

# TH 5 REGIONAL TRAIL

## Master Plan

Lake Minnetonka LRT Regional Trail to Carver / Hennepin  
County Line at Dell Road



Approved February 20, 2018



# TH 5 REGIONAL TRAIL MASTER PLAN

*Lake Minnetonka LRT Regional Trail to Carver/Hennepin County Line at Dell Road*

*Approved by the Carver County Board, February 20, 2018*

*Approved by the Metropolitan Council, June 5, 2018*

**PREPARED FOR:**

Carver County Parks



**PREPARED BY:**

SRF Consulting Group



*This page was intentionally left blank*

# ACKNOWLEDGMENTS

The TH 5 Regional Trail Master Plan has been a team effort led by a dedicated group consisting of Carver County staff, along with local city and agency staff.

## PROJECT STEERING COMMITTEE

- Ann Mahnke, City of Victoria
- Brett Angell, Carver County
- Jon Carlson, City of Victoria
- Todd Hoffman, City of Chanhassen
- Greg Bagley, ISD 112
- Justin Schmidt, Life Time Fitness
- Peter Moe, U of MN Arboretum
- Michael Miles, Eastern Carver County Trails
- Marty Walsh, Carver County Parks
- Mike McLaughlin, ISD 112
- Tom Workman, Carver County
- Karen Doster, Carver County Public Health
- Curt Kobilarcsik, Carver County Parks Commission

## CONSULTING TEAM

- SRF Consulting Group

*This page was intentionally left blank*

# TABLE OF CONTENTS

<b>Introduction</b> . . . . .	<b>1</b>	Estimated Costs & Funding . . . . .	38
<b>Section I: Boundaries, Acquisitions, &amp; agreements</b> . . . . .	<b>3</b>	Visual Assessment of Trail Condition . . . . .	39
Location and Contextual Relationship . . . . .	3	<b>SECTION IV: Conflicts and Adjacent Public Services</b> . . . . .	<b>45</b>
Acquisition agreements or easements . . . . .	3	<b>Section V: Operations and Maintenance.</b> . . . . .	<b>47</b>
<b>Section II: Demand Forecast</b> . . . . .	<b>7</b>	Proposed Maintenance Activities . . . . .	47
Demographic Overview . . . . .	7	Public Safety . . . . .	48
Statewide and Regional Trends . . . . .	7	Sources of Revenue. . . . .	48
Methodology. . . . .	7	<b>Section VI: Public Engagement and Participation.</b> . . . . .	<b>49</b>
Aging Population . . . . .	7	Overview . . . . .	49
Minority Populations. . . . .	9	Regional Trail Planning. . . . .	49
Mental Health . . . . .	10	TH 5 Regional Trail Task Force Committee. . . . .	49
<b>Section III: Development Concept.</b> . . . . .	<b>13</b>	Carver County Park Commission . . . . .	50
Development Plan . . . . .	13	Public Communications/Social Media . . . . .	50
Dakota Rail Regional Trail . . . . .	14	Public Open Houses & Pop-up Meetings . . . . .	50
TH 5 Regional Trail . . . . .	14	<b>Section VII: Public Awareness</b> . . . . .	<b>55</b>
Lake Minnetonka Regional LRT Trail . . . . .	14	<b>Section VII: Accessibility.</b> . . . . .	<b>57</b>
Existing local trail . . . . .	14	Affordability . . . . .	57
Minnesota River Bluffs LRT Regional Trail . . . . .	14	<b>Appendix A: Trail Plans</b> . . . . .	<b>59</b>
Primary Trail Design Elements . . . . .	15	<b>Appendix B: Detailed Cost Estimate</b> . . . . .	<b>67</b>
Route Assessment. . . . .	20	<b>Appendix C: Resolutions of Support</b> . . . . .	<b>71</b>
Implementation . . . . .	38	<b>Appendix D: Public Input Materials.</b> . . . . .	<b>75</b>

