River to River Greenway

MASTER PLAN

Adopted by the Dakota County Board of Commissioners August 25, 2015

Dakota COUNTY

River to River Greenway

MASTER PLAN

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Statewide Health Improvement Program (SHIP)

Minnesota Department of Health

Dakota County Public Health

Table of Contents

Figures & Tables

FIGURES & TABLES

The River to River Greenway crosses Bigfoot Creek in Valley Park, a City of Mendota Heights park.

Introduction

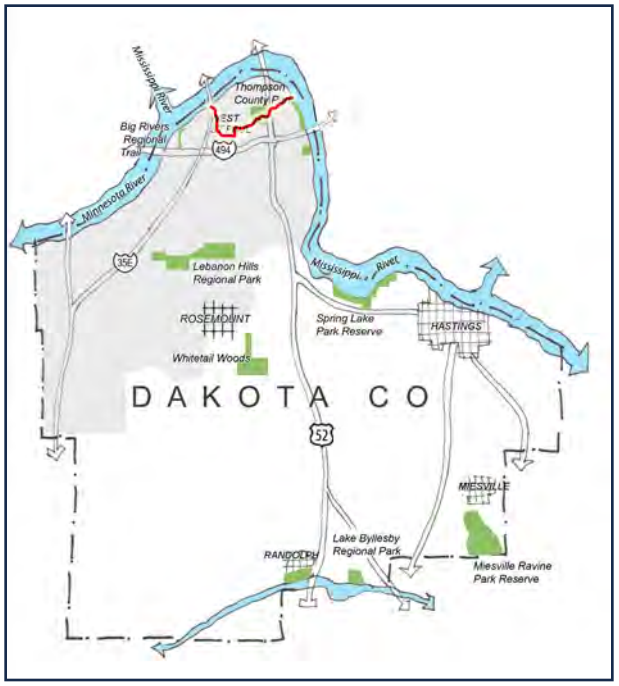
1

OVERVIEW

The River to River Greenway is an evolution of the North Urban Regional Trail, which was planned 20 years ago. The eight-mile long, east-west greenway corridor connects the Mississippi River at Lilydale, just downstream of its confluence with the Minnesota River, to the Mississippi River at South St. Paul. Most of the paved trail along the corridor exists today with trailheads at the Big Rivers Regional Trailhead in Lilydale and the Simon's Ravine Trailhead in Kaposia Park on Concord Street North. The greenway's context is urban and suburban development consisting of residential and commercial areas and parks in Mendota Heights, West St. Paul, and South St. Paul.

The River to River Greenway Master Plan

- describes enhancements to the existing trail to bring it up to regional standards;
- envisions improvements to water quality, habitat, recreation, and non-motorized transportation along the corridor;
- provides strategies for interpretation, resource stewardship, development, land acquisition, and operations;
- estimates project costs;
- and satisfies requirements for Metropolitan Council regional destination trail and greenway planning.



The River to River Greenway is shown in red on the map above.

Dakota County Greenway Vision

In the 2008 Dakota County Park System Plan and the 2010 Dakota County Greenway Guidebook, the County has established a progressive vision for an interconnected system of open space corridors – i.e. greenways. Minneapolis' Grand Rounds system of parks and trails serves as an example and an inspiration for the Dakota County greenway vision.

Dakota County Park System Plan

The 2008 Dakota County Park System Plan established the foundation for a county-wide greenway network by envisioning regional greenways that connect parks, schools, local trails, and libraries through the nonrural portions of the county. Dakota County's greenway vision suggests 200 miles of regional greenways, 2/3 of which are on land currently in public or semipublic ownership. A priority is to implement more than 50 miles of greenways by 2020.

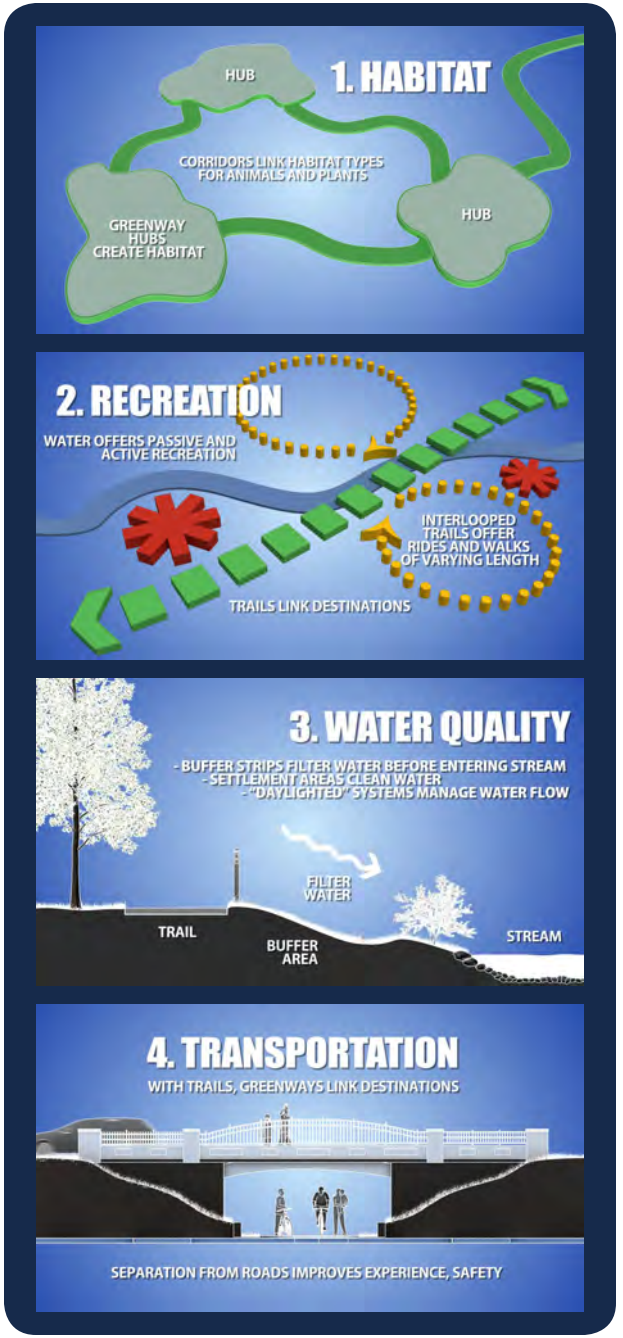
Dakota County Greenway Collaborative: The Greenway Guidebook

In 2010, Dakota County adopted the Dakota County Greenway Guidebook as a framework for greenway development. The guidebook establishes a framework for a collaborative approach to governance, stewardship, design, and operation of greenways.

PLANNING CONTEXT

The River to River Greenway travels through the cities of Lilydale, Mendota Heights, West St. Paul, and South St. Paul. Several planning efforts guide the greenway's development:

- Metropolitan Council 2030 Regional Parks Policy Plan, December 2010
- Dakota County Park System Plan, 2008
- Dakota County Greenway Guidebook, 2010
- City of Mendota Heights 2030 Comprehensive Plan
- City of South St. Paul 2030 Comprehensive Plan
- City of West St. Paul 2030 Comprehensive Plan
- West St. Paul Pedestrian and Bicycle Master Plan
- Robert Street Grade Separated Crossing Feasibility Study
- Future Development at Mendota Plaza
- TH 110 Grade Separated Crossing Study



Technical Advisory Group

A technical advisory group met regularly, including representatives from:

- City of Mendota Heights
- City of West St. Paul
- City of South St. Paul
- Dakota County Parks Department
- Dakota County Office of Planning

SHIP Priority Populations Input

SHIP priority population input included the following desires:

- More local trail connections, especially along Oakdale and Marie Avenues
- Pedestrian-scale lighting along the entire corridor, especially during the fall and winter when the sun sets early
- Benches at frequent locations along the trail and placed in groups of 2-3 benches for larger walking groups

GREENWAY MASTER PLANNING PROCESS

The eight-month-long planning process was a collaborative effort of multiple agencies and jurisdictions. Dakota County led the process with advice from a technical advisory group formed to guide the master plan.

Stakeholder Input

A technical advisory group met during each phase of master planning to provide guidance, provide insight into technical questions, explore options, identify partnership opportunities, and discuss concurrent projects. In addition to providing specific guidance, the TAG institutionalized a collaborative planning process and established relationships across agencies with a stake in implementing the master plan. Four TAG meetings were held on Sept. 11, Oct. 23, Dec. 11, 2014, and Feb. 18, 2015.

State Health Improvement Program (SHIP) Priority Populations Input

Specific outreach was made to engage and get input from SHIP priority populations. These populations include people over 55 years old, children, people with lower median income, and people with mobility issues. A questionnaire was distributed at several locations asking for feedback on trail accessibility, connections, and amenity enhancements. The following outreach efforts were made:

- Living Longer Strong meeting on September 18, 2014
- Open House at Covington Court Apartments on Marie Avenue, held in coordination with the Marie Ave/Oakdale Ave Trail Feasibility Study on October 9, 2014
- Joint Open House with the West St. Paul Marie-Oakdale Feasibility Study on November 5, 2015
- Questionnaires distributed to parents of students who attend Garlough Elementary School
- Presentation at and input received at Thompson Park Advisory Council for Seniors meeting on January 22, 2015

See the box to the left for specific comments gathered from these groups.

February 2015 Open House

An Open House was held on Feb. 4, 2015, to gather input on the draft recommendations for trail alignment alternatives, greenway enhancements, interpretive themes, approaches to natural resources, and water quality improvements. Over 35 people attended the open house with interest in different aspects of the greenway planning. Most of the comments were positive and attendees were in favor of the greenway recommendations. Comments and questions received at the open house and on the comment forms include the following:

- Mitigate potential trail conflicts at busy traffic areas and driveway crossings
- Concerns about funding, maintenance, and safety
- Desire for lighting
- Support for the greenway concept, both trails and open space preservation
- Desire for grade separated crossings

Project Website

A project website at www.hkgi.com/projects/dakota was established for the North Creek and Minnesota River greenways in 2010 and was continued as a resource for the River to River Greenway. Materials from the open houses were posted online and an online questionnaire was available as a way to provide feedback for those interested.

Public Review

The public review draft master plan was posted on Dakota County's website and the greenway website from May 19, 2015, through June 19, 2015. The February open house gave the public the opportunity to talk to county staff and voice concerns.

Public comments included the following:

- Interest and excitement about riding one trail between the confluence of the Minnesota and Mississippi Rivers to the Mississippi River in South St. Paul
- A desire for safe trail connections across/over/under busy roads
- A desire for clear signage to show distance and location

The public review draft was also available to all project stakeholders: City of Mendota Heights, City of West St. Paul, City of South St. Paul, the Dakota County Historical Society, and the Metropolitan Council. In addition, a summary presentation was prepared for technical advisory group members to present to their organizations. The Dakota County Board adopted the master plan on _____.

RECREATION NEEDS

The River to River Greenway will enhance access to natural areas, trails, and cultural resources. These resources are important for quality of life and accommodate the high-demand recreational activities of walking, biking, jogging, inline skating, dogwalking, and more. Respondents to Dakota County's 2006 park survey cited these among the top activities residents would like to see in the County's park system. Current recreation and demographic trends suggest these needs will increase well into the future.

The existence of the North Urban Regional Trail (NURT) for many years and the need for enhancements to complete the River to River Greenway has been referenced in other planning documents. The West St. Paul Bicycle and Pedestrian Master Plan identifies the NURT as a key regional connection through the city with gaps that should be completed to create a comprehensive and connected system. The Metropolitan Council's 2030 Parks Policy Plan, completed in 2005, references the North Urban Regional Trail as a partially existing and partially planned trail. By the end of 2015, the North Urban Regional Trail, now known as the River to River Greenway, will be a complete, continuous trail. Trail improvements and greenway enhancements will still need to be completed before the full greenway vision is realized. In Dakota County's Park System Plan, the greenway corridor, identified as the North Urban Regional Trail, is identified as partially existing and partially first-priority-to-complete.

Visitors

A broadly generalized profile of greenway visitors was created based on input from existing visitors to Dakota County parks and trails, from stakeholders in the master planning process, and from demographics of the population within 30 miles of Dakota County (see sidebar on page __).

The following observations can be made about potential visitors based on comparative census data from 1990, 2000, and 2010.

- The people served by Dakota County parks and trails are becoming increasingly diverse. As recreation, interpretation, and education are developed, outreach should be considered.
- There are more than half a million children enrolled in schools in the area served by Dakota County parks; more than one-quarter of the population is younger than 17. Schoolchildren and families are a large group of potential greenway users.
- At the 2010 U.S. Census, 10 percent of the population in Dakota County was older than 65, and this age group is projected to increase dramatically in number and proportion in the next 20 years. The influx of baby boomers into this age category will influence interpretive and education program development.
- Based on the 2011 American Community Survey, the average per capita income for the U.S. was $26,708. The average per capita income for Dakota County was more than 23 percent higher, at $32,935. Higher incomes have historically been associated with greater participation in recreation activities.

Trends

Active living, popularity of trail-based activities, interest in nature, history, and culture, transportation and connectivity, aging actively, and population growth are all current trends that indicate that interest in and visits to Dakota County greenways are likely to increase.

Trail Use

Trails are the number one desired recreation facility in poll after poll. Trails can be enjoyed by people of all ages and abilities, they are inexpensive for users, and they are often close to home. The Minnesota Statewide Comprehensive Outdoor Recreation Plan notes that the interest and demand for more trails is being felt at all levels of government. According to the 2008 Metropolitan Council Regional Parks and Trails Survey, biking and walking are the most common recreation forms, while running, inline skating, and dogwalking also were popular.

Active Living

In 2009, 64.3 percent of adults in Dakota County were either overweight or obese. If the current trend continues, the percentage is expected to be 76 percent by 2020. Nationally, the obesity rate in children has tripled over the past 30 years. Today about 20 percent of school-age children are overweight or obese (Source: Dakota County Public Health).

Regular moderate physical activity can help prevent a host of disorders, including heart disease, obesity, high blood pressure, Type 2 diabetes, and osteoporosis. More physical activity at a population level can reduce health care costs and other costs to society.

Walking and biking are two of the simplest and most popular ways to integrate regular physical activity into daily routines, referred to as active living. Places that have physical infrastructure such as trails and programs to promote walking and biking tend to have more physical active and healthier populations.

Interest in Nature and Sustainability

Increased sensitivity to ecological issues and the benefits of healthy ecosystems has led to people seeking more natural experiences. There also is increased interest in and opportunities for environmental stewardship such as stream and riparian restoration and the removal of invasive species. People also desire educational and interpretive programs and seek a balance of environment and recreation.

In 2010 members of the Greenway Collaborative identified the following groups as current visitors to Dakota County Parks:

- Wildlife/bird watchers
- School groups
- Senior citizens
- Non-motorized commuters
- Hikers, walkers, runners, cyclists
- Regional users
- Anglers
- Park users (Athletics and community events/activities)
- Residents
- Families
- Disabled users
- Bicycle racers
- Boaters

Stakeholders also identified groups of visitors they would like to see as greenway users in the future:

- Groups needing increased activity
- Corporate users
- Foragers (fruit, flowers)
- Commercial and business connections
- Art community

Transportation and Connectivity

Health benefits, concerns about climate change, and rising energy costs have increased demand for trails and bikeways as preferable transportation options. Regional trails with grade-separated crossings offer cyclists the advantages that motorists enjoy on freeways.

Connectivity to local trails is essential. The more connected the trail system, the more use it will see. Connecting trails reduce the need for vehicle parking at trailheads. In 2008, half of all regional trail users arrived by bicycle or on foot (Metropolitan Council Regional Parks and Trails Survey).

Engaged Aging

Trail users tend to be older than park users. In 2008, 54 percent of Big Rivers Regional Trail users polled were between the ages of 45 and 64. Trail use likely will remain high as the baby boomer generation ages and remains physically active — or gets more physical activity with increased leisure time — by walking, hiking, or biking on trails.

Interest in History and Culture

As society has become more mobile, interest in local culture and history has increased. The ability to integrate cultural, historic, and environmental interpretation into the greenway will add richness to the greenway experience.

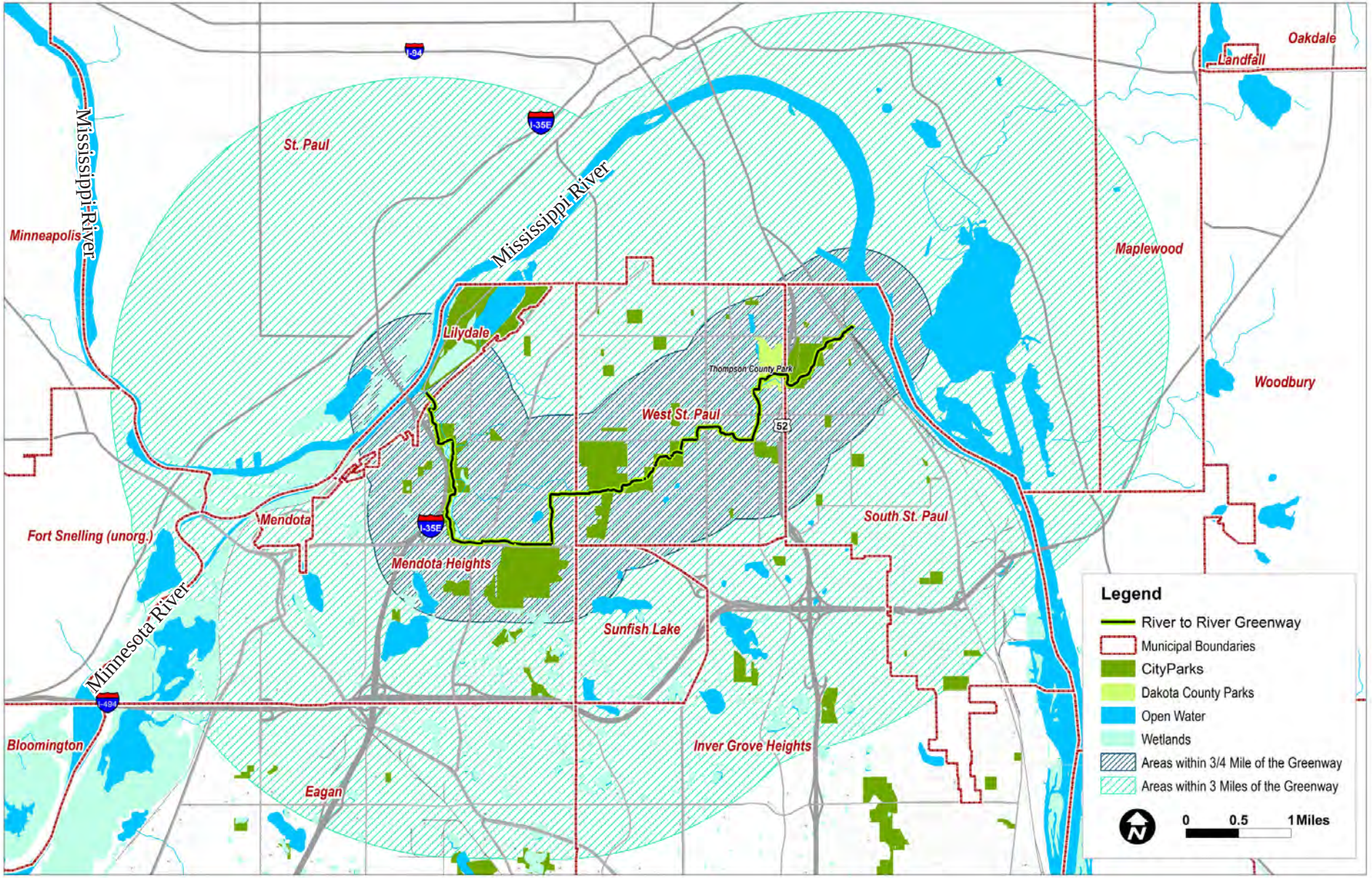
Population

Metropolitan Council studies indicate half of regional trail users live within 3/4 mile of a trail, and 75 percent of trail users live within three miles of the trail used. The 3/4 mile area around the trail is considered the core service area and the three-mile area the primary service area. Communities that fall within the River to River Greenway's core and primary service areas are all expected to see growth within the next 20 years, including significant growth in Eagan and Inver Grove Heights.

Table 8. Population forecasts for communities adjacent to the River to River Greenway. Source: Metropolitan Council Community Profiles, http://stats.metc.state.mn.us/profile

MUNICIPALITY	2013 ESTIMATE	2030 FORECAST	% CHANGE
Core Service Area (areas within 3/4 mile of greenway)			
Mendota Heights	**11,163**	**13,000**	**16%**
West St. Paul	**19,648**	**22,900**	**17%**
South St. Paul	**20,441**	**22,000**	**8%**
Sunfish Lake	**526**	**520**	**-2%**
Lilydale	**900**	**940**	**4%**
Total Core	**52,678**	**59,360**	**13%**
Primary Service Area (areas within 3 miles of greenway)			
Mendota	**201**	**290**	**44%**
Eagan	**66,301**	**76,100**	**15%**
Inver Grove Heights	**34,458**	**42,100**	**22%**
Saint Paul	**296,542**	**324,100**	**9%**
Total (Core + Primary)	**450,180**	**501,950**	**11%**
Dakota County	**408,732**	**481,520**	**18%**

Figure 9. Core and Primary Service Areas



Use Forecasts

According to the Metropolitan Council's 2013 report, "Annual Use Estimate of the Metropolitan Regional Parks System for 2012," an estimated 20,300 visits were made in 2012 to the River to River Greenway Trail's precursor, the North Urban Regional Trail. The River to River Greenway Trail, if opened today, could expect approximately 123,000 annual visits. This estimate was calculated based on Metropolitan Council 2013 visit estimates for the Big River Regional Trail (111,400 estimated visits for over five miles of trail) and adjusting for the lower population of the cities in the primary service area of the River to River Greenway trail.

The 2030 population of the communities touching the greenway's three-mile service area is expected to be 13% percent greater than in 2013. Assuming use rates are stable – a conservative assumption – in 2030, annual visitation can be expected to be at least 139,000. The estimate does not take into account increased use based on population increases in communities outside the primary service area, current recreation trends, and increased use resulting from better connectivity to other regional and local trails.

Existing Conditions

2

OVERVIEW

The River to River Greenway travels eight miles from the Lilydale trailhead of the Big Rivers Regional Trail (part of the Minnesota River Greenway) to Kaposia Landing and the Mississippi River Regional Trail through parks, residential, and commercial areas in the communities of Mendota Heights, West St. Paul, and South St. Paul. The greenway links destinations including: Valley Park, Village at Mendota Heights, Henry Sibley High School, Dodge Nature Center, Garlough Park and Elementary School, Marthaler Park, West St. Paul City Hall, Robert Street commercial corridor, Wentworth Library, West St. Paul YMCA, Thompson Oaks Golf Course, Thompson County Park, and Kaposia Park.

The greenway area contains a rich cultural history with stories of key historical figures, movement corridors, and open space preservation areas. Cultural sites that can be highlighted along the greenway include Dodd Road, Dodge Nature Center, Kaposia Park, the historic Wentworth house, and other parks and schools.

The River to River Greenway links the Mississippi River just downstream of its confluence with the Minnesota River to the Mississippi River in South St. Paul. Between these spans of river is a rich, urban and suburban landscape full of residential neighborhoods, commercial corridors, and parks and open spaces.

This chapter presents:

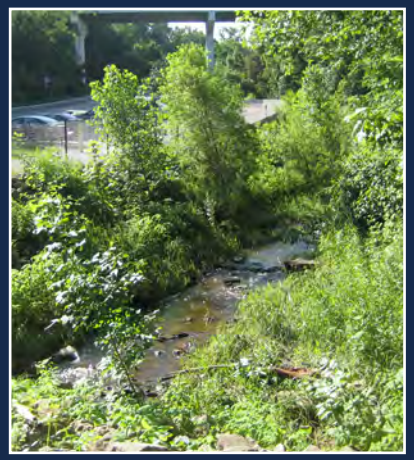
- Existing Greenway corridor character and land use
- Relationship to the larger transportation system
- Existing cultural resources
- Existing natural resources

GREENWAY CHARACTER AND LAND USE

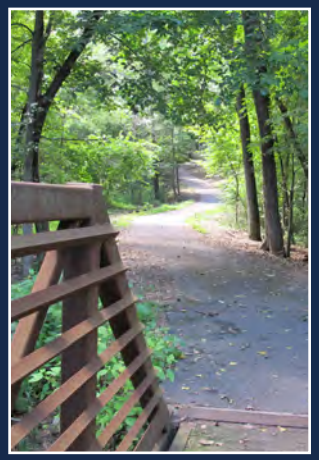
Today the land along the greenway corridor consists of residential, park, commercial, and civic land uses. The land most likely will maintain the urban and suburban character well into the future. The greenway can be broken into two segments; a brief description of each segment follows.

