedestrian Crash Analysis

Metro COG shall further analyze data produced by the departments of transportation to define and locate high bicycle/pedestrian crash locations as part of roadway studies as well as stand-alone bicycle and pedestrian safety studies. Recommendations should be made for improvements to reduce crash numbers. Recommendations should drive project selection for federal funding and locally funded projects.

During the corridor studies outlined in section 4.10 of this document, a detailed bicycle and pedestrian crash analysis should be conducted. The Pedestrian and Bicycle Crash Analysis Tool (PBCAT) is a software product developed by the FHWA that can be used to develop and analyze a database containing details associated with crashes between motor vehicles and bicyclists or pedestrians. This tool identifies crash type including a list of common reasons for crashes and recommended counter measures.

6.8 Performance Measures

Metro COG will coordinate the collection of existing data elements to help develop the basis for performance measures. This includes the following:

- Identifying a mode split among travelers and trips between motorized and non-motorized trips,
- Conducting bicycle and pedestrian counts before and after new construction or reconstruction activities that involve applicable facilities,
- Identifying a method to conduct "low-cost" bicycle and pedestrian counts,
- Developing a standardized methodology to regional partners for the collection of turning movement data that includes bicycles and pedestrians,
- Developing a consistent, repeatable reporting format that can be used to publically display information.

Metro COG shall develop address performance measures and data collection needs for bicycles and pedestrians during their review of a Congestion Management Program as part of their 2012 UPWP. The EPA's August 2011 guide to Sustainable Transportation Performance Measures may serve as a guidance document for the development and implementation of these performance measures. Additional information on creating a performance measure system can be found in Appendix I.

6.9 Development of Transportation Management Association (TMA)

Metro COG will prepare for the establishment of a TMA by continuing to consider bicycle and pedestrian concerns in future plans and development. The TMA would have a multimodal purpose. A meaningful TMO/TMA for the FM Metropolitan Area should advance bicycle and pedestrian strategies to reduce travel demand through the FM Metropolitan Area in tandem with other TDM efforts (carpooling, transit, flex-scheduling, etc.).

6.10 Bicycle Parking and other Support Facilities

Additional bicycle parking and other support facilities were identified as a need which would help to promote bicycling within the area. General recommendations for bicycle parking and support facilities can be found in Appendix E. Metro COG staff will work with local jurisdictions and transit to identify locations which would benefit from additional facilities.

6.11 State DOT Recommendations

Metro COG and the MPOs for Grand Forks/East Grand Forks and Bismarck should work with NDDOT to create a state non-motorized transportation advisory committee that would meet either quarterly or semi-annually. The composition of the Committee would be made up of agencies related to local, regional and state transportation; people with disabilities, bicycling and walking advocacy groups/clubs; state and local tourism; public health agencies and other relevant agencies. The Committee would plan for, provide information about, and promote non-motorized travel for transportation and recreation. This would include the development of bicycle routes throughout the state that specifically contribute to the development of the United States Bicycle Route System.

6.12 Signage of Bicycle Facilities

Currently there is still no formal plan for bicycle route signage. The Metro Trails Logo should be used only if there is a formal plan created by all member local units of government to use the logo for specific named routes. This plan should be recommended by the Metropolitan Bicycle and Pedestrian Committee and should be formally approved by all member local units of governments. Any informal use of the logo will likely create confusion for bikeway users and inconsistencies in future bikeway signing efforts. If the Metro Trails logo is used in a formalized way then the Metropolitan Area Bikeway Map should reflect specific routes created by the use of the Metro Trails Logo. An example of this kind of use would be for the Trans-Metropolitan Area and College Connector routes.

The bicycle route signs provided in the MUTCD should be used on all on-road bikeways and only used on shared use paths when necessary. Additional features such as directional arrows, destinations and distance from major destinations should be included on bicycle route signs. All these features are available through the MUTCD.

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