*This page was intentionally left blank*

# LIST OF FIGURES

Figure 1: Land Acquisition/Agreement Map . . . . .	4	Figure 23: Segment 3 Existing Trail Width . . . . .	29
Figure 2: Land Acquisition/Agreement Area A . . . . .	5	Figure 24: Segment 3 Intersections . . . . .	30
Figure 3: Land Acquisition/Agreement and Acreage Summary . . . . .	5	Figure 25: Segment 4 and Segment 5 Intersections . . . . .	32
Figure 4: Primary Service Area . . . . .	8	Figure 26: Segment 4 and Segment 5 Existing Trail Width. . . . .	33
Figure 5: Primary Service Area Age Distribution . . . . .	9	Figure 27: Segment 6 Intersections . . . . .	35
Figure 6: Primary Service Area Population By Race . . . . .	9	Figure 28: Segment 6 Existing Trail Width . . . . .	36
Figure 7: Primary Service Area Population Forecast. . . . .	11	Figure 29: Segment 1 Visual Assessment of Trail Condition . . . . .	40
Figure 8: Regional Population Forecast . . . . .	11	Figure 30: Segment 2 Visual Assessment of Trail Condition . . . . .	41
Figure 9: Primary Service Area Household Description. . . . .	11	Figure 31: Segment 3 Visual Assessment of Trail Condition . . . . .	42
Figure 10: Typical Trail Section . . . . .	13	Figure 32: Segment 4 and Segment 5 Visual Assessment of Trail Condition	43
Figure 11: Existing Regional Trail Corridors Near TH 5 Regional Trail . . . .	14	Figure 33: Segment 6 Visual Assessment of Trail Condition . . . . .	44
Figure 12: Wayfinding and Signage Locations . . . . .	17	Figure 34: Trail Alignment Window A . . . . .	61
Figure 13: Wayfinding and Signage Location Map . . . . .	18	Figure 35: Alignment Window B . . . . .	63
Figure 14: Existing Sub-Standard Trail Segments . . . . .	19	Figure 36: Trail Alignment Window C . . . . .	65
Figure 15: TH 5 Regional Trail Segment Table . . . . .	20		
Figure 16: TH 5 Regional Trail Segment Map . . . . .	21		
Figure 17: Segment 1 Intersections . . . . .	22		
Figure 18: Segment 1 Existing Trail Width . . . . .	23		
Figure 19: Segment 2 Intersections . . . . .	25		
Figure 20: Segment 2 Existing Trail Width . . . . .	26		
Figure 21: Arboretum Trail Alignment - Preferred . . . . .	27		
Figure 22: Arboretum Trail Alignment - Alternate . . . . .	27		

*This page was intentionally left blank*

# INTRODUCTION

Carver County is developing the TH 5 Regional Trail Master Plan to fulfill a long-term planning objective of establishing a regional trail connecting several popular regional facilities and community centers. The TH 5 Regional Trail will utilize a combination of existing local trails, existing regional trails and unbuilt trail segments.

When completed, the TH 5 Regional Trail will extend 8.9 miles from the Carver County/Hennepin County line in Chanhassen, west to the Lake Minnetonka LRT Regional Trail in the City of Victoria. The trail will provide an off-road alternative for people to travel east and west for commuting or recreation, with connections to downtown Chanhassen, the Minnesota Landscape Arboretum and the Lake

Minnetonka LRT Regional Trail. Many local trails connect to the trail corridor and the trail will create links to popular city parks, such as Chanhassen's Lake Ann Park. The TH 5 Regional Trail will fulfill a segment of a Regional Trail Search Corridor as identified by the Metropolitan Council.



*This page was intentionally left blank*

# SECTION I: BOUNDARIES, ACQUISITIONS, & AGREEMENTS

## LOCATION AND CONTEXTUAL RELATIONSHIP

Located in eastern Carver County, the TH 5 Regional Trail will be classified as a Regional Linking Trail, as defined by the Metropolitan Council. Linking trails are intended to provide connections between regional system units such as regional trails, regional parks, or park reserves. The TH 5 Regional Trail will provide a direct connection to the Lake Minnetonka LRT Regional Trail. The eastern boundary of the proposed trail corridor will be two miles from the Minnesota River Bluffs LRT Regional Trail, and existing local trails that extend along TH 5 in Hennepin County will provide trail connections to this regional trail. Trunk Highway 5 is also referred to as Arboretum Boulevard. For this master plan, the roadway will be referred to as Trunk Highway 5 (TH 5).

The TH 5 Regional Trail will enhance the region's multi-modal transportation and recreation system by providing a safe and accessible trail connection to the University of Minnesota Landscape Arboretum and one of the region's premier destination trail facilities, the Lake Minnetonka LRT Regional Trail, which in turn, connects to Carver Park Reserve. The TH 5 Regional Trail will provide direct connections for people living in the suburban communities of Victoria and Chanhassen to vital employment, transportation hubs, retail, and recreational sites in the west metropolitan area – providing safety, economic development, mobility, and environmental benefits.

## ACQUISITION AGREEMENTS OR EASEMENTS

There are two locations within the trail corridor that will require agreements with the property owner for trail development. These include additional land at the southeast corner of the TH 41/TH 5 intersection to provide additional space for trail and underpass development, and an agreement with the University Board of Regents to develop a trail within the Minnesota Landscape Arboretum.

### Acquisition Area A: TH 41/TH 5 Intersection

A trail underpass is proposed that extends from the Minnesota Landscape Arboretum on the west, under TH 41 just south of the TH 5 intersection, connecting to MnDOT right-of-way on the east side of TH 41. Preliminary designs identify a need for an additional 0.5 acres of land on the east side of TH 41 to develop the trail. The cost of this right-of-way is based on 2017 tax assessed value is \$96,000. There may be other options including easements or agreements with property owners.