Segment 1: Big Rivers Regional Trail to Garlough Park (4.48 miles)

From the Big Rivers Regional Trail along the Mississippi River, the greenway travels up a steep path to get to Valley Park, where it winds through the dense forest of Valley Park. The trail crosses under Marie Avenue to continue through Valley Park's grassy open space down to and along Hwy 110. After crossing Dodd Road and passing by Village at Mendota Heights, the trail follows Hwy 110 until reaching Henry Sibley High School. New trail construction in 2014-2015 passes through the high school property, along Marie Avenue, and under Charlton Avenue to reach Garlough Park.



Big Rivers Regional Trailhead on Lilydale Road



Valley Park

Tunnel under Charlton Avenue

Village at Mendota Heights

Henry Sibley High School

Segment 2: Marthaler Park to Simon's Ravine Trailhead/Mississippi River Regional Trail (3.30 miles)

After winding through the woods of Garlough Park, the trail crosses into Marthaler Park, up and down the slopes in the park, to Wentworth Avenue. The trail follows an existing trail on Wentworth Avenue, across Robert Street through the busy commercial district, and over to Wentworth Library and the Thompson Oaks Golf Course. The trail then turns north, following Oakdale Avenue to Thompson County Park. Once in Thompson Park, the greenway follows park trails, over Hwy 52 and into Kaposia Park. The Kaposia Park segment follows a steep hill to Kaposia Landing and the Mississippi River.

Marthaler Park at Wentworth Avenue

Wentworth Library

Thompson County Park

Simon's Ravine Trailhead

TRANSPORTATION SYSTEM

The River to River Greenway will support nonmotorized transportation by providing a regional corridor for bicycle and pedestrian transportation. The greenway will intersect with existing local trails in Mendota Heights, West St. Paul, and South St. Paul that connect residential areas, commercial destinations, schools, and employment destinations. There is also existing trail access across the 35E bridge and across the Mendota bridge to connect to Minneapolis and St. Paul. A trail connection from Kaposia Landing north to the West Side Flats area in St. Paul will be constructed parallel to the Mississippi River in the near future.

TRAIL CONDITION EVALUATION

As part of the planning process, detailed analysis of the existing trail condition along the entire River to River Greenway corridor was conducted. The condition according to the trail's surface, slope/grade, width, and design speed/curves was categorized as good, acceptable, or poor.

Figure 15. Existing Trails Issues - West

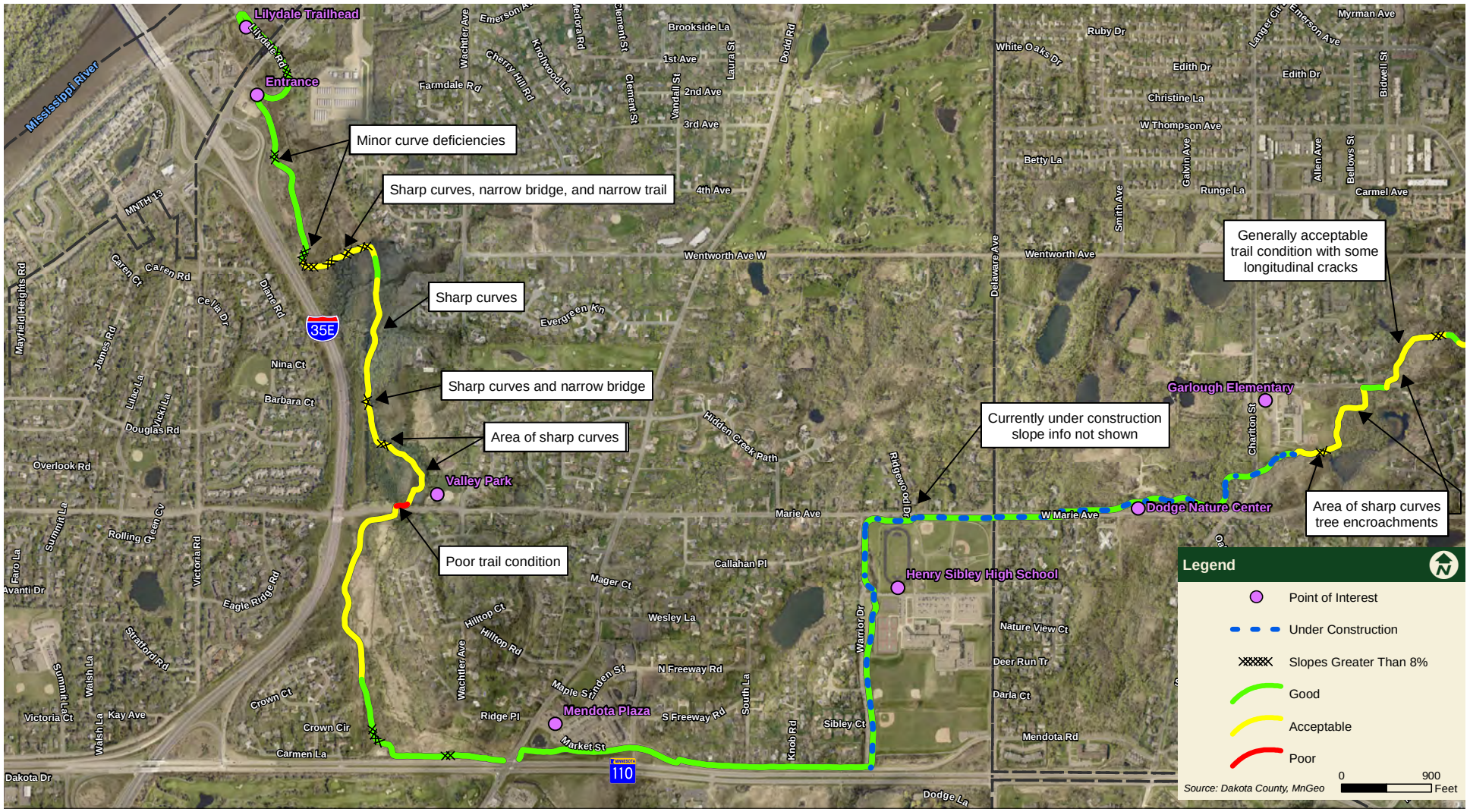
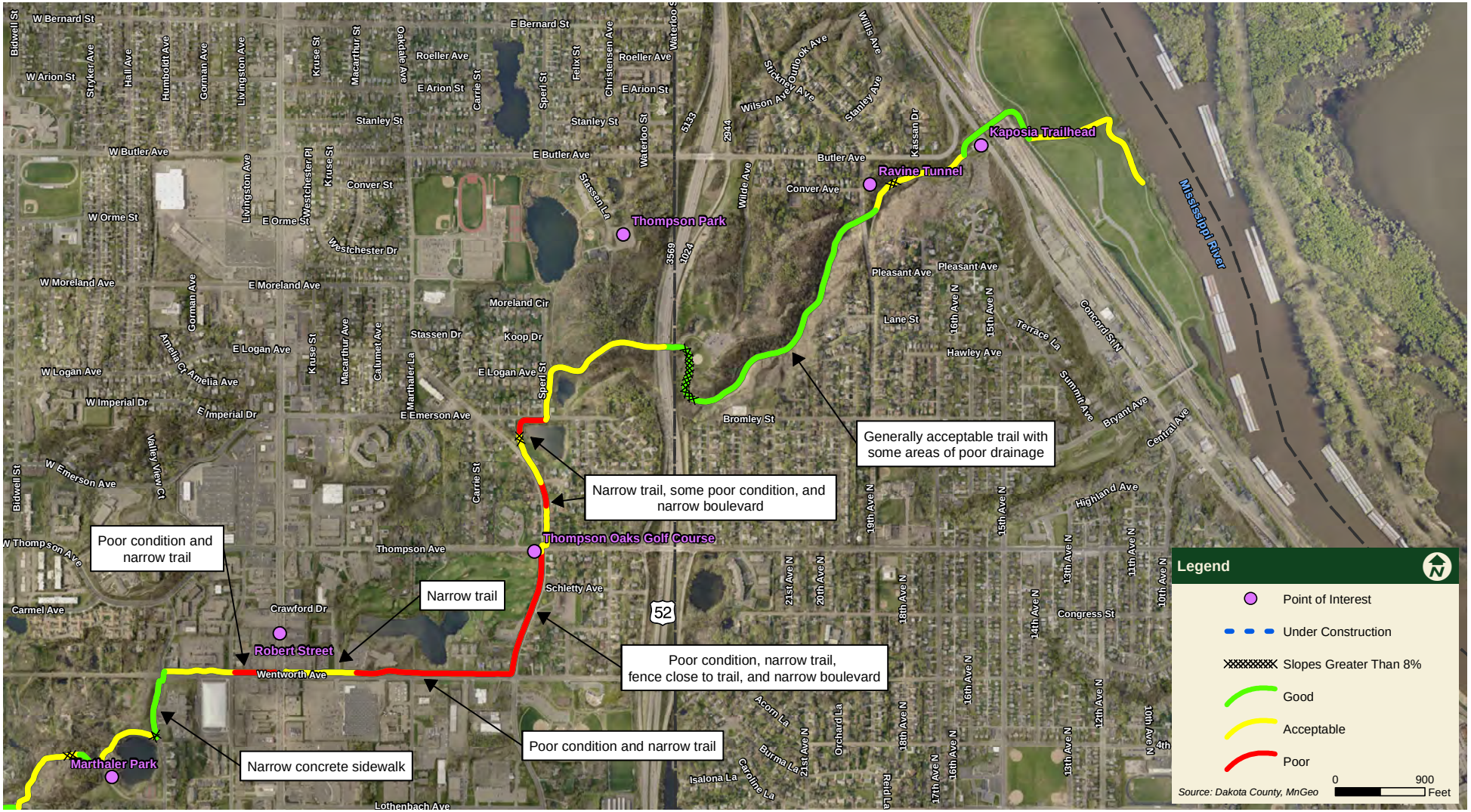


Figure 16. Existing Trails Issues - East



EXISTING CULTURAL RESOURCES

Our connection with the places where we live and recreate are emotional bonds that endure. The resources that reside within these places are the foundation for these bonds. Within the greenway corridor, there are parks, historical and cultural features, and many recreational resources, both historical and current, that have provided people with access to nature for generations. Though few of these resources are considered historic by state or federal definitions (or simply have yet to be evaluated), they are an important part of the landscape to the people along the greenway corridor.

There are other cultural resources recognized by the State Historic Preservation Office within and around the River to River Greenway. Of note is the G.W. Wentworth House. There does not appear to have been many architecture/ history evaluations within the corridor; but much of the housing stock is of a sufficient age to be evaluated, and the possibility remains that further investigations could uncover additionally intriguing resources.

There are few known archaeological sites along the greenway, likely due to few archaeological studies being completed within and around the proposed greenway. The area's rich resources have attracted people for thousands of years: additional sites likely remain undiscovered in the corridor.

The interpretation section of this plan identifies strategies to share the cultural resources of the area while protecting them.

Figure 17. Known Cultural Resources

River to River Greenway

Regional Greenway Network

NRHP-Listed Architecture/History Property

0 625 Meters

0 1,500 Feet

1:32,000

106GROUP

EXISTING NATURAL RESOURCES

The River to River Greenway corridor connects several forested parks and open spaces through urban and suburban areas. The overall quality of plant communities within the corridor is moderate to high-quality, as identified by the Minnesota County Biological Survey (MCBS) and the Minnesota Land Cover Classification System (MLCCS).

Vegetative Cover – Minnesota Land Cover Classification System (MLCCS)

Inland from the Mississippi River floodplain, the greenway passes through two steep, forested ravine parks – Valley Park on the west in Mendota Heights, and Kaposia Park on the east in South St. Paul.

Several moderate to high quality ecological areas are connected by the River to River Greenway. Kaposia Park's deep ravine is the only location along the corridor to contain MLCCS high quality plant communities. Moderate condition plant communities exist in Kaposia Park, Thompson County Park, Garlough and Marthaler Parks, Dodge Nature Center, and Valley Park. Native species are present in Valley Park, Dodge Nature Center, Thompson County Park, and Kaposia Park.

Water Resources

The Mississippi River anchors both the western and eastern ends of the greenway corridor at Lilydale Regional Park and Kaposia Landing. These parks are both low floodplains with mostly grasses and other herbaceous cover. Big Foot/Interstate Valley Creek runs parallel to a portion of the trail through Valley Park, with one trail bridge crossing over the creek in the middle of the park.

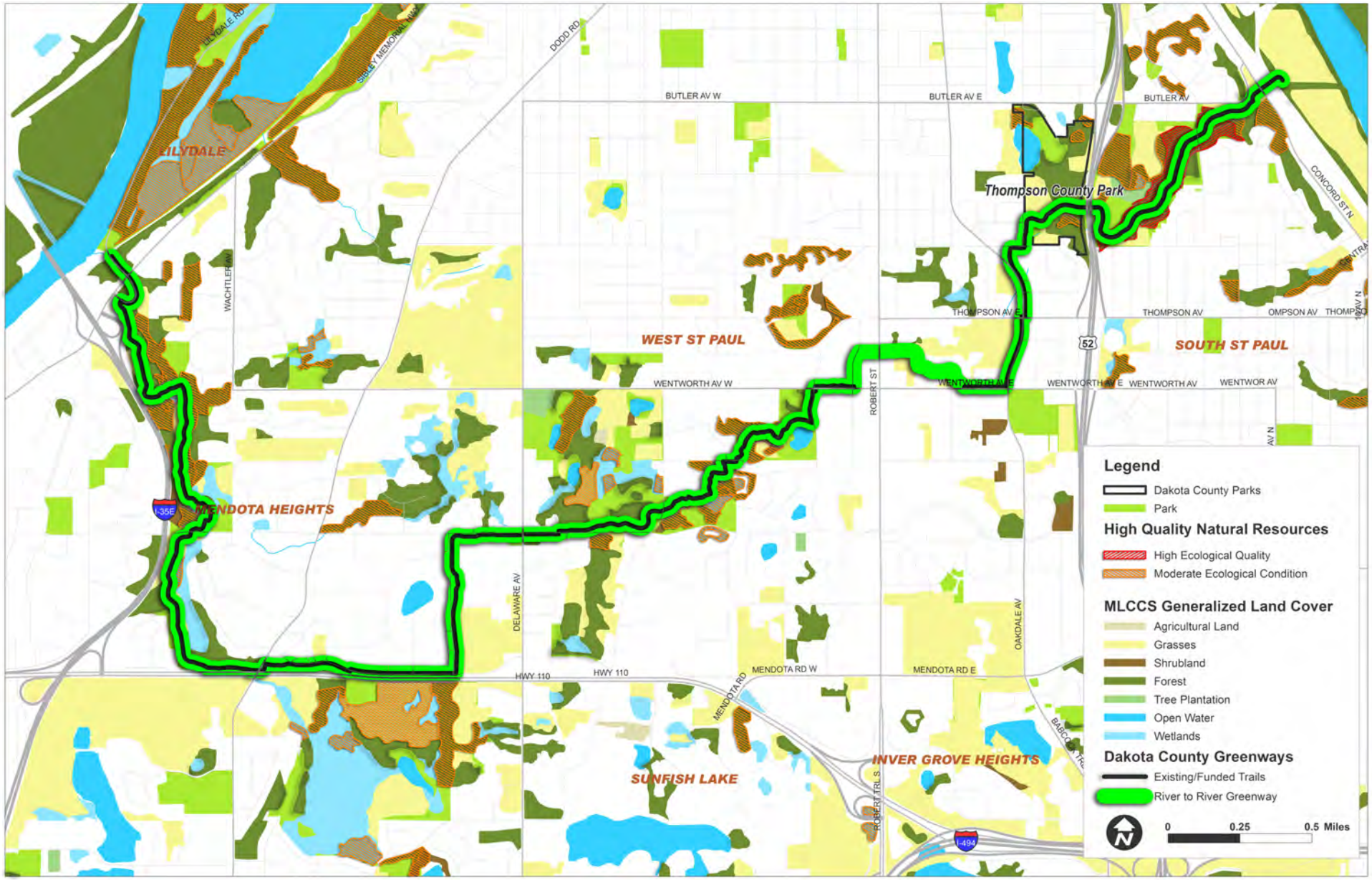
Few lakes and wetlands are found along the corridor due to the highly developed landscape and drainage patterns. Three small water bodies within the corridor include Marthaler Lake, the pond at Thompson Oaks Golf Course, and Thompson Lake. According to the Minnesota DNR Lake Finder website, Marthaler Lake in Marthaler Park is a 3.9 acre water body with a maximum depth of six feet. Since 1975, the lake has been managed as a fishing pond by the MN DNR. Each spring the lake is stocked with bluegill. Other fish species found in the lake include black bullhead, black crappie, green sunfish, hybrid sunfish, pumpkin seed, and golden shiner. Thompson Lake in Thompson County Park is eight acres in size, eight feet deep, and contains similar fish species as Marthaler Lake.

Some drainage issues exist in Kaposia Park, along the trail. During heavy rain storms, water funnels to the trail and erodes the soils on either sides of the paved trail.

The River to River Greenway lies entirely within the Lower Mississippi Watershed, governed by the Lower Mississippi Watershed Management Organization.

Existing Natural Resources Map Sources (next page): Forest / Woodland – Minnesota Land Cover Classification System (MLCCS); Prairie / Herbaceous – MLCCS; Shrubland – MLCCS; Wetland – NWI; Open Water / Streams – MLCCS and Dakota County; High ecological condition – Minnesota County Biological Survey (MCBS) high biological diversity areas and native plant communities combined with MLCCS high quality plant communities; Moderate ecological condition – MLCCS MLCCS moderate condition plant communities

Figure 19. Existing Natural Resources (MLCCS & MCBS)



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The Plan

3

OVERVIEW

The River to River Greenway will integrate linear recreation, alternative transportation, water quality improvements, and habitat preservation. As it exists today, the North Urban Regional Trail (NURT) provides a continuous path for bikers, walkers, and runners, but it lacks the enhancements to make it a Dakota County Greenway. This plan focuses on the strategies needed to advance the NURT to the level of a greenway with a continuous 10' minimum width paved trail (designed to safe engineering standards) and amenities, such as signage, trailheads, and landscape improvements. The existing corridor is completely developed, so focus will be on providing basic trail improvements, wayfinding, and road crossing improvements. Water quality and habitat improvements will involve preservation of natural areas and urban retrofits of stormwater management systems.

This chapter includes four sections:

A. Development plan — Outlines the defining recreation and transportation features of the greenway
B. Key initiatives — Describes specific development and natural resource projects for each greenway segment
C. Interpretive plan — Identifies interpretive themes and subthemes for the greenway and provides a framework for cultural and environmental interpretive elements
D. Stewardship Plan — Addresses habitat stewardship and water resources

DESIGN FRAMEWORK

The Greenway Guidebook provides the framework for the greenway enhancements:

- Has regional trail for recreation and transportation that follows water and natural features
- Is maintained as a year-round facility
- Provides frequent trailheads and access points
- Has grade-separated crossings of major roads
- Has a consistent design with natural signature and high quality support facilities
- Has lighting for evening use in appropriate locations
- Links recreation destinations and activity centers
- Acts as a spine for loop trails
- Maximizes borrowed views
- Uses wayfinding as a system-wide unifying element
- Is universally accessible
- Incorporates sustainability by using recycled materials, pervious pavement, energy efficient lighting and enabling non-motorized transportation

A. Development Plan

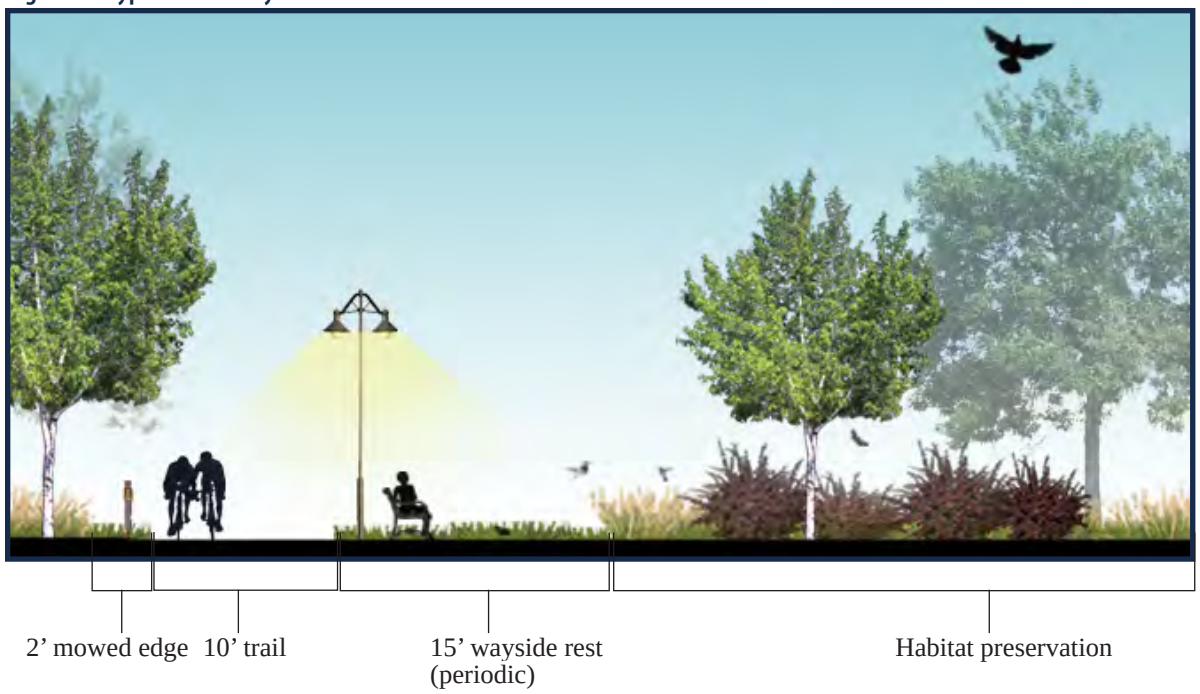
Access to recreation and nonmotorized transportation are two of the four foundational elements of Dakota County greenways. The primary recreation/transportation feature of the greenway is a continuous regional destination trail. While the greenway varies in width from 100 feet to more than 300 feet throughout the corridor, this section focuses on the design of the 30-foot trail corridor to create a safe, amenity-rich trail for year-round use.

Design consistency is critical in developing Dakota County greenways to create a high-quality, unified, and legible system. The Greenway Guidebook identifies the elements that will be signatures of the greenway system, listed in the sidebar on the previous page. How the River to River Greenway addresses each of these topics is discussed in this chapter.

TRAIL CORRIDOR FEATURES AND DESIGN

This section addresses design features that are signatures of Dakota County's greenway system. Design touches many facets of the trail alignment, including: the relationship of the trail alignment to the larger greenway corridor; the ability to connect destinations; the presence and location of grade separated crossings, trailheads, and support facilities; the style and location of furnishings and wayfinding; accessibility; and sustainability. Consistent, high-quality design will elevate the greenway experience above that of a utilitarian trail to a first-class regional destination.

Figure 22. Typical Greenway Trail Corridor Section



TRAIL CORRIDOR

The regional trail within the greenway corridor will be a continuous multipurpose bituminous trail designed in accordance with applicable American Association of State Highway Transportation Officials guidelines, Minnesota DOT bicycle design guidelines, and Dakota County trail standards. The trail will be a minimum of 10 feet wide with a two-foot grass clear zone on each side.

Anticipated uses include walking, jogging, inline skating, and bicycling. The trail will be maintained as a dry surface for winter use and, where appropriate, lit for evening use.

