METROPOLITAN BICYCLE AND PEDESTRIAN PLAN

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Executive Summary

In 2000, the United States Department of Transportation (US DOT) adopted a Policy Statement to provide a recommended approach to accommodate bicycle and pedestrian facilities into all transportation infrastructure to create a safe, convenient, accessible, and attractive environment for bicyclists and pedestrians. The Policy Statement states "The decision to accommodate [bicyclist and pedestrians] should be the exception rather than the rule." Three exceptional circumstances are included: where bicyclists and pedestrian are prohibited by law from using the roadway, where the cost of establishing bikeways and walkways would be excessively disproportionate (exceeding twenty percent of the total project cost) to the need or probable use, or where sparsity of population or other factors indicate an absence of need. In addition, the Policy Statement also recommends:

- Paved shoulders shall be included in all construction and reconstruction projects on roadways in rural areas used by more than 1,000 vehicle per day. Rumble strips are not recommended where shoulders are used by bicyclist unless there is a minimum clear path of four feet in which a bicycle may operate safely.
- Sidewalks, shared use paths, street crossings, pedestrian signals, signs, street furniture, transit stops and facilities, and all connecting pathways shall be designed, constructed, operated and maintained so that all pedestrians, including people with disabilities, can travel safely and independently.
- The design and development of the transportation infrastructure shall improve conditions for bicycling and walking through planning projects for the long term, addressing the need for bicyclist and pedestrian to cross corridors as well as travel along them, getting exceptions approved at the senior level, and designing facilities to the best currently available standards and guidelines.

The US DOT encourages all States and local governments to adopt this policy statement and commit to accommodate bicycle and pedestrians as an integral element of the transportation system.

In 1999, the Secretary of Transportation signed a Policy Statement noting the importance of including accessibility issues in the planning and design of transportation infrastructure. In response, the Federal Transit Administration and the Federal Highway Administration joined forces to request State and local involvement to provide a transportation system allowing all Americans accessibility. This letter also acted as a reminder that ADA implementing regulations leave public entities responsible for scheduling curb ramps in their transition plans. To aid in implementation, the Federal Highway Administration will be publishing a manual recommending guidelines for the design of accessible sidewalks and trail facilities.

The Metropolitan Bicycle and Pedestrian Plan supports the adoption of the US DOT Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure and the US DOT Accessibility Policy Statement for planning and design of transportation infrastructure

throughout the metropolitan area. To assist local jurisdictions, this Plan includes recommended bicycle and facility design guidelines.

The Metropolitan Bicycle and Pedestrian Committee (MBPC) oversaw the development of this Plan with the following vision in mind:

> *To enhance the bicycling and pedestrian environment so these modes become more viable and convenient transportation and recreation alternatives in contributing to the health, safety, and quality of life of the citizens of the Fargo-Moorhead metropolitan area.*

In order to achieve this vision, the MBPC created four goals to provide direction to the planning process and the development of various recommendations in the Plan. The goals are as follows:

- Develop an accessible, well-designed, and maintained transportation system that allows and encourages safe, convenient, and pleasant bicycle and pedestrian travel.
- Promote the importance of bicycle, pedestrian, and motorists' rights, responsibilities, and values of a multi-modal transportation system.
- Promote bicycles and pedestrians travel at all appropriate levels of government through policies, legislation, and enforcement.
- Encourage the increased use of walking, bicycling, and other alternative modes for transportation and recreation.

Recommendations in this Plan include both construction and non-construction projects designed to enhance the bicycling and pedestrian environment. Bicycle and pedestrian construction projects were selected using a variety of performance criteria: directness, accessibility, continuity, safety, comfort and attractiveness, cost, and ease of implementation. In addition, multiple projects were recommended for incorporation into the Fargo-Moorhead Metropolitan Council of Governments Unified Work Program for further analysis. The MBPC created a list of eighty-one strategies in order to obtain the overall goals of the Plan. Each year, the MBPC will create an Action Plan which will include the specific task and responsible agency in order to implement the non-construction recommendations.

The Metropolitan Bicycle and Pedestrian Plan has been approved by the Cities of Dilworth, Fargo, Moorhead, and West Fargo and Clay and Cass County. In order for all the recommendations in this Plan to reach completion, support and assistance is expected from all local governments. In addition, assistance is needed from schools, bicycle and pedestrian clubs, and citizens to aid the MBPC in the implementation of this planning document.

Chapter One

Introduction

This chapter of the Plan provides background information on the Fargo-Moorhead Metropolitan Council of Governments and its intergovernmental planning role in the Fargo-Moorhead metropolitan area. In addition, this section defines the purpose of the Metropolitan Bicycle and Pedestrian Plan (MBPP), study process, and study organization framework. Finally, bicyclist and pedestrian behaviors, and an benefits to bicycling and walking are also included.

Background

The Fargo-Moorhead Metropolitan Council of Governments (Metro COG) is the Metropolitan Planning Organization (MPO) for the Fargo-Moorhead area and the surrounding sixteen townships. Metro COG is responsible for maintaining a continuous, comprehensive, and coordinated transportation planning process for the metropolitan area.

Metro COG provides a forum for public officials, citizens, and other interest groups to establish policies and plans to effectively deal with various metropolitan issues. Metro COG also serves as a technical assistance and planning agency to complete studies and identify solutions to common metropolitan problems. Additionally, Metro COG is responsible for disseminating information and promoting sound development throughout the area.

Thus the principle role of Metro COG is to harmonize the activities of federal, state, and local agencies; and to render assistance and encourage public participation in the development of the area. Specific programs Metro COG is directly involved in include: community development assistance, environmental and intergovernmental coordination, and area wide transportation and transit planning.

Since 1972, the Cities of Fargo, West Fargo, and Cass County, North Dakota and Moorhead, Dilworth and Clay County, Minnesota have joined together to insure efficient, coordinated action in resolving intergovernmental issues.

Passage of the federal Transportation Equity Act for the 21st Century (TEA-21) in 1998 in part encouraged the update of this Plan. This legislation require MPOs to include bicycle and pedestrian elements into their Metropolitan Transportation Plan (MTP). The federal legislation's emphasis on intermodalism resulted in Metro COG giving greater attention to non-traditional modes of transportation, such as walking and bicycling. The federal law provides the framework for enhanced bicycle and pedestrian planning, it also provided greater flexibility in funding and more funding for bicycle and pedestrian projects, allowing State DOTs, based on MPO planning and programming recommendations, to fund a broader range of projects.

The update of this Plan also resulted from recommendations made in the 1995 Metropolitan Bikeway Plan Consistency Review which was approved by the Metro COG Policy Board in December, 1999. This Review assessed the implementation progress of the 1995 Metropolitan Bikeway Plan (MBP), and identified several existing and emerging issues. Seventy-eight percent of the construction projects recommended in the short range of the MBP had been completed. In addition, some activity was initiated in over 56 percent of the strategies recommended to achieve the non-construction objectives listed. Since many of the short range elements and some of the long range elements had been successfully completed, the necessity for updating the MBP was necessary. Finally, the Metropolitan Bicycle and Pedestrian Committee recommended the inclusion of pedestrian issues in this new Plan as recommended by the 1989 Metropolitan Pedestrian Plan Consistency Review Report completed in 1994.

Purpose of the Metropolitan Bicycle and Pedestrian Plan

The Metropolitan Bicycle and Pedestrian Plan establishes a 20-year vision for bicycle and pedestrian facilities in the Fargo-Moorhead metropolitan area and its environs. It is the intent of the Metropolitan Bicycle and Pedestrian Committee, which guided the preparation of this document, that the Plan be implemented and maintained by the appropriate local governments, and be acceptable to the bicycling public. It is believed that this Plan will promote the continued development of a safe, enjoyable metropolitan bicycle and pedestrian network. The purpose of this Plan is to:

- Identify concerns of the public with regard to the existing and future bicycle and pedestrian needs.
- Identify the need for future bicycle and pedestrian facility improvements.
- Identify goals, objectives, and strategies for improving the bicycle and pedestrian environment.
- Determine which improvements are technically feasible and environmentally acceptable.
- Prioritize bicycle and pedestrian facility improvements by determining whether they are financially feasible, based on reasonable revenue assumptions; and socially acceptable, as determined through the Plan's public process and local governments' adoption of the document.

Study Process

This Plan has been developed through a comprehensive planning process. This process involved several activities and encompassed engineering, education, enforcement, and encouragement issues.

The major activities performed in the study process included:

- Determining the existing metropolitan bicycle and pedestrian network.
- Seeking early public input on the needs, issues and opportunities of the bicycle and pedestrian network.
- Identifying trip generators, accident data, and bicycle and pedestrian volumes.
- Reviewing State and local laws that impact bicycle and pedestrian planning.
- Identifying current available funding sources.
- Recommending alternatives and opportunities for bicycle and pedestrian facilities.
- Identifying facilities that are improperly signed to create a continuous system.
- Preparing the draft Plan.
- Seeking and considering public input on recommended bicycle and pedestrian improvements.
- Gaining adoption of the Plan by affected local governments.

Projects listed in this Plan will also be included in the update of the Metropolitan Transportation Plan scheduled for completion in 2003. Projects included in the Metropolitan Bicycle and Pedestrian Plan's short range project list will be eligible for programming and federal funding by Metro COG's Metropolitan Transportation Improvement Plan during its annual preparation. Short range projects are expected to be constructed by the year 2005. Prior to updating the year 2000 Metropolitan Bicycle and Pedestrian Plan (in 2005), it is possible that some of the projects from the long range project list may advance to the short range and be eligible for programming in the TIPs, based on amendments to this Plan.

Within the five year span between the 2000 Metropolitan Bicycle and Pedestrian Plan and the updated Plan in 2005, it is expected that bicycle, pedestrian, and corridor studies will further define specific improvements needed to improve or maintain the efficiency and condition of the metropolitan area bicycle and pedestrian network. These types of improvements have been anticipated in some instances, while others may be unanticipated. In some cases, the results and recommendations of these studies will need to be amended into the Plan as noted above. In other cases, they will be added to the updated Metropolitan Bicycle and Pedestrian Plan in 2005.

Study Organizational Framework

The development of this Plan was a cooperative effort between the Fargo-Moorhead Metropolitan Council of Governments, the North Dakota Department of Transportation, the Minnesota Department of Transportation, the Federal Transit Administration, the Federal Highway Administration, numerous local jurisdictions, and bicycle and pedestrian interest groups. To guide the development of the Plan, Metro COG received direction and input from the Metropolitan Bikeway / Pedestrian Committee, a 14-member body representing a wide range of interests. Membership on this Committee included representatives from local planning and engineering staffs, police departments, bike clubs, persons with disabilities, park boards, area schools and universities, the private sector, as well as other special interests and citizens. Assistance was also received by Metro COG's Transportation Technical Committee (TTC).

Metropolitan Bicycle and Pedestrian Committee Members:

John Peterson, Chairman, Great Plains Bicycling Club
Keith Berndt, Cass County Engineering
Richard Lane, Fargo Engineering
Bill Mahar, Fargo Planning
Larry Weil, West Fargo Planning
Victor Pellerano, Fargo Park District
Bob Fogel, Moorhead Parks Department
Nate Aalgaard, Freedom Resource Center
Joe Johnson, Fargo Police Department
Tim Lee, NDSU Traffic and Security
Dennis Holmgren, Fargo Public Schools
Bob Backman, RiverKeepers
Mark Dixon, Concordia College
Cathi Chial, MeritCare Children's Hospital
Tom Smith, Island Park Cycles

The Metropolitan Bicycle and Pedestrian Committee (MBPC) met regularly during the development of this document, to review and make recommendations concerning various elements of the Plan. Opportunities for public participation were also sought at several times throughout the Plan's preparation. On March 9, 2000, a public meeting was held in the Fargo Commission Room to solicit input on issues and needs from residents and other interested parties regarding the contents of the Plan. Thirty-one residents and technical staff members attended the meeting, and actively participated in the preparation of needs, issues, and suggestions pertaining to the Plan's objectives. An additional sixteen comments were received in writing and six over the telephone. Another public meeting was held on September 21, 2000 to inform citizens and solicit input concerning their opinions regarding the contents of the draft Plan and its recommendations. Twenty-seven residents and technical staff members attended this meeting. Four written and one phone comment were received. Notices for both public meetings were published in the area's official newspaper, *The Forum*. Notices were also posted in public buildings, and sent directly to 390 citizens, interest groups, and advocacy groups to assure all

segments of the population were offered an opportunity to participate in the Plan's formulation. Minutes and other public comments on bicycle and pedestrian needs and issues are located in Appendix I. In addition, all regular meetings of the Metro COG Policy Board, TTC, and MBPC were open to the public and local media; and bicycle and pedestrian advocates participated in discussions regarding the Metropolitan Bicycle and Pedestrian Plan. Finally, all minutes and planning documents were posted on Metro COG's website so the public could follow the development of the Plan on a regular basis.

Bicyclist Behavior

In the 1994 report *Selecting Roadway Design Treatments to Accommodate Bicyclists*, the Federal Highway Administration classified bicyclists in three categories to assist in the design of bicycle facilities;

> **Group A - Advanced Bicyclist:** are experienced riders who can operate under most traffic conditions. They comprise the majority of the current users of collector and arterial streets. Experienced bicyclists are best served by direct access to destinations usually via the existing street and highway systems, the opportunity to operate at maximum speed with minimum delays, and sufficient operating space on the roadway or shoulder to reduce the need for either the bicyclist or the motor vehicle operator to change position when passing. This can be accomplished by:
>
> - Establishing and enforcing speed limits to minimize speed differentials between bicycles and motor vehicles on neighborhood streets and by using "traffic-calming" strategies.
> - Providing wide outside lanes on collector and arterial streets built with a urban section.
> - Providing usable shoulders on highways built with a rural section.
>
> **Group B - Basic Bicyclist:** These are casual or new adult and teenage riders who are less confident of their ability to operate in traffic without provisions for bicycles. Some will develop greater skills and progress to the advanced level, but there will always be millions of basic bicyclists. The basic bicyclist prefers comfortable access to destinations, preferably by a direct route, using wither low-speed, low traffic-volume streets or designated bicycle facilities and well-defined separation of bicycles and motor vehicles on arterial and collector streets or separated bike paths.
>
> **Group C - Children:** Pre-teen riders whose roadway use is initially monitored by parents. Eventually they are allowed independent access to the road system. They and their parents prefer access to key destinations surrounding residential areas, including schools, recreation facilities, shopping, or other residential areas, residential streets with low motor vehicle speed limits and volumes, and well-defined separation of bicycles and motor vehicles on arterial and collector streets or separated bike paths.

Both basic bicyclists and children are best served by:

- Ensuring neighborhood streets have appropriate traffic operating speeds and volumes.
- Providing a network of designated bicycle facilities through the key travel corridors typically served by arterial and collector streets.
- Providing usable roadway shoulders on rural highways.

According to the 1990 Census, only 0.6 percent of the population in the Fargo-Moorhead metropolitan area used bicycling as a means of transportation for traveling to work.

Pedestrian Behavior

Many citizens in the Fargo-Moorhead metropolitan area do not own or do not have access to a vehicle; and therefore, rely on alternative modes of transportation for trips to work and shopping. According to the 1990 Census, about 8 percent of the population walked to work in the Fargo-Moorhead metropolitan area. Walking is the most basic form of transportation. Not only is walking considered an alternative mode of transportation, it also contributes to the quality of community life and to personal well-being. Although pedestrians have some similar characteristics, the various types of pedestrians cause difficulty when designing a facility. By understanding the different pedestrian characteristics, pedestrian facilities can be designed to accommodate all users. In general, pedestrians:

- usually walk on the right side when passing.
- usually walk in groups of two or more.
- walk at a faster pace when they are alone.
- walk at a faster pace if they are male.
- tend to take the shortest possible route.

In 1999, the U.S. Department of Transportation wrote *Designing Sidewalks and Trails for Access*. This Report reviewed existing guidelines and recommendations for developing sidewalks and trails. The second phase of this federal Study will produce a manual of recommendations for accessible designs for pedestrian facilities, and was expected to be completed in the year 2000. In the first phase of this Report, pedestrian are categorized as either older adults, adults, children, or disabled. Disabled pedestrians fall into three categories; mobility, sensory, and cognitive.

Older Adults

Improved pedestrian design for older adults has become important due to the higher average life span of Americans. Older adults tend to have more severe injuries when

involved in crashes, require more time to cross streets, and find it more difficult to read signs. Pedestrian facilities for older adults should be designed using the following possible characteristics:

- Limited vision; such as degraded acuity, poor central vision, and reduced ability to scan the environment
- Reduced range of joint motion
- Reduced ability to detect, localize, and differentiate sounds
- Limited attention span, memory, and cognitive abilities
- Reduced endurance
- Reduced tolerance for extreme temperature and environments
- Decreased agility, balance, and stability
- Inability to quickly avoid dangerous situations
- Excessive trust that fellow drivers will obey traffic rules
- Slower reflexes
- Impaired judgement, confidence, and decision-making abilities

Children

Children rely on alternative forms of transportation for trips inside their neighborhoods and to travel to schools and playgrounds. Due to lack of familiarity of traffic patterns, a poor accuracy of judging speed and distance and a lower peripheral vision, children ages 5 to 9 are involved in the largest number of pedestrian fatalities. Symbol based warning signs and traffic signals are recommended to aid those who have not yet learned to read.

People with Disabilities

People with mobility impairment include wheelchair and scooter users, walking-aid users, and prosthesis users. All three users tend to have difficulty negotiating steep grades and cross-slopes. Walking-aid and prosthesis users typically walk at a slower rate, while wheelchair and scooter users move more quickly on level surfaces and downgrades. In addition, pedestrian facility design should accommodate the larger space and lower reach of wheelchair and scooter users.

People with sensory impairments include those with total blindness, partial vision loss, deafness, or partial hearing loss. Painted crosswalks, tactile surfaces, and audible pedestrian signals can assist people with full or partial vision loss with crossing the street. Designing crosswalks with long sight distances and no obstructions can assist those with hearing impairments.

Cognitive impairments can hinder the ability to think, learn, respond, and perform coordinated motor skills. Designing pedestrian facilities for people with cognitive may include traffic signals and signs using symbols rather than words.

Benefits of Bicycle and Pedestrian Use

Alternative modes of transportation such as bicycling and walking offer many benefits to the citizens of the Fargo-Moorhead metropolitan area. The Minnesota Department of Transportation estimates $.31 to $1.13 is saved per bicycle or pedestrian mile traveled. The economic benefits due to lowering air pollution, reduced oil dependency, and lower congestion, highway capital investment savings, and out of pocket savings to the individual consumer can also be calculated for pedestrian travel. Following is a list of benefits of bicycling from *Plan B The Comprehensive State Bicycle Plan Realizing the Bicycle Dividend Minnesota Department of Transportation*.

Environmental Benefits of Bicycle and Pedestrian Use

- Biking and walking require virtually no finite resources.
- Biking and walking create no air pollution; every 100 miles traveled by these means instead of in a car keeps the following amounts of pollutants out of the atmosphere:

  4.2 pounds of carbon monoxide
  0.3 pounds of hydrocarbons
  0.4 pounds of nitrogen oxides
  94 pounds of carbon dioxide

  Bicycling Minnesotans kept over 130 million pounds of these pollutants out of the atmosphere in 1989 alone.
- Bicycling and walking require very little pavement or parking space, and help relieve congestion.
- Bicycling and walking create little noise.

Social Equity and Stability Benefits

- Bicycling and walking are the most efficient forms of transportation.
- Bicycling and walking use no fuel products; other parts of the transportation sector currently use 75 percent of the petroleum imported to Minnesota.
- Bicycles are low cost, and therefore available to all, and walking requires no additional expenses.
- Ensuring access and mobility for bicycling and walking helps ensure individual choice and equality of opportunity.
- Bicycling and walking for transportation helps free resources for other needs, and for others in need: “Living simply, that others may simply live.”

Health and Fitness Benefits

- Fifty-nine percent of Minnesotans are at risk for sedentary behavior.
- Increased physical activity and fitness can prevent heart disease, stroke, diabetes, hypertension, depression, and certain types of cancer.
- The greatest reduction in risk for disease occurs between those who are completely sedentary, and those who engage in a minimal level of activity; if that activity is divided between two separate daily time periods (such as with bicycle commuting a short distance), the benefit is maximized.
- Bicycling and walking are lifetime activities; even among elementary and secondary students, they are the top activities away from school.
- Jogging, cross country skiing, and bicycling are the highest in energy expenditure, the ability to get the heart rate up and provide meaningful cardiovascular training.
- Bicycling and walking for transportation incorporates fitness and recreation into everyday routines.
- Bicycling and walking have great recreational value, are relaxing, and contribute a sense of well-being and connectedness to the world.

Chapter Two

Vision Statement, Goals, and Objectives

This chapter identifies the Plan's long-range vision statement, as well as its goals and objectives. Development of the vision and goals reflects the desire of the F-M metropolitan area's population to promote increased use and safety of bicycling and walking as an alternative mode of transportation while still providing opportunities for recreational bicyclists. The vision statement, goals, and objectives shown in this chapter were approved by the Metro COG Policy Board on June 15, 2000, at the recommendation of the Metropolitan Bicycle and Pedestrian Committee.

Vision Statement

The Plan has been developed to ensure the promotion and coordination of safe bicycle and pedestrian use throughout the Fargo-Moorhead metropolitan area. The vision statement provides focus and meaning for the Plan. A community with a vision supporting bicycling and walking as an alternative mode of transportation can decide to reject projects, policies, and programs that will discourage these uses and to prioritize actions that will increase bicycle and pedestrian comfort and safety. The Metropolitan Bicycle and Pedestrian Committee is dedicated to the following vision statement:

> *To enhance the bicycling and pedestrian environment so these modes become more viable and convenient transportation and recreation alternatives in contributing to the health, safety, and quality of life of the citizens of the Fargo-Moorhead metropolitan area.*

Goals and Objectives

Once the vision statement was developed, the Metropolitan Bicycle and Pedestrian Committee focused on creating goals and objectives using public comments received at the public input meeting. The goals and subsequent objectives provide direction to the planning process and to the development of various recommendations identified in the Plan. They also facilitate the implementation of the Plan's proposed recommendations.

> **Goal: Develop an accessible, well-designed, and maintained transportation system that allows and encourages safe, convenient, and pleasant bicycle and pedestrian travel.**

- Objective: Develop local standards for bicycle and pedestrian facility design.

- Objective: Create a uniform bicycle and pedestrian route sign and marking system throughout the metropolitan area.

- Objective: Explore alternatives to create a feeling of safety along bicycle corridors.

- Objective: Adopt maintenance practices for bikeways and walkways to provide comfortable and safe travel.

- Objective: Make information on curb cuts available to the public.

- Objective: Modify land use policies to make short non-motorized trips more feasible and useful.

- Objective: Create continuous bicycle and pedestrian links throughout the metropolitan area.

Goal: Promote the importance of bicycle, pedestrian, and motorists' rights, responsibilities, and values of a multi-modal transportation system.

- Objective: Educate motorists on safely interacting with pedestrians and bicyclists.

- Objective: Educate bicyclists on the proper use on roadways and sidewalks.

- Objective: Promote proper etiquette on multi-use paths.

- Objective: Promote bicycle safety throughout the schools.

- Objective: Promote the use of bicycle helmets.

Goal: Promote bicycles and pedestrians travel at all appropriate levels of government through policies, legislation, and enforcement.

- Objective: Review state and local policies which have an impact on bicycling and pedestrian needs, and work with appropriate authorities to revise those that do not consider or encourage these alternative modes of transportation.

- Objective: Increase enforcement on issues relating to bicycle and pedestrian rights.

Goal: Encourage the increased use of walking, bicycling, and other alternative modes for transportation and recreation.

- Objective: Encourage the local transit to promote the combined use of bicycling, walking, and transit.

- Objective: Inform the public about the location of multi-use paths and bicycle routes.

- Objective: Develop and distribute promotional material to persuade employers to provide internal incentive programs to encourage their employees to bicycle and walk to work.

- Objective: Work in coordination with media to increase public awareness and create a positive image of walking and cycling.

- Objective: Place a high priority on maintaining and developing the aesthetic attractiveness of bikeways and walkways to encourage significant use levels.

- Objective: Provide safe, secure, and convenient bicycle parking facilities at major bicycle travel trip generators and transportation terminals.

Chapter Three

Existing System Characteristics

This chapter of the Plan provides a profile of relevant socio-economic characteristics pertaining to the Fargo-Moorhead metropolitan area. It also examines weather, topographical, and land use considerations, and their impacts on local bicycling and pedestrian usage. Among other topics presented in this section include the identification of major bicycle and pedestrian travel trip generators, barriers, and conflict areas; as well as information on local bicycle thefts and violations. Additionally, this section reports statistics regarding local bicycle, pedestrian, and rollerblader usage which were based on counts conducted by Metro COG in the year 2000 on selected bike paths in the metropolitan area.

Study Area Profile

Transcending two state boundaries, the Fargo-Moorhead Metropolitan Urbanized Area includes the cities of Fargo and West Fargo, North Dakota, as well as the cities of Moorhead and Dilworth, Minnesota. As shown in Figure 1, the study area incorporates the cities in the urban core along with the portions of the sixteen townships immediately surrounding these communities.

According to the 1990 Census, the Fargo-Moorhead metropolitan statistical area (MSA) including all of Cass and Clay Counties had a population of 153,296. Approximately 121,255 of these persons resided in the urbanized area. The MSA population is projected to grow during the study's twenty year planning horizon to over 200,000 people as shown in Table 2. Most of the area's growth is expected in the southern and western portions of the metropolitan area.

Weather conditions within the study area are extreme in nature. As shown in Table 1, the average low in January is -4 degrees Fahrenheit and average high in July is 83 degrees Fahrenheit. Normal winters are cold and windy with moderate amounts of snowfall, and summers are typically hot, dry and windy. The average high and low temperature are 52 and 30 degrees, respectively. The climate permits reasonably convenient outdoor activity during eight months of the year. Annual precipitation averages about 19.45 inches; and on average 100 days of precipitation occur during a year. Owing to the flatness of terrain, the wind figures prominently in the area's weather. The mean daily wind velocity of 12.8 miles per hour, as measured over the past 40 years, is significant.

