Chapter 7 – Project Identification and Prioritization

Above: West River Parkway

7.1 Chapter Overview

7.1.1 Purpose—This chapter identifies infrastructure and non-infrastructure projects in addition to creating criteria for prioritization. These projects and initiatives support the goals and objectives outlined in this document, build on existing conditions, and attempt to adequately address the needs analysis.

7.1.2 Infrastructure Topics – This chapter addresses the following topics:

Infrastructure Projects - This section addresses the identification of physical infrastructure needs, which lead to a list of infrastructure projects.

- Access Minneapolis 10 –Yr Transportation Action Plan Gap Analysis: This plan created a list of system gaps in 2009.
- Hennepin County Bicycle Gap Study: In 2002 Hennepin County conducted a gap analysis. Many of these gaps still exist today.
- Present Gaps: A current gap analysis was conducted identifying the existing gaps in the system. Many of the gap projects previously identified in the Access Minneapolis Gap Analysis and the Hennepin County Bicycle Gap Study have been constructed.
- Community Connectors: Connections to other communities.
- 5-Year Capital Program: List of funded projects in the 5-Yr Capital Program.
- Bikeways Master Plan Map: The Bikeways Master Plan Map shows all of the proposed bikeway projects needed to complete the bicycle system and is based on the 2001 Bikeways Master Plan. The Bikeways Master Plan Map also reflects extensive community input.
- Opportunity and Stand-Alone Projects: This section identifies which projects are opportunity projects and which projects are stand-alone projects.
- Corridor Improvements/Spot Improvements/System-wide Improvements: This section looks at all three types of corridors and suggests candidate projects.
- Project List: The project list shows all proposed projects by quadrant.

Prioritization—Due to limited resources, projects and initiatives must be prioritized. Several criteria have been developed to help fairly classify candidate projects. The BAC will advise on project prioritization.

- Project Criteria: These criteria are used to help prioritize bicycle projects.
- Bicycle Functional Classification: This is a tool to help prioritize bikeways.

7.1.3 Non-Infrastructure Topics

Above: Minneapolis Riverfront

Non-Infrastructure Initiatives—A well balanced bicycle program should pursue initiatives that satisfy all 6 "E's" not just engineering/infrastructure projects. To address this, both long-term and short-term initiatives have been identified. Long-term initiatives tend to be more expensive whereas short-term projects tend to be cheaper and easier to implement.

7.2 Infrastructure Projects

7.2.1 Access Minneapolis 10 –Yr Transportation Action Plan Gap Analysis —As part of the Access Minneapolis 10 –Yr Transportation Action Plan a bicycle gap analysis identified the following system gaps and discontinuities:

Gaps in Off-Street Facilities:

#1 49th Avenue Trail Corridor
#2 Osseo Road Trail Corridor
#3 Ryan Lake Trail Corridor
#4 Upper River Trail Corridor
#5 Upper River Trail Corridor
#6 27th Avenue NE Trail Corridor
#7 Upper River Trail Corridor
#8 University Avenue Trail Corridor
#9 Central Avenue Trail Corridor
#10 St. Anthony Parkway Trail Corridor
#11 Stinson Parkway Trail Corridor
#12 East River Parkway Trail Corridor
#13 NE Cedar Lake Trail Corridor
#14 East River Parkway Trail Corridor
#15 Oak Street Trail Corridor
#16 Chicago Avenue Corridor
#17 Dunwoody Trail Corridor
#18 Emerson/Freemont Trail Corridor
#45/46 I-35W Tunnel Corridor
#47 Washington Ave Trail Corridor
#48 CP Rail Corridor
#52 26th Ave N Corridor

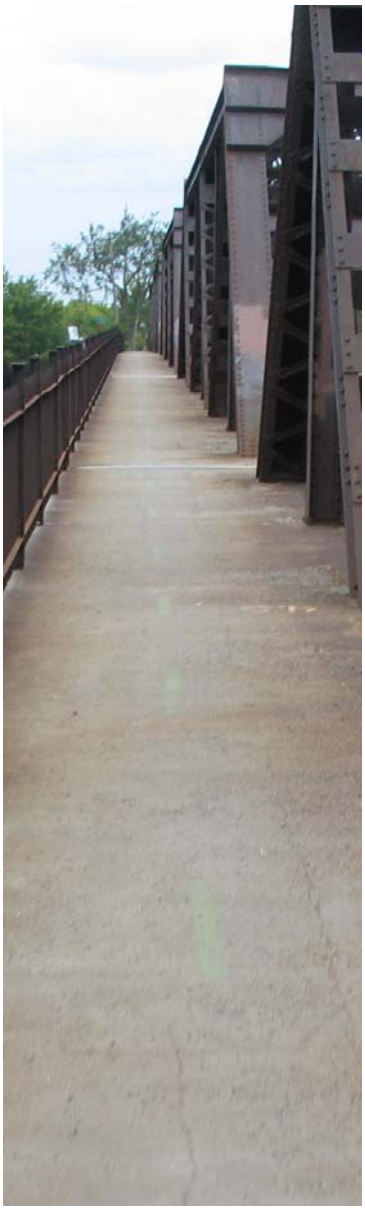
Above: Stone Arch Bridge

Above: Bike lane on Lowry Avenue

7.2.1 Access Minneapolis 10 –Yr Transportation Action Plan Gap Analysis (Continued)

Gaps in On-Street Facilities:

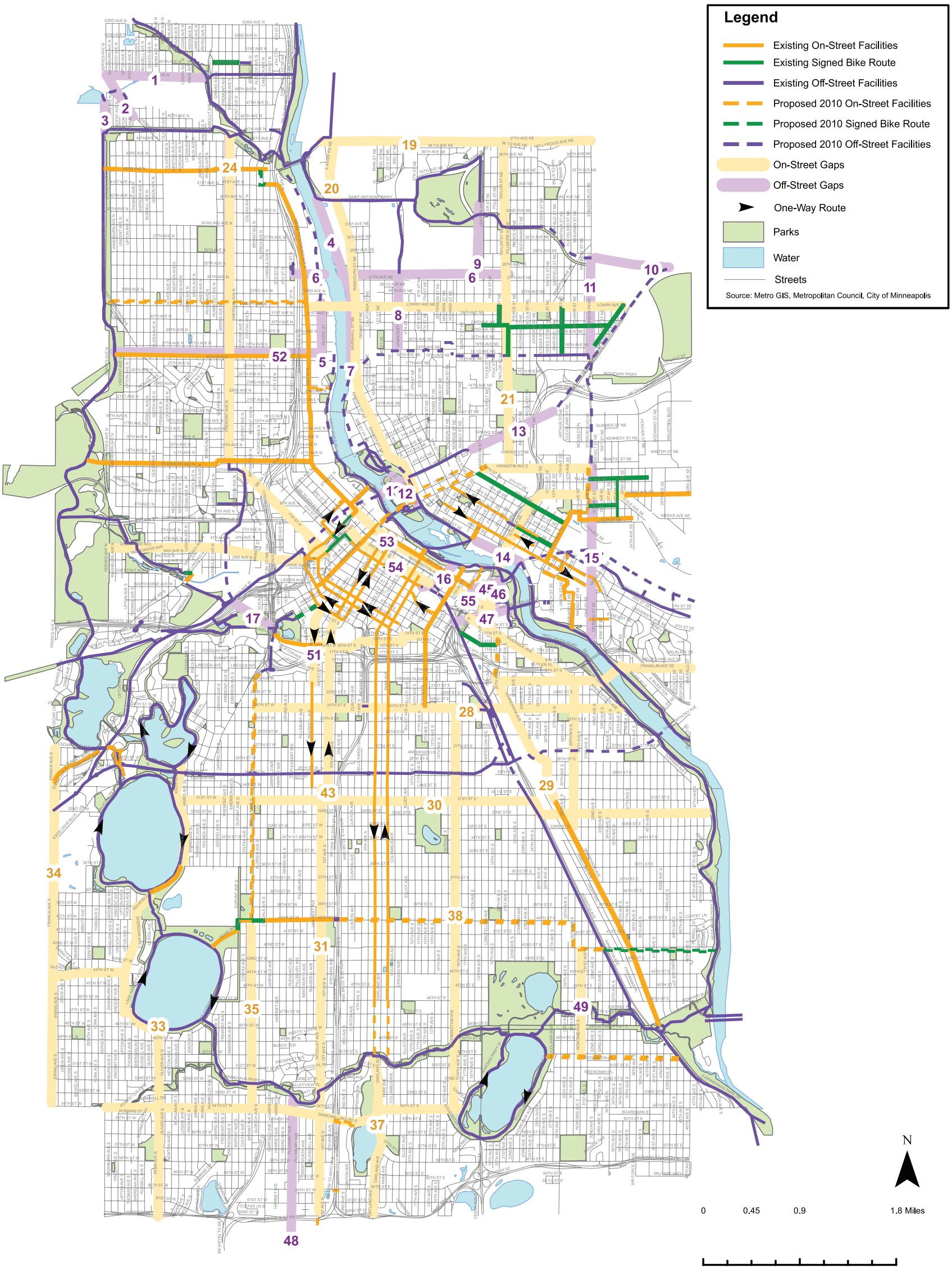
#19 37th Avenue On-Street Corridor
#20 Marshall On-Street Corridor
#21 Fillmore Street NE On-Street Corridor
#22 Lowry Ave NE On-Street Corridor
#23 Como On-Street Corridor
#24 Emerson/Freemont On-Street Corridor
#25 Glenwood Avenue On-Street Corridor
#26 10th Ave On-Street Corridor
#27 Riverside Ave On-Street Corridor
#28 24th Street On-Street Corridor
#29 Minnehaha On-Street Corridor
#30 32nd Street On-Street Corridor
#31 Nicollet Avenue On-Street Corridor
#32 Hennepin Avenue On-Street Corridor
#33 Upton/Sheridan Avenue On-Street Corridor
#34 France Avenue On-Street Corridor
#35 Bryant Avenue On-Street Corridor
#36 Diamond Lake Road On-Street Corridor
#37 Portland Avenue On-Street Corridor
#38 Bloomington Avenue On-Street Corridor
#39 7th Street North On-Street Corridor
#40 14th/15th/16th On-Street Corridor
#41 Franklin Avenue On-Street Corridor
#42 44th Street On-Street Corridor
#43 1st Ave S On-Street Corridor
#44 29th Street On-Street Corridor
#49 30th Ave On-Street Corridor
#50 10th Street Bridge Corridor
#51 Lasalle On-Street Corridor
#53 2nd Street On-Street Corridor
#54 3rd Street On-Street Corridor
#55 Washington Ave Over I-35W



Above: St Anthony Parkway Bridge Trail

Above: Bike lane around Lake Harriet

Figure 7.1 - Access Minneapolis Gaps



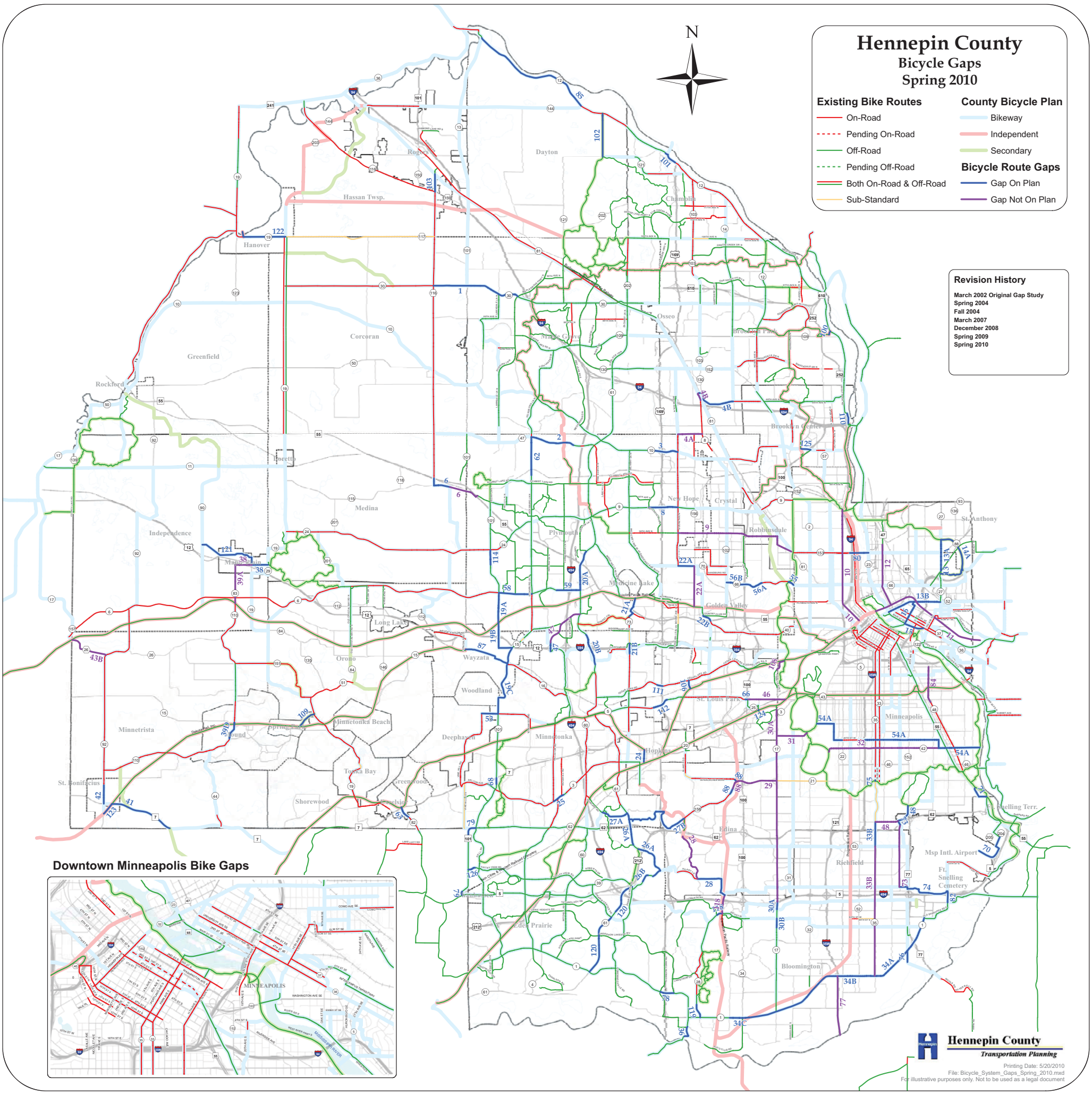
7.2.2 Hennepin County Bicycle Gap Study—This study was originally completed in 2002 and recognized a number of gaps in Minneapolis. This study was updated in 2010.

