



# Twin Lakes Regional Trail master plan

July 21, 2011

# **the mission of Three Rivers Park District is to promote environmental stewardship through recreation and education in a natural resources-based park system.**

Three Rivers Park District was established in 1957 after legislation was enacted in 1955 allowing for the activation of park districts whose primary duties are “acquisition, development and maintenance of large parks, wildlife sanctuaries, forest and other reservations, and means for public access to historic sites and to lakes, rivers and streams and to other natural phenomena” (Minnesota State Statutes, Chapter 398.07).

Three Rivers Park District serves more than 7 million visitors each year with over 26,500 acres of park reserves, regional parks and special-use areas in Hennepin and six adjoining counties and 100 miles of regional trails. Current outdoor-recreation activities in regional parks and trails include camping, hiking, cross-country and downhill skiing, tubing, bicycling, in-line skating, horseback riding, nature interpretation, golfing, fishing and swimming. Three Rivers Park District also operates a natural resources management program, which administers the restoration and perpetuation of both native wildlife and plants in order to provide opportunities for high-quality recreational experience for park visitors.

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# Acknowledgements

Three Rivers Park District (Park District) gratefully acknowledges the community members and other Task Force participants who contributed to content of the Twin Lakes Regional Trail Master Plan.

The Park District extends a special thank you to the individuals listed below who provided guidance, time, questions, and critical insight throughout the process.

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# Executive Summary

## Vision for Twin Lakes Regional Trail

The Twin Lakes Regional Trail will fill a gap in the multi-modal transportation system with a safe, accessible and enjoyable option. It will expand commuting and recreational access to vital employment, retail and recreational sites in the metropolitan region by improving safety, economic development, mobility and environmental benefits. Many of the areas within two miles of the trail, including the Cities of Robbinsdale, Brooklyn Center, and Crystal, along with a portion of northern Minneapolis, are fully-developed with limited access to the regional trail systems and few opportunities to significantly expand their trail system. The Twin Lakes Regional Trail will provide community residents within its two-mile, projected service area direct access to the Mississippi River and connections to the broader regional trail and park system.

## Trail Location and Background

### Trail Location

The Twin Lakes Regional Trail originates at the southern end of the Twin Lakes within Robbinsdale in the southeast quadrant of Trunk Highway 100 (TH 100) and Bottineau Boulevard (CSAH 81) interchange where it connects with the planned Crystal Lake Regional Trail. The proposed trail then generally follows a route extending north and east through Brooklyn Center to the eastern terminus at North Mississippi Regional Park on the Mississippi River. When completed, the trail will measure approximately 4.4 miles.

### Regional Trail Planning

The development of the Twin Lakes Regional Trail is an outgrowth of the previous First Tier Trails, Greenways, and Parks Master Plan (2000), prepared by Three Rivers Park District (Park District), in response to expressed demand for recreational, multi-modal transportation options in first tier suburban ring communities. This plan became part of the 2030 planning framework subsequently developed by the Metropolitan Council. Recently, portions of the proposed Twin Lakes Regional Trail route have been constructed by Brooklyn Center and other agencies as part of local and state road improvement projects in the section extending from Twin Lakes, past Brookdale Mall, to TH 100. Minnesota Department of Transportation (Mn/DOT) also reconstructed portions of TH 100 within the past ten years, including the TH 100 pedestrian underpass near Bottineau Boulevard.



## **Trailway Cooperative Agreement**

As a precursor to further Twin Lakes Regional Trail planning and to establish the legal and operational underpinning of the trail, the Park District entered into a Trailway Cooperative Agreement with Brooklyn Center in 2009 by which the City conveyed a continuous and contiguous trail easement to the Park District for both the existing trail sections and future extension, or will acquire such rights to additional lands as may be necessary. Through this agreement, the Park District assumed responsibility for trail operations, maintenance, reconstruction, and capital expenses of the existing trail sections and future extension. The agreement also included transfer of the existing Shingle Creek Regional Trail from Brooklyn Center to the Park District.

## **Acquisition Status**

The Twin Lakes Regional Trail route is predominantly located within existing street right-of-way of adjacent roadway jurisdictions. Select portions of existing trail segments do not meet the Park District's design standards, and it is the Park District's intent to acquire easements as needed to bring the trail into compliance when adjacent roadways require reconstruction or other land acquisition/redevelopment opportunities occur. As a general guideline, the Park District will attempt to work within the established right-of-way, but in some instances, acquisition of additional land area may be necessary. Design solutions will be analyzed that minimize private property impacts. The Park District regional trail acquisition process is typically a "willing-seller" approach. This means parcel acquisition alternatives are considered when the Park District engages all affected property owners in discussions and negotiations. The local municipality also has an important role, as developers often contact them about zoning and other redevelopment issues. With the local municipality as a knowledgeable proponent, the inclusion of the regional trail in land redevelopment is more assured, as the involved parties can work together to formulate a development plan that includes regional trail provisions.

## **Demand Forecast**

The proposed Twin Lakes Regional Trail is projected to initially generate 125,000 annual visits. Twin Lakes Regional Trail is expected to be a unique regional trail type within the Park District, as it will be located in a fully built-out, urban community. The regional trail is anticipated to be primarily used by local residents for recreation and access to the Brookdale retail outlets, Transit Center, Hennepin County Brookdale Library, residential areas, and other regional trails. Many of these transportation-related trips are expected to take the form of walking. The regional trail will be open to the general public, and its intended uses include walking, jogging, in-line skating, bicycling and other uses mandated by state law including, but not limited to, electric personal assistive devices.

# **Resource Assessment**

## **Natural Resource Inventory**

The majority of the Twin Lakes Regional Trail passes through a highly urbanized landscape. Much of the regional trail and adjacent buffer is relatively narrow and few remnants of natural communities remain. The Minnesota County Biological Survey (MCBS) has been completed for Hennepin County. The MCBS collects data on observations (element occurrences) of rare species, animal aggregation areas (mussel beds, colonial waterbird nesting areas), high quality plant communities, and unique geologic features. Seven rare and endangered species occurrences and one native plant community have been documented by the MCBS within one mile of the Twin Lakes Regional Trail. With the exception of a bald eagle nesting occurrence, all element occurrences documented by the MCBS are distant from the trail alignment and will not be impacted. The nesting location of the bald eagle changes over time. Seasonal work windows may be imposed if bald eagle nesting occurs in close proximity to the trail during construction.

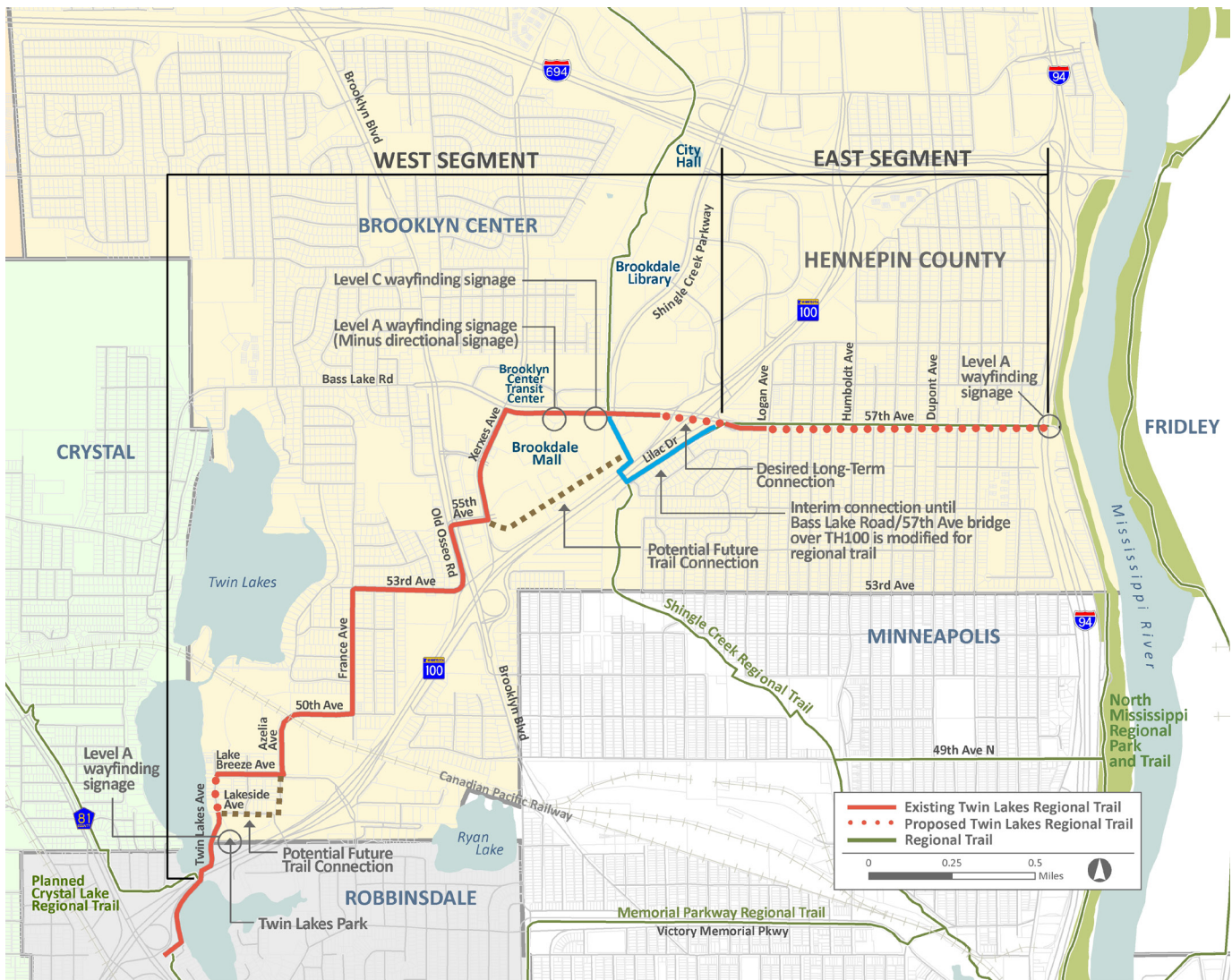
## **Cultural Resource Inventory**

The Minnesota State Historic Preservation Office (SHPO) conducted a Minnesota Archeological Inventory and Historic Structures Inventory search for the township/range/sections traversed by the Twin Lakes Regional Trail alignment (inventory search area). The SHPO database contains previously recorded archeological and historic architectural properties. No archeological sites were previously identified in the inventory search area. Seventeen properties in the inventory search area are National Register of Historic Places (NRHP)-listed or NRHP-eligible. The distance and separation from the trail alignment suggests that impacts to these properties are unlikely.

# **Development Concept**

## **Existing Conditions Assessment**

Field review of the existing TH 100 bridge and pedestrian underpass crossings along the regional trail route revealed that they currently do not meet Park District regional trail design standards. The Park District will continue to explore opportunities to upgrade these features as opportunities arise in conjunction with appropriate jurisdictional agencies. Extensive field review of existing regional trail segments has revealed that some meet the Park District's design standards, while others do not. In light of their relatively recent construction, the Park District intends to utilize the existing trail as-is until local road reconstruction projects allow upgrade to these non-conforming regional trail segments.



**Selected Twin Lakes Regional Trail Alignment Map**



## **Selected Regional Trail Alignment**

The Twin Lakes Regional Trail route is comprised of existing and unconstructed segments, in varying states of Park District design standard compliance. This master plan generally refers to the portion of the trail route originating at the interchange of TH 100/Bottineau Boulevard to the interchange of Bass Lake Road/TH 100 as the "West Segment." The portion of the regional trail from TH 100 east to North Mississippi Regional Park is referred to as the "East Segment." The selected regional trail alignment is illustrated in the map on the previous page.

Recently constructed by the City of Brooklyn Center as part of road reconstruction projects, the West Segment of the regional trail's selected alignment brings a large portion of the Twin Lakes Regional Trail on-line immediately. Passing the Brookdale Mall eastbound, the selected regional trail alignment follows a direct route across TH 100 on the Bass Lake Road/57th Avenue bridge. Currently, this bridge segment does not meet Park District trail standards due to restricted sidewalk width, but is the desired long-term connection. An interim connection utilizes the Shingle Creek Regional Trail pedestrian bridge across TH 100 and returns north to 57th Avenue. The continuation of the selected East Segment trail route along 57th Avenue east of Logan Avenue requires new trail construction to the terminus at North Mississippi Regional Park.

## **Development Plan**

Of the 4.4 miles of total regional trail length, approximately 2.9 miles exist in the area previously identified as the West Segment. Portions of the regional trail will require reconstruction in the West Segment as improved routes and financing become available. Approximately 0.8 miles require construction in the East Segment. It is anticipated that the Twin Lakes Regional Trail will be implemented in stages, with the construction of various stages driven by local factors such as availability of land, timing of adjacent roadway improvements, and financing. Until the regional trail corridor is fully developed, gaps will exist and may be overcome by existing sidewalks or interim use of city streets. However, the ultimate regional trail geometry will consist of a 10-foot-wide paved surface separate from any adjacent roadway, so that trail users will not share the roadway with motorized vehicles.

The selected regional trail alignment will be predominantly implemented within existing street right-of-way and parkland owned by local municipalities and government agencies. The optimum trail width is a 10-foot-wide paved surface separated from vehicular traffic. Where possible, trails should be separated from the roadway. However, in limited circumstances, regional trails can parallel the roadway at back of curb separated from the road by a minimum paved two-foot-wide "clear zone." This two-foot wide zone provides a safety buffer between the regional trail users and motorists.

The unique urban nature of the Twin Lakes Regional Trail requires wayfinding signage at strategic delineated points providing trail users with orientation and location information. Park District regional trail wayfinding signage typically provides: an overview map of the regional trail network, directions and distances to major destinations and points of interest, directions for long-term detours or interim routes and information for nearby amenities and services.

Locations for rest stops will be evaluated and incorporated into design of the unconstructed Twin Lakes Regional Trail segments as appropriate during design implementation.

## **Operations and Management**

Twin Lakes Regional Trail operates under the Park District's ordinances and policies. The regional trail is overseen by professional operations and maintenance staff. The Park District uses a combination of Park Service Officers and certified Park Police Officers for trail patrol on the Twin Lakes Regional Trail. Patrol of the Twin Lakes Regional Trail will be the primary responsibility of trail patrol staff assigned to French Regional Park. The Park District's Elm Creek Park Work Cluster will provide maintenance services including mowing, trail inspections, sign maintenance, solid waste management, trail sweeping and edge management for the Twin Lakes Regional Trail.

## **Estimated Costs and Funding**

### **Acquisition Costs**

As part of the Trailway Cooperative Agreement between the City of Brooklyn Center and the Park District, the City of Brooklyn Center conveyed a Public Trailway Easement to the Park District that provides a contiguous and continuous corridor for the existing West Segment. Also, as part of the agreement, the City agreed to convey a Public Trailway Easement for the proposed East Segment trail extension to North Mississippi Regional Park. Certain bridge and grade crossings require agreements with third parties such as Hennepin County and Mn/DOT.

### **Development Costs**

Trail development includes the cost to prepare the site, reconfigure roadways as required, modify drainage patterns where necessary, pave the trail, and install signage, striping, and landscaping. Other factors to consider for multijurisdictional cost participation include bridge modifications and implementation of potential future trail connections. In total, the estimated development cost for the Twin Lakes Regional Trail is between \$1.85 million and \$3.95 million.

## **Maintenance Operating Costs**

At the time the master plan is fully implemented, the annual routine maintenance costs are estimated to increase by \$10,000 (2010 dollars), primarily for sign replacements and seasonal labor.

## **Public Safety Operating Costs**

The increase in projected annual operating costs for Public Safety services is estimated to be \$85,000. The work load associated with the addition of the Twin Lakes Regional Trail will be enough of an incremental increase to require the Park District hire an additional Park Police Officer and up to three new seasonal staff at the French Regional Park unit, which services regional trails in this section of the Park District. Initially, the expense and staffing of the Twin Lakes Regional Trail will be absorbed by current Public Safety budgeting and staff; however, a higher anticipated call load and commensurate staff presence is anticipated for proper patrol in this area. Estimated equipment cost of \$7,500 for uniforms and associated duty gear, radios, etc. will also be needed upon hiring of the additional trail patrol staff. An additional initial cost of \$30,000 for a trail patrol police vehicle will be required.

## **Natural Resource Operating Costs**

Due to the urbanized location of the Twin Lakes Regional Trail, no additional costs for natural resources management are anticipated.

## **Funding Sources**

Annual park and trail operating costs are funded through the Park District General Fund Budget. The primary source of funds is property tax with some revenue received from the State of Minnesota as part of the Operations and Maintenance Fund allocations from the Metropolitan Council. Some of the annual rehabilitation costs also may be funded from the Park District's Park Maintenance and Rehabilitation Fund, which includes revenues allocated to the Park District from the State of Minnesota as well as Park District general obligation bonds.

The Metropolitan Council and State of Minnesota provide funding for acquisition, development and redevelopment projects through the Regional Parks Capital Improvement Program (CIP). The trail development proposed in this master plan may be funded through the Regional Parks CIP, through Park District bonds, donations and/or funding sources that may be available at the time of development. Opportunities for federal funding may also be explored.

All operating costs, associated staff and equipment are subject to the annual operating budget preparation process administered by the Park District Superintendent and formally reviewed and approved by the Board of Commissioners.



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# Planning Framework

## Overview

The Twin Lakes Regional Trail will fill a gap in the multi-modal transportation system with a safe, accessible and enjoyable option. Often, metro area residents traveling to and through the first tier suburbs do not have access to safe, convenient and attractive off-road regional trail networks that support bicycle and pedestrian mobility, and connect with existing and planned transit facilities. The Twin Lakes Regional Trail will expand commuting and recreational access to vital employment, retail and recreational sites in the metropolitan region by improving safety, economic development, mobility and environmental benefits. By providing this new surface transportation option, the Twin Lakes Regional Trail may help reduce congestion and increase multi-modal transportation efficiency.

When completed, the trail will measure approximately 4.4 miles from Crystal Lake Regional Trail in Robbinsdale through Brooklyn Center, connecting to Shingle Creek Regional Trail and terminating at North Mississippi Regional Park.

## Metropolitan Regional Parks System

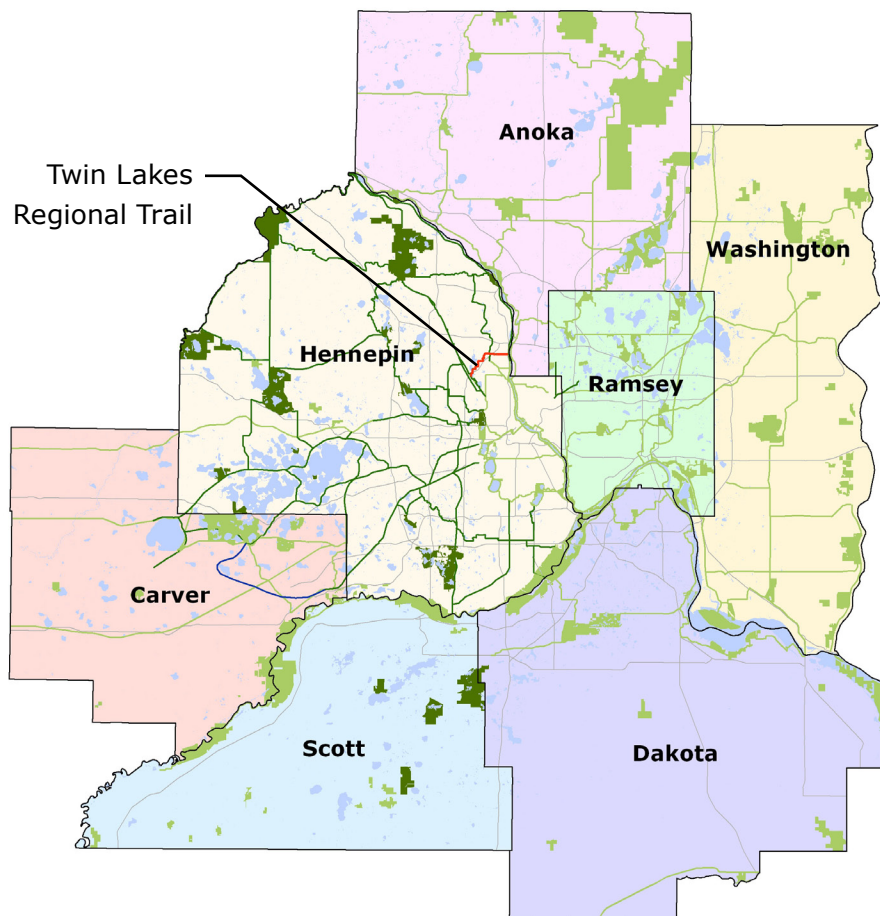
The Twin Cities' nationally renowned Metropolitan Regional Parks System significantly contributes to the area's high quality of life. Establishing green space for recreation and resource protection enhances the region's livability and economic strength.

The Metropolitan Regional Parks System includes 51 regional parks and park reserves, 38 trails, and seven special recreation areas and is still growing. Currently, there are over 54,000 acres of protected lands, with planned acquisition of an additional 15,000 acres over the next 20 years. The Metropolitan Regional Parks System is made up of 10 park implementing agencies, consisting of six county park departments, three city park departments and Three Rivers Park District (Park District).

The Metropolitan Council is a regional planning agency that oversees and provides partial funding of the regional parks system. The Metropolitan Council works with implementing agencies to assist in the acquisition and development of regional parks and trails to provide outdoor recreation for public enjoyment and natural resources protection. The Metropolitan Council and implementing agencies also develop regional park policies to protect the region's water quality, promote best management practices, and help integrate the parks system with housing, transportation and other regional priorities.

The Metropolitan Council also provides guidance in the development of master plans for units of the regional parks and trail system. The Twin Lakes Regional Trail Master Plan reflects that guidance. Each regional park or trail must have a master plan approved by the Metropolitan Council prior to receiving any acquisition, development or operational funding from the Metropolitan Council.

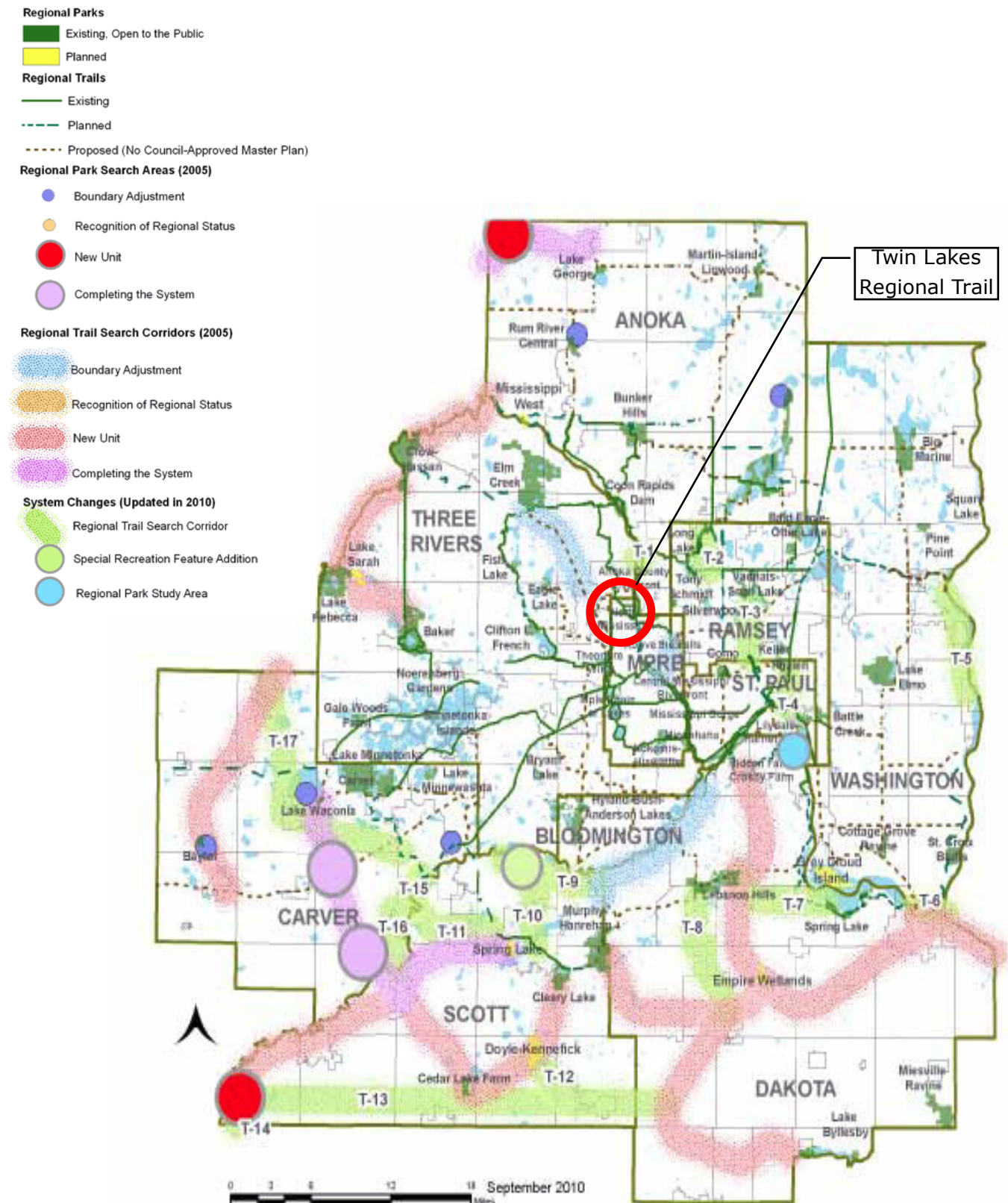
The master plan must address a series of topics, including boundaries and acquisition, recreation demand forecasts, natural resources management, development concept, implementation schedule, and development and operational cost estimates. Public input is encouraged throughout the master planning process. The Metropolitan Council's planning requirements help ensure consistency between the implementing agencies and their own regional plans.



**Figure 1**

Metropolitan Regional Parks System Map

Dark green areas denote existing and proposed parks and trails owned and operated by Three Rivers Park District.



**Figure 2**

2030 Regional Parks Policy Plan - Metropolitan Regional Parks System Plan Update.

The map shows the incorporation of the Twin Lakes Regional Trail segment.

Source: Metropolitan Council



## Three Rivers Park District

Three Rivers Park District (Park District) is an independent, special park district charged with the responsibilities of acquisition, development and maintenance of regional park reserves, regional parks, regional special recreation features and regional trails for the benefit and use of the citizens of suburban Hennepin County, the seven-county Twin Cities metropolitan area and the State of Minnesota. The Park District works cooperatively with the Metropolitan Parks and Open Space Commission, the Metropolitan Council and the State Legislature as one of ten implementing agencies of the Metropolitan Regional Parks System.