Table 1
Average F-M Metropolitan Temperatures and Precipitation

	Month												
	Jan.	**Feb.**	**March**	**April**	**May**	**June**	**July**	**Aug.**	**Sept.**	**Oct.**	**Nov.**	**Dec.**	**Avg.**
Average High	15	21	35	54	69	77	83	81	69	57	37	20	52
Average Low	-4	3	17	32	44	54	59	56	46	35	19	3	30
Average Precipitation	0.67	0.45	1.06	1.82	2.45	2.82	2.70	2.43	1.99	1.68	0.73	0.65	19.45
Average Days of Precipitation	9	7	8	8	10	11	10	9	8	6	6	8	100

Source: National Weather Service

Figure 1
F-M Metro COG Study Area

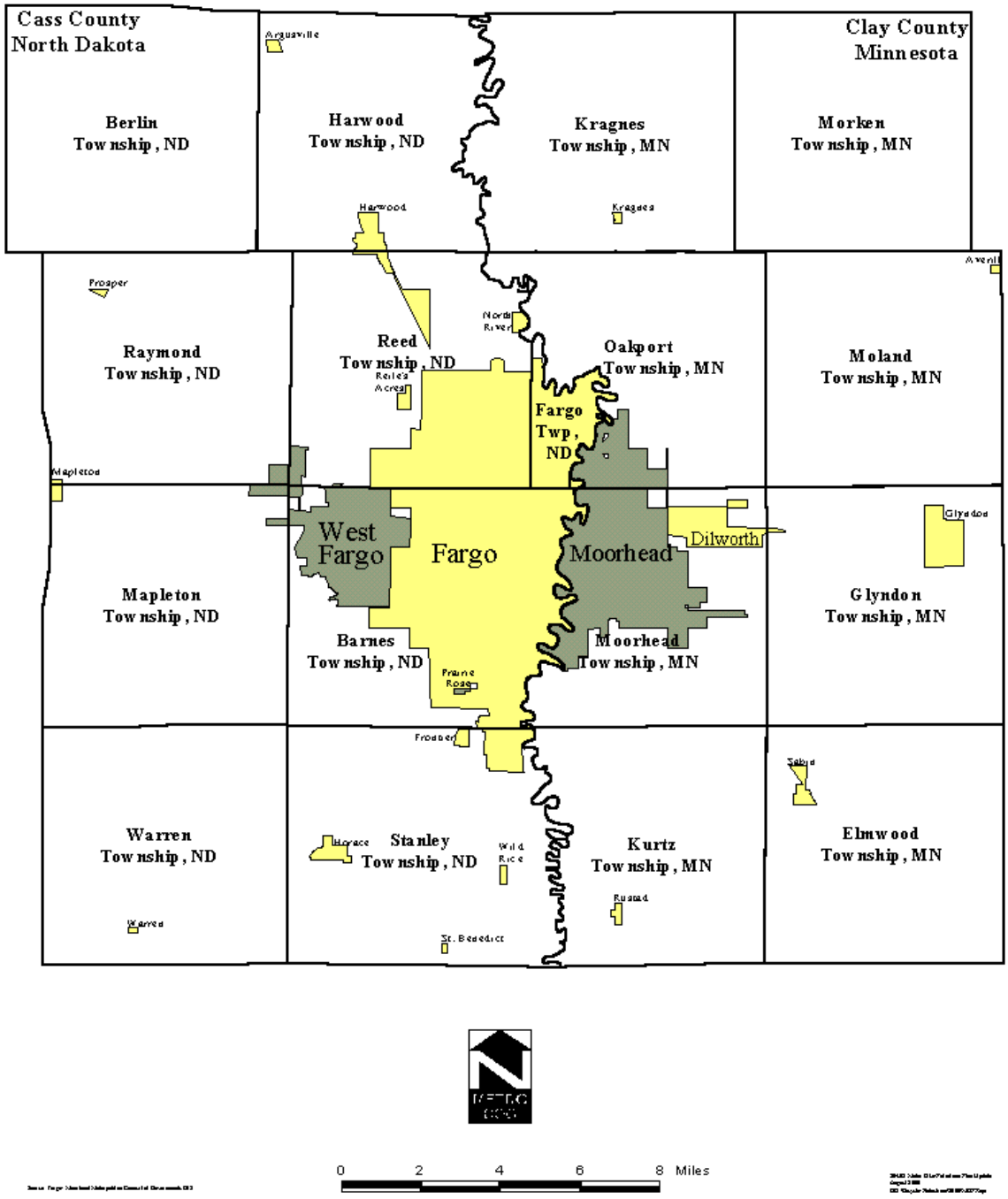


Table 2
FARGO-MOORHEAD MSA POPULATION PROJECTIONS

JURIS-DICTION	POPULATION			CHANGE		POPULATION PROJECTIONS							
	1970	1980	1990	1970-80	1980-90	1997 *	1999 **	2000	2005	2010	2015	2020	2025
Moorhead	29,687	29,998	32,295	1.0%	7.7%	33,863	34,748	35,190	36,351	36,950	37,984	38,842	39,698
Dilworth	2,321	2,585	2,562	11.4%	-0.9%	2,981	3,056	3,093	3,241	3,328	3,467	3,592	3,649
West Fargo	5,161	10,099	12,287	95.7%	21.7%	14,598	14,976	15,165	16,317	17,296	18,869	20,001	21,021
Fargo	53,365	61,383	74,111	15.0%	20.7%	84,243	86,282	87,301	92,800	97,611	103,440	108,501	113,805
Four City Total	**90,534**	**104,065**	**121,255**	**14.9%**	**16.5%**	**135,685**	**139,062**	**140,749**	**148,709**	**155,185**	**163,760**	**170,936**	**178,173**
Clay Rural	14,600	16,744	15,565	14.7%	-7.0%	16,278	16,367	16,411	16,633	16,596	16,176		
Cass Rural	15,127	16,765	16,476	10.8%	-1.7%	16,734	17,096	17,277	17,678	18,458	20,961		
MSA Total	**120,261**	**137,574**	**153,296**	**14.4%**	**11.4%**	**168,697**	**172,525**	**174,437**	**183,020**	**190,239**	**200,897**		
Clay Total	**46,608**	**49,327**	**50,422**	**5.8%**	**2.2%**	**53,122**	**54,171**	**54,694**	**56,225**	**56,874**	**57,627**		
Cass Total	**73,653**	**88,247**	**102,874**	**19.8%**	**16.6%**	**115,575**	**118,345**	**119,743**	**126,795**	**133,365**	**143,270**		

Source: 1970, 1980 & 1990 US Census, F-M COG

* Estimates based on building permits, households, persons per household, and apartment vacancy rates.

** Estimates based on the average between the estimated 1998 population (See 1999 S&M Report) and the projected 2000 population.

The flatness of the topography contributes to an environment conducive for bicycling and pedestrian usage. However, this topography has also created conflicts for residents living in the metropolitan area. Since 1993, the metropolitan area has seen a number of flood occurrences. One was due to a high amount of precipitation during the 1996-1997 winter, and the others were due to high intensity rainfall. The additional water caused increase maintenance to tunnels and underpasses and multi use paths along the river corridors and drainage ditches.

Land Use

A detailed examination of current land use was completed as part of COG's 1996 Metropolitan Land Use Study. This Study specifically focused on the Fargo-Moorhead Metropolitan Area which included the area within the corporate limits of Fargo and West Fargo in North Dakota; and Moorhead and Dilworth in Minnesota. Based on this Study, the metropolitan area consisted of 35,033 acres. This represented an increase of roughly 9.8 percent over the 31,905 acres that was identified in the previously conducted 1991 Metropolitan Land Use Study.

Table 3
1996 Metropolitan Land Use By City (IN ACRES)

LAND USE	FARGO	WEST FARGO	MOORHEAD	DILWORTH	TOTAL
SINGLE FAMILY	3,159.14	672.37	1,587.27	157.16	**5,575.94**
MULTI-FAMILY	1,143.17	131.69	338.82	17.50	**1,631.18**
MOBILE HOME	204.86	75.07	52.86	33.13	**365.92**
LIGHT INDUSTRIAL	1,051.32	228.24	191.95	0.00	**1,471.51**
HEAVY INDUSTRIAL	109.69	182.11	439.60	85.28	**816.68**
TRANSPORTATION	5,281.58	814.65	1,955.25	494.22	**8,545.70**
PUBLIC / SEMI-PUBLIC / UTILITIES	2,176.46	696.59	624.45	21.51	**3,519.01**
COMMERCIAL	958.94	100.23	264.64	89.40	**1,413.21**
OFFICE	330.53	25.81	34.62	0.00	**390.96**
PARKS & OPEN SPACE	1,670.33	128.57	822.61	24.60	**2,646.11**
VACANT	2,288.96	354.50	189.78	54.26	**2,887.50**
AG LAND	2,363.08	1,073.83	1,988.78	343.49	**5,769.18**
Total	**20,738.06**	**4,483.66**	**8,490.63**	**1,320.55**	**35,032.90**

Source: Metro COG 1996 Metropolitan Land Use Report

Table 3 1996 Metropolitan Land Use By City summarizes land uses for each jurisdiction. As the table illustrates, transportation and single family residential account for the largest portion of the developed land use representing approximately 32 percent and 21 percent, respectively. Fargo possesses the largest percentage of single family, multi-family, and mobile home land use at just under 60 percent, followed by Moorhead at 26 percent. Land used for parks and open spaces per total acre of each jurisdiction's developed land is 13.0, 10.4, 4.2, and 2.7 percent for Moorhead, Fargo, West Fargo, and Dilworth, respectively.

The number of acres annexed into municipal boundaries totaled 3,128 acres for the five-year period (1991-1996). Fargo annexed 1,806 acres, increasing the total metropolitan land area by 9.5 percent; Moorhead annexed 1,253 acres, increasing the total metropolitan land area by 17.3 percent; and Dilworth annexed 73 acres, increasing the total metropolitan land area by 5.8 percent. West Fargo did not annex any land within these years.

Annexation, shifting land uses, and accelerated residential development present many opportunities and challenges to the metropolitan bicycle and pedestrian network, as local governments' leaders attempt to proactively balance the needs of the bicycling and walking public with the provision of other services to accommodate the anticipated growth to the area.

Trip Generators

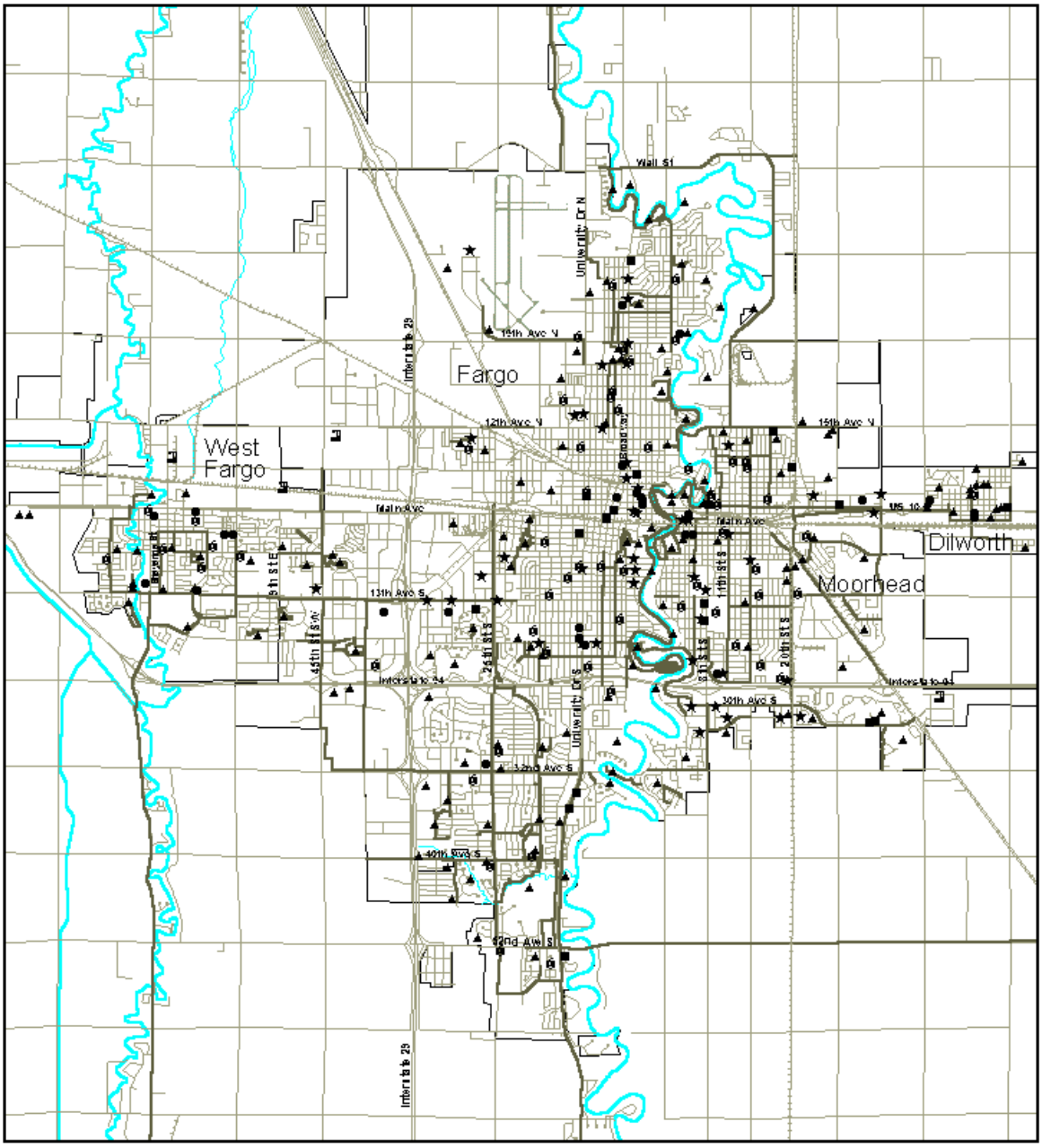
Providing a safe, continuous bicycle and pedestrian network is an important element in increasing the number of people bicycling and walking as an alternative transportation mode. Ensuring ease of access to major trip generators through the development of a bicycle and pedestrian network that considers land use, and is integrated with the rest of the transportation system helps accomplish this goal. This is achieved by considering major trip generators that potentially attract the bicycling and walking public.

For purposes of this Study, a trip generator is any facility which attracts travel trips. Common trip generators include major employment centers, shopping centers, schools, universities, residential areas, sport complexes, parks, and religious and cultural centers. Figure 2 shows potential bicycle and pedestrian trip generators identified in the F-M metropolitan area. In addition, this map shows locations of senior citizens homes to alert local jurisdictional leaders of areas that may require longer signal walking times.

Bicycle and Pedestrian Barriers

Obstacles to non-motorized travel can be separated into two groups; absolute barriers and bicycle and pedestrian impediments. Absolute barriers include rivers, drainage ditches, lakes, railroad tracks, and interstate highways. However, it should be recognized that certain barriers such as rivers and abandoned railroad corridors can also provide excellent transportation and recreational opportunities for shared use paths when properly planned. Bicycle and pedestrian impediments (obstacles that can be crossed, but only with difficulty), on the other hand, include high traffic streets without traffic signals, steep grades, and interstate interchanges.

Figure 2
Bicycle & Pedestrian Trip Generators



Location and Type of Significant Bicycle and Pedestrian Trip Generators

- Commercial Businesses
- Education Facilities
- Industrial Facilities
- Park and Recreational Areas
- Senior Citizen Services
- Transportation Facilities & Services

0 1 2 3 4 Miles

Map Features

- Bikeways
- Urbanized Areas
- Streets & Highways
- Railroad Tracks
- Rivers & Diversion
- Streams

Page 20

Figure 3 presents the absolute barriers and impediments within the F-M metropolitan area. Absolute barriers include the Red River, the Sheyenne River, drainage ditches, Burlington Northern Sante Fe Railway, Interstate 94, and Interstate 29. Bicycle and pedestrian tunnels and bridges indicate areas where these absolute barriers can be crossed. Bicycle and pedestrian impediments can be found along principal arterial roadways, minor arterial roadways, and collector streets.

Bicycle, Pedestrian, and Rollerblader Volumes

The U.S. Consumer Product Safety Commission completed a phone survey in 1990 and 1991 evaluating bicycle usage and risk factors. The survey estimated about 67 million bicyclists riding a total of 15 billion hours annually. Nine percent of the riders used their bicycles primarily for commuting to work or school while 64 percent stated they rode a substantial proportion of the time on neighborhood streets with low traffic volumes, 29 percent on sidewalks and playgrounds, 17 percent on shared use paths, 18 percent on unpaved roads, 7 percent on major thoroughfares, and 11 percent on unpaved surfaces or trails.

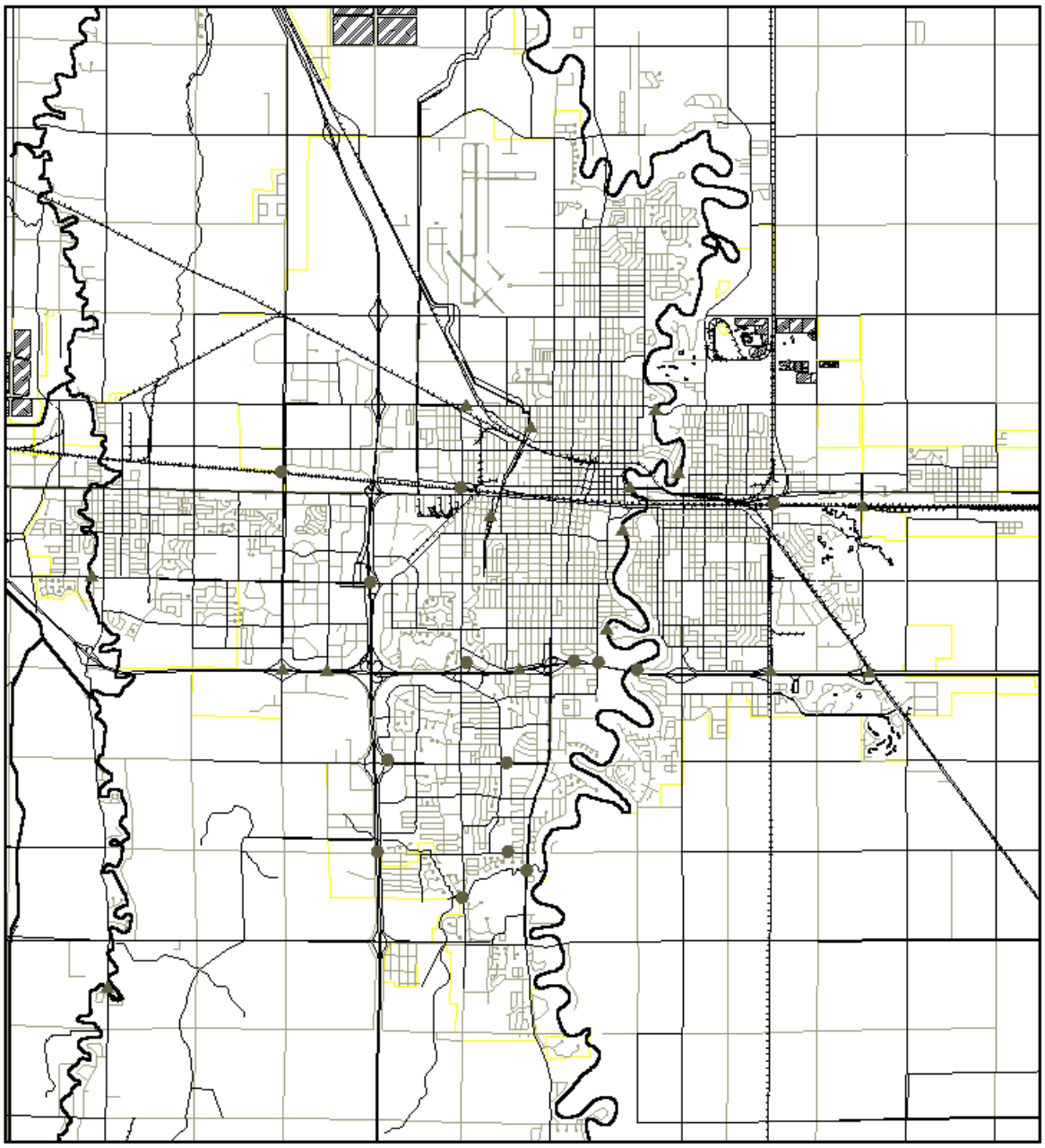
Table 4 contains information on bicycling and walking within the United States for the year 1970, 1980, and 1990. As the Table shows, both bicycling and walking have decreased significantly in the 1970's and 1980's even though the percentage of people with travel times to work has not. In the Fargo-Moorhead metropolitan area, people bicycling to work accounted for 0.6 percent of total work trips, which was slightly higher than the national average of 0.4 percent. According to the 1990 Census, about 8 percent of people in the Fargo-Moorhead area used walking as their main method of getting to work. This is well above the national average of 3.9 percent. With the adding funding opportunities for bicycle and pedestrian facilities created by the passing of ISTEA and TEA-21, it is possible the 2000 Census will indicate an increase in bicycling and walking to work.

Table 4
Bicycle and Pedestrian US Census Data

Activity	Year of Census					
	1970		1980		1990	
	Number of People	Percent of Population	Number of People	Percent of Population	Number of People	Percent of Population
Bicycling to Work	N/A	N/A	468,348	0.5	466,856	0.4
Walking to Work	5,689,819	7.4	5,413,248	5.6	4,488,886	3.9
Percentage of Population with Travel Time Under 10 Minutes	N/A		17.9		16.4	

Source: 1990 Census of Population
1980 Census of Population
1970 Census of Population

Figure 3
Bicycle & Pedestrian Barriers and Impediments



Barriers to Bicycle and Pedestrian Traffic
- Interstate Highways, Principal & Minor Arterial Roadways, and Collector Streets
- Railroad Tracks
- Rivers & Diversion
- Streams and Ditches

Map Features
- Urbanized Areas
- Local Streets
- Existing Bicycle Bridge
- Existing Bike Paths

One of the goals of the 1995 Metropolitan Bikeway Plan was to *"Increase the number of people using bicycles for transportation and recreation*." In order to estimate whether efforts made to encourage people to ride were effective, counts were done in the summer of 2000 for comparison. During the summers of 1993 and 1994, thirty-nine bicycle counts were executed. During the summer of 2000, F-M COG performed bicycle counts at fourteen select locations in the F-M metropolitan area, seven of which could be compared to those done in the past. Figure 4 and Table 5 contain the selected locations and bicycle, pedestrian, and rollerblader volumes. The comparison of these counts presented in Table 6 indicate the number of bicyclists in the Fargo-Moorhead metropolitan area did in fact increase over the seven year period. More detailed count information is located in Appendix II.

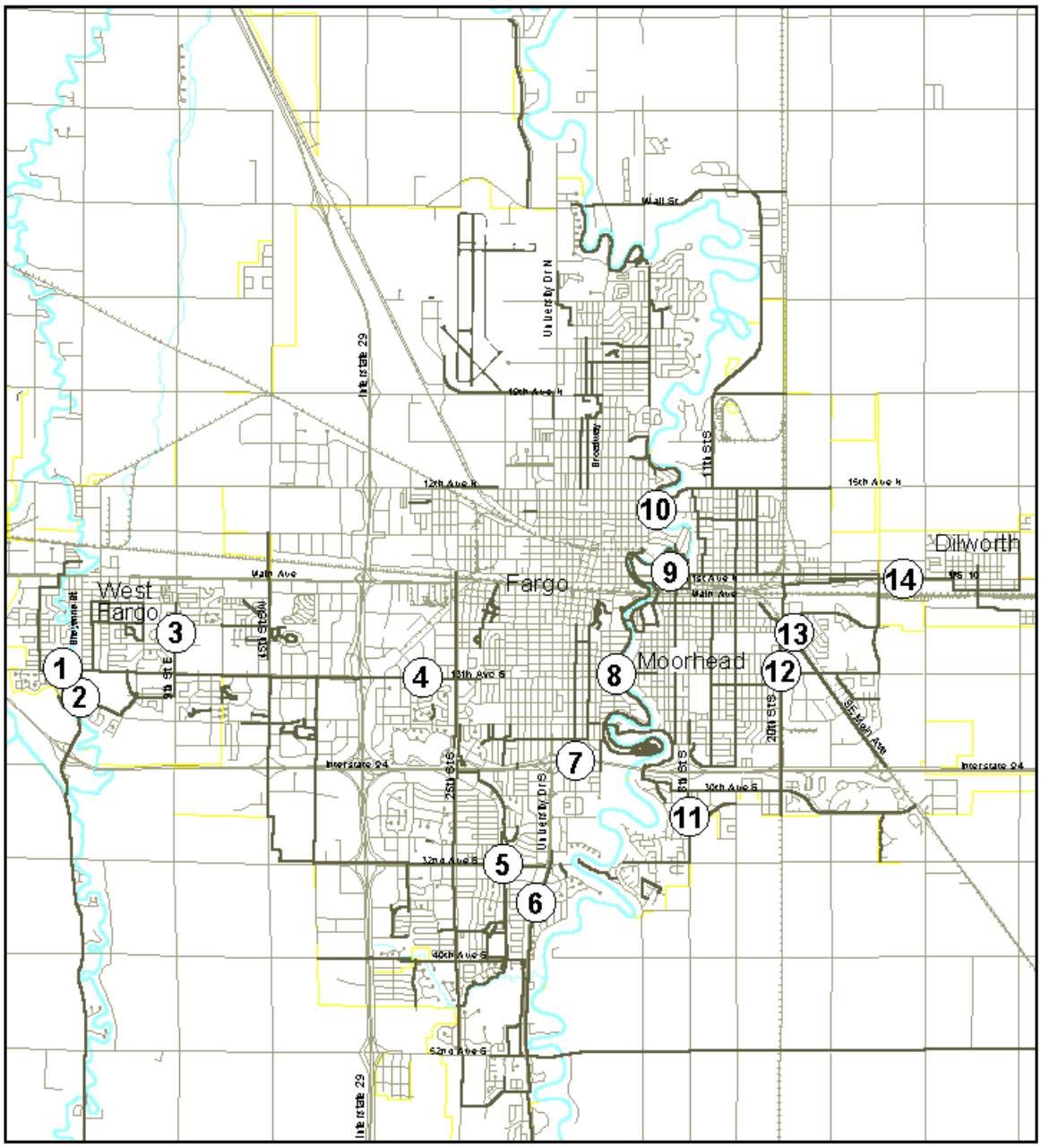
Table 5
2000 Bicycle, Pedestrian, Rollerblader Volumes

Location Number (See Fig 4)	Volume		
	Bicycle	Pedestrian	Rollerblader
1	109	66	11
2	81	68	20
3	76	63	13
4	88	23	5
5	139	132	21
6	173	31	33
7	79	48	9
8	98	60	2
9	83	47	1
10	98	30	1
11	43	40	7
12	117	34	32
13	10	14	1
14	20	14	2

Source: Metro COG Summer of 2000

In addition to counting bicycles, the 2000 counts incorporated pedestrians and rollerbladers. As shown in Figure 5, peak use for all three users is between 6:00 p.m. and 9:00 p.m. During this period, an estimated 553 bicyclists, 248 pedestrians, and 90 rollerbladers used these selected facilities. Although it appears most of the travel is for recreational purposes, the high number of users throughout the day suggests these routes may be used for other types of trips. Generally speaking, bicycle path usage is not limited to any one group.