Figure 23. Regional Trail Connections

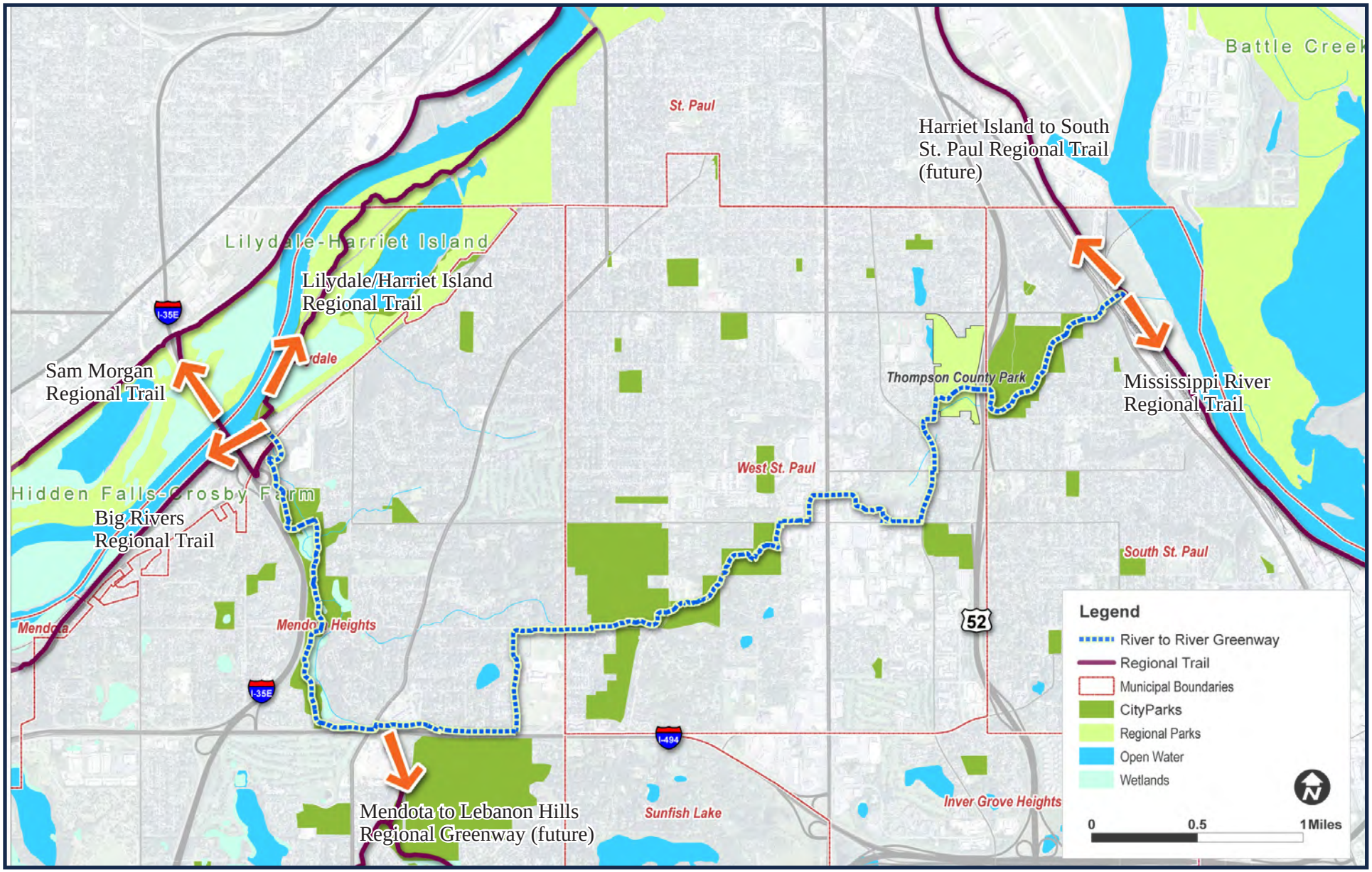
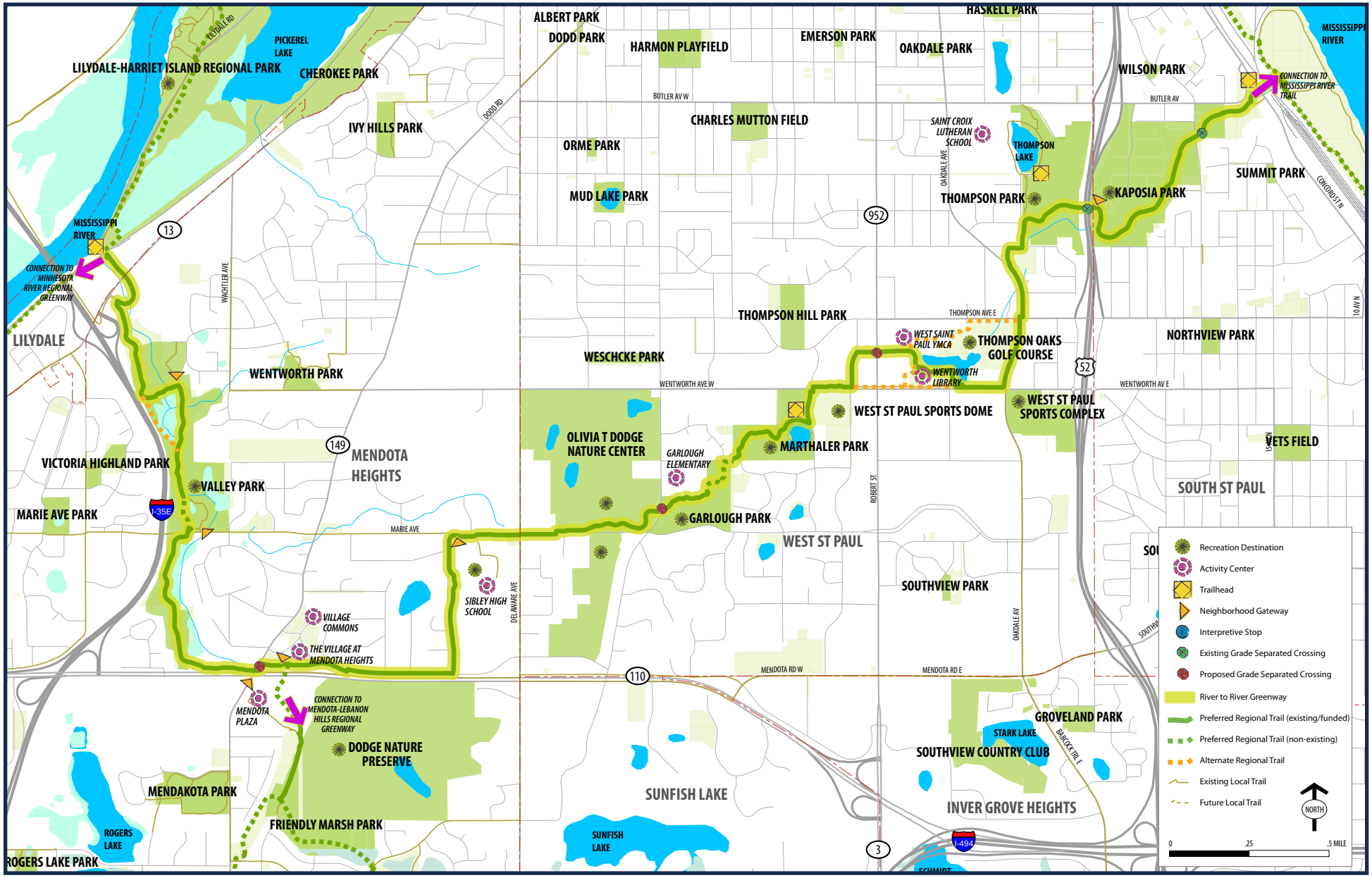


Figure 24. River to River Greenway Concept Plan



TRAIL USE CONFLICTS

The North Urban Regional Trail has been in use for two decades and is located within a densely populated area in the suburban Twin Cities. Therefore, many different trail users – walkers, bikers, inline skaters, dog walkers, and runners – may cross paths along the trail while moving at different speeds. In order to reduce potential trail congestion and conflicts, the following strategies are recommended:

- Separate walking and bicycling trails in congested areas
- Use etiquette signage (e.g. bicyclists yield to peds, slow – pass on right)
- Provide a bikeable shoulder or bike lane when there is an adjacent street so that faster riding cyclists have an option to self-select a route

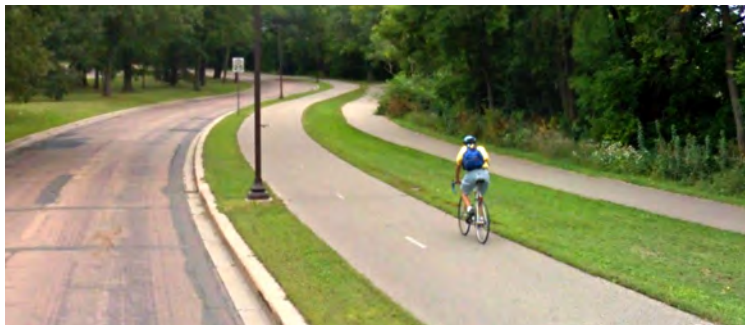
Within the River to River Greenway corridor, there are seven adjacent roads that may be evaluated in the future for complementary on-road bike facilities. These roads are candidates for painted shoulders or bike lanes that could run parallel to the multi-purpose off-road greenway trail:

- Lilydale Road (CSAH 45)
- 110 Frontage Road (from Village at Mendota Heights to Sibley High School)
- Warrior Drive (adjacent to Sibley High School)
- Marie Avenue (from Sibley High School to Dodge Nature Center)
- Humboldt Avenue (from Marthaler Park to Wentworth Avenue)
- Wentworth Avenue/CSAH 8 (from Humboldt Avenue to Oakdale Avenue)
- Oakdale Avenue (CSAH 73)

Right: Etiquette trail signs can help reduce trail conflicts between different types of trail users.

Below Left: On-road bike lanes can alleviate conflicts from high use trails and provide choices for different levels of bicyclists.

Below Right: Separate bike and pedestrian trails are recommended in highly congested or busy trail areas.



RECREATION DESTINATIONS


Valley Park


Garlough Park


Kaposia Park


Marthaler Park

ACTIVITY CENTERS


Village at Mendota Heights


Henry Sibley High School


West St. Paul YMCA


Wentworth Library

80/20 TRAIL ALIGNMENT

A primary goal of the greenway trail alignment is to be at least 80 percent in an off-street greenway corridor with a maximum of 20 percent of the greenway adjacent to roads. Due to existing the urban nature of the existing trail, the greenway alignment falls short of this goal. Frequent portions of the greenway trail use road rights of way, including along Hwy 110, Marie Avenue, Wentworth Avenue, and Oakdale Avenue. Along these roads efforts will be made to ensure an enjoyable greenway experience through addition of landscaping, road narrowing (where feasible) to increase buffer space and slow traffic, historic interpretation, and trail amenities.

Table 26. Parallel to Road, Off-Road Trail Alignment

	Parallel to Road	*Off-Road*
Segment 1	*27%*	*73%*
Segment 2	*35%*	*65%*
River to River Greenway	***31%***	***69%***

RECREATION DESTINATIONS, ACTIVITY CENTERS, AND TRAIL CONNECTIONS

Inherent to greenways are the trails linking recreation destinations and activity centers, the social gathering places along the trail. Opportunities to stop along the trail to fish, observe wildlife, or eat lunch are some of the features that will make the River to River Greenway a regional destination drawing people from a broad area. The River to River Greenway will be a spine for loop trails, connect to regional and local trails and roads, and will itself serve as an important transportation route. Recreation destinations, activity centers, and connections are shown in Figure 23.

TRAILHEADS AND NEIGHBORHOOD GATEWAYS

Frequent access is a priority for the River to River Greenway. Two generalized types of greenway and trail access points are recommended: trailheads are intended for regional and local access; neighborhood gateways primarily are for local access at opportune locations. Typically, access points will be at recreation destinations, activity centers, and trail intersections. Here trail users will find support facilities such as water and restrooms as well as greenway information.

Trailheads are the primary greenway access points and will serve people who drive, walk, bike, or take transit to the greenway. They will occur every three to five miles and share facilities such as parking and restrooms with other facilities. Neighborhood Gateways are more frequent, local access points. They will be at convenient intervals between primary trailheads (two-to-three miles apart or closer at logical locations). Wherever possible, facilities are shared with other uses and ideally are located where there is a complementary recreation destination or activity center.

Trailheads will include:

- Water
- Motor vehicle parking
- Secure bicycle parking
- Picnic areas and/or facilities
- Wayfinding and traffic control
- Restrooms
- Interpretation
- Benches
- Food where opportune
- Shelter and shade
- Local and/or regional trail connections

Neighborhood gateways will include the following elements:

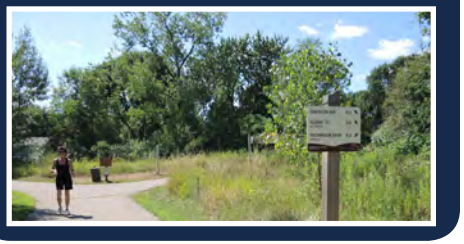
- Benches
- Local and/or regional trail connections
- Secure bicycle parking
- Wayfinding and traffic control
- Water
- Interpretation

Neighborhood gateways may also include as shared facilities:

- Restrooms
- Picnicking
- Food
- Motor vehicle parking

TRAILHEADS

NEIGHBORHOOD GATEWAYS



ROAD AND RAILROAD CROSSINGS

Grade separated crossings are a critical component of Dakota County's greenway system. Grade separation promotes safety by reducing conflicts with motorized traffic and allows for more efficient and enjoyable trail experience for users of all abilities. To that end, grade-separated crossings are suggested at all major intersections along the River to River Greenway, shown in Figure 29 and described in Table 28. The corridor is fortunate that it has several existing and planned grade-separated crossings due to its establishment as the North Urban Regional Trail.

Grade separations on the greenway system should be of the highest quality possible to ensure safety and security and to establish the greenway system as a truly special and high-quality destination.

One potential grade-separated crossing was evaluated along the River to River Greenway at Dodd Road. The evaluation is based on topography and utility information. For the purposes of the evaluation, it was assumed that a minimal-cost underpass would be a 10-foot by 14-foot box culvert. The concept level cost estimate includes grading, retaining walls, traffic control, turf establishment/erosion control, and mobilization. Engineering, administrative costs, and contingencies are also included in the estimate. Overall system drainage costs are not.

The plan identifies a grade-separated crossing of Robert St. as the preferred alignment. Robert Street is a State Highway with a traffic volume of 25,000 vehicles per day. The existing at-grade crossing of Wentworth (CSAH 8) and Robert St. (TH 3) has a combined traffic volume of 35,000 trips entering the intersection. Currently Robert Street is seen as a barrier to some potential users of the River to River Greenway. The overall goal of the plan is to provide safe user experience for all user levels and ages. While a grade-separated crossing of Robert Street is preferred, the plan also shows an alternate at-grade crossing of Robert Street at Wentworth Avenue should it be determined that the grade-separated crossing is prohibitively expensive or is infeasible.

Table 28. Grade Separated Crossings

ID	LOCATION	RECOMMENDATION	IMPORTANCE FOR USER SAFETY AND EXPERIENCE	ESTIMATED CONSTRUCTION COST
1	Marie Avenue at Valley Park	Existing tunnel		
2	Dodd Road, ~100 ft north of Hwy 110 intersection Notes: Coordination needed with landowners and with proposed crossing of Hwy 110 just east of Dodd Road	Tunnel	High	$1,425,000
3	Charlton Street, ~300 ft north of Marie Ave intersection	Tunnel under construction, to be completed in 2015		
4	Robert Street, ~500 ft north of Wentworth Ave intersection	Bridge or Tunnel	High	$3,500,000
5	Hwy 52 between Thompson County Park and Kaposia Park	Existing Bridge over Hwy 52		
6	19th Ave N in Kaposia Park	Existing tunnel		
7	Concord St N and Railroad between Kaposia Park and Kaposia Landing	Existing bridge		

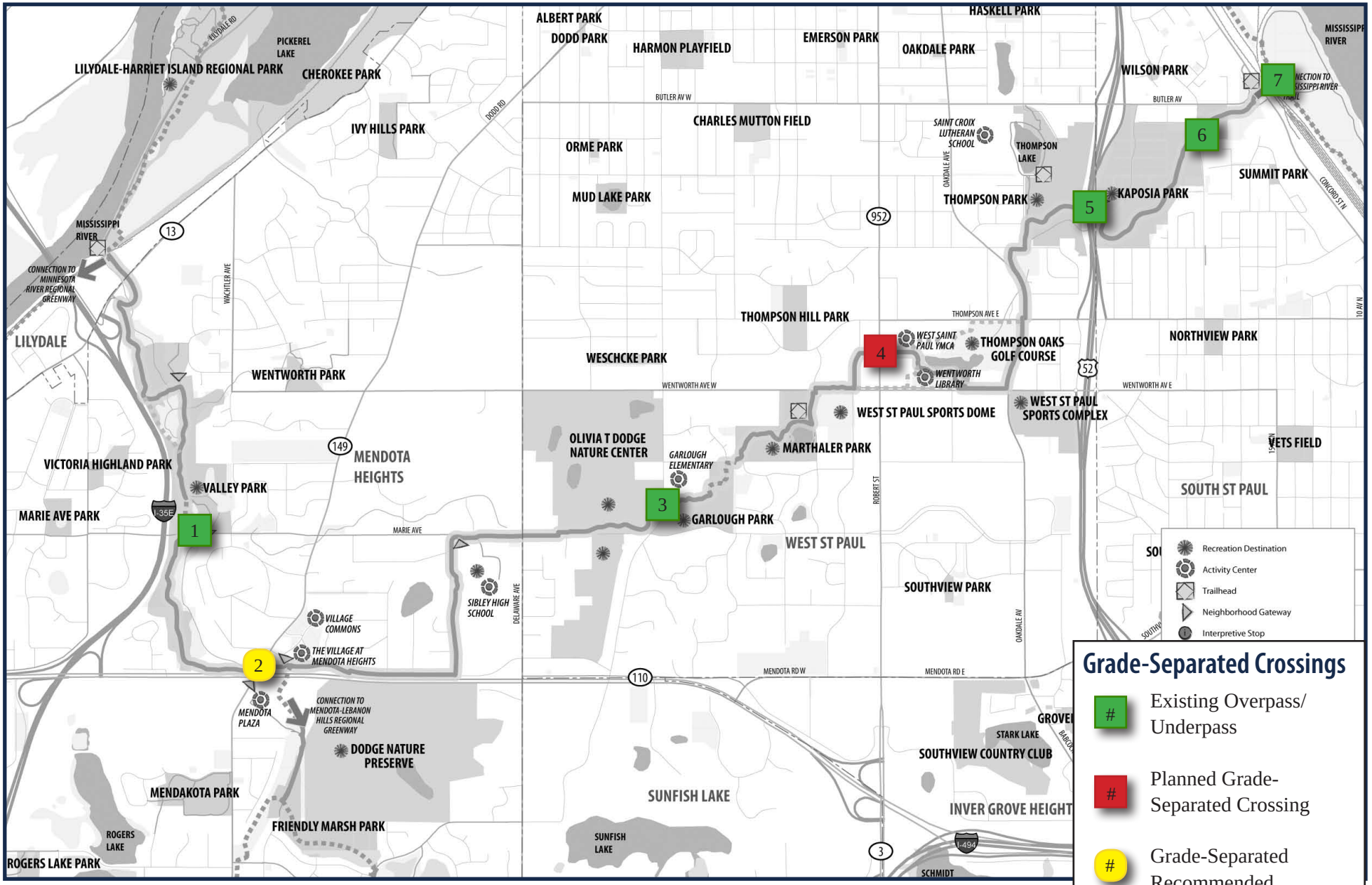
GRADE SEPARATED CROSSINGS

Tunnel under 19th Ave N

Tunnel under Charlton Street

Bridge over Concord St & Railroad

Figure 29. Grade Separated Crossings Map



AT-GRADE CROSSINGS

When grade-separated crossings are not possible on collector roads or higher, crossing should occur at controlled intersections with road users stopping at traffic lights or stop signs. In some instances, mid-block crossings may be appropriate and should be designed with pedestrian/cyclist safety and visibility in mind, as shown in Figure 30. On lower volume local roads, crossings might not be controlled with traffic lights or stop signs. In these cases, features such as pavement marking, refuge islands, and bumpouts should be applied to reduce crossing distances for trail users and increase visibility for trail users and road users.

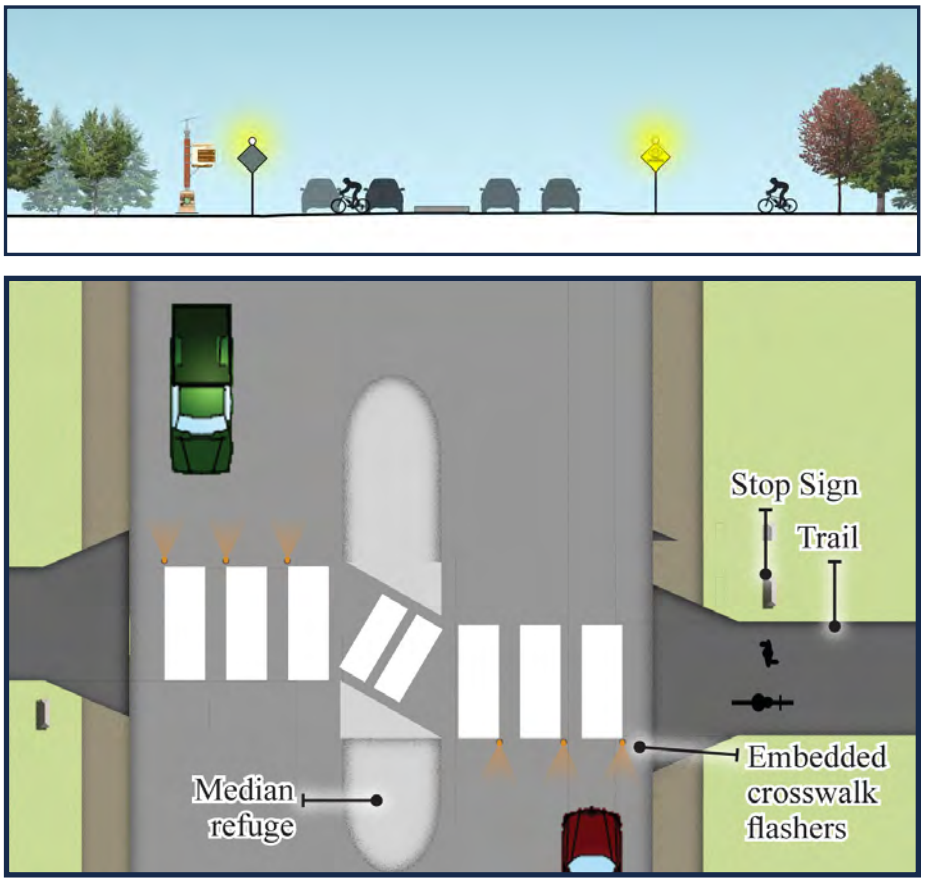
ACCESSIBILITY

Dakota County is committed to offering universal accessibility at all trail facilities. The primary paved trail and all access points suggested in the master plan are located and planned for universal accessibility to provide all visitors with a meaningful experience.

SUSTAINABILITY

Environmental sustainability is at the core of the greenway concept. Improving ecological function, habitat creation, wildlife movement, stormwater infiltration, and carbon sequestration, as well as facilitating non-motorized recreation and transportation, are all greenway objectives.