### Acquisition Area B: Minnesota Landscape Arboretum

The University of Minnesota Board of Regents will require a service agreement to develop the trail across Arboretum property. Carver County will negotiate the terms of the service agreement and cost for trail development through the Arboretum property with Arboretum staff.

## Willing Seller Policy

The regional trail acquisition, agreement, or easement process is typically a “willing-seller” approach. This means parcel acquisitions, agreements, or easements typically occurs when a property owner is willing and ready to. Several alternatives are often evaluated to best meet the needs of the property owner and the implementing agency. In addition, it is also common for an implementing agency to closely coordinate with local and regional agencies to partner on other opportunities that may assist in securing the required trail right-of-way. In turn, it is difficult to determine when agreements will occur and when the trail construction will begin. Alternatives to acquire additional right-of-way may include the following:

- Route the regional trail to use portions of the property with marginal development potential. This could include land adjacent to wetland or flood fringes.
- Acquire regional trail easements for the trail route through owner/developer negotiations that may include redevelopment incentives.
- Work with the city and owner/developer to secure park dedication lands for the regional trail in advance of the actual development as applicable.
- Coordinate with city initiatives that may result in the acquisition of the entire

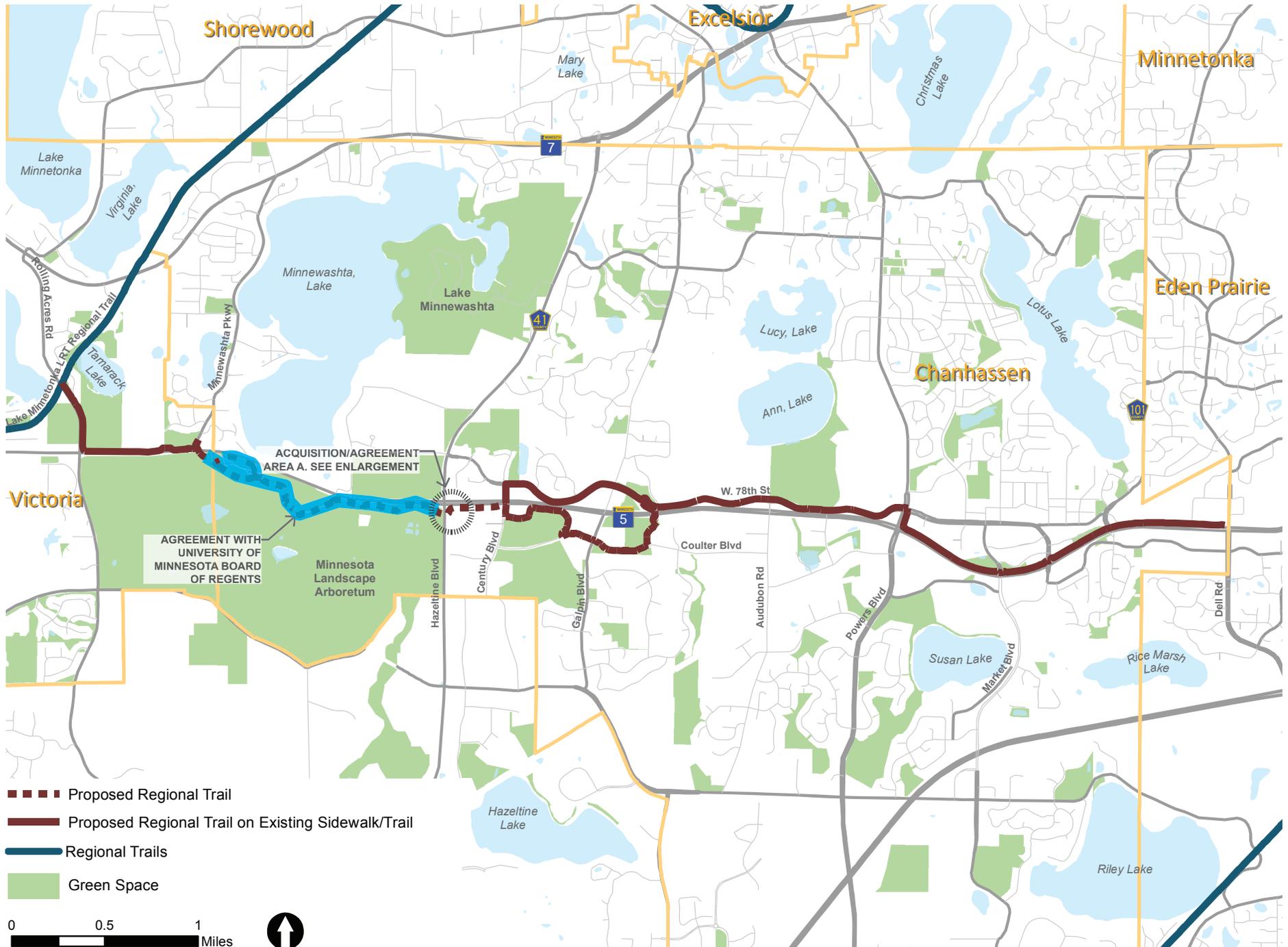


Figure 1: Land Acquisition/Agreement Map

property/parcel, with the intent to resell the property subject to easements for the regional trail.