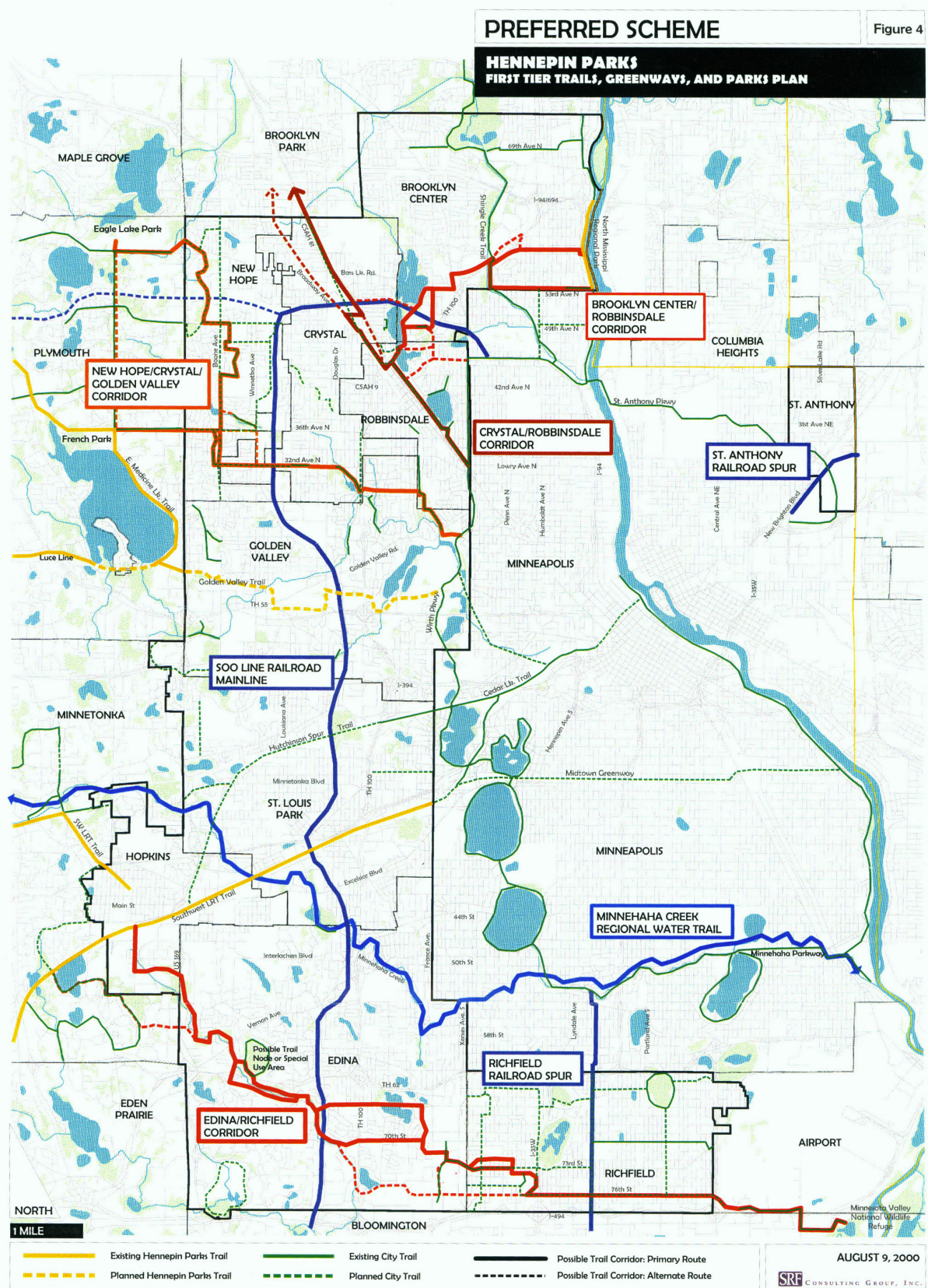
The Park District's mission is to promote environmental stewardship through recreation and education in a natural resources-based park system. The Park District was established in 1957 by the Minnesota State Legislature when prominent members of the community promoted the benefits of parks in the outlying areas of Hennepin County. The Park District's first park, Baker Park Reserve, was created when Morris T. Baker donated 210 acres of land, including a large section of shoreline on Lake Independence.

Today, the Park District's park reserves are among the largest wildlife habitat areas in the seven-county metro area. Seven million visitors annually access the 26,500 acres of park reserves, regional parks, regional trail corridors and regional special recreation features.

## Relationship to Other Plans

In 2000, the Park District conducted a study (First Tier Trails, Greenways and Parks Master Plan) analyzing the possibility of trail corridors within the 10 cities that make up the "first tier" ring of suburbs that border the northern, southern and western Minneapolis city limits. These trail corridors were developed based on recreation and transportation goals that are intended to provide value and linkages, balance recreation and natural resources, ensure safety and provide effective design.

In turn, the Park District developed this regional trail master plan specifically for Twin Lakes Regional Trail as part of the 2030 Regional Parks Policy Plan requirement by Metropolitan Council. The purpose of this trail master plan is to identify and capitalize on potential opportunities for new regional trail facilities where, unfortunately, few such facilities currently exist. The implementation of this trail corridor comes at an opportune time, by corresponding with other redevelopment plans and infrastructure improvements within the first tier suburbs.

**Figure 3**

First Tier Trails, Greenways, and Parks Plan (2000) Preferred Scheme. The Twin Lakes Regional Trail is identified as its original notation as, "Brooklyn Center/Robbinsdale Corridor."



## **Involved Public Agencies**

The public agencies involved with the master plan process for the Twin Lakes Regional Trail include: the Park District, which is responsible for construction, operation and management of the trail; the two host cities adjacent to the corridor - Robbinsdale and Brooklyn Center; Hennepin County Regional Railroad Authority; Hennepin County Transportation Department; Hennepin County Housing, Community Works and Transit; Metropolitan Council; Minnesota Department of Transportation (Mn/DOT); City of Minneapolis; and Minneapolis Park and Recreation Board.

## **District-Wide Planning Guidelines**

The Park District manages its lands under four categories of regional open space: regional park reserves, regional parks, regional trail corridors and regional special recreation features.

### **Regional Park Reserves**

Regional park reserves provide and protect representative areas of major landscape types found in the metropolitan area for the purposes of conservation, and outdoor recreation and to perpetuate appreciation and enjoyment by the public. The minimum size is 1,000 acres, with a desirable size of 2,000 acres or more. As a legacy to future generations and to establish and maintain an uncompromising sense of nature, 80 percent of each regional park reserve's land base shall be restored to and retained in a natural state as a viable entity, permitting up to 20 percent to be developed for compatible active-recreation use. The Park District owns and operates nearly 22,800 acres within seven regional park reserves.

### **Regional Parks**

Regional parks provide a diversity of resources, contiguous to or including water resources, which can accommodate a wide variety of compatible outdoor-recreation uses. The minimum size is 100 acres, with a preferable size of 200 or more acres. The Park District develops active-recreation areas in regional parks in a manner that maintains sufficient natural areas to ensure quality outdoor-recreation experiences in a natural resources setting. The Park District owns and operates over 3,000 acres within 10 regional parks.

### **Regional Trail Corridors**

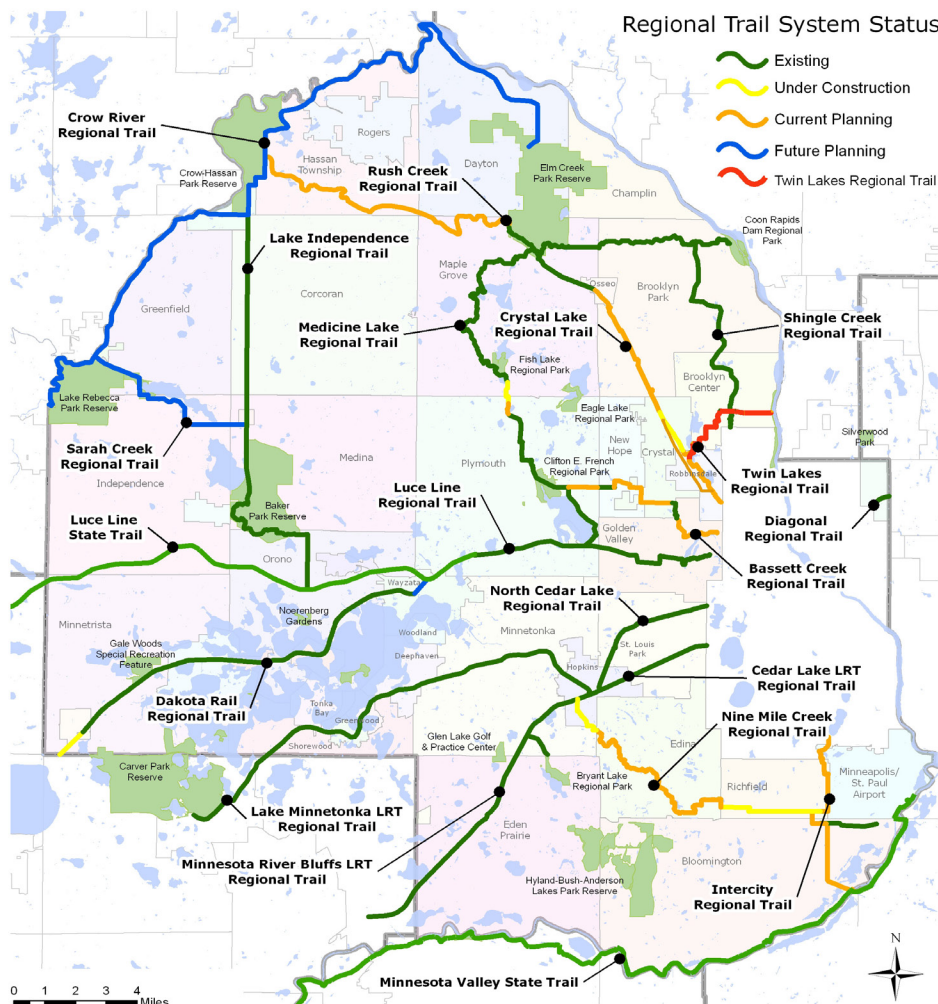
Regional trail corridors provide for recreational trail activities on linear resources. They perform a recreational-transportation function, provide access to regional parks and park reserves, and may be located along either natural or built features. To be recognized by the Metropolitan Council or the Park District, regional trails must serve a linking or destination function. In addition to recreational function, linking trails provide the backbone of the regional trail network by connecting regional

parks to one another. Destination regional trails are routed and developed to provide opportunities for high quality recreation experiences that traverse significant natural resource areas. However, destination trails also may be a component of the linking network.

For either trail type, adjacent land with significant natural resources can be acquired as part of the trail corridor. The Park District currently operates 100 miles of constructed regional trails with an additional 90 miles planned.

## Regional Special Recreation Features

Regional special recreation features support participation in needed regional recreational opportunities that have a limited and specific purpose and are not found in regional park reserves and regional parks, or along regional trail corridors. Public demand, public support, financial feasibility, county-wide or regional significance, and the inherent recreational or cultural benefits are considered before designation. The Park District currently owns and operates four regional special recreation features.



**Figure 4**

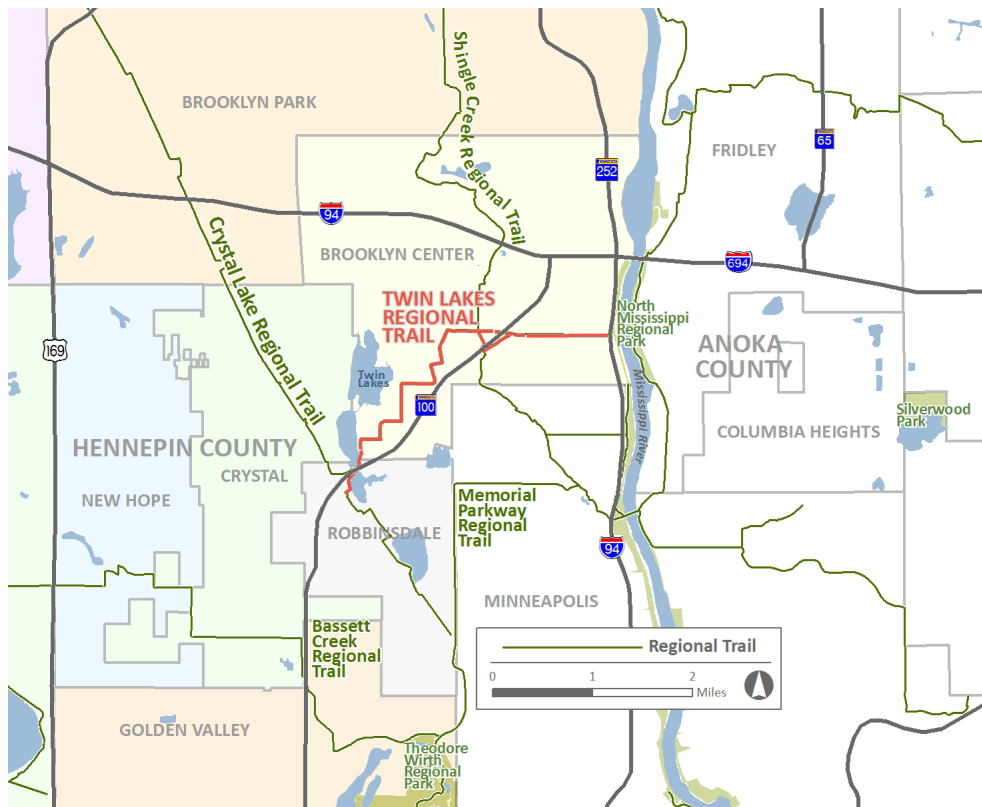
Three Rivers Park District System Regional Trail System Status Map

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# Trail Description & Background

## Location & Contextual Relationship

The Twin Lakes Regional Trail provides local and regional residents with access to downtown Robbinsdale, the Brookdale Mall shopping area, Brooklyn Center Transit Center (on Bass Lake Road), Brooklyn Center City Hall and the Hennepin County Brookdale Library (via the Shingle Creek Regional Trail), a local elementary school, North Mississippi Regional Park and connections to the larger regional park and trail system primarily through Shingle Creek Regional Trail, North Mississippi Regional Trail, Minneapolis Grand Rounds, and the planned Crystal Lake Regional Trail. It originates at the southern end of the Twin Lakes within Robbinsdale in the southeast quadrant of Trunk Highway 100 (TH 100) and Bottineau Boulevard (CSAH 81) interchange where it connects with the planned Crystal Lake Regional Trail. The proposed trail then generally follows a route extending north and east through Brooklyn Center to the eastern terminus at North Mississippi Regional Park on the Mississippi River. See Section VI Development Concept for a more detailed description of the regional trail route.



**Figure 5**

Twin Lakes Regional Trail Location Map



## Landscape Description

The Cities of Robbinsdale and Brooklyn Center comprise a portion of Hennepin County's first tier suburban ring around the City of Minneapolis. The area is characterized predominantly by rectangular block residential development patterns consisting primarily of single family homes established in the post-World War II period with some multi-family residential. The area also was shaped by the expansion of the state highway system, and development of the Brookdale Mall regional shopping center in the latter half of the twentieth century. Currently, Brookdale Mall is under consideration for redevelopment. Surrounding Brookdale Mall is Brooklyn Center's primary commercial core area, consisting of service, retail, and light industrial uses. Much of the commercial land use pattern around the mall and primary trunk highway infrastructure is auto-oriented, which creates challenges for multi-modal transportation to regional destinations and between neighborhoods. The Twin Lakes Regional Trail provides a viable route through this developed area, expanding transportation options and providing access to regional recreation destinations and local services.



The southern terminus of the regional trail route is in the southeast quadrant of TH 100 and Bottineau Boulevard (CSAH 81), near the lower Twin Lakes in Robbinsdale.



North Mississippi Regional Park at the eastern terminus of the regional trail route offers trail users connections to the Mississippi River.



Aerial view of the Brookdale Mall, regional trails, and surroundings looking northwest.

## Trail History

### Regional Trail Planning

The development of the Twin Lakes Regional Trail is an outgrowth of the previous First Tier Trails, Greenways, and Parks Master Plan (2000), prepared by the Park District, in response to expressed demand for recreational multi-modal transportation options in first tier suburban ring communities. This plan became part of the 2030 planning framework subsequently developed by the Metropolitan Council. Recently, portions of the proposed Twin Lakes Regional Trail route have been constructed by Brooklyn Center and other agencies as part of local and state road improvement projects in the section extending from the Twin Lakes, past Brookdale Mall, to TH 100. Mn/DOT also reconstructed portions of TH 100 within the past 10 years, including the pedestrian underpass crossing near Bottineau Boulevard.

### Trailway Cooperative Agreement

As a precursor to further Twin Lakes Regional Trail planning and to establish the legal and operational underpinning of the trail, the Park District entered into a Trailway Cooperative Agreement with Brooklyn Center in 2009 by which the City conveyed a continuous and contiguous trail easement to the Park District for both the existing trail sections and future extension, or will acquire such rights to additional lands as may be necessary. Through this agreement, the Park District assumed responsibility for trail operations, maintenance, reconstruction, and capital expenses of the existing trail sections and future extension. The agreement also included transfer of the existing Shingle Creek Regional Trail from Brooklyn Center to the Park District.

The Twin Lakes boat launch parking lot and existing trail segment south of TH 100 in the City of Robbinsdale, along with the TH 100 pedestrian underpasses are currently under the jurisdiction of Mn/DOT. The Park District, Mn/DOT and the City of Robbinsdale continue to discuss the feasibility of future operations and maintenance responsibilities for the trail segment, parking lot, and associated boat launch. The Park District will coordinate with Mn/DOT to secure permits required to operate and maintain the trail within Mn/DOT right-of-way.

## Guiding Principles

A trail by nature is a linear feature that not only passes through its surroundings, but becomes part of the community fabric. In this developed suburban context, the existing land uses and infrastructure that the design of the trail must navigate are complex. The Guiding Principles developed in conjunction with the Task Force and the Park District provide a general basis for evaluating the trail route. With that philosophical foundation, the Task Force's charge was two-fold: confirm the selected trail alignment and consider alternate routes to fill the identified gaps in the trail route continuity.

- **Provide connectivity** with established points and destinations
- **Provide continuity** with most direct route (no gaps)
- **Provide safe route** with least amount of driveway crossings, utility poles, etc.
- **Minimize private property impacts**
- **Provide consistency with existing agency planning and policies**
- **Create sense of place** within space available
- **Exemplify good stewardship** towards existing infrastructure



## Acquisition Status

The Twin Lakes Regional Trail route is predominantly located within existing street right-of-way of adjacent jurisdictions. Select portions of existing trail segments do not meet the Park District's design standards, and it is the Park District's intent to acquire easements as-needed to bring the





The regional trail route passes through existing neighborhoods where right-of-way is limited.

trail into compliance when adjacent roadways require reconstruction or other land acquisition or redevelopment opportunities occur. Also, since the corridor passes through a fully-developed area, the implementation of new trail segments may conflict with existing roadway curb limits, landscape features, or utilities.

As a general guideline, the Park District will attempt to work within the established right-of-way, but in some instances, acquisition of additional land area may be necessary. Design solutions will be analyzed that minimize private property impacts. The City of Brooklyn Center will provide coordination with adjacent property owners. The Park District will also coordinate with other potentially affected agencies including the City of Robbinsdale, Hennepin County, and Mn/DOT as required.

It is important to obtain an inventory of trail parcels recommended for acquisition and to maintain good relationships with property owners. This acquisition method allows the Park District to maintain communication with land owners when sales are contemplated. The local municipality also has an important role, as developers often contact them about zoning and other redevelopment issues. With the local municipality as a knowledgeable proponent, the inclusion of the regional trail in land redevelopment is more assured, as the involved parties can work together to formulate a development plan that includes regional trail provisions. Municipality approval is required of all land purchases and where deemed necessary and appropriate, use of eminent domain.

The Park District's regional trail acquisition process is typically a "willing-seller" approach. This means parcel acquisition alternatives are

considered when the Park District engages all effected property owners in discussions and negotiations. In turn, it is difficult to determine when acquisition will occur and when the trail construction will begin. Parcel acquisition alternatives may include the following:

- Acquire regional trail easements for the trail through owner/developer negotiations that may include coordination with City redevelopment incentives.
- Work with the City and owner/developer to secure park dedication lands for the regional trail in advance of the actual redevelopment as applicable.
- Coordinate with City initiatives that may result in the acquisition of entire property/parcel, with the intent to resell the property subject to easements for the regional trail.
- Acquire or donate a portion of the property for the regional trail corridor.
- Other mitigation alternatives.

# Public Process

The Park District established a planning process that included representatives from all affected municipalities, public agencies, and the general public to provide input that contributed to the master plan outcome.

## Twin Lakes Regional Trail Task Force

A Twin Lakes Regional Trail Task Force was established that guided the master plan and coordinated planning efforts within local communities and greater region. Members of the Task Force included representatives from the following affected stakeholders: City of Brooklyn Center, City of Robbinsdale, City of Minneapolis, Hennepin County Regional Railroad Authority, Hennepin County Transportation Department, Hennepin County Housing, Community Works and Transit, Mn/DOT, and Minneapolis Park and Recreation Board.

The responsibilities of the Task Force included:

- Coordination with respective governing bodies such as City Councils, Planning Commissions, Park Commissions/Boards and other staff/departments within the respective city/agency.
- Assistance in implementing public participation opportunities.
- Providing information and support necessary to identify feasible trail alignments and review/complete the master plan which meets Park District, city and other applicable agency goals.
- Assisting Park District in local municipality/agency approval processes.

The Task Force met four times between July and December 2010 to discuss master plan objectives, existing trail corridor conditions, constraints, challenges and opportunities, public input received, and recommended selected regional trail alignments.

## Public Presentations & Open Houses

The Park District held two public open houses at Hennepin County Brookdale Library where the general public reviewed the status of preliminary Task Force planning and provided comment. The first open house was held on September 16, 2010, and the second open house was held November 9, 2010. In December 2010 and January 2011, Park District staff presented the selected regional trail alignment to the



Robbinsdale and Brooklyn Center City Councils and Park Commissions/Boards for review and comment. Each of those decision-making bodies indicated support for the Twin Lakes Regional Trail via resolutions of support included in Appendix A.

## Evaluation & Findings

Segments of the Twin Lakes Regional Trail vary from constructed, under construction, or in planning stages. For those trail segments that are constructed, the Park District acknowledges these portions as part of the selected regional trail route alignment. For those trail segments that are unconstructed, or in the planning stages, input was gathered to provide direction for a recommended trail alignment.

Regional trail alternative alignments for unconstructed segments between TH 100 and North Mississippi Regional Park included: a utility corridor adjacent to 57th Avenue, 57th Avenue and 53rd Avenue. The alternative alignments were presented to the Task Force members and the public, who offered feedback and recommend a selected alignment.



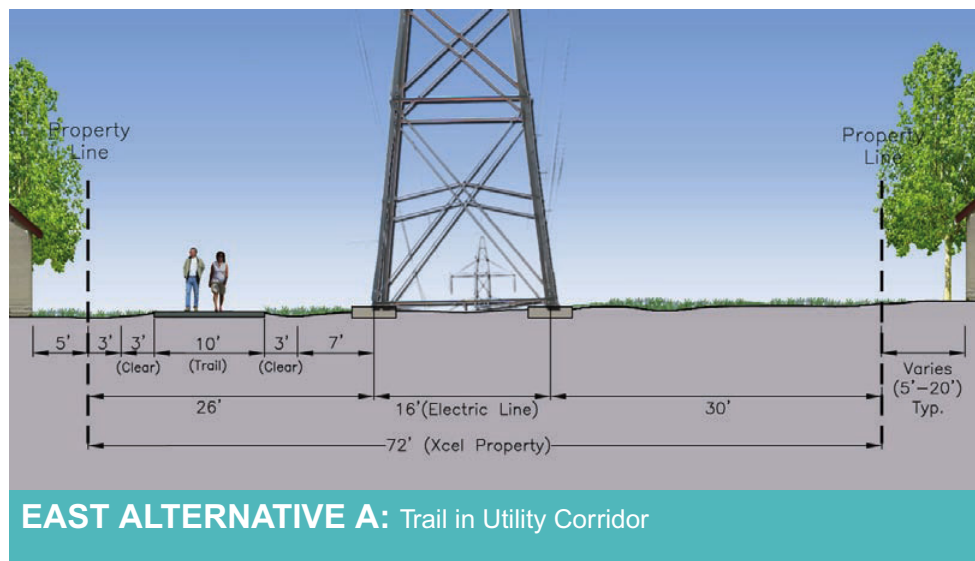
**Figure 6**

Alternative regional trail route alignments from TH 100 to North Mississippi Regional Park.

## Utility Corridor

This proposed alternative alignment is located within a private Xcel Energy utility corridor which runs between Logan Avenue and I-94. The utility corridor is generally 72 feet wide, containing a high voltage electric transmission line. Evaluators acknowledged the utility corridor's similarity to a linear greenway, offering trail users an alignment that was not adjacent to motorized transportation.

This alternative alignment was not chosen as the selected route, as it required 10 midblock crossings which posed a trail user safety concern and created a circuitous route by diverting north from the existing trail alignment at TH 100 to the North Mississippi Regional Park entrance.



**Figure 7**

Utility Corridor Cross Section north of 57th Avenue.

## 57th Avenue

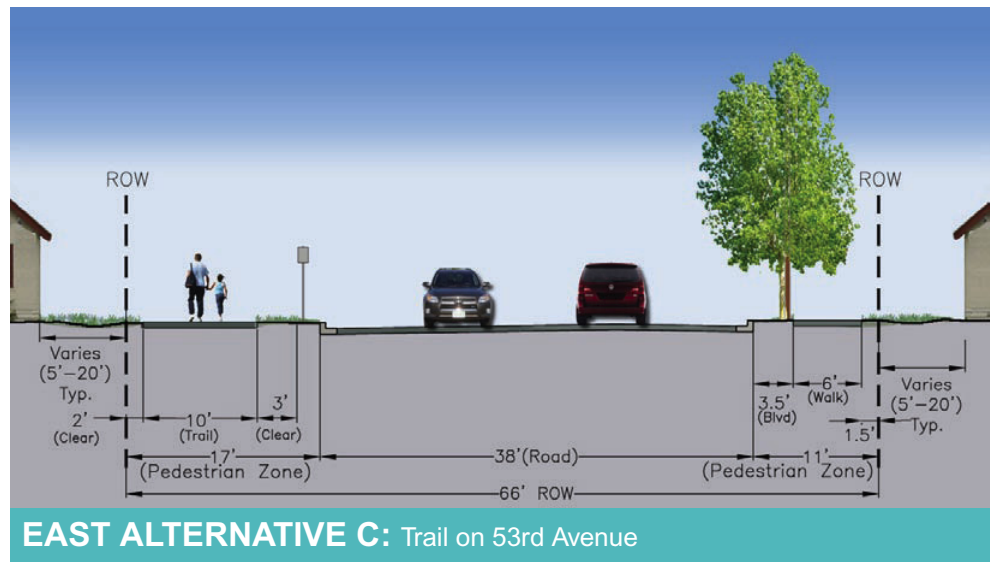
This proposed alternative alignment offers an off-street trail, located adjacent to 57th Avenue, through a residential area. The roadway shares jurisdiction between the City of Brooklyn Center and Hennepin County from TH 100 to Dupont Avenue (60-foot right-of-way). From Dupont Avenue to I-94 (50-foot right-of-way) the jurisdiction lies with the City of Brooklyn Center. A portion of regional trail between TH 100 and Logan Avenue was recently constructed in conjunction with 57th Avenue road reconstruction on the south side of the road.

The 57th Avenue alternative alignment was chosen as the selected route as explained in further detail on the following pages. Proposed cross sections of the 57th Avenue alignment are exemplified in Section IV - Development Concept.

## 53rd Avenue

This roadway delineates the Cities of Minneapolis and Brooklyn Center boundary. The municipal jurisdiction distinction is located at the center line, thus the trail alignment would be proposed on the north side of 53rd Avenue. The alignment offers connections to Lion's Park, and would be proposed as an off-street trail, located adjacent to 53rd Avenue, through a residential area.

This alternative alignment was not chosen as the preferred route as it created a circuitous route by diverting south from the existing trail alignment at TH 100 to the North Mississippi Regional Park entrance. While there is an existing bridge over I-94, freeway frontage roads and on-off ramps posed trail user/vehicle conflicts. In addition, 53rd Avenue is in close proximity to the planned City of Minneapolis 49th Avenue regional trail.



**Figure 8**

53rd Avenue Corridor Cross Section.

## Selected Regional Trail Alignment

With input from two public open houses, the project Task Force identified a number of specific opportunities that made the 57th Avenue regional trail alignment stand out from other considered routes. The primary opportunities and challenges of the selected 57th Avenue alignment are summarized below:

### Opportunities

- Consistent with Hennepin County's Bike System Plan
- Located off-street, within right-of-way
- Complements Brooklyn Center's Comprehensive Plan as a future on-street bikeway route

- Crosses roadways at intersections (as opposed to mid-block crossings)
- Does not cross I-94 freeway on/off ramps
- Opportunity to upgrade the streetscape in conjunction with regional trail construction
- Provides the most direct regional trail connection to the Mississippi River from existing trail segments
- Provides opportunity for inter-agency coordination when contemplating future reconstruction projects (Mn/DOT plans to re-deck the Bass Lake Road/57th Avenue bridge over TH 100 in 2013. Preliminary conversations between the Park District, Brooklyn Center, Hennepin County, and Mn/DOT indicate that it may be feasible to expand the re-decking project to include construction of the regional trail. The parties will continue to collaborate throughout the bridge decking design process.)