Above: Martin Sabo Bridge

Table 7.1 – 2010 Hennepin County System Gaps

Gap #	System Gap	Project Limits	On-Street or Off-Street
10	Lyndale Avenue/5th St N	Webber Pkwy to 2nd Ave N	Off-Street
11	BNSF Railway Corridor	Mississippi River to St. Paul	On-Street
12	Marshall Street NE	Hennepin Ave to 27th Ave NE	On-Street
13	Ridgeway Parkway	Stinson to St. Anthony Pkwy	Off-Street
13A	Stinson Blvd	Stinson Pkwy to 18th Ave NE	On-Street
13B	Hennepin Avenue NE	Main Street to Stinson Blvd.	On-Street
14A	St. Anthony Parkway	Stinson to Ridgeway Road	Off-Street
15	East River Trail Missing Link	Stone Arch Bridge to Bridge 9	Off-Street
16	6th Ave SE	Main Street to Hennepin Ave	On-Street
30A	France Avenue	Ewing Avenue to City Limits	On-Street
31	West 39th Street	France Avenue to Richfield Rd	On-Street
32	West 42nd Street	Lake Harriet to Nokomis Ave	On-Street
33B	Portland Avenue	60th Street to City Limits	On-Street
48	East 60th Street	Portland Ave to Bloomington	On-Street
54A	36th St/King's Highway/RiverLake Greenway	Lake Calhoun to Mississippi River	On-Street
71	Fort Snelling Trail Gap	54th Street to City Limits	Off-Street
73	Bloomington Avenue	60th Street to City Limits	On-Street
75	Portland Avenue	Minnehaha Pkwy to 60th St	On-Street
80	Lowry Bridge	2nd Street to Marshall Street	Off-Street
84	Minnehaha/26th Avenue	31st St to Franklin Avenue	On-Street

Figure 7.2 - Hennepin County Gap Study



7.2.3 Present Gaps—Many of the gaps that have been identified by both the Access Minneapolis Plan and the Hennepin County Gap Analysis have been funded or completed. The Present Gap Study uses a 2 mile spacing requirement for trails, 1 mile spacing for bike lanes or bike boulevards, and 1/2 mile spacing for signed routes. The study also requires that there be a bicycle facility connection on both ends of the gap so there are no discontinuities created when a gap project has been completed. To determine system gaps, a map showing fully funded facilities was overlaid onto a map of existing facilities. The following gaps still remain:

Above: West River Parkway

Above: Minnehaha Creek Trail

Above: Upper Mississippi Trails

<u>Gaps in Off-Street Facilities:</u>

- 49th Avenue North Trail Corridor
- Osseo Road Trail Corridor
- Ryan Lake Trail Corridor
- Crystal Lake Trail Corridor
- Dunwoody Trail Corridor
- Central Avenue Trail Corridor
- Waite Trail Corridor
- Upper River Trails
- 27th Ave NE Trail Corridor
- University Ave NE Trail Corridor
- St. Anthony Parkway Trail Corridor
- Stinson Parkway Trail Corridor
- Grand Rounds Trail Corridor
- NE/Cedar Lake Trail Corridor
- East River Parkway Trail Corridor
- Chicago Avenue Trail Corridor
- Washington Avenue Trail Corridor
- LRT Trail Gap
- CP Rail Trail
- Inter-City Trail Corridor

7.2.3 Present Gaps - Continued

Gaps in On-Street Facilities:

- Thomas Avenue Corridor
- 27th Ave NE Corridor
- Lowry Avenue Corridor
- Marshall Street Corridor
- Como Avenue Corridor
- 24th Street Corridor
- 32nd Street Corridor
- Diamond Lake Road Corridor
- 44th Street Corridor
- France Avenue Corridor
- Upton/Sheridan Corridor
- Nicollet Avenue Corridor
- Portland Avenue Corridor
- Bloomington Avenue Corridor
- 38th Avenue Corridor

Above: Marshall Street NE

Above: Marshall Street NE Bridge with striped shoulder

Above: Park Avenue at 14th Avenue.

Figure 7.3 - Existing Bikeways in Minneapolis (May 2011)

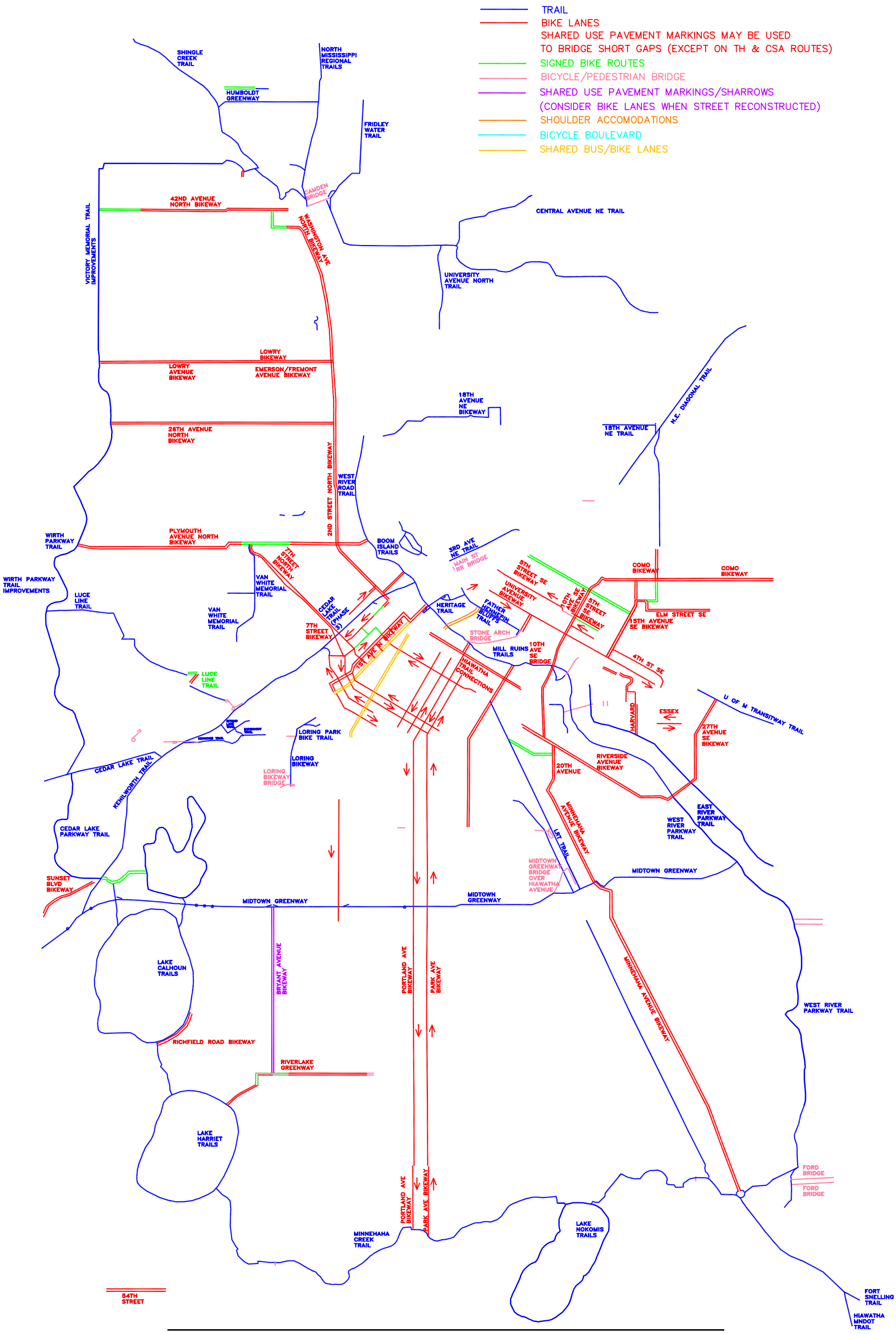
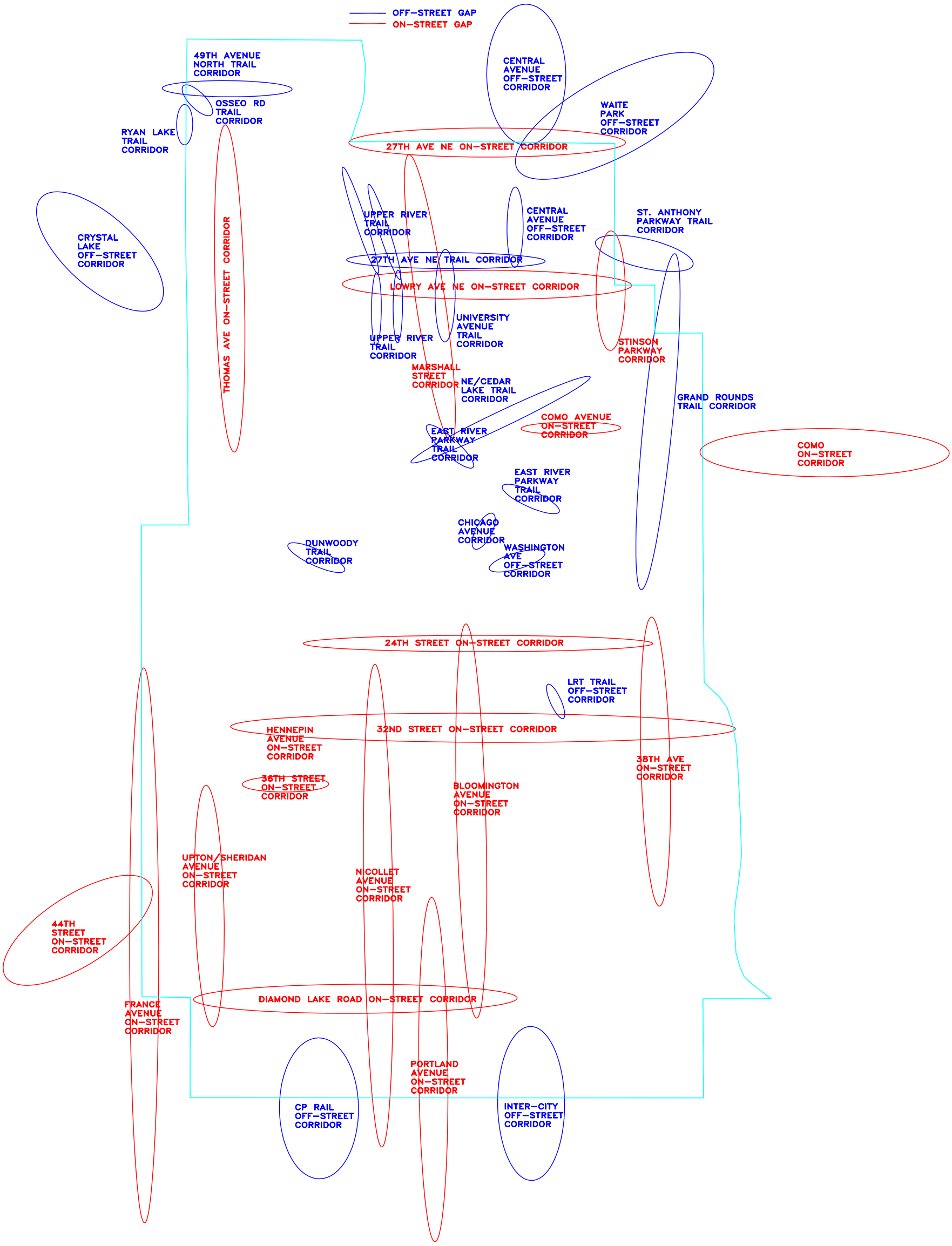


Figure 7.4 - Existing Bicycle System Gaps (May 2011)



Above: Downtown Bicyclist

7.2.4 Community Connectors—Both on-street and off-street connections to surrounding communities are just as important as completing internal system gaps. Below is a discussion about existing and proposed connections to adjacent communities. A map showing all of these connections is included.