Figure 30. Typical At-grade, Mid-block Road Crossing with Median Refuge



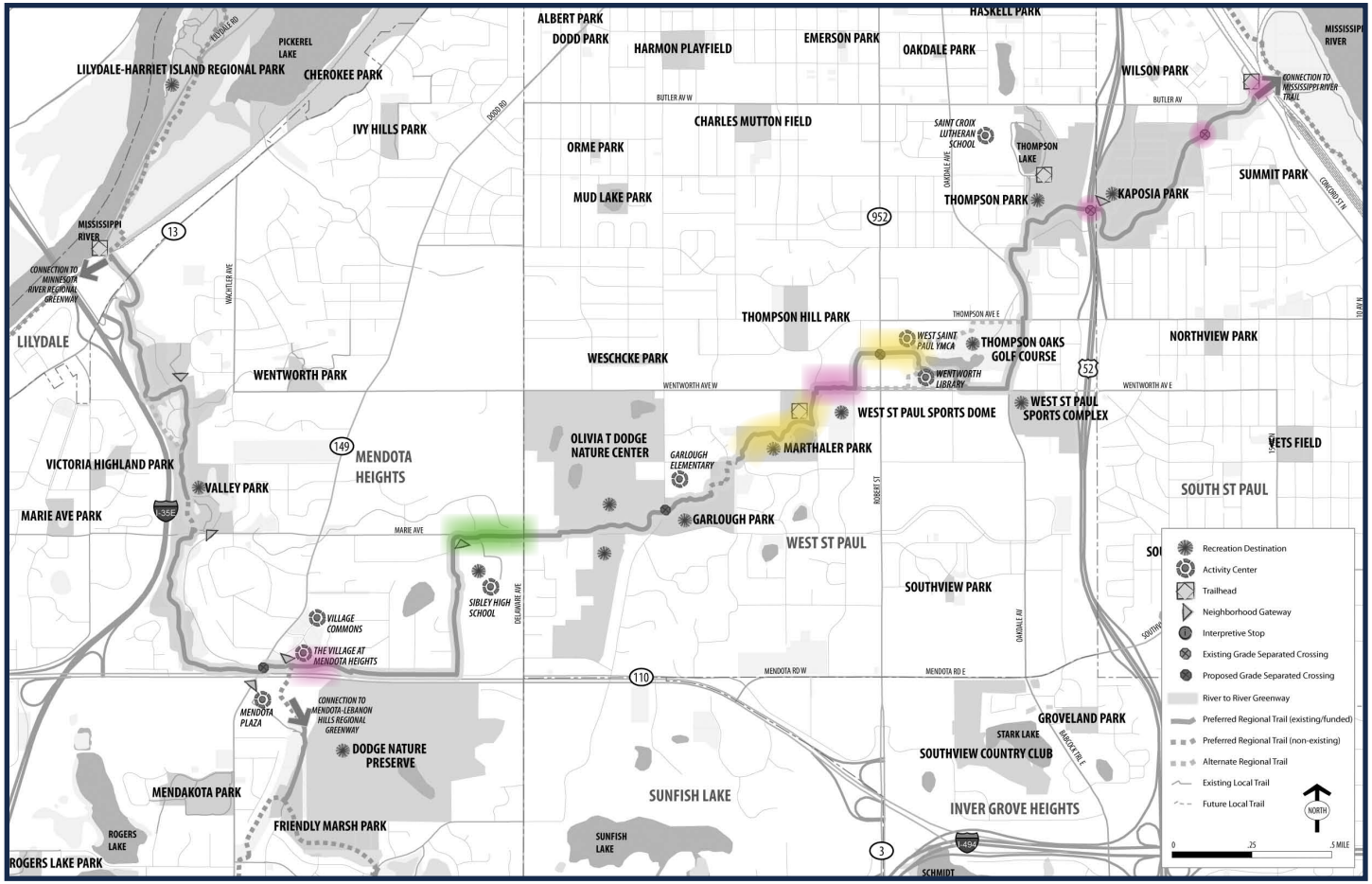
Greenways will be assembled in environmentally sustainable ways and designed to minimize impact on natural systems. Recommended strategies include:

- Protecting and restoring natural systems
- Emphasizing native plant species
- Energy-efficient lighting and use of timed lighting
- Use recycled materials and pervious pavement
- Reducing maintenance costs by promoting self-sustaining wildlife and plant communities and treating stormwater on-site

LIGHTING

Lighting is an essential component for safety and to make the greenway functional as a transportation corridor in the winter and fall months when the days are short. For safety and navigation, lighting is paramount at all greenway access points, trailheads, neighborhood gateways, and trail connections. In these places, it is recommended that lighting be incorporated into initial design and construction. In areas with potential for high use because of population density, trail connections, and destinations, it is recommended that continuous trail lighting be installed. Figure 31 shows existing and priority lighting areas.

Figure 31. Greenway Lighting Plan



Priority Lighting Areas

- 1st Priority
- 2nd Priority
- Existing Lights

SITE FURNISHINGS

One of the key features of the greenway system is having a consistent design signature for site furnishings. On the right are examples of site furnishings (benches, bike racks, lighting, and trash receptacles) that show the desired character of facilities at trailheads, neighborhood gateways, and other resting areas along the greenway.

WAYFINDING

Wayfinding is the way people navigate from place to place. For the Dakota County greenway system, a consistent wayfinding system is essential for orientation, navigation, and safety. Signage should be consistent across the system and should guide greenway users to local services, cultural destinations, transportation connections, activity centers, recreation destinations, cities, neighborhoods, and other landmarks.

Figure 32. Wayfinding Examples

Mile Marker

Directional Sign

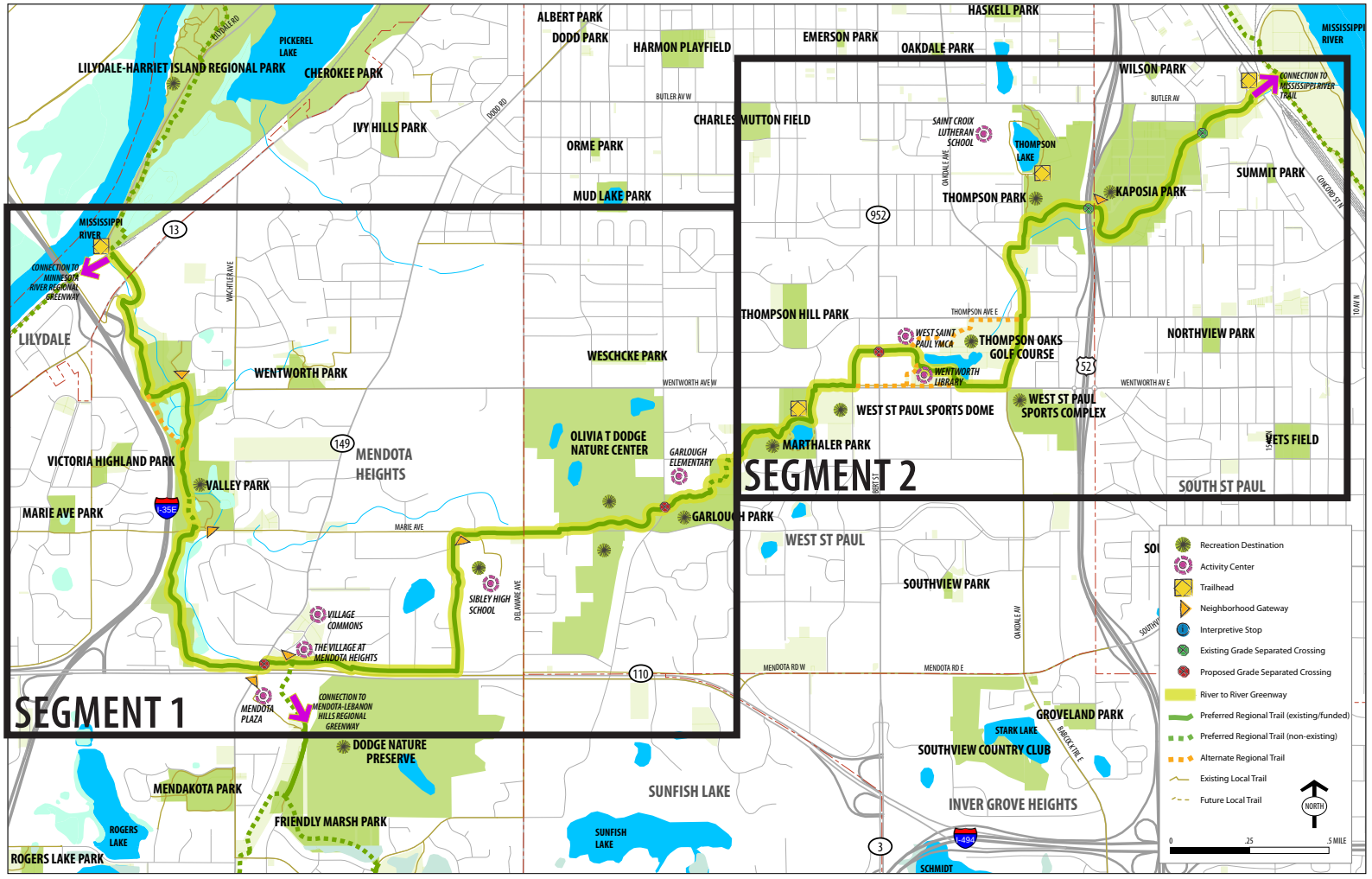
Kiosk

B. Key Initiatives

TRAIL ALIGNMENT

This section summarizes, by segment, specific development and natural resource projects and issues. A zoomed-in view of the greenway map is provided for each segment with a summary of features and discussion of initiatives needed to complete the greenway.

Figure 33. River to River Regional Greenway Trail Alignments and Segments



Lilydale to Garlough Park

Recreation Destinations

- A Valley Park
- B Sibley High School
- C Olivia T. Dodge Nature Center
- D Garlough Park

Activity Centers

- E The Village at Mendota Heights
- F Mendota Plaza
- G Village Commons
- B Sibley High School
- D Garlough Elementary

Trailheads

- H Big Rivers Regional Trailhead, Lilydale

Neighborhood Gateways

- I Valley Park at Bluff Circle
- J Valley Park at Marie Avenue
- F Mendota Plaza
- E The Village at Mendota Heights
- B Sibley High School

Loop and Connection Trails

- K Minnesota River Regional Greenway
- L Mendota-Lebanon Hills Regional Greenway

Grade Separated Crossings

- M Marie Avenue
- N Dodd Road
- D Garlough Park

The existing trail through Valley Park is densely wooded.

Segment 1: Lilydale to Garlough Park (4.3 miles; 30% on-road, 70% off-road)

The west segment of the River to River Greenway starts at the Big Rivers Regional Trailhead on Lilydale Road, follows Lilydale Road to the north end of Valley Park. The trail travels through Valley Park for about 1.5 miles until reaching Hwy 110 right of way. The trail crosses Dodd Road, passes by the Village at Mendota Heights and the future connection to the Mendota-Lebanon Hills Greenway, then continues along the Hwy 110 frontage road to Warrior Drive. At Warrior Drive the trail heads north through the Henry Sibley High School property and then turns to follow Marie Avenue east, passing by the Dodge Nature Center, under Charlton Street, and into Garlough Park.

Trailhead – Big Rivers Regional Trail

This existing trailhead contains a small parking lot, porta-potty, and signage. Trail access to the Big Rivers Regional Trail (part of the Minnesota River Greenway) is adjacent to the parking lot, while trail access to the River to River Trail is across Lilydale Road. Recommendations for this trailhead include an enhanced at-grade crossing of Lilydale Road, permanent restrooms, and a small picnic shelter.

Valley Park

The greenway trail travels 1.4 miles through Valley Park in Mendota Heights. The existing trail has several sharp turns and areas of steep slopes. Two alternative trail alignments that would solve curve and grade issues are proposed to segments north of Marie Avenue. It is recommended that the northern alternative be constructed long-term as funding becomes available, and the southern alternative is recommended to be constructed as a first priority project. The existing trail may be used in the interim as the greenway alignment.

Valley Park is a City of Mendota Heights community park with the following facilities: natural areas, trails, a softball/baseball field, a tennis court, a basketball court, play equipment, picnic areas and a picnic shelter, a parking lot, and a portable toilet. The park's recreational area on Marie Avenue is recommended to be a neighborhood gateway for the River to River Greenway, which includes adding the following amenities: greenway signage, a water fountain, and interpretation. An existing underpass at Marie Avenue is an important safety feature of the continuous greenway trail.

Figure 35. River to River Greenway Segment 1 Concept Plan

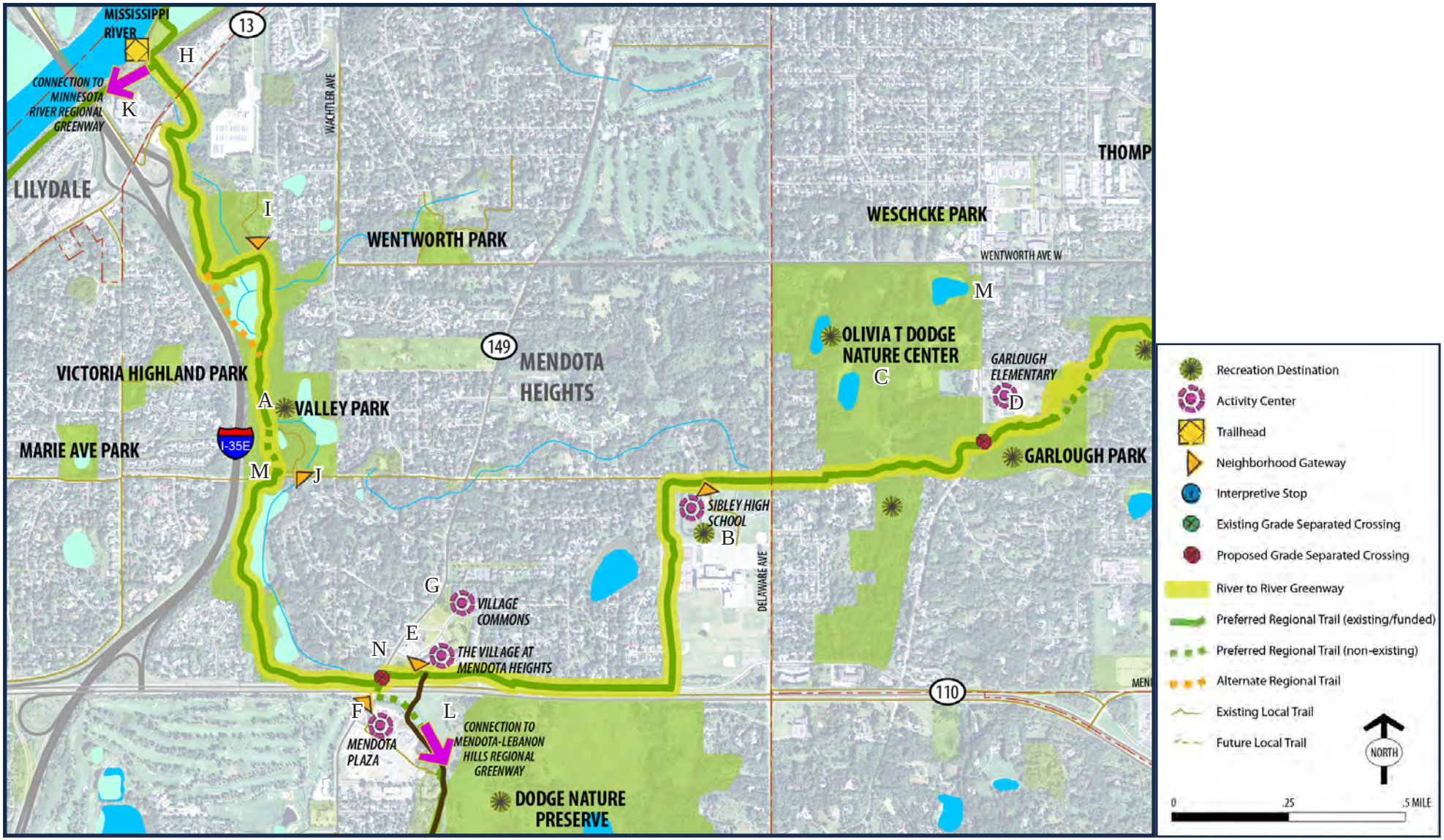


Figure 36. Dodd Road/Hwy 110 Area Detail Diagram

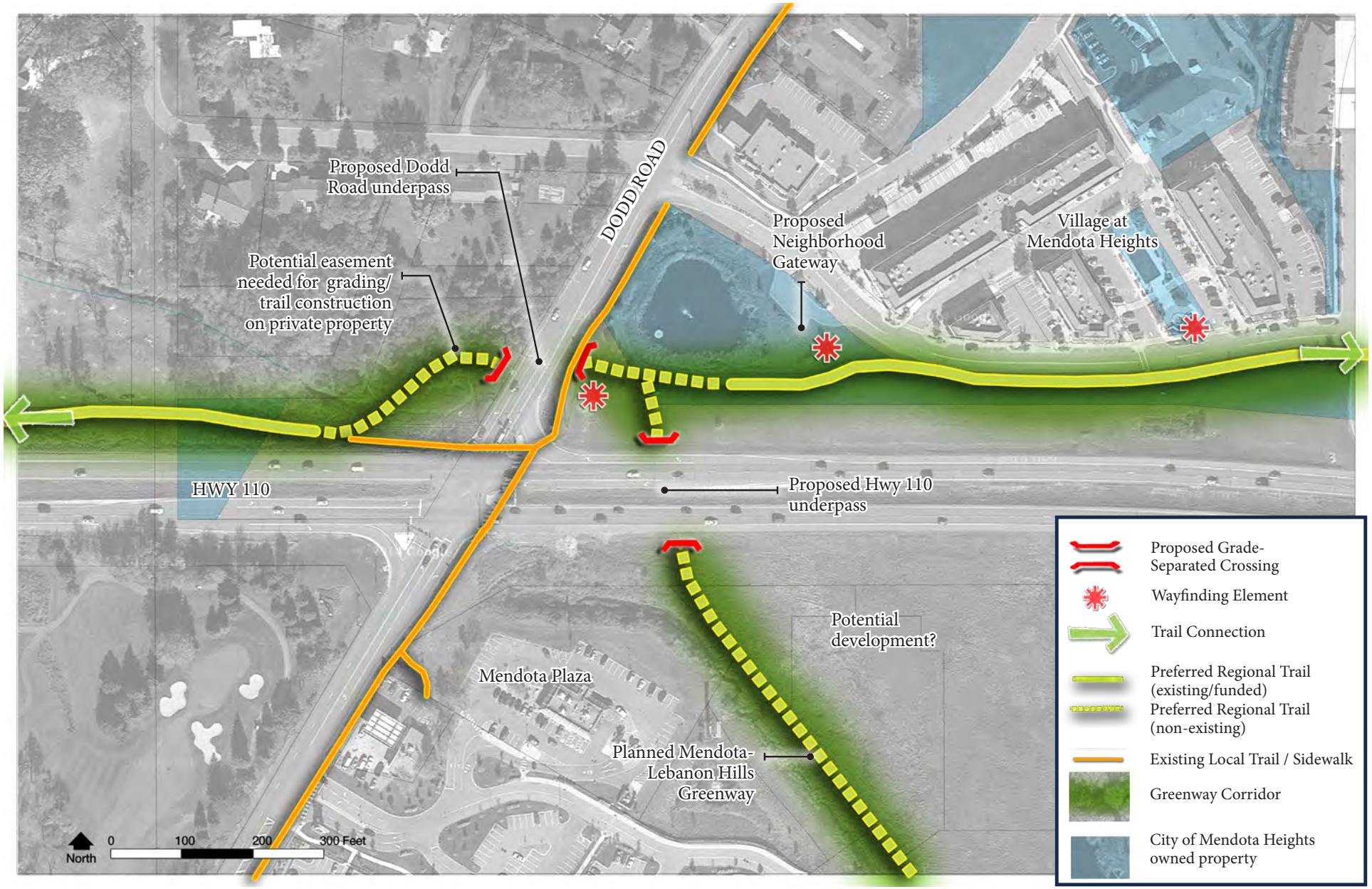
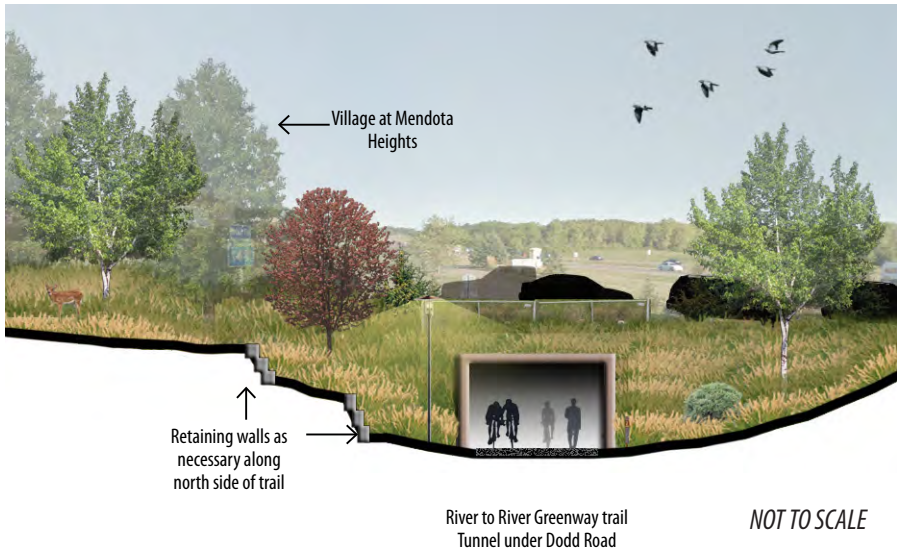


Figure 37. Dodd Road Underpass Conceptual Section Looking North

Figure 37a. Dodd Road Underpass Conceptual Section Looking East



Grade-separated crossing at Dodd Road

The Dodd Road and Hwy 110 intersection is a busy traffic crossing with frequently turning cars traveling at high speeds. An underpass is proposed at Dodd Road to allow trail users to safely move through the intersection and avoid waiting for traffic. The underpass feasibility was evaluated based on topography and utility information. It was assumed that the underpass would be a 10-foot by 14-foot box culvert. Due to several utilities running through the site, the underpass would need to be constructed 100 feet north of the intersection with Hwy 110. A more detailed analysis of this crossing can be found in Appendix B of this report.

The outdoor plaza at the Village at Mendota Heights includes a lawn area, benches, trash, shade trees, and an ornamental fountain.

The existing trail along the south side of Market Street is in good condition, but it is close to the road and lacks shade trees.

The Village at Mendota Heights

The Village at Mendota Heights is an activity center and popular destination with shops, restaurants, high density residential facilities, and an outdoor plaza area. It is the intersection of the River to River Greenway and the Mendota-Lebanon Hills Greenway. A neighborhood gateway is proposed at this location, at an existing public parking lot near the stormwater pond on the southwest side of the site. Recommended amenities to be added include bicycle parking, wayfinding and interpretive signage, and public drinking water.

Market Street and Hwy 110 Frontage Road

The existing trail is 8-10' wide along the segment on Market Street and Hwy 110 Frontage Road. The trail is in good condition. However, there is no shade along this segment, and the trail is very close to the adjacent roadway and not far from the noise of Hwy 110. The trail is on the north side of the Hwy 110 Frontage Road and crosses several private residential driveways. It is recommended that etiquette signage and other conflict reduction strategies are used in this area to mitigate potential injury to trail users.

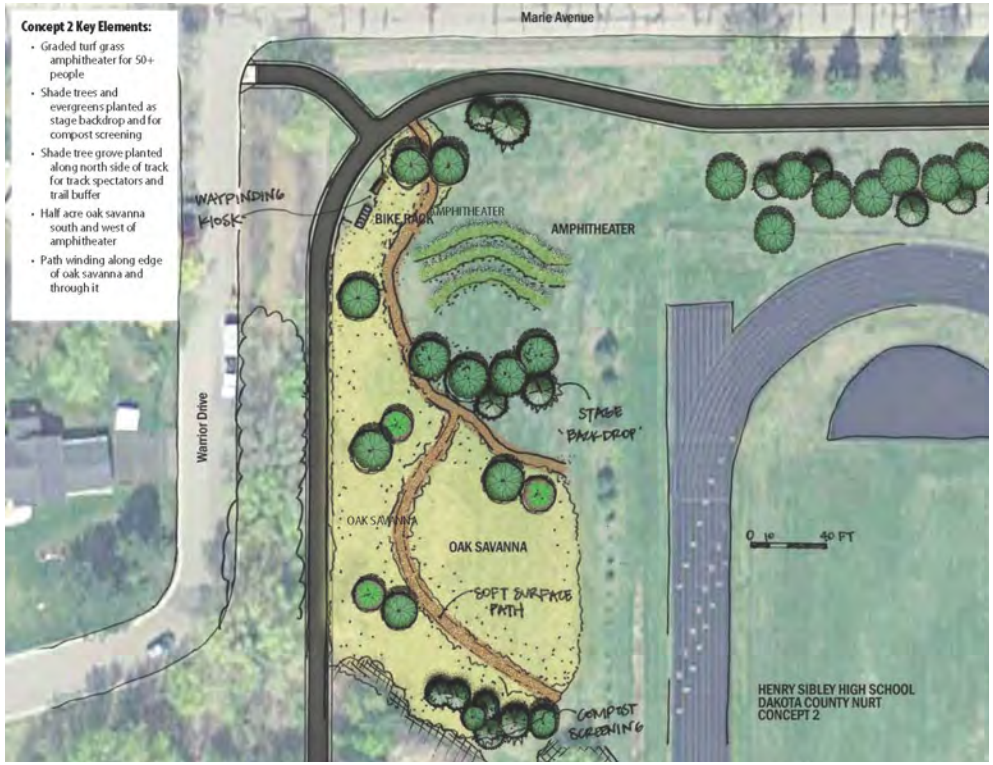
Native shade trees and tallgrasses are recommended to be planted along the trail throughout this corridor. Coordination with MNDOT is needed to add vegetation in this area.