Figure 4
2000 Bicycle, Pedestrian, and Rollerblader Volumes



Bicycle and Pedestrian Counts

Numbers on this map corresond with records in Table 5, *2000 Bicycle, Pedestrian, and Rollerblader Volumes*.

Map Features

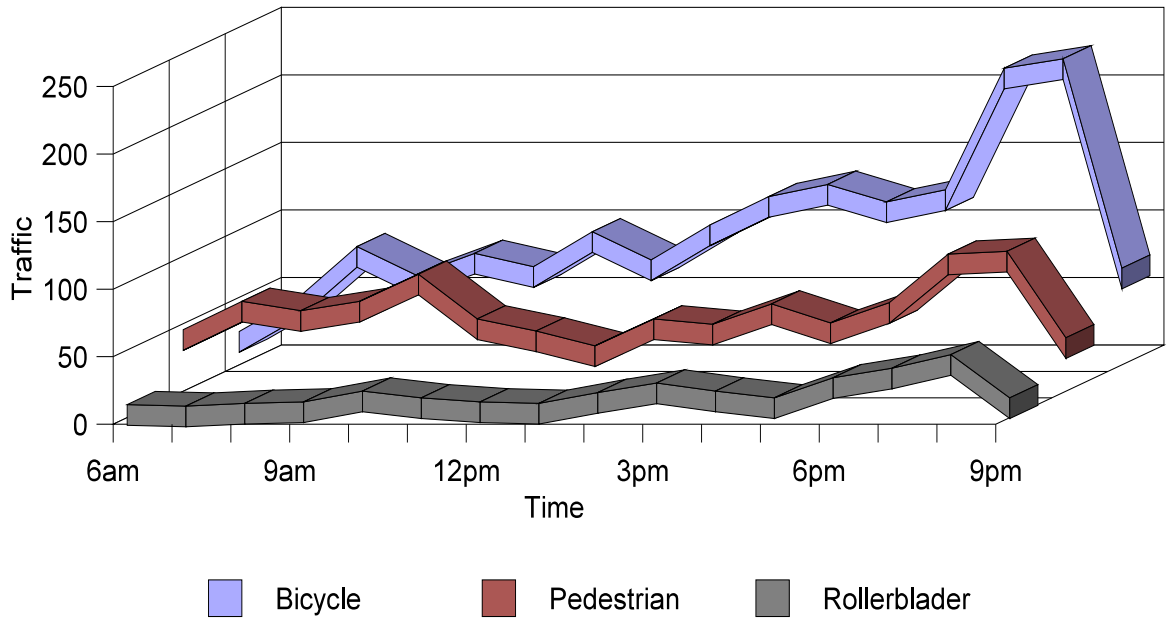
- Urbanized Areas
- Bikeways
- Streets & Highways
- Railroad Tracks
- Rivers & Diversion
- Streams

Table 6
1993/1994 and 2000 Bicycle Count Comparison

Location	Bicycle Traffic		Percent Increase
	1993 / 1994	2000	
13th Avenue South near 2nd Street West in West Fargo	68	109	60.3%
13th Avenue South near Gateway Drive in Fargo	87	88	1.1%
Milwaukee Multi Use Path near 32nd Avenue South in Fargo	75	139	85.3%
9th Street near I-94 Tunnel in Fargo	140	79	-43.6%
Lindenwood Park in Fargo	77	98	27.3%
20th Street near 12th Avenue South in Moorhead	115	117	17.0%
Vikingship Park in Moorhead	46	83	80.4%
Total	**608**	**713**	**17.3%**

Source: Metro COG Summers of 1993/94 and 2000

Figure 5
2000 Bicycle, Pedestrian, and Rollerblader Counts



Source: Metro COG Summer of 2000

The different types of users operating on these shared use facilities presents particular challenges to bicyclists, who must exercise caution to ensure safety is maintained in order to reduce the number of potential conflicts along the multi use paths. Conversely, the other users of the paths must also be sensitive to the concerns of bicyclists, and exercise the same care when using the facilities. In instances where there is, or is expected to be, a high volume of probable shared use with joggers and other pedestrians, it is recommended that the width on paths be expanded to accommodate the different mix of users. Furthermore, educational programs must be tailored to target all users of the bike paths to promote proper trail etiquette and safety.

Bicycle Theft

The number of reported thefts of bicycles in the area were obtained from local police departments for the years 1997 to 1999. Table 7 summarizes these bicycle thefts along with those shown in the 1995 Metropolitan Bikeway Plan. As shown, the number of bicycles stolen in the F-M metropolitan area has decreased significantly. According to local authorities, many individuals who have had their bikes stolen simply did not have adequate information about their bike's features and equipment to enable local law enforcement agencies to trace back the ownership of the bike. Sometimes thieves were reported to strip down the bike, replacing these items with inferior quality parts. According to local law enforcement officials, this has made it even more difficult for local police to match the stolen bike with its proper owner.

Table 7
Bicycle Theft

Jurisdiction	Year							
	1989	**1990**	**1991**	**1992**	**1993**	**1997**	**1998**	**1999**
Moorhead	268	279	291	254	233	61	116	101
Dilworth	-	-	-	-	-	14	21	18
Fargo	-	441	603	532	467	342	305	260
West Fargo	-	-	-	54	53	27	32	39
Total	**268**	**720**	**894**	**840**	**753**	**444**	**474**	**418**

Source: Dilworth, Fargo, Moorhead, and West Fargo Police Departments

Bicycle and Pedestrian Conflicts with Motorists

Bicycling and walking are fun activities. They contribute to physically fit lifestyles, and increase individual mobility. However, these activities can also lead to serious accidents and injury. Developing a good understanding of the nature of bicycle and pedestrian accidents require detailed information on the number, location, and severity. To obtain this information for the F-M metropolitan area, COG staff contacted local police departments and State DOTs. It should be noted

that the reporting agencies had limited information regarding bicycle and pedestrian accident statistics, which is not unusual. Unless an incident involves a motor vehicle or an injury to the bicyclist or pedestrian, accidents typically go unreported.

Priority consideration must be given to those conflict areas which report a high incident of accidents. It is recommended that further research be conducted at several such locations, and improvements be planned in an effort to make conditions along these transportation corridors safer for bicycle and pedestrian travel. As future roadway improvements are planned for these corridors, it is imperative that attention be given to bicycle and pedestrian facility design in order to accommodate the special needs of bicyclists and walkers. In turn, these improvements should become part of the area's overall plan to promote enhanced bicycle and pedestrian safety.
Enhanced methods for collecting and processing accident information would contribute towards an improved understanding of the major causes and locations of bicycle and pedestrian crashes. A greater knowledge of these areas would enable local governments, schools, or service organizations to design appropriate educational programs. Additionally, local governments could make plans for improvements to sidewalks, multi use paths, and other bicycle and pedestrian facilities where a high incident of accidents is reported. In the absence of local data, it may be helpful to refer to other research in order to gain a better understanding of these accidents.

Bicycle and Automobile Conflicts

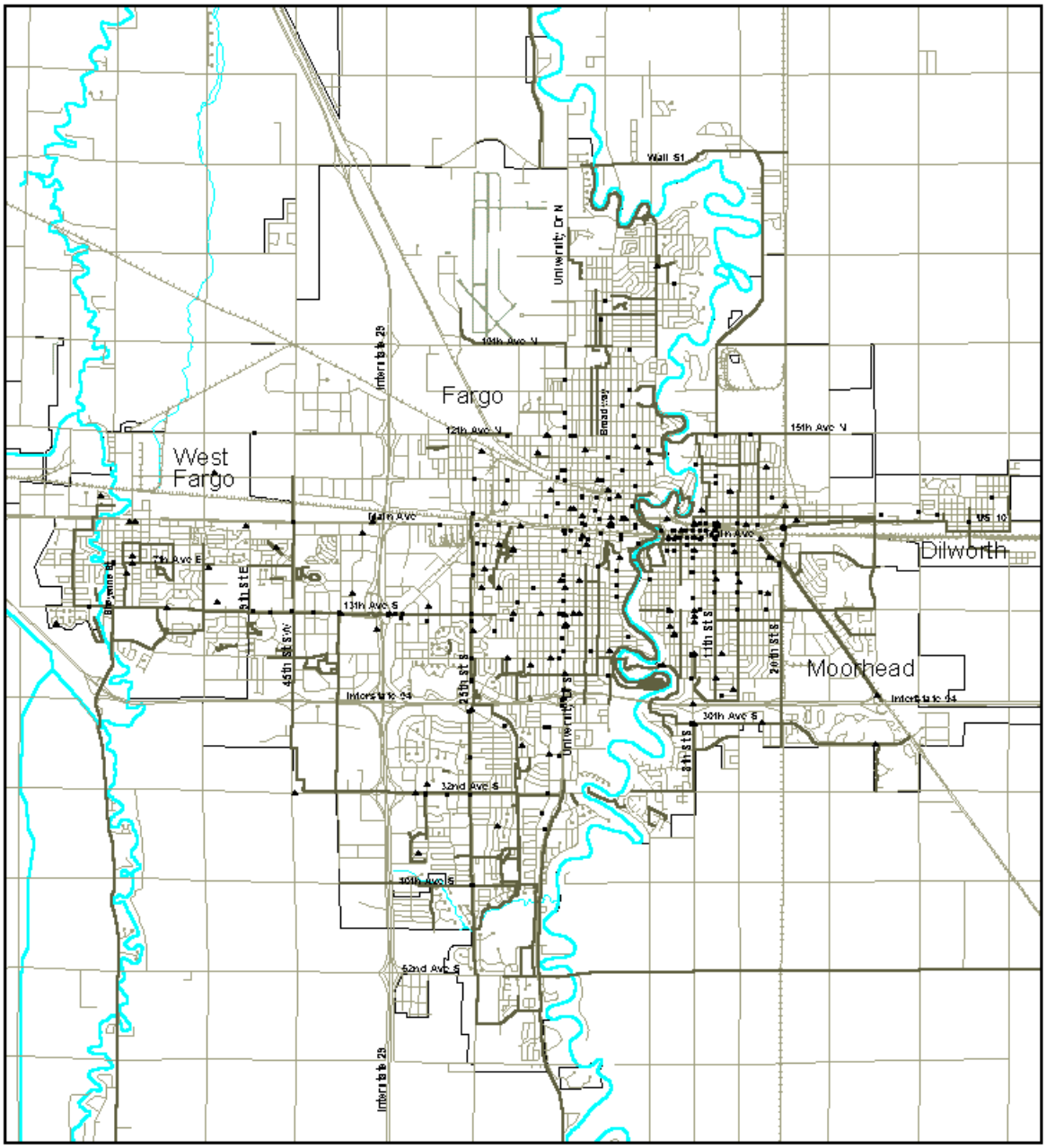
Table 8 provides a jurisdictional breakdown of the bicycle / automobile conflict data for the years 1997 to 1999. As shown, the number of bicycle and pedestrian crashes in the Fargo-Moorhead metropolitan area has decreased from 173 in 1996 to 63 in 1999. While there was no direct relationship to where these crashes happened within the metropolitan area, roughly 33 percent of bicycle and automobile conflicts occurred along principal arterials, 45 percent on minor arterials, 8 percent happened on collectors, and the remaining 14 percent occur on local streets and in parking lots. A map illustrating specific crash locations is shown in Figure 6.

Table 8
Bicycle/Automobile Crashes by Jurisdiction

Jurisdiction	Year			Total
	1997	1998	1999	
Dilworth	1	0	2	3
Fargo	118	98	54	270
Moorhead	9	11	6	26
West Fargo	2	0	1	3
Total	**130**	**109**	**63**	**302**

Source: MNDOT and NDDOT

Figure 6
1995-1999 Bicycles & Pedestrians Conflict Points



Bicycle and Pedestrian Crash Incidents

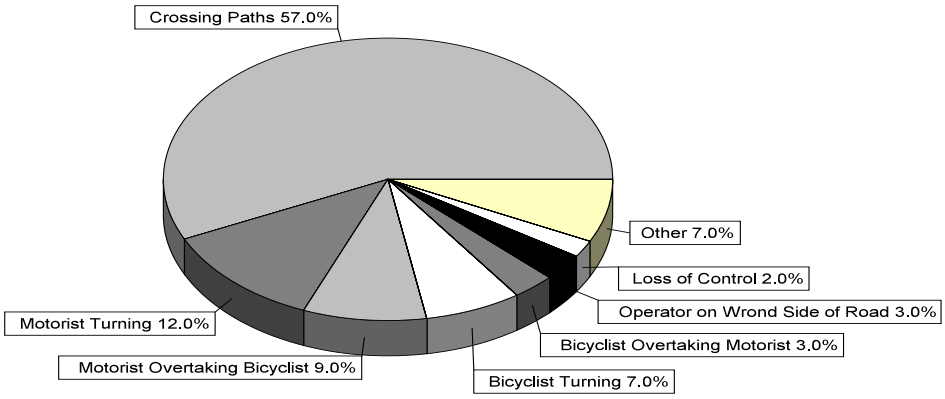
- ● Conflict Points Involving Bicycles
- ▲ Conflict Points Involving Pedestrians

Map Features

- Bikeway Network
- Urbanized Areas
- Streets & Highways
- Railroad Tracks
- Rivers & Diversion
- Streams

According to the National Center for Statistics & Analysis, the average bicycle fatalities per million population in the United States was 2.8 fatalities in 1998. Minnesota and North Dakota fell under this national average at 1.9 and 0.0 fatalities per million population, respectively. Only one bicycle fatality has occurred in the metropolitan area in the last five years.

Figure 7
Bicycle/Automobile Crash Types



Source: Pedestrian and Bicycle Crash Types of the Early 1990s (Washington D.C: U.S. Department of Transportation, Federal Highway Administration, 1996)

Figure 7 shows extensive analysis of the most common bicycle and automobile crash types. These national studies concluded that the highest frequency of accidents occurred when the bicyclist and the motorist were crossing paths. Studies indicate the bicyclist to be at fault in 50 percent of the crashes, motorists in 28 percent, and both in 14 percent. AASHTO and USDOT both recognize that a well-designed roadway system should integrate bicycles and motor vehicles according to the principles of traffic law and engineering rather than separating them. The goal of integration can be promoted with this research and educational programs such as the "Effective Cycling Program" which can provide information on improving bicycling skills and motorist awareness.

Pedestrian and Automobile Conflicts

Table 9 provides a jurisdictional breakdown of the pedestrian and automobile conflict data for the years 1997 to 1999. A map illustrating specific accident locations is shown in Figure 8. Roughly 25 percent of the pedestrian and automobile crashes occurred along principal arterials, 29 percent on minor arterials, 19 percent happened on collectors, and the remaining 27 percent occur on local streets and in parking lots. According to the National Center for Statistics & Analysis, the average pedestrian fatalities per million population in the United

States was 2.0 fatalities in 1997. Minnesota and North Dakota fell under this national average at 1.2 and 0.8 fatalities per million population, respectively.

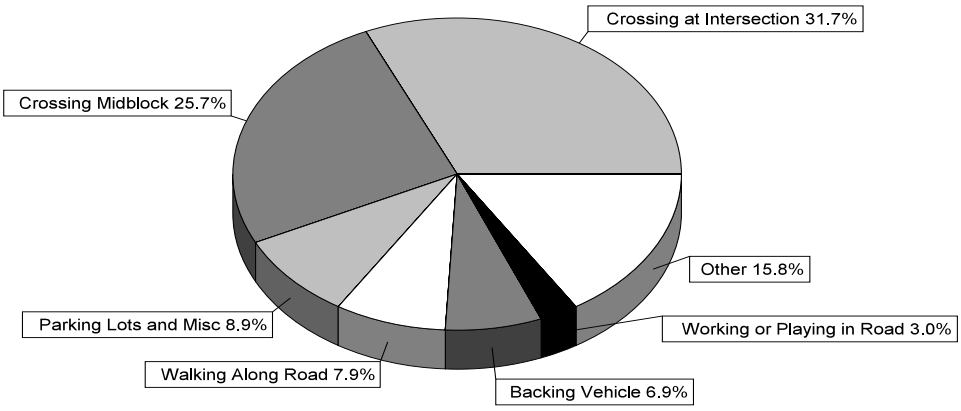
Table 9
Pedestrian/Automobile Crashes by Jurisdiction

Jurisdiction	Year			Total
	1997	1998	1999	
Dilworth	0	0	0	0
Fargo	12	18	10	40
Moorhead	9	9	1	19
West Fargo	1	5	7	13
Total	**22**	**32**	**18**	**72**

Source: MNDOT and NDDOT

Figure 8 shows pedestrian/automobile crash types. Fifty-eight percent of these crashes occur at an when a pedestrian is crossing an intersection or crossing at midblock. Studies indicate the pedestrian is at fault 43 percent of the time, motorist are at fault 35 percent of the time, and both are at fault 13 percent of the time.

Figure 8
Pedestrian/Automobile Crash Types



Source: Pedestrian and Bicycle Crash Types of the Early 1990s (Washington D.C: U.S. Department of Transportation, Federal Highway Administration, 1996)

Bicycle and Pedestrian Violations

Bicyclists and pedestrians violating local traffic laws pose a potential threat to the bicycling and walking environment. Those failing to practice lawful, responsible bicycling and walking not only create unsafe conditions for themselves but adversely affect those around them. Violators are not the only persons that are potentially affected. Motorists and other users of the bikeways, sidewalks, and trails can create unsafe conditions. Therefore, enforcement and education programs are needed that deal effectively with all of the various users of the system, to encourage them to obey the State statutes and City ordinances which are provided in Appendix III.

Currently, the City of West Fargo is the only jurisdiction which tickets violators of bicycle laws. From 1997 to 1999, the West Fargo Police Department gave out twenty-four tickets for bicyclist violations. Similar to bicycle crash data, there is very limited information on the number of violations that are perpetrated each year, and information concerning these violations often goes unreported. For the most part, violators are issued warnings if they are caught; and rarely, if ever, are fines imposed, as local law enforcement agencies are typically not organized to deal with non-law abiding bicyclists. The Moorhead Police Department is in the process of creating an educational program for bicyclists who violate city ordinances, instead of issuing tickets for those offenses.

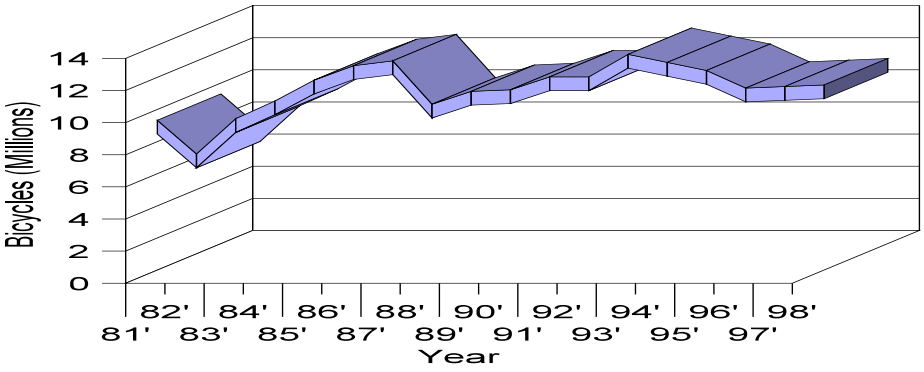
The ordinances for use of rollerblades varies by jurisdiction. The Cities of West Fargo and Fargo do not allow them use on the roadway. Fargo includes additional limitations including no riding in the skyways or within the central business district. The City of Moorhead allows rollerblade use upon its roadways. No ordinances exist for rollerblade use within the City of Dilworth.

Sales Figures

The National Bicycle Dealers Association estimates bicycle sales within the United States at $5 billion, with the inclusion of related parts and accessories. The two channels of distribution are specialty retailers and mass merchant. Specialty shops comprise of 30 percent of total unit bicycle sales and annual sales around $450,000,000 half of which is from the sale of parts, accessories, and services. Approximately 60 percent of mass merchant bicycles are produced in the United States, while only 20 percent of specialty bicycles are made in the United States. Although, 100 brands of specialty bicycles are made in the United States, and about 6800 bicycle dealerships exist nationwide. Figure 9 shows the number of bicycles sold within the United States from 1981 to 1998. The highest number of bicycle sales was recorded in 1973 when sales reached over 15.2 million.

In the Fargo-Moorhead metropolitan area, bicycle specialty stores estimate joint revenues of $2.1 million per year. Half of the revenues at these specialty stores come from bicycle service and accessory sales. Of bicycle sales, specialty stores estimate 80% are mountain bikes, 15% cross-training bikes, and 5% racing bikes. Total sales of bicycles, including specialty stores and mass market stores are above 15,000 bicycles per year, with total sales well over $4 million.

Figure 9
National Bicycle Sales



Source: Bicycle Manufacturers Association

Maintenance

Maintenance is essential for ensuring user safety and in encouraging increased use of the metropolitan bicycle and pedestrian networks. This is particularly the case along corridors exhibiting a high level of bicycle and pedestrian use, and those that primarily serve a transportation function. Maintenance includes repairs made to the surface of the bicycle or pedestrian facilities, tree trimming, snow removal, and sweeping.

Repairs made to the surface of the bicycle or pedestrian facility includes using bicycle friendly drainage grates, raising manhole covers during overlays, and patching defects. Parallel-bar drainage grates can trap a bicyclist's wheel, causing a serious safety hazard. Many different types of drainage grates exist which are friendly to the bicyclist. When overlays are done along the roadway surface, these drainage grates along with manhole covers should be raised to be even with the surface. In addition, overlays should continue all the way to the curb so a lip is not created. Deteriorating or uneven surfaces should be replaces on both the roadway and on sidewalks. When these corrections are made, edges of any patching should be smooth in order to create a safe condition.

Overhanging trees and hedges encroaching the sidewalk or path can make walking and bicycling uncomfortable and unsafe. The Cities are responsible for trimming trees located in the medians and easements in all four jurisdictions, while property owners are responsible for trees on their property. Snow removal varies with the type of facility. For the most part, the on-street facilities receive snow removal concurrently with the maintenance activities planned for the roadway. Snow removal on the existing shared use paths is dealt differently by all four jurisdictions. In cases where the path was designed as a transportation route, snow removal is pertinent. On paths which were designed for recreation use, some facilities are groomed for winter recreational activities.

The City of West Fargo Street Department contracts snow removal on shared use paths along streets and sidewalks to which they are responsible. The West Fargo Park District grooms all shared use paths within parks for cross-country skiing.

Snow removal on sidewalks and shared use paths within the City of Fargo is completed by the Street Department, Park District, and School District. In 1996, the City created a map noting the snow removal responsibility areas. Snow is removed on shared use paths which are located along the roadway network or are of high use for pedestrian travel, such as school routes. Areas in Rose Creek, Edgewood Park, Prairiewood, and near the Red River are groomed for cross-country skiing during years with significant snowfall.

The City of Moorhead Park and Recreation Department is responsible for snow removal on shared use paths. The Parks Department grooms all paths in River Oaks, M.B. Johnson Park, Gooseberry Park, and Woodlawn Park for cross-country skiing, and removes snow from all other paths within the City except in the Allison Development where concerns have been raised about equipment harming residential property. In the winter of 2000-2001, the Park and Recreation Department is planning to remove snow from the shared use paths in Vikingship Park, and groom a cross-country route near the path. This will continue in future years, if it proves successful.

The City of Dilworth does not remove snow or groom any of their shared use paths.

Debris collects on the side of the road as traffic passes, making street sweeping essential for the safety of bicyclists. Each of the local jurisdictions have different programs for sweeping. All the local jurisdictions own sweeping equipment. The City of Moorhead has the most extensive program, sweeping all streets within the City limits weekly and areas downtown are cleaned twice per week. The Cities of West Fargo, Fargo, and Dilworth run street sweeper continually starting early spring and ending late into the fall.

Safe Route to School Maps

In 1962, the Institute of Traffic Engineers created *A Program for School Crossing Protection*. A part of this Program advised the creation of safe to school route maps as a means of assisting parent to the safest routes for their children to walk to school. Safe to school routes are designed so that children cross a minimum number of major streets, and have maximum advantage and protection offered by existing traffic controls. In some cases, children may be required to walk longer distances to avoid hazardous locations, or to make use of existing safety control measures.

The routes are given to each school to be distributed 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 to school route 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 a 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. Parents should keep the map and go over it will the child from a few times during the school year.

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 pedestrian, and require adjustments in the recommended walking routes. The City of Fargo is currently revising routes to all the elementary schools within its jurisdiction. F-M COG revised the safe route to school maps for West Fargo elementary schools in 1999. The City of Moorhead created maps in 1991 as part of a school crossing study. In Moorhead all children, with the exception of those living within two blocks from the school, may take the bus to school.

Transit

The combined use of transit and walking is an obvious combination for transportation. Continually linked pedestrian facilities are necessary to link neighborhoods to transit routes. The working relationship between transit, public works, and the engineering departments is important in order to create a network which safe and effective for transit riders. In addition, select locations should have shelters to protect transit riders from the elements. Twenty-one shelters are located within Moorhead and twenty-five within the City of Fargo. Shelters along with other transportation facilities are listed as a "★" on Figure 2.

In recent years, Fargo and Moorhead Metro Area Transit Systems (MAT) have added bicycle racks to buses to give bicycle/transit riders another option. Each bicycle rack can accommodate two bicycles. A free permit must be obtained at the Ground Transportation Center to use this system. At the time of obtaining the permit, a MAT staff member trains riders on the appropriate method of using the rack. In addition, information on joining these uses is included in brochures published by MAT. In 1999, Moorhead reported 185 uses of the bicycle racks. With the added promotions, this number increased to 438 in 2000. Fargo does not keep records of bicycle rack usage.