Brooklyn Center: The Shingle Creek Trail and the North Mississippi Regional Trails are the primary bicycle facility connectors into Brooklyn Center. There does not appear to be a need for additional off-street facilities, however on-street connections via Humboldt Avenue and Bryant Avenue may be further explored.

Columbia Heights: There are currently no trail connections to Columbia Heights. Perhaps the greatest opportunity for a future trail is along Central Ave NE. On-street bike lanes have also been recommended for 37th Ave NE and would require cooperation from both cities.

Edina: There does not appear to be any opportunities for trail connections into Edina, however both the 44th Street corridor and the France Avenue corridors present opportunities for on-street improvements. France Avenue is a county road and would likely require the removal of parking to facilitate bicycle lanes.

Fort Snelling/MSP Airport: Currently there is an off-street trail that connects to Fort Snelling, with a spur to the historic barracks. There is currently a trail gap between 54th Street and the MnDOT trail near the Bureau of Mines buildings. There also continues to be challenges with getting a trail to connect with the Lindbergh Terminal at MSP Airport. The agencies in this vicinity will need to collaborate to determine the best alignment for these connections.

Fridley: There is an existing off-street trail that runs parallel to East River Road. This facility addresses most cyclist's needs in this area.

Golden Valley: The Wirth Parkway Trail is technically located in Golden Valley. Perhaps the most important connection is the Luce Line Trail, which is now completed. On-street routes including 26th Avenue North, Glenwood Avenue, Golden Valley Road, and Plymouth Avenue intersect with Wirth Parkway.

Lauderdale: A future bike connection via Hennepin Avenue is currently the only proposed connection.

Richfield: The CP Rail Trail and Inter-City Trail along Bloomington Avenue are proposed to address off-street users. Portland Avenue, Nicollet Avenue, Lyndale Avenue, and Penn Avenues have been identified as on-street bike routes.

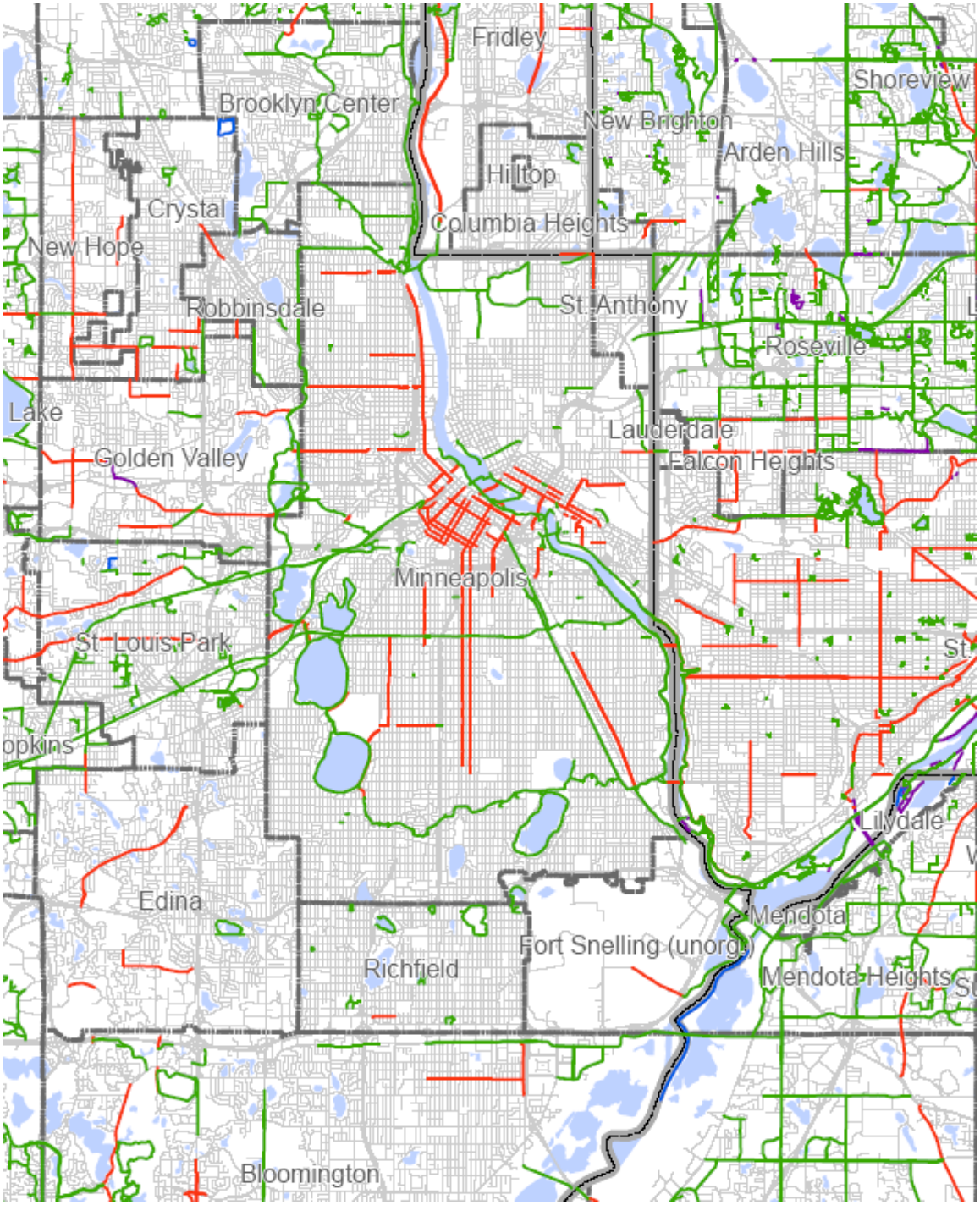
Robbinsdale: The Crystal Lake Trail will provide a valuable off-street trail connection.

St. Anthony: The NE Diagonal Trail now provides an excellent off-street connection into St. Anthony. The proposed Waite Park Trail would make a second connection into St. Anthony.

St. Louis Park: Both the Cedar Lake Trail and SW LRT Trails connect to St. Louis Park.

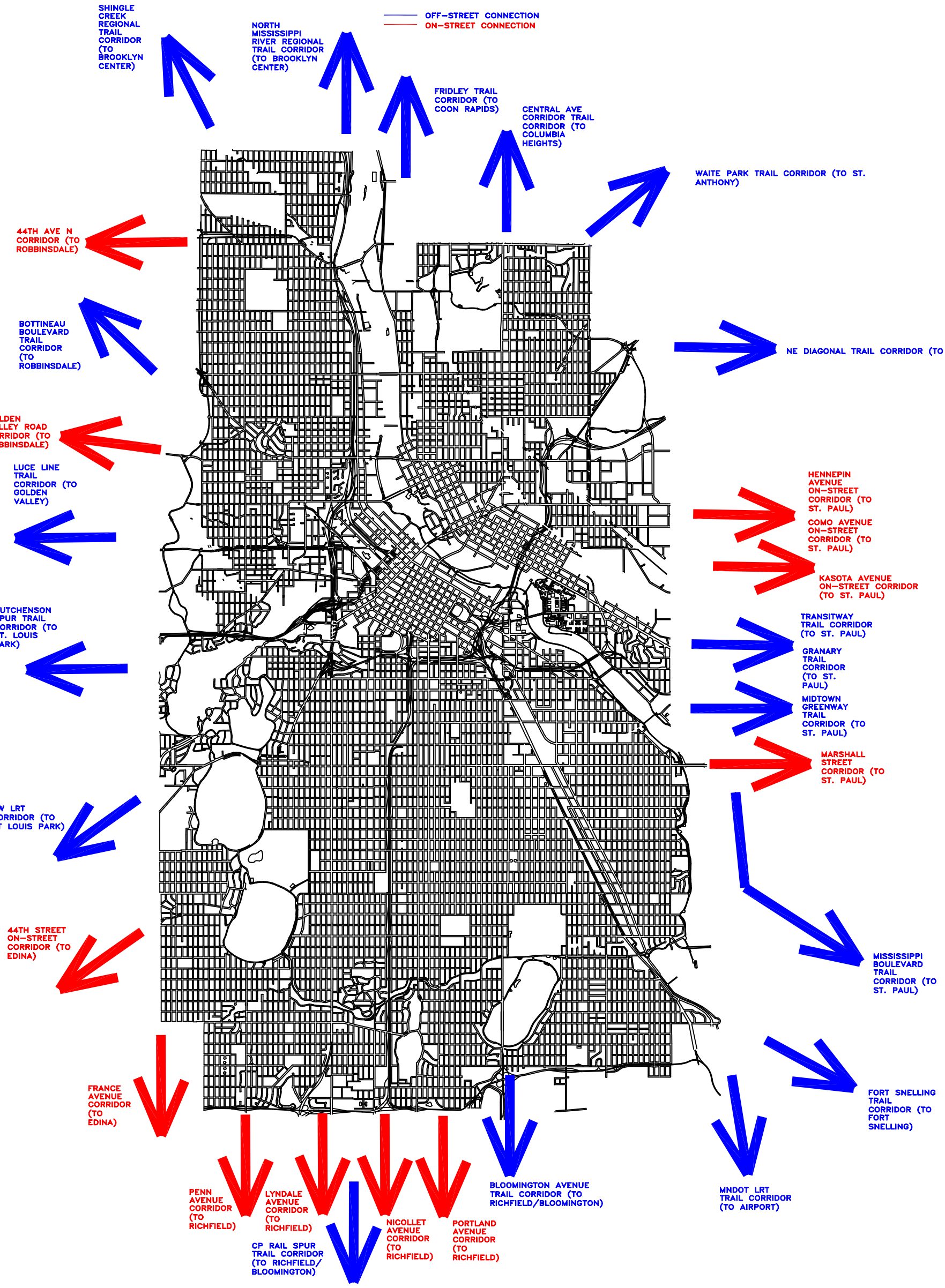
St. Paul: There are several existing and proposed off-street connections including Granary Road, the U of M Transitway, East River Parkway, and the Midtown Greenway. Como Ave, Kasota Ave, Marshall Street, and Hennepin Avenue provide existing and proposed on-street connections to St. Paul.

Figure 7.5 – Existing Connections to Minneapolis (Met Council 2007)



Above: Above is a Metropolitan Council map of existing bikeways showing connections to/from Minneapolis. Green lines are trails and red lines are bike lanes/paved shoulders.

Figure 7.6 - Existing and Proposed Community Connectors



7.2.5 5-Year Capital Program – There are a number of projects that have been identified for construction between 2011 and 2015. The projects that have been identified in the infrastructure project list (later in this chapter) as based on the assumption that the projects below will be completed by 2015.

Above: The Plymouth Avenue Bridge will have bike lanes installed in 2011.

Table 7.2 – Off-Street Projects in the 5-Year CIP

On-Street Facility	Year	New Miles
18th Avenue NE Trail	2011	1.5
Cedar Lake Trail (Phase 3)	2011	1.0
Hiawatha Trail Connection	2011	0.2
Hiawatha LRT Trail Lighting	2014	-
University of Minnesota Trail	2012	0.8
Van White Bridge Trail	2012	0.5
Total		**4.0**

Table 7.3 – On-Street Projects in the 5-Year CIP

On-Street Facility	Year	New Miles
1st/Blaisdell	2011	4.4
3rd St S (Hennepin to Norm McGrew)	2011	0.8
5th St NE	2011	2.0
7th St/10th Ave N	2011	2.8
10th Ave SE	2011	0.8
14th/15th/16th St	2011	1.6
19th Ave S	2011	0.7
22nd Ave NE	2011	2.4
26th Avenue S	2011	0.6
27th Ave SE	2011	0.6
Bryant Ave S	2011	3.2
Central Avenue Bikeway	2011	2.3
Como Ave SE	2011	1.0
DDIR Projects (4th Avenue, 5th Avenue, 6th Street)	2011	1.8
Emerson/Fremont Aves N	2011	4.7
Fillmore/6th Avenues	2011	3.9
Franklin Ave E	2011	1.3
Glenwood Ave	2011	2.0
Marshall/Main	2011	1.0
Minnehaha Avenue S	2011	1.5
Plymouth Ave N/8th Ave NE	2011	1.1
RiverLake Greenway (40th - I35W to 30th Ave, 30th - 38th to 42nd, 42nd - 30th to W River Pkwy)	2011	4.0
Riverside Ave	2011	1.3
Total		**47.9**

7.2.6 Bikeways Master Plan —The Bikeways Master Plan is a map of how the bikeways system in Minneapolis may look fully built out. There are several types of facilities that have been identified on this plan including off-street trails, bicycle and pedestrian bridges, bicycle boulevards, shared bus/bike lanes, signed routes, routes with shoulders, and routes with shared use pavement markings. The purpose of so many types of facilities is to allow different facility choices at a reasonable spacing to attract bicyclists of all ages and abilities. Working together, this proposed facility network would allow for a cost-effective transportation network that anyone can use to get from place to place.