- Acquire the development rights to the property. Development areas would then be negotiated with the developer.
- Accept donations for portions of the property for the regional trail corridor.
- Acquire a portion of the property through purchase.

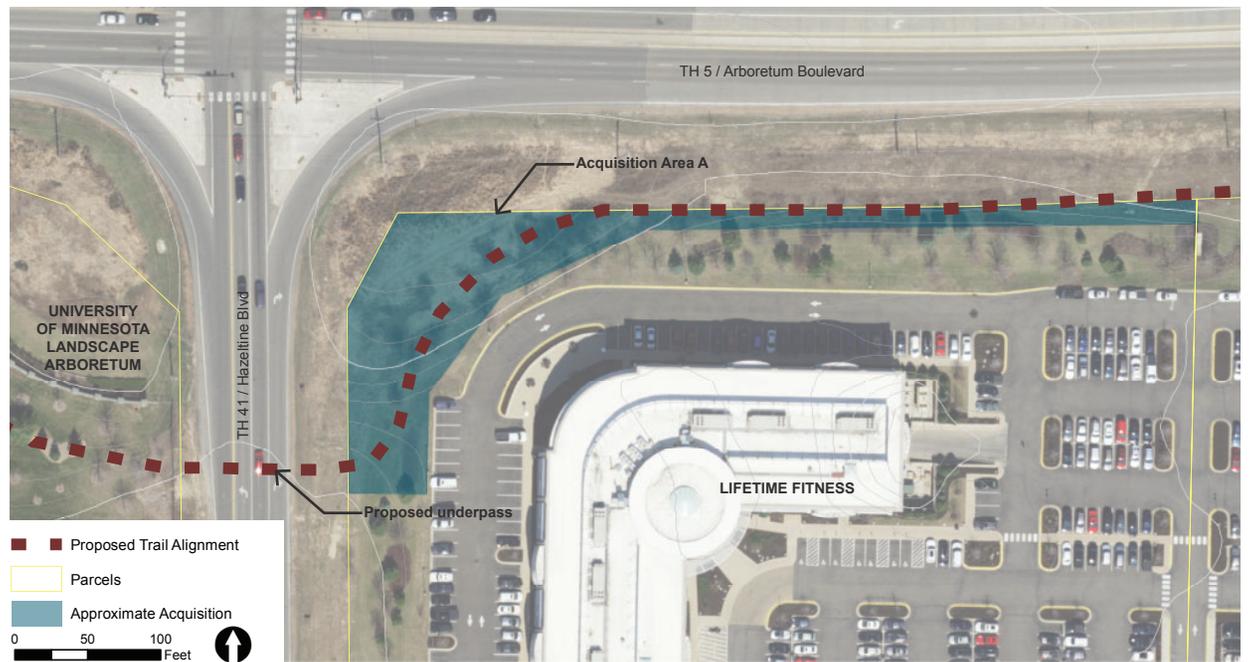


Figure 2: Land Acquisition/Agreement Area A

FUTURE ACQUISITION SUMMARY	ACRES	COST
Acquisition Area A	0.5	\$96,000
<i>*Based on 2017 tax assessed value of adjacent property</i>		

Figure 3: Land Acquisition/Agreement and Acreage Summary

*This page was intentionally left blank*

# SECTION II: DEMAND FORECAST

## DEMOGRAPHIC OVERVIEW

In general, recreation use trends are affected by demographic trends. By analyzing statewide and regional data, Carver County can begin to assess how the TH 5 Regional Trail will function within the larger trail network.

## STATEWIDE AND REGIONAL TRENDS

The 2014-2018 State Comprehensive Outdoor Recreation Plan (SCORP), published by the Minnesota DNR, 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.

The Metropolitan Council's 2040 Regional Parks Policy Plan notes that, according to SCORP, several studies show that involvement in nature-based outdoor recreation among young adults and their children had decreased since the 1990s. SCORP also notes that location plays a significant role because many users of the regional trail system live within three miles of

the park or trail that they utilize. Regional trails play an important role because they provide healthful forms of exercise for people of all age groups that can be carried out by families, groups, or individuals.