Police Involvement and Security

Both the City of Moorhead and Fargo have police patrols, and have found their use cost effective. Officers report having a high rate of success because they can often ride up to the scene of the crime without being seen. In addition, officers on bicycles are in closer contact with residents, increasing public relations. The visibility of bicycle patrols also helps encourage bicycle use. Personnel within the police department are exposed to the special needs of bicyclists. In 1999, bicycle patrols in Moorhead responded to about 180 calls and cited over 100 other incidents. In addition, just under 4000 contacts with residents were reported. Bicycle patrols from the Fargo Police Department made 21 arrest, and gave 83 citation that same year.

In addition, police departments further enhance bicycling within the metropolitan area by holding bicycle rodeos, giving safety talks within the elementary schools, initiating block parties, offering rewards to children using helmets, and donating bicycle helmets. The Moorhead Police Department gave away 220 helmets in 1999.

The Fargo Park Board promotes the level of safety of its paths by offering additional security. Currently, the Park District hires off-duty police officers to patrol the downtown parks and the shared use path along the Red River Corridor. This program runs throughout the recreational riding season.

Chapter Four

Existing Bicycle and Pedestrian Network

In the summer of 2000, Metro COG used a global positioning unit to map the entire metropolitan bicycle and pedestrian network. In addition, a complete inventory of sidewalks along the functional classification system was inventoried using aerial photographs. This chapter provides a description of bicycle and pedestrian facilities and an overview of the findings of these inventories.

Bicycle Facility Types

The descriptions below provide an overview of each facility type and general purpose. Definitions are intended to establish consistency in the interpretation of the three bicycle facility types.

Shared Use Path: A bicycle and pedestrian facility which is physically separated from motorized vehicular traffic by an open space or barrier. Shared use paths can provide recreational opportunities or, in some cases, can serve as a direct commute route if cross flow by motor vehicles is minimized.

Bicycle Lane: A bicycle facility in which a portion of the roadway has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists. Bicycle lanes are intended to delineate the right of way assigned to bicyclists and motorists and to provide for more predictable movements by each.

Shared Roadway: A bicycle facility on a roadway which is open to both bicycle and motor vehicle travel. This may be an existing roadway, street with wide curb lanes, or road with paved shoulders. Signage of shared roadways indicate to bicyclists that particular advantages exist in using these routes compared with alternative routes.

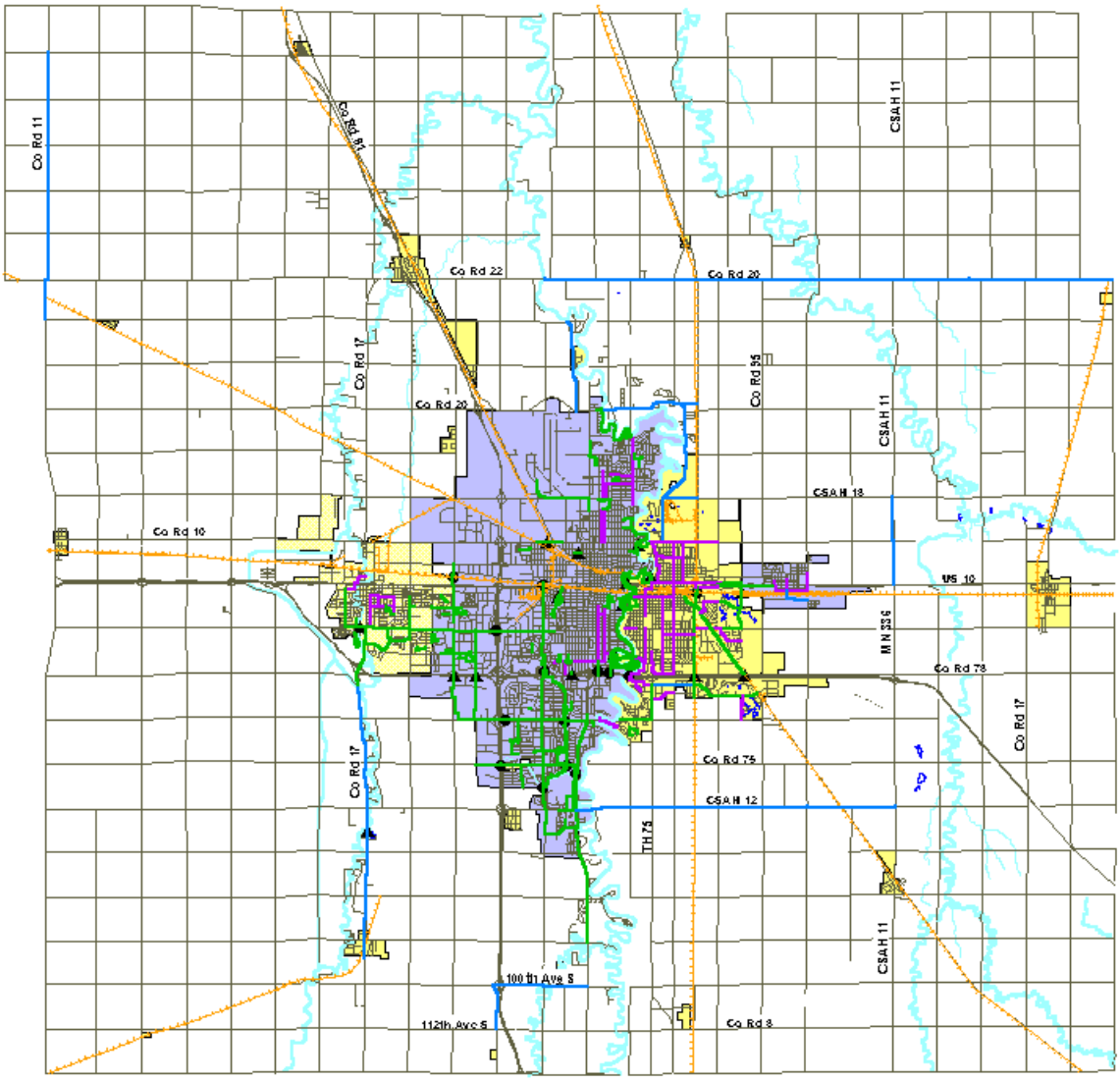
Extraterritorial Bicycle Network

Extraterritorial routes provide opportunities for persons bicycling outside the Fargo-Moorhead urbanized area, and serve important linkages from the metropolitan bicycle network to state or national bicycle routes. Figure 10 is a map depicting the Fargo-Moorhead extraterritorial bicycle network. This system currently consists solely of bicycle lanes, and may be more desirable to certain riders, such as Class A bicyclists, than others. Clay County and Cass County currently contain 34.4 miles of bicycle lane, respectively.

Existing Metropolitan Bicycle and Pedestrian Network

The existing metropolitan bicycling and walking network, consisting of shared use paths, bicycle lanes, and shared roadways, is presented on Figure 11 and 12. Table 10 categorizes the bicycle network by facility type. The network contains about 122 miles of bicycle routes, 54 percent of

Figure 10
Bicycle & Pedestrian Network
F-M Metropolitan and Extraterritorial Areas



Existing Bicycle & Pedestrian Facilities

- Shared Use Path
- Bicycle Lane
- Shared Roadway
- Bicycle Tunnel
- Bicycle Bridge

0 0.5 1 1.5 2 Miles

Map Features

- Urbanized Areas
- Streets & Highways
- Railroad Tracks
- Rivers & Diversion
- Streams
- Lakes & Ponds

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Figure 11
Existing Bicycle & Pedestrian Network - Fargo & West Fargo

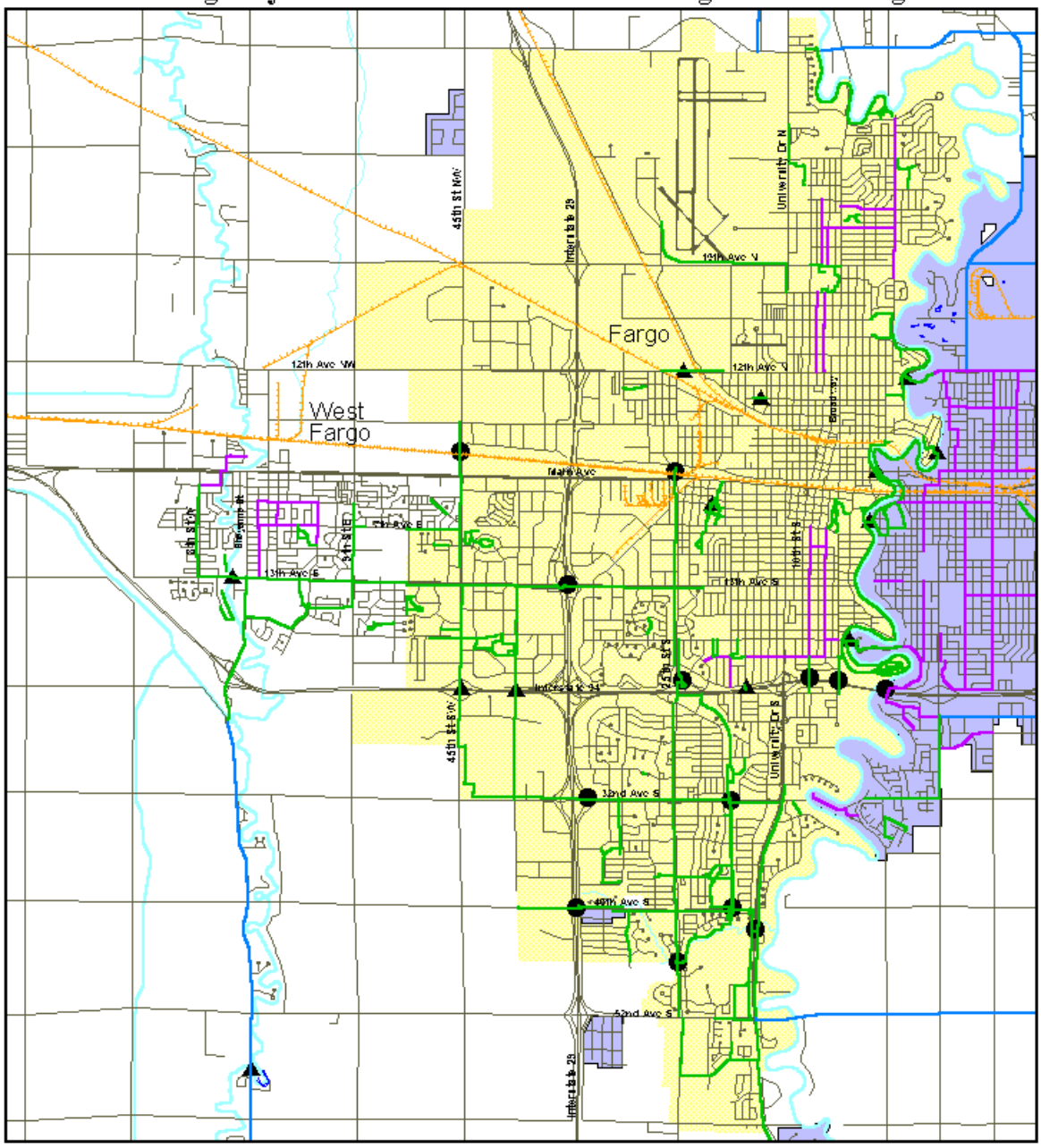
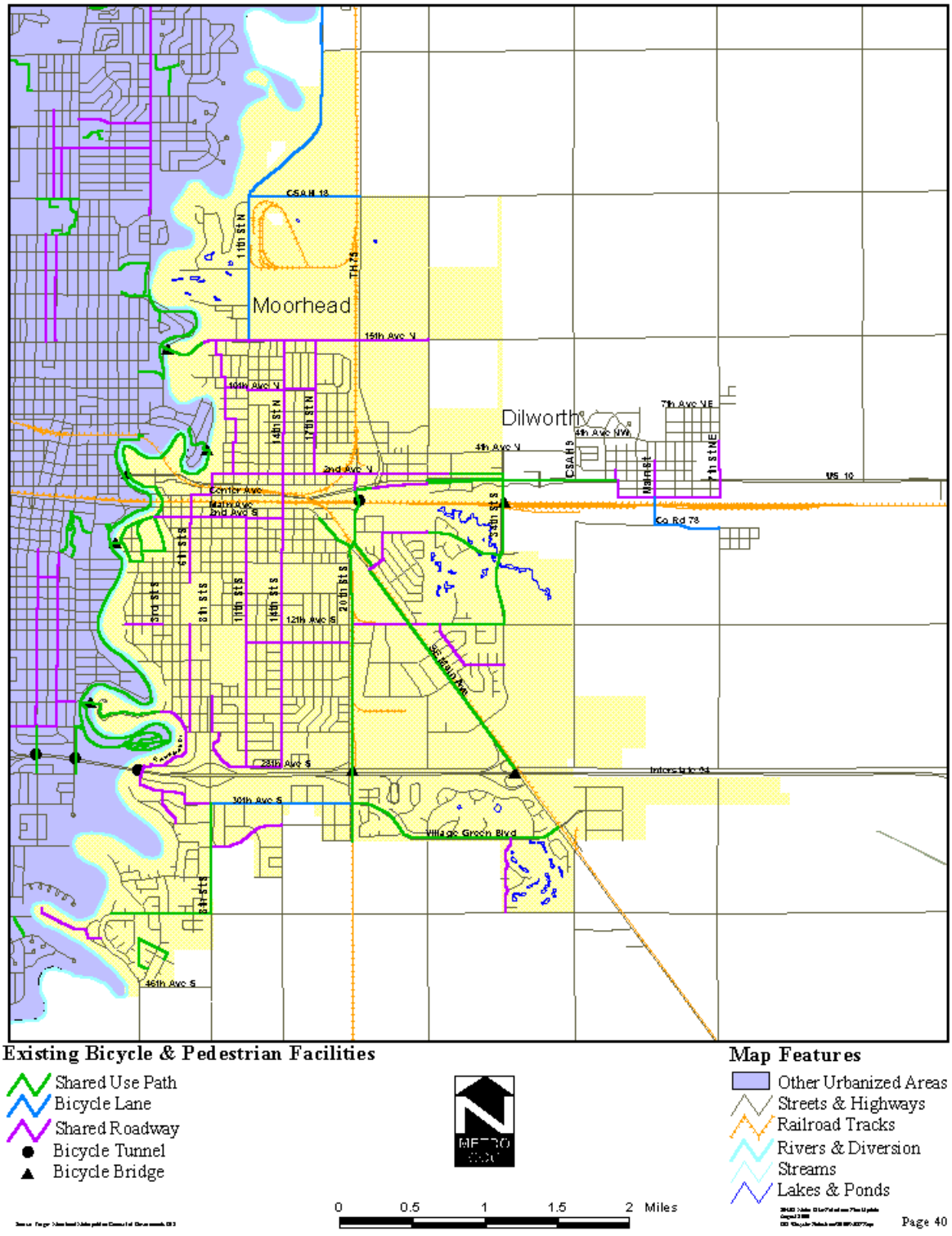


Figure 12
Existing Bicycle & Pedestrian Network - Moorhead & Dilworth



which are located in Fargo. Moorhead, West Fargo, Dilworth contain 33.8, 9.4, and 3.0 percent, respectively. The bicycle network has doubled since the reported 60 miles which was documented in 1995. Most of the growth is due to the expansion of shared use paths, with an increase of over 40 miles; followed by a 14 mile increase in shared roadway. Moorhead saw the largest percentage increase to their network with an increase of 136 percent for all three types of facilities. Shared use paths, shared roadways, and bicycle lanes make up 64.5, 27.9, and 7.6 percent of the metropolitan network, respectively.

Table 10
Existing Bicycle Network by Facility Type (Miles)

Facility	Jurisdiction				Total	Percentage
	Dilworth	Fargo	Moorhead	West Fargo		
Shared Use Path	1.6	53.4	15.6	8.2	78.8	64.5%
Bicycle Lane	0.6	3.4	5.3	0.0	9.3	7.6%
Shared Roadway	1.5	9.0	20.4	3.2	34.1	27.9%
Total	3.7	65.8	41.3	11.4	122.2	100.0%
Percentage	3.0%	53.8%	33.8%	9.4%		

Source: Metro COG 2000

Existing Sidewalks Along the Functional Classification System

Residents of the Fargo-Moorhead metropolitan area are fortunate that a majority of City streets have sidewalks on at least one side. This is especially true in the residential portions of the metropolitan area. The local policies and requirements relative to sidewalks were summarized by Metro COG in 1996 in the *Metropolitan Sidewalk Ordinance Review*. Table 11 lists these sidewalk width requirements, as established by local governments and federal law.

Each of the Cities in the metropolitan area have policies providing continuously linked walkways that encourage walking as an alternative means of transportation. Missing system links force pedestrians onto the street or to cross the street at unmarked locations especially during the winter and in times of precipitation. Using aerial photographs, Metro COG staff inventoried sidewalks along the functional classification roadway system. This inventory is shown in Figure 13. Noting missing links in the network, and eliminating these gaps can assist local jurisdictions to create a safe pedestrian network and a more livable community.

The Americans with Disabilities Act of 1990 prohibits public entities from designing new facilities or altering existing facilities, including sidewalks and trails, that are not accessible to people with disabilities. Currently, the City of Fargo has set aside $100,000 per year to bring all their sidewalks up to ADA standards by rehabilitating crosswalks with red concrete curb cuts. The City of Dilworth sets aside about $2000 per year to install curb cuts. The Cities of Moorhead and West Fargo replace sidewalks on a request basis to provide accessibility for handicapped individuals, or in conjunction with street reconstruction and new construction projects.

Table 11
Metropolitan Sidewalk Width Standards

Jurisdiction	Width	
Fargo	Residential	Minimum of 4.5 feet is required, and no sidewalks will be reconstructed with a width less than that existing prior to reconstruction.
	Commercial	Minimum of 4.5 feet is required, and no sidewalks will be reconstructed with a width less than that existing prior to reconstruction.
West Fargo	Residential	Minimum of 4.0 feet is required.
	Commercial	Minimum of 6.0 feet is required.
Moorhead	Residential	Minimum of 4.5 feet is required.
	Commercial	Minimum of 4.5 feet is required.
ADA	Residential	Minimum of 3.0 feet is required, with passing area 5.0 feet in width every 200 feet.
	Commercial	Minimum of 3.0 feet is required, with passing area 5.0 feet in width every 200 feet.
Other Cities	Residential	Minimum of 4.0 feet is required, 5.0 feet is required by many jurisdictions.
	Commercial	Between 5.0 to 8.0 feet is required.

Source: Metropolitan Sidewalk Ordinance Review (Metro COG 1996)

Figure 13
Existing Sidewalks in the Functional Class System - Fargo & West Fargo

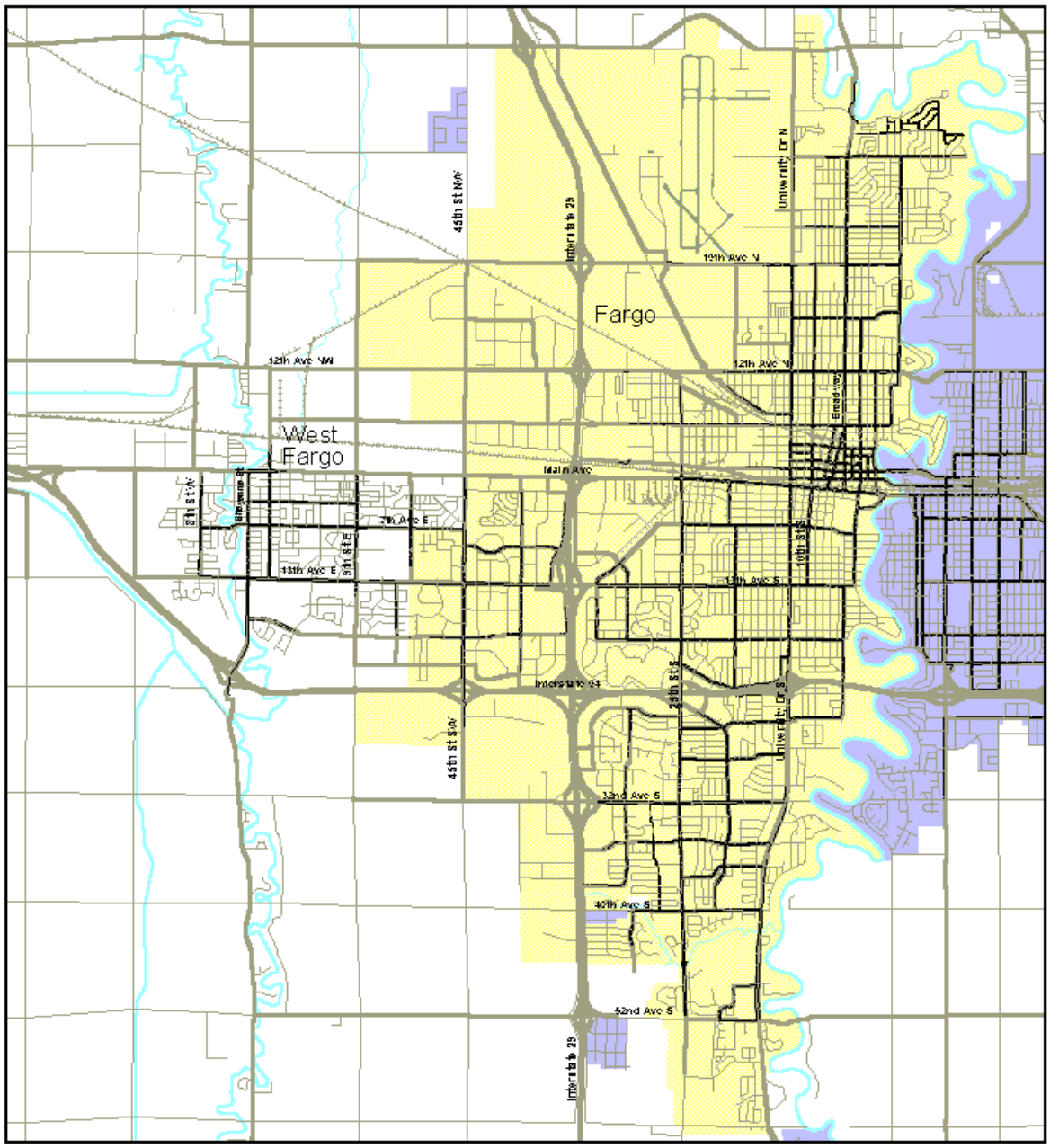
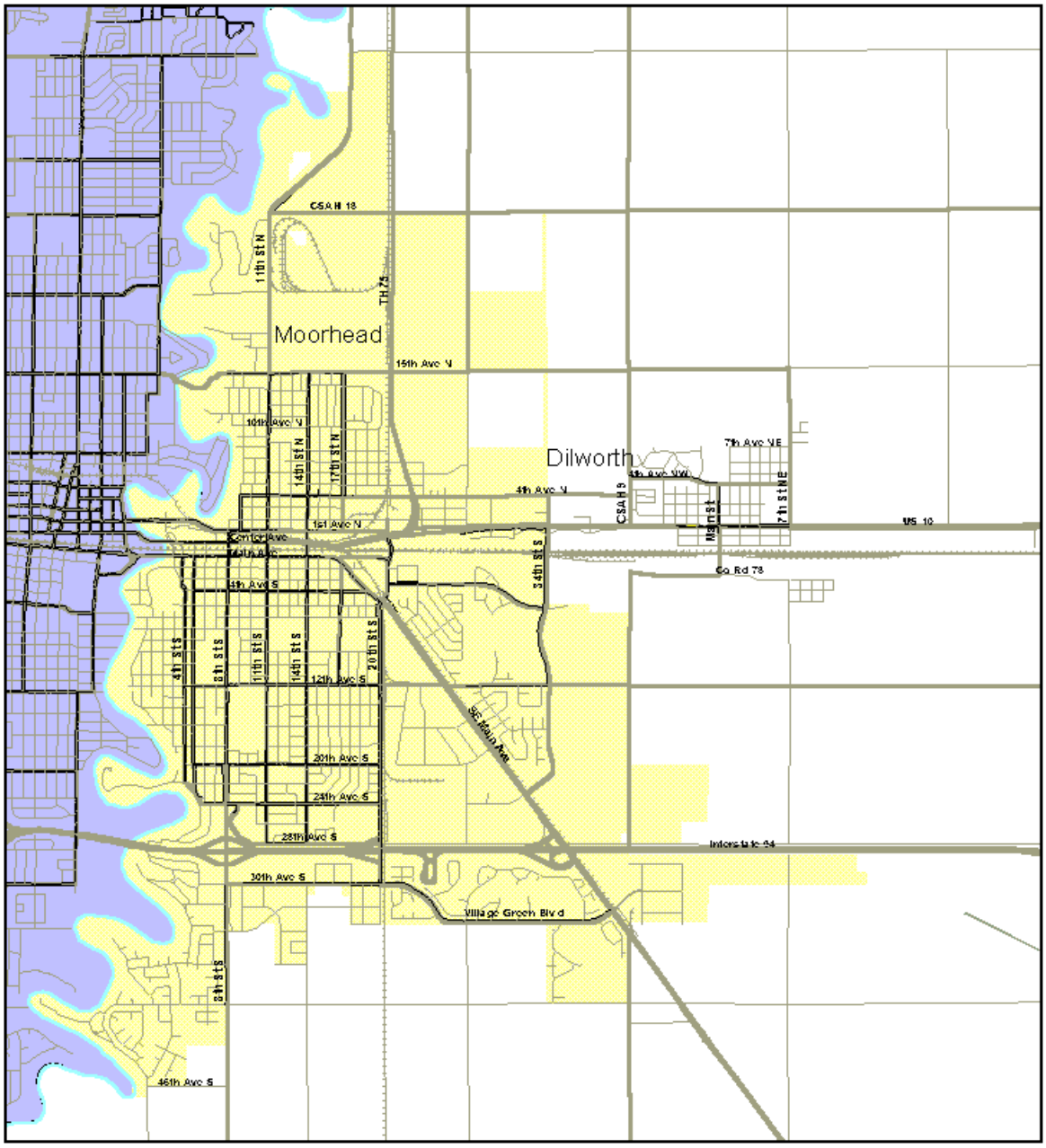


Figure 14
Existing Sidewalk on the Funcional Class System - Moorhead & Dilworth



Chapter Five

Bicycle and Pedestrian Issues and Needs

This chapter provides a review of issues and needs concerning bicycling and walking in the F-M metropolitan area. The issues and concerns were developed as a result of citizen input received during a public meeting held on March 9, 2000, and from information generated by members of the Metropolitan Bicycle and Pedestrian Committee, the Transportation Technical Committee, and Metro COG's Policy Board. A complete list of the comments received at the public meeting are shown in Appendix 1. The issues and needs were first organized into engineering and planning, education, enforcement, and encouragement categories, and then the input was used as the basis for the formulation of the goals and objectives in Chapter 2, and the strategies and actions identified later in Chapter 6 of this Plan.