Henry Sibley High School, Dodge Nature Center, and Garlough Park

From the intersection of Warrior Drive and the Hwy 110 Frontage Road, the greenway trail follows Warrior Drive north on the Sibley High School property until reaching Marie Avenue. The segment of greenway from Hwy 110 Frontage Road to Charlton Street is under construction during 2014-2015, and it will include several trees and landscaping. At the northwest corner of the high school property, a small grassy amphitheater, prairie restoration, and neighborhood gateway features (wayfinding signage, bench, trash, and bicycle parking) will be constructed. The trail will be on the south side of Marie Avenue until just east of Delaware Avenue, where pedestrian-activated trail crossing signage will identify a mid-block trail crossing.

The trail will then lead through the southern edge of Dodge Nature Center property, where wetland restoration and native forest plantings will enhance the greenway corridor along the trail. An underpass at Charlton Street will create a safe crossing for trail users and Garlough Elementary School students wanting to access Dodge Nature Center.

In Garlough Park, the existing trail includes areas of steep slopes, sharp curves, and tree encroachments. A recommended realignment through the park follows an existing soft surface foot path and would reduce the above impediments. The realignment is recommended to be constructed as a first priority project as funding is available.



The new trail construction through Sibley High School grounds and along Marie Ave during 2014-2015 will include a wider trail, shade trees, and other greenway amenities.

A new underpass at Charlton Avenue to be completed in 2015 will connect the trail between Dodge Nature Center and Garlough Park.

Marthaler Park to Mississippi River Trail

Recreation Destinations

- A Marthaler Park
- B West St. Paul Sports Dome
- C West St. Paul Sports Complex
- D Thompson Oaks Golf Course
- E Thompson Park
- F Kaposia Park

Activity Centers

- G West St. Paul YMCA
- H Wentworth Library
- I St. Croix Lutheran School

Trailheads

- E Thompson Park
- J Mississippi River Trail

Neighborhood Gateways

- F Kaposia Park

Loop and Connection Trails

- J Mississippi River Trail

Grade Separated Crossings

- K Robert Street
- L Highway 52
- M 19th Avenue North in Kaposia Park
- N Concord Street N and Railroad between Kaposia Park and Kaposia Landing

Segment 2: Marthaler Park to Mississippi River Trail (3.3 miles; 30% on-road, 70% off-road)

From Garlough Park, the trail crosses Kraft Road W. into Marthaler Park. After winding through Marthaler Park, the greenway route travels along a sidewalk on the western side of Humboldt Avenue, crosses Wentworth Avenue E., then follows the existing trail along the north side of Wentworth Avenue across Robert Street until Oakdale Avenue. The trail then turns north to follow the Oakdale Avenue trail until crossing Emerson Avenue E. into Thompson County Park. The trail crosses over Hwy 52 and into Kaposia Park, where it traverses down a steep incline to reach the Mississippi River Trail and Kaposia Landing.

Figure 41. River to River Regional Greenway Segment 2 Concept Plan

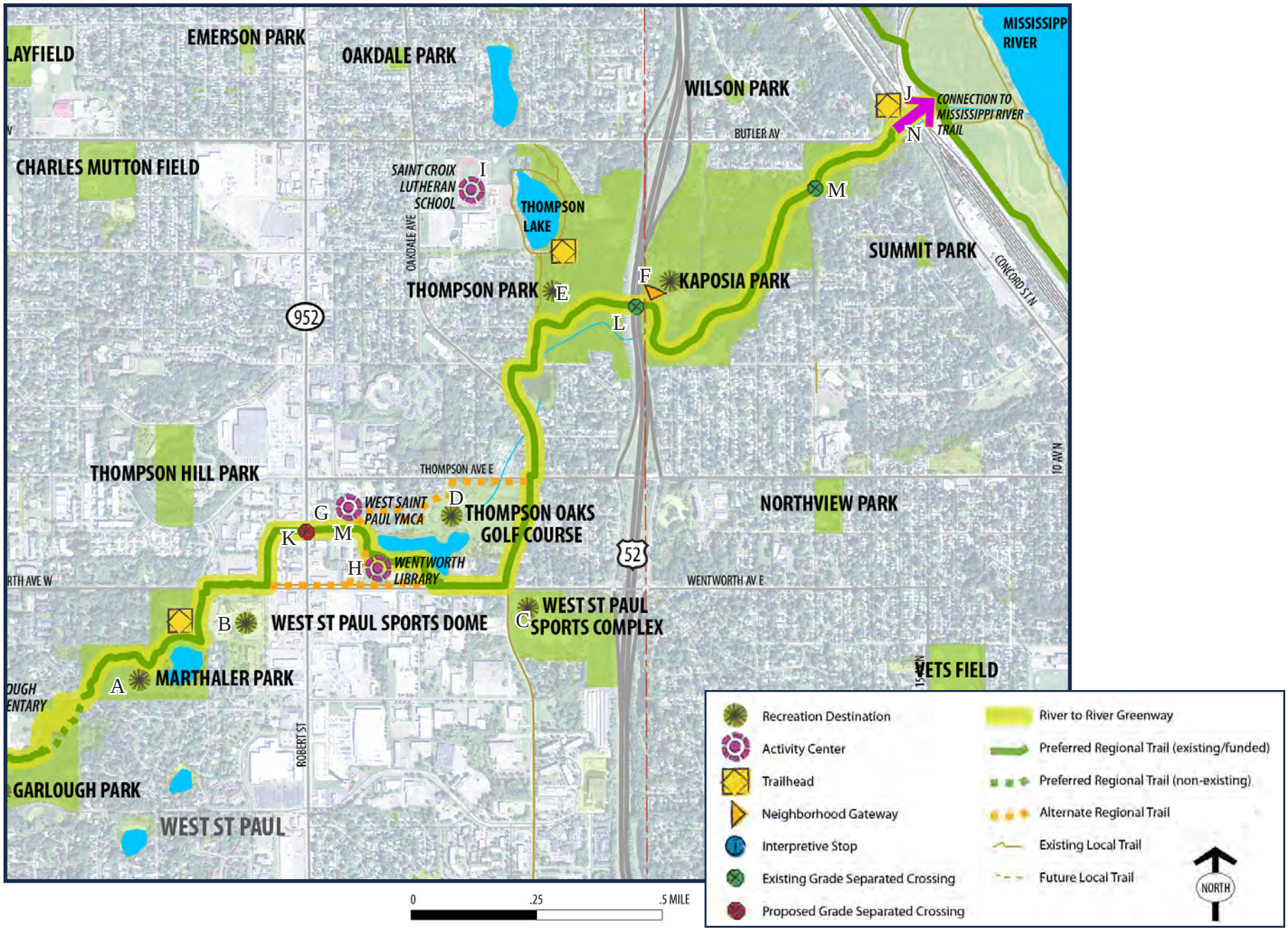
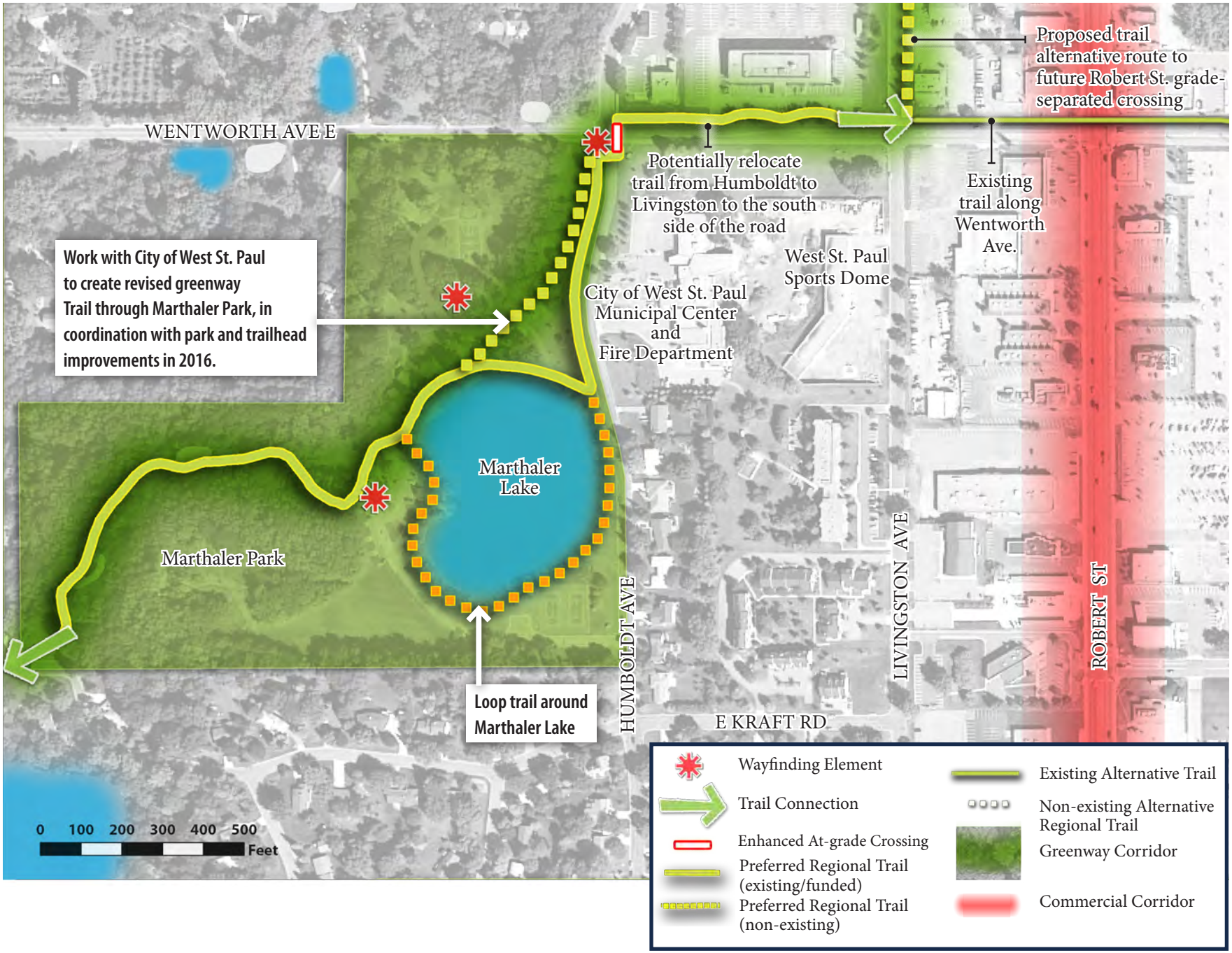


Figure 42. Marthaler Park Area Detail Diagram



Marthaler Park

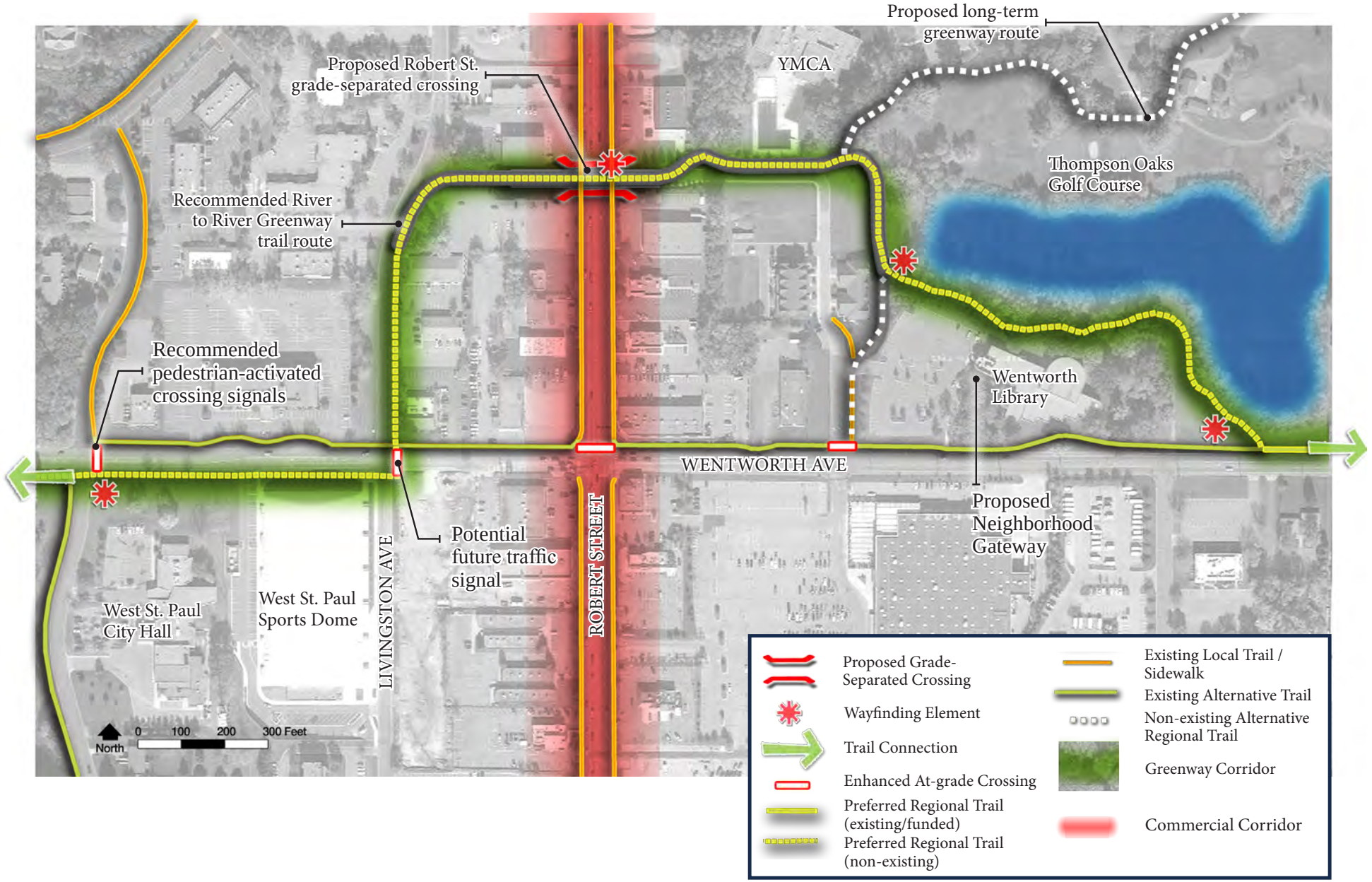
Marthaler Park will be the location of a River to River Greenway trailhead. Existing park facilities that will be part of the trailhead include a parking lot, playground, picnic shelter, and trail access. Additional recommended improvements include wayfinding and interpretive signage, public restrooms, public drinking water, and bicycle parking. The key proposed improvements listed in the City of West St. Paul's 2001 Marthaler Park Master Plan are:

- Create a loop trail around Marthaler Lake.
- Create a trail connection through the park in order to fill the gap in the North Urban Regional Trail (River to River Greenway).
- Construct a new winter warming house near the parking lot along with a skating area on Marthaler Lake and a sledding hill.
- Construct a new band shell near the natural bowl in the park for outdoor performances.
- Add restrooms, an improved picnic shelter, and separate play areas for different age groups.

The existing trail through Marthaler Park includes a few areas of steep slopes and sharp curves. At Humboldt Avenue, the trail ends abruptly and the greenway route follows a sidewalk on the west side of Humboldt Avenue. The sidewalk is narrow and not up to regional trail standards for multi-use linear recreation. Recommendations for improvements to this greenway segment include:

- Reroute the trail in coordination with 2016-2017 City of West St. Paul park improvements. The new trail alignment would avoid the busier areas of the park and create a smoother route with a wider trail and less steep slopes and sharp curves.
- Separate walking and biking paths in busy use areas.
- Work with the City of West St. Paul to incorporate additional greenway trailhead amenities in the park.
- Add native shoreline buffer plantings to Marthaler Lake to improve water quality.

Figure 44. Robert Street Area Detail Diagram



Wentworth Avenue Trail & Proposed Robert Street Grade-Separated Crossing

The existing trail follows the north side of Wentworth Avenue for half a mile to Oakdale Avenue. Today the trail surface is in acceptable to poor condition, is less than 8' wide, crosses several driveways and other local roads, and is very close to busy traffic on Wentworth Avenue. The greenway route crosses Wenworth Avenue at Humboldt Avenue at a non-signalized intersection. It is recommended that pedestrian-activated crossing signs be installed at this intersection or that the trail be relocated to the south side of Wentworth from Humboldt to Livingston, in coordination with a proposed future traffic signal at the Wentworth Avenue and Livingston Avenue intersection.

The recommended greenway route turns north at Livingston Avenue to a proposed grade-separated crossing of Robert Street, approximately one-tenth of a mile north of Wentworth Avenue. This bridge or tunnel will provide a much needed safe crossing of Robert Street for pedestrians and bicyclists in the area, as well as provide a more continuous greenway trail experience. If funding is not secured for a grade-separated crossing of Robert Street, then the greenway will continue to use at-grade crossing of Robert Street at Wentworth Avenue. After crossing Robert Street, the recommended route continues along a path north of the Wentworth Library adjacent to the Thompson Oaks Golf Course property and connects back to the existing Wentworth Avenue trail just east of Marthaler Lane. The greenway continues along Wentworth to Oakdale, where it turns north.

A long-term alternative trail route is suggested from the east landing of the proposed Robert Street grade-separated crossing through the northern portion of the Thompson Oaks Golf Course. This route would be explored only in coordination with potential future redevelopment of the golf course.

Oakdale Avenue Trail Options

The existing trail along Oakdale Avenue is in poor surface condition, less than 8' wide, close to the curb, and without trees, landscaping, or other amenities. The trail is on the west side of Oakdale Avenue from Wentworth to Thompson and along the east side of Oakdale from Thompson Avenue north to Emerson Avenue. At the intersection of Oakdale and Thompson, the trail user must cross two roads. Currently a four-way stop makes this possible. Oakdale Avenue is a county road, and several potential road and trail configurations to enhance the user experience have been explored with the Dakota County Transportation Department. The regional greenway improvements need to be coordinated and integrated with future intersection and road projects. It is also important to consider a planned roundabout at the intersection of Wentworth and Oakdale Avenues.

Figure 46. Visualization of Option #1 trail improvements south of Thompson Ave on Oakdale Ave

Oakdale Ave south of Thompson - existing

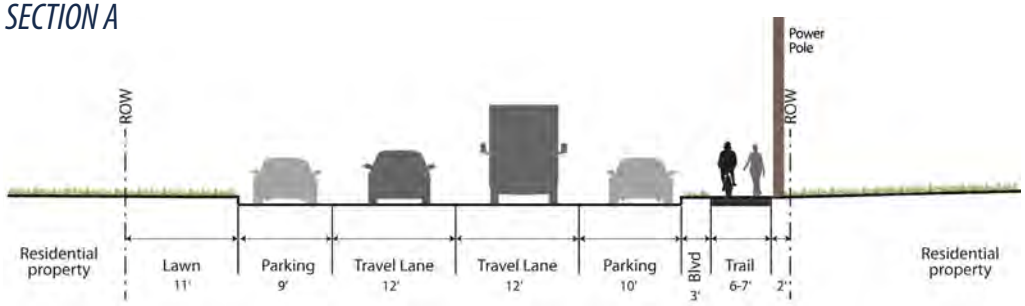
Proposed improvements to Oakdale Avenue include narrowing the traffic lanes to 11' wide, removing parking on the west side of the road, and expanding the trail and boulevard to enhance the greenway user's experience.

Existing Conditions and Issues

Oakdale Ave north of Thompson - existing conditions

- Existing trail is narrow (6-7' wide) and very close to curb (2-3')
- No street trees in boulevard to serve as buffer from street and give shade to trail
- North of Thompson the trail is on the east side of Oakdale, and south of Wentworth the trail is planned to be on the east side of Oakdale

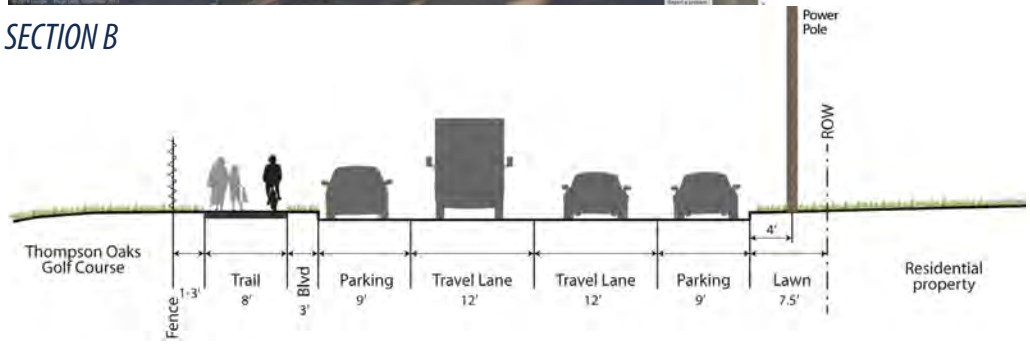
SECTION A



Oakdale Ave south of Thompson - existing conditions

- Existing trail is narrow (8' wide) and very close to curb (2-3') and golf course fence (1-3')
- No street trees in boulevard to serve as buffer from street and give shade to trail
- Between Wentworth and Thompson, the trail is on the west side of Oakdale

SECTION B



Thompson County Park & Kaposia Park

As the trail moves from Oakdale Avenue to Emerson Avenue, there is a short steep section that passes by a stormwater pond. The trail then follows Emerson Avenue for about 250 feet before crossing into the southwest corner of Thompson County Park. From there, the rest of the greenway corridor trail is all off-road. The trail that winds through the southern portion of Thompson County Park is in good condition and is surrounded by prairie and forest. A trail spur leads north to the main facilities area of the park, which will become a trailhead for the River to River Greenway. This area is about a quarter of a mile from the main trail corridor and includes parking, a four-season park building with restrooms and water, play equipment, lakeshore fishing access, and rain gardens. It is recommended that greenway wayfinding and interpretive signage be added to this site.

An existing pedestrian/bicycle bridge crosses over Hwy 52 into Kaposia Park. At the east end of the bridge a neighborhood gateway will be incorporated into the existing park facilities, which include a parking lot, sand volleyball court, baseball/softball field, play equipment, and a picnic shelter. Recommended amenities to add include wayfinding and interpretive signage.

The greenway trail through Kaposia Park contains several areas of steep slopes but overall is in good condition and surrounded by natural areas. Some areas along the trail have drainage issues. Some edges of the pavement are eroding due to channelized stormwater. An existing tunnel under 19th Avenue North combined with the bridge over Hwy 52 and the bridge over Concord Street N. and the railroad tracks allows 1.4 miles of paved trail without a break. At Concord Street N., an existing trailhead facility, Simon's Ravine Trailhead, will be designated as a trailhead for the River to River Greenway. At this end of the greenway corridor, there are connections to the Mississippi River Trail leading to Hastings and soon connecting to downtown St. Paul, Kaposia Landing, the Kaposia Off-Leash Dog Park, and the Mississippi River.

It is recommended that paved landings with benches be added periodically along the trail in Kaposia Park to minimize the length of continuous steep slopes. Drainage improvements could include regrading along the trail to direct stormwater away from the trail.

Steep section of trail from Oakdale Avenue to Emerson Avenue

The trail through Thompson County Park is in an acceptable condition.

C. Interpretive Plan

OVERVIEW

In today's world, people's connections to culture, land, nature, and community are often detached. We sometimes cannot imagine the prairie before the metropolis, the wheat before the bread, or the world before Columbus. We forget, or never learn, the stories that define the significant places in our lives. Place-based interpretation seeks to "re-story" places, or reveal the connections between social and natural systems distinctive to each site. It is an approach rooted in the belief that people seek to understand the stories of the places they visit.

Dakota County has long been committed to sharing the stories of special places that comprise the county's parks and trails. Through interpretative programs and exhibits, Dakota County strives to create awareness and appreciation of the county's history, culture, and environment. As the county expands its greenway system, interpretation for each greenway is a goal for the planning and development process.

Interpretive planning designs educational experiences that support an organization's vision and mission. The planning process considers the place-specific historical, cultural and natural resources to be interpreted and the demographics and interests of the people who use the site in order to develop relevant messages and media in support of an organization's mission. In the case of Dakota County, interpretation ought to support Dakota County Park's mission: to enrich lives by providing high-quality recreation and education opportunities in harmony with natural resource preservation and stewardship.

In the context of the Dakota County greenways, it is important to note that fostering an understanding of the relationships between social and natural systems can lead to environmental stewardship. In other words, helping visitors understand the connections between history, culture, and nature is at the core of fostering stewardship of these resources and awareness of the connections between people and nature.