Above: LRT Trail Crossing at Cedar Riverside Station

Process: The Bikeways Master Plan builds upon the 2001 Bikeways Master Plan, which is based on community suggestions. Although there are some route changes in the new plan, most of the routes have remained unchanged since 2001. New types of bicycle facilities have since emerged and many of the on-street corridors are now identified as bicycle boulevards or use shared use pavement markings. Routes that have shared use pavement markings should consider bicycle lanes when the street is reconstructed. Routes that are not on CSA or TH routes may use shared use pavement markings (sharrows) to bridge small gaps where the road is not wide enough to accommodate bicycle lanes. It is important to note that this map is guidance for the design process and that community input or technical factors may result in a different design. It is important to note that many of the routes identified in this plan may take years before the projects are ready for implementation due to land use changes or changes in public opinion. The rate at which new facilities can be constructed will depend on available resources and the cities capacity to fund and maintain existing facilities.

Above: U of M Transitway Trail

7.2.6 Bikeways Master Plan - Continued

Factors: Before placing a bicycle route on the Bikeways Master Plan a number of factors were considered including (detailed analysis has not been done):

- Potential use
- Traffic safety and personal safety
- Directness of route
- Access to destinations and land use
- System connectivity
- Removing system gaps and barriers
- Connections to transit/bus routes
- Types of users and skill levels to be served
- Available right-of-way/available space
- Proximity to other bicycle facilities
- Jurisdictional responsibility/function
- Community support
- Truck volumes/potential truck conflicts
- Proximity to parks and schools
- Location of existing traffic control devices
- Motor vehicle parking impacts
- Bicyclist comfort/scenic route locations
- Number of at-grade locations
- Motor vehicle volumes and speeds
- Grades/topography

Above: Eastside CO-OP Bike Racks

Above: Webber Park Trail

Figure 7.7 - Bikeways Master Plan

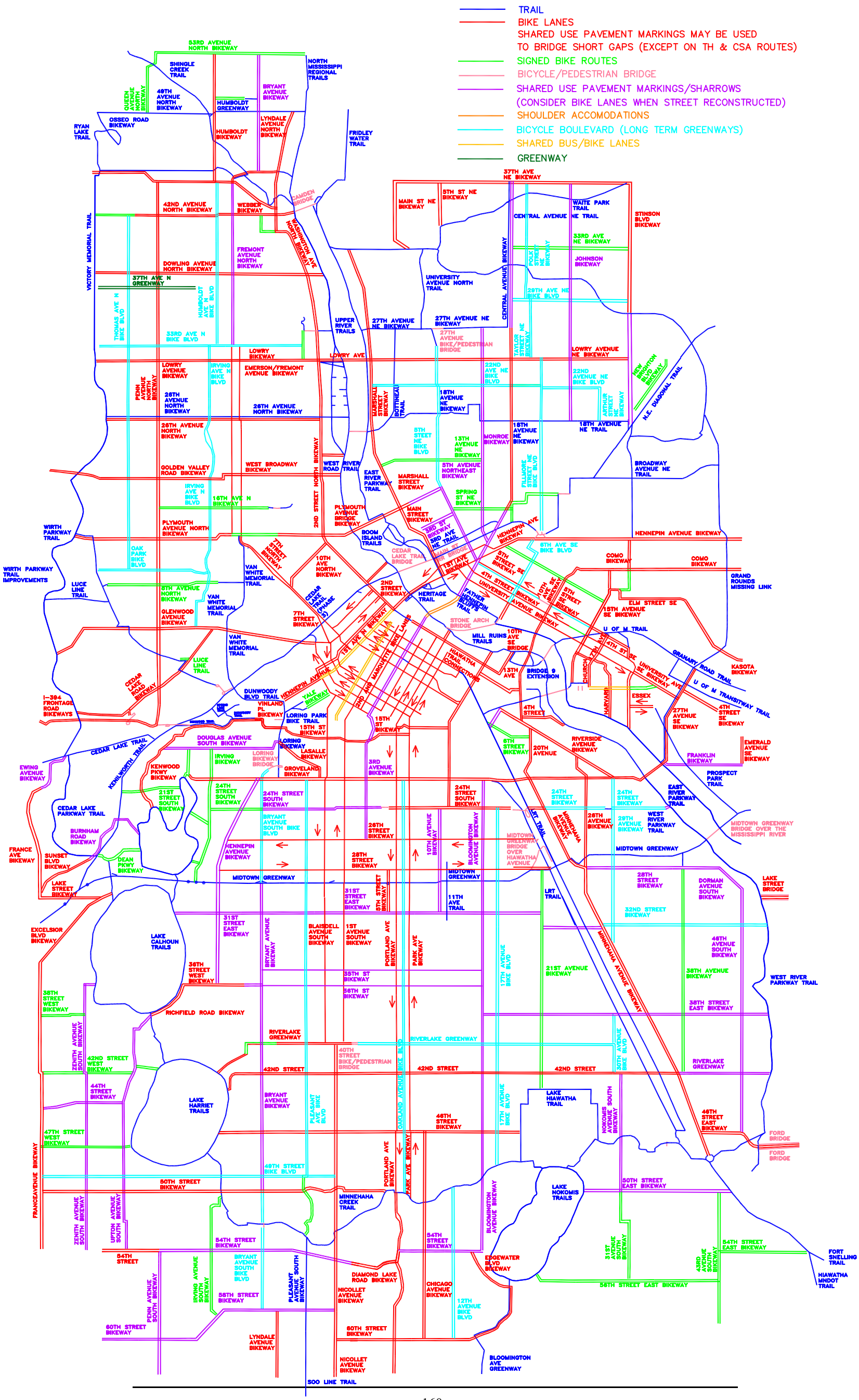


Figure 7.8 - Bikeways Master Plan (Off-Street Routes)

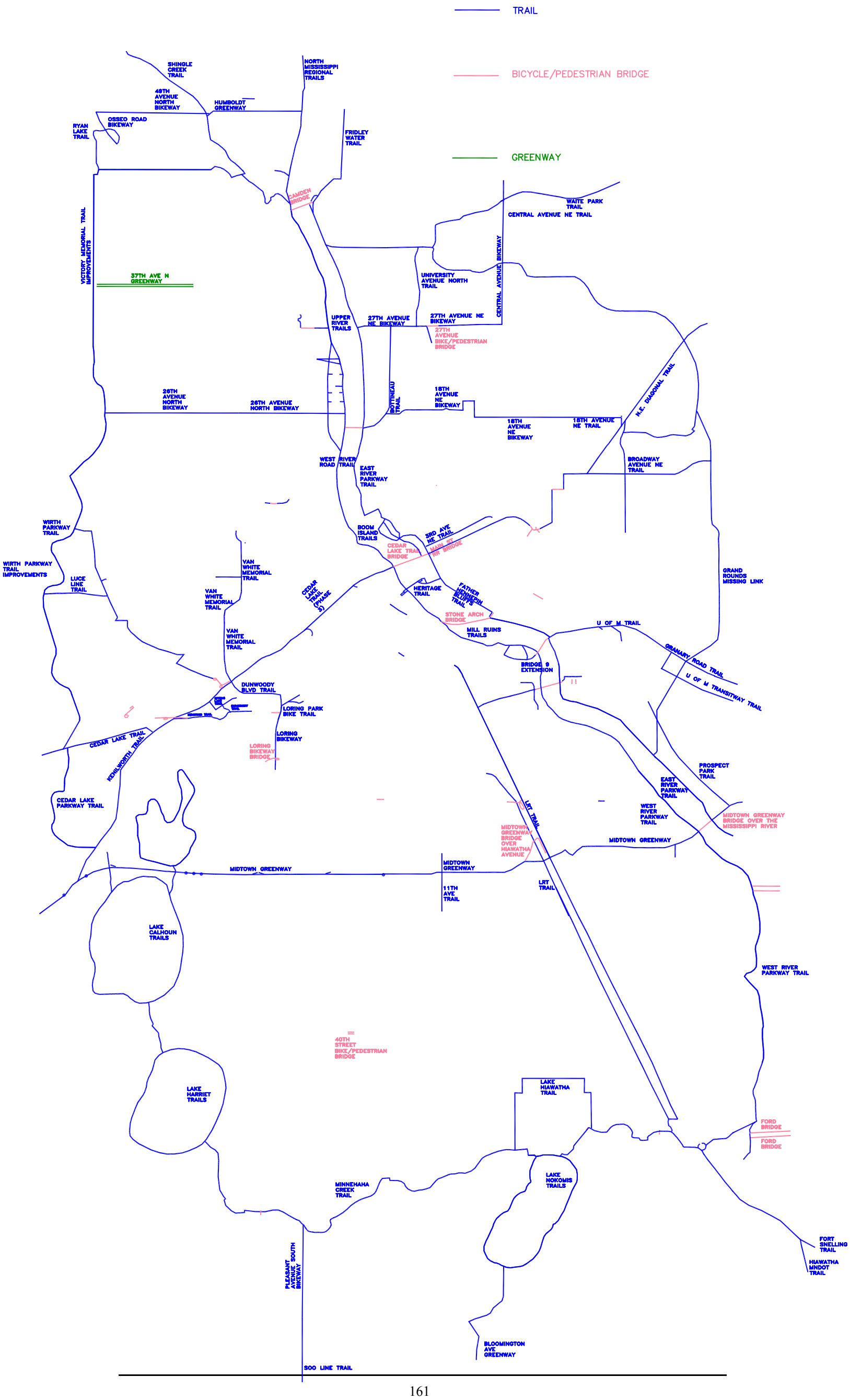
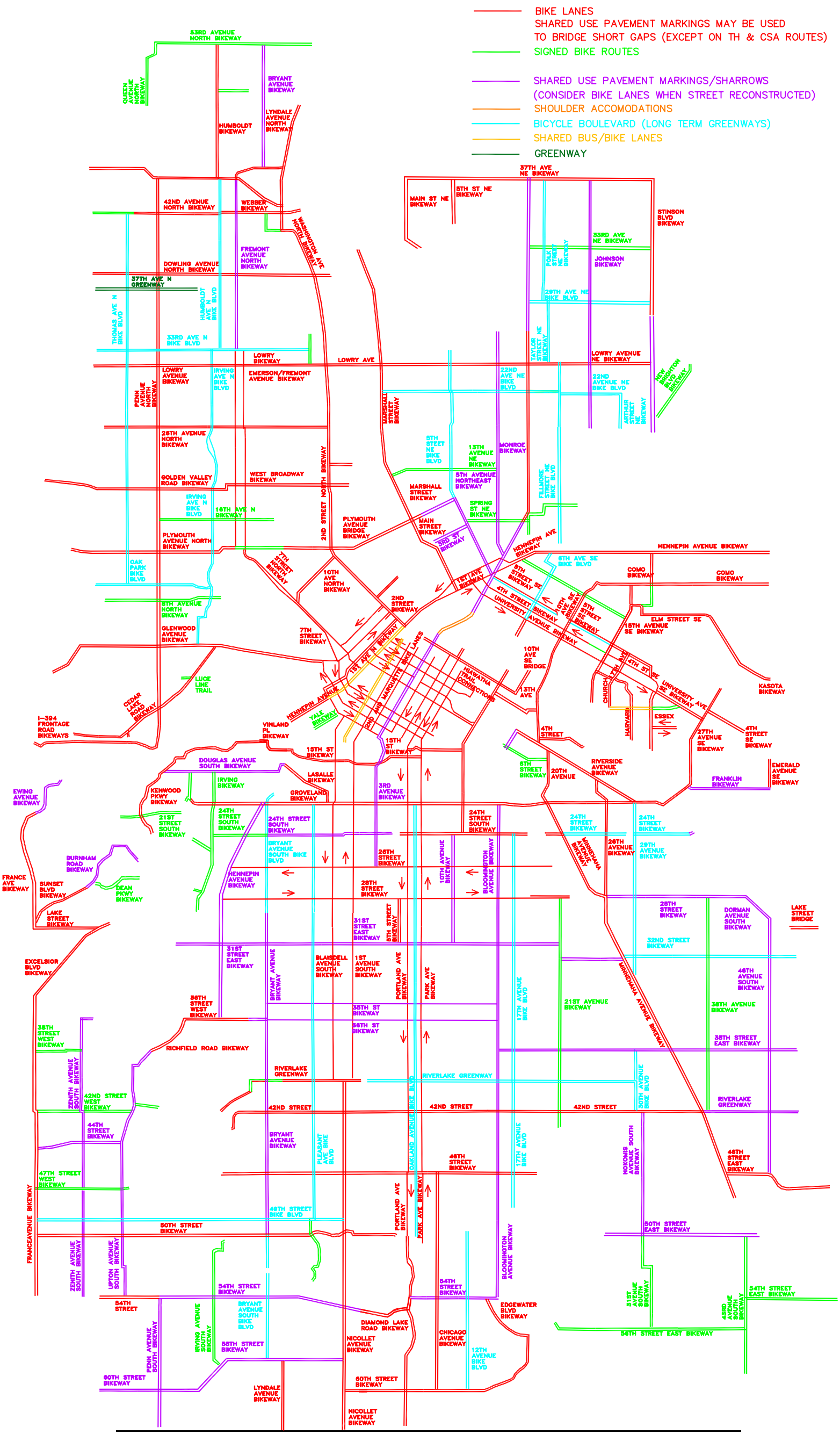


Figure 7.9 - Bikeways Master Plan (On-Street Routes)



7.2.7 Opportunity Projects—Opportunity projects consist of bicycle improvements that piggyback on other capital projects such as a mill and overlay project or total reconstruction project. The bicycle component is not the primary reason for the project and the timeline of the project is typically not dictated by the bicycle improvement. This type of project simply takes advantage of the opportunity to make conditions better for cyclists. Many on-street bike lane corridors fit into this category. In most cases on-street bike lanes can not be added to a given corridor unless geometric changes are made. Opportunity projects are designated in the project list.