Engineering and Planning

Improved efforts to integrate planning at various levels is seen as an important aspect of improving bicycle and pedestrian use in the F-M metropolitan area. In order to incorporate these alternative modes of transportation, a strong metropolitan transportation planning processes is needed. In developing new bicycle facilities, a strong desire was expressed for the use of uniform design standards and signing. Maintenance was also viewed as a crucial element in the use and safety of the bikeway network. Comments regarding engineering and planning needs include:

- Create metropolitan bikeway guidelines using the Minnesota Bicycle Transportation Planning and Design Guidelines.
- Address maintenance issues.
- Provide continuity throughout the bikeway system by extending the bike path north in Fargo, creating a path through Oak Grove, creating routes running east and west through the whole metropolitan area, creating a path along the Red River from the Moorhead Power Plant to I-94, increasing the number of footpaths across the Red River, and constructing separated bicycle/pedestrian tunnels.
- Create more direct bicycle routes than provided by the current bike paths.
- Improve and/or replace older bicycle paths when needed.
- Integrate bicycle routes into the older parts of town.
- Create bike routes downtown that are user friendly with connections to the current systems.

- Use models such as Sioux Falls, South Dakota and Eugene, Oregon in planning bicycle and pedestrian plans.
- Clearly mark and sign bike routes.
- Create bridges crossing the Red River which use manual lift mechanisms or are at a higher elevation for increase use time.
- Create a more aesthetic route by planting trees and replacing trees which are removed from areas next to the Red River.
- Remove dangers such as dips, water main valves, and other obstructions from the bike paths.
- Create intersections with pedestrian refuge areas.
- Time signals to accommodate pedestrians and bicyclists.
- Use signs limiting right turns during red lights in high pedestrian use areas.
- Include pedestrian and bicycle facilities in the construction of new corridors.
- Create safe pedestrian crossing locations on high volume corridors.
- Reduce vehicle speed along streets which have high pedestrian use.
- Create guidelines for subdivisions so landowners know future developments.
- Provide public input meetings on the design of individual bike path construction projects.
- Create an environment along the Red River which is friendly to wildlife using methods such as timing lights along bike paths.
- Create a bike route along the West Fargo Sheyenne Diversion.
- Use asphalt for bike paths instead of concrete for a more comfortable ride.
- Place drain grates properly.
- Use traffic calming techniques to create blocks designated for bicycle and residential traffic only.
- Overlay streets to the curb and raise water main covers so bicyclist do not have to negotiate rough edges.
- Add curbcuts to sidewalks.

- Design facilities with recommended curve radius.
- Prohibit parking on Class II bike routes.
- Pave shoulders along Cass County Road 22.
- Design bridges so they do not drain onto the bike paths below.

Education

A balanced bicycling program contains a strong education element. Bicyclists need to know the vehicle laws and need to develop good cycling skills to successfully co-exist safely with motorists. Education should provide bicyclists with skills and knowledge, emphasize the safety value of helmets, and feature other protective techniques. In designing educational programs, consideration should be devoted to bicyclists of all ages and skills levels. Additionally, a balanced bicycling education program should include special training for motorists. Comments regarding education include:

- Educate motorists on safe interactions with pedestrians and bicyclists.
- Add information on bicycle and pedestrians to driver's licence tests.
- Educate the public and private sector on snow removal requirements.
- Create public campaigns to educate motorists on bicycle and pedestrian needs.
- Hold more public information meetings.
- Educate the public with a program similar to the motorcycle program "Start Seeing Motorcycles."
- Use informative signing for native grass plots and trees.
- Use public service announcements to remind motorists to stop before crosswalks.
- Educate street maintenance departments on issues relating to bicycle needs.

Enforcement

Law enforcement promotes a safe bicycle and pedestrian environment. A lack of enforcement contributes to a general disregard for the laws pertaining to bicyclists and pedestrians. The reasons for inadequate enforcement of bicyclists vary from jurisdiction to jurisdiction. Common bicycling violations include running stop signs and traffic signals, riding the wrong way on a street, and riding at night without a light. Comments regarding enforcement include:

- Repeal the North Dakota side path law which makes it illegal to ride on the roadway when a Class I bike path was present.
- Enforce vehicles entering the intersection on red lights.
- Enforce pedestrian crossings.

Encouragement

By making improvements to the bicycle and pedestrian network and sponsoring activities which promote alternative transportation modes, more people will be encouraged to bicycle and walk when traveling a short distance. Comments regarding encouragement needs include:

- Encourage bicycle commuting.
- Provide for special intermodal considerations (such as bikeway linkages to bus stops, bikeway parking facilities at employment and trip generation points, etc.) in promoting bicycling activities.
- Promote activities and events to encourage people to bicycle and to understand bicycling needs.
- Provide information on the metropolitan and extraterritorial bikeway system.

Chapter Six

Plan Recommendations

This chapter makes recommendations designed to enhance the bicycle and pedestrian environment in the Fargo-Moorhead metropolitan area for the next 20 years. Using the existing bicycle and pedestrian network and after consideration of approved selection criteria, construction projects were selected within each jurisdiction. In order to determine future routes, Metro COG staff worked with local planning and engineering offices to determine where expected future development would occur. Of equal importance, non-construction bicycle and pedestrian improvement activities have been presented as future prioritized strategies and actions that are intended to address the special issues and needs of the public.

Project Selection

Performance criteria were used to determine a desirable and effective bicycle and pedestrian facility network. By applying these criteria to the existing bicycle and pedestrian network, a number of corridors were identified that provide linkages within the existing system to important trip generators and to provide access to future developments. The project selection criteria used by the Metropolitan Bicycle and Pedestrian Committee were as follows:

Directness: Facilities should connect traffic generators and be located along a direct line convenient for all three types of users. Bicyclists and walkers will use facilities which minimize travel distances or trip times. For utilitarian trips, facilities should connect trip generators and should be located along a direct line convenient for users.

Accessibility: Whenever possible, bicycle and pedestrian facilities should be located where they can provide convenient access. Accessibility is a measure of the distance a facility is from a specified trip origin and destination, the ease by which this distance can be traveled, and the extent to which all likely origins and destinations are served.

Continuity: The proposed network should minimize missing links. By eliminating gaps in the overall network, bicycle and pedestrian facilities can better serve all segments of the community. If gaps exist in the bicycle network, they should be signed well, and not include traffic environments that are unpleasant of threatening to group B/C riders, such as high-volume or high-speed motor vehicle traffic with narrow outside lanes.

Safety: The bicyclist and pedestrian's chance of confrontation with motorized and other traffic should be minimized. The following criteria can assist in design of safe bicycle and pedestrian facilities and the selection of safe on-street bicycle routes;

Grade: The grade of the road should not be higher than maximum required by AASHTO bicycle facility guidelines.

Sight Distance: Adequate sight distance should be available at unregulated intersections to avoid conflicts.
Pavement Quality: Path surfaces should be free of defects, and materials used for paving should be friendly to the user. Colored concrete and surface texture may be used in areas to assist pedestrian with total or partial vision loss.
Traffic Volumes and Speeds: Commuting bicyclists frequently use arterial streets because they minimize delay and offer continuity for trips. It is more desirable to improve heavily traveled high-speed streets than adjacent streets if adequate width is available. Otherwise a nearby parallel street may be improved for bicyclists if route conditions are adequate.
Truck Traffic: On street bicycle facilities should be avoided on routes with a large volume of truck traffic due to the aerodynamic effects and larger width of truck traffic.
Transit Routes: Although it is ideal to connect bicycle and pedestrian facilities to transit, the location of on-street bicycle routes should be placed carefully so not to create conflict with bicycle commuters and transit stops.

Comfort and Attractiveness: Bicyclists and pedestrians are more inclined to use facilities which have a comfortable and attractive route. Comfort and attractiveness include factors such as separation from motor traffic, visual aesthetics, the real or perceived threat to personal safety along the route, and the amount and level of security for bicycle parking.

Cost: The overall cost and source of funding will, to a great extent, determine the timeframe required to implement the proposed improvement. In addition, the costs of a given route must be considered within the context of the entire bicycle and pedestrian network to determine its real benefit. The decision to implement an improvement should be made with a conscience, long-term commitment to a proper level of maintenance.

Ease of Implementation: The ease or difficulty in implementing proposed changes depends on available space and existing traffic operations and patterns. The acquisition of easements and rights-of-way can also have a significant bearing on implementation. Implementation can also be influenced by timing, available funding, and social acceptability.

A number of bicycle and pedestrian network improvements were proposed by the Metropolitan Bicycle and Pedestrian Committee as a result of the technical evaluation. Based on the evaluation, Metro COG staff met with local officials of each jurisdiction to review these improvements and develop a financial strategy for implementation. No only were these improvements reviewed, but jurisdictions offered other projects to consider as part of the Plan.

According to the federal transportation rules, Metropolitan Planning Organizations are required to identify existing and projected revenue sources for projects included in their metropolitan plans. Consequently, Metro COG requested local governments to financially constrain their short-range projects by providing their anticipated revenue sources which could reasonably be expected for

implementing their list of short-range (2001-2005) projects. Projects without identified revenue sources were recommended for the Plan's long-range (2006-2020) element. The financial strategy developed by each jurisdiction for the short-range projects is presented in Chapter 7, along with more detailed discussion of the financial screening that was conducted.

The final step in recommending improvements to the metropolitan bicycle and pedestrian network involved evaluating the proposed projects according to their social acceptability. This entailed soliciting citizen comments concerning the draft Plan and its recommendations. In accomplishing this task, a public meeting was held at the Fargo City Commission Room. A public notice for this meeting was published in *The Forum*, the area's official newspaper. In addition, public notices were posted in local jurisdictional offices, and sent to citizens, interested persons, and advocacy groups. Oral and written comments were reviewed by the Metropolitan Bicycle and Pedestrian Committee for inclusion into the Plan. The comments and Committee recommendations are located in Appendix IV.

In addition to developing recommendations for the metropolitan bicycle and pedestrian network, the Committee identified strategies to assist in accomplishing the objectives listed in Chapter 2. These strategies address non-construction issues and needs which arose throughout the planning process. Like the recommended bicycle and pedestrian network, the public was provided an opportunity to review and comment on the objectives and strategies during the public review of the draft Plan.

Future Exterritorial and Metropolitan Bicycle and Pedestrian Network

The recommended extraterritorial bicycle and pedestrian network is presented in Figure 15. The map provides recommendations to connect the Fargo-Moorhead urbanized area with other cities within the metropolitan planning study area. In addition, the network also makes it possible for users to connect with national and state routes and attractions such as Buffalo State Park. The future extraterritorial bicycle network adds over 130 miles of bicycle lanes over the next 20 years.

Figures 16 and 17 present the future bicycle and pedestrian network within the metropolitan urban area. Most of the future growth is expect to the south and west of the metropolitan area. The Fargo Planning Department is anticipating greenways throughout its southwest and north developments. Moorhead has park property to the south and east which will be linked to their current bicycle network. The West Fargo Park Board is currently in the process of updating its master plan. This Plan will incorporate areas of park land to the south of the City which will need connections to the metropolitan network when developed. Dilworth has anticipated future development to the north.

Appendix V contains bicycle facility design guidelines recommended by the American Association of State Highway and Transportation Officials (AASHTO.) All construction and rehabilitation projects should incorporate these guidelines into their designing process.

Figure 15
Future Bicycle & Pedestrian Network
F-M Metropolitan and Extraterritorial Areas

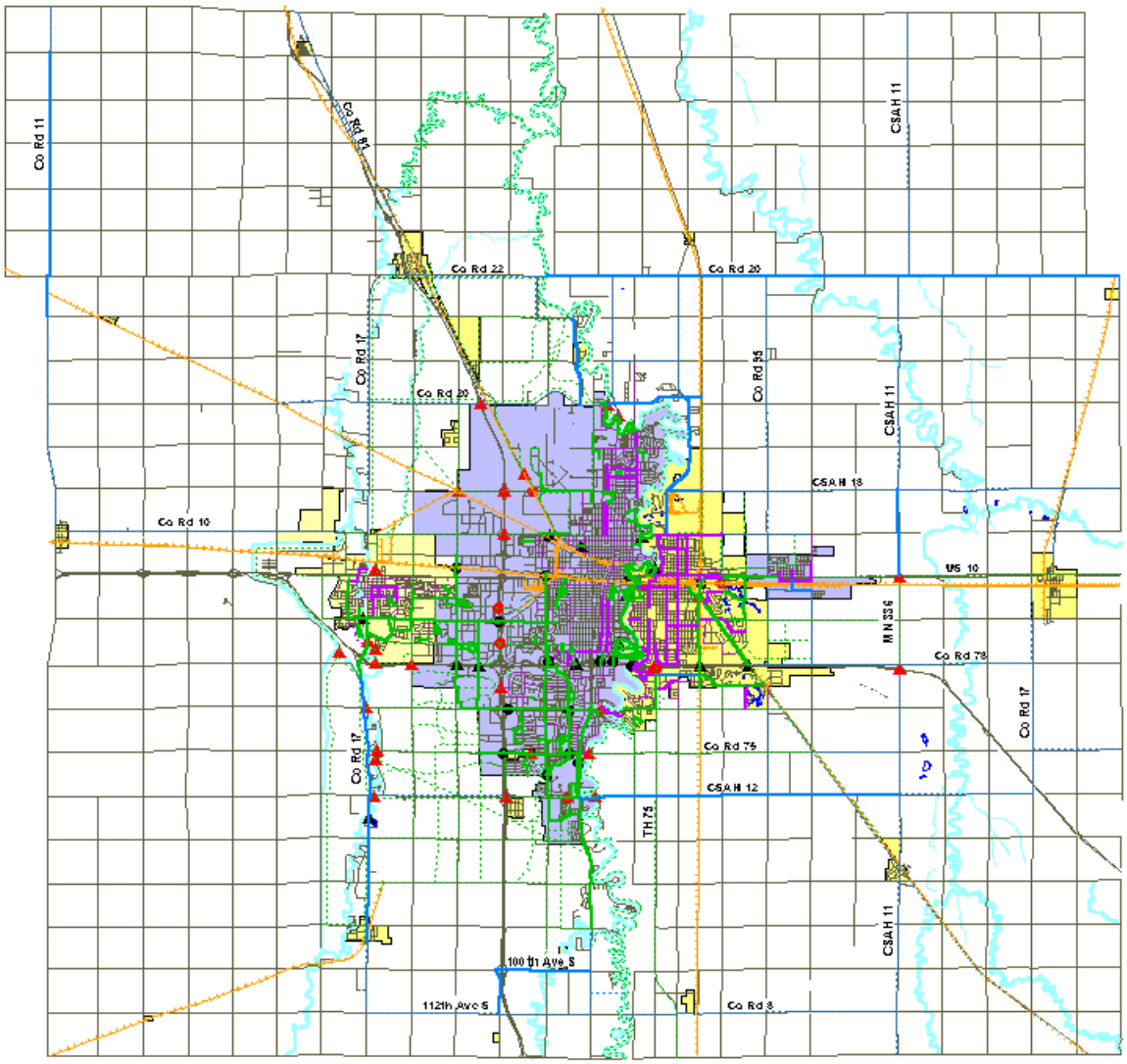


Figure 16
Future Metropolitan Bicycle & Pedestrian Network - Fargo & West Fargo

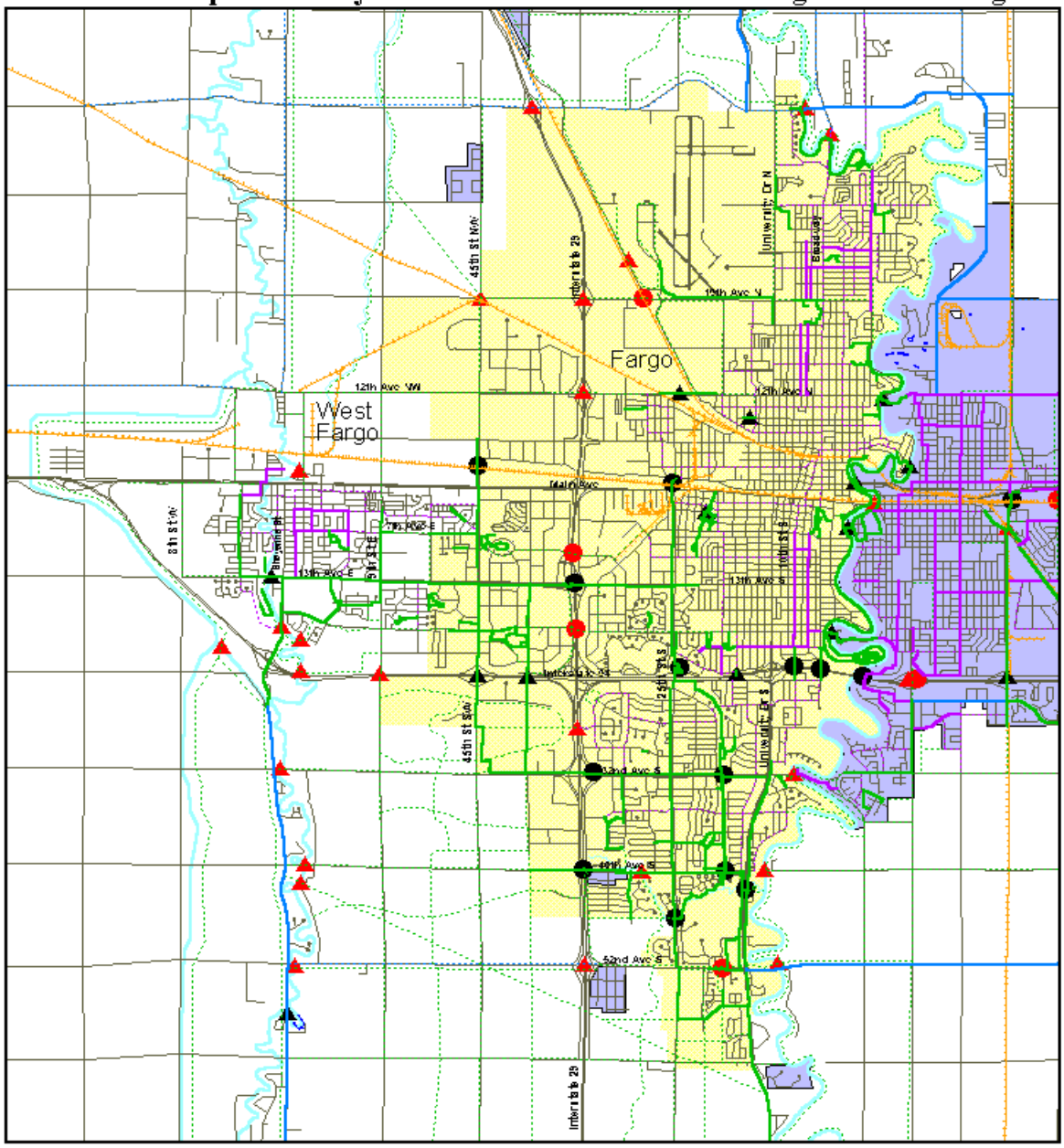
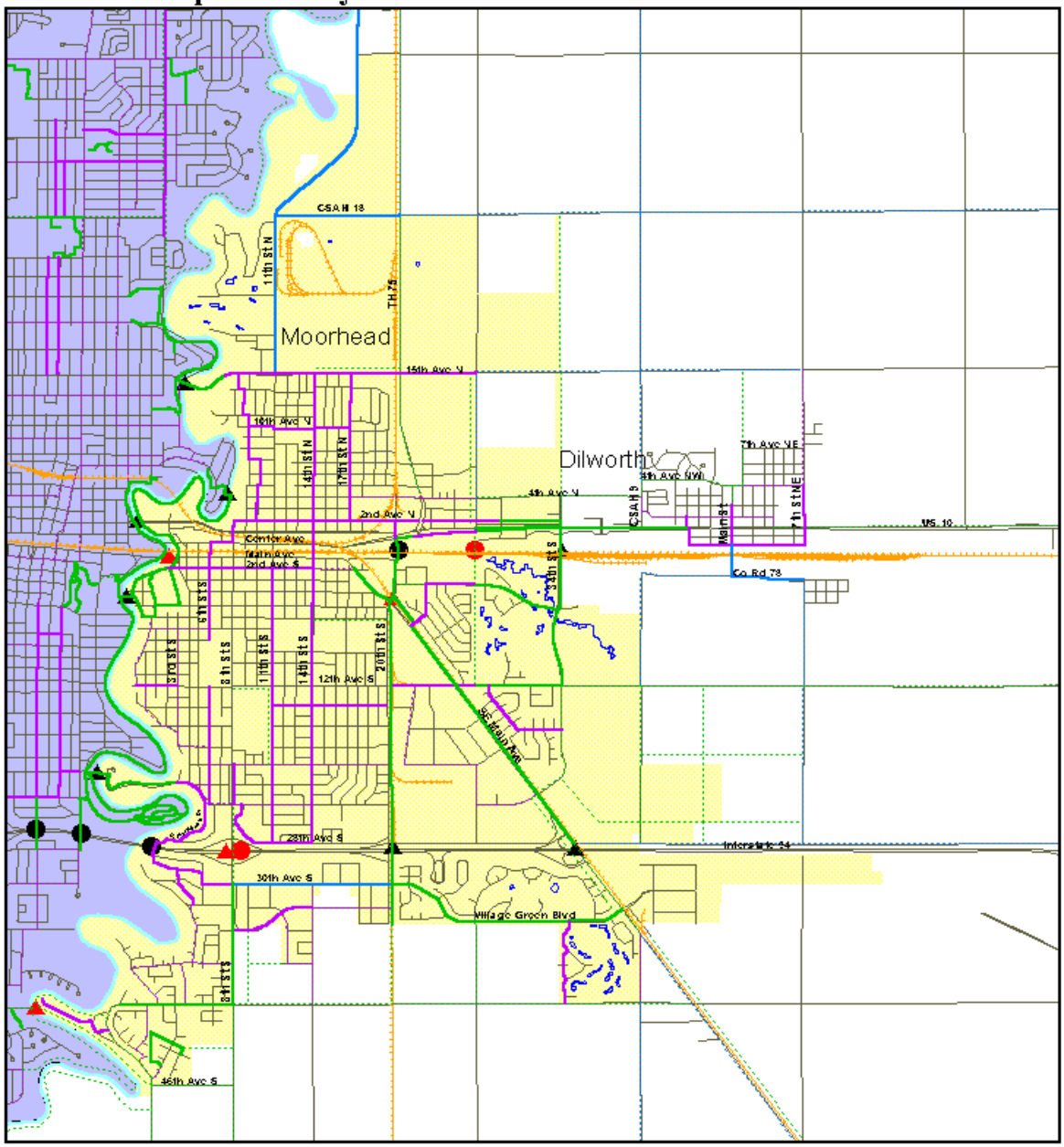


Figure 17
Future Metropolitan Bicycle & Pedestrian Network - Moorhead & Dilworth



Existing & Future Bicycle & Pedestrian Facilities

- Shared Use Path
- Bicycle Lane
- Shared Roadway
- Bicycle Tunnel
- Bicycle Bridge
- Future Shared Use Path
- Future Bicycle Lane
- Future Shared Roadway
- Future Bicycle Tunnel
- Future Bicycle Bridge

0 1 2 3 4 Miles

Map Features

- Other Urbanized Areas
- Streets & Highways
- Railroad Tracks
- Rivers & Diversion
- Streams
- Lakes & Ponds

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Signage of Shared Roadways and Bicycle Lanes

Signing shared roadways and bicycle lanes throughout the metropolitan area provides continuity, and indicates to bicyclists that there are advantages to using designated routes rather than alternative parallel routes. In addition, signing these routes creates a safer bicycling environment by warning motorists to the possibility of bicycle traffic. The Metropolitan Bicycle and Pedestrian Committee has rated the signing of shared roadways and bicycle lanes as a high priority for implementation within the next five years.

To have the greatest impact, it is imperative that the signing system be continuous and consistent throughout the whole metropolitan study area. Coordination from all local jurisdictions is necessary to create a contiguous system. Currently, the Cities of West Fargo and Dilworth have no bicycle routes signs on any of their shared roadways. The Cities of Fargo and Moorhead have signage along some shared roadways and bicycle lanes, but an analysis of their sign inventory databases will aid in locating gaps in the network. Clay and Cass Counties have not signed any roadways which they recommend for bicycle use.

Bicycle route signs direct bicyclists to the safest route to their destination. In order for bicyclists to follow the routes, signs should guide bicyclist through any directional changes in the network. Supplemental information may be added to the sign to indicate the destination of the route, distance to the destination, and direction to the destination. The sign may also include logos which indicate national routes or routes names. Recommended placement of the signs as indicated by the Manual on Uniform Traffic Control Devices is located in Appendix VI.