### **Challenges**

- Requires narrowing of 57th Avenue and loss of parking in some locations
- Creates a circuitous interim route. Until the Bass Lake Road/57th Avenue bridge is re-decked to include regional trail accommodations, users will be directed to utilize the existing Shingle Creek Regional Trail pedestrian bridge over TH 100
- Requires reconfiguration of the 57th Avenue bridge over I-94 to accommodate the regional trail
- Follows 57th Avenue where there are higher traffic volumes on the west end, but traffic volumes quickly decrease moving east towards the Mississippi River
  - 14,000 ADT (2007) between TH 100 and Logan (4 lanes)
  - 7,150 ADT (2007) between Logan and Humboldt
  - 4150 ADT (2007) between Humboldt and Dupont
  - 1500 ADT (2007) between Dupont and I-94
- Crosses 14 residential driveways, one commercial driveway and one alley along 57th Avenue
- Requires future trail design to address six curb line mailboxes along Twin Lakes Avenue



## **Plan Review & Formal Approval Process**

During December 2010 and January 2011, affected agencies were provided opportunity to review and comment on the draft master plan. After receiving initial feedback by affected agencies, the Park District Board of Commissioners released the draft Twin Lakes Regional Trail Master Plan for review by the public and affected governmental bodies. The Park District used its E-News email network along with news releases to inform interested public of the opportunity to review and comment on the master plan. The master plan was made available through the Park District's website ([www.ThreeRiversParkDistrict.org](http://www.ThreeRiversParkDistrict.org)). The public review period lasted for 30 days, after which the Park District staff assessed feedback and identified any appropriate changes to the master plan. The Park District Board of Commissioners, after inclusion of appropriate revisions, submitted the Twin Lakes Regional Trail Master Plan to the Metropolitan Council for final review and approval.

# Demand Forecast

The Twin Lakes Regional Trail is intended to provide linkages to regional trail destinations such as North Mississippi Regional Park, balance recreation and natural resources, and ensure safety for currently underserved communities.

The Metropolitan Council identifies two types of regional trails:

## **Destination Regional Trail**

A destination regional trail is a destination itself, providing opportunity for high-quality recreation experiences that traverses significant natural resource areas where the trail tread way will have no adverse impact on the natural resource base.

## **Linking Regional Trail**

A linking regional trail links two or more units of the regional recreation open space system.

The Twin Lakes Regional Trail serves as a linking regional trail.



## Recreational Use Trends

In general, recreation use trends are affected by demographic trends. Increasing median age, urbanization, increasing minority populations and decreasing household size are historically associated with less overall recreation participation per capita. Gender does not affect participation rates. These trends indicate that over time, the Twin Lakes Regional Trail would likely see a decreased usage. However, Twin Lakes Regional Trail is a unique regional trail type within the Park District, as it is located in a fully built-out, urban community. Given that the trail will provide a convenient, multi-modal transportation option to community destinations for community residents within the trail service area, with destinations such as the Brookdale Transit Center, Brooklyn Center's retail hub, Brooklyn Center City Hall and the Hennepin County Brookdale Library, it is expected that a higher percentage of trail use will be for transportation purposes than what is currently seen on other regional trails. Many of these transportation trips are expected to take the form of walking.



## Statewide Trends

The 2008-2012 State Comprehensive Outdoor Recreation Plan (SCORP), published by the Minnesota Department of Natural Resources (MnDNR), gives outdoor recreation decision-makers and managers a focused set of priorities and suggested actions to guide them as they make decisions about outdoor recreation. The SCORP outlines outdoor recreation trends,

challenges and issues including protecting existing natural resources, sustaining existing facilities, promoting healthy lifestyles, connecting people with nature and an increasing demand for a diverse range of recreation opportunities based upon population changes. While the Park District understands the importance of state trends, they are not necessarily representative of the metro area.

As part of the SCORP, the MnDNR completed a *2004 Outdoor Recreation Participation Survey of Minnesotans*. Activity rates for trail based participation were included in this projection. Table 1 below shows participation projections for trail based recreation activities. Walking and running are the only trail activities that are projected to increase in participants and participation hours. The number of annual participants in bicycling, in-line skating and cross-country skiing are expected to decrease by 30 to 44 percent. Snowmobiling is expected to remain nearly static with a participation decrease of about four percent.

**Table 1**

Statewide Population Trends for Trail Based Activities

Trail Activity	Percent of Population Participation Annually			Number of Annual Participants (in thousands)			Number of Annual Hours of Participation (in thousands)	
	2004	2014	% Change	2004	2014	% Change	2004	2014
Walking/Hiking	54.0	54.4	0	1,896	2,181	15.0	129,665	140,079
Bicycling	29.0	17.8	-38.5	1,011	715	-29.3	31,890	22,552
Running/Jogging	14.2	15.2	6.8	5	610	22.8	24,332	29,870
In-line Skating	11.3	6.2	-44.8	394	250	-36.5	11,384	7,229
Snowmobiling	9.8	8.2	-16.8	342	327	-4.3	10,260	9,817
Cross-Country Skiing	6.5	3.2	-51.4	227	127	-44.1	3,669	2,051

Source: Minnesota Department of Natural Resources

Table 2 on the following page shows the trail activities in ranked order based upon their share of total trail activity hours. Walking is by far the most popular activity, accounting for over two-thirds of all participation hours. Bicycling is currently the second most popular activity, accounting for 15 percent of all participation hours, though it is expected to decrease to 10 percent of all participation hours by 2014. Running/jogging is expected to surpass bicycling in participation hours over the next 10 years. In-line skating and snowmobiling each account for about five percent of participation hours.



**Table 2**

Statewide Trail Activities Ranked by Hours of Participation

Trail Activity	Annual Hours of Participation			
	2004	% of Combined Hours	2014	% of Combined Hours
Walking/Hiking	129,655	61	149,079	68
Bicycling	31,890	15	22,552	10
Running/Jogging	24,332	12	29,870	14
In-line Skating	11,384	5	7,229	3
Snowmobiling	10,260	5	9,817	4
Cross-Country Skiing	3,669	2	2,052	1
Total	21,189	100	220,598	100

Source: Minnesota Department of Natural Resources

### Regional Trends

Use of the Park District regional trails has steadily increased over the last 10 years and is expected to continue to increase. There were 706,200 visits to the five regional trails open in 1999. By 2004, visits to those same trails had increased by 41 percent, to 993,000. For the entire Park District network of regional trails, the Metropolitan Council estimates that in 2009 there were over 2,700,000 visits.

In the long term, regional trail visitation is expected to continue increasing in the developing areas at a rate equal or greater than the increase in population of these areas. Within fully developed areas where the population levels are expected to remain relatively stable, trail visitation levels will reflect shifting demographics of those areas. Two demographic shifts of special note are described in the following pages.



## **Aging “Baby Boomer” Generation**

The baby-boom generation is one of the Park District’s primary user groups. The United States Census Bureau considers a baby boomer to be someone born during the demographic birth boom between 1946 and 1964 following World War II. For this group, their recreational preferences and habits are very well established and the demand for these activities will continue to be strong. However, as this group ages, physical limitations will require some park and trail visitors to change their recreational activities from higher intensity activities such as running, in-line skating and biking to lower-impact recreational activities such as walking, nature observation and educational opportunities.

While park and trail facilities are ADA (Americans with Disabilities Act) compliant, in the future, the Park District may decide to adopt more stringent standards to remove potential physical barriers to the aging population. Programs such as the Park District’s “Trails at Your Pace” will become more prevalent. As this generation ages, trail use will initially decrease and then increase when the housing stock turns over to younger families with larger households.



## **Immigrant Groups**

Metropolitan Council demographers have revealed that about half of the total increase in population for the region from 1990 to 2000 was due to immigration of first-generation United States citizens and the births of their children. This trend was expected to continue at least through 2010. Within the region, there are three prevalent immigrant groups: Hmong/ Southeast Asians, Hispanic/Latino and Somali/West Africans.

Metropolitan Council research has indicated that these visitor groups share a common approach to park and trail visitation. Specifically, immigrants often visit parks and trails in very large groups (20 or more

visitors) of extended families and friends that cross all age classes. They prefer clustered picnic tables with adjacent play fields for pick-up games, shaded areas with seating for older members of their group and access to water for shore fishing.

## Existing Three Rivers Park District User Data

The Park District maintains an active Research and Evaluations Program that periodically interviews park and trail visitors to identify issues and gather suggestions for improvements. Information is gathered through on-site interviews and mail-back surveys. The following tables summarize the most recent data for the following categories:

- Household Descriptions
- Age
- Household Income
- Education Attainment
- Gender
- Race

The Twin Lakes Regional Trail provides opportunity for the Park District to provide recreational facilities and amenities to a broad user group, as the regional trail is located in first tier, fully developed, diverse communities.



A trail user walking along Shingle Creek Regional Trail in Brooklyn Center.



**Table 3**

Household Description

Regional Trail	Number of Respondents	Estimated Percent of Visitors					
		Live with Parents	Single, No Other Family at Home	Married / Partnered & Children at Home	Married/ Partnered & No Children at Home	Single Parent with Children at Home	Other
Bassett Creek	23	<1	21	31	43	<1	6
Cedar Lake	193	<1	25	38	27	9	<1
Dakota Rail	177	1	15	40	41	2	<1
Lake Minnetonka LRT	146	<1	13	32	53	2	<1
Luce Line	149	2	14	35	44	3	2
Medicine Lake	150	6	11	38	42	<1	2
MN River Bluffs LRT	155	2	14	44	39	<1	1
North Cedar Lake	203	1	24	26	45	2	1
Rush Creek	91	6	15	34	41	2	2
Shingle Creek	17	6	6	38	43	<1	7
<b>All Regional Trails</b>	<b>1,304</b>	<b>2</b>	<b>17</b>	<b>36</b>	<b>41</b>	<b>3</b>	<b>1</b>
<b>All Park Visitors</b>	<b>2,879</b>	<b>4</b>	<b>11</b>	<b>53</b>	<b>24</b>	<b>5</b>	<b>4</b>

Source: Three Rivers Park District

**Table 4**

Age of Those Visiting the Park District's Regional Trails (Shaded cells denote median age range.)

Regional Trail	Number of Respondents	Estimated Percent of Visitors										
		<3	3-4	5-9	10-12	13-17	18-24	25-34	35-44	45-59	60-74	75+
Bassett Creek	24	<1	6	2	<1	<1	2	10	19	26	34	<1
Cedar Lake	215	3	<1	3	2	<1	3	23	19	37	10	1
Dakota Rail	176	2	1	3	3	3	1	6	14	46	19	<1
Lake Minnetonka LRT	178	2	1	2	<1	1	3	5	14	52	20	1
Luce Line	159	7	<1	<1	<1	4	1	15	13	47	9	3
Medicine Lake	161	1	<1	5	2	3	5	14	12	39	17	2
MN River Bluffs LRT	176	<1	3	2	2	4	3	8	22	45	11	<1
North Cedar Lake	226	2	<1	3	1	2	6	16	18	34	17	2
Rush Creek	96	2	2	8	2	1	6	11	16	38	14	<1
Shingle Creek	23	2	<1	5	3	3	4	16	<1	50	17	<1
<b>All Regional Trail Visitors</b>	<b>1,434</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>13</b>	<b>16</b>	<b>41</b>	<b>15</b>	<b>1</b>
<b>All Park Visitors</b>	<b>6,937</b>	<b>5</b>	<b>5</b>	<b>15</b>	<b>7</b>	<b>5</b>	<b>6</b>	<b>14</b>	<b>17</b>	<b>16</b>	<b>8</b>	<b>1</b>

Source: Three Rivers Park District

**Table 5**

Annual Household Income of Those Visiting the Park District's Regional Trails  
(Shaded cells denote median annual income.)

Regional Trail	Number of Respondents	Estimated Percent of Visitors					
		Less than \$25,000	\$25,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 - \$149,999	\$150,000 or more
Bassett Creek	20	4	14	33	16	21	12
Cedar Lake	182	8	12	23	19	24	15
Dakota Rail	161	3	13	10	20	21	32
Lake Minnetonka LRT	128	4	11	15	13	27	30
Luce Line	137	1	12	17	13	27	29
Medicine Lake	134	2	10	18	18	21	31
MN River Bluffs LRT	145	1	3	18	18	25	35
North Cedar Lake	183	7	11	19	22	22	19
Rush Creek	83	2	14	25	18	23	17
Shingle Creek	17	3	12	19	24	36	6
<b>All Regional Trails</b>	<b>1,190</b>	<b>4</b>	<b>11</b>	<b>19</b>	<b>18</b>	<b>24</b>	<b>24</b>
<b>All Park Visitors</b>	<b>4,361</b>	<b>5</b>	<b>16</b>	<b>19</b>	<b>22</b>	<b>22</b>	<b>16</b>

Source: Three Rivers Park District

**Table 6**

Highest Level of Education Completed (Row totals may not equal 100 due to rounding.)

Regional Trail	Number of Respondents	Estimated Percent of Visitors Age 12 or Older						
		Less than 9 <sup>th</sup> Grade	9 <sup>th</sup> - 12 <sup>th</sup> Grade but did not Graduate	High School Graduate	Some College, No Degree	Associate (two-year) Degree	Bachelor's Degree	Graduate or Professional Degree
Bassett Creek	23	<1	<1	<1	21	5	48	26
Cedar Lake	190	<1	<1	2	9	8	49	32
Dakota Rail	177	<1	<1	3	11	16	42	29
Lake Minnetonka LRT	144	<1	<1	3	9	4	49	35
Luce Line	145	<1	2	2	14	6	44	31
Medicine Lake	148	<1	3	3	13	11	37	33
MN River Bluffs LRT	153	1	<1	<1	6	8	49	35
North Cedar Lake	200	<1	<1	5	14	5	41	36
Rush Creek	90	<1	<1	5	23	15	39	17
Shingle Creek	17	<1	<1	<1	16	25	27	32
<b>All Regional Trails</b>	<b>1,287</b>	<b>&lt;1</b>	<b>1</b>	<b>3</b>	<b>12</b>	<b>9</b>	<b>44</b>	<b>32</b>
<b>All Park Visitors</b>	<b>3,455</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>17</b>	<b>12</b>	<b>35</b>	<b>26</b>

Source: Three Rivers Park District

**Table 7**

Gender of Those Visiting the Park District's Regional Trails

Regional Trail	Number of Respondents	Estimated Percent of Visitors	
		Female	Male
Bassett Creek	24	61	39
Cedar Lake	217	32	68
Dakota Rail	180	49	51
Lake Minnetonka LRT	179	52	48
Luce Line	163	35	65
Medicine Lake	165	39	61
MN River Bluffs LRT	177	40	60
North Cedar Lake	226	32	68
Rush Creek	98	39	61
Shingle Creek	23	46	54
<b>All Regional Trail Visitors</b>	<b>1,452</b>	<b>40</b>	<b>60</b>
<b>All Park Visitors</b>	<b>7,071</b>	<b>49</b>	<b>51</b>

Source: Three Rivers Park District

**Table 8**

Race of Those Visiting the Park District's Regional Trails

Regional Trail	Number of Respondents	Estimated Percent of Visitors					
		African American / Black	American Indian or Alaska Native	Asian	Pacific Islander	White	Other
Bassett Creek	23	3	<1	<1	<1	97	<1
Cedar Lake	211	1	<1	2	1	92	3
Dakota Rail	175	<1	<1	<1	<1	99	1
Lake Minnetonka LRT	177	1	<1	<1	<1	95	4
Luce Line	155	<1	<1	<1	<1	94	6
Medicine Lake	160	<1	<1	1	<1	98	1
MN River Bluffs LRT	173	<1	<1	1	<1	97	2
North Cedar Lake	219	1	<1	1	<1	97	2
Rush Creek	95	<1	<1	<1	<1	98	2
Shingle Creek	23	9	<1	5	<1	86	<1
<b>All Regional Trails</b>	<b>1,411</b>	<b>1</b>	<b>&lt;1</b>	<b>1</b>	<b>&lt;1</b>	<b>96</b>	<b>2</b>
<b>All Park Visitors</b>	<b>7,032</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>&lt;1</b>	<b>89</b>	<b>3</b>

Source: Three Rivers Park District

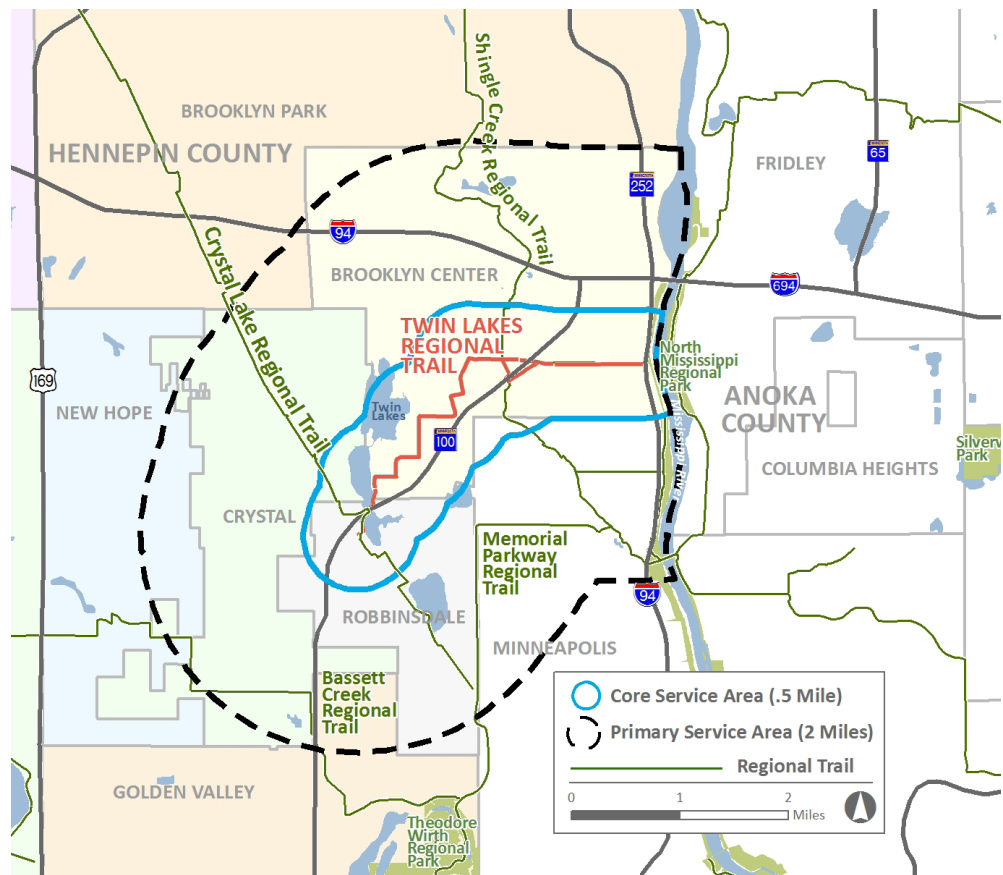
## Demographics

### Metropolitan Growth Projections

The Metropolitan Council is responsible for tracking and forecasting population growth within the seven-county Twin Cities Metropolitan Area. The Metropolitan Council estimates that as of 2009, there were 2.88 million people living within the seven-county area. The regional population is expected to increase to 3.61 million by 2030 - a 25 percent increase from 2009.

### Methodology

To analyze demographics specific to the Twin Lakes Regional Trail and project trail usage, the Park District utilizes a quantitative measuring methodology described in two categories: core service area (.5-mile radius) and primary service area (2-mile radius). This methodology provides the Park District with a greater level of detail regarding its projected regional trail users. The demographic data on the following pages is based on the primary service area. For the purpose of this master plan, physical barriers, such as the Mississippi River, which makes access to the regional trail difficult were taken into account.



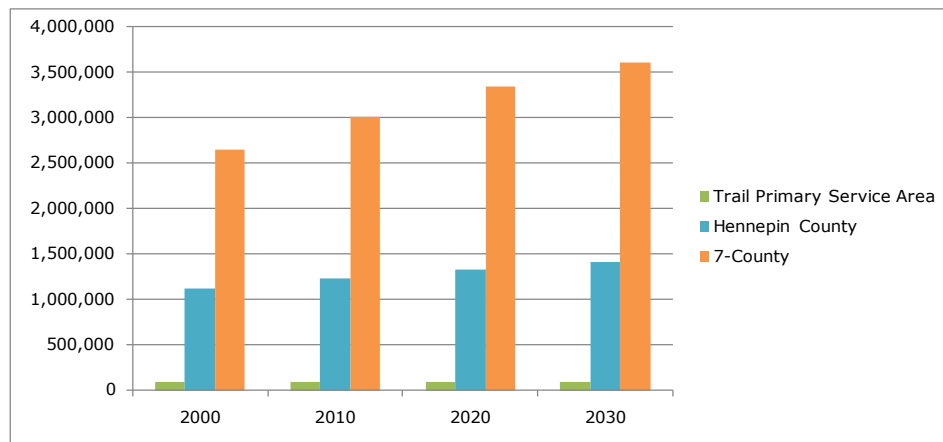
**Figure 9**

Trail Service Area Map



## Population and Number of Households

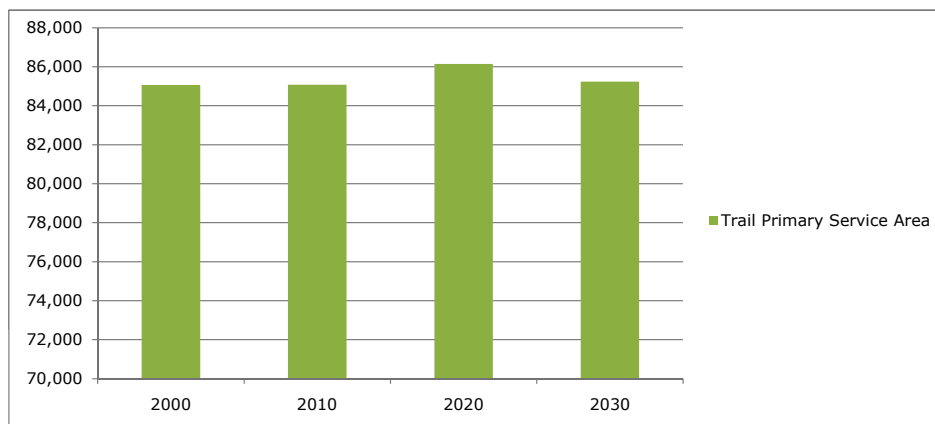
While Hennepin County and the seven-county metropolitan area show a relatively stable population growth through 2030, the population within the Twin Lakes Regional Trail primary service area shows a temporary population increase in 2020. Similar to Hennepin County and the seven-county metropolitan area, the number of households in the trail primary service area are projected to increase through 2030. The disproportionate relationship between population and number of households is reflective of modern demographic dynamics. Population numbers remain stable when there are more married couples without children, or waiting longer to start families, and/or an aging or empty nester contingent.



**Figure 10a**

Population Growth Comparison (2000-2030)

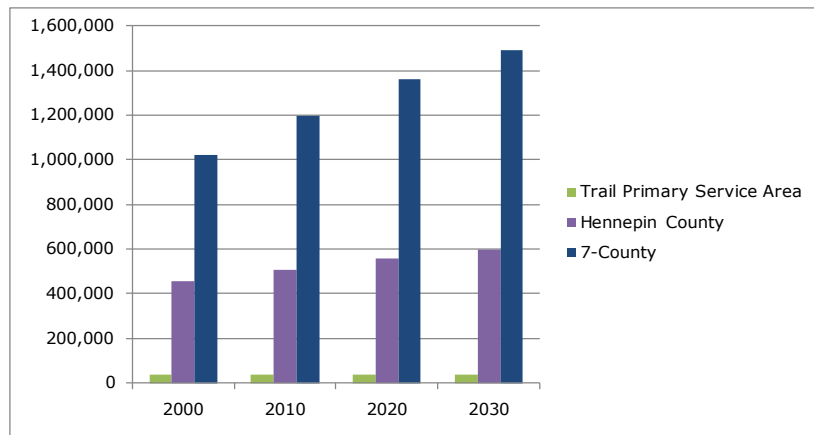
Source: Metropolitan Council/US Census Bureau



**Figure 10b**

Population Growth for Trail Service Area Only (2000-2030)

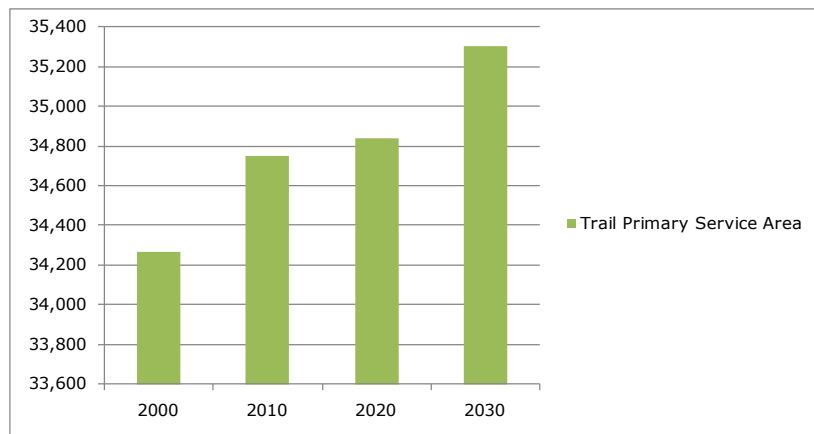
Source: Metropolitan Council/US Census Bureau



**Figure 11a**

Household Growth Comparison (2000-2030)

Source: Metropolitan Council/US Census Bureau



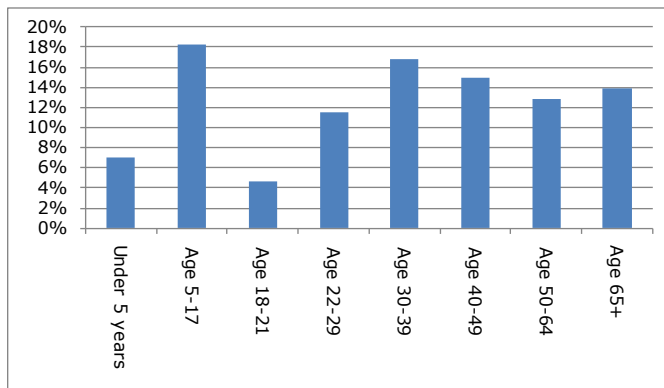
**Figure 11b**

Household Growth Trail Service Area Only (2000-2030)

Source: Metropolitan Council/US Census Bureau

## Age Distribution and Household Description

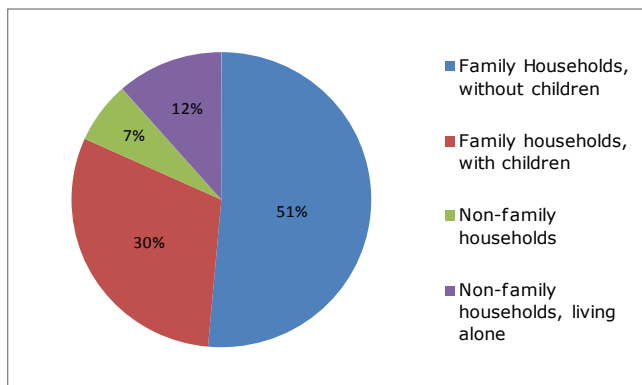
Most recent census data available (2000 Census) for the Twin Lakes Regional Trail primary service area indicates that demographic trends for the primary service area are consistent with the regional trends of an aging baby-boom generation, as indicated with the age distribution skewing towards the older age groups and the high percentage of family households without children. The primary service area also has a growing immigrant population consistent with regional trends.