RESOURCES

In considering what is special and unique about the River to River Greenway, it is helpful to identify some of the most outstanding resources found along the greenway corridor. These resources create a unique setting, or sense of place, and are places where stories of nature, history, and culture intersect in ways that are meaningful to visitors.

Historical and cultural resources include Dodge Nature Center, Thompson County Park, Kaposia Park, as well as several municipal parks. Natural resources include a number of small lakes and ponds and the preserved greenspaces associated with ravines and the waterways feeding into the Mississippi. Some of these cultural, historical, and natural resources are located on Dakota County property; however, many are located on adjacent properties. Therefore, continued partnerships with adjacent property owners will be important to developing interpretation along the greenway.

Cultural, historical, and natural resources may be vulnerable and potentially compromised with increased traffic and human interaction. Resources such as un-excavated archaeological sites are culturally sensitive and susceptible to looting or vandalism if care is not taken to protect them. Therefore, interpretation of these resources should be sensitive to these potential impacts and Dakota County should work with necessary stakeholders, such as Minnesota Indian Affairs Council (MIAC) for burials, to determine an appropriate approach to both preservation and interpretation.

KEY MESSAGES

While each individual greenway within Dakota County's system will have a theme that is based on the specific resources associated with the greenway corridor, it is recommended that Dakota County undertake a system-wide interpretive planning effort to identify overarching themes for the greenway system. These overarching themes would represent broader messages that span the system and weave together specific themes for each individual greenway.

In the absence of a system-wide interpretive plan, this master plan suggests one central message, or theme for the greenway corridor. Supporting subthemes are also identified in order to further develop the central theme and provide organization for interpretation.

It is recommended that the subthemes be interwoven throughout the trail to provide both a richly layered and consistent interpretive experience. If a system-wide interpretive plan is developed, the themes presented below should be revisited and revised as necessary.

THEME-BASED INTERPRETATION

A theme is the central or key message of all interpretation at a site or along a corridor such as a trail or greenway. It may or may not appear in writing, exhibits, and programming, but all interpretive efforts should fall within the scope of the interpretive theme. A theme provides organizational structure and clarity to the main message that visitors encounter when they visit a site or travel the corridor. After experiencing a site, visitors should be able to summarize the main point of interpretation in one sentence—this is the interpretive theme.

A theme is different from a topic in that it expresses a complete idea or message. A topic is a broad general category, such as the river, settlements, and development. A theme should answer the question, "So what?" It should tell visitors why a specific place, story, or resource is important. A theme should:

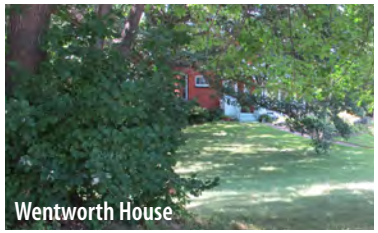
- Be stated as a short, simple, complete sentence
- Contain only one main idea, if possible
- Reveal the overall purpose of the site
- Be specific
- Connect tangible resources to universally understood concepts

Supporting subthemes will develop the central theme and provide organization for interpretation. The subthemes will be used throughout the trail to provide a richly layered and consistent interpretive experience.

INTERPRETIVE THEME

Legacies of the past influence the cultural and natural landscapes along the River to River Greenway.

Subthemes:



Leading the Way - The legacies of inspiring people who have influenced places along the greenway.

The story of numerous individuals who have left their mark on the landscape provide compelling stories for greenway users. Stories could include:

- Olivia Dodge bequeathed the Dodge Nature Center as a place for people to learn about conservation and the environment.
- George W. Wentworth was a key figure in the establishment and development of West St. Paul. His National Register Listed property is located along on one of the corridor alternatives.
- Other families or individuals of note are:
  - Marthalers
  - Herb Garlough, a former Superintendent of Schools
  - William Thompson
  - Harold Stassen
  - Ma Barker

Connecting Open Spaces - The greenway connects parks and places preserved for future generations, creating a respite from urban surroundings.

The corridor passes through a substantial amount of green space as it travels through the most urban portion of Dakota County. The stories of the places that have been preserved for future generations would foster stewardship for residents and users of the trail.

- Kaposia Park
- Thompson County Park
- Marthaler Park
- Garlough Park
- Dodge Nature Center

Pathways to the Past - The greenway crosses prominent transportation corridors that have shaped this urban landscape.

The greenway corridor passes through several key corridors within the county. Historically, the development of these corridors influenced the development of the urban landscape.

- Dodd Road
- Robert Street
- Concord Street
- Sibley Highway

RECOMMENDATIONS

- Prepare a system-wide greenway interpretive plan that:
  - Establishes guiding principles for interpretation throughout the greenway system;
  - Evaluates visitor preferences and needs related to interpretation;
  - Establishes system-wide goals and objectives for interpretation;
  - Develops system-wide interpretive themes through a process of staff and stakeholder engagement;
  - Identifies the locations where these system-wide interpretive themes will be expressed;
  - Identifies interpretive themes for each greenway within the system and establishes a framework for interpretive planning and development;
  - Establishes consistent design standards for non-personal interpretive media throughout the system;
  - Identifies appropriate system-wide media for interpretation (e.g., website, geocaching, tours of multiple greenways);
  - Assesses current interpretive staffing levels and makes recommendations over the short- and long-term;
  - Identifies and fosters potential partnerships for interpretive programs within the greenway system;
  - Develops a framework for ongoing planning and evaluation of interpretation throughout the greenway system.
- Establish a system-wide approach to managing interpretation and education. Recreation, education, and interpretation are not mutually exclusive activities, and collaboration and consistency are important across the greenway system.
- Establish a community advisory group to build relationships with the agencies and organizations that own adjacent property; facilitate an inclusive interpretive planning process; engage community members knowledgeable about history and culture; and ensure that interpretation along the greenway is thematically and aesthetically cohesive.

INTERPRETIVE MEDIA RECOMMENDATIONS

- Interpretive media should not impinge on the natural landscape. As much as possible, Dakota County should adopt the National Park Service's Wayside Exhibit approach (http://www.nps.gov/hfc/products/waysides/index.htm) to interpretation along the greenways. In this approach, the focus is on experiencing the landscape first-hand; interpretation is an enhancement, not the primary focus.
- Based on this approach, interpretive signs should be minimal, low profile, accessible to all, and purposefully placed.
- Interpretation should be integrated into orientation signs at key locations along the greenway (such as trailheads and neighborhood gateways). This interpretation should serve to orient the greenway user thematically to the greenway and introduce the visitor to the experiences they can expect along the greenway. Interpretation at these locations could also be artfully integrated into trailhead or gateway facilities such as benches, picnic tables, pavement, fencing, or structures (e.g., restrooms).
- Interpretive signs along the greenway should be considered a caption to distinct or important landscape features that a greenway user may not understand by looking at the feature on its own. In other words, interpretive signs should only be installed along the greenway if they explain or describe something that is visible along the greenway. These signs should have brief but engaging text. More detailed or lengthy information should be delivered through another form of media.
- Dakota County should consider developing multimedia interpretation. Audio tours provide an opportunity for unobtrusive interpretation along the greenway for interested users. Self-guided MP3 tours could be developed and made available on the Dakota County Parks website for downloading to iPods or other personal MP3 devices. Initially, a greenway-wide audio tour should be developed based on the greenway theme. As staff time and resources allow, additional tours could be developed for the subthemes or for different age groups.
- Dakota County should work closely with community partners to ensure that interpretation along the greenway enhances but does not overlap interpretative experience in adjacent or collaborating public spaces.

Each greenway will have the interpretive theme expressed in an artful way, integrating interpretation with corridor design, interpretive stops and overlooks at key corridor locations.

Environment: *A deliberately designed environment can support communication of the desired message.*

Audio tours: *Sound can be delivered in many different ways including handheld audio tours, downloadable podcast tours delivered by RSS feeds or your website, mobile phone tours, and on-site installations at the touch of a button or motion triggered.*

Publications: *Brochures, maps, scavenger hunts, and a variety of printed materials can serve interpretive purposes.*

Personal: *Personal interpretation includes guided tours, programs, and special events. Programs are regularly scheduled recurring activities such as classes, talks, or workshops that are held frequently—for example, every Saturday afternoon. Special events are generally activities that are scheduled on an annual basis, or on a one-time basis.*

Interpretive signs

Objects: *These could be functional objects such as benches, picnic tables, sidewalks, or purely ornamental objects that convey the desired message.*

D. Stewardship Plan

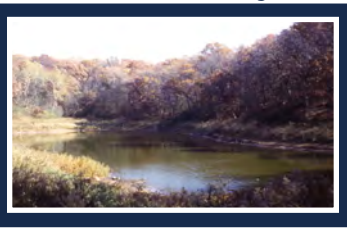
The linear nature of the greenway will require natural resource management strategies that are geographically targeted, cooperative, and realistic. Restoration and protection efforts should be focused near trailheads, as these locations will provide the greatest opportunity for greenway users to see the results of stewardship and provide a high-quality user experience. Given the linear nature of the greenway, stewardship activities should be in cooperation with adjoining landowners, public and private. Cooperative stewardship activities likely will be easier with other public agencies, but this should not preclude the possibilities of stewardship work on adjoining private lands. All stewardship actions should be evaluated through the lens of sustainability — determine if the stewardship effort is economically and ecologically sustainable over the long term.

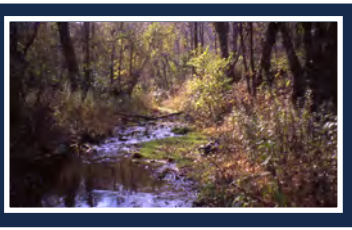
HABITAT INVESTMENT AREAS

Given the length of the greenway corridors, efforts to manage and restore the natural resources and native plant communities would be a daunting task — well beyond the ability of any one agency. In order to provide for realistic and sustainable restoration and management of the resources, key habitat investment areas were identified for natural resource management. These habitat investment areas were prioritized and targeted to areas associated with high-quality ecological resources and greenway use patterns. These areas are identified in Figure 56.

As most of the area along the River to River Greenway is currently developed at urban and suburban densities, the establishment of a continuous ecologically functioning habitat corridor would be difficult. Therefore, improvements at key areas in this corridor and preservation/ restoration of existing high-quality natural areas will be the focus.

Table 55. Habitat Investment Strategies

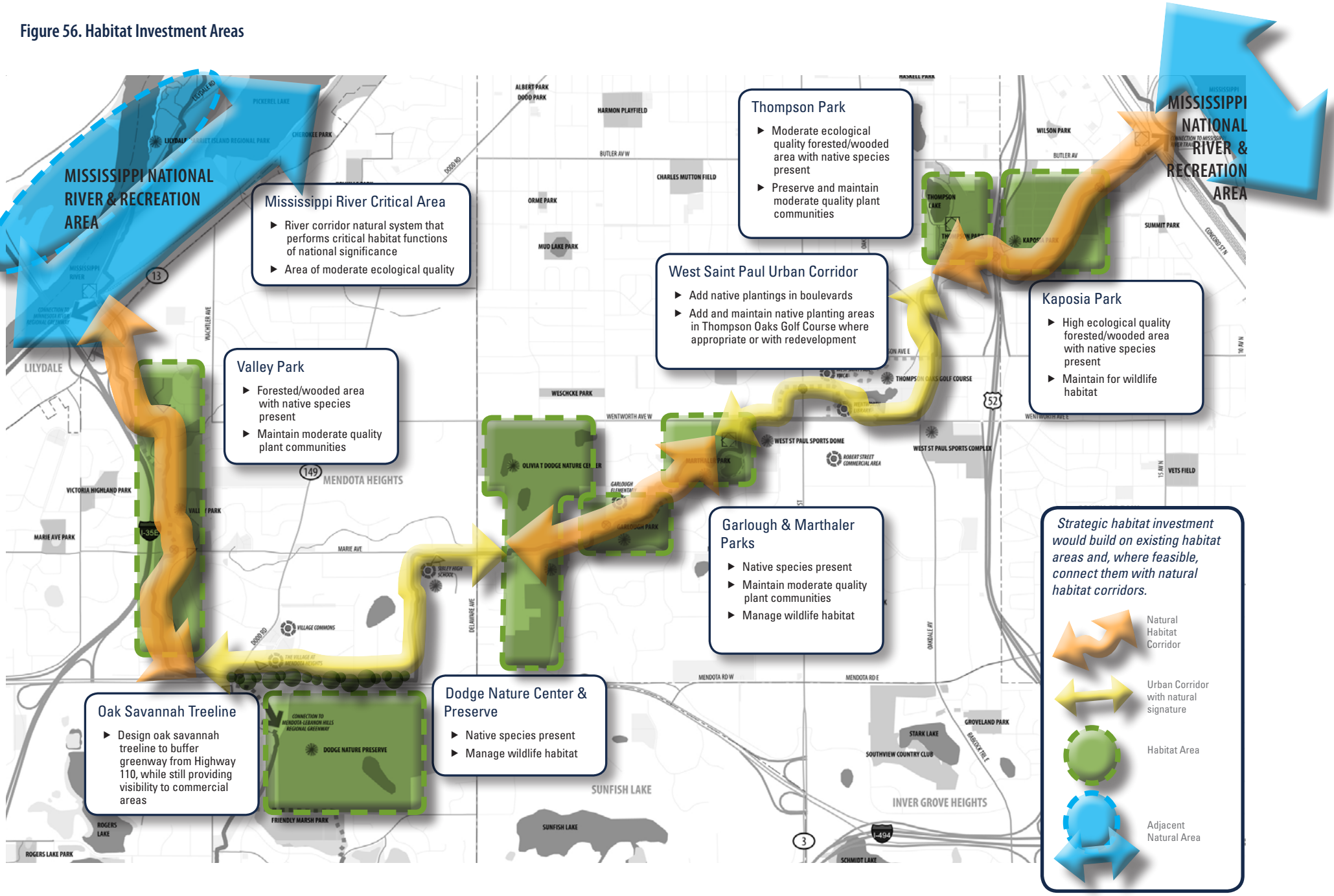




HABITAT PRESERVE	HABITAT CORRIDOR
Top priority habitat restoration/management	Second priority habitat management
♦ Has adequate patch size/shape to sustain native plant community ♦ Contains existing remnant of native plant community ♦ Has interpretive potential ♦ Has benign surrounding uses ♦ Buffers or contains natural waters	♦ Provides connection between habitat preserves ♦ Has adequate width to sustain native plant ground layer ♦ Grades allow for rainwater infiltration ♦ Buffers natural waters

NATURAL LANDSCAPES	DESIGNED LANDSCAPES
Lowest landscape investment priority	High landscape investment
♦ Primary task is to control invasive plants ♦ Managed as a natural, low-maintenance landscape	♦ Managed urban landscapes ♦ Limited habitat value ♦ Relatively small area

Figure 56. Habitat Investment Areas



STEWARDSHIP RECOMMENDATIONS

General considerations for stewardship activities within this investment hierarchy are organized around ecological quality, landscape position, and future uses and are described in Table 55.

Vegetation management and water quality improvements

In native plant communities — prairie, woodlands, and wetlands — invasive species removal, buffer protection, or establishment and re-establishment of disturbance regimes will be the key activities. Oak savannas may need to be supplemented with tree plantings, and all of the grassland systems will likely need supplemental seeding.

Site Specific Actions

Big Rivers Regional Trailhead:

Existing conditions: The intermittent stream is very close to the adjacent parking lot and receives high concentrations of runoff. It is feeling the effects of the toxic substances. Large amounts of young and fruiting buckthorn exist in the area. There are high-quality forested bluffs surrounding the site.

Recommendations: The intermittent stream adjacent to the parking lot could be managed to better address impacts of urban hydrology. A planted buffer should be added, or the parking lot and road runoff should be diverted to a rain garden in another location. There should be a plan for invasive species removal and prevention of further spread on the site.

Valley Park:

Existing conditions: The majority of the landscape in Valley Park is a moderate condition forest with several areas that contain native species. Big Foot/Interstate Valley Creek runs through the park, collecting stormwater from the surrounding suburban landscape. Interstate highway 35E runs along the western boundary of Valley Park, which creates steep slopes down into the park.

Recommendations: The existing forested areas should be preserved and enhanced where applicable. In cooperation with MNDOT, steep slopes along the western boundary of Valley Park should be protected with native vegetation designed to stabilize the grade. Maintain water quality in Big Foot/Interstate Valley Creek by planting native buffers and capturing stormwater before it enters the creek.

Hwy 110 Corridor:

Existing conditions: Along Highway 110, open turf grass and ditch cover crops lie between the trail and the road. There are no trees or shrubs in this area.

Recommendations: Native tree and shrub species should be planted along the trail to provide shade on the paved surface to reduce stormwater evaporation, to provide slope stabilization for the ditch areas, and to encourage groundwater infiltration.

Garlough and Marthaler Parks:

Existing conditions: These parks contain moderate quality plant communities with native species present. Garlough Park has several trails and is used frequently by Garlough Elementary School for nature observation. Marthaler Lake is a shallow lake that is stocked every year with bluegill by the MN DNR. Several ash trees are located in Marthaler Park.

Recommendations: Maintain existing moderate-quality plant communities by periodic monitoring of invasive species. Add native trees and shrubs where

appropriate as funding allows in order to maintain tree cover and diversity within the parks. Plant a native lakeshore buffer around Marthaler Lake.

West St. Paul Urban Corridor:

Existing conditions: The greenway trail follows the busy county roads of Wentworth and Oakdale Avenues. There are very few street trees, and any vegetation along the trail is turf grass.

Recommendations: Work with the Dakota County Transportation Department to add street trees where appropriate with road and trail reconstruction in the future. Explore options for urban stormwater management practices, such as boulevard rain gardens and native landscaping.

Thompson County Park:

Existing conditions: Existing moderate-quality plant communities with native species are present. Large rain gardens exist at the main facilities/trailhead area of Thompson Park. Native tall grasses are adjacent to the trail in the southern portion of the park. There is significant nutrient loading in Thompson Lake

Recommendations: Maintain existing moderate-quality plant communities by periodic monitoring of invasive species. Replant or restore native plant communities as appropriate within the park. Inform park users of the benefits of native plant communities and what they can do to help maintain them. Resolve nutrient loading issues.

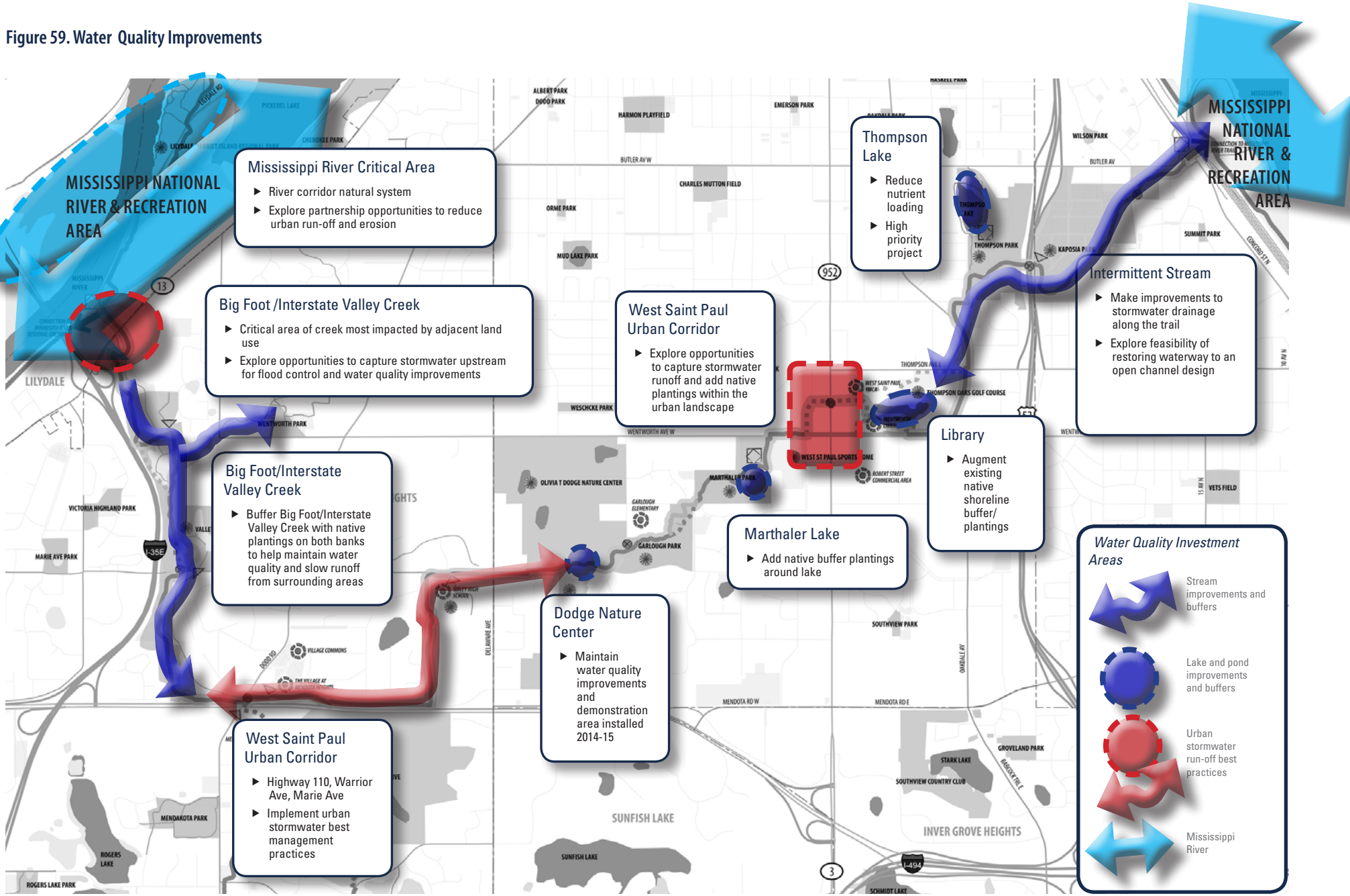
Kaposia Park:

Existing conditions: High-quality plant communities with native species present exist within a deep ravine. Steep slopes are covered with diverse tree species. Some stormwater drainage issues exist along the paved trail with channelized wash outs and erosion taking place.

Recommendations: Maintain existing high-quality plant communities by periodic monitoring of invasive species. Add native trees and shrubs where appropriate as funding allows in order to maintain tree cover and diversity within the park. Explore options for improving stormwater drainage issues by creating directed paths or infiltration basins along the ravine.

Native vegetation shoreline buffer

Figure 59. Water Quality Improvements



Urban rain gardens in boulevard

Rain gardens in suburban setting

Pervious pavement and rain garden in a parking lot

SURFACE AND GROUND WATER MANAGEMENT/PROTECTION

Stormwater Management Options at Trailheads

Trailhead parking lots typically are small: 10- to 20-stall lots within green space. This means that stormwater can be directed to drain off the paved surface onto surrounding ground, where it can infiltrate. The best place to manage stormwater (regardless of where one is within the corridor) is at the point it runs off a hard surface – i.e. near every street, driveway, and parking lot. Water is a valuable resource that should be used to water plants rather than run off into pipes to a natural water body where it causes problems. Directing surface water onto the ground rather than into a pipe aids the following important functions:

- Filter pollutants such as phosphorus, grease, and oil through plants and soil that mitigate their effects
- Protect downstream water bodies by preventing the influx of large amounts of water — it is best to have water slowly reach a stream or lake underground via subsurface flow
- Protect natural water bodies by capturing pollutants at their source
- Cool surface water before reaching trout streams
- Recharge groundwater and eventually aquifers
- Water trees and other plants at the source, allowing for vigorous growth and shaded parking lots

Opportunities for Stormwater Management

Many practices are available to manage surface water at trailheads. Some make more sense than others and provide greater return on investment.

Practical surface water management practices include:

- Creating shallow depressions (raingardens) alongside parking lots and grading the parking lot to tip in that direction.
- Creating planted depressed parking lot islands to capture surface water.
- For small parking lots surrounded by greenspace, running the water onto the surrounding grass (ideally prairie).
- Around parking lots, planting trees to capture and evaporate rainwater on their leaves and creating pores in the soil with their roots to allow water to soak in. Trees also shade pavement to keep it cooler in the summer.
- Planting prairie plants around parking lots — they function much like trees (minus the shading). They are especially useful on clay soils, where they drive roots deep and facilitate surface water infiltration.

Lake , Wetland, and Stream Restoration Considerations

Lake, wetland, and stream restoration should be considered along the greenway. Restoration should be designed by multidisciplinary teams that include expertise in engineering, hydrology, aquatic and restoration ecology, geomorphology, soil science, and policy/permitting.