Above: Minneapolis Diagonal Trail

7.2.8 Stand-Alone Projects—Stand-Alone projects are capital bicycle projects independent of other projects. The primary purpose of a stand-alone bicycle project is to improve bicycle safety and/or increase the number of bicyclists. Stand-alone infrastructure projects primarily consist of trails, bike lane striping projects, bicycle boulevard projects, trail enhancement projects, support facilities, and bicycle parking projects. Stand-alone projects can also be very large spot improvements such as improving an intersection. Stand-alone projects are typically added to the capital budget and must compete with other projects for funding, based on merit. Because of the high number of stand-alone projects, a fair and equitable prioritization system is needed. Small stand-alone projects may be batched with other like projects and put into a funding package to improve the chances of receiving money and to complete smaller improvements more quickly. Stand-alone projects are designated in the project list.

Above: Minneapolis Diagonal Trail

Above: Sharrow along 19th Avenue NE

7.2.9 Corridor Improvements—The Bikeways Master Plan reflects corridor improvements that span from one point in the city to another. Corridor improvements can be an off-street, trail, bike lane, or shared use facility. Examples of past corridor improvements include the Kenilworth Trail, the Richfield Road bicycle lanes, and the RiverLake Greenway. Corridor projects can also be maintenance projects such as a trail mill and overlay project or a crack-seal project. The Bikeways Master Plan does not address spot improvements or system-wide improvements. Examples of needed corridor projects found on the Bikeways Master Plan include the extension of Bridge #9 through the I-35W tunnel, completion of the Upper River Trails along the Mississippi, adding bicycle lanes to Harmon Place, and installing a bicycle boulevard on Pleasant Avenue South. All proposed Corridor Improvement Projects are identified in the project list.

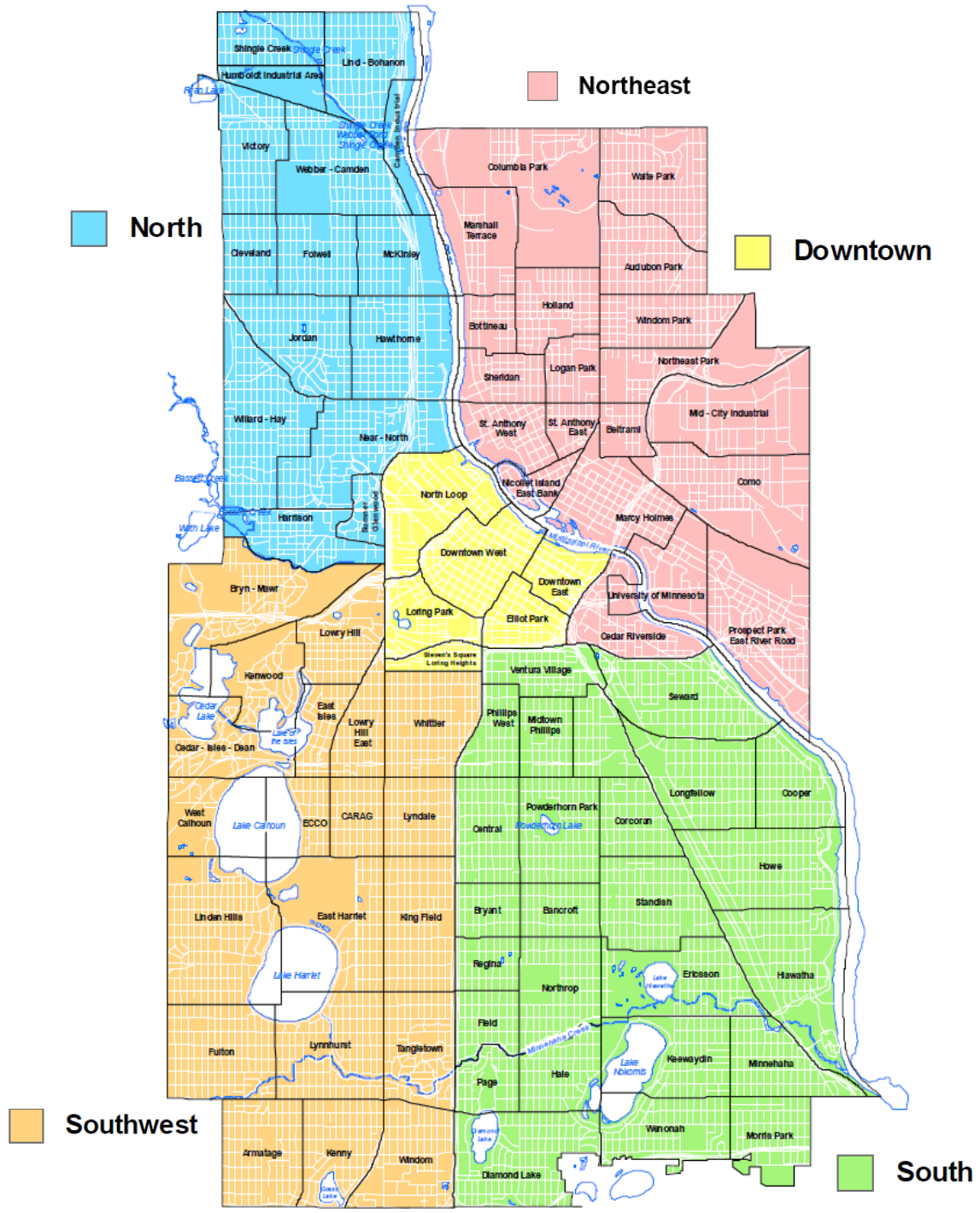
7.2.10 Spot Improvements—There are several infrastructure projects that pertain to one location. Typically these are roadway intersections or trail nodes that require some work to address a safety concern or to make bicycling more convenient. These projects also tend to have a lot of benefit for what the improvement costs. Examples of past spot improvements include the enhancements at 31st/Chowen along the Midtown Greenway, the Freewheel Bicycle Center, and the addition of bicycle parking at the Twins Ballpark. Examples of needed spot improvements include the development of a bicycle center at the University of Minnesota, adding bicycle parking to Central Avenue NE, and adding a ramp to the Midtown Greenway at Fremont Avenue. All proposed Spot Improvement Projects are identified in the project list

7.2.11 System-wide Improvements—Small capital projects that are similar in scope can be batched together to create a system-wide improvement. Batching small projects with a similar theme greatly increases the chances of receiving funding. Batching projects also accelerates the improvement timeline. Examples of needed system–wide improvements include the addition of bicycle parking at all schools, adding bicycle detection to all actuated signals, and installing way-finding signage along all bicycle routes. If projects can not be batched together to form a larger capital project, it is recommended that the improvement occur when the opportunity arises. For instance, the improvement may be done when a road is reconstructed, when a signal is replaced, or when an area is redeveloped. All proposed System-wide Improvement Projects are identified in the project list.

Above: Lake Nokomis Trail

7.2.12 Infrastructure Project List - The project list includes all proposed bicycle infrastructure projects within the City of Minneapolis. The project list is organized by area of the city. The project list denotes whether the project is an opportunity project or stand-alone project. The Bicycle Advisory Committee (BAC) will prioritize this list on a regular basis and will add new projects as needed. Their recommendations will be presented to the City Council for further action. Most projects identified are likely to be programmed after 2015.

Figure 7.10 – Project Areas



7.2.12 Infrastructure Project List - Continued

Table 7.4 - Downtown Projects

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
D-1	2nd Street Gap	Hennepin Ave to Marquette	900	Both	Corridor	Stand-Alone
D-2	2nd Ave and Marquette Ave	2nd Street to 12th Street	10,380	On-Street	Corridor	Stand-Alone
D-3	3rd Avenue Bikeway	Mississippi River to 24th Street	9,023	On-Street	Corridor	Stand-Alone
D-4	5th/6th Street Bikeways	5th Avenue to 11th Avenue	10,410	On-Street	Corridor	Stand-Alone
D-5	13th Ave Gap	2nd Street to West River Parkway	970	On-Street	Corridor	Stand-Alone
D-6	Downtown Bike Lane Cleanup	9th St, Portland Ave, 10th St, 11th St, 12th St	12,865	On-Street	Spot	Stand-Alone
D-7	Dunwoody Blvd Trail	Lyndale Avenue to Cedar Lake Trail	2,900	Off-Street	Corridor	Stand-Alone
D-8	Groveland Ave/ Pillsbury Ave Bikeway	Lyndale Ave to Franklin Ave	2,760	On-Street	Corridor	Stand-Alone
D-9	Harmon Bike Lanes	Loring Park to 9th Street	1,600	On-Street	Corridor	Stand-Alone
D-10	Hennepin Avenue Extension	10th Street to Lyndale Avenue	2,700	On-Street	Corridor	Stand-Alone
D-11	Loring Bikeway Extension	I-94 Ramp to Lyndale Avenue	500	Off-Street	Corridor	Stand-Alone
D-12	U of M Trail Extension	Bridge 9 to 11th to 13th Avenue	1,200	Off-Street	Corridor	Stand-Alone
D-13	Washington Avenue Gap	11th Avenue to 19th Avenue	2,130	On-Street	Corridor	Opportunity
D-14	Yale Bikeway	Loring Park to 12th Street	1,200	On-Street	Corridor	Stand-Alone
Total			**59,538 ft (11.3 miles)**			

7.2.12 Infrastructure Project List - Continued

Table 7.5 - North Minneapolis Projects

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
N-1	8th Ave N Bikeway	Luce Line to Van White Trail	5,040	On-Street	Corridor	Stand-Alone
N-2	16th Ave N Bikeway	Penn Avenue to Lyndale Ave	4,820	On-Street	Corridor	Stand-Alone
N-3	26th Avenue North Trail	Wirth Parkway to Mississippi River	10,760	Off-Street	Corridor	Opportunity
N-4	33rd Ave Bike Blvd	Victory Parkway to 3rd Street	8,850	On-Street	Corridor	Stand-Alone
N-5	37th Avenue North	Queen to Xerxes	2,305	On-Street	Corrdior	Stand-Alone
N-6	49th Ave N Trail	Osseo Road to Humboldt Avenue	5,065	Off-Street	Corridor	Opportunity
N-7	53rd Avenue Bikeway	Penn Avenue to I-94	6,700	On-Street	Corridor	Stand-Alone
N-8	Bryant Avenue Bike Lanes	45th Ave to 53rd Ave	5,720	On-Street	Corridor	Opportunity
N-9	Camden Bridge Approaches	Camden Bridge	1,225	Off-Street	Corridor	Stand-Alone
N-10	Humboldt Ave Bike Blvd/ Greenway	33rd Ave N to 44th Ave N	7,440	On-Street	Corridor	Stand-Alone
N-11	Golden Valley Road Bikeway	City Limits to Emerson Avenue	6,490	On-Street	Corridor	Opportunity
N-12	Irving Bike Boulevard/ Greenway	Olson Highway to 33rd Ave N	12,246	On-Street	Corridor	Stand-Alone
N-13	Knox Avenue Bike Boulevard	Olson Hwy to Glenwood Ave	1,839	On-Street	Corridor	Stand-Alone
N-14	Luce Line Extension	Plymouth Avenue to Hwy 55	3,515	Off-Street	Corridor	Stand-Alone
N-15	Lyndale Ave Bike Lane	41st Ave N to 49th Ave N	5,400	On-Street	Corridor	Opportunity

7.2.12 Infrastructure Project List - Continued

Table 7.5 - North Minneapolis Projects (Continued)

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
N-16	Oak Park Bike Boulevard	Luce Line to Irving Avenue	5,025	On-Street	Corridor	Stand-Alone
N-17	Osseo Road Trail	Ryan Lake Trail to 49th Ave N	1,580	Off-Street	Corridor	Opportunity
N-18	Queen Avenue North Bikeway	49th Avenue North to 53rd Avenue North	2,560	On-Street	Corridor	Stand-Alone
N-19	Penn Avenue Bikeway	I-394 Frontage Road to 44th Avenue	23,720	On-Street	Corridor	Opportunity
N-20	Ryan Lake Trail	Ryan Lake to Osseo Road	2,600	Off-Street	Corridor	Stand-Alone
N-21	Thomas Avenue Bike Boulevard	Oak Park Blvd to 42nd Avenue	15,865	On-Street	Corridor	Stand-Alone
N-22	Upper River Trails	BNSF Bridge to Camden Bridge	16,130	Off-Street	Corridor	Stand-Alone
N-23	Webber Parkway Bike Lane	Humboldt Avenue to Lyndale Avenue	2,275	On-Street	Corridor	Stand-Alone
N-24	West Broadway	Golden Valley Road to Mississippi River	5,238	On-Street	Corridor	Opportunity
Total			**162,408 ft (30.8 miles)**			

Above: Construction equipment along the RiverLake Greenway.