**Figure 12**

Age Distribution (Primary Service Area/2000 Census)

Source: Metropolitan Council/US Census Bureau



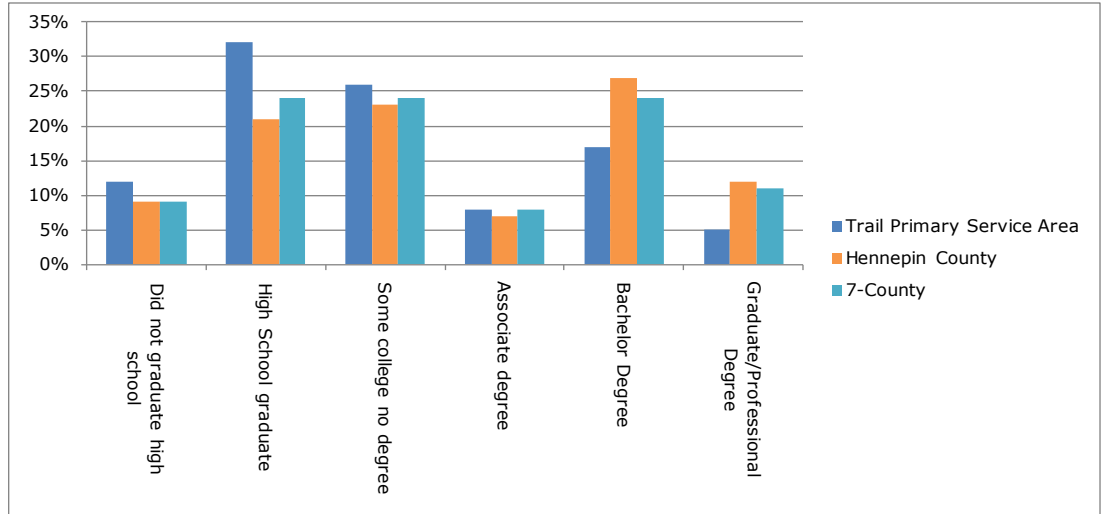
**Figure 13**

Household Description (Primary Service Area/2000 Census)

Source: Metropolitan Council/US Census Bureau

### Education Attainment and Household Income

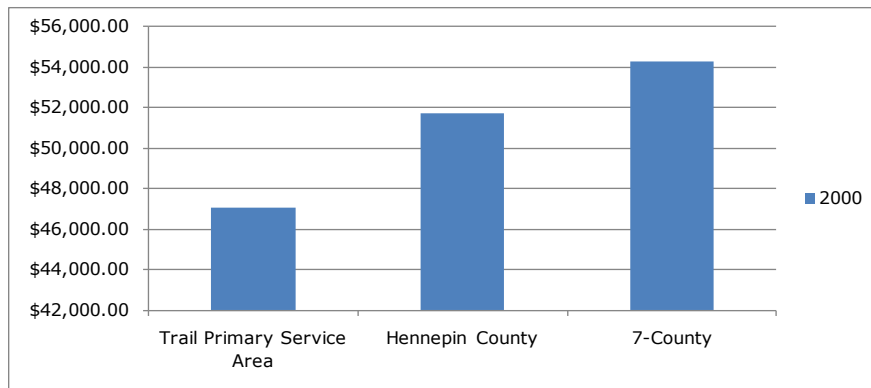
The most recent census data available (2000 Census) indicates that trail primary service area residents have higher graduation rates but lower college level education completion than Hennepin County and the seven-county metropolitan area, which correlates to the lower median incomes data for the trail primary service area.



**Figure 14**

Education Attainment Comparison (2000 Census)

Source: Metropolitan Council/US Census Bureau



**Figure 15**

Household Income Comparison (2000 Census)

Source: Metropolitan Council/US Census Bureau



Based upon regional trends, the demographic data for the Twin Lakes Regional Trail primary service area indicates decreased trail usage over time. However, Twin Lakes Regional Trail is expected to be a unique regional trail type within the Park District, as it will be located in a fully built-out, urban community. While the demographics make-up of the primary service area indicates a decrease of trail use over time, increases in community costs and desire to utilize more alternative transportation methods may make up or exceed the anticipated decline in trail use.

## Projected Trail Use

Activity use of the Twin Lakes Regional Trail is expected to provide walking, dog walking, running/jogging, bicycling and in-line skating opportunities during the non-winter months. The Park District's seasonal-use data of existing regional trails indicates that significant use of the trail will occur in the spring, summer and fall seasons. Winter use of the Twin Lakes Regional Trail is dependent on weather conditions and independent use agreements reached with local communities to maintain and operate the trail during the winter season (defined as November 15 to March 31).

When fully constructed, the Twin Lakes Regional Trail is projected to generate 125,000 annual visits. The regional trail is anticipated to be primarily used by local residents for recreation and access to the Brookdale retail outlets, Transit Center, Hennepin County Brookdale Library, residential areas, and other regional trails. Studies performed by the Metropolitan Council indicate that regional trails with this type of use have typically seen a strong correlation between trail visits and the population of communities that these trails pass through. Because of similar community demographics, the Bruce Vento Regional Trail located in St. Paul and Maplewood was used to assist in estimating Twin Lakes Regional Trail use. The detailed calculations are shown below.

### Bruce Vento Regional Trail Estimates

- Population within 0.5 Miles: 29,287 (every person makes an average of 7.00 annual visits)
- Population within 2.0 Miles: 137,720 (every person makes an average of 1.49 annual visits)
- Estimated Annual Visits: 205,000

### Twin Lakes Regional Trail Estimates

- Population within 0.5 Miles: 15,168 ( $15,168 \times 7.00 = 106,176$  annual visits)
- Population within 2.0 Miles: 97,143 ( $97,143 \times 1.49 = 144,743$  annual visits)
- Estimated Annual Visits: 125,460  
( $(106,176 \text{ visits} + 144,743 \text{ visits})/2$ )

**Table 9**

Twin Lakes Regional Trail  
Expected Use Distribution by Activity

Trail Activity	% of Expected Use
Walking/Hiking	30
Bicycling	60
Running/Jogging	8
In-line Skating	2
Other	<1

Source: Three Rivers Park District

**Table 10**

Average Seasonal Use Distribution on  
Three Rivers Park District Regional  
Trails

Quarter	Percent of Total Trail Visitation
December - February	8%
March - May	24%
June - August	42%
September - November	26%

Source: Three Rivers Park District

**Table 11**

Primary Activity of Those Visiting the Park District's Regional Trails

Regional Trail	Number of Respondents	Estimated Percent of Visitors				
		Biking	Walking	Running	Skating / Skiing	Other
Bassett Creek	872	46	37	14	2	1
Cedar Lake	12,664	90	3	3	4	<1
Dakota Rail	6,300	87	8	2	3	<1
Lake Independence	560	69	18	11	2	<1
Lake Minnetonka LRT	5,959	78	14	8	<1	<1
Luce Line	4,810	81	12	5	2	<1
Medicine Lake	4,785	65	22	11	2	<1
MN River Bluffs LRT	3,979	81	9	10	<1	<1
North Cedar Lake	7,622	83	9	4	4	<1
Rush Creek	5,721	79	9	5	6	1
Northeast Diagonal	490	66	19	10	5	<1
Shingle Creek	1,283	64	26	6	3	1
<b>All Park Visitors</b>	<b>55,045</b>	<b>79</b>	<b>12</b>	<b>6</b>	<b>3</b>	<b>&lt;1</b>
<b>TWIN LAKES RT - Projection</b>		<b>60</b>	<b>30</b>	<b>8</b>	<b>2</b>	<b>&lt;1</b>

Source: Three Rivers Park District

**Table 12**

Response to survey question, "Is your primary use of this trail today for: recreation/exercise, commuting to work, access to commercial/retail areas, or access to family/friends home?"

Regional Trail	Number of Respondents	Estimated Percent of Visitors			
		Recreation/Exercise	Commuting To Work	Access to Commercial/Retail Areas	Access to Family/Friends Home
Bassett Creek	24	97	3	<1	<1
Cedar Lake	206	78	17	4	1
Dakota Rail	178	95	3	2	<1
Lake Minnetonka LRT	178	97	2	1	<1
Luce Line	163	73	10	17	<1
Medicine Lake	163	92	8	<1	<1
MN River Bluffs LRT	178	88	11	<1	<1
North Cedar Lake	223	81	10	7	2
Rush Creek	97	96	2	1	<1
Shingle Creek	23	>99	<1	<1	<1
<b>All Regional Trails</b>	<b>1,433</b>	<b>88</b>	<b>9</b>	<b>3</b>	<b>&lt;1</b>

Source: Three Rivers Park District

## Special Needs

The Park District is committed to providing access and recreational opportunities to all people, including persons with disabilities, minorities and other special-population groups. The Park District meets this commitment through appropriate facility design and programming considerations, and by actively addressing potential barriers to participation.

All Park District facilities described in the master plan will be developed in accordance with ADA standards and guidelines. More specifically, the Twin Lakes Regional Trail will adhere to the *Minnesota Bikeway Facility Design Manual* (Mn/DOT 2007); *Trail Planning, Design and Development Guidelines* (MnDNR 2007); *Designing Sidewalks and Trails for Access, Part I and II: Best Practices Design Guide* (FHWA); *ADA Accessibility Guidelines for Outdoor Developed Areas* (United States Access Board); and *ADA and ABA Accessibility Guidelines for Buildings and Facilities* (United States Access Board) unless more current guidelines and standards exist at the time of development.

All unconstructed segments, and those associated with regional trail reconstruction, associated trailheads and trail amenities such as rest stops, parking, rest rooms and water access will be designed to accommodate individuals with disabilities. In addition, the 10-foot-wide paved trail will safely accommodate two-way directional traffic and incorporate periodic

rest stops to provide users an opportunity to rest, overlook the natural environment, and to comfortably interact with other trail users.

Compliance with ADA standards is an important goal of the trail design. The routing of the trail within existing street right-of-way makes it a challenge in certain areas to be fully compliant with ADA standards. The Park District and local municipalities have made every attempt to identify a trail route that minimizes these occurrences. Parking will be provided at existing local parks, shopping centers, on-street and regional parks on, and along, the trail. Regional parks will act as trailheads for the proposed trail as well as other identified key orientation points.

Crossing major roadways is necessary because of the unique urban character of the trail. The Park District will investigate opportunities to modify or add traffic signal timing, crosswalks and signage to insure the trail is a safe, family-oriented facility. The trail has been designed to provide access to important local community destinations such as parks, commercial areas, community facilities, cultural destinations and transit facilities. The regional trail passes through a variety of neighborhoods with varying demographics, providing access to people with a wide range of social and cultural backgrounds.

On a broader scale, the Twin Lakes Regional Trail provides direct access to the metropolitan regional trail system for an area currently under served by regional trails (Metropolitan Council's 2030 Regional Parks Policy Plan). Communities adjacent to the trail will not only have access to the Twin Lakes Regional Trail, but also gain direct access to several existing regional parks and existing and planned regional trails. Neighborhood trail and sidewalk connections are anticipated at regular intervals as the trail develops to further increase trail access to the neighboring communities.

The Park District has several programs designed to assist in obtaining access for persons for whom cost could be a barrier to participation. The "Parks for All People" program is designed to provide free passes for swimming and cross-country skiing to qualified recipients of Hennepin County economic assistance programs. Discounted camping, equipment rental, and educational programs are available. The Park District does not charge entrance fees to its regional parks, park reserves or regional trails.

The Park District pursues promotional outreach activities, and works with special-interest organizations such as the Courage Center and Wilderness Inquiry to further encourage participation in activities and use of park facilities. If arrangements are made in advance, interpreters and alternative forms of printed material are available at programmed events.



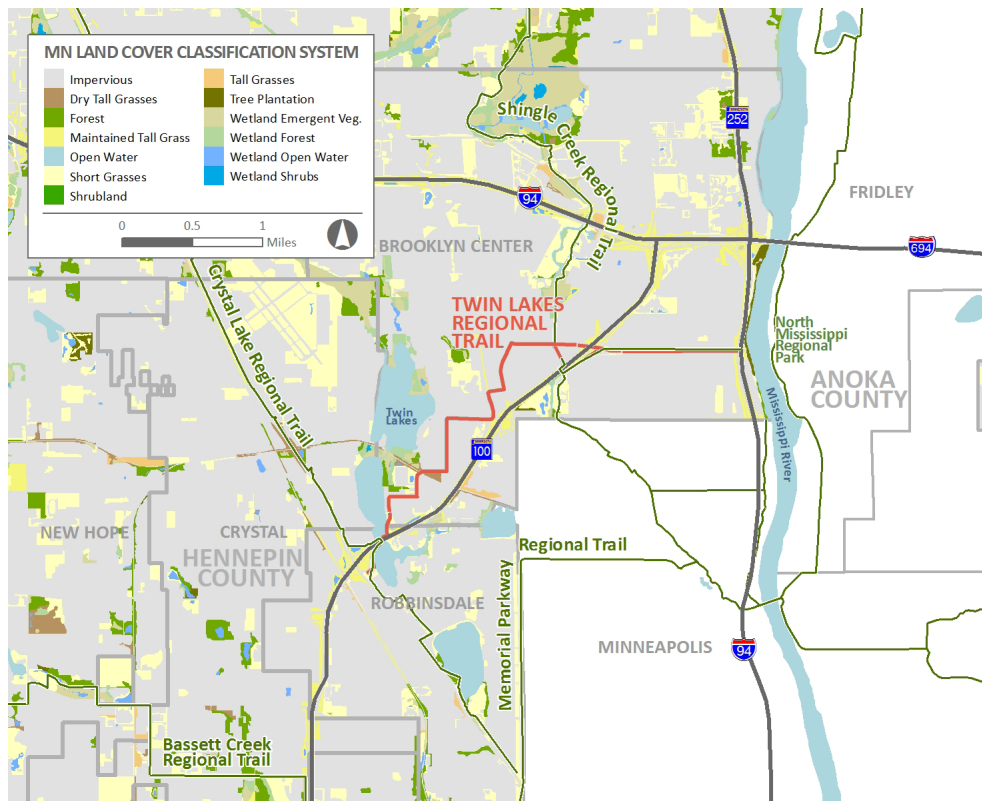
# Resource Assessment & Management

The Park District has a district-wide ecological stewardship and natural resource management program that focuses on natural resource preservation and restoration. Each park and trail undergoes a natural resources assessment and has a specific preservation and restoration plan developed to meet existing conditions and Park District goals. Similarly, cultural resources throughout the Park District are actively managed to ensure that all applicable regulatory requirements are met, and established best practices are adhered to. District-wide cultural resource management policies and procedures are established in the agency's Cultural Resource Management Plan (CRMP).

## Natural Resource Inventory

### Minnesota Land Cover Classes System (MLCCS)

The trail project area is a predominantly urban developed area with small remnants of forest and wetland cover at the fringes of the Twin Lakes and Shingle Creek.



**Figure 16**

Minnesota Land Cover Classification System Map

## Topography

The topography of the Twin Lakes Regional Trail alignment is generally flat with several lake basins. The landscape undulates mildly in areas close to the incised Shingle Creek.

## Rare, Endangered & Threatened Species Inventory

The Minnesota County Biological Survey (MCBS) has been completed for Hennepin County. The MCBS collects data on observations (element occurrences) of rare species, animal aggregation areas (mussel beds, colonial waterbird nesting areas), high quality plant communities, and unique geologic features. Element occurrences that have been documented by the MCBS within one mile of the Twin Lakes Regional Trail are summarized in Table 13 below. With the exception of the bald eagle, all element occurrences documented by the MCBS are distant from the trail alignment and will not be impacted. The nesting location of the bald eagle changes over time. Seasonal work windows may be imposed if bald eagle nesting occurs in close proximity to the trail during construction.

**Table 13**

Rare, Endangered and Threatened Species Occurrences Documented Near the Twin Lakes Regional Trail

Common Name	Unique ID	Scientific Name	Last Observed	Notes
Water willow	37127	Decodon verticillatus (plant)	1953	Special Concern Species. Observed in a lake approximately ¾ mile west of the proposed Twin Lakes Regional Trail.
	37128		1948	Observed in a small lake ¾ mile east of the Twin Lakes Regional Trail.
Least darter	39229	Etheostoma microperca (fish)	1939	Special Concern Species. Observed in a small lake approximately ¾ mile east of the proposed Twin Lakes Regional Trail.
--	44836	--	1991	Colonial waterbird nesting area (Great Blue Heron). Observed approximately 1 mile from the proposed Twin Lake Regional Trail.
Black Sandshell	63105	Ligumia recta (mussel)	2007	Special Concern Species. Mississippi River.
Bald Eagle	78144	Haliaeetus	2005	Special Concern Species. Observed nesting in lake approximately ½ mile west of the proposed Twin Lakes Regional Trail.
Fawnsfoot	110167	Trucilla donaciformis (mussel)	2007	Not listed. Observed in Mississippi River approximately ¾ mile from the proposed Twin Lakes Regional Trail.

Source: Minnesota County Biological Survey

## Native Plant Communities Inventory

The only native plant community that the MCBS has inventoried within a one mile buffer of the regional trail is high quality Floodplain Forest on an island on the Mississippi River, approximately one mile from the proposed alignment.

## Vegetation

Current vegetation in the Twin Lakes Regional Trail corridor is dominated by disturbance adapted plant communities typically found in post-agricultural, urbanizing, roadside areas. Disturbance-adapted herbaceous roadside plant communities typically are dominated by smooth brome, reed canary grass, Kentucky bluegrass, Canada goldenrod, and giant goldenrod. Disturbance-adapted forested plant communities are often dominated by box elder and green ash in the tree stratum, and prickly ash, European buckthorn and glossy buckthorn in the shrub stratum.



Regional trail vegetation on the east side of Twin Lakes depicting disturbance adapted plantings.

## Lakes, Wetlands & Streams

The Twin Lakes Regional Trail traverses adjacent Twin Lakes, a MnDNR Public Water. Twin Lakes are on the United States Environmental Protection Agency (USEPA) 303d List of Impaired Waters – the impairment being eutrophication and excessive nutrients.

The regional trail also crosses Shingle Creek (County Ditch 13), a MnDNR Public Water. Shingle Creek is on the USEPA 303d List of Impaired Waters – the impairment being low aquatic macro invertebrate diversity and low dissolved oxygen.



The National Wetland Inventory (NWI) has mapped wetlands in the vicinity of Shingle Creek and the associated floodplain. Wetland types mapped include seasonally flooded (diked or impounded) palustrine emergent wetlands (PEMCd) and seasonally flooded (diked or impounded) deciduous forested wetlands (PFO1Cd).



Shingle Creek Regional Trail and Parkway north of Bass Lake Road. Shingle Creek is located within wooded area adjacent to the regional trail.



Twin Lakes are on the United States Environmental Protection Agency 303d List of Impaired Waters - the impairment being eutrophication and excessive nutrients.



## Watershed

Most of the Twin Lakes Regional Trail corridor lies within the Watershed 07010206, within the jurisdiction of the Shingle Creek and West Mississippi Watershed Management Commissions.



**Figure 17**

Watershed Boundaries Map

Source: Shingle Creek and West Mississippi Watershed Management Commissions

## Ground Water

Organic soil deposits potentially present in the vicinity of Shingle Creek likely formed as a result of abundant groundwater input. Organic soils may be unstable for trail construction and might require removal and backfill with granular material. Given the relatively deep deposits of coarse mineral soils elsewhere in the Twin Lakes Regional Trail corridor, the apparent groundwater table is typically well below the soil surface. Scattered soils in the regional trail corridor with excessive fines may have a temporarily perched groundwater table near the soil surface for short periods. There are no calcareous fens, a rare groundwater fed wetland type, in the regional trail corridor.

## Soils

The Natural Resources Conservation Service (NRCS) has mapped the soils of Hennepin County. Table 14 summarizes soils mapped in the vicinity of the Twin Lakes Regional Trail.

**Table 14**

Summary of Mapped Soils Near the Twin Lakes Regional Trail

Map Unit Symbol	Map Unit Name	Likely Pre-Settlement Vegetation
U3B	Udorthents – cut and fill land, 0-2% slopes	Unknown. Soils associated with urbanized landscape.
U2A	Udorthents, wet substratum, 0-2% slopes	Unknown. Soils associated with urbanized landscape. Associated in part with Shingle Creek.
U1A	Urban land – Udorthents, wet substratum, complex, 0-2% slopes	Unknown. Soils associated with urbanized landscape. Associated in part with Shingle Creek.
U4A	Urban land – Udipsamments, cut and fill land, complex, 0-2% slopes	Sandy areas likely vegetated with dry sandy prairie in pre settlement times.
D34B	Urban land – Hubbard complex, 0-8% slopes	Relatively flat portions likely vegetated with dry sandy prairie, steeper ravines likely with dry shrubs such as eastern red-cedar encroaching.
D17A	Duelm loamy sand, 0-2% slopes	Likely vegetated in pre-settlement times with dry sandy prairie.
D31A	Urban land – Duelm complex, 0-2% slopes	Likely vegetated in pre-settlement times with dry sandy prairie.

Source: Natural Resources Conservation Service

## Natural Resource Management

### Vegetation Management

For ease of maintenance, most of the typical sections of the Twin Lakes Regional Trail will be buffered with mowed turf grass interspersed with planted or naturally growing trees. Turf grass buffers will be mowed regularly and sprayed for fertilization and weed control as necessary. Newly planted trees along the trail would be spaced such that they buffer the surrounding built environment or provide vistas where desirable. Trees, naturally growing or planted, will be maintained to grow into an urban woodland with a canopy over arching the regional trail. Diseased or disease-prone trees will be removed and replaced with healthy disease resistant species. Overhanging branches that pose a safety hazard to trail users or compromise the health of the tree will be removed. Trees that are invasive or have shallow root systems that have a tendency to crack pavement and create a safety problem for trail users will be evaluated and removed if necessary.

Considerable maintenance will be required initially in order to keep invasive species in check in restoration areas or otherwise requested by host communities for regional trail only or as directed by local community agreements. Typical invasive species in upland areas in the north Metro area are leafy spurge (*Euphorbia esula*), Canada thistle (*Cirsium arvense*), European buckthorn (*Rhamnus cathartica*), and glossy buckthorn (*Rhamnus frangula*). Common invasives in wet areas are reed canary grass (*Phalaris arundinacea*), purple loosestrife (*Lythrum salicaria*), and narrow-leaved cattail (*Typha angustifolia*). Appropriate management techniques depend on the vegetation type and surroundings. Spot spraying with herbicides may be appropriate in certain instances. Hand weeding, which could involve the use of supervised volunteer groups, may also be an option. After several years of intensive management, restoration areas will be less prone to invasive species establishment.

### **Wildlife Management**

A typical assemblage of wildlife adapted to urbanized conditions is expected throughout the regional trail corridor. Common mammals include grey squirrel, red squirrel, raccoon, skunk, white-tailed deer, coyote, red fox, and potentially grey fox in more wooded areas. Common bird species that thrive in urbanized conditions include brown-headed cowbird, English sparrow, grackle, blue jay, cardinal, robin, and crow. Common raptors in an urbanized or partially agricultural setting include red-tailed hawk and Cooper's hawk. Wildlife management is not anticipated along the trail corridor.

### **Water Resource Management**

Best management practices will be followed during regional trail construction and maintenance activities including erosion control measures and vegetation establishment as required. Since the Twin Lakes Regional Trail passes through a fully developed area, storm sewer and ponds owned by the host cities, Hennepin County, and Mn/DOT will primarily serve to take surface water run-off. On a localized basis where space permits, permanent vegetated buffers may be employed adjacent to the regional trail surface to minimize surface water run-off from the trail itself. Regional trail construction will comply with the Park District's non-degradation policy.

## **Cultural Resources Inventory**

### **Inventory Search**

The Minnesota State Historic Preservation Office (SHPO) conducted a Minnesota Archeological Inventory and Historic Structures Inventory search for the township/range/sections traversed by the Twin Lakes Regional Trail alignment (inventory search area). The SHPO database contains previously recorded archeological and historic architectural properties.

### **Archeology**

No archeological sites were previously identified in the inventory search area.

### **Architectural History**

Over 500 previously recorded architectural history properties were found in the inventory search area. Most were not identified as listed or eligible to be listed on the National Register of Historic Places (NRHP). Of the 17 NRHP-listed or NRHP-eligible properties in the inventory search area, six were more than one block away from the regional trail alignment. Three railroad bridges within a block of the regional trail alignment were recorded as NRHP-eligible, but are indicated as having been razed. The following properties are recorded as NRHP-eligible and are located in a small area approximately one block south of the southern terminus of the proposed trail alignment, south of TH 100 and west of Bottineau Boulevard:

- House - 4318 W. Broadway, Minneapolis, MN
- House - 4351 W. Broadway, Minneapolis, MN
- House - 4350 W. Broadway, Minneapolis, MN
- House - 4345 W. Broadway, Minneapolis, MN
- House - 4339 W. Broadway, Minneapolis, MN
- House - 4337 W. Broadway, Minneapolis, MN
- House - 4331 W. Broadway, Minneapolis, MN
- Robbinsdale Historic District at W. Broadway and Lakeland Avenue, Minneapolis, MN

The distance and separation from the regional trail alignment suggests that impacts to these properties are unlikely.

## **Future Investigation**

The SHPO advises that, because the majority of archaeological sites in the state and many historic architectural properties have not been recorded, important sites or structures may exist within the search area and may be affected by development projects within that area. The SHPO further advises that additional research, including field survey, may be necessary to adequately assess the area's potential to contain historic properties.

If the regional trail receives federal funding, it will be subject to review under Section 106 of the National Historic Preservation Act of 1966 (as amended). Section 106 review would determine the need for additional survey as well as make a determination as to effect of the regional trail construction on any identified NHRP-eligible resources.

## **Cultural Resources Management**

### **Policies and Actions**

Cultural resources are managed by the Park District in accordance with the policies and procedures set forth by the agency's Cultural Resources Management Plan (CRMP). For all new development pertaining to the Twin Lakes Regional Trail, the design-development phase of construction will include cultural resource evaluation as outlined in the CRMP. Unanticipated discoveries uncovered during regional trail construction will likewise be managed in accordance with established procedures. Public education and access to cultural resources may be provided where appropriate.

### **Cultural Resource Research Needs**

Per the recommendation of the SHPO, additional research will be conducted during the design-development phase to ensure that potential cultural resources, which have not been previously identified, are not adversely impacted. All cultural resources identified within the Area of Potential Effect (APE) will be incorporated into the Park District's Cultural Resources GIS Database for future reference. Resources within or adjacent to the Twin Lakes Regional Trail corridor that exhibit a high interpretive potential will be further evaluated for public program development opportunities.



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# Development Concept

Currently, first tier suburban residents have limited access to regional trail systems. Specifically, the fully-developed Cities of Brooklyn Center and Robbinsdale along the Twin Lakes Regional Trail have few opportunities to significantly expand their trail system in the future. The Twin Lakes Regional Trail provides communities direct access to a regional park and trail system with connections to the Mississippi River and greater Metro region.



An existing segment of the Twin Lakes Regional Trail near lower Twin Lake, built as part of Mn/DOT's TH 100 reconstruction in 2003.

## Existing Conditions Assessment

Constructed and unconstructed segments of the regional trail primarily follow public streets where right-of-way width differs. Detailed right-of-way and property mapping will be developed in any subsequent acquisition and design phases. Field review of the existing bridges and pedestrian underpass crossings along the regional trail route revealed that they currently do not meet Park District regional trail design standards. The Park District will continue to explore opportunities to upgrade these features as opportunities arise in conjunction with appropriate jurisdictional agencies.

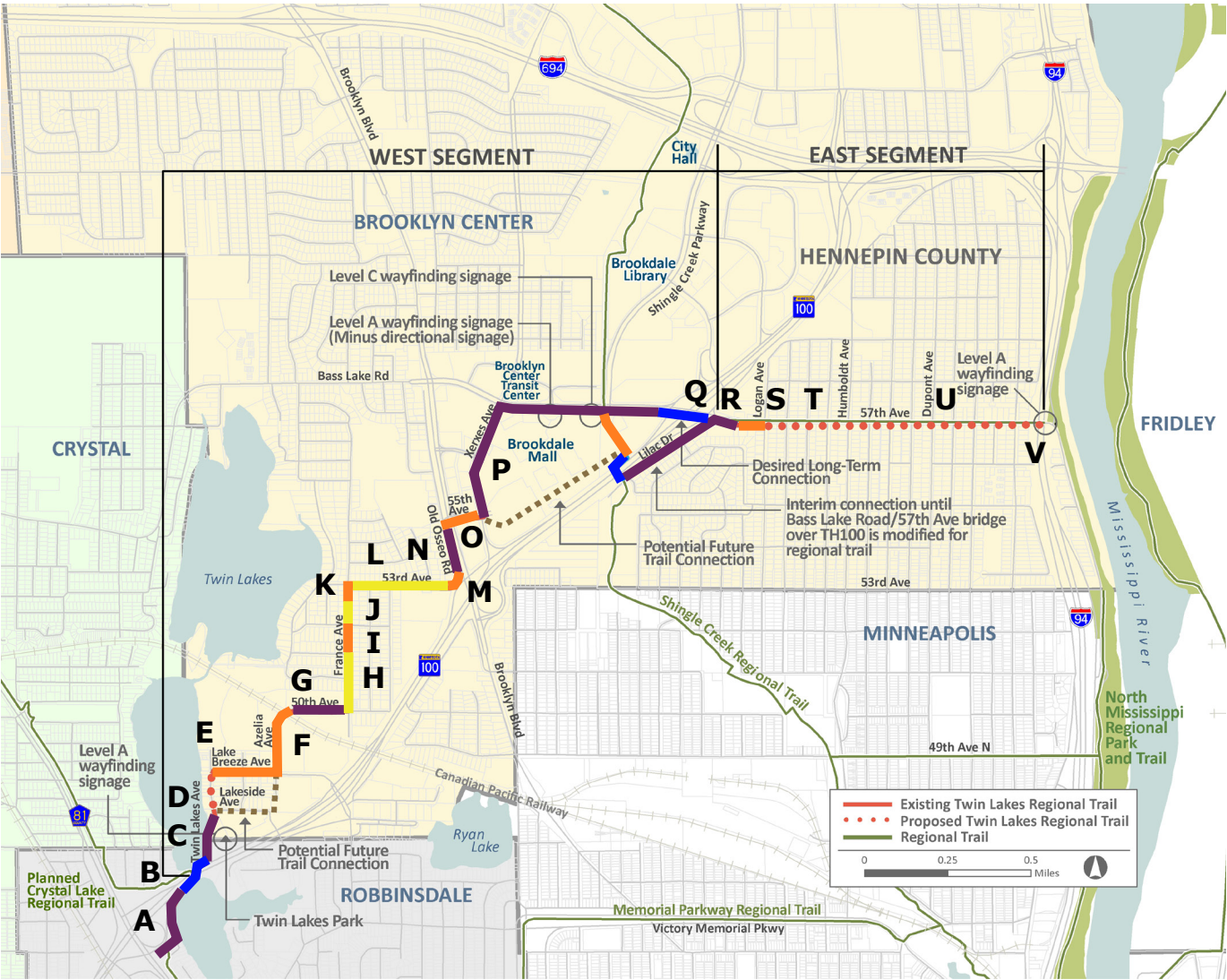
This master plan generally refers to the portion of the trail route originating at the interchange of TH 100/Bottineau Boulevard to the interchange of Bass Lake Road/TH 100 as the “West Segment.” The portion of the regional trail from TH 100 east to North Mississippi Regional Park is referred to as the “East Segment.”