The lakes, wetlands, and streams along the River to River Greenway corridor along with the Minnesota and Mississippi Rivers are valuable water resources. With every greenway construction project, opportunities to implement water quality enhancement strategies will be found.

These strategies will include:

- Maintain and improve water quality in Big Foot/Interstate Valley Creek with native plant buffers and stormwater filtration
- Explore opportunities to capture stormwater before entering Big Foot/Interstate Valley Creek
- Plant oak savannah treeline to shade trail, absorb stormwater, and buffer trail from Hwy 110
- Maintain and preserve existing moderate quality plant communities in Dodge Nature Center, Garlough Park, Marthaler Park, and Thompson County Park
- Plant native trees and grasses along trail on Wentworth and adjacent to Thompson Oaks Golf Course in order to shade the trail and absorb stormwater
- Resolve nutrient loading in Thompson Lake
- Maintain and preserve existing high-quality plant communities in Kaposia Park
- Improve stormwater drainage along trail in Kaposia Park
- When possible, locate recreation development away from water
- Manage stormwater on-site to protect downstream water by preventing the influx of large amounts of water and capturing pollutants
- Create rain gardens where posssible to capture run-off
- Plant trees and native/prairie plantings
- Interpret water quality enhancements and educate users of the River to River Greenway on water-related issues along the corridor

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Implementation

4

OVERVIEW

This master plan is a long-range vision for recreation, transportation, water quality, and habitat improvements for the River to River Greenway. Accomplishing this vision depends on multi-agency collaboration. Without continued coordination between the communities, it is unlikely the greenway could be realized as envisioned. Working corroboratively will enable Dakota County, cities, and other agencies to leverage resources to build, operate, and maintain the greenway.

While the 30-foot regional trail corridor will be the jurisdictional and operational responsibility of Dakota County, the larger greenway corridor will be governed in many ways, depending on the situation. Similarly, responsibilities for land acquisition, construction, stewardship, operations, and maintenance will depend on the particularities of each segment.

This Chapter outlines approaches for greenway implementation, including:

- Phasing and priorities
- Land protection and stewardship
- Operations
- Funding
- Capital and operational budgets

PHASING AND PRIORITIES

The River to River Greenway will be implemented in phases. Greenway segments have been prioritized into first priority projects, second priority projects, and long-term projects (Table 65). It is anticipated that first priority projects will be built in advance of second priority projects, but the master plan remains flexible so that any project can be implemented as partnership or funding opportunities arise.

First priority projects are those that are needed to create a continuous, functional greenway experience. Of foremost importance is securing land or easements for the 30-foot corridor as opportunities arise. After land has been secured, improving the existing trail to regional standards is the first priority. This includes re-routing and/or reconstructing segments of trail that do not meet standards for condition or safety, improved street crossing conditions, and continuous wayfinding signage. Recreation, water quality, non-motorized transportation, and natural resource elements will be integrated into the greenway at the time of other improvement projects and as opportunities and needs arise.

Second priority projects will enhance the greenway experience. These are things such as trailhead development and enhancements to existing trails such as landscaping, habitat restoration interpretation, wayfinding, benches, and trash receptacles.

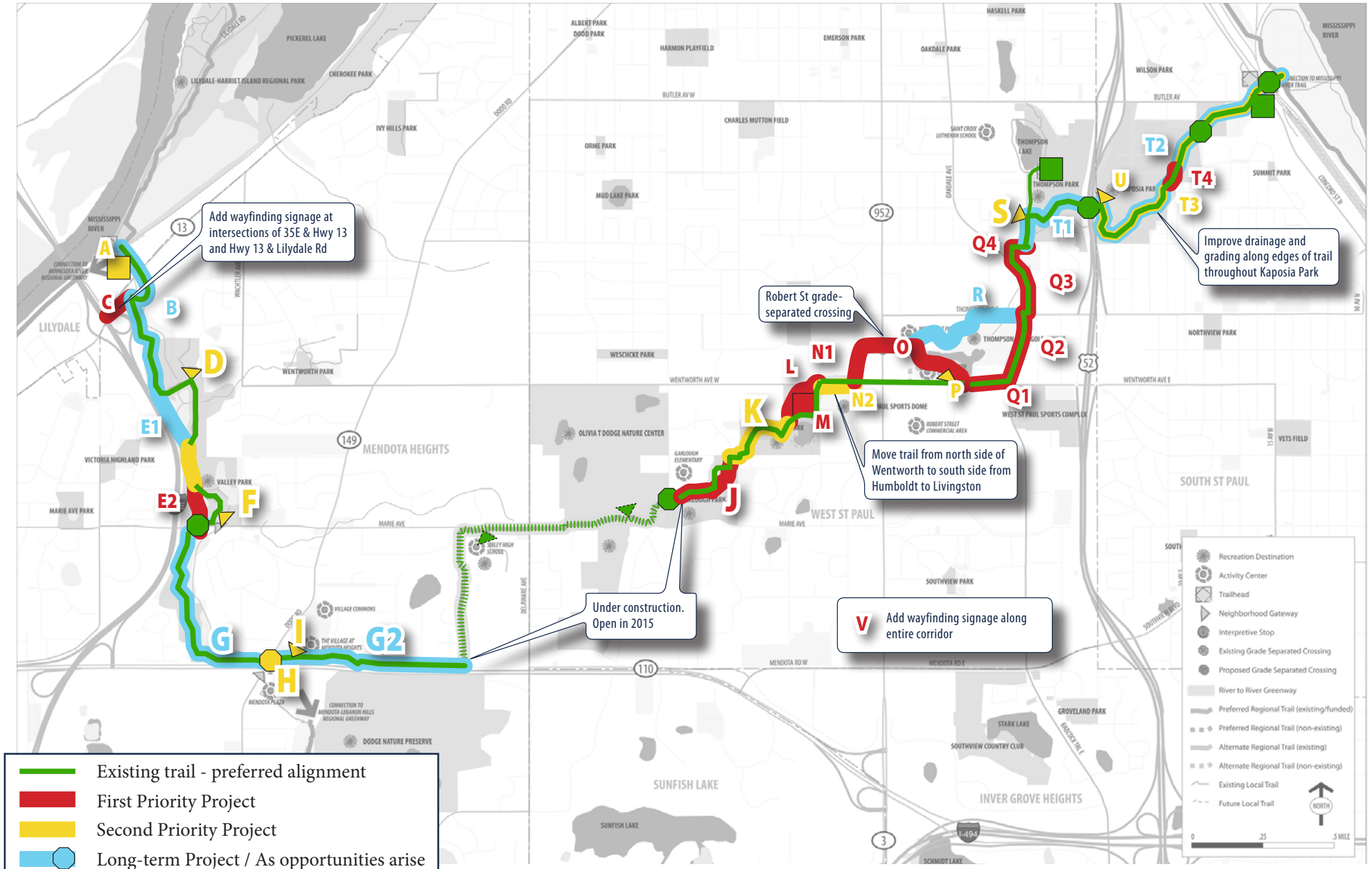
Grade-separated crossings, with the exception of the first priority Robert Street overpass, will be installed as funding, partnership, or construction opportunities arise.

In cases where gaps in the regional trail exist and alternative trail connections can be made on existing trails, interim routes will be designated until the preferred alignment can be assembled.

Table 65. River to River Greenway Priority Projects

	Project Description	Priority	Potential Partners/ Triggers
A	Big Rivers Trailhead - minor improvements	2nd	
B	Improvements to trail from Big Rivers Trailhead to northern sharp turn in Valley Park	Long-term / As opportunities arise	
C	Wayfinding signage at intersection of 35E & Hwy 13 and Hwy 13 & Lilydale Rd	1st	
D	Neighborhood Gateway to residential area in Valley Park - Minor improvements including signage	2nd	
E1	Alternative 1 Trail construction	Long-term / As opportunities arise	
E2	Alternative 2 Trail construction	1st	
F	Neighborhood Gateway in Valley Park just north of Marie Ave - Minor improvements including signage	2nd	
G	Valley Park - South Side Near TH 110 - Reduce steep grades	Long-term / As opportunities arise	
H	Grade-separated crossing at Dodd Rd	Long-term / As opportunities arise	
G2	Improvements to trail from Dodd Road to Warrior Drive (lighting, landscaping)	Long-term / As opportunities arise	
I	Neighborhood Gateway at Village at Mendota Heights	2nd	
J	Alternative 3 Trail improvements and new rerouted trail segment in Garlough Park - Evaluate an alternate alignment, smooth out steep grades on alignment that would remain, restore existing trail area to grass.	1st	
K	Trail improvements between Garlough and Marthaler Parks	2nd	
L	Marthalter Park - Alternative 4 Trail Construction - Evaluate an alternate alignment to reduce grades and avoid use of narrrow concrete sidewalk; new alignment includes retaining wall to reduce impacts; additional alternatives should be evaluated to provide lower cost and impact options.	1st	Coordinate with City of W St Paul park improvements
M	Trailhead in Marthaler Park	1st	Coordinate with City project
N1	At-grade crossing improvements at Humboldt Ave and Wentworth Ave	1st	
N2	New trail on south side of Wentworth Ave from Humboldt to Livingston	2nd	
O	New trail / bridge over Robert St from Wentworth and Livingston to Wentworth and Marthaler Lane	1st	Coordinate with City project and grant funding
P	Neighborhood Gateway at Wentworth Library - Minor improvements including signage	2nd	
Q1	Trail along Wentworth Ave from Marthaler Lane to Oakdale Ave - Reconstruct trail to 10' width	1st	
Q2	Improvements to existing trail along Oakdale Ave from Wentworth Ave to Thompson Ave	1st	Coordinate with County Transp. Dept.
Q3	Improvements to existing trail along Oakdale Ave from Thompson Ave to just south of Emerson Ave	1st	Coordinate with County Transp. Dept.
Q4	Improvements to existing trail off-road between Oakdale Ave and Emerson Ave	1st	
R	New trail through Thompson Oaks Golf Course	Long-term / As opportunities arise	
S	Neighborhood Gateway in Thompson County Park - Minor improvements including signage	2nd	
T1	Trail improvements through Thompson County Park - Only minor grade issues, so no recommended improvements until trail rehabilitation is needed.	2nd	
T2	Trail improvements through Kaposia Park - No steep grade corrections are being recommended at this time as the trail is in good condition, and the existing terrain will limit correction options; add landings to various points along Kaposia Park trail to decrease overall length of continuous steep grade.	2nd	
U	Neighborhood Gateway at western entrance of Kaposia Park - Minor improvements including signage	2nd	
T3	Address drainage concerns; swales along the trail and shallow culverts are recommended where feasible to keep the trail dry and prevent premature wear of pavement.	2nd	
T4	Address drainage along trail west of 19th Ave	1st	
V	Wayfinding signage along entire corridor	1st	

Figure 66. River to River Greenway Priority Projects



Note: Trail corridor projects include habitat and water quality improvements.

LAND PROTECTION AND STEWARDSHIP

Dakota County's greenway concept incorporates recreation, transportation, ecological, and water quality components in a 100- to 300-foot corridor secured through two approaches:

Land protection — protecting land essential to make the greenway usable. For the River to River Greenway, this means securing land needed for the trail corridor, grade-separated crossings and trailheads.

Land stewardship — the care of native landscapes and habitat within the greenway.

Land Protection

It is essential that Dakota County secure lands for the minimum 30-foot trail alignment and trailheads. Having existed as the North Urban Regional Trail for several years, land has been secured for most of the greenway corridor. A long-term trail alternative through the YMCA property in West St. Paul would need land protection before trail development. Land ownership of the River to River Greenway corridor is shown on Figure 68. Four categories of land are shown: land owned by Dakota County, land owned by other public entities, existing trail easements on private land, and privately owned land. For land owned by other public agencies, Dakota County will need to permanently protect the trail corridor and trailheads for regional trail use with easements or joint powers agreements. For land that is privately owned, the County will need to acquire the trail corridor for public use. Table 68a summarizes the approximate number of acres of land needed for protection. Land protection strategies include: park dedication, direct purchase with resale of land not required for the trail, permanent easements, land donation, bargain sale, life estate and negotiations with cities and developers.

Land Stewardship

The natural resource objective for the greenway system is to maintain or create a healthy context within which nature can thrive. The first stewardship priority is restoring continuous habitat within the greenway corridors. The second is habitat restoration and protection of the most sensitive lands, including uplands that link greenways to the broader landscapes. Generally, Dakota County will not be the lead agency in stewardship activities outside the 30-foot trail corridor and trailheads, but will work as steward partners with local jurisdictions, agencies, and private landowners and provide funding and expertise.

Figure 68. Property Ownership

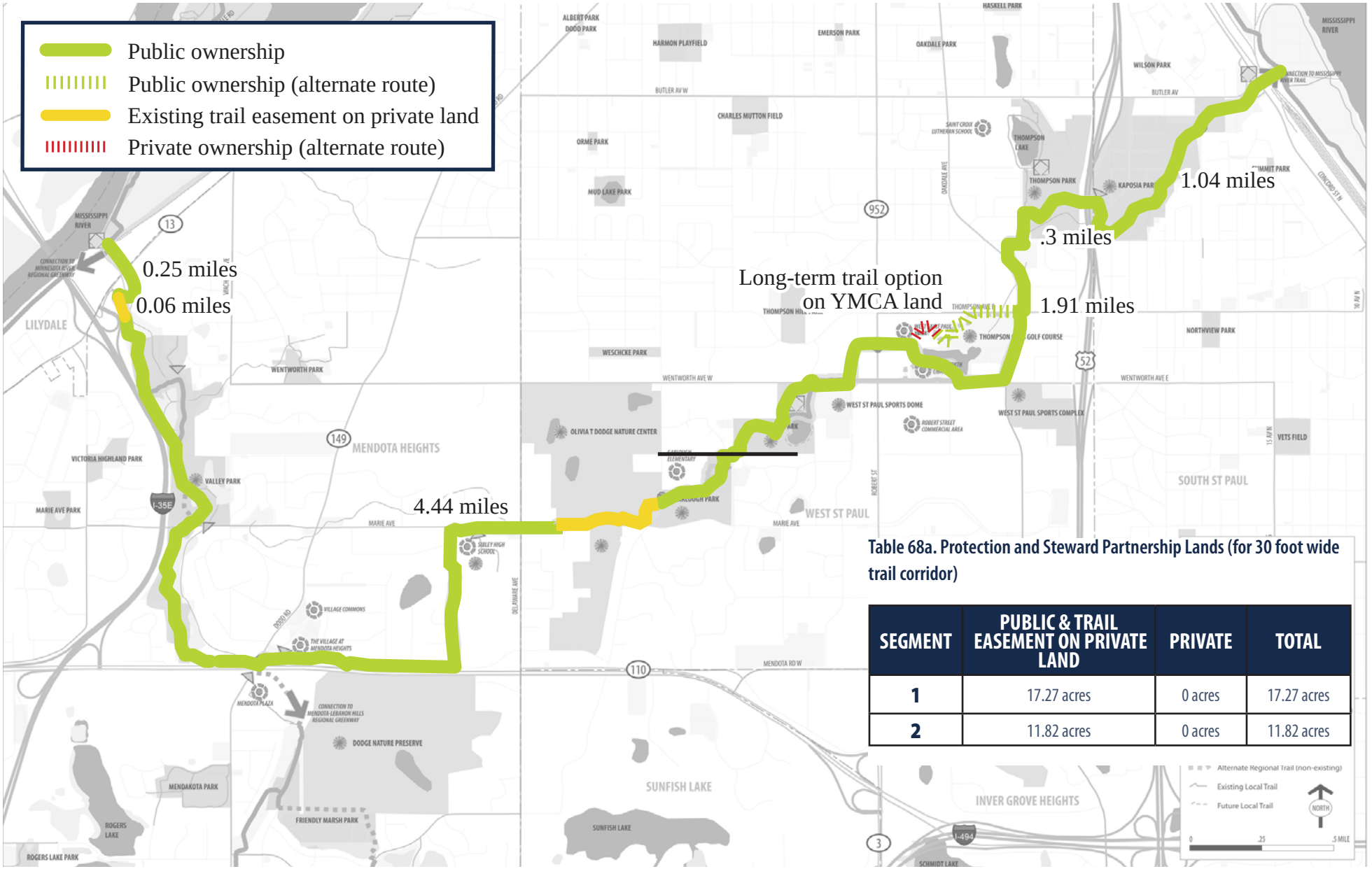


Table 68a. Protection and Steward Partnership Lands (for 30 foot wide trail corridor)

SEGMENT	PUBLIC & TRAIL EASEMENT ON PRIVATE LAND	PRIVATE	TOTAL
1	17.27 acres	0 acres	17.27 acres
2	11.82 acres	0 acres	11.82 acres

MANAGEMENT AND OPERATIONS

Like other aspects of the greenway, management and operations will be a collaboration between the County, cities, and other partners. Responsibilities will vary by greenway segment. While this master plan defines general responsibilities for each greenway segment, formal joint powers agreements between Dakota County and collaborating agencies will be needed to outline specific agency responsibilities. These agreements will outline who has control of the trail right-of-way as well as who will operate and maintain the trail and how they will do it.

Management

The Dakota County Parks Department will be the lead agency for coordinating greenway and management operations. The Dakota County Board of Commissioners establishes policies and goals for the park system and provides capital and operating funds for the department through an annual budget. The Planning Commission, appointed by the Board of Commissioners, advises the County on park and recreation trail issues.

General operations

Dakota County Parks Department will be responsible for the operation of the 30-foot regional trail corridor. Where there are opportunities for operational partnerships, Dakota County will enter a joint powers agreement with partner agencies. The Parks Department employs a staff of permanent employees and seasonal employees adequate to maintain the system. Volunteers assist with outdoor education programs, patrol, park clean-ups, and special events. Contractual agreements also are in place with outside agencies for some maintenance and natural resource work. Dakota County recognizes that as facilities expand, it will need to increase staffing. Based on operations and maintenance staffing for current Dakota County regional trails, it is anticipated that when the regional trail within the River to River Greenway is complete, an additional 0.25 full time employee park keeper (500 hours of labor) and 0.25 seasonal FTE (500 hours of labor) will be needed.

Operating hours

The regional greenway hours will be open according to local jurisdiction ordinance or policy.

Maintenance

Maintenance of facilities and lands is essential to protect public investment, enhance natural resource quality, and achieve the County's goals of providing recreational users clean, safe, enjoyable year-round experiences. The Dakota County Parks Department has a clearly defined maintenance program and reporting hierarchy led by the manager of park development and maintenance, who reports to the parks director.

Regular maintenance activities for the greenway will include:

- Sign maintenance
- Trash collection
- Sweeping and blowing
- Trail repair
- Grade separated crossing repair
- Trailhead facility repair and maintenance
- Mowing
- Tree trimming
- Winter trail clearing

Table 70. Pavement Management Activities

YEAR	MAINTENANCE ACTIVITY
0	Original construction of the paved trail
3	Seal coating
7	Routine maintenance – crack filling, minor patching, minor curb repairs
11	Routine maintenance – crack filling, minor patching, minor curb repairs
13	Seal coating
18	Routine maintenance – crack filling, minor patching, minor curb repairs
21	Routine maintenance – crack filling, minor patching, minor curb repairs
25	Total reconstruction

Pavement Management

Pavement deteriorates as it ages. Regular pavement maintenance can prolong the life-span of the greenway trail in a cost effective manner. See Table 70 for an outline of recommended activities.

Ordinances

Public use and enjoyment of the County park system is controlled by Ordinance 107, Park Ordinance, which was last revised June 3, 1997. The ordinance incorporates pertinent Minnesota statutes and addresses the following issues:

- Regulation of public use
- Regulation of general conduct
- Regulations pertaining to general parkland operation
- Protection of property, structures, and natural resources
- Regulation of recreational activity
- Regulation of motorized vehicles, traffic, and parking
- Enforcement and security

Visitors are informed of park and trail rules and regulations through strategically-located kiosks and signs that address specific information about hours, trails, permitted and prohibited activities, fees, and directions. Dakota County Parks, Lakes and Trails officers will patrol the park in motor vehicles, on bicycles, and on foot. Officers will also educate visitors and enforce ordinances. Local law enforcement and public safety agencies will be responsible for emergency and criminal complaints within the greenway.

Public Awareness

Dakota County's Parks Department will continue working with Dakota County's Communications Department to promote awareness and use of the County's parks and greenway system. Many tools are available to promote awareness of Dakota County parks and greenways including, but not limited to, websites, direct mail, press releases, brochures, on-site promotion, monument signage along roads, wayfinding within greenways and parks, and paid advertising. Dakota County also collaborates with cities, businesses, the Metropolitan Regional Parks System, and others to promote its facilities, programs, and services and to educate the public about its resources.

Conflicts

The surrounding land uses and the greenway are generally compatible, and no conflicts outside of norm affect the viability of master plan recommendations. Minor conflicts will occasionally arise from private encroachment or neighboring residents' sensitivity to greenway, recreation, or maintenance uses. Dakota County will work with individual landowners to resolve these issues case-by-case.

Public Services

No significant new public services will be needed to accommodate the greenway. Proposed trailheads and neighborhood gateways are served by the existing road network. If utilities are not accessible at gateways and trailheads, options such as solar powered lighting, self-composting toilets or wells will be considered. Stormwater will be treated on site. Accommodations for later installation of continuous trail lighting will be considered at initial trail construction.

FUNDING

Funding for initial capital cost and ongoing operations and maintenance costs is essential for a successful greenway. Funding will be a collaboration among the County, cities, and other agencies with an emphasis on seeking outside funding. Cost share roles will be determined by the strengths of each agency and circumstances of each project. In-kind contributions of land, easement, design, engineering, construction, and maintenance and operations are encouraged and will be outlined in joint powers agreements among agencies.

It is anticipated that most future capital projects will be well-positioned to secure regional, state, and federal funds for recreation, transportation, water, and habitat and that these sources will account for a majority of capital construction costs. In many cases, but not all, Dakota County, as the regional agency, will be in the best position to pursue outside funding. Examples of outside funding sources include:

- Federal Transportation Grants (MAP-21 / TAP)
- Metropolitan Council
- National Park Service Rivers, Trails and Conservation Assistance Program
- Minnesota Department of Transportation
- Minnesota Department of Natural Resources
- Minnesota Pollution Control Agency
- The Environment and Natural Resources Trust Fund
- Clean Water, Land and Legacy Amendment funds
- Watershed management organizations
- Foundations and non-profits
- Statewide Health Improvement Program or similar

Funding for operating and maintaining the 30-foot regional trail easement and trailheads will primarily be Dakota County's responsibility. Annual operating costs are funded though the County's general fund and from regional park allocations from the Metropolitan Council. In situations where there are efficiencies in local jurisdictions performing maintenance and operations, Dakota County will enter a joint powers agreement outlining responsibilities and cost sharing.

CAPITAL BUDGETS

Estimated costs in 2015 dollars for development projects are included in Table 73.

Land protection costs are not included in this plan because the trail corridor has already been secured as the North Urban Regional Trail. Potential future alternative realignments of the trail or trailhead or gateway development may need land protection. Because land protection strategies might include direct purchase with resale of land not required for the trail, permanent easements, land donation, bargain sale, life estate, and negotiations with cities and developers, it is very difficult to accurately project total acquisition costs. When the time comes for land protection of a 30-foot trail corridor on land that is currently privately owned, the assumed estimated cost is $90 per lineal foot.

Table 73 includes budgets for capital investments, the priority of the investment, and possible project partners. The table identifies the full anticipated construction costs of the plan elements with engineering, design, and contingency. It is not anticipated that Dakota County will be responsible for the full cost of improvements outlined; funding will be a collaboration between the County and partner agencies. Habitat restoration within the greenway corridor is also included in these tables as part of the greenway trail construction. It is assumed that along with greenway construction an average of 200 trees and 12.5 acres of prairie will be needed per mile along with basic stormwater management. Natural Resource project opportunities beyond the greenway corridor that the County may choose to partner with other public or private entities are identified in Table 75. Most capital projects will be well positioned to secure regional, state, and federal funds for recreation, transportation, water, and habitat.

While the table identifies priorities for capital projects, development will occur as funding becomes available and at the discretion of the Dakota County Board.

Table 75 identifies natural resource project opportunities beyond the greenway corridor. Dakota County supports the restoration of habitat adjacent to the greenway and may choose to collaborate with individual landowners and other public agencies where it is to the mutual benefit of both agencies and as funding for restoration and ongoing habitat management allows.