7.2.12 Infrastructure Project List - Continued

Table 7.6 - Northeast Minneapolis Projects

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
NE-1	4th St S	19th Ave to West River Pkwy	2,146	On-Street	Corridor	Both
NE-2	4th St SE	1st Ave NE to Oak Street	4,980	On-Street	Corridor	Both
NE-3	4th St SE	25th Ave SE to City Limits	4,800	On-Street	Corridor	Stand-Alone
NE-4	5th Avenue NE	Main St to 5th St NE	1,795	On-Street	Corridor	Stand-Alone
NE-5	5th Street NE Bike Lanes	Columbia Parkway to 37th Ave NE	1,930	On-Street	Corridor	Opportunity
NE-6	18th Ave NE Trail	Washington Street NE to Stinson Blvd	8,790	Off-Street	Corridor	Opportunity
NE-7	27th Ave Bike Bridge	27th Ave N	1,040	Off-Street	Spot	Stand-Alone
NE-8	27th Ave NE Trail	Mississippi River to Central Ave NE	5,400	Off-Street	Corridor	Stand-Alone
NE-9	29th Ave Bike Blvd	Central Avenue to Stinson Blvd	5,300	On-Street	Corridor	Opportunity
NE-10	33rd Ave Bikeway	Central Avenue to Stinson Blvd	5,300	On-Street	Corridor	Opportunity
NE-11	37th Avenue NE Bike Lanes	Main Street NE to Stinson Blvd	8,526	On-Street	Corridor	Opportunity
NE-12	BNSF Corridor	Mississippi River	8,780	On-Street	Corridor	Stand-Alone
NE-13	Bottineau Trail	Marshall Street to 27th Ave NE	8,935	Off-Street	Corridor	Stand-Alone
NE-14	Cedar Lake Trail Bridge	Mississippi River Bridge	1,790	Off-Street	Corridor	Stand-Alone
NE-15	Church Street Bike Lanes	Washington Ave to U of M Trail	1,660	On-Street	Corridor	Opportunity
NE-16	Emerald Bikeway	University Ave to Franklin Ave	1,232	On-Street	Corridor	Opportunity
NE-17	Grand Rounds Missing Link	Elm to City Limits	10,650	Off-Street	Corridor	Stand-Alone

7.2.12 Infrastructure Project List - Continued

Table 7.6 - Northeast Minneapolis Projects

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
NE-18	Hennepin Ave Bike Lane	Central to City Limits	11,975	On-Street	Corridor	Opportunity
NE-19	Hennepin Bike Bridge	Hennepin Ave NE	1,080	Off-Street	Spot	Stand-Alone
NE-20	Kasota Bike Lanes	Elm to City Limits	3,775	On-Street	Corridor	Opportunity
NE-21	Marshall Street Bike Lanes	37th Avenue to Broadway Avenue	13,688	On-Street	Corridor	Opportunity
NE-22	Minneapolis Diagonal Pavement Renovation	City Limits to Broadway, 18th Ave NE to Hennepin	11,725	Off-Street	Corridor	Stand-Alone
NE-23	Pleasant Ave SE	Washington Ave to Pillsbury Ave	1,542	On-Street	Corridor	Stand-Alone
NE-24	Spring Street Bikeway	5th Street NE to Johnson	5,110	On-Street	Corridor	Stand-Alone
NE-25	Stinson Blvd	37th Ave NE to NE Diagonal	10,955	On-Street	Corridor	Opportunity
NE-26	University Avenue Bike Lanes	TCF Stadium to 27th Ave NE	2,515	On-Street	Corridor	Opportunity
NE-27	Upper River Trails	Boom Island to Camden Bridge	13,475	Off-Street	Corridor	Stand-Alone
NE-28	Washington Avenue Gap	LRT Trail to Washington Avenue Bridge	3,025	Off-Street	Corridor	Stand-Alone
Total			**162,919 (30.9 miles)**			

Above: Construction equipment along the RiverLake Greenway.

7.2.12 Infrastructure Project List - Continued

Table 7.7 - Southwest Minneapolis Projects

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
SW-1	24th Street South Bikeway	Hennepin to I-35W	6,190	On-Street	Corridor	Opportunity
SW-2	31st Street Bikeway	Lake Calhoun to I-35W	7,965	On-Street	Corridor	Opportunity
SW-3	35th/36th Street Bikeway	Bryant Avenue to I-35W	7,000	On-Street	Corridor	Opportunity
SW-4	36th Street Bikeway	Richfield Road to Bryant Ave	2,770	On-Street	Corridor	Stand-Alone
SW-5	42nd Street Bike Lanes	Lake Harriet to I-35W	6,090	On-Street	Corridor	Stand-Alone
SW-6	46th Street Bikeway	Lake Harriet to I-35W	6,060	On-Street	Corridor	Opportunity
SW-7	49th St Bike Boulevard	France to Nicollet	13,233	On-Street	Corridor	Opportunity
SW-8	50th Street Bike Lanes	France to I-35W	14,245	On-Street	Corridor	Opportunity
SW-9	54th Street/ Diamond Lake Bikeway	Penn to I-35W	8,790	On-Street	Corridor	Opportunity
SW-10	58th/60th Bikeway	City Limits to Nicollet	11,120	On-Street	Corridor	Opportunity
SW-11	Cedar Lake Parkway Trail Reconstruction	Wirth Parkway to Kenilworth Trail	8,320	Off-Street	Corridor	Stand-Alone
SW-12	Cedar Lake Trail Reconstruction	Highway 100 to Royalston Avenue	18,986	Off-Street	Corridor	Stand-Alone
SW-13	Douglas Ave Bikeway	Kenwood Parkway to Hennepin Ave	5,305	On-Street	Corridor	Stand-Alone
SW-14	Ewing Avenue Bikeway	22nd Street to Cedar Lake Parkway	2,013	On-Street	Corridor	Both
SW-15	Excelsior Blvd Bike Lanes	City Limits to Dean Pakway	4,518	On-Street	Corridor	Both
SW-16	France Ave Bike Lanes	54th to Excelsior Blvd	12,885	On-Street	Corridor	Opportunity

7.2.12 Infrastructure Project List - Continued

Table 7.7 - Southwest Minneapolis Projects (Continued)

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
SW-17	Franklin Avenue Bike Lane	Logan Ave to I-35W	8,815	On-Street	Corridor	Opportunity
SW-18	Fremont Avenue Ramp	Midtown Greenway Ramp at Fremont	400	Off-Street	Spot	Stand-Alone
SW-19	Irving Bikeway	58th to Minnehaha Parkway	5,367	On-Street	Corridor	Opportunity
SW-20	Kenwood Parkway	Loring Bikeway to Lake of the Isles	8,875	On-Street	Corridor	Stand-Alone
SW-21	Kenilworth Trail Reconstruction	Cedar Lake Trail to the Midtown Greenway	8,545	Off-Street	Corridor	Stand-Alone
SW - 22	Lake of the Isles Routes	21st St, Irving, Dean, 24th St, and Logan Ave	16,148	On-Street	Corridor	Stand-Alone
SW - 23	Lake Street	City Limits to Dean Parkway	2,756	On-Street	Corridor	Opportunity
SW-24	Linden Hills Signed Routes	38th St, 42nd St, 47th St	11,183	On-Street	Corridor	Stand-Alone
SW-25	Midtown Greenway Renovation (Includes Security System Upgrades)	Chowen Avenue to 5th Avenue	13,728	Off-Street	Corridor	Stand-Alone
SW-26	Nicollet Ave Bike Lane	40th St to City Limits	14,879	On-Street	Corridor	Opportunity
SW-27	Penn Ave Bike Bridge	Penn Ave LRT Station	500	Off-Street	Spot	Stand-Alone
SW-28	Pleasant Avenue Ramp	Midtown Greenway Ramp at Pleasant	400	Off-Street	Spot	Stand-Alone
SW-29	Pleasant Avenue Bike Blvd/ Greenway	Franklin to Minnehaha Creek	20,246	On-Street	Corridor	Stand-Alone

7.2.12 Infrastructure Project List - Continued

Table 7.7 - Southwest Minneapolis Projects (Continued)

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
SW-30	Soo Line Trail	Minnehaha Parkway to City Limits	27,020	Off-Street	Corridor	Stand Alone
SW-31	Upton/ Sheridan Bikeway	54th to Richfield Road	10,945	On-Street	Corridor	Opportunity
SW-32	William Berry Trail Reconstruction	Lake Harriet to Lake Calhoun	2,223	Off-Street	Corridor	Stand-Alone
SW-33	Zenith Ave Bikeway	54th to Lake Calhoun	12,200	On-Street	Corridor	Opportunity
Total			**299,750 ft (56.7 miles)**			

Above: Construction equipment along the RiverLake Greenway.

7.2.12 Infrastructure Project List - Continued

Table 7.8 - South Minneapolis Projects

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
S-1	10th Avenue Bikeway	24th Street to 31st Street	4,560	On-Street	Corridor	Opportunity
S-2	12th Ave Bike Blvd	Minnehaha Parkway to 60th St	6,460	On-Street	Corridor	Opportunity
S-3	17th Bike Blvd	Franklin Avenue to Minnehaha Parkway	15,695	On-Street	Corridor	Opportunity
S-4	21st Ave Bike Route	Midtown Greenway to 40th Street	9,830	On-Street	Corridor	Opportunity
S-5	29th Ave Bike Route	Franklin Avenue to Minnehaha	7,370	On-Street	Corridor	Opportunity
S-6	28th Street/Dorman Bikeway	Minnehaha Ave to 46th Ave	7,392	On-Street	Corridor	Opportunity
S-7	31st Street Bikeway	I-35W to 20th Avenue	16,390	On-Street	Corridor	Opportunity
S-8	11th Ave Trail	Andersen School to Powderhorn Park	2,632	Off-Street	Corridor	Stand-Alone
S-9	32nd Street Bike Blvd	20th Avenue to West River Parkway	7,302	On-Street	Corridor	Opportunity
S-10	35th and 36th Street	Bryant Ave to Bloomington Ave	9,920	On-Street	Corridor	Opportunity
S-11	38th Ave Bike Route	28th Street to 42nd Street	9,125	On-Street	Corridor	Opportunity
S-12	38th Street Bikeway	Bloomington to West River Pkwy	12,632	On-Street	Corridor	Opportunity
S-13	42nd Street Bike Lanes	Lake Harriet to Nokomis Avenue	24,609	On-Street	Corridor	Opportunity
S-14	46th Ave Bikeway	Dorman to 46th	10,762	On-Street	Corridor	Opportunity
S-15	46th Street Bike Lane	I-35W to Cedar Ave	7,100	On-Street	Corridor	Both
S-16	46th Street Bike Lane	Minnehaha Ave to City Limits	3,310	On-Street	Corridor	Opportunity

7.2.12 Infrastructure Project List - Continued

Table 7.8 - South Minneapolis Projects (Continued)

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
S-17	50th Street Bikeway	I-35W to Minnehaha Parkway	1,470	On-Street	Corridor	Opportunity
S-18	54th Bikeway	Portland Ave to Bloomington Ave	3,850	On-Street	Corridor	Opportunity
S-19	60th Street/ Cedar Frontage Road Bike Lanes	Nicollet Avenue to Lake Nokomis	8,764	On-Street	Corridor	Opportunity
S-20	Bloomington Bikeway	Franklin Avenue to 54th Street	20,950	On-Street	Corridor	Opportunity
S-21	Bloomington Avenue Ramp	Located at the Midtown Greenway	400	Off-Street	Spot	Stand-Alone
S-22	Chicago Ave Bike Lanes	46th Street to 60th Street	9,269	On-Street	Corridor	Opportunity
S-23	Diamond Lake Road Bike Lanes	I-35W to Portland Ave	2,015	On-Street	Corridor	Both
S-24	Edgewater Blvd	54th St to Cedar Ave	2,570	On-Street	Corridor	Opportunity
S-25	Franklin Avenue Bike Lanes	I-35W to Minnehaha	6,459	On-Street	Corridor	Opportunity
S-26	Hiawatha Trail East	32nd Street to 46th Street on the east side of Hiawatha	13,011	Off-Street	Corridor	Stand-Alone
S-27	Hiawatha Trail Lighting	11th Avenue to 28th Street	-	Off-Street	Corridor	Stand-Alone
S-28	Lake Hiawatha Trail	Around Lake Hiawatha	9,250	Off-Street	Corridor	Opportunity
S-29	LRT Station Area Improvements	Improvements to/from Cedar Riverside, Franklin, Lake, 38th, 46th, and 50th Street Stations	-	On-Street	Spot	Stand-Alone
S-30	LRT Trail Gap	28th Street to 32nd Street	5,882	Off-Street	Corridor	Stand-Alone