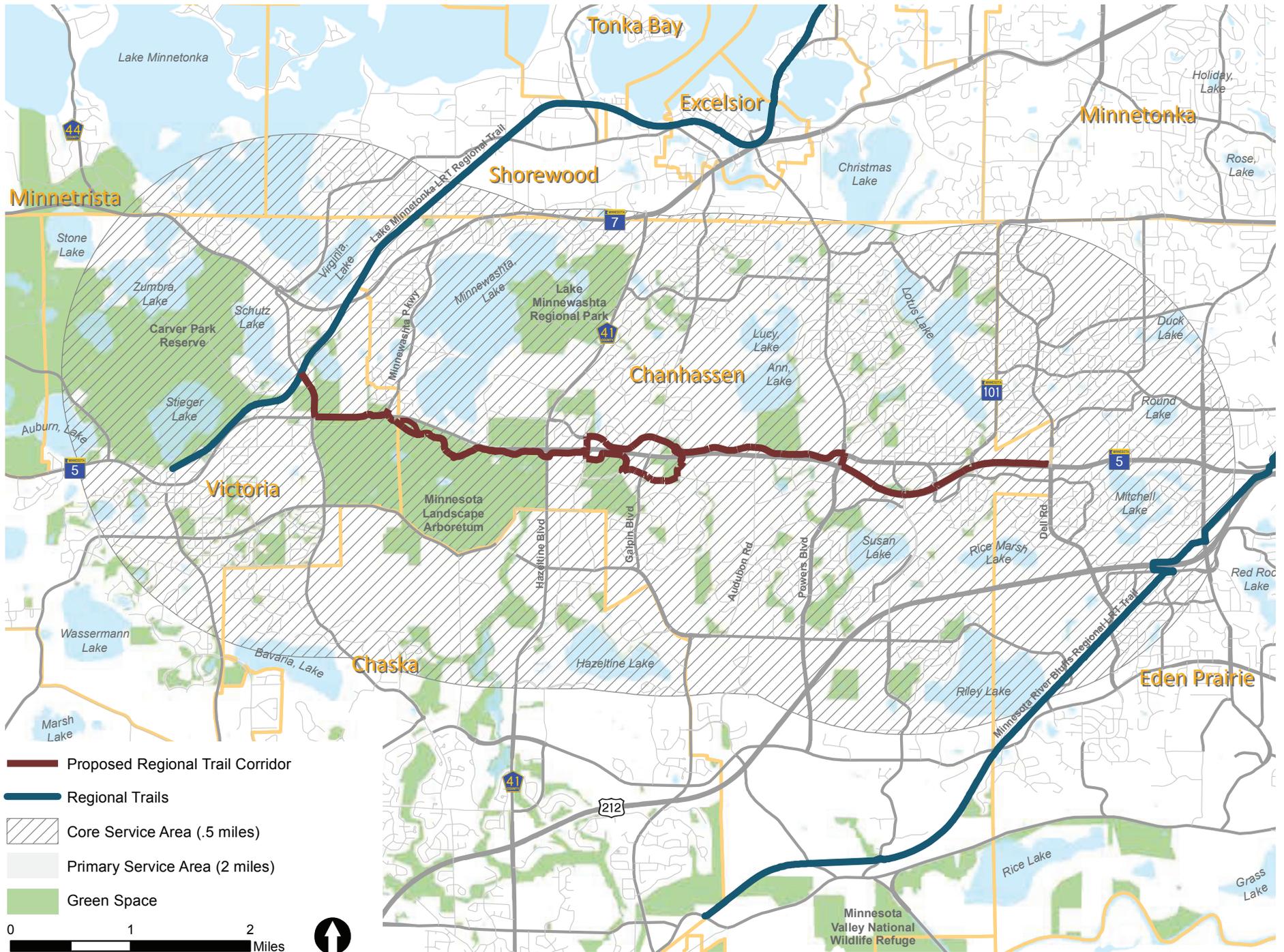
According to SCORP, Minnesota's growth rate has increased since 2000, but at a slower rate than in the 1990s. Although population growth in the state has slowed, the geographic pattern of growth remained largely the same with the high growth areas centered on the Twin Cities metropolitan area. This new growth will fuel demands for near-home recreation opportunities in these areas. The Metropolitan Council's Thrive 2040 MSP forecasted growth rate for the TH 5 Regional Trail's primary service area is anticipated to increase by approximately 22,000 people (Figure 7). Outside factors such as gas prices, trail infrastructure improvements, and increased local sidewalk and trail network connectivity, may also promote increased use as trail users look for more recreation opportunities closer to home and use of the regional trail system as part of their transportation network. Within fully developed areas where population levels are expected to remain relatively stable, trail visitation levels and type of use will also reflect shifting demographics of those areas.

## METHODOLOGY

To analyze demographics specific to the TH 5 Regional Trail, Carver County used a quantitative measuring methodology that identifies a primary service area that is two miles on all sides of the proposed trail corridor (Figure 4). This methodology provides detail specific to the primary service area for the proposed trail corridor, which is defined as users within two miles of the trail corridor. The demographic data on the following pages is based on the primary service area.