In the West Segment, the regional trail route exists as a 10-foot-wide off-road bituminous trail in some locations and a concrete trail in others. Trail construction in the West Segment has recently been installed as part of local road improvement projects. Extensive field review has revealed that some segments meet the Park District’s design standards, while others do not. In light of their relatively recent construction, the Park District intends to utilize the existing trail as-is until local road reconstruction projects or adjacent redevelopment allow upgrade to these non-conforming regional trail segments.

Additionally, the circuitous nature of the regional trail route in the West Segment, as it alternates between east-west and north-south streets, creates tight turning radii at intersections and limited sight lines. Special provisions, such as signage informing users of the route ahead and other provisions, may be considered to improve trail visibility if deemed appropriate.

Field review of the Bass Lake Road/57th Avenue bridge over TH 100 revealed existing five-foot-wide sidewalks on each side of the bridge that do not meet Park District regional trail design standards. Field review of the 57th Avenue bridge over I-94 revealed existing eight-foot-wide sidewalks on each side of the bridge that do not meet Park District regional trail design standards.

In the East Segment, the existing 57th Avenue road configuration does not provide adequate space between the curb and right-of-way limit to construct the regional trail to Park District design standards. At the time of trail construction, the south curb line will need to be altered to create the necessary space to accommodate the regional trail. Several options have been explored and are detailed later in this section.



Legend

- Meets 2' Clear Zones
- Back of Curb Section (Restricted Width)
- Boulevard Section (Restricted Width)
- Overpass/Underpass (Restricted Width)

**Figure 18**  
Existing Regional Trail Conditions Assessment Map  
(Letter trail segment identifiers correspond with Table 15.)

**Table 15**

Existing Regional Trail Conditions Assessment (Continued on next pages)

Trail Segment Identifier	Trail Segment Description	Trail Segment Condition	Typical Clear Zone		Restricting Elements	Adjacent Street Conditions	Options to Bring Existing Regional Trail into Compliance with Minimum Park District Standards						
			Road Side	Parcel Side			Relocate Trail to Back of Curb	Relocate Utility Poles/Relocate Fencing	Narrow Road/Reconstruct Bridge	Obtain Easement	Combination (Easement/Road Narrowing)	Relocate Road Within ROW	
A	TH 100/ Bottineau Boulevard to Crystal Lake and Twin Lakes Regional Trail Split	10' Trail, Meets 2' Clear Zones	-	-	-	-	-	-	-	-	-	-	-
B	Crystal Lake and Twin Lakes Regional Trail Split through TH 100 underpass	<ul style="list-style-type: none"><li>10' Trail adjacent bridge (restricted width)</li><li>10.5' Trail through Underpass (Restricted Width and Restricted Vertical Clearance)</li></ul>	0'	0'	<ul style="list-style-type: none"><li>Bridge abutment and trail fencing</li><li>Tight radii approaching underpass</li><li>90 degree turning radii at underpass (sight lines)</li></ul>	-	X	X	-	-	-	-	-
C	TH 100 underpass through Twin Lake Park to Lakeside Avenue	<ul style="list-style-type: none"><li>10' Trail</li><li>Restricted width between bridge and lake</li><li>Meets 2' Clear Zones for remainder of segment with exception of one fencing pinch point</li></ul>	-	-	<ul style="list-style-type: none"><li>Bridge abutment and trail fencing</li><li>Fencing</li></ul>	-	X	-	-	-	-	-	-
D	Lakeside Avenue to Lake Breeze Avenue along Twin Lake Avenue	10' Trail Desired (Unconstructed)	3' Desired	3' Desired	<ul style="list-style-type: none"><li>Mail boxes</li><li>Off-street parking bay</li><li>Existing Trees</li></ul>	<ul style="list-style-type: none"><li>Two travel lanes</li><li>Seasonal on-street parking</li></ul>	n/a	n/a	n/a	n/a	n/a	n/a	n/a
E	Lake Breeze Avenue to Azelia Avenue	10' Trail at Back of Curb (Restricted Width)	0'	0'-2'+	<ul style="list-style-type: none"><li>Retaining Walls</li><li>Signage</li></ul>	<ul style="list-style-type: none"><li>Two travel lanes</li><li>Seasonal on-street parking</li></ul>	-	-	X	-	-	-	-
F	Azelia Avenue to 50 <sup>th</sup> Avenue	10' Trail at Back of Curb (Restricted Width)	0'	0'	<ul style="list-style-type: none"><li>Retaining Walls</li><li>Embankment</li></ul>	<ul style="list-style-type: none"><li>Three travel lanes</li><li>No parking</li></ul>	-	-	-	X	-	-	-
G	50 <sup>th</sup> Avenue from Azelia Avenue to France Avenue	10' Trail, Meets 2' Clear Zones with exception of one back of curb segment (Restricted Width)	0' - (min)	2' +	<ul style="list-style-type: none"><li>Embankment</li></ul>	<ul style="list-style-type: none"><li>Three travel lanes</li><li>No parking</li></ul>	<ul style="list-style-type: none"><li>-</li></ul>	-	-	X	-	-	-
H	France Avenue from 50 <sup>th</sup> Avenue to Oak Street	10' Trail with Boulevard Section (Restricted Width)	1.5'-5'	0'	<ul style="list-style-type: none"><li>Embankments</li><li>Signage</li></ul>	<ul style="list-style-type: none"><li>Two travel lanes</li><li>On-street parking</li></ul>	X	-	-	-	-	-	-



**Table 15 (continued)**

Existing Regional Trail Conditions Assessment

Trail Segment Identifier	Trail Segment Description	Trail Segment Condition	Typical Clear Zone		Restricting Elements	Adjacent Street Conditions	Options to Bring Existing Regional Trail into Compliance with Minimum Park District Standards					
			Road Side	Parcel Side			Relocate Trail to Back of Curb	Relocate Utility Poles/ Relocate Fencing	Narrow Road/ Reconstruct Bridge	Obtain Easement	Combination (Easement/Road Narrowing)	Relocate Road Within ROW
I	France Avenue from Oak Street to 52 <sup>nd</sup> Avenue	9' Trail at Back of Curb (Restricted Width)	2'	0'-1'	<ul style="list-style-type: none"> <li>• Embankments</li> <li>• Signage</li> <li>• Fencing</li> </ul>	<ul style="list-style-type: none"> <li>• Two travel lanes</li> <li>• On-street parking</li> </ul>	-	-	-	-	X	-
J	France Avenue from 52 <sup>nd</sup> Avenue to Midblock between 52 <sup>nd</sup> and 53 <sup>rd</sup> Avenues	10' Trail with Boulevard Section (Restricted Width)	1.5'-5'	0'	<ul style="list-style-type: none"> <li>• Embankments</li> <li>• Signage</li> </ul>	<ul style="list-style-type: none"> <li>• Two travel lanes</li> <li>• On-street parking</li> </ul>	X	-	-	-	-	-
K	France Avenue from Midblock between 52 <sup>nd</sup> and 53 <sup>rd</sup> Avenues to 53 <sup>rd</sup> Avenue	9' Trail at Back of Curb (Restricted Width)	2'	0'-1'	<ul style="list-style-type: none"> <li>• Embankments</li> <li>• Signage</li> <li>• Fencing</li> </ul>	<ul style="list-style-type: none"> <li>• Two travel lanes</li> <li>• On-street parking</li> </ul>	-	-	-	-	X	-
L	53 <sup>rd</sup> Avenue to Old Osseo Road (before curve)	10' Trail with Boulevard Section (Restricted Width)	1' – 2'	0'	<ul style="list-style-type: none"> <li>• Retaining wall</li> <li>• Utility Poles</li> </ul>	<ul style="list-style-type: none"> <li>• Two travel lanes</li> <li>• On-street parking</li> </ul>	-	-	-	X	-	-
M	Old Osseo Road Curve	10'-11' Trail at Back of Curb (Restricted Width)	0'	0'	<ul style="list-style-type: none"> <li>• Retaining wall</li> <li>• Utility manhole</li> </ul>	<ul style="list-style-type: none"> <li>• Two travel lanes</li> <li>• On-street parking</li> </ul>	X	-	-	-	-	-
N	Old Osseo Road (after curve) to 55 <sup>th</sup> Avenue	10' Trail, Meets 2' Clear Zones with exception of one segment next to fence (Restricted Width)	2' (min)	2' (min)	<ul style="list-style-type: none"> <li>• Fencing</li> </ul>	<ul style="list-style-type: none"> <li>• Two travel lanes</li> <li>• On-street parking</li> </ul>	-	X	-	-	-	-
O	55 <sup>th</sup> Avenue to Xerxes Avenue	10' Trail at Back of Curb (Restricted Width)	0'	0'-2' +	<ul style="list-style-type: none"> <li>• Retaining wall</li> <li>• Signage</li> <li>• Fire hydrant</li> </ul>	<ul style="list-style-type: none"> <li>• Four travel lanes</li> <li>• No parking</li> </ul>	-	-	-	X	-	-
P	Xerxes Avenue to Bass Lake Road to Bass Lake Road/57 <sup>th</sup> Avenue Bridge over TH 100 (along west and north edges of Brookdale Mall)	10' Trail, Meets 2' Clear Zones	4'-6'	2'	-	<ul style="list-style-type: none"> <li>• Parking lot travel lanes</li> </ul>	-	-	-	-	-	-

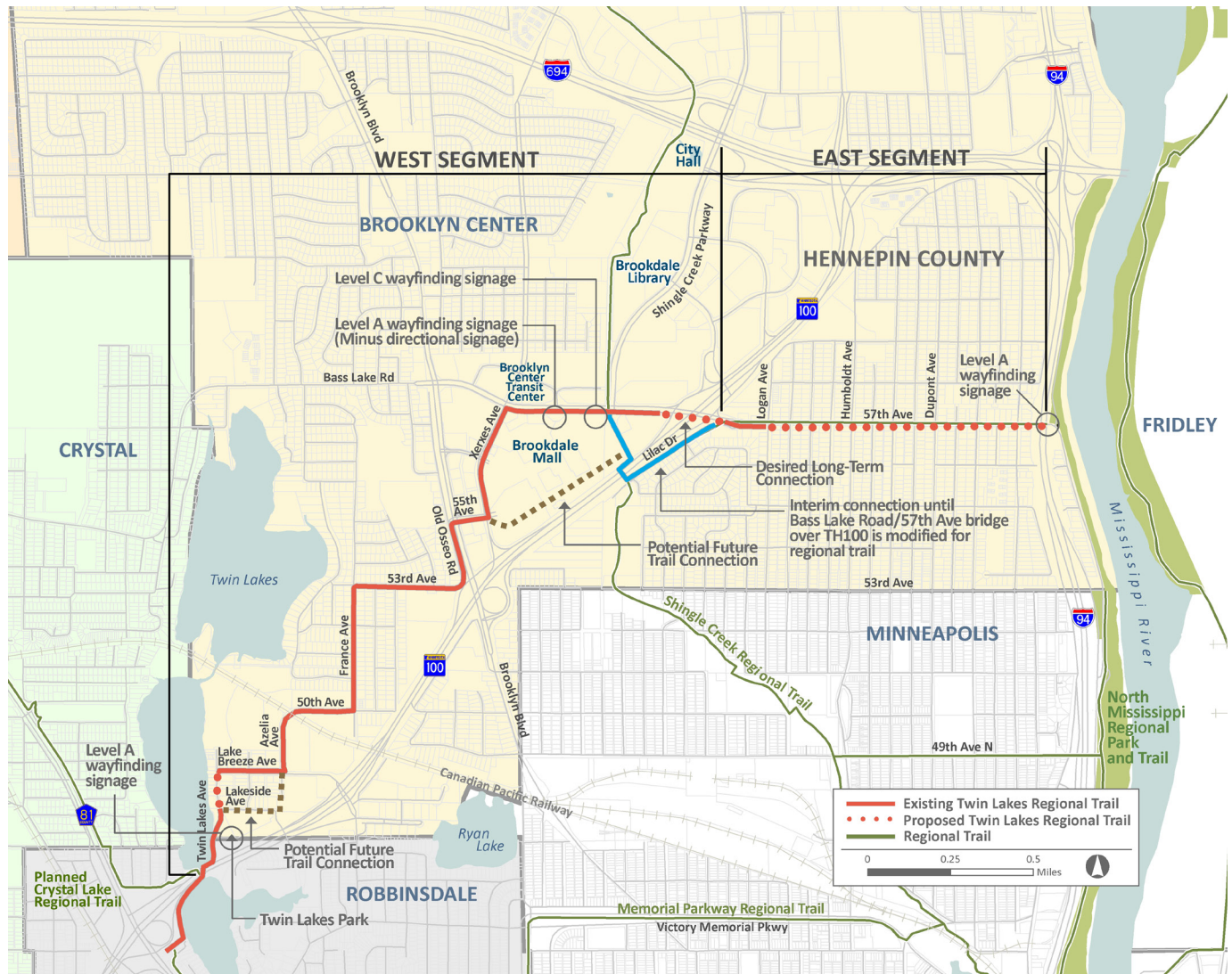
**Table 15 (continued)**

Existing Regional Trail Conditions Assessment

Trail Segment Identifier	Trail Segment Description	Trail Segment Condition	Typical Clear Zone		Restricting Elements	Adjacent Street Conditions	Options to Bring Existing Regional Trail into Compliance with Park District Standards					
			Road Side	Parcel Side			Relocate Trail to Back of Curb	Relocate Utility Poles/Relocate Fencing	Narrow Road/Reconstruct Bridge	Obtain Easement	Combination (Easement/Road Narrowing)	Relocate Road Within ROW
Q	Bass Lake Road/57 <sup>th</sup> Avenue Bridge over TH 100	Narrow Sidewalks on Bridge (Restricted Width)	-	-	-	<ul style="list-style-type: none"> <li>Four travel lanes</li> <li>No parking</li> </ul>	-	-	X	-	-	-
R	Bass Lake Road/57 <sup>th</sup> Avenue Bridge over TH 100 to Midblock between TH 100 and Logan Avenue	10' Trail, Meets 2' Clear Zones	5'	2'	-	<ul style="list-style-type: none"> <li>Four travel lanes</li> <li>No parking</li> </ul>	-	-	-	-	-	-
S	Midblock between TH 100 and Logan Avenue to Logan Avenue along 57 <sup>th</sup> Avenue	10' trail at Back of Curb (Restricted Width)	5'	0'	<ul style="list-style-type: none"> <li>Fencing</li> </ul>	<ul style="list-style-type: none"> <li>Four travel lanes</li> <li>No parking</li> </ul>						
T	Logan Avenue to Humboldt Avenue along 57 <sup>th</sup> Avenue	10' Trail Desired (Unconstructed)	3' Desired	3' Desired	<ul style="list-style-type: none"> <li>Fencing</li> <li>Retaining walls</li> <li>Overhead Utilities</li> </ul>	<ul style="list-style-type: none"> <li>Two travel lanes</li> <li>On-street parking</li> </ul>	n/a	n/a	n/a	n/a	n/a	n/a
U	Humboldt Avenue to 57 <sup>th</sup> Avenue Bridge over I-94	10' Trail Desired (Unconstructed)	3' Desired	3' Desired	<ul style="list-style-type: none"> <li>Fencing</li> <li>Retaining walls</li> <li>Overhead Utilities</li> </ul>	<ul style="list-style-type: none"> <li>Two travel lanes</li> <li>On-street parking</li> </ul>	n/a	n/a	n/a	n/a	n/a	n/a
V	57 <sup>th</sup> Avenue Bridge over I-94	8' sidewalk (Restricted Width)	3' Desired	3' Desired	-	<ul style="list-style-type: none"> <li>Two travel lanes</li> <li>No parking</li> </ul>	n/a	n/a	n/a	n/a	n/a	n/a

## Selected Regional Trail Alignment

The Twin Lakes Regional Trail route is comprised of existing and unconstructed segments, in varying states of Park District design standard compliance. The selected regional trail alignment is illustrated in Figure 19 below. A series of more detailed plans are illustrated in Appendix B - Trail Plans.



**Figure 19**

Selected Twin Lakes Regional Trail Alignment Map

## West Segment

### TH 100/Bottineau Boulevard to Bass Lake Road/TH 100

The Twin Lakes Regional Trail's West Segment generally exists in varying states of Park District regional trail design compliance from its origination at the southeast quadrant of the TH 100/Bottineau Boulevard interchange near the Twin Lakes in the City of Robbinsdale through Brooklyn Center to the Bass Lake Road/57th Avenue bridge over TH 100. Recently constructed by the City of Brooklyn Center as part of road reconstruction projects, the West Segment of the regional trail's selected alignment brings a large portion of the Twin Lakes Regional Trail on-line immediately.

At the southwestern terminus of the regional trail in the southeast quadrant of the TH 100/Bottineau Boulevard interchange near the Twin Lakes, there is a public boat launch parking lot constructed by Mn/DOT as part of the TH 100 reconstruction. At this location, the Twin Lakes Regional Trail connects with the planned Crystal Lake Regional Trail. From this regional trail confluence, the Twin Lakes Regional Trail and the Crystal Lake Regional Trail share a 1/4 mile trail segment between the parking lot and the TH 100 pedestrian underpass.

Immediately south to the TH 100 pedestrian underpass, the two regional trails split. The Crystal Lake Regional Trail passes underneath TH 100 on the southwest side of the channel while the Twin Lakes Regional Trail crosses over the existing channel box culvert and returns back, passing underneath TH 100 on the northeast side of the channel. TH 100 is a barrier to multi-modal transportation, but the pedestrian underpass establishes a recognizable "gateway" feature to the regional trails.



Regional trail approach to the Twin Lakes channel and TH 100 pedestrian underpass.



Existing constructed segments of the Twin Lakes Regional Trail skirt the edges of the Twin Lakes in both Robbinsdale and Brooklyn Center before beginning a generally north and east trajectory through Brooklyn Center to North Mississippi Regional Park. This route alignment provides long vistas across the Twin Lakes chain before passing through Twin Lakes Park, a Brooklyn Center city park with playground and picnic facilities.

At the north end of Twin Lakes Park, a one block unconstructed portion of the regional trail exists along Twin Lakes Avenue. The master plan calls for constructing the regional trail off-street along Twin Lakes Avenue between Lakeside Avenue and Lake Breeze Avenue. While the Trailway Cooperative Agreement (2009) plans for this unconstructed regional trail segment as on-street, the Park District intends to work with the City of Brooklyn Center and adjacent property owners to realize an off-street trail in this segment.

The trail route then follows Lake Breeze Avenue east and turns north onto Azelia Avenue. Dependent on redevelopment, an additional potential future trail connection could follow Lakeside Avenue east and curve north along Azelia Avenue through the vacant Northwest Athletic Club site. Both routes pass along residential streets.

Heading north on Azelia Avenue, the existing regional trail crosses the Canadian Pacific freight rail line at-grade, and passes through a small commercial and light industrial area before turning north on France Avenue along adjacent residential properties. After several blocks, the constructed regional trail route turns east along 53rd Avenue where single family residential is complemented by multi-family residential. The existing regional trail then turns north onto Old Osseo Road which parallels Brooklyn Boulevard to 55th Avenue.

Turning east, the existing regional trail crosses Brooklyn Boulevard at 55th Avenue. The crossing on the south side of the intersection requires construction of new trail and intersection. The Park District will coordinate crossing improvements of Brooklyn Boulevard with the City and County to improve pedestrian safety and accessibility. Potential improvements may include signal countdown timers and/or traffic signal timing adjustments pending further study.

After crossing Brooklyn Boulevard, the existing regional trail route follows the south side of 55th Avenue and then the west and north edge of the Brookdale Mall via Xerxes Avenue and Bass Lake Road. Retail buildings in this vicinity are set back from the perimeter roads and the existing regional trail primarily passes alongside their extensive surface parking areas. The route crosses several mall signalized entrances. Future retail redevelopment will require design recognition of the regional trail alignment and user safety. Located on the north side of Bass Lake Road from the regional trail is Brooklyn Center Transit Center. The close



proximity of the regional trail to the transit center offers multi-modal transit opportunities.

Passing the Brookdale Mall eastbound, the selected regional trail alignment follows a direct route across TH 100 on the Bass Lake Road/57th Avenue bridge. Currently, this bridge segment does not meet Park District trail standards due to restricted sidewalk width, but is the desired long-term connection. The Park District has initiated discussions with Mn/DOT, Brooklyn Center, and Hennepin County to outline the feasibility of modifying the bridge to accommodate the regional trail. Mn/DOT is currently studying the regional trail in conjunction with its planned Bass Lake Road/57th Avenue bridge re-decking project slated for reconstruction 2013. Until the Bass Lake Road/57th Avenue bridge re-decking is completed, the regional trail route will utilize an interim connection by following the Shingle Creek Regional Trail south to the existing pedestrian bridge over TH 100.

Additionally, with the redevelopment of Brookdale Mall under study, an opportunity may present itself to create an additional trail route at the



Existing Bass Lake Road/57th Avenue bridge over TH 100, slated for re-decking in 2013.



Existing Shingle Creek Regional Trail pedestrian bridge over TH 100 to serve as an interim connection.

southern edge of the mall property from 55th Avenue to the Shingle Creek Regional Trail pedestrian bridge.

## **East Segment**

### **Bass Lake Road/TH 100 to North Mississippi Regional Park**

In the East Segment, an interim Twin Lakes Regional Trail connection exists from the end of the Shingle Creek Regional Trail pedestrian bridge to 57th Avenue. From the pedestrian bridge, the trail turns north and parallels Lilac Drive until it connects back to 57th Avenue, immediately east of the Bass Lake Road/57th Avenue bridge. The City of Brooklyn Center recently reconstructed a new trail connection from the Bass Lake Road/57th Avenue bridge to Logan Avenue on the south side of 57th Avenue.

East of Logan Avenue, the continuation of the selected regional trail route along 57th Avenue requires new trail construction to North Mississippi Regional Park. The land use adjacent the route is exclusively residential with standard block configurations of approximately 300-feet east/west by 600-feet north/south. Presented with this extensive grid of streets to navigate, several potential routes to extend the trail from TH 100 to North Mississippi Regional Park were evaluated and considered. Ultimately, 57th Avenue was identified as the selected regional trail alignment as it best meets the Park District's established Guiding Principles (see Section II) and is supported by Task Force representatives, the public and local elected officials.

57th Avenue is within Hennepin County's jurisdiction as a County State Aid Highway (CSAH) east of TH 100 to Humboldt Avenue. 57th Avenue is



57th Avenue existing conditions looking east. The Twin Lakes Regional Trail East Segment is proposed on the south side of 57th Avenue until the intersection with Camden Avenue, where it switches to the north side to connect with North Mississippi Regional Park.



a city street under Brooklyn Center's jurisdiction from Humboldt Avenue to I-94. In its existing configuration, from TH 100 to Logan Avenue, 57th Avenue has two traffic lanes in each direction. At Logan Avenue, 57th Avenue narrows to one traffic lane in each direction, and one parking lane on each side. There is an existing continuous concrete sidewalk on the south side of 57th Avenue and no sidewalk on the north side except between TH 100 and Logan Avenue.

The Twin Lakes Regional Trail is proposed to follow the south side of 57th Avenue replacing the existing sidewalk. One signalized intersection exists at Logan Avenue and a signed 4-way stop is located at Humboldt Avenue and Dupont Avenue. For the remainder of the existing corridor, the cross streets require vehicles and bicycles to come to a stop as they approach 57th Avenue, while 57th Avenue traffic continues unstopped, thus allowing vehicles and bicycles to travel longer stretches without having to stop at the cross streets. Throughout the East Segment, the regional trail route crosses fourteen residential driveways, one alley and one commercial driveway. Embedded in the neighborhood fabric, the Twin Lakes Regional Trail is anticipated to be easily accessible to neighborhood residents, thereby increasing recreational opportunities.

At its eastern end, the unconstructed regional trail route is proposed to cross the north side of 57th Avenue at the Camden Avenue intersection and then cross the 57th Avenue bridge over Interstate 94 to arrive at North Mississippi Regional Park, its destination. The 57th Avenue/I-94 bridge currently has sidewalks on each side that do not meet Park District regional trail standards. Based on the overall bridge deck width, the traffic lane widths could be narrowed and the sidewalk widened to accommodate the regional trail. From this key location, the regional trail provides further



North Mississippi Regional Park lies at the eastern terminus of the trail route and provides opportunity for loop trails to other existing trails.

access to other trails and destinations along the Mississippi River. There are new opportunities created for loop trails through North Mississippi Regional Park to the existing City of Minneapolis trail along 49th Avenue and other trails.

## Development Plan

Of the 4.4 miles of total regional trail length, approximately 2.9 miles exist in the area previously identified as the West Segment. Portions of the regional trail will require reconstruction in the West Segment as improved routes and financing become available. Approximately 0.8 miles require construction in the East Segment. It is anticipated that the Twin Lakes Regional Trail will be implemented in stages, with the construction of various stages driven by local factors such as availability of land, timing of adjacent roadway improvements, and financing. Until the regional trail corridor is fully developed, gaps will exist and may be overcome by existing sidewalks or interim use of city streets. However, the ultimate regional trail geometry will consist of a 10-foot-wide paved surface separate from any adjacent roadway, so that trail users will not share the roadway with motorized vehicles.

The development and implementation of unconstructed trail segments and upgrading of certain trail segments to Park District standards will require additional activities beyond the master plan phase. These activities typically include the preparation of final construction documents, additional property and natural resource analysis, final cost estimates, City staff review, and public approval meetings (such as City Council and Park Commission/Board meetings).

In some cases, the host city may seek Park District approval to design and construct segments of the regional trail themselves. Construction commences when the Park District issues a Notice-to-Proceed to the city contingent upon the following:

- Conveyance of easements to the Park District creating a continuous and contiguous trail corridor.
- Park District's approval of plans and specifications for trail construction.
- Funding of the project in the Park District's Capital Improvement Program by the Park District's District Board of Commissioners.

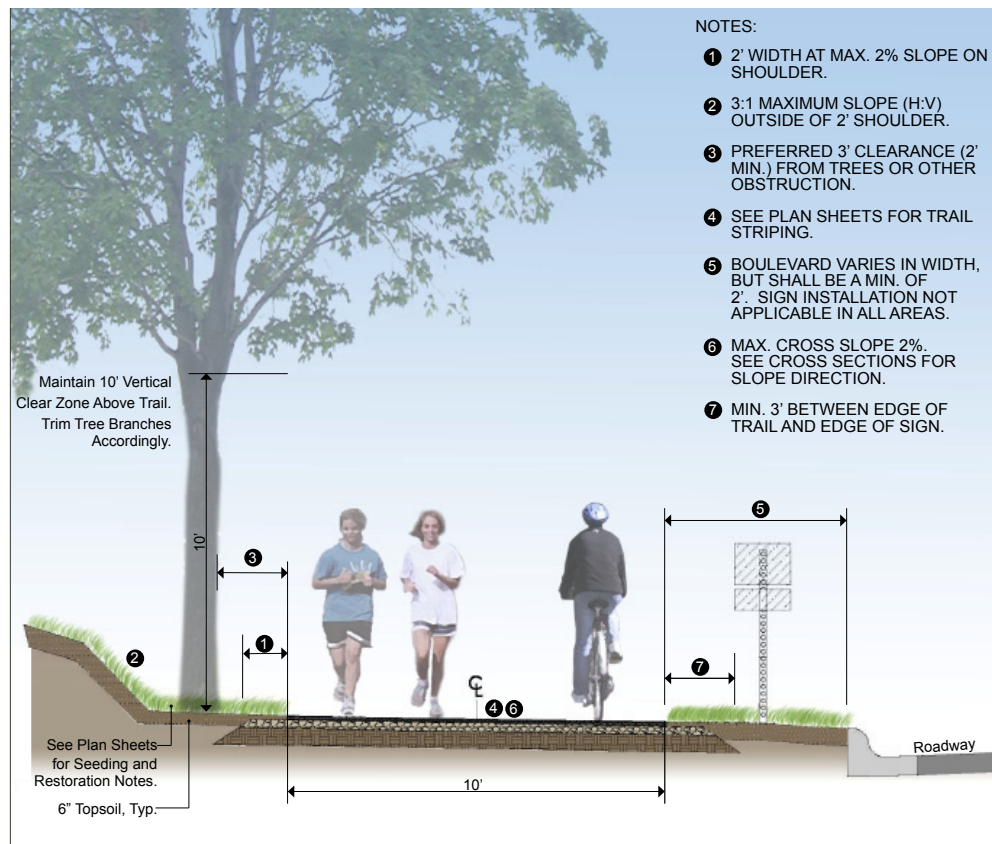
At this time, the Park District does not anticipate any direct revenue generation from the development of the regional trail system. However, secondary revenue sources may be available. For example, the proposed regional trail system provides a more direct and clear connection to the existing regional park system, potentially resulting in increased park visitor and revenue opportunities.