Table 73. River to River Greenway Capital Development Cost Estimates

Project ID	Project Description	Priority	Potential Triggers/Partners	Estimated cost (Construction, Engineering, and Administration)		
				1st Priority	2nd Priority	Long-term
A	Big Rivers Trailhead - minor improvements, including bicycle parking, benches, trash receptacles, permanent restrooms (vault toilets), small picnic shelter, interpretive signage	2nd			cost in MN River Greenway Master Plan	
B	Trail improvements to segment from Big Rivers Trailhead to northern sharp turn in Valley Park	Long-term / As opportunities arise				cost in O & M capital replacement
C	Wayfinding signage at intersections of 35E & Hwy 13 and Hwy 13 & Lilydale Rd	1st		$39,000		
D	Neighborhood Gateway to residential area in Valley Park - Minor improvements including bench, trash receptacle, wayfinding signage	2nd			$39,000	
E1	Alternative 1 Trail construction	Long-term / As opportunities arise				$895,000
E2	Alternative 2 Trail construction	1st		$45,000		
F	Neighborhood Gateway in Valley Park just north of Marie Ave - minor improvements including wayfinding and interpretive signage, bicycle parking, benches, water fountain	2nd			$39,000	
G	Valley Park - South Side Near TH 110 - Steep grades reduction	Long-term / As opportunities arise				$79,000
H	Underpass at Dodd Rd - Including 10'x14' box culvert, utilities management, stormwater management, trail rerouting and paving, retaining walls	2nd				$1,181,000
G2	Trail improvements to segment from Dodd Road to Warrior Drive (lighting, landscaping)	Long-term / As opportunities arise				$304,000
I	Neighborhood Gateway at Village at Mendota Heights, including wayfinding and interpretive signage, benches, bicycle parking, and trash receptacle	2nd			$39,000	
J	Alternative 3 Trail improvements and new rerouted trail segment in Garlough Park - Evaluate an alternate alignment, smooth out steep grades on alignment that would remain, restore existing trail area to grass	1st		$76,000		
K	Trail improvements between Garlough and Marthaler Parks	2nd			cost in O & M capital replacement	
L	Marthaler Park - Alternative Trail Construction - Evaluate an alternate alignment to reduce grades and avoid use of narrrow concrete sidewalk; new alignment includes retaining wall to reduce impacts; additional alternatives should be evaluated to provide lower cost, lower impact options	1st	in coordination with City of West St. Paul park improvements	TBD		
M	Trailhead in Marthaler Park	1st	in coordination with City project	$300,000 (County contribution)		
N1	At-grade crossing improvements at Humboldt Ave and Wentworth Ave	1st		$29,000		
N2	New trail on south side of Wentworth Ave from Humboldt to Livingston	2nd			$45,000	

Project ID	Project Description	Priority	Potential Triggers/Partners	Estimated cost (Construction, Engineering, and Administration)		
O	New trail and grade-separated crossing of Robert St from Wentworth and Livingston to Wentworth and Marthaler Lane	1st	in coordination with City project and grant funding	$3,500,000		
P	Neighborhood Gateway at Wentworth Library - minor improvements including wayfinding signage, bicycle parking, stormwater management	2nd			$39,000	
Q1	Trail along Wentworth Ave from Marthaler Lane to Oakdale Ave - Reconstruct trail to 10' width			cost in O & M capital replacement		
Q2	Trail improvements along Oakdale Ave from Wentworth Ave to Thompson Ave (does not include street reconstruction) with pedestrian crossing upgrade at Thompson Ave	1st	coordinate with County Transportation Dept.	cost in O & M capital replacement		
Q3	Trail improvements along Oakdale Ave from Thompson Ave to just south of Emerson Ave (does not include street reconstruction)	1st	coordinate with County Transportation Dept.	cost in O & M capital replacement		
Q4	Trail improvements to existing trail off-road between Oakdale Ave and Emerson Ave	1st		cost in O & M capital replacement		
R	New trail through Thompson Oaks Golf Course, including land protection through YMCA property	Long-term / As opportunities arise				$274,000
S	Trailhead in Thompson County Park - Minor improvements including wayfinding and interpretive signage	2nd			$39,000	
T1	Trail improvements through Thompson County Park - Only minor grade issues, so no recommended improvements until trail rehabilitation is needed	Long-term / As opportunities arise				cost in O & M capital replacement
T2	Trail improvements through Kaposia Park - No steep grade corrections are being recommended at this time as the trail is in good condition and the existing terrain will limit correction options; long-term add landings to various points along Kaposia Park trail to decrease overall length of continuous steep grade	Long-term / As opportunities arise				cost in O & M capital replacement
U	Neighborhood Gateway at western entrance of Kaposia Park - Minor improvements including wayfinding and interpretive signage	2nd			$39,000	
T3	Address drainage concerns along the trail; swales along the trail and shallow culverts are recommended where feasible to keep the trail dry and prevent premature wear of pavement	2nd			$17,000	
V	Wayfinding signage along entire corridor	1st		$75,000		

1st Priority Total	**$4,064,000**		
2nd Priority Total		**$296,000**	
Long-term Total			**$2,733,000**

Total cost of recommended improvements	$7,093,000

Table 75. River to River Greenway Natural Resources Collaborative Project Opportunities

Location	Description	Partner Opportunities
Segment 1: Big Rivers Trailhead to Garlough Park		
Big Rivers Trailhead		
	Creek buffering and rain gardens around parking lot	Dakota County Soil and Water Conservation District
Valley Park		
	Plant native vegetation buffer along Big Foot/Interstate Valley Creek	Dakota County Soil and Water Conservation District, City of Mendota Heights
Hwy 110 Corridor		
	Oak Savannah planting along trail with tallgrasses, native trees and shrubs, and infiltration basins where appropriate	Dakota County Soil and Water Conservation District, MNDOT, City of Mendota Heights
Henry Sibley High School		
	Prairie restoration at northwest corner of school property - installed in 2015	Mendota Heights School District
Dodge Nature Center		
	Rain gardens and Wetland restoration - installed in 2015	Dodge Nature Center
Segment 2: Marthaler Park to Mississippi River Regional Trail		
Marthaler Park		
	Plant native shoreline buffers around Marthaler Lake in coordination with park improvements	Dakota County Soil and Water Conservation District, City of West St. Paul
Thompson Oaks Golf Course & Wentworth Library		
	Plant native shoreline buffers around golf course pond and infiltrate stormwater on north side of Wentworth Library building	Dakota County Soil and Water Conservation District, City of West St. Paul
Kaposia Park		
	Control erosion along trail and in ravine with native vegetation, biologs , and regrading	Dakota County Soil and Water Conservation District, City of South St. Paul

OPERATIONS AND MAINTENANCE BUDGETS

Annual operations and maintenance (O&M) for the 30-foot trail corridor including gateways, are shown in Table 76. Grade separated crossings will be inspected and maintained annually as part of the County's existing inspection and maintenance programs. Trailheads for River to River Greenway are joint use facilities located at regional trail intersections and existing parks. Trailhead facilities such as restrooms, picnic shelters, and parking will be open to trail users, park users, and the general public and be maintained according to joint powers agreements between Greenway Collaborative partners. The County's annual operations and maintenance costs will vary based on joint powers agreements and facilities needed at each location. Similarly, natural resource restoration projects in the larger greenway corridor will be coordinated with Greenway Collaborative partners who, in most cases, will be responsible for on-going stewardship.

Table 76. River to River Greenway Estimated Annual Operations and Maintenance Costs

Estimated Annual Operations and Maintenance Costs	
Task	**Per Mile Cost**
10' trail pavement maintenance (includes blowing/sweeping/plowing)	$ 1,750
30' trail corridor maintenance (includes trash pick up, mowing and trimming, sign maintenance)	$ 1,500
10' patching and mill and overlay (per year, based on 20 year life-cycle)	$ 5,250

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RIVER TO RIVER
GREENWAY MASTER PLAN

2015

Appendix: Public Comments & Support

The following public input summaries are included in this Appendix:

▶ Garlough Elementary School parents	October 2014
▶ Covington Court Apartments Open House	4:30-6:30pm, Thursday, October 9, 2014
▶ Marie Oakdale Open House	5:00-7:00pm, Wednesday, November 5, 2014
▶ Thompson Park Activity Center: Advisory Council for Older Adults	January 22, 2015
▶ River to River Greenway Open House	February 4, 2015

The following Letters of Support are included in this Appendix:

- City of South St. Paul
- City of Mendota Heights
- City of West St. Paul
- Dakota County Board of Commissioners resolution of adoption

Question 1. Destinations to connect along the corridor?

- Mendota Heights – other side of 35E to Garlough
- Country Day School
- Garlough School (2)
- Valley Park
- Wentworth Ave to library
- Shopping and entertainment venues
- YMCA (2)
- Morland Elementary
- Middle School
- Village at Mendota Heights
- Dodge Nature Center
- Thompson Park
- Sports Complex

Question 2. key connections and locations for improvements and specific amenities

- Hwy 13 and 35E – areas along and across Hwy 110
- Bike path or trail
- Lighting is key for safety! (mainly along Charlton)
- Signs and benches are desired
- Marie, Wentworth, Oakdale, Hwy 110

Question 3. trail corridor locations that are unsafe or have issues that make walking and biking difficult?

- Hwy 13 and 35E is very problematic to cross the intersection, avoid it with kids
- Marie Ave
- Charlton St. is very dark at night
- Wentworth has no room to walk safely
- Make sure all lanes are marked ped or bike
- Once off the corridor, walking on the streets, some crosswalks are not striped (ex. Butler and Robert)
- Yes - lots

Question 4. best way to keep you informed of the process?

- Email (3)
- Website (4)
- Open House (2)
- Brochure mailing (2)
- Other: initial rides with guides to point out the highlights of trail and to show the way

Question 5. ethnicity

White	6

Question 6. age

26-35	1
36-45	3
46-55	1
56-65	1

Question 7. comments or questions

- The more the better!
- Love the existing trails, would like to see more, especially on Marie

Question 1. Destinations to connect along the corridor?

- Garlough School (3)
- Wentworth Library (4)
- Covington Court Apartments (5)
- Wal-mart and Cub (3)
- Famous Footwear
- Sidewalk on Marie Ave and Oakdale
- Friendly Hills Middle School (2)
- By the river
- YMCA
- Target (2)
- To employers along Marie Ave
- Garlough Park (3)
- Wentworth Ave
- Henry Sibley High School

Question 2. key connections and locations for improvements

- Charlton Ave with benches and lights
- More sidewalks
- Covington Court to Wentworth Library
- Better bike racks at Wal-mart and Famous Footwear
- Benches, bike racks, signs, and lighting desired along all streets (3)
- More signs, wayfinding
- Benches and lights
- Sidewalk along Thompson Ave
- Along Marie and Oakdale
- Trees behind the library
- In and around school areas
- Wal-mart, parks, schools

Question 3. trail corridor locations that are unsafe or have issues that make walking and biking difficult?

- _____ bridge unstable
- Along roads, sometimes people are driving fast and can crash
- The turn from Covington to Wentworth
- All the streets
- Famous Footwear
- On the street, Oakdale and Marie (2)
- Robert Street, near Famous Footwear
- Lights would help

Question 4. best way to keep you informed of the process?

- Website (2)
- Email (3)
- Open House (5)
- other

Question 5. ethnicity

Don't know	2
Hispanic-Latino	4
African-American	3
White	2

Question 6. age

Under 10	4
10-14	3
26-35	2
36-45	2

Question 7. comments or questions

- Please have lighting especially in the dark hours during fall, winter, and spring
- In favor of reconstruction

Question 1. Destinations to connect along the corridor?

- Dodge Nature Center
- no particular destinations just safe and uninterrupted path from end to end, especially West St Paul where conflicts with vehicle traffic is particularly dangerous right now

Question 2. key connections and locations for improvements and specific amenities

- Robert Street area- from Thompson to Marthaler/ one mile either side of Robert
- Charlton Ave-bike lanes and curb cuts

Question 3. trail corridor locations that are unsafe or have issues that make walking and biking difficult?

- Robert Street area
- Charlton ave connection needs a curb cut
- The ravine is dark-needs lighting

Question 4. best way to keep you informed of the process?

- Email then website

Question 5. ethnicity

white	2

Question 6. age

46-55	2

Question 7. comments or questions

- Great project!
- Add signage for bikes and pedestrians in crosswalk
- Lighting should be full cut-off
- This project is not beneficial to bike commuters
- Balance safety and experience

Contacts: Patricia McMurray, patricia.mcmurray@dakotaconservators.net
Lisa Grathen, Thompson Park Activity Center Director, 651-403-8302

Meeting Summary:

- 11 attendees – all seniors
- There was a question about lighting and security cameras in remote areas, ie. Kaposia Park, Thompson Park, Valley Park – if someone is walking alone and falls or gets hurt, how will someone find them?
- There was a question about where and how often parking will be provided along the corridor, walking the entire corridor is difficult for seniors – answer: Valley Park at Marie Ave, Village at Mendota Heights, Sibley High School (weekends), Marthaler Park, Thompson Park, and Simon's Ravine Trailhead in Kaposia Park
- Request for restrooms at all trailheads and gateways – approximately every 2 miles along the trail
- Request for water fountains along the trail
- Request for benches along the trail, every quarter to half mile, rather than only at trailheads and gateways. Senior walking groups of 10-15 would like groupings of benches along the trail.
- There were questions about plowing the trail in the winter – will the trail be completely plowed and ice removed for senior walking safety?
- There were questions about curb cuts and street crossings – will these be appropriately designed for senior and handicapped accessible safety?
- Senior walking groups of 10-15 walk approximately 4 miles per outing – it would be nice to have loop trails along the greenway, so they don't have to walk one way and back on the same trail.

Input Summary - River to River Greenway Open House

February 4, 2015

An Open House was held on Feb. 4, 2015, to gather input on the draft recommendations for trail alignment alternatives, greenway enhancements, interpretive themes, approaches to natural resources, and water quality improvements. Over 35 people attended the open house with interest in different aspects of the greenway planning. Most of the comments were positive and attendees were in favor of the greenway recommendations. Comments and questions received at the open house and on the comment forms include the following:

- Mitigate potential trail conflicts at busy traffic areas and driveway crossings
- Concerns about funding, maintenance, and safety
- Desire for lighting
- Support for the greenway concept, both trails and open space preservation
- Desire for grade separated crossings

City of South St. Paul
Dakota County, Minnesota

RESOLUTION NO. 2015-89

RESOLUTION SUPPORTING THE RIVER TO RIVER GREENWAY MASTER PLAN

WHEREAS, the City of South St. Paul has been working with Dakota County on the development of a Master Plan for a regional greenway project that would bring new recreational and open space opportunities to the City of South St. Paul; and

WHEREAS, the unique approach to trail design outlined in the master plan integrates functional use, scenic value, historic and environmental interpretation, water quality improvements, and ecological restoration; and

WHEREAS, the proposed greenway is an identified unit of the Metropolitan Regional Park System Plan and will establish a link between the Minnesota River and the Mississippi River through the communities of South St. Paul, West St. Paul, and Mendota Heights; and

WHEREAS, the master plan was developed in accordance with the 2040 Regional Parks Policy Plan; and

WHEREAS, the alignment identified in the Master Plan was developed in accordance with City of South St. Paul's 2030 Comprehensive Plan; and

WHEREAS, the development and operation of the regional greenway will be a cooperative effort between Dakota County and the communities through which it extends; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of South St. Paul, Minnesota supports Dakota County's plans for the River to River Greenway.

Adopted this 15th day of June, 2015.

Christy M. Wilcox
City Clerk

CITY OF MENDOTA HEIGHTS
DAKOTA COUNTY, MINNESOTA

RESOLUTION 2015-39

RESOLUTION SUPPORTING THE RIVER TO RIVER GREENWAY MASTER PLAN

WHEREAS, the City of Mendota Heights has been working with Dakota County on the development of a master plan for a regional greenway project that would bring new recreational and open space opportunities to the City of Mendota Heights; and

WHEREAS, the unique approach to trail design outlined in the master plan integrates functional use, scenic value, historic and environmental interpretation, water quality improvements, and ecological restoration; and

WHEREAS, the proposed greenway is an identified unit of the Metropolitan Regional Park System Plan and will establish a link between the Minnesota River and the Mississippi River through the communities of South St. Paul, West St. Paul, and Mendota Heights; and

WHEREAS, the master plan was developed in accordance with the 2040 Regional Parks Policy Plan; and

WHEREAS, the alignment identified in the master plan was developed in accordance with City of Mendota Heights' 2030 Comprehensive Plan; and

WHEREAS, the development and operation of the regional greenway will be a cooperative effort between Dakota County and the communities through which it extends; and

NOW, THEREFORE, BE IT RESOLVED, the City of Mendota Heights adopts a resolution supporting Dakota County's Plans for River to River Greenway.

BE IT FURTHER RESOLVED, by the City of Mendota Heights looks forward to further discussions and input regarding future planning pertaining to the River to River Greenway.

Adopted by the City Council of the City of Mendota Heights this sixteenth day of June, 2015.

CITY COUNCIL
CITY OF MENDOTA HEIGHTS

Sandra Krebsbach, Mayor

ATTEST:

Lorri Smith, City Clerk

CITY OF WEST ST. PAUL
DAKOTA COUNTY, MINNESOTA

RESOLUTION NO. 15- 73

A RESOLUTION SUPPORTING THE RIVER TO RIVER GREENWAY MASTER PLAN

WHEREAS, the City of West St. Paul has been working with Dakota County on the development of a master plan for a regional greenway project that would bring new recreational and open space opportunities to the City of West St. Paul; and

WHEREAS, the unique approach to trail design outlined in the master plan integrates functional use, scenic value, historic and environmental interpretation, water quality improvements, and ecological restoration; and

WHEREAS, the proposed greenway is an identified unit of the Metropolitan Regional Park System Plan and will establish a link between the Minnesota River and the Mississippi River through the communities of South St. Paul, West St. Paul, and Mendota Heights; and

WHEREAS, the master plan was developed in accordance with the 2040 Regional Parks Policy Plan; and

WHEREAS, the alignment identified in the master plan was developed in accordance with City of West St. Paul's 2030 Comprehensive Plan; and

WHEREAS, the development and operation of the regional greenway will be a cooperative effort between Dakota County and the communities through which it extends; and

NOW, THEREFORE, BE IT RESOLVED, the City of West St. Paul adopts a resolution supporting Dakota County's Plans for River to River Greenway.

Passed by the City Council of the City of West St. Paul this 13th day of July, 2015.

Ayes: Clpns. Armon, Halverson, Vitelli, and Napier Nays: Clpns. Iago and Bellows

Attest:

David Meisinger, Mayor

Chantal Doriott, City Clerk

15-431
Adoption Of River To River Regional Greenway Master Plan

WHEREAS, the River to River Regional Greenway Master Plan was prepared to:

- Provide strategic guidance for future greenway development
- Integrate the multiple public purposes, including recreation, transportation, natural resource management and improved water quality
- Develop a preferred trail alignment, interpretive themes and design elements
- Estimate project costs
- Meet regional guidelines; and

WHEREAS, the County Board adopted by Resolution No. 08-162 (April 4, 2008), the Dakota County Park System Plan that establishes a vision for a 200-mile network of connected greenways; and

WHEREAS, the County Board authorized a contract by Resolution No. 14-244 (May 20, 2014), with Hoisington Koegler Group, Inc. (HKGI) for master planning services for the River to River Regional Greenway Master Plan; and

WHEREAS, by Resolution No. 15-247 (May 19, 2015), the County Board authorized release of the draft plan for a 30-day public review period; and

WHEREAS, public comment was solicited by open houses, electronic news distribution, community presentations, stakeholder meetings and on-the-project website; and

WHEREAS, the River to River Regional Greenway Master Plan has been revised to address staff, public and agency comments; and

WHEREAS, the communities along the corridor have provided resolutions supporting the plan; and

WHEREAS, the estimated cost to implement the greenway plans is $7 million including regional trail, grade separated crossing at major roads, trail heads and trail amenities; and

WHEREAS, the County Board will determine implementation priorities and funding levels during the annual Parks Capital Improvement Program budget process.

NOW, THEREFORE, BE IT RESOLVED, That the Dakota County Board of Commissioners hereby adopts the River to River Regional Greenway Master Plan as presented to the Physical Development Committee of the Whole on August 18, 2015; and

BE IT FUTHER RESOLVED, That the Dakota County Board of Commissioners hereby directs staff to forward the River to River Regional Greenway Master Plan to the Metropolitan Council for consideration and approval.

Operations, Management And Budget

Report On Invoices Paid In July 2015

This item was on the agenda for informational purposes only.

Appendix: Dodd Road Grade Separated Crossing

M E M O R A N D U M

Date: December 8, 2014

To: Lil Leatham, RLA and Gabrielle Grinde, ASLA, PLA, Hoisington Koegler Group, Inc.

From: Dena King, P.E., PTOE, Bolton & Menk, Inc.

Subject: Evaluation of Potential Grade Separated Crossing of Dodd Road at TH 110 in Mendota Heights, Dakota County

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Purpose of Evaluation

To improve safety and convenience for trail users, Dakota County is investigating a grade separated crossing at Dodd Road (TH 149), just north of TH 110 in the City of Mendota Heights. This signalized intersection experiences high traffic volumes and the existing accommodation for pedestrians and bicyclists is at-grade striped crosswalks, pedestrian curb ramps, and Accessible Pedestrian Signals (APS). Dakota County's River to River Greenway trail crosses the north leg of this intersection.

Site Assessment, Feasibility, and Cost Estimate

A brief field visit was completed on October 24, 2014 to assess existing conditions and provide high-level planning recommendations based on general observed feasibility for an underpass installation. For purposes of this evaluation, it was assumed that an underpass would be a 10-ft x 14-ft box culvert. The underpass installation was evaluated assuming minimal or no grade change would occur on the existing roadway and that only roadway restoration to same grade and like condition would be required.

Several utilities are present in the evaluation area including overhead and buried power, a Mn/DOT signal system, sanitary sewer, a petroleum pipeline, a gas line, fiber optic, communication lines, and storm sewer. A Gopher State One Call request for maps yielded some information, but not all utilities responded including the owner of the petroleum pipeline. If an underpass were to be constructed, it should be in a location that avoids major utilities that are costly or not possible to relocate such as the pipeline and above ground signal system components that need to remain in place. Markers for the pipeline were observed on either side of Dodd Road, indicating that the pipeline likely crosses the roadway close to TH 110. Additional information on utilities and their locations will be required before determining a feasible location for the underpass. Based on this evaluation, it appears the underpass will need to be located on the order of 100 feet or more north of the intersection to avoid the signal system and major underground utilities.

On the east side of Dodd Road, there is an existing stormwater treatment pond that will need to be considered. If the elevation of a proposed underpass is lower than the pond, additional drainage design considerations may be needed to prevent drainage migration.

The terrain at the site lends itself to an underpass installation. The existing roadway is approximately 25 feet higher than the lowest ground elevation on the west side of Dodd Road and at the same grade on the east side. The trail through the underpass would be approximately 12 to 14 feet lower than Dodd Road and would likely include some retaining walls on both sides to avoid impacts to the stormwater treatment pond, private property, vegetation, and other features. The extent of retaining wall needs can vary greatly and would need to be further evaluated during a preliminary design phase when more information is known.

In reviewing Dakota County's on-line property information, it appears that a highway easement exists for the west side of the intersection. It is possible that additional permanent easement would be needed for the underpass.

The planning level estimated cost of an underpass is $1,425,000. This cost includes grading, a box culvert structure, four retaining walls, trail realignment, Dodd Road pavement restoration, underpass lighting, traffic control, turf establishment/erosion control, and mobilization. Engineering and administrative costs of 25% have also been included. Estimated right of way acquisition costs are not included.

Previous Studies and Related Projects

A Feasibility Report was prepared by SRF Consulting Group, Inc. in 2009 that studied viable options to improve pedestrian access at Dodd Road (TH 149) and TH 110. Included in the report were three options for crossing TH 110: a pedestrian underpass of TH 110, a pedestrian overpass of TH 110, and signal system improvements. The report concluded that all options were feasible and the purpose of the report was not to provide a recommendation. Included in the feasibility study was mention of a proposed underpass of Dodd Road by Dakota County, just north of the TH 110 intersection. The location of the proposed underpass as depicted in the report is consistent with the location assumed in this evaluation.

During a site visit with Dakota County and Hoisington Koegler Group, it discussed that a grade separated crossing of TH 110 has been funded. This facility will provide a connection between the River to River Greenway and the Mendota – Lebanon Hill Greenway.

RIVER TO RIVER
GREENWAY MASTER PLAN

2015