## AGING POPULATION

While the trend of young adults and their children shows a reduction in their involvement in nature-based recreation, SCORP notes that older adults have maintained a more stable involvement in outdoor recreation. Older adult recreation habits are well established and demand for their preferred 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. Many of these activities are accommodated by the regional trail system. Figure 5 shows that approximately 41 percent of the residents



-  Proposed Regional Trail Corridor
-  Regional Trails
-  Core Service Area (.5 miles)
-  Primary Service Area (2 miles)
-  Green Space



Figure 4: Primary Service Area

in the primary service area are currently between the ages of 40 and 64. The TH 5 Regional Trail provides a recreational opportunity for older residents. A continuous, wide, and separated trail with limited elevation changes will serve this population well. This trail will also serve the population under the age of 18, the second largest population group in the primary service area, by providing a safe bicycle route to schools, parks, and other destinations.

### MINORITY POPULATIONS

Metropolitan Council demographers anticipate that by 2040, 40 percent of the region’s population will be people of color, compared with 24 percent in 2010. Within the primary service area, 10.47 percent of the population are non-white (Figure 6). The minority population within the service area is significantly lower than the regional average, but a primary objective of the master plan is to accommodate present and future trail users of all backgrounds. One strategy that may be explored is providing Universal Pictorial Signage.

### OTHER TRENDS AFFECTING RECREATION

Physical fitness and access to recreation facilities are two elements that affect recreation trends. A 2013 study by the Minnesota Department of Health found that statewide 26 percent of adults were obese and 36 percent were overweight. Obesity is a key

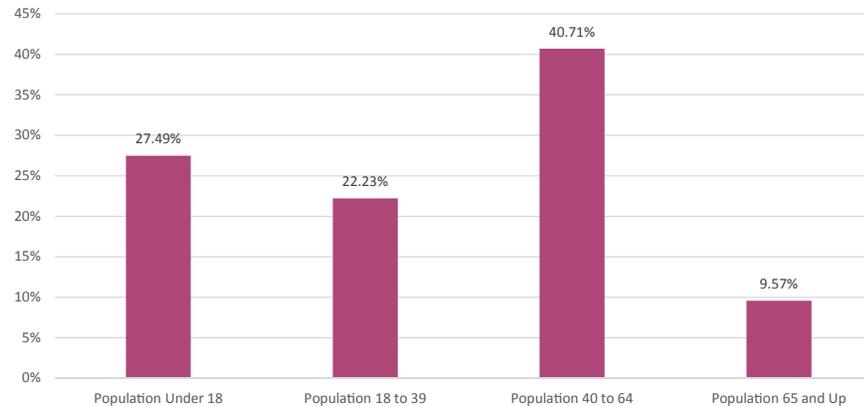


Figure 5: Primary Service Area Age Distribution

Source: 2015 American Community Survey

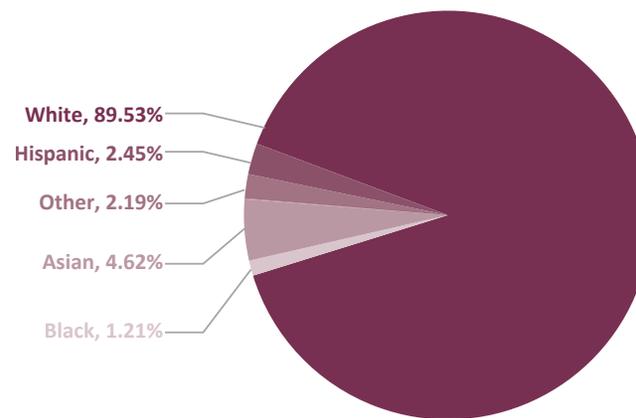


Figure 6: Primary Service Area Population By Race

Source: 2015 American Community Survey

predictor for many future health problems, including diabetes. Lack of adequate exercise – partially resulting from inadequate outdoor recreation facilities or opportunities – is often cited as a contributor to obesity. Thus, many young people are not getting enough exercise and face future health risks. The economic health of the state relies on continued use and enjoyment of our outdoor recreation resources. Availability of a wide range of outdoor recreation opportunities is one of the factors most often cited as contributing to the state’s perceived high quality of life. Participation in outdoor recreation may correspond to a greater interest in and support for measures to protect land, facilities, and resources necessary to ensure those same activities are available for future generations.

Physical inactivity causes numerous physical and mental health problems, is responsible for an estimated 200,000 deaths per year in the United States, and contributes to the obesity epidemic. The design of communities and the presence or absence of parks, trails, and other quality public recreational facilities affects people’s ability to reach the recommended 30 minutes each day of moderately intense physical activity. A growing number of studies show that people in activity-friendly environments are more likely to be physically active in their leisure time. For example, research findings clearly indicate that

better access to facilities, pleasant surroundings, safe places, walkable neighborhoods, and activity-friendly environments all encourage higher levels of active recreation. Proximity, connectivity, and design quality of trails can be added to this list to encourage more active lifestyles.