## Permitted Regional Trail Uses

The regional trail will be open to the general public, and its intended uses include walking, jogging, in-line skating, bicycling and other uses mandated by state law including, but not limited to, electric personal assistive devices and electric assisted bicycles. Motorized and equestrian uses will be prohibited, except for motorized vehicles used by the Park District for maintenance or law enforcement activities.

## Regional Trail Design Guidelines

The selected regional trail alignment will be predominantly implemented within existing street right-of-way and parkland owned by local municipalities and government agencies. The optimum trail width is a 10-foot-wide paved surface separated from vehicular traffic, although



**Figure 20**

Preferred Typical Regional Trail Section

there may be instances that require the trail to be temporarily on-road or reduced in width for short segments or until long range plans for appropriate right-of-way are resolved. Future regional trail segments are to be constructed with bituminous paving for ease of maintenance and comfort of users.

A number of factors must be considered as final design of the regional trail is constructed, such as the following:

- Right-of-way width



- Topography and drainage impacts
- Existing vegetation
- Curb cuts and driveway crossings
- Overhead and subsurface utilities
- Intersection crossings
- Proximity to adjacent buildings, homes, businesses and industrial facilities

Where possible, trails should be separated from the roadway. However, in limited circumstances, regional trails can parallel the roadway at back of curb separated from the road by a minimum paved two-foot-wide “clear zone.” This two-foot wide zone provides a buffer between the regional trail users and motorists and should be striped to delineate the edge of the trail. Curb ramps should be used at all roadways. Regional trails should have a maximum of five percent (5%) grade and a cross slope of two percent (2%) for drainage.

The following sources will be referred to when preparing the design and construction plans:

- Guide for the Development of Bicycle Facilities, prepared by the American Association of State Highway and Transportation Officials (AASHTO), 1999
- Selecting Roadway Design Treatments to Accommodate Bicycles, Federal Highway Administration, January 1994
- Mn/DOT Bikeway Facility Design Manual, Minnesota Department of Transportation (Mn/DOT), March 2007
- State Aid Rule 8820.9995 Minimum Bicycle Path Standards, State



#### Aid for Local Transportation

- Manual on Uniform Traffic Control Devices (MMUTCD), Mn/DOT, May 2005
- Public Right of Way Access Guidelines (PROWAG)

### Primary Trail Design Elements

#### Trail Pavement

The unconstructed regional trail segments will be designed in accordance with applicable guidelines established by the American Association of State Highway Transportation Officials (AASHTO), the Federal Highway Administration (FHWA), Mn/DOT, and State Aid for Local Transportation. The preferred trail cross section is a 10-foot-wide bituminous surface with a minimum two-foot turf clear-zone on each side. Bituminous trail surface is preferred because it is cost effective and is less prone to erosion than aggregate surfaces. Bituminous trails offer a wide variety of uses including bicycling, walking, running, and in-line skating, which are popular activities on Park District regional trails.

#### Trail Crossings

The urban setting for the Twin Lakes Regional Trail requires that it coexist with the higher volume roadways that serve transportation needs. In particular, the trail route crosses TH 100 twice and I-94 once at grade-separated conditions as described previously. There are numerous locations where the regional trail traverses established roadways and one railroad at-grade. The relationship between roadway and regional trail users is important. Generally, where the trail crosses a roadway, the crossing is proposed to be marked with safety signage and surface paint to alert motorists and trail users. As vehicular traffic fluctuates, there may be a need for additional traffic signals or modifications to existing signalized intersections.



An existing regional trail crosswalk at Xerxes Avenue and 55th Avenue.

Heightened design attention will also be necessary for driveway and alley crossings which will be marked with signage to alert regional trail users of the upcoming crossing. General warning signs may be placed in areas with greater congestion. In all cases, existing vegetation and other potential visual obstructions will be evaluated and additional vegetation will not be planted in the required clear-zones so sight lines can be maintained. Special provisions, such as mirrors, may be added to improve trail visibility from driveways if deemed appropriate.

## **Supporting Trail Elements**

Trail wayfinding signage, traffic signage and devices, rest stops, and drainage are important elements of regional trails. Their proper design and placement add both aesthetic and functional value to the trail.

### **Wayfinding Signage**

Trail wayfinding signage provides trail users with orientation and location information for amenities and services. Wayfinding signage typically provides:

- An overview map of the regional trail network in Hennepin County, and of the specific regional trail.
- Directions and distances to major destinations and points of interest along the regional trail.
- Directions for long-term detours or interim routes when there are gaps within the regional trail.
- Location information for nearby amenities such as local parks and local trails.
- Location information for nearby services, such as drinking water, public restrooms, and public parking.
- Visual identification of the regional trail network through physical kiosk/signage structures.

The Park District employs three types of wayfinding signage structures; system kiosks, regional trail kiosks and directional signage. Descriptions of each are as follows:


- *System Kiosks*

A free-standing, roofed structure that provides trail users with a map of Three Rivers' Regional Park and Trail System, the regional trail rules and general information about the Park District.

- *Regional Trail Kiosks*


A free-standing, roofed structure that provides trail users with a map of the entire regional trail, a description of trail highlights, and a two mile by two mile aerial map which depicts local trails, amenities and services near the regional trail.

**Level A**

	Location*	Components*	Estimated Cost
	Beginning/end of regional trail and at the halfway point if trail is greater than 10 miles.  For new Level A locations, consider establishing on trail's north side.	<ul style="list-style-type: none"> <li>• System kiosk</li> <li>• Regional trail kiosk</li> <li>• Directional signage</li> </ul>	\$38,000 (2009 dollars)  Includes all signage and concrete pad.


\*Exact location and content determined in conjunction with local community input.

**Level B**

	Location*	Components*	Estimated Cost
	Approximately every two miles along the regional trail.  For new Level B locations, consider establishing on trail's north side.	<ul style="list-style-type: none"> <li>• Regional trail kiosk</li> <li>• Directional signage</li> </ul>	\$23,500 (2009 dollars)  Includes all signage and concrete pad.

\*Exact location and content determined in conjunction with local community input.

**Level C**

	Location*	Components*	Estimated Cost
	Located approximately every mile along the regional trail.  For new Level C locations, consider establishing at intersections with other regional trails or comprehensive trail systems (not trail spurs)	<ul style="list-style-type: none"> <li>• Directional Signage</li> </ul>	\$5,500 (2009 dollars)

\*Exact location and content determined in conjunction with local community input.

**Table 16**

Park District Typical Regional Trail Wayfinding Signage Configurations

- *Directional Sign*

A post structure with description blades attached, depicting the direction, the name and the distance to major destinations and points of interest on the trail. Each post structure has the capability of holding up to 12 description blades.

The unique urban nature of the Twin Lakes Regional Trail requires wayfinding signage at strategic delineated points.

- Level A: Twin Lakes Park, Brookdale Mall (minus directional signage) and North Mississippi Regional Park.
- Level B: N/A
- Level C: Southwestern quadrant of the Shingle Creek Parkway and Bass Lake Road intersection. Two additional directional signs may be considered in West Segment if right-of-way becomes available.



The Selected Twin Lakes Regional Trail Alignment Map (Figure 19) shows wayfinding signage locations.

### **Traffic Signage and Devices**

In addition to wayfinding signage, plans for providing traffic control signs and devices, such as trail stop signs and center line pavement markings will be prepared. Signs and devices should reflect the physical characteristics and usability of individual trail segments and the system as a whole. Thus, as trail segments are constructed or reconstructed, trail signs and devices may require modification. The cost to add traffic control signs and devices to a regional trail in a first-ring suburb is approximately \$3,000 per trail mile (2010 dollars).

### **Rest Stops**

Rest stops on regional trails are useful elements as they provide places for trail users to enter and exit the trail and an area for amenities such as trash receptacles, benches and bicycle racks. These simple but important amenities can serve to reinforce understanding of the regional trail route. Locations for rest stops will be evaluated and incorporated into design of the unconstructed Twin Lakes Regional Trail segments as appropriate during design implementation.



Existing rest stop along the regional trail on Xerxes Avenue, which incorporates trail user amenities.

### **Drainage**

In many locations, the drainage of the regional trail is similar to that of a typical sidewalk. As such, stormwater sheet flows over the trail pavement and onto the adjacent roadway, where it is collected and conveyed by the roadway stormwater drainage system. In areas where the regional trail is on an independent alignment, such as through parks or other green spaces, the trail must be designed to function during periods of wet weather. Stormwater must shed rapidly from the surface of the trail, and concentrated flows must be conveyed beneath the trail surface, so as not to create a hazardous situation for the users.



## Typical Trail Cross Sections

The following are potential options for implementing the unconstructed trail segments at two locations: Twin Lakes Avenue from Lakeside Avenue north to Lake Breeze Avenue and 57th Avenue from Logan Avenue east to North Mississippi Regional Park. Additional investigation is needed for final design. Final design may follow one of these options shown, a combination of options, or lead to the development of a new cross section configuration.

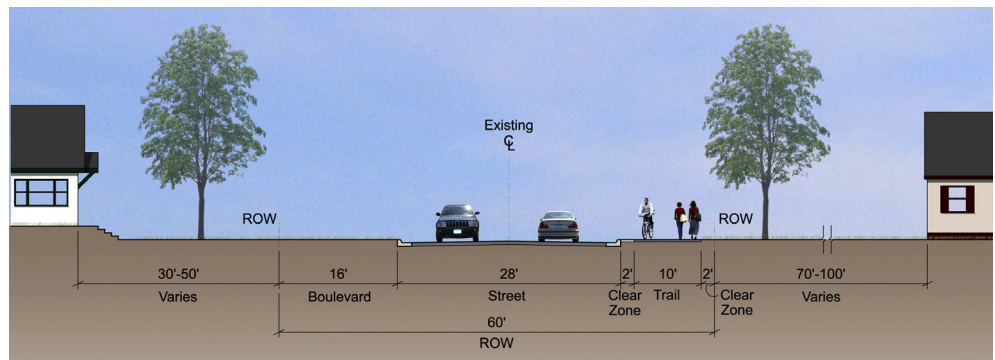
### Twin Lakes Avenue

The unconstructed regional trail segment along Twin Lakes Avenue is one block long between Lakeside Avenue and Lake Breeze Avenue near the southwestern end of the regional trail route. As currently envisioned, the trail is proposed to be off-street, located on the east side of the roadway. The primary issues in implementing this new link are obstructions created by the close proximity of existing trees and mailboxes to the curb. The Park District and City of Brooklyn Center will work collaboratively as opportunities arise to realize an amicable design solution for this unconstructed segment. The potential cross section is illustrated below.

### 57th Avenue



The regional trail is proposed to be off-street, located on the east side of Twin Lakes Avenue.



**Figure 21**

Twin Lakes Avenue Potential Cross Section

The unconstructed regional trail segment along 57th Avenue from Logan Avenue east to North Mississippi Regional Park is thirteen blocks long. The planned route follows the south side of the road where there is currently an existing sidewalk. The right-of-way between Logan Avenue and Dupont Avenue is 60 feet. All options explored suggest that the curb-to-curb roadway width requires narrowing to provide a wider trail and required clear-zones. East of Dupont Avenue, the right-of-way narrows to 50 feet. Options explored included removal of the parking bay on one side of the street, or both.

Several engineering considerations warrant mention considering the potential impacts of trail construction to the roadway configuration.

- The location of the crown of the roadway pavement is ideally centered between the two travel lanes. If the crown requires significant shifting, full reconstruction of the roadway is typically required.
- Proposed modification to the south curb line requires reconfiguration of any storm sewer in that location.
- A detailed analysis of all other utilities in the corridor will be required in subsequent design phases utilizing detailed as-built utility drawings. The location of the overhead utility poles shown in the cross section illustrations is approximate, and may vary in actual field conditions.

Table 17 below summarizes the options considered and their impact on the roadway and right-of-way. The potential cross sections are illustrated on the following pages.

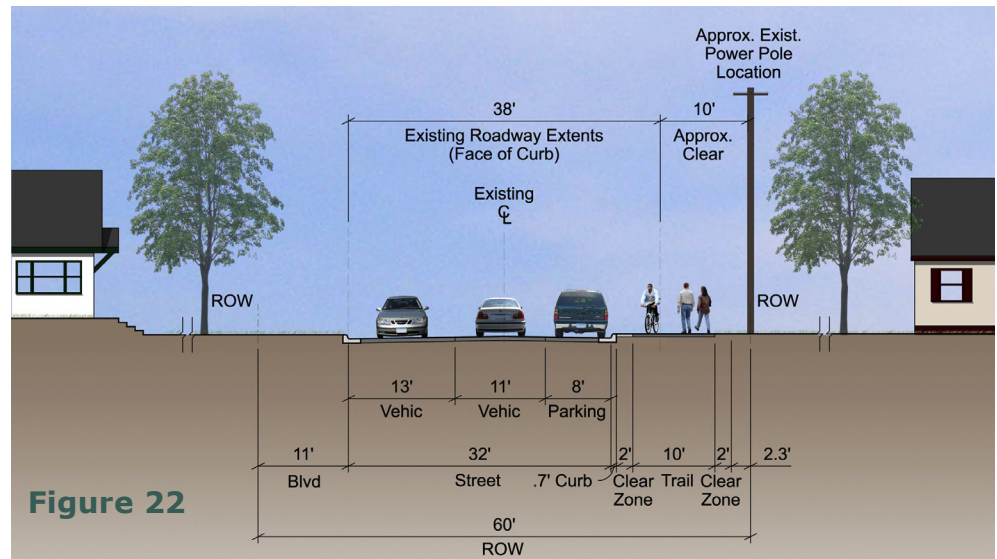
**Table 17**

57th Avenue Roadway Cross Section Comparison Matrix

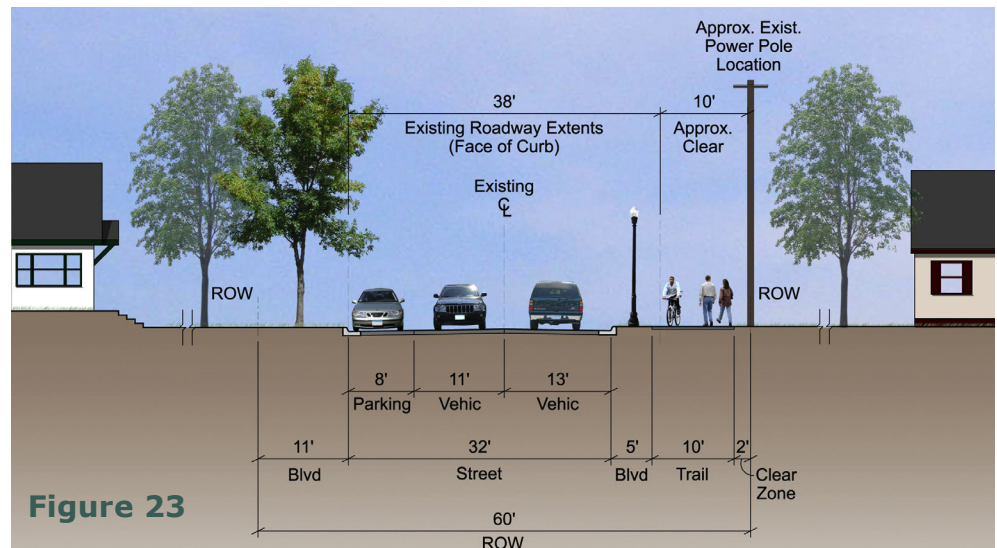
Option	Road Width	Parking	Roadway Pavement Crown	Stays Within ROW
<b>60' ROW</b>				
A	32'	south side	moves	yes
B	32'	north side	same	yes
C	26'	none	moves	yes
<b>50' ROW</b>				
A	32'	south side	moves	no
B	32'	north side	same	no
C	26'	none	moves	yes

## 60' Right-of-Way

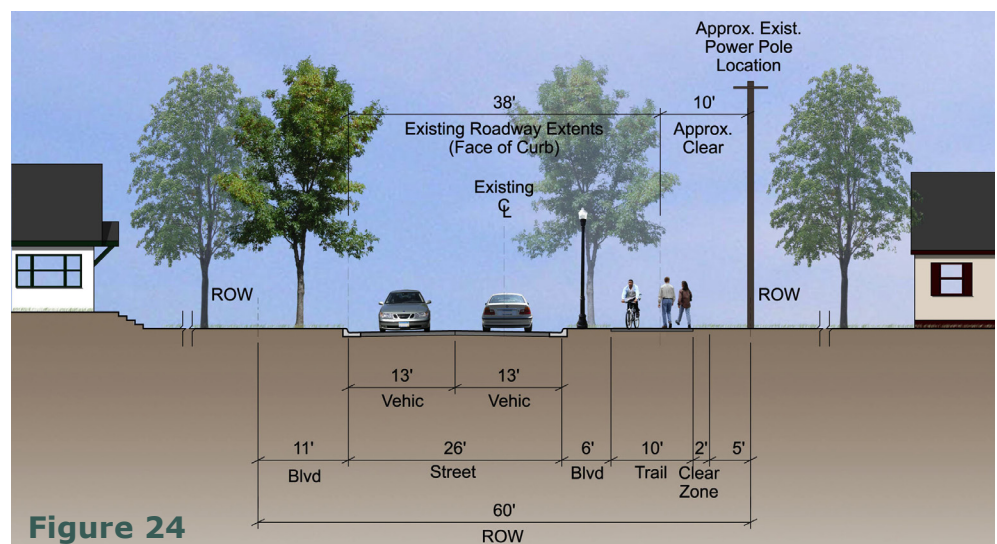
(Note: All cross sections are shown looking east with the proposed trail on the south side of 57th Avenue.)



Option A - 57th Avenue Potential Cross Section (Logan Ave to Dupont Ave/60' ROW)



Option B - 57th Avenue Potential Cross Section (Logan Ave to Dupont Ave/60' ROW)

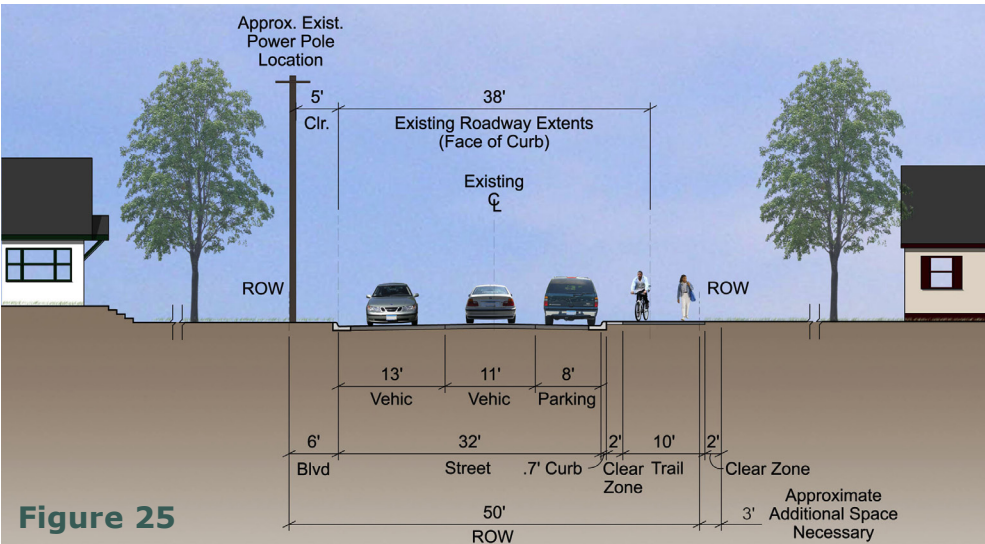


Option C - 57th Avenue Potential Cross Section (Logan Ave to Dupont Ave/60' ROW)

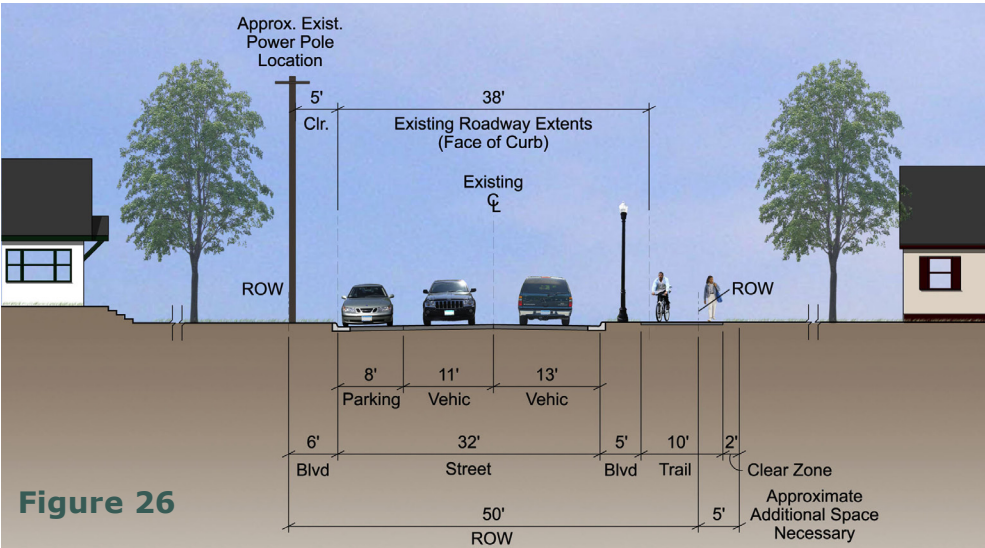


50' Right-of-Way

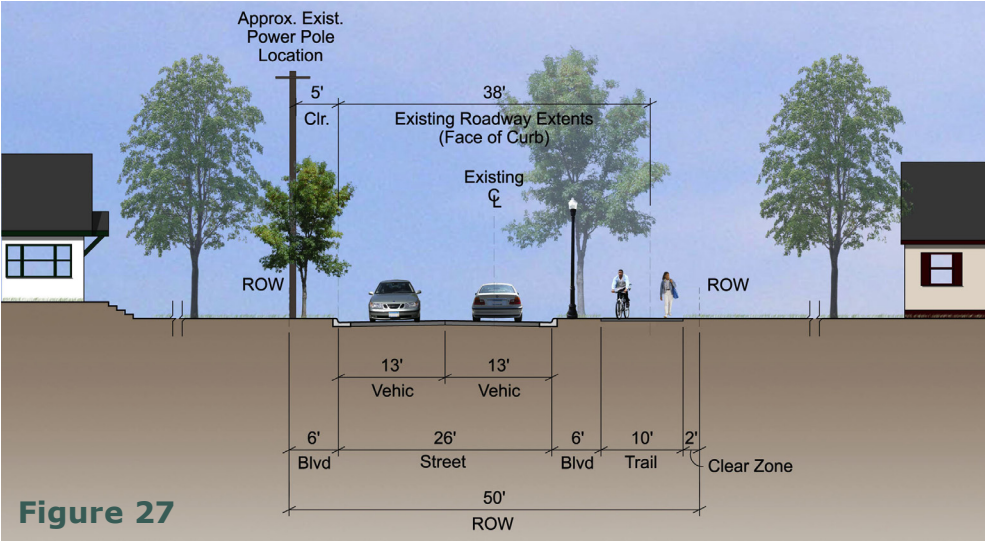
(Note: All cross sections are shown looking east with the proposed trail on the south side of 57th Avenue.)



Option A - 57th Avenue Potential Cross Section (Dupont Avenue to I-94/50' ROW)



Option B - 57th Avenue Potential Cross Section (Dupont Avenue to I-94/50' ROW)



Option C - 57th Avenue Potential Cross Section (Dupont Avenue to I-94/50' ROW)

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# Operations & Maintenance Plan

Twin Lakes Regional Trail is operated under Park District ordinances and policies. The regional trail is overseen by professional public safety operations and maintenance staff. Services and maintenance staffing levels increase as-needed and as funding permits through the employment of seasonal staff. Park Service Officers and Park Police Officers provide public safety services. Volunteers also assist with trail patrol. Maintenance services for Twin Lakes Regional Trail are provided by maintenance operations emanating from Elm Creek Park Reserve.

## Ordinances

The Park District Board of Commissioners has adopted a set of ordinances that define the rules and regulations to provide for the safe and peaceful use of the parks and corresponding facilities; for the educational and recreational benefits and enjoyment of the public; for the protection and preservation of the property, facilities and natural resources; and for the safety and general welfare of the public.

A copy of the ordinances may be obtained from the Park District website ([www.ThreeRiversParkDistrict.org](http://www.ThreeRiversParkDistrict.org)). Rules and regulations are also posted throughout Park District properties and facilities. Posted information includes park hours, permitted and prohibited activities, fees, map of the park and/or trails, and who to contact in case of an emergency. As funding permits, Park District Police and Park Service Officers regularly patrol all property and trails on foot and by bicycle and motor vehicles. When necessary, ordinances may be enforced via citations.

## Operations—Public Safety

The Public Safety Section consists of Park Police Officers, Park Service Officers, seasonal security staff, and support staff. Park Police Officers are licensed peace officers in the State of Minnesota and have the authority to arrest and detain criminal offenders and enforce a variety of traffic laws just like other law-enforcement officers throughout the state. Officers are trained and certified as Emergency Medical Technicians and First Responders. Park Police Officers strive to be proactive and utilize a variety of alternative patrol techniques that include horse-mounted, bicycle, electric scooter and four-wheel ATV patrols.

Park Service Officers have enforcement authority as well, but it is limited to minor park offenses. Additionally, Park Service Officers are trained and certified as Emergency Medical Technicians and First Responders. Park Service Officers are an important component of the Public Safety

function, and communicate directly with the Park Police Officers when they observe suspicious or criminal behavior. Park Service Officers are very knowledgeable about park activities and readily assist with traffic flow, parking issues, and park guest information as well as administer first aid to park users who are ill or injured.

The Park District's Public Safety Plan includes the general patrol of regional parks, park reserves and regional trails by a Park Police Officer or Park Service Officer. Many high-volume parks have a Park Service Officer stationed at the respective park to be readily available to provide assistance to park users.



A Park Service Officer on regional trail bike patrol.

### **Mutual Aid**

The Park District participates in a statewide mutual aid program that facilitates the sharing of public safety resources in times of emergency or other unusual conditions. This program serves to facilitate the assistance received from surrounding police agencies.

### **Staffing**

The Park District uses a combination of Park Service Officers and certified Park Police Officers for trail patrol on the Twin Lakes Regional Trail. Additional seasonal staff may be hired to support the safe and efficient operation of the Twin Lakes Regional Trail system. Public Safety staff is deployed from various offices throughout the six-county Park District. Specific patrol of the Twin Lakes Regional Trail will be the primary responsibility of trail patrol staff assigned to French Regional Park, however, all public safety staff patrol trails are available on an as-needed basis or when call load presents an opportunity to conduct alternative patrol.

## Operations—Maintenance

Due to extensive property holdings, geographic distribution of facilities and the need to create an efficient and cost-effective work force, the Park District organizes and budgets maintenance services in six geographic clusters that provide maintenance service to Park District regional parks, park reserves and regional trails. The Elm Creek Park Work Cluster provides maintenance services for the Twin Lakes Regional Trail.