Signage of the proposed future bicycle network has been added to the short term future bicycle improvements for all local jurisdictions. Figures 15, 16, and 17 show future shared roadway bicycle facilities for the Cities of Dilworth, Moorhead, Fargo, and West Fargo, as well as the rural extraterritorial areas. In addition to signing the existing system, the following recommended future shared roadway bicycle facilities should also be signed;

Dilworth

- CSAH 9 from 1st Avenue North to 4th Avenue North
- 7th Street Northeast from 4th Avenue North to 15th Avenue North
- 1st Avenue North from CSAH 9 to 4th Street Northeast
- 4th Street Northeast from 1st Avenue North to Center Avenue
- 4th Avenue North from 1st Street Northeast to 7th Street Northeast

Moorhead

- 4th Avenue North from 17th Street to 28th Street
- 2nd Avenue South from 14th Street to Main Avenue
- 7th Avenue South from Elm Street to 6th Street

- 3rd Street from 7th Avenue South to 16th Avenue South
- Elm Street/River Drive from Woodlawn Park to 18th Avenue South
- 14th Avenue South from 11th Street to 20th Street
- 18th Avenue South from Elm Street to 6th Street
- 20th Avenue South from 6th Street to 20th Street
- 22nd Avenue South from Rivershore Drive to 6th Street
- 24th Avenue South from Rivershore Drive to 14th Street
- 37th Avenue South from Rivershore Drive to 8th Street
- Rivershore Drive from 32nd Avenue South to 37th Avenue South
- Rivershore Drive from 37th Avenue South to 40th Avenue South
- 4th Street from 37th Avenue South to 40th Avenue South
- 2nd Street from 40th Avenue South to Rivershore Drive
- Rivershore Drive from 2nd Street to Riverhaven Road
- Riverhaven Road from 40th Avenue South to 46th Avenue South
- 3rd Street from 45th Avenue South to Riverhaven Road
- 40th Avenue South from 8th Street to CSAH 52
- 37th Avenue South from 12th Street to 14th Street
- 12th Street from Belsly Boulevard to 37th Avenue South
- 41st Street from CSAH 52 to 40th Avenue South
- 23rd Street from 12th Avenue South to 20th Avenue South
- 20th Avenue South from 23rd Street to 28th Street
- 28th Street from 20th Avenue South to 24th Avenue South
- 24th Avenue South from 28th Street to SE Main
- Elm Street from the Red River to CSAH 93
- 14th Street from 30th Avenue South to 40th Avenue South
- Belsly Boulevard from 14th Street to 20th Street

Fargo

- Barrett Street from 19th Avenue North to Dakota Drive
- Centennial Drive from Barrett Street to 18th Street
- 10th Street from CR 20 to 37th Avenue North
- 37th Avenue North from University Drive to Broadway
- Broadway from the Red River to Island Park
- 32nd Avenue from University Drive to Eagle Street
- 1st Street from 36th Avenue North to 32nd Avenue North
- 2nd Street from 36th Avenue North to 32nd Avenue North
- 36th Avenue North from 1st Street to 2nd Street
- 2nd Street from 32nd Avenue North to 20th Avenue North
- 3rd Street from 32nd Avenue North to 9th Avenue North
- 8th Street from 32nd Avenue North to 25th Avenue North
- 25th Avenue North from University Drive to 9th Street
- 20th Avenue North from 3rd Street to 2nd Street

- Evergreen Road from 29th Avenue North to 23rd Avenue North
- 23rd Avenue North from 2nd Street to Evergreen Road
- 14th Avenue North from University Drive to El Zagel
- Dakota Drive from 12th Avenue North to 14th Street
- 8th Avenue North from 14th Street to Broadway
- 11th Avenue North from 18th Street to Elm Street
- 9th Avenue North from 3rd Street to North River Road
- North River Road from 9th Avenue North to South Terrace
- South Terrace from Elm Street to Maple Street
- 6th Avenue North from Broadway to Elm Street
- Roberts Street from 1st Street to Broadway
- 29th Street from 12th Avenue North to 8th Avenue North
- 26th Street from 11th Avenue North to 8th Avenue North
- 11th Avenue North from 26th Street to 29th Street
- 8th Avenue North from 26th Street to 29th Street
- 27th Street from 8th Avenue North to 3rd Avenue North
- 3rd Avenue North from 27th Street to 25th Street
- 24th Street from 1st Avenue North to 3rd Avenue North
- 3rd Avenue North from 24th Street to 7th Street
- 7th Street from 3rd Avenue North to 4th Avenue North
- 4th Avenue North from 7th Street North to Roberts Street
- 2nd Avenue North from 25th Street to 18th Street
- 1st Avenue North from 18th Street to Broadway
- 18th Street from 1st Avenue South to 5th Avenue South
- 17th Street from 5th Avenue South to 17th Avenue South
- 28th Street from Fiechtner Drive to 9th Avenue South
- 9th Avenue South from 28th Street to 9th Street
- 15th Street from 17th Avenue South to 20th Avenue South
- 20th Avenue South from 25th Street to 15th Street
- 18th Avenue South from 7th Street to 5th Street
- 5th Street from 21st Avenue South to 24th Avenue South
- 21st Avenue South from 5th Street to 9th Street
- 24th/25th Avenue South from 5th Street to 18th Street
- 18th Street from 25th Avenue South to 26th Avenue South
- 26th Avenue South from 11th Street to 9th Street
- 11th Street from 26th Avenue South to 30th Avenue South
- 30th Avenue South from 11th Street to University Drive
- 15th Street from 25th Avenue South to 40th Avenue South
- 35th Avenue South from 33rd Street to River Drive
- River Drive from 35th Avenue South to 40th Avenue South
- 32nd Street from 23rd Avenue South to 32nd Avenue South
- Wheatland Drive from 32nd Street to 30th Avenue South
- 30th Avenue South from Wheatland Drive to 32nd Street
- 45th Street from 13th Avenue South to 11th Avenue South

West Fargo

- 8th Street West from 13th Avenue West to Elmwood Drive
- 7th Street West from Elmwood Drive to Sheyenne Street
- Elmwood Drive from 8th Street West to 7th Street West
- 16th Street East from 13th Avenue East to 17th Avenue East
- 7th Avenue West from 8th Street West to 2nd Street West
- 7th Avenue East from 6th Street East to 9th Street East
- Morrison Street from 7th Street West to 2nd Avenue West
- 2nd Avenue West from Morrison Street to 2nd Street West
- 2nd Street West from 4th Avenue West to 1st Avenue West
- 1st Avenue from 2nd Street West to 9th Street East
- 3rd Street East from 1st Avenue East to 4th Avenue East
- 7th Street East from 1st Avenue East to 4th Avenue East
- 4th Avenue East from 6th Street East to Meadow Ridge Parkway
- 2nd Avenue East from 17th Street East to 45th Street
- 17th Street East from 2nd Avenue East to 4th Avenue East
- Meadow Ridge Parkway from 22nd Street East to 45th Street
- 6th Street East from 10th Avenue East to 13th Avenue East

As future bicycle facilities are added to the system, local jurisdictions should use the signage guidelines noted in Appendix VI to maintain system continuity.

Pedestrian Facility Improvements

In order to encourage walking as an alternative mode of transportation, pedestrian facilities should be added to all new and rehabilitated roads and intersections. Guidelines for these facilities are located in Appendix VII. The following locations are recommended for future pedestrian improvements:

- **Main Avenue in West Fargo and Fargo:** Currently the frontage roads on Main Avenue throughout West Fargo and from West Fargo to 25th Street in Fargo cause difficulty for pedestrian use. This corridor is currently being studied for reconstruction in 2002-2006, and the new design needs to accommodate pedestrian access.

- **West Acres Mall Area in Fargo:** The 1998 Metropolitan Transportation Plan included recommendations for this area to make it more pedestrian friendly. Some of the recommendations of this analysis included a skyway crossing 13th Avenue South somewhere between 38th Street and 42nd Street, and future sidewalk connections to the mall from surrounding roadways. Consideration for these improvements should be included in the I-29 and 13th Avenue South reconstruction programmed in 2002-2005.

- **University Drive and Administration Avenue in Fargo:** Multiple students at North Dakota State University use this location to cross University Drive to reach the post office and housing. Currently, a crosswalk exists, but further analysis should be done to determine whether this crossing could be made more safe for pedestrians. This project considered as a study needing additional analysis during COG's 2001-2002 UPWP development; however, other priorities did not permit its inclusion. This study should be added to COG's UPWP in 2003-2005.

- **24th Avenue South and 8th Street in Moorhead:** The recent construction of the mini mall at the corner of 24th Avenue South and 8th Street in Moorhead did not include pedestrian access. Pedestrians have difficulty maneuvering through the nine lanes of traffic which exist. In addition, the lack of pedestrian facilities at this location influence pedestrians to cross midblock across 24th Avenue South when traveling from Sunmart and the Holiday Mall. This Plan recommends this intersection be reviewed by the City of Moorhead Engineering Department in an effort to increase safety and encourage pedestrian use.

- **University Drive between 13th Avenue South and 17th Avenue South in Fargo:** The mini malls, grocery store, and other commercial facilities located on the west side of University Drive attract customers from residential areas surrounding the area. Due to the large volumes of traffic, high speeds, and five lanes along this corridor, pedestrians have difficulty crossing safely. In addition, concerns were raised at public meetings about pedestrian difficulty maneuvering across the 13th Avenue South and University Drive intersection. Possible improvements could include signal timing which is friendly to pedestrians, relocating transit pickup, pedestrian crossing signals, or a separated grade pedestrian crossing. Further analysis should be considered in the 2003-2004 FM COG Unified Planning Work Program.

- **9th Avenue South and 4th Street in Fargo:** Sight distance problems at this intersection were identified during the public input process. Ninth Avenue South is located within 150 feet from a raise in elevation of the 4th Street Corridor. This increased in grade causes sight distance problems for pedestrians and cars traveling along 9th Avenue South. In addition, a bus shelter is located on the southeast corner, causing increased safety concerns. To alleviate some of these concerns, the Fargo Metro Area Transit should consider moving this shelter to location with proper sight distance, promoting a safe location for pedestrian to cross 4th Street.

Bicycle and Pedestrian Strategies

The creation of the bicycle and pedestrian network creates many opportunities and challenges. In order to achieve the overall goals and objectives of this Plan, other key non-construction issues need to be addressed. The Metropolitan Bicycle and Pedestrian Committee created a list of non-

construction bicycle and pedestrian improvement strategies to be accomplished to reach these goals. The strategies shown in Table 12 were broken down into high, medium, and low priority. Even though implementing all of the strategies are important to create a positive bicycle and pedestrian environment, those strategies listed in the "high" category will be the focus of the Committee over the next five years.

Each year, the Committee will develop an annual action plan which will describe, in detail, the particular bicycle and pedestrian strategy to be undertaken by a member (or members). The Committee will meet on an as needed basis to advance the timely and orderly development of these strategies.

Livable Communities

Recently, a trend to create more livable communities has been initiated by many entities. The term livable communities refers to communities which use a variety of methods to increase intermodal transportation use. The increase of this use is established through creating a bicycle and pedestrian network which is coordinated and connected while still maintaining aesthetical value and an increased comfort level. Two methods of creating a more positive environment for bicycle and pedestrian use include mixing land uses and creating building which is designed to human scale.

Mixing land use refers to the placement of residential neighborhoods within close proximity to trip generators such as retail properties and schools. Decreasing the distance of the trip, promotes bicycle and pedestrian use while discouraging motor vehicle use.

Human scale design refers to creating retail location which are attractive to pedestrians. Some designs may include landscaping or placing the building near the sidewalk for easier access rather than at the back of a large parking lot.

By using these methods in new developments throughout the Fargo-Moorhead metropolitan area, bicycle and pedestrian use will be encouraged. In addition, neighborhood will experience less noise pollution and offer a higher quality of life.

Historic Bridges

According to Better Roads (November 2000), city, county, and township bridge repair and reconstruction is needed. The percentage of structurally deficient or functionally obsolete structures is 15 % and 32 % in Minnesota and North Dakota, respectively. Each year funding is set aside for the repair and reconstruction of these facilities. Opportunities exist to use some of these old structures, such as truss bridges, for bicycle and pedestrian river crossings within the metropolitan area. On recommendation is to relocate the 40th Avenue South Structure over the Sheyenne River south to provide a linkage to the future shared use path following the transmission line. The use of these old structures may lower the overall cost of the project, provide additional options for funding, and create locations with historical value.

Table 12
Bicycle and Pedestrian Objectives and Strategies

Strategy	Priority		
	High	**Medium**	**Low**
Develop an accessible, well-designed, and maintained transportation system that allows and encourages safe, convenient, and pleasant bicycle and pedestrian travel.			
Develop local standards for bicycle and pedestrian facility design.			
	• Encourage the use of AASHTO and ADA recommended guidelines in the construction of all sidewalks and bicycle facilities. *(Committee)* • Include pedestrian and bicycle facilities in corridor development. *(Committee)* • Encourage construction of sidewalks along all designated collector and arterial roadways. *(Committee)* • Work with the NDDOT to adopt a guidelines on rumble strip design similar to the MNDOT. *(Committee)*	• Review the Minnesota Bicycle Transportation Planning and Design Guidelines for possible use in the F-M metropolitan area. • Research alternatives for bridge crossings which increase usefulness. • Research safe bicycle and pedestrian railroad crossings. • Review new developments so new non-motorized barriers are not inadvertently created. • Encourage alternative pedestrian crossing designs such as refuge islands, raised intersections, and different surfaces in crosswalks. • Time signals to accommodate pedestrians and bicyclists, and review new technology for improvements in signal timing and design. • Determine inter-jurisdictional responsibility for bicycle and pedestrian design issues. *(Bob Fogel)* • Review alternative surfaces for possible use in the metropolitan area.	• Consider multi-use path designs in areas within flood zones. • Limit right turns on red lights in high use pedestrian areas. • Research improved striping materials and practices in an effort to keep crosswalks seen. • Identify bicycle friendly barriers on bike paths which also discourage motorist use.
Create a uniform bicycle and pedestrian route sign and marking system throughout the metropolitan area.			

Table 12
Bicycle and Pedestrian Objectives and Strategies

Strategy	Priority		
	High	**Medium**	**Low**
	• Use standards prescribed by the Manual of Uniform Traffic Control Devices when signing bicycle and pedestrian facilities. *(Committee)*	• Identify sources for funding the signing of bicycle facilities. *(Bob Fogel and Vic Pellerano)*	• Sign national tourism routes.
Explore alternatives to create a feeling of safety along bicycle corridors.			
	• Work with local police and park departments on trail safety. *(Vic Pellerano)*		• Explore the use of lighting along the trails, and its possible effect on wildlife. • Explore trail design which allow for the use of police vehicles. • Cutback trees and shrubs from corridors to offer a feeling of safety.
Adopt maintenance practices for bikeways and walkways to provide comfortable and safe travel.			
	• Encourage local jurisdictions to adopt a maintenance and replacement policies on bicycle paths. *(Committee)*	• Include phone numbers on the backs of signs on who to call for maintenance needs. *(Vic Pellerano and Bob Fogel)* • Educate street maintenance department staff on issues relating to bicycle and pedestrian needs.	• Encourage local jurisdictions to adopt a policy for snow removal of sidewalks along public property.
Make information on curb cuts available to the public.			
	• Provide the public information on how to request curb cuts. *(Rick Lane and Larry Weil)*	• Inform the public about locations where curb cuts will take place.	

Table 12
Bicycle and Pedestrian Objectives and Strategies

Strategy	Priority		
	High	**Medium**	**Low**
Modify land use policies to make short non-motorized trips more feasible and useful.			
	• Encourage neighborhood-orientated commercial uses, parks, and schools in or within safe and easy walking or bicycling distance from residential development. *(Bill Mahar and Larry Weil)*	• Encourage siting commercial and institutional developments adjacent to the street/sidewalk, rather than at the rear of a large parking lot. *(Bill Mahar and Larry Weil)*	• Review land use development processes in countries which have high bicycle and pedestrian commuter rates.
Create continuous bicycle and pedestrian links throughout the metropolitan area.			
	• Review alternatives for missing links in the metropolitan bicycle and pedestrian network. *(Bob Fogel and Bob Backman)* • Take advantage of land which has been purchased after the 1997 flood by the Cities to create a continuous greenway path system along drainage ditches and the river corridors. *(Bill Mahar, Larry Weil, Bob Fogel and Bob Backman)* • Secure easements during subdivision design for inclusion of pedestrian and bicycle facilities. *(Bill Mahar, Larry Weil, Bob Fogel and Bob Backman)*	• Link bicycle and pedestrian facilities to those facilities outside the metropolitan area. *(Bob Fogel and Bob Backman)* • Create a map designating recommended bicycle commuter routes. • Encourage neighborhood groups to coordinate on the development of bicycle facilities.	

Table 12
Bicycle and Pedestrian Objectives and Strategies

Strategy	Priority		
	High	**Medium**	**Low**
Promote the importance of bicycle, pedestrian, and motorists' rights, responsibilities, and values of a multi-modal transportation system.			
Educate motorists on safely interacting with pedestrians and bicyclists.			
		• Use public service announcements to educate motorists on the need to stop before crosswalks and other pedestrian friendly ordinances. *(Joe Johnson)* • Encourage the education of law enforcement personnel on the laws pertaining to bicyclists.	• Review the process, and encourage the implementation of a bicycle education program as part of drivers' education classes. • Encourage and review the inclusion of bicycling and pedestrian information in drivers' licence tests. • Create a promotional campaign to educate motorists such as *Share the Road* or *Start Seeing Bicycles*.
Educate bicyclists on the proper use on roadways and sidewalks			
	• Create a brochure defining proper bicycle use to hand out at bicycle shops. *(Tom Smith)*	• Review the Effective Cycling Program and encourage its addition to the schools' curriculums. *(Joe Johnson)*	
Promote proper etiquette on multi-use paths.			
	• Place signs on multi-use paths instructing the public on proper etiquette. *(Vic Pellerano and Rick Lane)*	• Include information on proper etiquette in police and school safety classes. *(Joe Johnson)*	

Table 12
Bicycle and Pedestrian Objectives and Strategies

Strategy	Priority		
	High	**Medium**	**Low**
Promote bicycle safety throughout the schools.			
	• Support local police departments and clubs which offer bicycle safety classes and bike rodeos. *(Joe Johnson)*	• Encourage local schools to use the bicycle safety curriculum which was prepared by the Metropolitan Bicycle and Pedestrian Committee. *(Dennis Holmgren - Fargo Only)* • Encourage the use of "*Safe to School Route Maps*."	
Promote the use of bicycle helmets.			
	• Install reward programs for children using helmets. *(Joe Johnson)*	• Establish policies which require participants in all bicycling events to wear helmets. *(Tom Smith)* • Create a educational program for parents and adult riders on the use of helmets.	
Promote bicycles and pedestrians travel at all appropriate levels of government through policies, legislation, and enforcement.			
Review state and local policies which have an impact on bicycling and pedestrian needs, and work with appropriate authorities to revise those that do not consider or encourage these alternative modes of transportation.			
	• Repeal the North Dakota side path law which makes it illegal to ride on the roadway when a Class I bike path is present. *(Joe Johnson)* • Assist the North Dakota Department of Transportation in the development of a North Dakota State Bicycle Advisory Committee. *(Committee)*	• Assign a member of the Metropolitan Bicycle and Pedestrian Committee to represent the F-M metropolitan area on the North Dakota State Bicycle Advisory Committee.	

Table 12
Bicycle and Pedestrian Objectives and Strategies

Strategy	Priority		
	High	**Medium**	**Low**
Increase enforcement on issues relating to bicycle and pedestrian rights.			
		• Enforce laws prohibiting vehicles entering the intersection on red lights. • Enforce regulations prohibiting vehicles parked in driveways from blocking public right-of-way sidewalks. • Encourage the enforcement of ordinances requiring snow removal on private sidewalks. • Enforce the use of turn signal indicators by motorists.	• Base enforcement priorities on crash study findings. • Create education program for bicycle violators.
Encourage the increased use of walking, bicycling, and other alternative modes for transportation and recreation.			
Encourage the local transit to promote the combined use of bicycling, walking, and transit.			
	• Include bicycle and pedestrian information in the Fargo-Moorhead Transit Route Brochures. *(Committee)*	• Work with local transit officials on a promotional campaign to raise awareness of the existence and value of bicycle racks on transit buses. • Sponsor training sessions for people with disabilities on use of the transit system in conjunction with walking and bicycling.	

Table 12
Bicycle and Pedestrian Objectives and Strategies

Strategy	Priority		
	High	**Medium**	**Low**
Inform the public about the location of multi-use paths and bicycle routes.			
	• Publish bicycle and pedestrian maps and guides that inform the public of bicycle and pedestrian facilities and services. *(Committee)* • Include bicycle maps in the parks recreational manuals, the visitors' bureau, phone books, travel guides, and local jurisdictions' websites. *(Committee)*	• Place kiosks with maps along bicycle and pedestrian facilities with "*you are here*" symbols.	• Work with bicycle and pedestrian clubs and businesses to coordinate bicycle tours and rides to encourage people to ride in new areas. *(Tom Smith)*
Develop and distribute promotional material to persuade employers to provide internal incentive programs to encourage their employees to bicycle and walk to work.			
			• Create brochures for employers promoting alternative modes of transportation. • Advise employers on creating internal incentive programs to promote bicycling and walking to work.
Work in coordination with media to increase public awareness and create a positive image of walking and cycling.			
		• Create a comprehensive promotional campaign focusing on bicycling and walking as an alternative means of transportation. • Promote bicycling week, national trails day, and clean air month.	• Use local fraternities, sororities, and service clubs to help with promotional events. • Encourage the media to create a positive image of bicycling by covering local bicycling and pedestrian events, and profiling local bicycle and pedestrian clubs and members. • Work with local bicycle clubs and businesses to create seminars on how to select a bike and bicycle repair and maintenance. *(Tom Smith)*

Table 12
Bicycle and Pedestrian Objectives and Strategies

Strategy	Priority		
	High	**Medium**	**Low**
Place a high priority on maintaining and developing the aesthetic attractiveness of bikeways and walkways to encourage significant use levels.			
		• Provide and maintain shelters and other resting facilities. • Use informative signing for native grass plots and trees. • Create a more aesthetic route by planting trees and replacing trees which are removed. • Provide and maintain trash receptacles.	
Provide safe, secure, and convenient bicycle parking facilities at major bicycle travel trip generators and transportation terminals.			
		• Work with local jurisdictions on the installation of bicycle parking at public buildings.	• Educate businesses on the importance of bicycle parking.

Accessibility Issues

The American with Disabilities Act of 1990 (ADA) prohibits discrimination in transportation and access to facilities. Title V of the ADA requires the United States Access Board to issue minimum guidelines for accessible design. Guidelines have been created, although, they do not specifically address sidewalk and trail design. The Federal Highway Administration initiated a two phase study to create guidelines with more detailed requirements. This study produced *Designing Sidewalks and Trails for Access: Review of Existing Guidelines and Practices* in 1999. This report compiled and analyzed existing guidelines and recommendations used throughout the United States. The second phase, expected to be complete by the end of the year 2000, will be a manual recommending accessible designs for sidewalk and trail facilities.

The support for accessibility has been extensive. In July 1999, Secretary of Transportation Rodney E. Slater signed an Accessibility Policy Statement. This Statement is a reminder of the responsibility in the design and construction of facilities to provide intermodal transportation alternatives for all types of users. It renews the pledge to make an accessible America a reality. In September 2000, the Federal Transportation Administration and the Federal Highway Administration jointly signed a letter requesting support in providing an accessible transportation system within the United States. This letter and the Accessibility Policy Statement can be found in Appendix VIII.

Jurisdictions throughout the Fargo-Moorhead area should join with the FTA and FHWA to support accessibility in the future. Upon completion of the guidelines for sidewalk and trial design, adoption of these guidelines will aid in the enhancement of the pedestrian environment.

Rails-to-Trails

Formed in 1986, the Rails-to-Trails Conservancy promotes an interconnected trail system throughout the United States using abandoned railroad lines. To date, over 11,000 miles of rail line have been converted. The group is a non profit charity offering technical assistance, public education, and advocacy. In 1993, they published *Trails for the Twenty-First Century* to assist in the conversion.

In the past, the City of Fargo Park Board has taken advantage of this type of opportunity with the abandonment of the Old Milwaukee Trail. The Park Board also has acquired an old rail line southwest of Fargo for park use, but is working with the City of Fargo Planning Department to match this development with future zoning.

FM COG's 2001 work program includes the F-M Railroad Trackage Consolidation Feasibility Study. The objective of this Study is to determine the feasibility of consolidating Burlington Northern Sante Fe trackage currently bisecting the central business districts, and rerouting north and westward train traffic from 22nd Street North to the 12th Avenue North railyard. If this

project is deemed feasible, opportunities may exist to create a north-south shared use path in this low income area.

Moorhead 20th Street/SE Main Grade Separation

In the 1998 Metropolitan Transportation Plan, FM COG identified improvements to the intersection of 4th Avenue South, 20th Street, and 21st Street in Moorhead due to the large number of crashes and large volumes of train traffic. Additional safety concerns exist for pedestrians and bicyclists through this intersection. This connection is a vital link in the shared use paths within the City of Moorhead. Therefore, a bicycle and pedestrian facility must be included in the future grade separation design and construction.

Sheyenne Diversion

The Sheyenne Diversion in Cass County gives the area much opportunity for bicycle and pedestrian use. A variety of ideas have been suggested for this area including hiking, cross-country ski, biking, and shared use paths. People within the area have already been using the east side of the Diversion for riding horses. Opportunities still exist for bicycle and pedestrian use on the west side. The Diversion creates a unique opportunity to install alternative surface material or to introduce a mountain biking path. Design for this area should be coordinated with the Army Corps of Engineers.

Red River Greenway

The International Flood Mitigation Initiative has recommended the creation of greenway along the Red River from Lake Traverse, Minnesota to Lake Winnipeg, Canada. The purpose of this greenway would assist in the reduction of flood damage costs to properties with a high potential to flooding. In addition, this greenway would provide opportunities for recreation routes (hiking, biking, canoeing, etc.) extending over 600 miles.

Many locations along the Red River already have shared use paths. Paths exist in Trollwood Park, Mickelson Field, and downtown to Lindenwood Park in Fargo and downtown and Gooseberry Park in Moorhead. In 2001, FM COG will be completing a study to evaluate the potential for filling a missing link in the Oak Grove area by using lots which were purchased after the 1997 flood. Fargo and Moorhead both have future routes recommended along the majority of the Red River.

Currently, Cass County is in the process of buying flood prone lots in the Forest River, Orchard Glen, and Chrisan Glen developments. Money for these purchases have been provided by the North Dakota Division of Emergency Management and the Federal Emergency Management

Agency. The City of Fargo has also purchased numerous properties along the Red River. The Lion's Conservancy Park in south Fargo is one location in which greenway was preserved. As future purchases are made, additional links in these network should be developed, and the efforts of the International Flood Mitigation Initiative and Riverkeepers should be supported.

At-Grade Railroad Crossings

Numerous locations exist within the metropolitan area in which bicycle and pedestrian crossings are limited due to railroad tracks. Burlington Northern Sante Fe Railroad (BNSF) officials have indicated the liability is too high to allow at-grade crossings for these, and recommends the use of alternative routes, bridges, or tunnels. Due to the high cost of these alternatives, other alternatives need to be reviewed. One possibility is used in Trimpolo, Wisconsin. Pedestrian are required to enter a maze which forces them to look both directions before crossing the railroad tracks. Other locations use methods such as fencing the area around the tracks for use of a bicycle and pedestrian facility within railroad right-of-way. More research and coordination with BSNF is needed in order to accommodate these types of facilities.