This is especially the case with children, where better access to healthy choices is vital to reducing the rate of obesity. Since the 1970s the percentage of obese children 6 to 11 years old has tripled. Obesity has doubled among preschool children and adolescents. Turning these statistics around means increasing children’s physical activity and improving what they eat.

Being able to reach or access a variety of destinations (e.g., parks, retail areas, tourist site, workplaces, health services, grocery stores) via trails is critical to many dimensions of a healthy community and healthy personal lifestyle. Ensuring that trails meet ADA standards is important to accommodate the broadest cross-section of user groups.

### **MENTAL HEALTH**

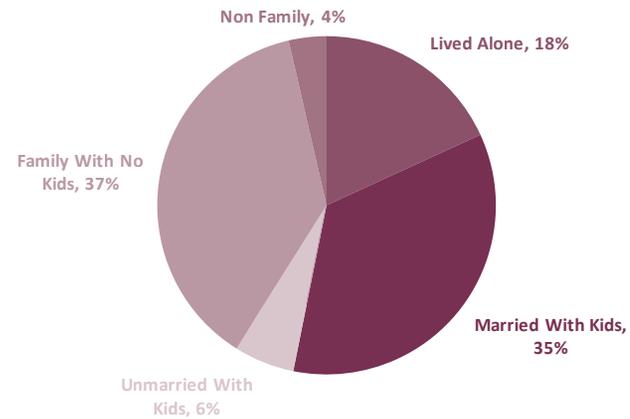
Several studies have demonstrated how being outdoors and in direct contact with nature leads to improved mental health and psychological development. Recent data show that mental health disorders will account for some of the world’s largest

health problems in upcoming decades. People do not have to actively use nature to benefit from it; rather, visual exposure is enough. The outdoor experience offered along the TH 5 Regional Trail will, at some level, contribute positively to the collective well-being of the communities along the trail corridor.



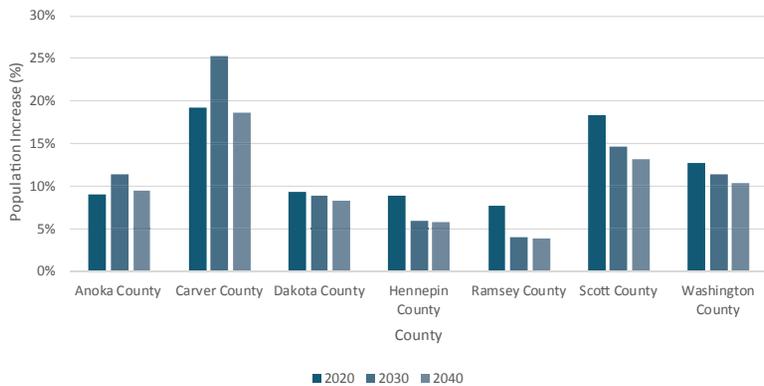
**Figure 7: Primary Service Area Population Forecast**

Source: Thrive MSP 2040 - Forecasts as of January 1, 2017



**Figure 9: Primary Service Area Household Description**

Source: 2015 American Community Survey



**Figure 8: Regional Population Forecast**

Source: Thrive MSP 2040 - Forecasts as of January 1, 2017

*This page was intentionally left blank*

# SECTION III: DEVELOPMENT CONCEPT

When fully developed, the TH 5 Regional Trail will provide residents of Carver County with trail access to downtown Chanhassen, the University of Minnesota Landscape Arboretum and the Lake Minnetonka LRT Regional Trail. Trail users will be able to use the TH 5 Regional Trail to travel between the Lake Minnetonka LRT Regional Trail to the Minnesota River Bluffs LRT Regional Trail on separated off-road facilities. (Figure 11). In addition, the regional trail will provide a separated, off-road facility for recreation and transportation purposes that will connect with adjacent local trails and other recreation amenities, such as Lake Ann Park, Chanhassen Recreation Center, and Bluff Creek Elementary School. The trail will also provide connections to downtown Chanhassen, Paisley Park, and Lifetime Fitness.

## DEVELOPMENT PLAN

### Permitted Regional Trail Uses

The regional trail will be open to the general public. The intended uses include walking, jogging, in-line skating, bicycling, and other uses mandated by state law including, but not limited to, non-motor electric personal assisted devices. Motorized vehicle and equestrian uses will be prohibited, except for motorized vehicles used by the Carver County and partner cities for maintenance or law enforcement activities or otherwise permitted for Americans with

Disabilities Act (ADA) access.

### Regional Trail Design Guidelines

The trail design for the TH 5 Regional Trail is a 10-foot-wide paved surface separated from vehicular traffic (Figure 10). There are several locations where the trail will remain in its current, eight-foot width until funding is available to widen these segments to ten feet, the desired width for regional trails in Carver County (Figure 14). A bituminous trail surface is preferred because it is cost-effective, less prone to erosion than aggregate surfaces, provides for a more desirable trail user experience.