Many existing trail sections of the Twin Lakes Regional Trail being assumed by the Park District have non-standard regional trail characteristics including trail design, trail width, trail shoulders and surfaces. Maintenance operations will not be typical as compared to other Park District regional trail corridors. Maintenance operations will be limited to seasonal condition assessments and periodic inspections, followed by necessary maintenance actions. Inspections will address possible safety issues, vandalism and non-routine maintenance concerns. The Park District will also respond to maintenance issues identified by the public, on a timely basis, as funding permits. Extraordinary maintenance occurs in response to storm damage, vandalism or other unplanned circumstances.

Mn/DOT owns the Shingle Creek Regional Trail pedestrian bridge, TH 100 pedestrian underpass, Bass Lake Road/57th Avenue bridge and 57th Avenue bridge crossing of I-94. The Park District will seek to establish trail operations and maintenance tasks associated with the TH 100 pedestrian underpass with Mn/DOT. The Park District annually inspects the regional trail in addition to Mn/DOT inspections.

The Twin Lakes Regional Trail expansion will receive scheduled striping, seal coating and redevelopment under the Park District's pavement management program and in accordance with Park District standards and as funding permits. The Park District will also seek opportunities to work with the county and city in conjunction with road projects to improve trail design and surfacing.

## Proposed Maintenance Activities

The Park District's present policy provides for the operation of the trail from April 1 to November 14. Local municipalities wishing to offer winter use of the trail may apply for a winter trail operations permit from the Park District. If winter operations are permitted, the local municipality is responsible for operations and maintenance.

Limited additional staffing and equipment are needed to operate and maintain the trail corridor; however, some equipment and staffing resources will be shared with the existing Park District maintenance operations emanating from the Elm Creek Park Work Cluster.

Routine maintenance is outlined below.

- **April and May:** Sign inventory and replacement, spring cleanup, limited mowing, trash pickup, bridge and underpass repair, as needed.
- **June, July, August and September:** Erosion repair, fence repair, sign and post replacement, trail trimming, mowing, weed control, trash pickup, bridge and boardwalk repair (as needed).
- **October and November:** Bituminous patching and striping replacement, as needed.
- **December to March:** No planned operations or maintenance during winter unless permitted to area cities and/or Three Rivers Park District elects to conduct winter trail activities.
- **Throughout the year and storm-related damage:** Periodic trail sweeping and clean-up, as needed.

Several specific management/maintenance programs are in place to ensure a safe, user-friendly experience to all trail programs.

- **Sign Maintenance:** Directional, safety, regulatory, interpretive and informational signage is typically installed during trail development. During the operational season, signage is inspected as part of the routine inspection and maintenance tasks.
- **Sweeping/Blowing/Vacuuming:** Natural debris such as leaves, acorns, twigs and grass clippings may be swept, blown or vacuumed on a periodic basis. Extraordinary maintenance may be required in the event of storm debris and conducted in cooperation with the cities.
- **Pavement Management Program:** Pavement management is a systematic method for tracking and addressing pavement conditions at a District-wide level. The pavement management program greatly enhances The Park District's ability to perform preventive maintenance and optimize pavement condition and performance. The pavement management system provides the Park District with a tool to assist in making consistent, cost-effective decisions about maintaining and preserving the pavement investment.
- **Contractual Services:** The Park District may contract for trail striping services, and pothole and crack repairing on an as-needed basis.
- **Trail/Bridge Maintenance:** Trails are inspected annually in the spring as part of the pre-season maintenance program and are then inspected periodically by Park District maintenance staff as part of ongoing operations. Minor trail repair is handled on



a timely basis, and probable major repair needs are evaluated and recommended to Park District management for planning or engineering review. Major trail rehabilitation projects are submitted to the Park District Board of Commissioners for funding as part of the annual operating budget, preservation and rehabilitation program, or capital improvement program. Mn/DOT bridges and underpasses are the responsibility of Mn/DOT. The Park District only maintains the trail use of these said bridges and underpasses to sweep, clean and paint as necessary.

- **Noxious Weed Management:** The Park District mechanically or chemically removes noxious weeds within the defined trail corridor at the request of cities.
- **Edge/Trail Shoulder Vegetation Management:** Due to the unique existing trail design and location of the trail, typical regional trail vegetation management practices do not apply. The local cities will continue to maintain road easements and other right-of-ways that have not transferred to the Park District, and tree canopies that are in close relationship to the trail surface in a manner that does not negatively affect trail use. The Park District will maintain vegetative clearances so as not to negatively affect trail use on any sections where trail shoulder vegetation exists. The Park District also typically maintains a mowed edge adjacent to the trail where appropriate.



Maintenance staff mowing the trail edge.



## **Public Awareness**

The Park District's Marketing Communications Department manages a centralized marketing communications function that oversees public relations, marketing, media relations, the website, brand management, event planning and promotion. A number of effective marketing and outreach tools are used to promote the Park District, including but not limited to an annual distribution of District-wide map, the website, direct mail, press releases, centralized reservation system, feedback phone line, brochures, ads and on-site promotion.

The Park District collaborates with a wide array of community, business and government organizations to promote its facilities, programs and services, and to educate the public about its resources. The Park District also works with the Metropolitan Regional Parks System and the State Office of Tourism to leverage shared opportunities for creating awareness and visibility and works with the county agencies to provide information about scholarship programs available to individuals receiving economic assistance.

# Estimated Costs & Funding

Trail implementation has both initial costs (acquisition and development) and ongoing costs (operations and maintenance). Trail development will occur as opportunities to coordinate with other agencies/projects occur, funding becomes available, and at the discretion of the Park District Board of Commissioners. Individual development projects may move forward to coincide with development adjacent to the trail corridor for purposes of cost savings.

## Boundaries & Acquisition Costs

As part of the Trailway Cooperative Agreement between the City of Brooklyn Center and the Park District, the City of Brooklyn Center conveyed a Public Trailway Easement to the Park District that provides a contiguous and continuous corridor for the existing Twin Lakes Regional Trail West Segment. Also as part of the agreement, the City agreed to convey a Public Trailway Easement for the proposed East Segment trail extension to North Mississippi Regional Park. Certain bridge and grade crossings require agreements with third parties such as Hennepin County and Mn/DOT. Discussions have been initiated between the City of Robbinsdale, Mn/DOT and Park District regarding portions of the regional trail located adjacent to TH 100.

## Development Costs

Trail development includes the cost to prepare the site, reconfigure roadways as required, modify drainage patterns where necessary, pave the trail, and install signage, striping, and landscaping. As described previously, much of the West Segment trail route exists requiring minimal initial capital expenditure except where there are missing links. The new East Segment trail construction includes roadway reconstruction to accommodate the regional trail. Other factors to consider for multi-jurisdictional cost participation include bridge modifications and identified potential additional routes. In total, the estimated development cost for the Twin Lakes Regional Trail is between \$1.85 million and \$3.95 million. See Appendix D - Detailed Cost Estimate for further information.

## Operating Costs

In order to maximize operating resources, the Park District maintains geographically dispersed work units for maintenance, public safety, and facility and program services. Natural Resources Management services

are dispersed on a system-wide basis. The Park District monitors all resources needed to provide support services across Park District work units.

Current-year operating costs include an estimate of labor hours expended at the park unit, commodities and contracted services directly charged to the park unit. Administrative and management costs are not included in the estimates. The estimates for future operating budget expenditures, as reflected in this master plan, represent anticipated additional costs incurred by District-wide or geographical work units as capital development is implemented.

All operating costs and associated staff/equipment are subject to the annual operating budget preparation process administered by the Superintendent and are considered formally by the Board of Commissioners.

### **Maintenance Operating Costs**

Due to the cost savings associated with providing maintenance through geographically dispersed work clusters, much of the maintenance equipment and tools needed for maintenance of planned facilities are already in place.

At the time the master plan is fully implemented, the annual routine maintenance costs are estimated to increase by \$10,000 (2010 dollars), primarily for sign replacements and seasonal labor. Additional costs for trail preservation and rehabilitation activities (i.e. trail surface repairs, striping replacement and pavement management) are anticipated and depend on trail conditions identified through seasonal inspections. These costs will be included in the Park District's annual Asset Management Program.

### **Public Safety Operating Costs**

The increase in projected annual operating costs for Public Safety services is estimated to be \$85,000. The work load associated with the addition of the Twin Lakes Regional Trail will be enough of an incremental increase to require the Park District hire an additional Park Police Officer and up to three new seasonal staff at the French Regional Park unit, which services regional trails in this section of the Park District. Initially, the expense and staffing of the Twin Lakes Regional Trail will be absorbed by current Public Safety budgeting and staff, however, a higher anticipated call load and commensurate staff presence is anticipated for proper patrol in this area. Estimated equipment cost of \$7,500 for uniforms and associated duty gear, radios, etc. will also be needed upon hiring of the additional trail patrol staff. An additional initial cost of \$30,000 for a trail patrol police vehicle will be required.

## **Natural Resources Operating Costs**

Due to the urbanized location of the Twin Lakes Regional trail, no additional costs for natural resources management are anticipated.

## **Funding Sources**

Annual park and trail operating costs are funded through the Park District General Fund Budget. The primary source of funds is property tax with some revenue received from the State of Minnesota as part of the Operations and Maintenance Fund allocations from the Metropolitan Council. Some of the annual rehabilitation costs also may be funded from the Park District's Park Maintenance and Rehabilitation Fund, which includes revenues allocated to the Park District from the State of Minnesota as well as Park District general obligation bonds.

The Metropolitan Council and State of Minnesota provide funding for acquisition, development and redevelopment projects through the Regional Parks Capital Improvement Program (CIP). The trail development proposed in this master plan may be funded through the Regional Parks CIP, through Park District bonds, donations and/or funding sources that may be available at the time of development. Opportunities for Federal funding may also be explored.

All operating costs, associated staff and equipment are subject to the annual operating budget preparation process administered by the Park District Superintendent and formally reviewed and approved by the Board of Commissioners.

## **Other Revenue**

The Park District does not charge an entrance fee to any of its parks and trails. At this time, the Park District does not anticipate any direct revenue generation from the development of the regional trail system. However, secondary revenue sources may be available. For example, the proposed regional trail system provides a more direct and clear connection to the existing regional park system, potentially resulting in increased park visitor and revenue opportunities.

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# **APPENDIX A**

## **Resolutions of Support**

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Member Kay Lasman introduced the following resolution and moved its adoption:

RESOLUTION NO. 2011-12

RESOLUTION OF SUPPORT FOR THE TWIN LAKES REGIONAL TRAIL MASTER PLAN

WHEREAS, the City of Brooklyn Center recognizes Twin Lakes Regional Trail as an important component of the regional parks system that serves residents of the City and the region; and

WHEREAS, the City of Brooklyn Center recognizes that Three Rivers Park District has gathered significant public input in the development of the master plan for Twin Lakes Regional Trail; and

WHEREAS, the City of Brooklyn Center recognizes that Three Rivers Park District has drafted the Twin Lakes Regional Trail Master Plan; and

WHEREAS, the City of Brooklyn Center supports the management and development of Twin Lakes Regional Trail pursuant to the Three Rivers Park District Master Plan.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Brooklyn Center, Minnesota, that the City of Brooklyn Center supports the Twin Lakes Regional Trail Master Plan and hereby recommends that Three Rivers Park District manage and develop the Regional Trail within the conditions and guidelines delineated by the District's Board of Commissioners in the Master Plan.

January 10, 2011

Date

Tim Willson

Mayor

ATTEST:

Sharon Knutson

City Clerk

The motion for the adoption of the foregoing resolution was duly seconded by member Dan Ryan

and upon vote being taken thereon, the following voted in favor thereof:

Tim Willson, Kay Lasman, and Dan Ryan;

and the following voted against the same: Carol Kleven and Tim Roche; whereupon said resolution was declared duly passed and adopted.

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Member Selman moved and Member Rogan seconded a motion that the following resolution be read and adopted this 4th day of January 2011.

**RESOLUTION NO. 7042**

**A RESOLUTION OF SUPPORT FOR THE  
TWIN LAKES REGIONAL TRAIL MASTER PLAN**

**WHEREAS**, The City of Robbinsdale recognizes Twin Lakes Regional Trail as an important component of the regional parks system that serves residents of the City and the region; and

**WHEREAS**, The City of Robbinsdale recognizes that Three Rivers Park District has gathered significant public input in the development of the master plan for Twin Lakes Regional Trail; and

**WHEREAS**, The City of Robbinsdale recognizes that Three Rivers Park District has drafted the Twin Lakes Regional Trail Master Plan; and

**WHEREAS**, The City of Robbinsdale supports the management and development of Twin Lakes Regional Trail pursuant to the Three Rivers Park District Master Plan; and

**WHEREAS**, The Twin Lakes Regional Trail is identified in Chapter 6 of the Robbinsdale Comprehensive Plan Update 2030;

**NOW, THEREFORE, BE IT RESOLVED**, that the City Council of the City of Robbinsdale supports the Twin Lakes Regional Trail Master Plan and hereby recommends that Three Rivers Park District manage and develop the Regional Trail within the conditions and guidelines delineated by the District's Board of Commissioners in the Master Plan.

The question was on adoption of the resolution and upon a vote being taken thereon, the following voted in favor thereof: Blonigan, Rogan, Selman, Backen, Mayor Holtz


and the following voted against the same: None

**WHEREUPON SAID RESOLUTION WAS DECLARED DULY PASSED AND ADOPTED THIS 4TH DAY OF JANUARY 2011.**



Michael A. Holtz, Mayor

ATTEST:

  
 Tom Marshall, City Clerk  
 (SEAL)



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# **APPENDIX B - Trail Plans**

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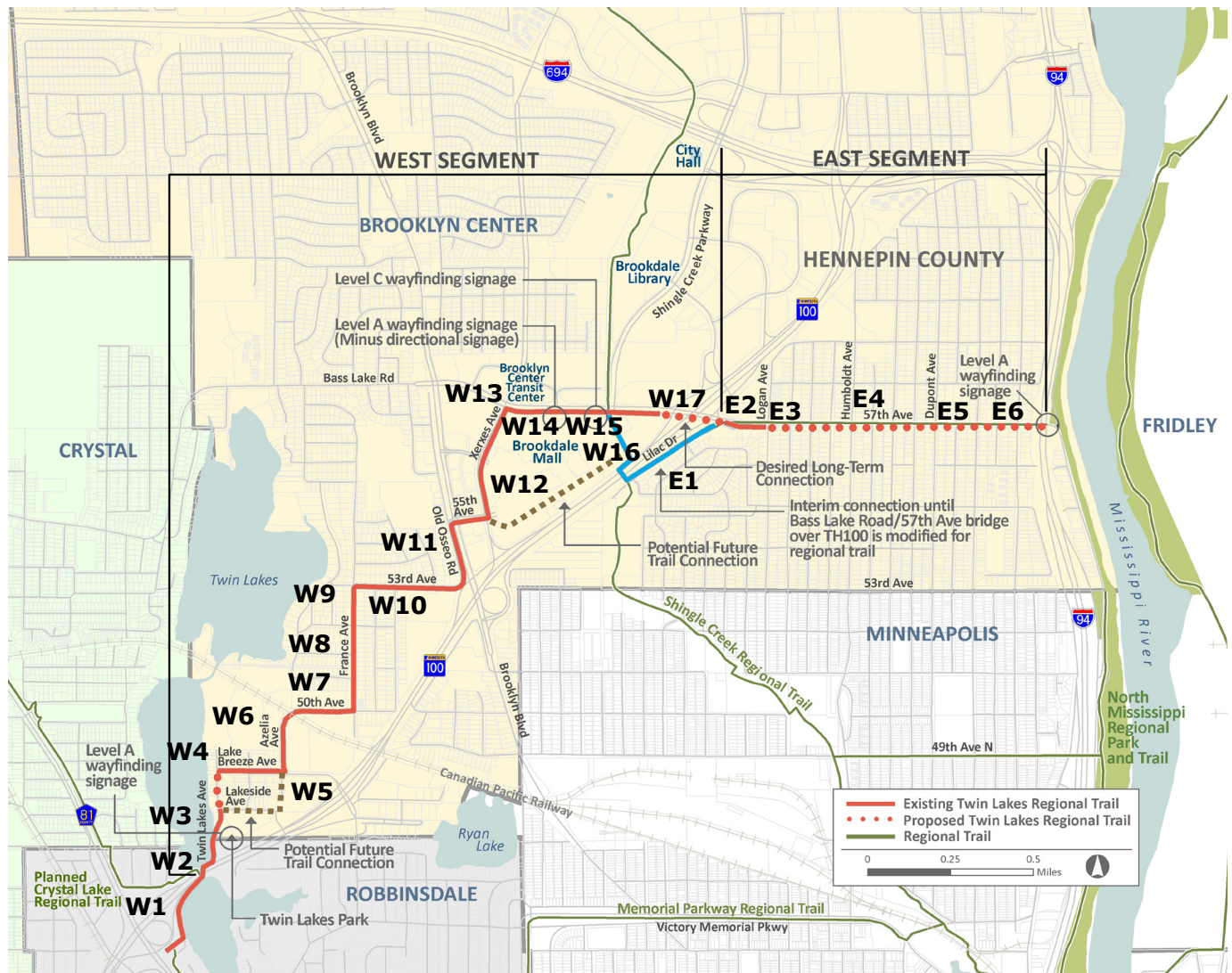
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## Enlarged Trail Plans

On the following pages, Appendix B includes enlarged plans of the trail route beginning at Bottineau Boulevard, the west terminus, and moving sequentially to the east terminus at North Mississippi Regional Park. The Key Map below includes location identifiers for each plan area as it relates to the overall route. The abbreviation "W1" indicates "West Segment 1" and the abbreviation "E1" indicates "East Segment 1."

### Key Map of Trail Route Enlarged Plans



**Segment W1**  
Selected  
Alignment



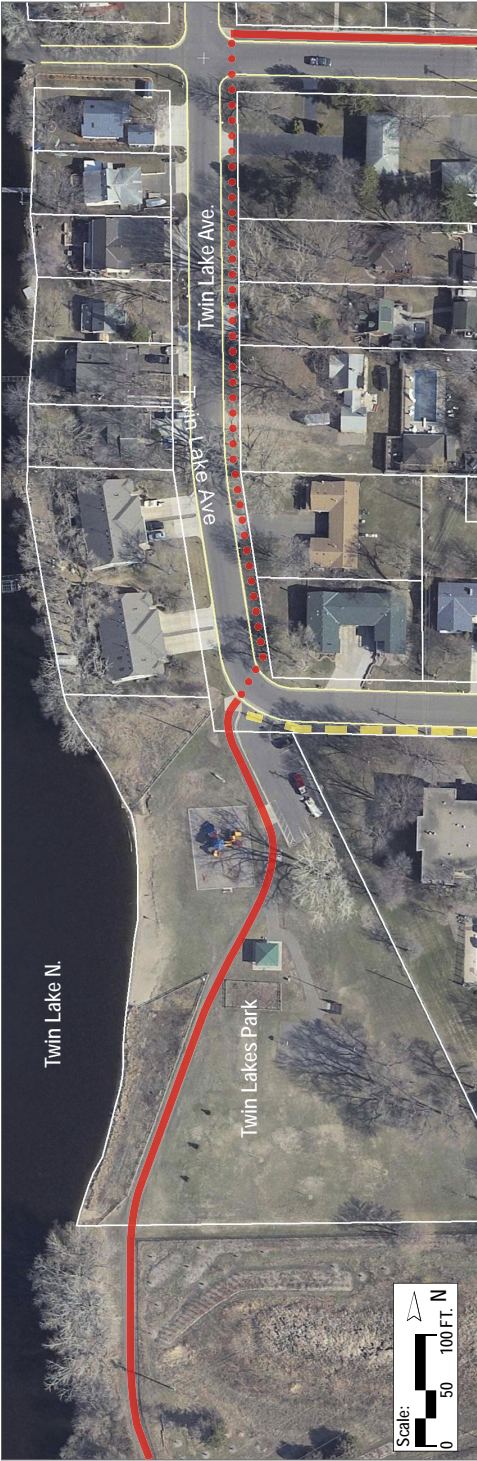
**Segment W2**  
Selected  
Alignment





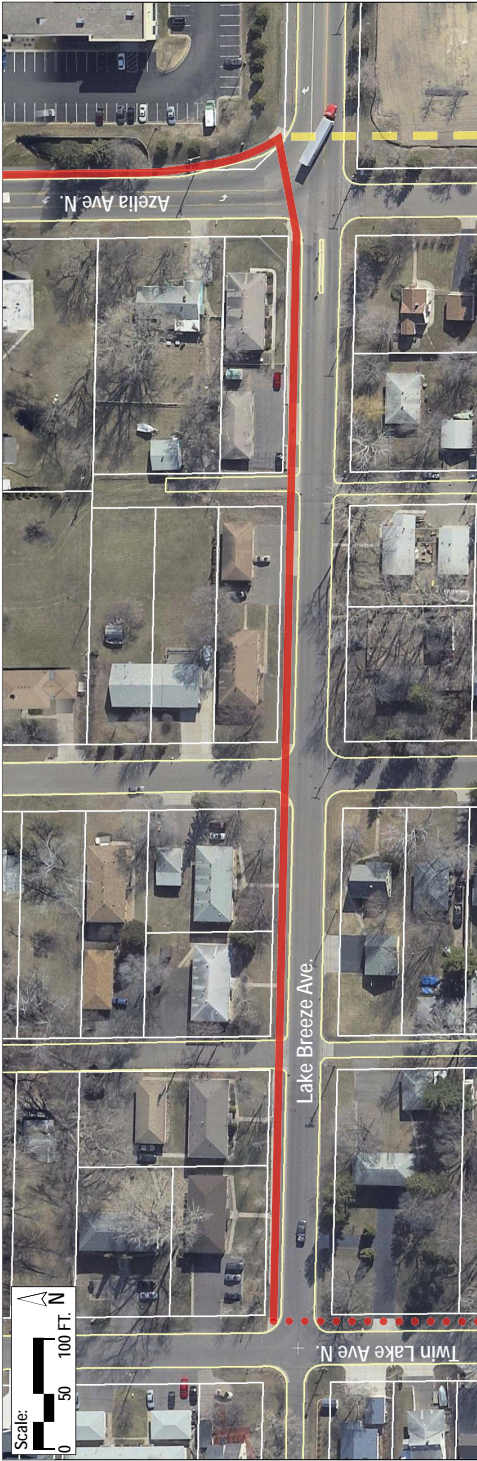
Segment W3

- Selected Alignment
- Selected Alignment Future Construction
- Potential Future Trail Connection

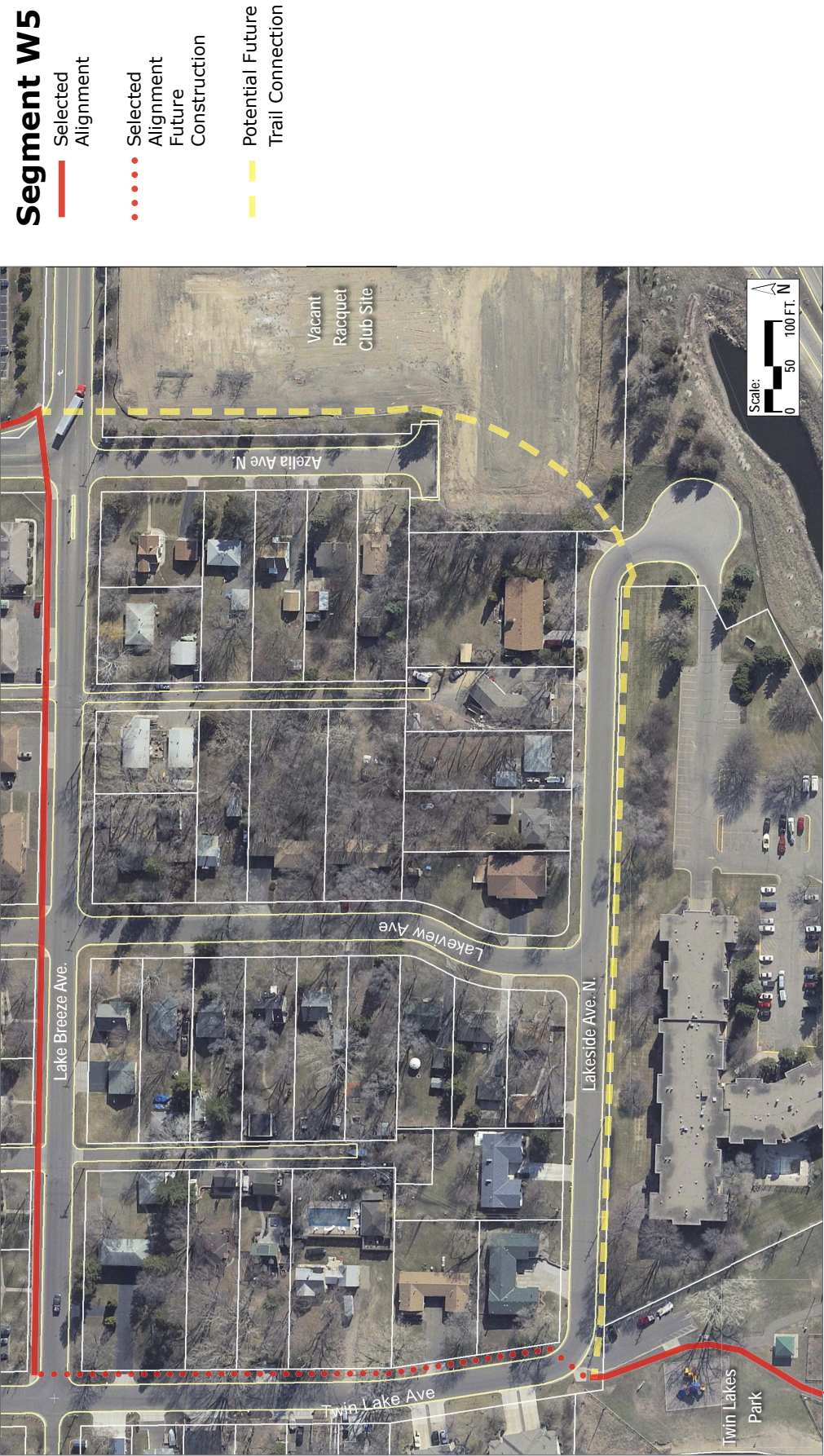


Segment W4

- Selected Alignment
- Selected Alignment Future Construction
- Potential Future Trail Connection