Utility Right-of-Ways

Purchasing land during corridor development can be an expensive endeavor. At times these additional costs to the overall cost of the shared use path can actually kill the project. Using utility right-of-ways is one solution to alleviate the excess cost. Figure 15, Future Bicycle and Pedestrian Network (page 52) recommends future routes along these types of facilities. One example of this use is the future shared use path following the transmission line south of Fargo. Another is the path following the drainage ditch near Fiechtner Drive in Fargo creating a usable east to west route across the metropolitan area. As areas develop, consideration should be given for cost effective routes along these utilities.

Trollwood Performing Arts Center Relocation

Trollwood Performing Arts Center is currently reviewing options to relocate their location at Trollwood Park. The Park is within the flood plain; and staff has to clean mud off the stages every spring. In the past, the Park had two accesses; Kandi Lane and Elm Street. The Red River has now taken a portion of Kandi Lane, limiting the Park to one access. Difficulties arise during the Center's performances. In addition, an old graveyard was found on the east side of the Park, decreasing the amount of space available for use. The Center plans to relocate within the next few years. At the time a new site is selected, the area should be reviewed for bicycle and pedestrian access to the surrounding neighborhoods.

Bridge Drain Placement

When designing bridge structures, consideration should be given for bicycle and pedestrian facilities in the area. This was not done when the drainage system for Moorhead's Center Avenue bridge was designed. As shown in Figure 19, water is draining directly onto the shared use path in Moorhead, creating an unpleasant and dangerous situation for users. This Plan recommends the redesign of this drainage system to enhance the bicycle and pedestrian environment.

Figure 19
Center Avenue Bridge Drain

Moorhead Downtown Plan

In 1999-2000, the City of Moorhead completed a planning effort for its downtown. One of the recommendations of this Plan was to strengthen the connection bicycle and pedestrian network to residential locations, and promote a connection from Concordia College and Minnesota State University at Moorhead to attract students to this area. The Moorhead Parks Department already responded by making numerous improvements to Viking Ship and Riverfront Parks. Improvements include bicycle and pedestrian facilities, lighting, lookout over the Red River, and resting areas. In addition, recommendations were made to increase the aesthetics of the downtown to make it more attractive for pedestrian use. The Plan also shows the continuation of the shared use path below the Main Avenue Bridge upon its reconstruction. This Plan supports the efforts of the City of Moorhead to increase the safety, comfort, and aesthetic levels within their downtown.

West Fargo Park Board Plan

At this time, future park development in West Fargo south of I-94 is unknown. Currently, the West Fargo Park Board is in the process of creating the West Fargo Park Master Plan. Expected for completion by the end of the year, this Plan will include the future park developments south of I-94. It is the recommendation of the Metropolitan Bicycle and Pedestrian Plan to consider the planning efforts of the West Fargo Park Master Plan when determining future bicycle and pedestrian networks linking parks to residential neighborhoods.

Connection to Buffalo State Park

A bicycle route along Trunk Highway 10 connecting the Fargo-Moorhead metropolitan area to Buffalo State Park has been in FM COG's future bicycle network for many years. With recent improvements within the Park, the value for this route has increased. Recently, the Minnesota Department of Transportation determined this route would have to be a separated path due to the large volumes of traffic and percentage of truck traffic along this corridor. A study should be done to evaluate the possibility of this shared use path and the possibility of a parallel route along Clay County or township roads.

Chapter 7

Evaluation of Technical, Environmental, Financial, and Social Impacts of Plan and Staging of Projects

One of the requirements of the 1991 ISTEA legislation and its successors was that metropolitan planning efforts should address as appropriate the technical, environmental, financial, and social impact of proposed transportation improvements. Based on this legislation, Metro COG established four screening factors to evaluate project alternatives as part of its planning process. The purpose of the evaluation criteria was to define the local jurisdictions' role in the decision making process and to provide a consistent set of criteria and a process by which projects would be programmed into the Plan.

Project Screening Factors

To evaluate future improvements to the bicycle and pedestrian network, the four project screening factors were analyzed: technical soundness environmental sensitivity, financial feasibility, and social acceptability. The definitions of these factors are:

Technical Soundness

Technically sound projects were those improvements identified by the Metropolitan Bicycle and Pedestrian Committee which were intended to resolve major conflicts and/or provide necessary links to major trip generators.

Environmental Sensitivity

Environmental sensitivity was evaluated based on known environmental issues in the area, which had the potential to be impacted, such as cultural issues, wetlands, archaeological sites, impacts to trees, and historical significance. Projects that may have an impact were noted by a "❀" on Tables 13-24 indicating the need for more detailed evaluation during the project concept report or other reports that analyze the project at a greater level of detail prior to engineering and design activities. Three special environmental factors analyzed during the screening process were environmental justice, wetlands, and historical data. Noted below are descriptions of each of these factors:

Environmental Justice: In 1994, Executive Order 12898 was issued requiring that each federal agency identify and avoid disproportionately high and adverse effects on minority and low-income populations during implementation of programs, policies, and activities. In 1999, the Federal Highway Administration issued the memorandum *Implementing Title VI Requirements in Metropolitan and Statewide Planning*, which provides clarification on how to ensure that

environmental justice is considered during current and future transportation planning. Metro COG used data from the 1990 census to create a map (see Appendix IX) noting areas with 25 percent or more of the population with incomes of less than 125% of poverty level, and with 25 percent or more of the population of a minority race. Metro COG staff compared future recommended bicycle and pedestrian facilities to this map, and noted on Tables 13-24 those projects which may need to be examined in more detail based on this information.

Wetlands: Metro COG also produced a map of known wetlands (see Appendix IX) using information from the National Wetland Database Inventory. Projects which were seen to have a potential effect of wetlands were noted, and may need further examination during the project development phase.

Historical Sites: Numerous historical sites exist within the metropolitan area as shown on the Historical Site Map in Appendix IX. Most of these recognized areas are located along the Red River Corridor and in the downtown areas in the Cities of Fargo and Moorhead. Projects which potentially effect these sites may need further examination during the project development phase.

Financial Feasibility: To determine if a project was financially feasible, an assessment of existing financial conditions was performed. This involved meeting with local jurisdictions to determine existing and anticipated funding sources that could "reasonably be expected" to be available for implementing proposed improvements to the bicycle and pedestrian system. All short-range projects were required to be financially constrained (see Financial Constraints section of this chapter for a detailed analysis of short term financial strategies by jurisdiction). Projects without an identified funding source were recommended for the Plan's long-range element.

Social Acceptability: Social acceptability was determined by local elected officials based on their review of public input. Public input opportunities were made available at times throughout the development of the Plan, including the local review of the draft document. After receipt and consideration of public comments on the draft Plan, the final Metropolitan Bicycle and Pedestrian Plan was prepared and presented for adoption by all local jurisdictions and the COG Policy Board. This step completed the planning process, and authorized the local implementation of the Plan.

Project Staging

Only those projects that successfully met all four screening factors were prioritized as short range projects. In turn, through the use of this screening process, the proposed bicycle and pedestrian network improvements were identified as short (within five years),or long term are shown on Tables 13 to 24.

Table 13
Dilworth Short Range Bicycle and Pedestrian Improvements (2001-2005)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
4th Avenue North from 34th Street to CSAH 9	Shared Use Path	City of Dilworth	$70,000 (T) $33,000 (L)	y		Yes
Main Street from 2nd Avenue North to 4th Avenue North and 4th Avenue North from 1st Street Northwest to 1st Street Northeast	Shared Use Path	City of Dilworth	$83,500 (T) $41,700 (L)	y		Yes
Bicycle Route Signage	Shared Roadway	City of Dilworth	$1,000	y		Yes

Table 14
Dilworth Long Range Bicycle and Pedestrian Improvements (2006-2020)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
CSAH 9 from 4th Avenue North Jog	Shared Use Path	City of Dilworth	Unknown	n		TBD
1st Street Northeast from 4th Avenue North to 15th Avenue North	Shared Use Path	City of Dilworth	Unknown	n		TBD
15th Avenue North from 34th Street to 7th Street Northeast	Bicycle Lane	City of Dilworth	Unknown	n		TBD

TBD - To be determined during financial analysis.

Table 15
Moorhead Short Range Bicycle and Pedestrian Improvements (2000-2005)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
28th Street from 12th Avenue South to 15th Avenue North	Bicycle Lane	City of Moorhead	✓	y		Yes
34th Street from TH 10 to CSAH 18	Shared Use Path	City of Moorhead	✓	y		Yes
Riverhaven Road from 40th Avenue South to Rivershore Drive	Shared Use Path	City of Moorhead	$67,000 (T) $13,000 (L)	y		Yes
34th Street from 12th Avenue South to SE Main	Shared Use Path	City of Moorhead	✓	y		Yes
15th Avenue North from 28th Street to 34th Street	Bicycle Lane	City of Moorhead	$31,500 (T) $6,300 (L)	y		Yes
I-94 and 8th Street Interchange	Shared Use Path	MNDOT	✓	y		Yes
I-94 On-Ramp and 8th Street Tunnel	Shared Use Path	City of Moorhead	$536,000 (T) $171,200 (L)	y		Yes
Red River Main Avenue Bridge	Shared Use Path	MNDOT / NDDOT	✓	y	❀	Yes
Bicycle Route Signage	Shared Roadway	City of Moorhead	$7,500 (T) $7,500 (L)	y		Yes
Pedestrian Improvements to 8th Street and 30th Avenue South	Pedestrian	City of Moorhead	✓	y		Yes
43rd Avenue South from 4th Street to 8th Street	Shared Use Path	City of Moorhead	$60,000 (T) $31,000 (L)	y		Yes

✓ Indicates the cost for this bicycle or pedestrian facility will be included in the construction, reconstruction, or improvement costs of the roadway corridor project.

Table 16
Moorhead Long Range Bicycle and Pedestrian Improvements (2006-2020)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
6th Avenue South from 14th Street to 20th Street	Shared Use Path	City of Moorhead	Unknown	n		TBD
12th Avenue South from 8th Street to 11th Street	Shared Use Path	City of Moorhead	Unknown	n		TBD
11th Street from 12th Avenue South to 20th Avenue South	Shared Use Path	City of Moorhead	Unknown	n		TBD
Pedestrian Improvements to 8th Street and 24th Avenue South	Pedestrian	City of Moorhead	Unknown	n		TBD
Main Avenue from 2nd Avenue South to 20th Street	Shared Use Path	City of Moorhead	Unknown	n		TBD
4th Avenue South from 21st Street to 24th Street	Shared Use Path	City of Moorhead	Unknown	n	❀	TBD
46th Avenue South from Riverhaven Road to 8th Street	Shared Use Path	City of Moorhead	Unknown	n	❀	TBD
37th Avenue South from 9th Street to 12th Street	Shared Use Path	City of Moorhead	Unknown	n		TBD
9th Street from Belsly Boulevard from 14th Street to 20th Street	Shared Use Path	City of Moorhead	Unknown	n		TBD
20th Street from 33rd Avenue South to 40th Avenue South	Shared Use Path	City of Moorhead	Unknown	n	❀	TBD
28th Street from Village Green Boulevard from 40th Avenue South	Shared Use Path	City of Moorhead	Unknown	n	❀	TBD
15th Avenue North from 14th Street to TH 75	Shared Use Path	City of Moorhead	Unknown	n		TBD
TH 75 from 4th Avenue North to Moorhead North City Limits	Shared Use Path	City of Moorhead	Unknown	n		TBD
28th Street from 12th Avenue South to 15th Avenue North	Shared Use Path	City of Moorhead	Unknown	n	❀	TBD
River Oaks Park along the Red River from Riverhaven Road to 46th Avenue South	Shared Use Path	City of Moorhead	Unknown	n	❀	TBD
Riverhaven Road from 46th Avenue South to CR 74	Shared Use Path	City of Moorhead	Unknown	n		TBD
Along the Red River from Riverhaven Road Extending South	Shared Use Path	City of Moorhead	Unknown	n	❀	TBD
CR 75 from the Red River to CSAH 52	Shared Use Path	City of Moorhead	Unknown	n		TBD
26th Avenue South from 34th Street to CR 78	Shared Use Path	City of Moorhead	Unknown	n		TBD

12th Avenue South from 34th Street to CR 78	Shared Use Path	City of Moorhead	Unknown	n		TBD
20th Avenue South from CR 81 to CR 78	Shared Use Path	City of Moorhead	Unknown	n		TBD
45th Street from 12th Avenue South to CSAH 14	Shared Use Path	City of Moorhead	Unknown	n		TBD
4th Avenue North from 28th Street to 34th Street	Shared Use Path	City of Moorhead	Unknown	n		TBD
32nd Avenue South and Riverhaven Road Red River Bridge	Shared Use Path	City of Moorhead	Unknown	n	❀	TBD

TBD - To be determined during financial analysis.

Table 17
Clay County Short Range Bicycle and Pedestrian Improvements (2001-2005)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
CSAH 11 from CSAH 28 to CSAH 34	Bicycle Lane	Clay County	✓	y	❀	Yes
CSAH 11 from Averill to CSAH 26	Bicycle Lane	Clay County	✓	y		Yes
CSAH 18 from CR 89 to CR 68	Bicycle Lane	Clay County	✓	y		Yes
CSAH 19 from CSAH 18 to TH 10	Bicycle Lane	Clay County	✓	y		Yes
TH 10 from 34th Street in Dilworth to Buffalo State Park	Shared Use Path	MNDOT	$1,160,000 (T) $0 (L)	y	❀	Yes
CSAH 11 from CSAH 4 to CSAH 2	Bicycle Lane	Clay County	✓	y		Yes
CSAH 52 from Sabin to I-94	Bicycle Lane	Clay County	✓	y		Yes
CSAH 7 from CSAH 52 to CSAH 12	Bicycle Lane	Clay County	✓	y		Yes
CR 75 from CSAH 52 to CSAH 11	Bicycle Lane	Clay County	✓	y		Yes
CR 78 from Adams Avenue in Dilworth to CR 80	Bicycle Lane	Clay County	✓	y	❀	Yes
TH 10 and TH 336 Interchange	Shared Use Path	MNDOT	✓	y		Yes
CR 20 and CSAH 22 Red River Bridge	Shared Use Path	Cass County / Clay County	✓	y	❀	Yes
Bicycle Facility Signage	Bicycle Lane	Clay County	$2,000 (T) $2,000 (L)	y		Yes

✓ Indicates the cost for this bicycle or pedestrian facility will be included in the construction, reconstruction, or improvement costs of the roadway corridor project.

Table 18
Clay County Long Range Bicycle and Pedestrian Improvements (2006-2020)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
CSAH 1 from the Red River to CSAH 26	Bicycle Lane	Clay County	Unknown	n	❀	TBD
CR 93 from CSAH 1 to CR 96	Bicycle Lane	Clay County	Unknown	n		TBD
CR 96 from CSAH 22 to CSAH 26	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 9 from 4th Avenue North in Dilworth to CSAH 18	Bicycle Lane	Clay County	Unknown	n		TBD
CR 90 from CSAH 18 to CSAH 26	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 11 from CSAH 18 to CSAH 26	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 18 from TH 75 to CR 89	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 18 from CR 68 to CSAH 19	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 19 from CSAH 18 to TH 9	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 11 from I-94 to CSAH 52	Bicycle Lane	Clay County	Unknown	n		TBD
52nd Avenue South and CR 74 Red River Bridge	Shared Use Path	City of Fargo / Clay County	Unknown	n	❀	TBD
CSAH 11 from CSAH 52 to CSAH 4	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 8 from the Red River to TH 75	Bicycle Lane	Clay County	Unknown	n	❀	TBD
CSAH 8 from TH 75 to CSAH 11	Bicycle Lane	Clay County	Unknown	n		TBD
TH 75 from 40th Avenue South in Moorhead to CSAH 2	Shared Use Path	MNDOT	Unknown	n	❀	TBD
CSAH 52 from CSAH 11 to CSAH 21	Bicycle Lane	Clay County	Unknown	n		TBD
CR 74 from the Red River to TH 75	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 12 from CSAH 11 to CSAH 17	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 12 from CSAH 17 to TH 9	Bicycle Lane	Clay County	Unknown	n		TBD

CR 74 from the Red River to TH 75	Shared Use Path	Clay County	Unknown	n		TBD
CSAH 17 from TH 10 to CSAH 12	Bicycle Lane	Clay County	Unknown	n		TBD
CSAH 14 from CSAH 52 to CSAH 11	Bicycle Lane	Clay County	Unknown	n		TBD
CR 80 from CR 81 to CR 78	Bicycle Lane	Clay County	Unknown	n		TBD
TH 75 from Moorhead North City Limits to CSAH 20	Bicycle Lane	Clay County	Unknown	n		TBD

TBD - To be determined during financial analysis.

Table 19
Fargo Short Range Bicycle and Pedestrian Improvements (2001-2005)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
18th Street from 19th Avenue North to 12th Avenue North	Shared Use Path	City of Fargo	$172,300 (T) $34,460 (L)	y		Yes
University Drive from 19th Avenue North to 30th Avenue North	Shared Use Path	City of Fargo	$135,000 (T) $27,500 (L)	y		Yes
25th Street from 1st Avenue North to 3rd Avenue North	Shared Use Path	City of Fargo	$4,800 (T) $4,800 (L)	y	❀	Yes
Link Madison School to 29th Street North	Shared Use Path	City of Fargo	$19,600 (T) $19,600 (L)	y	❀	Yes
Along Drainage Ditch along Fiechtner Drive from 9th Avenue South to 4th Avenue South	Shared Use Path	City of Fargo	$90,000 (T) $90,000 (L)	y	❀	Yes
13th Avenue South from 21st Street to 34th Street	Shared Use Path	City of Fargo	$184,525 (T) $36,905 (L)	y	❀	Yes
1st Avenue North from 24th Street to 25th Street	Shared Use Path	City of Fargo	$2,400 (T) $2,400 (L)	y		Yes
12th Avenue Bridge over BNSF Railroad	Shared Use Path	City of Fargo	✓	y	❀	Yes
12th Avenue North from 19th Street to Barrett Street	Shared Use Path	City of Fargo	$81,000 (T) $81,000 (L)	y	❀	Yes
Elm Street Short Term Improvements	Shared Roadway	City of Fargo	$260,563 (T) $52,113 (L)	y		Yes
Greenway between 9th Street, I-29, I-94, and 32nd Avenue South	Shared Use Path	City of Fargo	$301,000 (T) $60,200 (L)	y		Yes
28th Avenue South from 45th Street to I-29	Shared Use Path	City of Fargo	$80,000 (T) $80,000 (L)	y	❀	Yes
28th Avenue South and I-29 Underpass	Shared Use Path	City of Fargo / NDDOT	$150,000 (T) $150,000 (L)	y	❀	Yes

42nd Street from 32nd Avenue South to 52nd Avenue South	Shared Use Path	City of Fargo	$150,000 (T) $150,000 (L)	y		Yes
52nd Avenue South from I-29 to University Drive	Shared Use Path	NDDOT	✓	y		Yes
Along Coulee from Rose Coulee Shared Use Path to 40th Avenue South	Shared Use Path	City of Fargo	$338,000 (T) $338,000 (L)	y	❀	Yes
West of Meadow Creek from Coulee to 52nd Avenue South	Shared Use Path	City of Fargo / Fargo Parks Dept.	$120,000 (T) $120,000 (L)	y	❀	Yes
20th Street from 52nd Avenue South to 64th Avenue South	Shared Use Path	City of Fargo	$90,000 (T) $90,000 (L)	y		Yes
25th Street from 58th Avenue South from 64th Avenue South	Shared Use Path	City of Fargo	$50,000 (T) $50,000 (L)	y		Yes
I-29 and 19th Avenue North Interchange	Shared Use Path	NDDOT	✓	y		Yes
I-29 and 9th Avenue South Underpass	Shared Use Path	NDDOT	✓	y		Yes
I-29 and 13th Avenue South Interchange	Shared Use Path	NDDOT	✓	y		Yes
I-29 and 17th Avenue South Underpass	Shared Use Path	NDDOT	✓	y		Yes
I-29 and 52nd Avenue South Interchange	Shared Use Path	NDDOT	✓	y		Yes
52nd Avenue South and 15th Street Tunnel	Shared Use Path	NDDOT / City of Fargo	$300,000 (T) $300,000 (L)	y		Yes
Red River Main Avenue Bridge	Shared Use Path	MNDOT / NDDOT	✓	y	❀	Yes
Bicycle Route Signage	Shared Roadway	City of Fargo	$7,500 (T) $7,500 (L)	y		Yes
38th Street from 13th Avenue South to West Acres Ring Road and along Ring Road	Pedestrian	City of Fargo	$25,000 (T) $25,000 (L)	y		Yes
Main Avenue Pedestrian Improvements from 45th Street to 25th Street	Pedestrian	City of Fargo	✓	y		Yes

✓ Indicates the cost for this bicycle or pedestrian facility will be included in the construction, reconstruction, or improvement costs of the roadway corridor project.

Table 20
Fargo Long Range Bicycle and Pedestrian Improvements (2006-2020)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
60th Avenue South from 25th Street to University Drive	Shared Use Path	City of Fargo	Unknown	n		TBD
Surrounding Lagoons north of Fargo	Shared Use Path	City of Fargo	Unknown	n	❀	TBD
64th Avenue South from the Red River to 25th Street	Shared Use Path	City of Fargo	Unknown	n		TBD
45th Street from 28th Avenue South to 52nd Avenue South	Shared Use Path	City of Fargo	Unknown	n		TBD
CR 81 from Palmer Drive to Pepsi Soccer Fields	Shared Use Path	Fargo Parks Dept.	Unknown	n		TBD
Link CR 81 to Pepsi Soccer Fields	Shared Use Path	Fargo Parks Dept.	Unknown	n		TBD
Palmer Drive from 19th Avenue North to CR 81	Shared Use Path	Fargo Parks Dept.	Unknown	n		TBD
Pedestrian Bridge or Skyway Across 13th Avenue Southwest between 38th Street and 42nd Street	Pedestrian	City of Fargo	Unknown	n		TBD
Greenway between 40th Avenue South, 52nd Avenue South, 66th Street, and I-29	Shared Use Path	City of Fargo / Fargo Parks Dept.	Unknown	n		TBD
30th Street from 52nd Avenue South to 64th Avenue South	Shared Use Path	City of Fargo	Unknown	n		TBD
32nd Avenue South from 9th Street in West Fargo to 45th Street	Shared Use Path	City of Fargo	Unknown	n		TBD
36th Avenue South from 9th Street in West Fargo to 42nd Street	Shared Use Path	City of Fargo	Unknown	n		TBD
40th Avenue South from 9th Street in West Fargo to 42nd Street	Shared Use Path	City of Fargo	Unknown	n		TBD
Along Drainage Ditch at 38th Avenue South from 52nd Street to 32nd Street	Shared Use Path	City of Fargo / Fargo Parks Dept.	Unknown	n		TBD
52nd Street from 32nd Avenue South to 40th Avenue South	Shared Use Path	City of Fargo	Unknown	n		TBD
CR 81 from Pepsi Soccer Fields to CR 20	Shared Use Path	City of Fargo	Unknown	n		TBD
45th Street from 52nd Avenue South to 88th Avenue South	Shared Use Path	City of Fargo	Unknown	n		TBD

52nd Street from 40th Avenue South to 88th Avenue South	Shared Use Path	City of Fargo	Unknown	n		TBD
64th Avenue South from 25th Street to CR 17	Shared Use Path	City of Fargo	Unknown	n		TBD
30th Street from 64th Avenue South to 76th Avenue South	Shared Use Path	City of Fargo	Unknown	n		TBD
CR 22 from CR 17 to CR 31	Shared Use Path	City of Fargo	Unknown	n		TBD
CR 31 from Highland Park to CR 22	Shared Use Path	City of Fargo	Unknown	n		TBD
Along the Red River from CR 20 to CR 22	Shared Use Path	City of Fargo	Unknown	n	❀	TBD
CR 81 from CR 20 to Harwood	Shared Use Path	City of Fargo	Unknown	n	❀	TBD
Along the North Drainage Ditch from West Fargo North City Limits to CR 22	Shared Use Path	City of Fargo / Fargo Parks Dept.	Unknown	n	❀	TBD
CR 20 from CR 17 to 45th Street	Shared Use Path	City of Fargo	Unknown	n	❀	TBD
CR 20 from 45th Street to CR 81	Shared Use Path	City of Fargo	Unknown	n		TBD
CR 20 from CR 81 to the Red River	Shared Use Path	City of Fargo	Unknown	n		TBD
CR 31 from CR 20 to Highland Park	Shared Use Path	City of Fargo	Unknown	n		TBD
Along the 32nd Street Drainage Ditch from CR 20 to CR 31	Shared Use Path	City of Fargo / Fargo Parks Dept.	Unknown	n	❀	TBD
25th Street from the Drainage Ditch to CR 31	Shared Use Path	City of Fargo	Unknown	n		TBD
Greenway North of CR 20 from CR 31 to Drainage Ditch	Shared Use Path	City of Fargo / Fargo Parks Dept.	Unknown	n		TBD
Greenway North of CR 20 from CR 31 to 52nd Avenue North	Shared Use Path	City of Fargo / Fargo Parks Dept.	Unknown	n		TBD
19th Avenue North from 45th Street to 18th Street	Shared Use Path	City of Fargo	Unknown	n		TBD
12th Avenue North from 45th Street to Barrett Street	Shared Use Path	City of Fargo	Unknown	n	❀	TBD
University Drive from Gibralter Drive to CR 20	Shared Use Path	City of Fargo	Unknown	n		TBD
45th Street from 7th Avenue North to CR 20	Shared Use Path	City of Fargo	Unknown	n		TBD

19th Avenue North from University Drive to 10th Street	Shared Use Path	City of Fargo	Unknown	n		TBD
19th Avenue North from Broadway to Elm Street	Shared Use Path	City of Fargo	Unknown	n		TBD
Along the Red River from 15th Avenue North to Trollwood Park	Shared Use Path	City of Fargo / Fargo Parks Dept.	Unknown	n	❀	TBD
East Side of Elm Street from 15th Avenue North to 23rd Avenue North	Shared Use Path	City of Fargo	Unknown	n		TBD
West Side of Elm Street from 19th Avenue North to Trollwood Park	Shared Use Path	City of Fargo	Unknown	n		TBD
9th Avenue South from 45th Street to Interstate Boulevard	Shared Use Path	City of Fargo	Unknown	n		TBD
17th Avenue South from 51st Street to 16th Street	Shared Use Path	City of Fargo	Unknown	n	❀	TBD
Along Transmission Line from University Drive to CR 17	Shared Use Path	City of Fargo / Fargo Parks Dept.	Unknown	n	❀	TBD
52nd Avenue South from CR 17 to I-29	Shared Use Path	City of Fargo	Unknown	n		TBD
76th Avenue South from the Red River to CR 17	Shared Use Path	City of Fargo	Unknown	n		TBD
90th Avenue South from University Drive to 25th Street	Shared Use Path	City of Fargo	Unknown	n		TBD
25th Street from 64th Avenue South to CR 56	Shared Use Path	City of Fargo	Unknown	n		TBD
20th Street from 64th Avenue South to 90th Avenue South	Shared Use Path	City of Fargo	Unknown	n		TBD
19th Avenue North and Railroad Underpass	Shared Use Path	City of Fargo	Unknown	n		TBD
Sheyenne River Bridge at 52nd Avenue South	Shared Use Path	City of Fargo	Unknown	n	❀	TBD
Sheyenne River Bridge at 40th Avenue South	Shared Use Path	City of Fargo	Unknown	n	❀	TBD
Sheyenne River Bridge at Transmission Line	Shared Use Path	City of Fargo / Fargo Parks Dept.	Unknown	n	❀	TBD
45th Street and 19th Avenue North Bridge over Railroad	Shared Use Path	City of Fargo	Unknown	n		TBD
32nd Avenue South and Riverhaven Road Red River Bridge	Shared Use Path	City of Fargo	Unknown	n	❀	TBD
52nd Avenue South and CR 74 Red River Bridge	Shared Use Path	City of Fargo / Clay County	Unknown	n	❀	TBD
I-29 and CR 20 Interchange	Shared Use Path	NDDOT	Unknown	n	❀	TBD

TBD - To be determined during financial analysis.