7.2.12 Infrastructure Project List - Continued

Table 7.8 - South Minneapolis Projects (Continued)

ID #	Project Name	Project Limits	Length (FT)	On-Street or Off-Street	Corridor, Spot, or System-wide	Opportunity or Stand-Alone Project
S-31	Midtown Greenway Renovation (Includes Security System Upgrades)	5th Avenue to Mississippi River	13,728	Off-Street	Corridor	Stand-Alone
S-32	MG Bridge over the River	Midtown Greenway Bridge over the Mississippi River	2,242	Off-Street	Spot	Stand-Alone
S-33	MG Bloomington Ramp	Midtown Greenway Ramp at Bloomington	400	Off-Street	Spot	Stand-Alone
S-34	Nokomis Bikeway	42nd Street to 50th Street	5,210	On-Street	Corridor	Opportunity
S-35	Nokomis Signed Routes	31st Ave S, 43rd Ave S, 54th St E, 56th St E Bikeway	5,611	On-Street	Stand-Alone	Opportunity
S-36	Oakland Bike Lane	Franklin to Minnehaha Parkway	20,240	On-Street	Corridor	Stand-Alone
S-37	Portland Ave Bike Lanes	Minnehaha Creek to City Limits	8,340	On-Street	Corridor	Opportunity
Total			**281,022 ft (53.2 miles)**			

Above: Bicyclists near Lake Harriet.

7.3 Infrastructure Prioritization

7.3.1. Criteria—In order to ensure fairness, striving for a citywide system approach, and to focus on projects suitable for the bicycle program, the proposed criteria have been developed to help the BAC with reviewing stand-alone projects, ranking the projects, and advising the city on what projects to submit funding requests for. The criteria support each of the 3 goals in Chapter 6.

Goal #1 – Increase bicycle mode share:

- Numbers/trips: Is the project expected to increase the number of people bicycling and/or increase the number of trips taken by bicycle?
- Travel Demand: Does the project meet or help create a demand for bicycling in population and employment concentrations, with a focus on high trip generation areas? Is the project anticipated to serve travel needs in all seasons?

Goal #2 – Bicycling in Minneapolis is safe and comfortable:

- Safety, Appeal: Does the project provide a safer and more appealing alternative to what currently exists in a given corridor?

Goal #3 – Destinations in Minneapolis are reasonably accessible by bicycle:

- Barriers/Gaps: Does the proposed project supplement the existing bicycle system by removing barriers and closing system gaps?
- Geographic Equity: Does the proposed project supplement the existing bicycle system by removing barriers and closing system gaps?
- Demographic Equity: Does the proposed project serve populations with lower than average rates of bicycling? Considerations will include race/ethnicity, class, gender and age.
- Regional Benefit: Does the project connect Minneapolis to surrounding communities and facilitate the ability to take longer trips by bicycle?
- Access to Popular Destinations: Does the project provide bicycle access to popular destinations such as schools, parks, and public spaces (such as museums, theatres, community centers, government buildings, and shopping districts)?

Above: A bicyclist using bike lanes on Roseway Road

7.3.1 Criteria (Continued)

Additional Criteria

- Timeliness: Is the project timely and will it be ready for construction in the funding cycle? Timeliness will depend on external factors such as redevelopment projects, street reconstructions, availability of external funds and timelines from funding sources. Project readiness will depend on internal factors such as planning, design, right-of-way acquisition, and City funding.
- Cost Effectiveness: Is the project cost effective? How much will each project cost, how many users will it benefit and what level of safety and convenience benefit will it provide to users? Are the operations and maintenance responsibilities defined? Are there differences between projects in the ability to maintain the facility over time? Does the project leverage funding from external sources?
- Adopted Plan: Is the project part of an approved regional, city, agency or neighborhood plan?
- Public Support: Has there been or is there public outreach planned for the project? What is the level of community support for the project?
- Innovation: Does the project allow the City to pilot a new approach or design element to improve safety, comfort and/or accessibility that is not currently used in Minneapolis? Does the project incorporate a successful approach that has been tried in other cities but not used in Minneapolis?

Above: Stone Arch Bridge

7.3.2 Bicycle Functional Classification—Bicycle functional classification can be used as a tool to help prioritize stand-alone bikeway projects. Many of the qualifying and prioritizing criteria including system connectivity, travel demand, cost effectiveness, operations/maintenance, regional benefit, regional equity, and access to destinations can be graphically portrayed. By assigning designations for every bikeway in the 2010 Bikeways Master Plan, limited resources can be applied appropriately. Modeled after roadway functional classification, corridors within each travelshed are assigned as arterial bikeways, collector bikeways, and neighborhood bikeways. It is important not to confuse roadway functional classification with bicycle functional classification as many arterial bikeways are located on collector streets and some collector bikeways are located along minor arterial roads.

Travelsheds: Travelsheds are geographic zones that are bound by significant barriers such as freeways, rivers, and railroads. Travelsheds are oriented to fan out from Downtown Minneapolis like slices of pie. Travelsheds ensure that all parts of the city are treated equally and that the bikeway network maximizes mobility/accessibility.

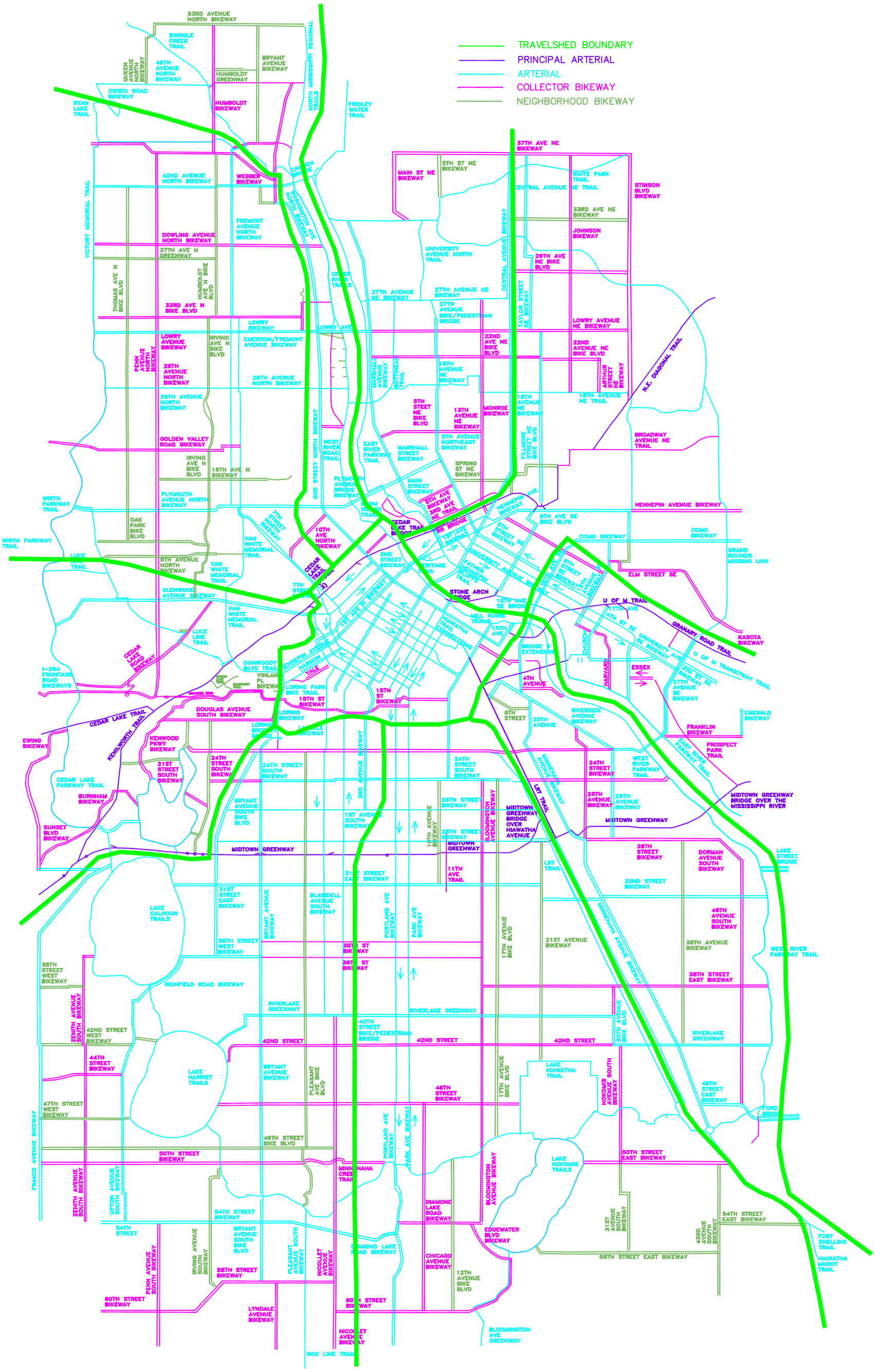
Arterial Bikeways: Arterial bikeways have regional significance and attract the highest numbers of bicyclists. Principal arterial bikeways are like freeways with grade separation corridors and faster speeds. Principal arterial bikeways should be spaced about 2 miles apart with minor arterial bikeways spaced 1 mile apart. It is also important that each travelshed include at least one arterial bikeway. Ideally arterial bikeways should form a spider web throughout the city, crossing travelsheds and becoming the spine for the bikeway network. Since different types of bikeways accommodate different bicyclists' needs, there may be situations where arterial bikeways are located on two parallel routes within close proximity. Due to limited resources, the strategy is to maintain arterial routes at a high standard, but give lesser attention to collector and neighborhood bikeways.

Collector Bikeways: Collector bikeways feed into arterial bikeways similar to how smaller rivers flow into larger ones. Collector bikeways should be spaced about 1/2 mile apart to capture bicyclists in every part of the city.

Neighborhood Bikeways: Neighborhood bikeways feed into collector routes and can be found in just about every neighborhood. Neighborhood bikeways are intended to provide local connections and are not eligible for regional funding.

Above: Lake Calhoun is a popular place to bike on nice days.

Figure 7.11 - Bicycle Functional Classification



7.4 Non-Infrastructure Initiatives

7.4.1 Non-Infrastructure Initiatives - In addition to the selected initiatives identified in Chapter 6, there are a number of new initiatives that have been identified in each of the six "E" categories.

Above: One of the Bicycle and Pedestrian Ambassadors helps a student with a bike.

7.4.2 Non-Infrastructure Initiatives (Education) - Below are some moderate to high cost/high benefit education initiatives that are likely to result in higher bicycle mode share and increased safety:

- Create radio and television public service announcements. Topics could include bicycle helmet safety, sharing the road, and following bicycling laws. (ED-8)
- Use utility bill inserts to reach residents. (ED-9)
- Purchase on-line advertising space. (ED-10)
- Rent local billboards to send messages to both bicyclists and motorists pertaining to bicycle safety and following the rules of the road. (ED-11)
- Hire a marketing firm to help promote bicycling and bicycle safety. (ED-12)

Below are some low cost/high benefit education initiatives:

- Work with local television stations and newspapers to run stories on biking. Topics can vary widely from bicycle safety to tourism. Using local media outlets is perhaps the best way to reach the highest number of people with the least amount of money. (ED-13)
- Support on-line tools such as Cyclopath that help bicyclists plan their trip. Cyclopath also features the ability for bicyclists to share real-time information about bike routes with other bicyclists. (ED-14)
- Work with local businesses and neighborhood groups to distribute free educational materials at point of sale. Businesses could sponsor an educational initiative or may even offer discounts or promotions to those who bike. For example, Minneapolis Police officers have distributed coupons for free ice cream to kids when they spot good bicycling behavior such as wearing a helmet. A local restaurant sponsored the promotion. (ED-15)
- Support programs such as earn-a-bike where teens learn how to work on donated bikes and are rewarded with a bike of their own. (ED-16)
- Create videos for educational purposes. Topics could vary widely from videos on bicycle commuting tips to bicycle safety videos. It is recommended that bicycle education videos be conducted in Spanish, Somali, and Hmong to reach the majority of non-English speakers in Minneapolis. (ED-17)
- Expand the number of bicycle rodeos throughout the city. Many bicycle friendly cities have created obstacle courses or "street skills bicycle education areas" to teach young bicyclists how to interact with traffic before actually biking on the streets. These could be placed at several school playgrounds or parks throughout the city. (ED-18)

7.4.3 Non-Infrastructure Initiatives

(Encouragement) —Encouragement initiatives can often provide quick results at minimal cost. Non-profit groups, neighborhood groups, and volunteers often take the lead with encouragement related initiatives.