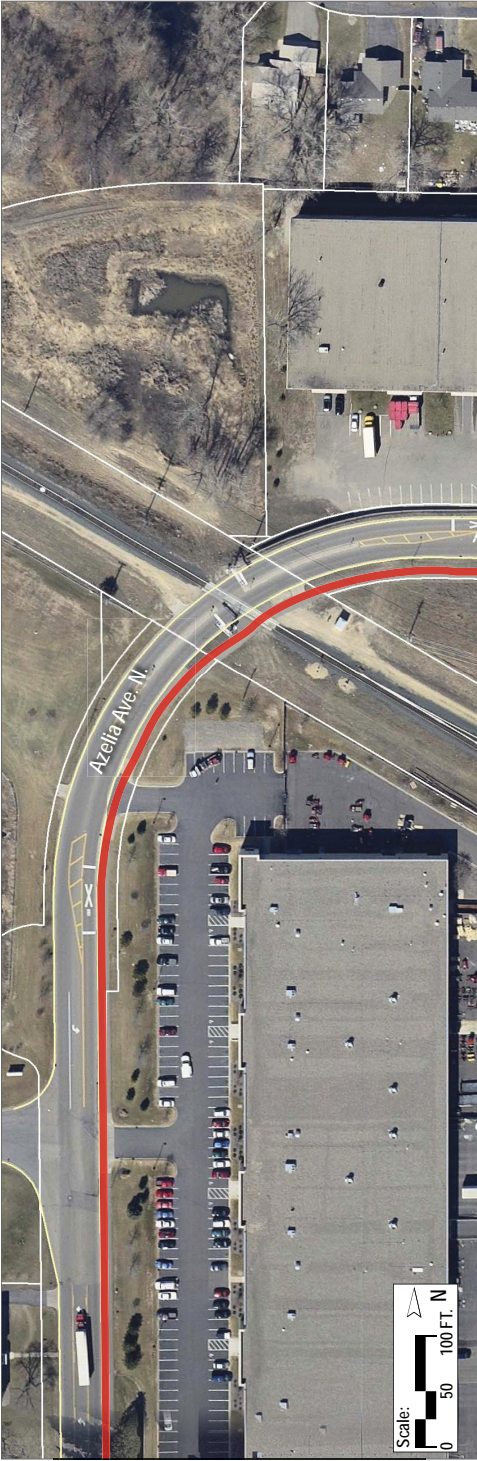






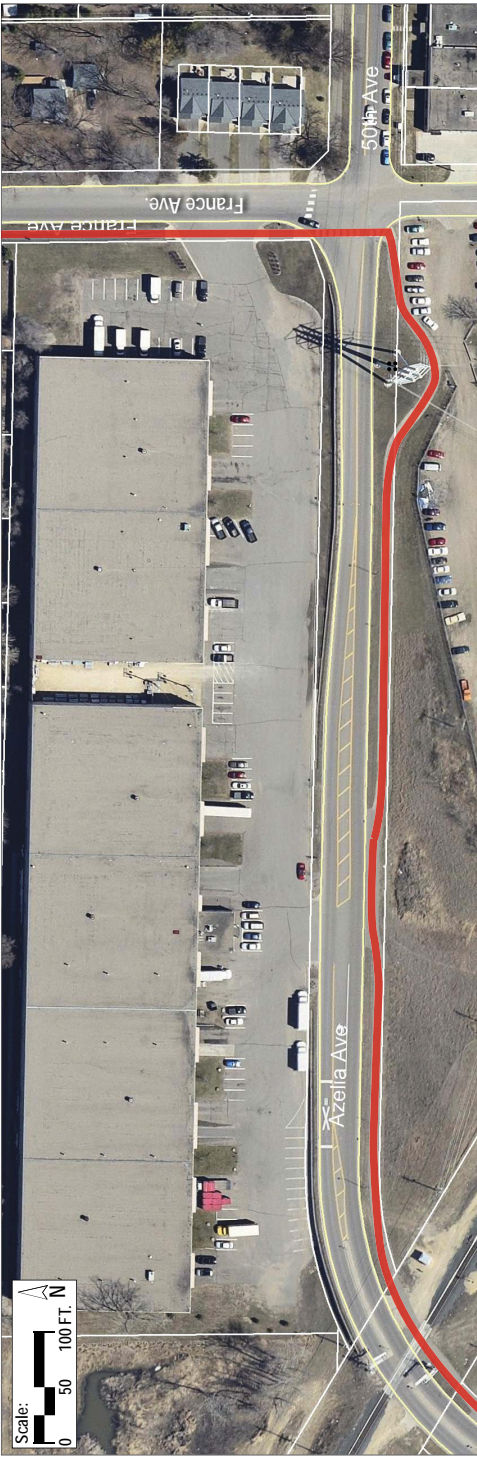
Segment W6

Selected  
Alignment



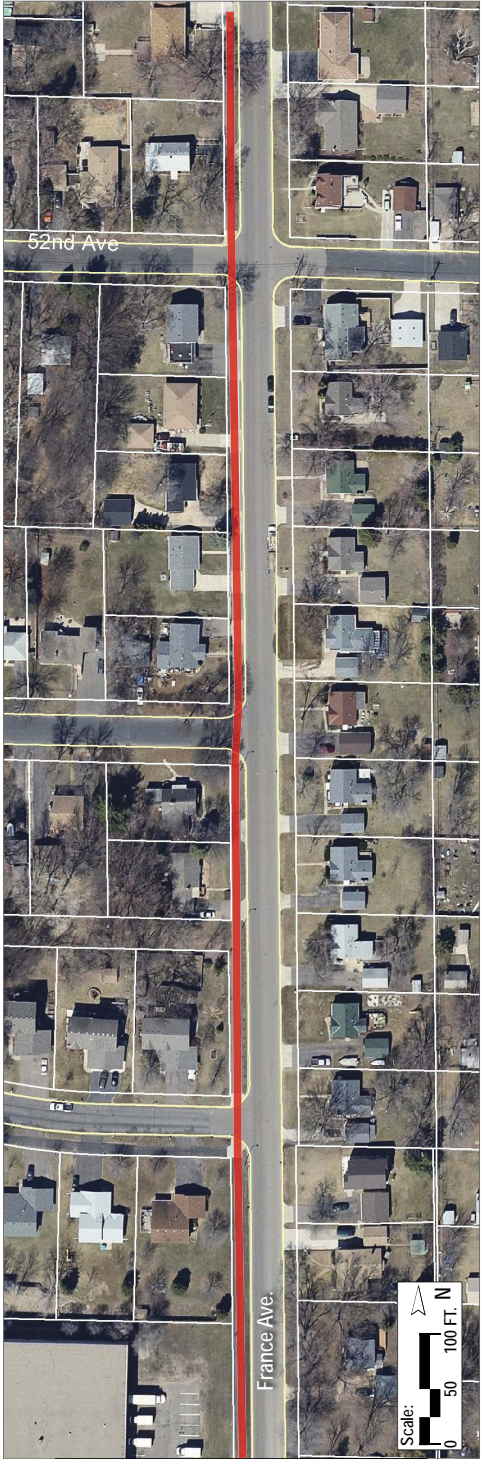
Segment W7

Selected  
Alignment





**Segment W8**  
Selected  
Alignment



**Segment W9**  
Selected  
Alignment





Segment W10

Selected  
Alignment



Segment W11

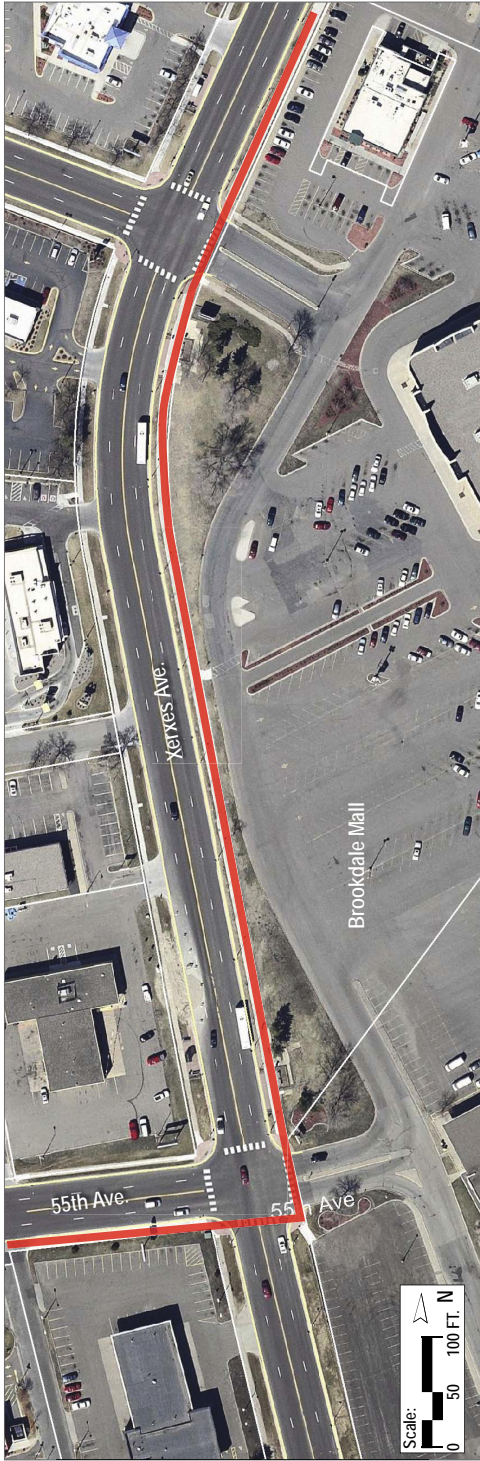
Selected  
Alignment

Selected  
Alignment  
Future  
Construction

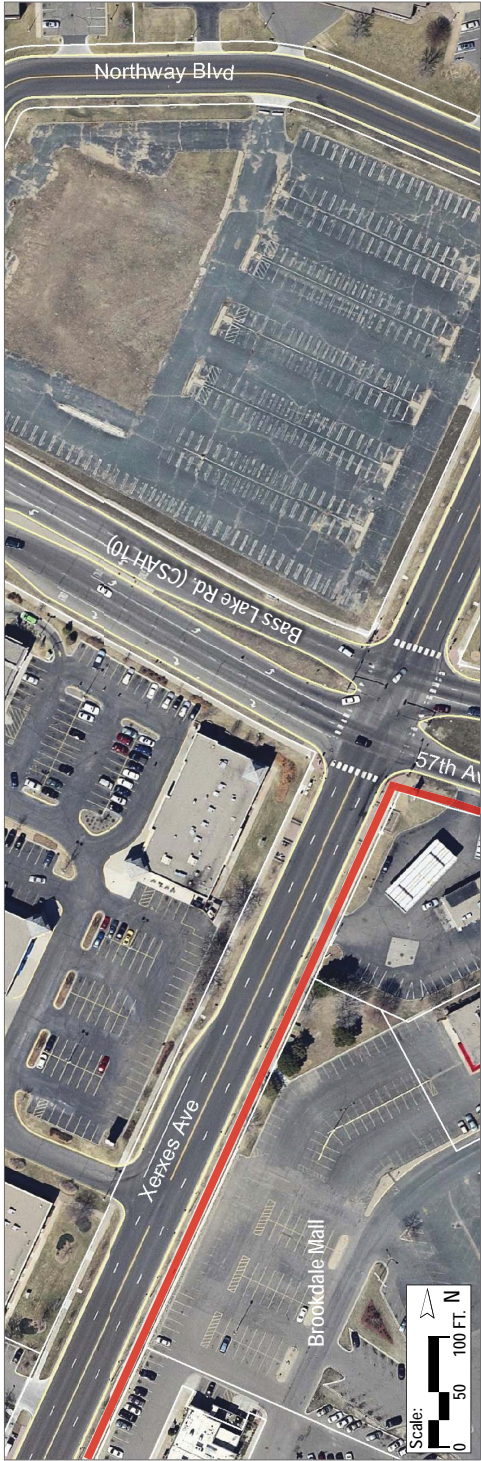




**Segment W12**  
Selected  
Alignment



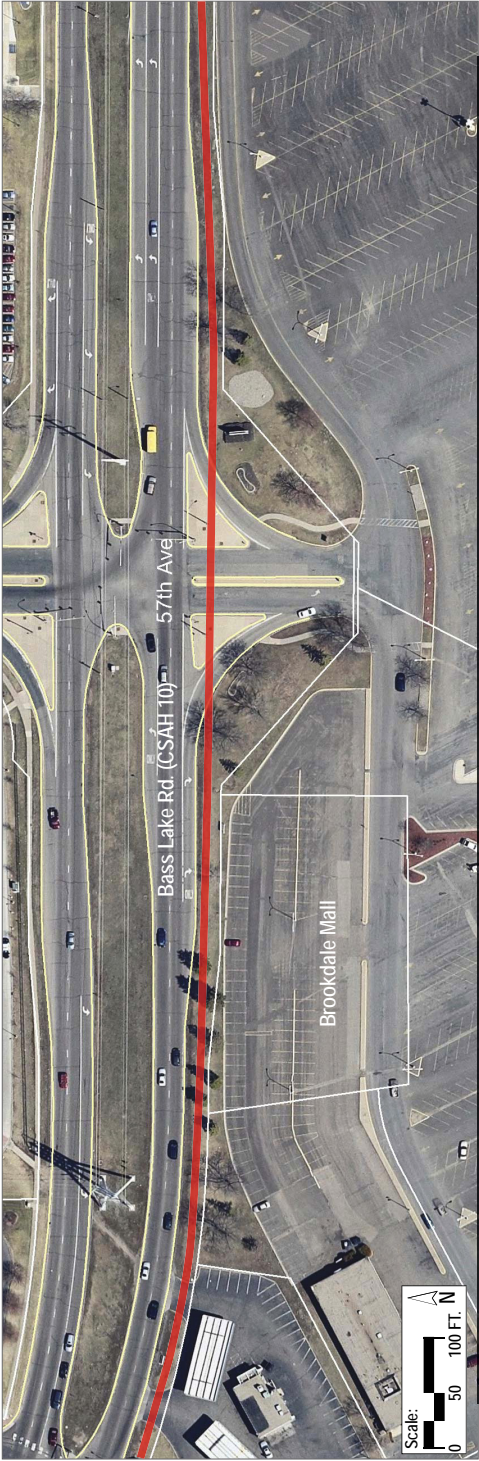
**Segment W13**  
Selected  
Alignment





Segment W14

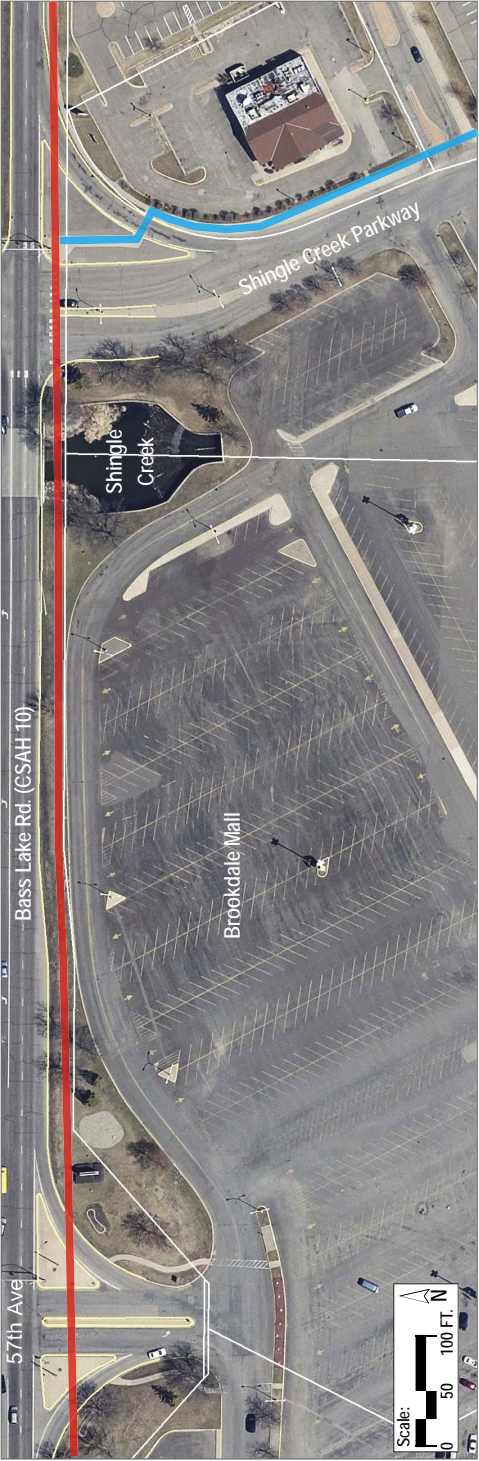
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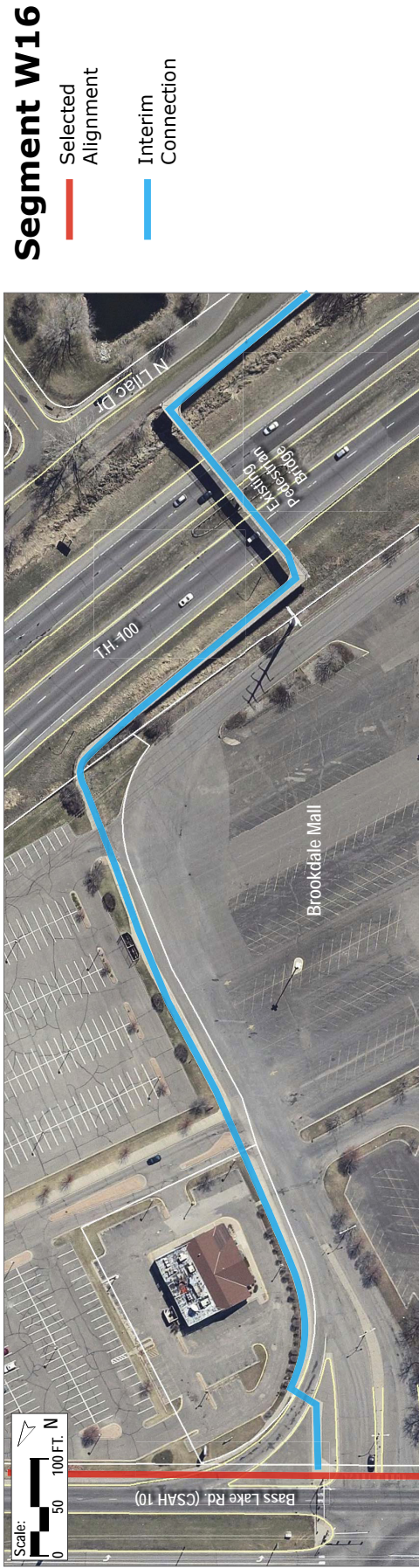
Segment W15

Selected  
Alignment

Interim  
Connection



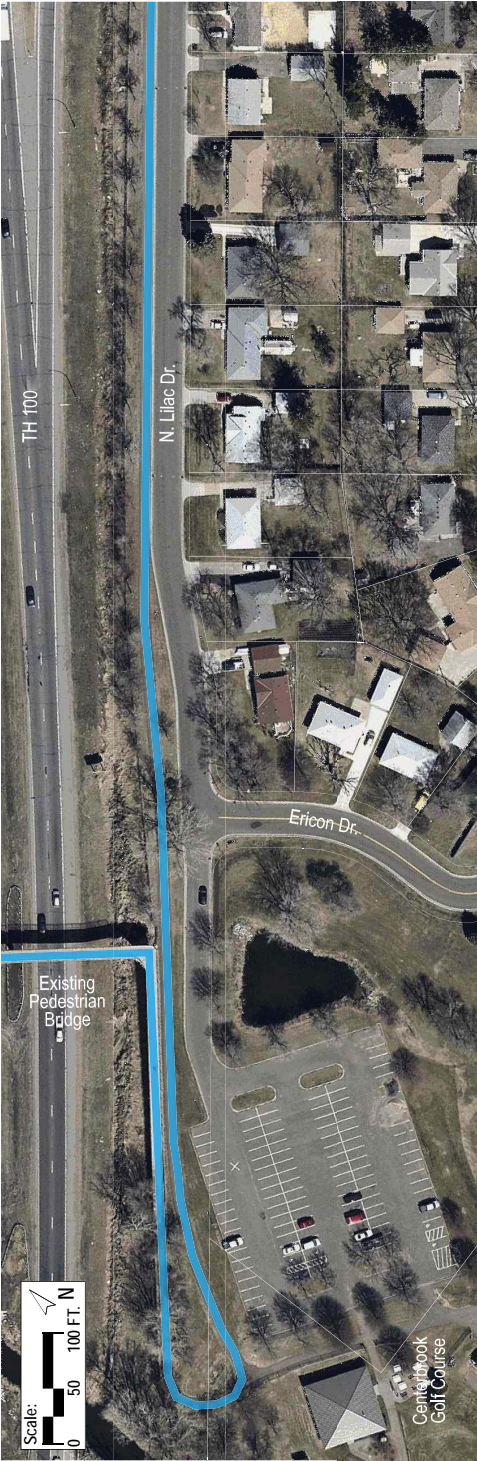






Segment E1

Interim  
Connection



Segment E2

Selected  
Alignment

Interim  
Connection





Segment E3

Selected Alignment

Selected Alignment Future Construction



Segment E4

Selected Alignment Future Construction





**Segment E5**

- Selected Alignment
- Future Construction



**Segment E6**

- Selected Alignment
- Future Construction





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# APPENDIX C - Wetland Descriptions

Wetland Type	Soil	Hydrology	Vegetation	Common Sites
<b>1</b>	Usually well-drained during much of the growing season	Covered with water or waterlogged during the variable seasonal periods	Varies greatly according to season and duration of flooding from bottomland hardwoods to herbaceous plants	Upland depressions, bottomland hardwoods (floodplain forests)
<b>2</b>	Saturated or nearly saturated during most of the growing season	Usually without standing water during most of the growing season but waterlogged within at least a few inches of the surface	Grasses, sedges, rushes, various broadleaved plants	May fill shallow basins, sloughs, or farmland sags; may border shallow marshes on the landward side and include low prairies, sedge meadows, and calcareous fens
<b>3</b>	Usually water logged during the growing season	Often covered with 6" or more of water	Grasses; bulrushes; spikerush; and various other marsh plants, such as cattail, arrowhead, pickereralweed, and smartweed	May nearly fill shallow lake basins or sloughs; may border deep marshes on landward side, commonly as seep areas near irrigated lands
<b>4</b>	Usually covered with 6" to 3' or more of water during the growing season	Usually covered with 6" to 3' or more of water during the growing season	Cattail; reed; bulrush; spikerush; and wild rice; open area may have pond weed, duckweed, waterlily, and spatterdock	May completely fill shallow lake basins, potholes, limestone sinks, and sloughs; may border open water in such depressions
<b>5</b>	Inundated	Usually covered with less than 10-foot-deep water; includes shallow ponds and reservoirs	Fringe of emergent vegetation: pond weed, duckweed, waterlily, and spatterdock	Shallow lake basins and may border large open water basins
<b>6</b>	Usually waterlogged during the growing season	Often covered with as much as 6" of water; water table is at or near the surface	Includes alder, willow, buttonbrush, dogwood, and swamp privet	Along sluggish streams, drainage depressions, and occasionally on floodplains
<b>7</b>	Waterlogged within a few inches of the surface during the growing season	Often covered with as much as 1' of water; water table is near the surface	Hardwood and coniferous swamps with tamarack, northern white cedar, black spruce, balsam fir, balsam poplar, red maple, and black ash, deciduous sites frequently support beds of duckweed and smartweed	Mostly in shallow ancient lake basins, old riverine oxbows, flat terrains, and along sluggish streams
<b>8</b>	Usually waterlogged during the growing season	Water table at or near the surface	Woody, herbaceous, or supporting a spongy covering of mosses; typical plants are heath shrubs, sphagnum mosses, sedges, leatherleaf, Labrador tea, cranberry, and cottongrass; may include stunted black spruce and tamarack	Mostly on shallow glacial lake basins and depressions, flat terrain, along sluggish streams

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# APPENDIX D - Detailed Cost Estimate

Estimated Project Construction Cost	Estimated Quantity	Unit of Measurement	Estimated Unit Cost	Estimated Total Cost
<b>TH 100/Bottineau Boulevard to Bass Lake Road/TH 100 (West Segment)</b>				
Existing Trail Reconstruction to Park District standards				
Existing Trail Pavement Removals	7,300	Lin Ft	\$ 14	\$ 102,200
Trail Reconstruction	7,300	Lin Ft	\$ 55	\$ 401,500
			Total	\$ 503,700
Twin Lakes Avenue				
Trail Construction	600	Lin Ft	\$ 55	\$ 33,000
Lakeside Avenue to Azelia Avenue (Potential Future Connection)				
Trail Construction	1,400	Lin Ft	\$ 55	\$ 77,000
Route through Brookdale Redevelopment (Potential Future Connection)				
Trail Construction	2,800	Lin Ft	\$ 55	\$ 154,000
Brooklyn Boulevard and 55th Avenue Intersection Crossing (see note 7)	1	Lump Sum	\$ 30,000	\$ 30,000
<b>SUBTOTAL RANGE</b>				<b>\$566,700 - \$797,700</b>

<b>Bass Lake Road/TH 100 to North Mississippi Regional Park (East Segment)</b>				
57th Avenue Trail Construction and Roadway Modifications				
* See notes 3, 6 and 8 through 11				
<b>Option A</b>				
Trail Construction	4,500	Lin Ft	\$ 55	\$ 247,500
Level A Wayfinding Signage	1	Each	\$ 38,000	\$ 38,000
Required Road Reconstruction	4,500	Lin Ft	\$ 415	\$ 1,867,500
* Assumes full reconstruction of road (see note 10)				
			Total	\$ 2,153,000
<b>Option B</b>				
Trail Construction	4,500	Lin Ft	\$ 55	\$ 247,500
Level A Wayfinding Signage	1	Each	\$ 38,000	\$ 38,000
Required Road Reconstruction	4,500	Lin Ft	\$ 85	\$ 382,500
* Assumes partial reconstruction of road (see note 11)				
			Total	\$ 668,000
<b>Option C</b>				
Trail Construction	4,500	Lin Ft	\$ 55	\$ 247,500
Level A Wayfinding Signage	1	Each	\$ 38,000	\$ 38,000
Required Road Reconstruction	4,500	Lin Ft	\$ 375	\$ 1,687,500
* Assumes full reconstruction of road (see note 10)				
			Total	\$ 1,973,000
<b>SUBTOTAL RANGE</b>				<b>\$668,000 - \$2,153,000</b>

<b>Bridges</b>				
Bass Lake Road/57th Avenue Bridge over TH 100 re-decking	1	Lump Sum	\$ 50,000	\$ 50,000
* Assumes no bridge deck widening required (see note 12)				
Bass Lake Road/57th Avenue Brige Approaches	1	Lump Sum	\$ 50,000	\$ 50,000
57th Avenue Bridge over I-94 Modifications	1	Lump Sum	\$ 210,000	\$ 210,000
* Assumes existing bridge width is sufficient to accommodate trail (see note 13)				
<b>SUBTOTAL</b>				<b>\$ 310,000</b>

**Total Estimated Project Construction Cost Range** **\$1,544,700 - \$3,260,700**

Estimated Easement/Right-of-Way Cost	Estimated Quantity	Unit of Measurement	Estimated Unit Cost	Estimated Total Cost
<b>TH 100/Bottineau Boulevard to Bass Lake Road/TH 100 (West Segment)</b>				
Existing Trail Reconstruction to Park District standards				
Residential Right of Way or Easements	13,280	Sq Ft	\$ 7.50	\$ 99,600
Commercial Right of Way or Easements	15,920	Sq Ft	\$ 7.50	\$ 119,400
* Assumes 4' width (see note 6)				
Twin Lakes Avenue				
Residential Right of Way or Easements	2,400	Sq Ft	\$ 7.50	\$ 18,000
* Assumes 4' width (see note 6)				
Lakeside Avenue to Azelia Avenue (Potential Future Connection)				
Residential Right of Way or Easements	6,400	Sq Ft	\$ 7.50	\$ 48,000
* Assumes 4' width (see note 6)				
Route through Brookdale Redevelopment (Potential Future Connection)				
Commercial Right of Way or Easements	45,000	Sq Ft	\$ 7.50	\$ 337,500
* Assumes 16' width (see note 6)				
<b>Bass Lake Road/TH 100 to North Mississippi Regional Park (East Segment)</b>				
57th Avenue Trail Construction and Roadway Modifications				
* See notes 3, 6 and 8 through 11				
<b>Option A</b>				
Residential Right of Way or Easements	4,200	Sq Ft	\$ 7.50	\$ 31,500
* Assumes 3' width east of Dupont Avenue (see note 6)				
<b>Option B</b>				
Residential Right of Way or Easements	7,000	Sq Ft	\$ 7.50	\$ 52,500
* Assumes 5' width east of Dupont Avenue (see note 6)				
<b>Total Estimated Project Easement/Right-of-Way Cost Range</b>				<b>\$268,500 - \$675,000</b>

\*See notes on next page



### Cost Estimate Notes:

1. Estimates include a 15% construction contingency factor for unforeseen costs and an additional 20% for design and administration.
2. Estimates are based upon 2010 construction costs.
3. Cost participation between Three Rivers Park District and other agencies on improvements beyond construction of the actual trail, such as the required roadway reconstruction of portions of 57th Avenue to accommodate the regional trail, shall be reviewed as implementation is considered.
4. Existing trail removal assumes 10' wide bituminous trail.
5. Existing trail reconstruction assumes 10' wide bituminous trail, turf establishment, and signage. Estimate does not include any retaining walls or streetscaping such as boulevard trees and decorative lighting.
6. Actual right of way or easement requirements should be confirmed in final design.
7. Brooklyn Boulevard and 55th Avenue intersection assumes island pavement and crosswalk construction only - no signal modifications.
8. 57th Avenue estimate includes roadway and/or sidewalk pavement removals, new roadway pavement, curb and gutter, trail pavement, two concrete driveways per block face, storm sewer reconfiguration, signage, striping, and turf establishment.
9. 57th Avenue estimate does not include any sanitary sewer or water main upgrades, retaining walls, or streetscaping such as boulevard trees and decorative lighting.
10. 57th Avenue Concepts A and C shift vehicle travel lanes requiring full roadway reconstruction to establish new pavement crown in appropriate location. See cross section graphics.
11. 57th Avenue Concept B maintains existing location of vehicle travel lanes so most roadway pavement could remain. South curb line reconstructed. See cross section graphics.
12. Bass Lake Road Bridge over TH 100 re-decking planned by Mn/DOT in 2013 will be evaluated to accommodate trail width that meets standards without widening the deck. Park District cost participation for trail component may be required.
13. 57th Avenue Bridge over I-94 Modifications assume bridge width is sufficient to widen trail an additional 7.5 feet on north side and include a barrier while still accommodating vehicle traffic. Resulting trail width is 14' clear (10' trail with 2' clear zones each side).