Table 21
West Fargo Short Range Potential Future Bicycle and Pedestrian Improvements

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
7th Avenue East from 10th Street East to 17th Street East	Shared Use Path	City of West Fargo	$115,000 (T) $23,000 (L)	y		Yes
17th Street East from 7th Avenue East to 13th Avenue East	Shared Use Path	City of West Fargo	$130,000 (T) $26,000 (L)	y		Yes
9th Street East from 15th Avenue East to 19th Avenue East	Shared Use Path	City of West Fargo	$80,000 (T) $16,000 (L)	y		Yes
17th Avenue East from 9th Street to 17th Street	Shared Use Path	City of West Fargo	$120,000 (T) $24,000 (L)	y		Yes
Elm Street to Shared Use Path in North Elmwood Park	Shared Use Path	City of West Fargo	$10,000 (T) $1,000 (L)	y		Yes
On Street Bicycle Route Signage	Shared Roadway	City of West Fargo	$2,500 (T) $2,500 (L)	y		Yes

Table 22
West Fargo Long Range Bicycle and Pedestrian Improvements (2006-2020)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
Main Avenue from Red River Fair Grounds to 6th Street West	Shared Use Path	NDDOT	Unknown	n		TBD
12th Avenue North from CSAH 19 to 45th Street	Shared Use Path	City of West Fargo	Unknown	n		TBD
CSAH 19 from Main Avenue to 12th Avenue Northwest	Shared Use Path	City of West Fargo	Unknown	n		TBD
Center Street from 1st Avenue to 12th Avenue North	Shared Use Path	City of West Fargo	Unknown	n		TBD
8th Avenue West from Sheyenne Street North to Center Street	Shared Use Path	City of West Fargo	Unknown	n		TBD
9th Street East form Main Avenue to 12th Avenue Northeast	Shared Use Path	City of West Fargo	Unknown	n		TBD
16th Street West from Main Avenue to 13th Avenue West	Shared Use Path	City of West Fargo	Unknown	n		TBD
13th Avenue West from 16th Street West to 8th Street West	Shared Use Path	City of West Fargo	Unknown	n		TBD
9th Street East from 19th Avenue East to 40th Avenue East	Shared Use Path	City of West Fargo	Unknown	n		TBD
32nd Avenue South from CR 17 to 9th Street East	Shared Use Path	City of West Fargo	Unknown	n		TBD
40th Avenue South from CR 17 to 9th Street East	Shared Use Path	City of West Fargo	Unknown	n		TBD
Along Sheyenne River from South Elmwood Park to Sheyenne Street	Shared Use Path	City of West Fargo	Unknown	n	❀	TBD
Along the Sheyenne River from Sheyenne Street to I-94	Shared Use Path	City of West Fargo	Unknown	n	❀	TBD
Greenway along I-94 from Sheyenne Street to 8th Street East	Shared Use Path	City of West Fargo	Unknown	n	❀	TBD
17th Avenue East from 6th Street East to 9th Street	Shared Use Path	City of West Fargo	Unknown	n		TBD
9th Street East from 4th Avenue East to Main Avenue	Shared Use Path	City of West Fargo	Unknown	n		TBD
8th Street East from I-94 to 19th Avenue East	Shared Use Path	City of West Fargo	Unknown	n		TBD
19th Avenue East from 8th Street East to 9th Street East	Shared Use Path	City of West Fargo	Unknown	n		TBD
9th Street and I-94 Interchange	Shared Use Path	City of West Fargo	Unknown	n		TBD
Sheyenne River Bridge at 32nd Avenue South	Shared Use Path	City of West Fargo	Unknown	n	❀	TBD

Sheyenne River Bridge at I-94 Greenway	Shared Use Path	City of West Fargo	Unknown	n	❀	TBD
Sheyenne River Bridge at Princeton	Shared Use Path	City of West Fargo	Unknown	n	❀	TBD
Sheyenne River Bridge at Sheyenne Street	Shared Use Path	City of West Fargo	Unknown	n	❀	TBD
Sheyenne River Bridge at 2nd Avenue North	Shared Use Path	City of West Fargo	Unknown	n	❀	TBD
Main Avenue Pedestrian Improvements	Pedestrian	NDDOT	Unknown	n		TBD

TBD - To be determined during financial analysis.

Table 23
Cass County Short Range Bicycle and Pedestrian Improvements (2001-2005)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
CR 11 from CR 4 to CR 26	Bicycle Lane	Cass County	✓	y		Yes
CR 31 from Highland Park to CR 22	Bicycle Lane	Cass County	✓	y		Yes
CR 6 from CR 17 to I-29	Bicycle Lane	Cass County	✓	y		Yes
CR 16 from CR 17 to CR 81	Bicycle Lane	Cass County	✓	y		Yes
CR 81 from 52nd Avenue South in Fargo to CR 16	Bicycle Lane	Cass County	✓	y		Yes
CR 16 from CR 81 to the Red River	Bicycle Lane	Cass County	✓	y		Yes
CR 17 from 20th Avenue West in West Fargo to Horace	Shared Use Path	Cass County	$830,000 (T) $730,000 (L)	y	❀	Dependent upon 60% approval rating.
CR 20 from 25th Street West in West Fargo to University Drive in Fargo	Bicycle Lane	Cass County	✓	y		Yes
CR 20 and CSAH 22 Red River Bridge	Shared Use Path	Cass County / Clay County	✓	y	❀	Yes
Bicycle Facility Signage	Bicycle Lane	Clay County	$2,000 (T) $2,000 (L)	y		Yes

✓ Indicates the cost for this bicycle or pedestrian facility will be included in the construction, reconstruction, or improvement costs of the roadway corridor project.

Table 24
Cass County Long Range Bicycle and Pedestrian Improvements (2006-2020)

Technical Soundness		Financial Feasibility			Environmental Sensitivity	Social Acceptability
Project Location	**Facility Type**	**Responsibility**	**Estimated Cost**	**y/n**		
CR 11 from CR 10 to CR 22	Bicycle Lane	Cass County	Unknown	n		TBD
CR 10 from CR 11 to West Fargo City Limits	Bicycle Lane	Cass County	Unknown	n	❀	TBD
CR 17 from West Fargo City Limits to CR 22	Bicycle Lane	Cass County	Unknown	n		TBD
CR 22 from CR 17 to the Red River	Bicycle Lane	Cass County	Unknown	n		TBD
CR 81 from CR 20 to Grandin	Bicycle Lane	Cass County	Unknown	n	❀	TBD
Sheyenne Diversion	Shared Use Path	Cass County	Unknown	n	❀	TBD
Horace to Sheyenne Diversion	Shared Use Path	Cass County / City of West Fargo	Unknown	n	❀	TBD
Sheyenne Diversion Bridge	Shared Use Path	Cass County / City of West Fargo	Unknown	n	❀	TBD

TBD - To be determined during financial analysis.

Financial Strategy

Federal transportation planning rules formed as a result of the passage of ISTEA require all metropolitan transportation plans to be financially constrained within reasonably expected resources. As the Metropolitan Bicycle and Pedestrian Plan represents one element of the overall Metropolitan Transportation Plan developed for the Fargo-Moorhead metropolitan area, it is necessary that a financial plan be prepared to demonstrate consistency between proposed transportation investments and existing and projected sources of revenue. Therefore, as part of this study process, an analysis was conducted of the planned short-range projects in order to provide a reasonable financial implementation strategy.

Local governments exercise a variety of approaches to finance future bikeway, pedestrian, and transportation system improvements. For the most part, these have consisted of the use of three primary sources of revenue including local, state, and federal funding. In determining the appropriate potential funding source from these three sources, local governments must consider such things as the public benefitting from the improvement, program eligibility, availability of funding, and the capacity to generate new revenue, as well as the project's scope and cost.

Locally generated revenues are probably the most flexible and discretionary of the three sources available to local governments to use in funding proposed bikeway and pedestrian improvements. In the Fargo-Moorhead metropolitan area, these funds are derived from several different sources. They include: revenues collected from property taxes, special assessments, municipal bonding, local excise taxes on purchases of various goods and services, state aid, etc. In many instances, these local revenues are combined with funding from other state or federal sources to implement a proposed improvement.

Bicycle and pedestrian improvements requesting federal transportation funding must be consistent with FM COG's Metropolitan Transportation Plan (of which the 2000 Metropolitan Bicycle and Pedestrian Plan in one modal element.) In order to be eligible for federal funding, a bicycle/pedestrian project must be principally for transportation rather than recreation. In addition, the proposed project must be included in a Transportation Improvement Program (TIP) which is approved by COG. The TIP is a three-year schedule of transportation improvements programmed for the Fargo-Moorhead urbanized area, and is presently updated on an annual basis.

Upon approval by F-M COG and the Governors of Minnesota and North Dakota, the TIP shall become part of a Statewide Transportation Improvement Program (STIP). Because of the close relationship of the TIP to the STIP, COG must ensure the annual updating of the TIP is compatible with development of STIPs prepared by both States. Initiation of the TIP process in the metropolitan area usually commences in November of each year with final adoption in June of the following year.

As previously mentioned, F-M COG staff met with local officials to develop a financial strategy for implementing the recommendations proposed in this Plan. F-M COG staff examined the historical levels of bicycle facility funding. This information was used to determine the revenue which could "reasonably be expected" in the next five years. Since pedestrian projects typically are constructed along roadway corridors, these costs could not be factored. Projects that did not have an identified and "reasonable" revenue source were recommended for the Plan's long-range element, in accordance with FM COG's screening factor policy.

City of Dilworth

As shown on Table 13, Dilworth's short range revenue estimate (2001-2005) for bicycle and pedestrian construction, rehabilitation, and improvements is approximately $154,500. These revenues consist of a combination of local and federal funds. Transportation enhancement funding of $78,800 has already been approved. Local funding will come from a total of $16,175 in assessments, with the additional funds coming from bonding measures. These funding measures have already been approved by the Dilworth City Council. Based on this information, the Dilworth short range projects identified are financially constrained and feasible.

City of Moorhead

During the last five years, the City of Moorhead received $473,000 in transportation enhancement dollars from the Minnesota Department of Transportation Area Transportation Partnership (ATP). The City has constructed $231,000 of shared use pathes, including projects from the Public Works Department and the Parks Department. The Public Works Department also incorporated shared use paths along 34th Street and 40th Avenue South during the construction of those corridors. Local funds were generated through local assessments and property taxes which make up a portion of the general fund dedicated to transportation and infrastructure improvements.

As shown on Table 15, the estimated expenses for short term bicycle and pedestrian improvements within the City of Moorhead is around $700,000. This estimate does not include bicycle and pedestrian projects which will be completed by MNDOT, or projects in which bicycle and pedestrian improvements will be included as part of the construction cost of roadway corridors. Based on these estimates, the City of Moorhead short range projects are financially constrained and feasible.

Clay County

To date, all bicycle facilities under Clay County's jurisdiction have been bicycle lanes; and the recommended bicycle improvements in the short range (2001-2005) follow the same pattern. While a few of the projects will be completed during construction and reconstruction of various roadway improvements, most of the projects listed on Table 17 will be completed during shoulder widening and overlays. All projects listed are

consistent with the Clay County Five Year Improvement Plan which was approved by the Clay County Commission in January, 2000. The cost for these bicycle projects has been included in the overall construction, reconstruction, or improvement costs for the entire corridor. Costs for the County's share to implement a metropolitan signing system will be paid with funds from the Clay County General Fund; Clay County's source of local funds. The total dollars expected to be drawn from this fund is $2,000.

City of Fargo

Over the past five years, the City of Fargo has received an average of $154,000 per year in federal transportation enhancement funds as administrated by the North Dakota Department of Transportation. The Fargo Parks Board also received federal Park and Recreation Funds of $30,000 in 2000. An additional $428,000 per year has been provided locally, including projects completed by the Fargo Engineering Department and the Fargo Park Board. These funds are generated through assessments, local sales tax, and the general fund. Using the past financial history, it is estimated the City of Fargo will spend about $2,900,000 for bicycle and pedestrian improvements over the next five years.

As shown on Table 19, the estimated expenses for short term bicycle and pedestrian improvements within the City of Fargo is just under $2,740,000. This estimate does not include those projects which will be completed by the North Dakota Department of Transportation during the construction of the I-29 and 52nd Avenue South Corridors.

City of West Fargo

During the last five years, the City of West Fargo received $309,000 in federal transportation enhancement funds as administrated by the North Department of Transportation. The City has constructed $231,000 of shared use paths, including projects from the Public Works Department and the Park Board. Local funds are generated through the general fund which includes property and sales taxes. The Park Board is a separate entity from the City, and raises funds through its own tax levy. In addition, the Park Board received $80,000 from the North Dakota Recreational Trails fund.

As shown on Table 21, the estimated expenses for short term bicycle and pedestrian improvements within the City of West Fargo is just under $460,000. Based on these estimates, short range projects within the City of West Fargo are financially constrained and feasible.

Cass County

Cass County's revenue for shared use bicycle facility construction for the last five years included $220,000 of federal transportation enhancement funds as administrated by the

North Dakota Department of Transportation and $30,000 of local funds. In addition, Cass County constructed just under seventeen miles of wide shoulders for use as bicycle lanes. These facilities were included in the reconstruction costs of the county roadways. Local funds are collected through property taxes. Most of the projects listed on Table 23 will be completed during the construction or reconstruction of various roadway improvements which have been financially constrained by the 1998 Metropolitan Transportation Plan. The local cost for bicycle improvements totals $732,000. Currently, transportation enhancement funds equaling $100,000 have been approved for use in 2001. Using historical figures, an additional $120,000 of transportation enhancement funds should be available for Cass County within the next five years, leaving local costs totaling $612,000. The Cass County Commission has agreed to provide the necessary local funds, if 60% of the benefitting area's population supports the assessment.

Funding Opportunities

The passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 contained thirteen separate planning and funding provisions for bicycling and walking, and required MPOs to include bicycle elements in their Metropolitan Transportation Plan (MTP). This requirement and ISTEA's emphasis on intermodalism resulted in transportation agencies giving greater attention to non-traditional modes of transportation, such as bicycling and walking. Not only did ISTEA provide the framework for enhance bicycle and pedestrian planning, it also provided greater flexibility in funding allowing MPOs and State DOTs to consider funding a broader range of projects.

In 1998, the Transportation Equity Act for the 21st Century (TEA-21) was signed into law. This legislation updated Titles 23 and 49 of the United States Code (U.S.C.), and built on the major changes made to the federal transportation policy and programs began by the ISTEA. Bicycle and pedestrian facilities can be funded by various programs under this legislation. Table 25, TEA-21 Bicycle/Pedestrian Funding Opportunities categorizes various bicycle and pedestrian projects and programs by potential areas for federal funding. Descriptions of these sources of transportation planning follow, in addition to other possible funding sources:

Federal Highway Program

National Highway System (NHS) funds may be used to construct transportation related bicycle facilities and pedestrian walkways on land adjacent to any highway on the National Highway System including interstate highways.

Surface Transportation Program (STP) funds may be used for either the construction of transportation related bicycle facilities and pedestrian walkways, or non-construction projects (such as maps, brochures, and public service announcements) related to safe bicycle use and walking. TEA-21 adds "the modification of public sidewalks to comply

with the Americans Disability Act" as an activity that is specifically eligible for these funds.

The Hazard Elimination Program (HEP) and the Rail-Highway Crossing Program (RHC) account for 10 percent of each State's annual STP funds. Each State is required to implement a Hazard Elimination Program to identify and correct locations that may constitute a danger to motorists, bicyclists, and pedestrians. Funds may be used for activities including 1) a survey of hazardous locations and 2) projects on any publicly owned bicycle or pedestrian pathway or trail, or 3) any safety-related traffic calming measure. Improvements to railway-highway crossings "shall take into account bicycle safety."

Transportation Enhancement Activities (TEA) account for 10 percent of each State's annual STP funds. The law provides a specific list of activities that are eligible TEAs and this list includes "provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists," and the "preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails)."

Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or nonconstruction projects (such as maps, brochures, and public service announcements) related to safe bicycle use.

Recreational Trails Program (RTP) funds may be used for different kinds of trail projects. Of the funds apportioned to a State, 30 percent must be used for motorized trail uses, 30 percent for nonmotorized trail uses, and 40 percent for diverse trail uses (any combination).

High Priority Projects and Designated Transportation Enhancement Activities (TEA) identified by TEA-21 include numerous bicycle, pedestrian, trail, and traffic calming projects in communities throughout the country.

The Highway Bridge Replacement and Rehabilitation Program (BRI) is required by TEA-21 to provide safe accommodations for bicycles upon replacement or rehabilitation if bicycle facilities are located on either side of the bridge, and it is found financially feasible.

Two percent of the State Planning Funds and one percent of the Metropolitan Planning Funds (PLA) authorized for the IM, NHS, STP, CMAQ, and Bridge programs are to be used for planning, research, and technology transfer activities; which may include bicycle and pedestrian planning activities.

Transportation and Community and System Preservation Pilot Program (TCSP) supports innovative projects that demonstrate how transportation projects and plans, community development, and preservation activities can be integrated by the FHWA, in partnership with the FTA and Environmental Protection Agency.

Job Access and Reverse Commute Grants (JOBS) are available to support projects, including bicycle-related services, designed to transport welfare recipients and eligible low-income individuals to and from employment.

The Federal Lands Highway Program (FLH) has provisions for pedestrians and bicyclists under various categories in conjunction with roads, highways, and parkways. Priority for funding projects is determined by the appropriate Federal Land Agency or Tribal government.

National Scenic Byways Program (BYW) funds may be used for construction of a facility along a scenic byway for pedestrians and bicyclists.

Federal Transit Program

Title 49 U.S.C. (as amended by TEA-21) allows the Urbanized Area Formula Grants, Capital Investment Grants and Loans, and Formula Program for Other than Urbanized Area transit funds (FTA) to be used for improving bicycle and pedestrian access to transit facilities and vehicles. Eligible activities include investments in "pedestrian and bicycle access at a mass transportation facility" that establishes or enhances coordination between mass transportation and other transportation.

TEA-21 also created a Transit Enhancement Activity (TE) program with a 1 percent set-aside of Urbanized Area Formula Grant funds designated for, among other things, pedestrian access and walkways and "bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on mass transportation vehicles."

Highway Safety Programs

Pedestrian and bicyclist safety remain priority areas for State and Community Highway Safety Grants funded by the Section 402 formula grant program. A State is eligible for these grants by submitting a Performance Plan (establishing goals and performance measures for improving highway safety) and a Highway Safety Plan (describing activities to achieve those goals).

Research, development, demonstrations, and training to improve highway safety (including bicycle and pedestrian safety) is carried out under the Highway Safety Research and Development (Section 403) Program.

Other Federal Funding Sources

The Land and Water Conservation Fund provides resources needed for outdoor recreation purposes, and for the preservation of the nation's natural heritage. These funds must be used for recreation purposes and not for transportation purposes.

The Rails-to-Trails Conservancy is designed to enhance communities by converting abandoned railway corridors, and connecting open space into a nationwide network of public trails.

Minnesota Grant Programs

Minnesota Outdoor Recreation Grant Program funds are available for the acquisition, development or redevelopment of parks.

The Minnesota Cooperative Trail Linkage Grant Program promotes relatively short trail connections between where people live and desirable destinations, or to link existing trail segments. Priority is given from residential connections to state and regional facilities.

The Minnesota Regional Trail Initiative Grant Program promotes development of regionally significant trails funded with local or federal funding. Primary determinants of significant include length, expected use and resource quality / attractiveness.

USDOT Policy Statement on Accommodating Bicycle and Pedestrian Travel

In 2000, the United States Department of Transportation adopted the policy statement "Accommodating Bicycle and Pedestrian Travel: A Recommended Approach" in hopes other agencies would commit themselves to improving the bicycle and pedestrian environment. The policy states that accommodating bicyclist and pedestrian should be the rule rather than the exception. The policy also notes exceptions exist when bicyclist and pedestrians are prohibited by law from using the roadway, the cost of including these facilities would exceed 20 percent of the cost of the transportation project, or where there is an absence of need due to the sparsity of population. The complete policy is located in Appendix X.

Table 25
TEA-21 Bicycle/Pedestrian Funding Opportunities

	NHS	STP	HEP	RHC	TEA	CMAQ	RTP	BRI	PLA	TCSP	JOBS	FLH	BYW	FTA	TE	402/403
Bicycle and Pedestrian Planning		●				●			●	●						
Bicycle Lanes on Roadway	●	●	●	●	●	●		●				●	●	●	●	
Paved Shoulders	●	●	●	●	●	●		●				●	●			
Signed Bike Route	●	●			●	●						●	●			
Shared-Use Path/Trail	●	●			●	●	●	●				●	●			
Single Track Hike/Bike Trail							●									
Spot Improvement Program		●	●		●	●										
Maps		●				●										●
Bike Racks on Buses		●			●	●								●	●	
Bicycle Parking Facilities		●			●	●							●	●	●	
Trail/Highway Intersection	●	●	●		●	●						●	●			
Bicycle Storage/Service Center		●				●				●	●			●	●	
Sidewalks, New or Retrofitted	●	●	●	●	●	●		●				●	●	●	●	
Crosswalks, New or Retrofitted	●	●	●	●	●	●						●	●	●	●	
Signal Improvements	●	●	●	●	●	●										
Curb Cuts and Ramps	●	●	●	●	●	●										
Traffic Calming		●	●	●	●	●				●						
Coordinator Position		●				●				●						
Safety/Education		●				●										●
Police Patrol		●				●										●
Helmet Promotion																●
Safety Brochure/Book						●										●
Training						●										●

Source: FHWA Guidance Bicycle and Pedestrian Provisions of Federal Transportation Legislation

Chapter Eight

Implementation

This section identifies the process by which the many elements of this Plan will be implemented or amended. Importantly, an annual action plan, prepared by the Metropolitan Bicycle and Pedestrian Committee, is proposed as the primary means to coordinate and promote local implementation efforts.

Purpose

In order to strengthen the existing metropolitan bikeway and pedestrian system, and garner public support for continued implementation of bikeway and pedestrian improvements, a Metropolitan Bicycle and Pedestrian Action Plan will be developed on an annual basis. The Action Plan will suggest tasks related to the Metropolitan Bicycle and Pedestrian Plan that should be pursued by local jurisdictions or COG.

Process

The Metropolitan Bicycle and Pedestrian Committee (MBPC) will meet on an as-needed basis, with a minimum of two meetings a year, to advance the timely and orderly development of bikeway and pedestrian facilities and programs in the metropolitan area. They will discuss, in consultation with local governments and public/private interests, the formulation of the Annual Action Plan. The Action Plan will include specific tasks and their estimated start and completion dates, as well as the responsible agency to implement the proposed improvement. The Action Plan must be formulated and circulated to each jurisdiction prior to their budget deadline (or July of each calendar year whichever comes first) as the proposed improvements could represent financial commitments on the part of the respective governmental units.

In preparing the Action Plan, the MBPC may consider any project that is consistent with this Plan's 20-year vision or its subsequent goals or objectives. There should be special consideration to those activities identifies as high priority in Chapter 6 of this Plan. Chapter 6 identifies proposed bicycle and pedestrian facility improvements, as well as objective and strategies which were based on an assessment of existing and future local bicycle and pedestrian needs/priorities.

Following the development of the Action Plan, the MBPC will recommend the document for approval to the COG Transportation Technical Committee (TTC). The TTC, in turn, will consider the recommendations in developing the F-M metropolitan area's three-year Transportation Improvement Program (TIP) and the F-M COG's Unified Planning Work Program (UPWP). Both of these documents (TIP and UPWP) must be approved by the TTC and the COG Policy Board before a project contained in the Action Plan may be implemented. In addition,

local governments, schools, bicycle and pedestrian clubs, and citizens are expected to assist the MBPC in the implementation of this planning document.

On occasion, it may be necessary for the MBPC to consider amending the recommendations cited in Chapter 6 of this Plan. Therefore, amendments may be authorized on a project-by-project basis. If the proposed project or activity is consistent other recommendations included in Chapter 6, the MBPC may recommend approval of the improvement to the TTC. However, if the proposed activity represents a substantive amendment to the Plan requiring the addition, deletion, or change in the scope of a project, the MBPC will recommend to the TTC that a public hearing be held to receive citizen comments regarding the proposed amendment. Consideration of any amendment to the Plan by the MBPC should be executed in consultation with COG's Policy Defining its Public Involvement Process for Transportation Planning, adopted January 1997.