Above: A booth at an event

Below are some low cost/high benefit encouragement initiatives that may result in higher bicycle mode share and increased safety:

- Have a bicycle kit giveaway including a bike light, patch kit, and local bike map. (ENC-7)
- Encourage bicycle commuting contests between businesses or schools. (ENC-8)
- Encourage more contests with a bicycle theme. (ENC-9)
- Encourage employers to conduct commuter fairs. (ENC-10)
- Implement Ciclovia, where streets are closed to motorized vehicles on Sundays and opened up to non-motorized users. (ENC-11)
- Provide U-Lock discounts through a 50/50 public-private partnership. A bicyclist gets a bike lock 50% off and the remaining 50% is funded through grants or corporate sponsorships. (ENC-12)
- Promote a membership club similar to AAA where a bicyclist pays an annual fee to have access to basic maintenance services at local bicycle shops. For an increased fee a bicycle repair maintenance crew could be sent to either pick up a bicyclist or repair the bike on-site. (ENC-13)
- Continue to improve the City of Minneapolis bicycle program website. The website includes a calendar of events, maps, safety tips, and project updates.
- Expand bike to work activities/incentives. (ENC-14)
- Encourage youth to participate in bike trips abroad through private scholarships. (ENC-15)
- Start an amateur bike race for the general public. This can be done as part of the existing June racing events on a closed course and could include cash and prizes (from corporate and private sources) for the top racers. (ENC-16)
- Create a children's bike map. (ENC-17)
- Commission a public art mural with a bicycle theme. There are currently a handful of bicycle murals on private property throughout the city. (ENC-18)
- Pursue a BAC exchange where members travel to other cities to learn about bicycle infrastructure. (ENC-19)
- Continue bicycle giveaways. In the past, Bicycling Magazine and Shimano partnered in the Bike Town program where bicycles were given away to dozens of local residents who committed to riding a bike. (ENC-20)
- City and county employees could use a fleet of bicycles to conduct work that is currently done using a motor vehicle. The city could contract with Nice Ride Minnesota to use bicycles to conduct their business. (ENC-21)

7.4.4 Non-Infrastructure Initiatives (Enforcement) —Below are some low cost/high benefit initiatives that will result in higher bicycle mode share and increased safety:

- Expand the bike bait program to deter thieves. Modeled after the DNR program to catch deer poachers, a high quality bike is cable locked to a bike rack. When a thief clips the cable, officers are waiting to apprehend the individual. Cameras are often used to document the crime and for prosecution. (ENF-5)
- When a bicyclist is pulled over by officers for not having a bicycle light, first time offenders should be given a warning and a complimentary bike light. Other bicycle law offenses should also result in the distribution of educational literature. (ENF-6)
- Multiple bicycle law offenses (by either bicyclists or drivers) should result in having to take a bicycle safety education course. Coordination between the city and the courts would be needed to ensure success. (ENF-7)
- Encourage officers to patrol trails by bicycle instead of by squad car. (ENF-8)
- Increase the cost of a ticket for moving violations pertaining to bicycle laws (for both bicyclists and drivers). (ENF-9)
- Work with the Minneapolis Police Department, U of M Police Department, and MPRB Police to establish a program where all precincts have officers patrolling the streets by bicycle. Currently only a couple of precincts use bicycle officers on a regular basis. (ENF-10)
- Expand Police Department involvement in the Safe Routes to School program. Officers can play an integral role in the education of children, especially when trying to install good habits at a young age. Grant funding could be secured to supplement the Police budget. (ENF-11)
- Utilize the Downtown Improvement District (DID) employees to combat bicycle theft and to help educate the public about bicycle laws. (ENF-12)
- Work with the local truck unions, shipping handlers, and postal employees to reduce the amount of stopping/parking in bicycle lanes. Currently much of this behavior is tolerated by the police and is not enforced. (ENF-13)
- Create targeted enforcement and educational initiatives that focus on specific bicycle law violations including riding a bicycle on a sidewalk in a commercial district, motorists not abiding by the 3-foot passing law, riding a bicycle without a light at night, motorists parked/stopped in bike lanes, and vehicles speeding along corridors with marked bicycle lanes. (ENF-14)
- Expand the citizen watch patrol program along the Midtown Greenway and LRT Trail where Police officers work directly with residents to monitor trails. Residents who volunteer in shifts would be given the training and tools to help prevent assaults/robberies. Watch volunteers could also be trained in first-aid and could be trained in conflict resolution. The perception that Minneapolis trails are not safe is a huge barrier for many who are contemplating bicycling as a mode of transportation. (ENF-15)

7.4.5 Non-Infrastructure Initiatives (Engineering) –

Above: Bike Racks at the Green Institute

Below are some ideas for systematic improvements within the city:

- Several trail crossings need crosswalk improvements, signals improvements, and curb cut improvements. All trail crossings need to be evaluated. Trail crossings in need of correction could be systematically improved. (ENG-13)
- Add bicycle curb cuts to all existing cul-de-sacs and diverters. (ENG-14)
- Replace manhole covers and storm sewer grates. (ENG-15)
- Install shared use pavement markings (sharrows) and wayfinding signage on all corridors that have been identified on the Bikeways Master Plan Map as on-street routes. There are several corridors that have been identified for future bike lanes, but existing conditions will not allow them. Installing sharrows as a temporary measure (until bike lanes can be installed as part of a reconstruction project) will help improve safety and mode share. (ENG-16)

Below are some spot improvement ideas:

- Implement crash reduction program where individual intersections with high numbers of bicycle crashes are evaluated and needed countermeasures implemented. A top 10 list is used to prioritize spot improvements. (ENG-17)
- Continue the Bikeways Cleanup Project, which corrects substandard bicycle facilities at specific locations. Add wayfinding kiosks at the intersection of two regional trails and at trail access points. (ENG-18)

Below are some moderate to high cost/high benefit ideas that will result in higher bicycle mode share and increased safety:

- Create a network of “greenways” or “green streets” where roadways are converted to bicycle and pedestrian only corridors. Milwaukee Avenue is a good example of this concept. “Greenway” corridors may be constructed in collaboration with stormwater management projects. Care must be taken to ensure that the street grid is not severely compromised. (ENG-19)
- Continue to expand the network of “bicycle boulevards”, which are traffic calmed streets that give preference to bicycles and pedestrians. (ENG-20)
- Complete the regional trail system in Minneapolis. Although most of the regional system is complete, there are still several projects that are needed in North Minneapolis, Northeast Minneapolis, and south of Minnehaha Parkway. There are also a handful of trail projects that connect to surrounding first ring suburbs. As the arterial trail system is completed, attention needs to shift to completing the on-street bikeway system. Increasing the density of both on-street and off-street bicycle facilities is a commonly used strategy amongst bike friendly cities to create higher bicycle mode share and increased safety. To conserve on capital and maintenance funding, it has been determined that trails should be installed at a 2 mile spacing interval and on-street bike lanes should be installed at a 1 mile spacing interval. (ENG-21)

7.4.5 Non-Infrastructure Initiatives (Engineering) - Continued

Above: Midtown Greenway at 5th Avenue

- Expand the bike share program to include kiosk locations throughout the entire city. (ENG-22)
- Increase preventative maintenance for trails and improve maintenance along streets with bicycle facilities, especially in winter. (ENG-23)
- Continue to evaluate infrastructure needs and implement infrastructure improvements around schools as part of the Safe Routes to School Initiative. (ENG-24)
- Encourage private developers to construct a bike station in Downtown Minneapolis. (ENG-25)

Above: Hennepin Avenue Bridge

Low cost/high benefit initiatives can often be implemented more quickly than more expensive initiatives that usually require more coordination and fundraising. Below are some additional low cost/high benefit ideas that will result in higher bicycle mode share and increased safety:

Above: Lowry Avenue North

- Explore "green wave" corridors where signals along major bike routes are timed based on the speed of a bicycle instead of motor vehicle speeds. (ENG-26)
- Install bike racks at all schools, parks, and public buildings that do not have them. Replace old or dysfunctional racks. (ENG-27)
- The 50/50 cost share program for bicycle racks. adds hundreds of bicycle parking spaces per year in front of businesses, churches, and neighborhood offices. Continue to allow creative/artistic styles to be placed in the public right-of-way. (ENG-28)
- Ensure that bicycle lanes are considered as part of reconstruction (entire right-of-way is improved) project per the Bikeways Master Plan Map. Renovation (mill and overlay) projects may also present opportunities for adding bicycle facilities. (ENG-29)
- Continue to work with all transit providers to ensure that all transit vehicles have bike racks, especially with opt-out providers. (ENG-30)
- Replace non-conforming signs and pavement markings. (ENG-31)
- Implement bicycle detour routes and install wayfinding signage and/or a trail bypass when a corridor is under construction. (ENG-32)

7.4.6 Non-Infrastructure Initiatives (Equity)

To ensure geographic equity, the following areas have been targeted for improvement:

- Regional trail connections are lacking in North Minneapolis, NE Minneapolis, and south of Minnehaha Parkway. (EQ-4)
- Expand the bike share program beyond Downtown, Uptown, and U of M. (EQ-5)

To ensure demographic equity, the following areas have been targeted for improvement:

- Create cycling programs for children and seniors. (EQ-6)
- The ratio of men to women cyclists is currently 2:1. Projects and initiatives need to consider how to remove bicycling barriers for women. (EQ-7)
- Making bicycling appealing for minority communities, especially for those whose primary language is not English. (EQ-8)

To ensure modal equity the following areas have been targeted for improvement:

- All street reconstruction projects and improvements in the public right-of-way need to consider how to accommodate bicycles per the Bikeways Master Plan Map. (EQ-9)
- The public and elected officials need to be presented with various trade-offs when deciding upon a roadway cross-section. (EQ-10)

Above: 49th Avenue North Trail

7.4.7 Non-Infrastructure Initiatives (Evaluation)

Above: Nicollet Mall

- Monitor the number of students biking to school at all schools throughout the city. (EV-11)
- Count the number of bicyclists using parkways and parkway trails. (EV-12)
- Continue to conduct bicycle parking counts in on a quarterly basis. (EV-13)
- Create more opportunities for public suggestions. Advertise 311 to bicyclists. (EV-14)
- Continue Results Minneapolis and Sustainability Reporting. Miles of trails, miles of bicycle lanes, and number of crashes are currently monitored and evaluated. (EV-15)
- Continue to work with Colleges/Universities to conduct research projects. (EV-16)
- Work with other agencies to install and evaluate innovative bicycle treatments. (EV-17)
- Work with other agencies to determine system-wide crash trends and create a combined strategy to reduce crashes including the Toward Zero Deaths initiative. (EV-18)
- Work with local hospitals and emergency rooms to track the type and severity of bicycle injuries. Local hospitals may be able to help educate the public about preventing injuries and may have resources to help with these efforts. (EV-19)
- Obtain insurance data to supplement police reports to better monitor property damage. (EV-20)
- Perform bicycle counts at all local Colleges and Universities including MCAD, Minneapolis Community Technical College, Dunwoody Institute, Augsburg College, Capella University, and the University of St. Thomas. The University of Minnesota is the destination for 25% of all bicyclists in the city. The U of M count program should also be expanded. (EV-21)

Above: Shaun Murphy and his dog Jefferson

7.5 Non-Infrastructure Prioritization

Above: Sidewalk marking in Uptown

7.5.1 Criteria – The criteria for non-infrastructure initiatives are similar to infrastructure project criteria, but focus on program initiatives and not facilities. The criteria support each of the 3 goals in Chapter 6.

Goal #1 – Increase bicycle mode share:

- Numbers of people impacted: How many people does the initiative serve?
- Behavior change: Can people relate to the message? Will the initiative result in more people riding a bicycle and fewer people driving alone?

Goal #2 – Bicycling in Minneapolis is safe and comfortable:

- Safety, Appeal: Will the initiative result in fewer crashes, injuries, and fatalities? Will people take the message seriously?
- Behavior change: Does the initiative provide a positive message that promotes bicycle safety? Is the message effective enough to change habits?

Goal #3 – Destinations in Minneapolis are reasonably accessible by bicycle:

- Targeted marketing: Does the initiative affectively reach out to the targeted group? Are there targeted groups or geographic areas inadvertently left out?
- Behavior change: Will the initiative result in better accessibility to information? Will the message be remembered or forgotten?

Additional Criteria:

- Timeliness: Is the initiative timely based on community need and political will? Bicycle initiatives need to be ready to take advantage of funding when it becomes available.
- Cost Effectiveness: Is the initiative cost effective? How many people does the initiative reach for the money spent? Does the initiative leverage funding from external sources?
- Adopted Plan: Is the initiative part of an approved regional, city, agency or neighborhood plan?
- Public Support: Has there been or is there public outreach planned for the initiative? What is the level of community support for the initiative?
- Innovation: Does the initiative allow the City to try something different? Does the initiative incorporate a successful approach that has been tried in other cities but not used in Minneapolis?