Several factors will be taken into consideration as final designs for unconstructed segments are implemented, such as:

- 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, and businesses

In circumstances with limited right-of-way, trails will still be located off-road, but with less boulevard

between the trail edge and back of curb. In these locations, the trail will be separated from the road, with few exceptions, by a minimum paved two-foot clear zone. This paved clear zone between the back of curb and trail edge provides a buffer between the trail users and motorists and will be striped to delineate the edge of the trail. Pedestrian ramps will be included at all roadway crossings. To meet ADA design guidelines, regional trails should have a maximum of 8.3 percent grade, but should try to achieve a five percent slope in all but extreme circumstances, and a cross slope of two percent for drainage. Regional trails may be wider than 10 feet if forecasted user volumes warrant an increased width and space is available for

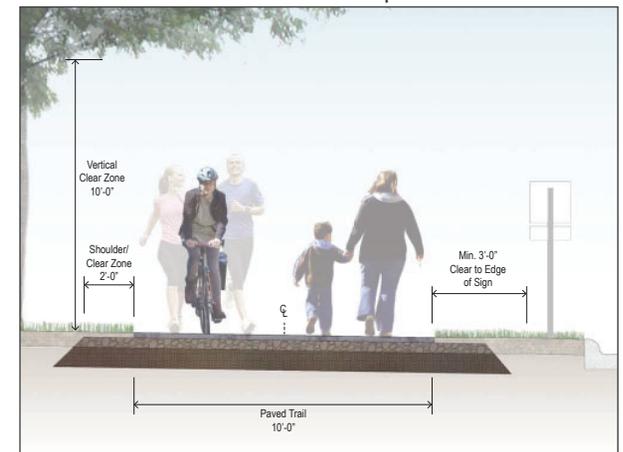


Figure 10: Typical Trail Section



the trail. In addition, where right-of-way allows, final trail design will attempt to maximize the boulevard width to account for sign placement and snow storage.

Regional trail segments will be designed in accordance with all applicable federal, state, and local codes. In addition, trail development will adhere to the following guidelines:

- Guide for the Development of Bicycle Facilities, prepared by the American Association of State Highway and Transportation Officials (AASHTO), 2012
- MnDOT Bikeway Facility Design Manual, Minnesota Department of Transportation (MnDOT), March 2007
- State Aid Rule 8820.9995 Minimum Bicycle Path Standards, State Aid for Local Transportation
- Trail Planning, Design, and Development Guidelines, Minnesota Department of Natural Resources (MnDNR)
- Manual on Uniform Traffic Control Devices (MUTCD), MnDOT, 2014
- Public Right-of-Way Access Guidelines (PROWAG)
- Best Practices for Traffic Control at Regional

Trail Crossings, a collaborative effort of Twin Cities road and trail managing agencies, July 2011

- Selecting Roadway Design Treatments to Accommodate Bicycles, Federal Highway Administration, January 1994
- Bicycle and Pedestrian Wayfinding, Metropolitan Council, October 2011

## PRIMARY TRAIL DESIGN ELEMENTS

### Trail Crossings

The suburban setting for the TH 5 Regional Trail requires that it coexist with higher volume roadways. There are numerous locations where the regional trail crosses such roadways, including:

- Minnewashta Parkway (At-Grade)
- TH 5 at Minnewashta Parkway (Existing Underpass)
- TH 41/Hazeltine Boulevard (Proposed Underpass)
- Century Boulevard/TH5 (At-Grade/Proposed Underpass)
- Galpin Boulevard (At-Grade)
- Audubon Road (At-Grade)

- Lake Ann Park Drive (At-Grade)
- Powers Boulevard (At-Grade)
- Market Boulevard (At-Grade)
- Great Plains Boulevard (At-Grade)
- Dell Road (At-Grade)

The types of trail crossing treatments appropriate for each crossing location will be designed in accordance with industry best practices to minimize conflicts between trail users and roadway traffic.

In all cases, existing roadway configuration, infrastructure elements, vegetation, and other potential visual obstructions will be evaluated so sight lines can be maintained. Special provisions, such as mirrors, may be added to improve trail visibility from driveways if deemed appropriate. As vehicular traffic fluctuates, there may be a need for additional traffic signals or modifications to existing signalized intersections. These type of design considerations and trail enhancements will be addressed during the trail design development phase.

### Trail Underpasses

Trail underpasses are a good alternative to at-grade crossings of busy roadways. Along the TH 5 corridor, where traffic can be very heavy, three existing underpass crossings provide a more efficient and safer way to cross the road. The existing underpasses are

located at Bluff Creek just north of the Chanhassen Recreation Center and at Minnewashta Parkway.

The third trail underpass is present at Lake Ann Park, providing local connections to the proposed regional trail corridor. Two additional underpasses are proposed as part of this master plan at TH 41 just south of TH 5 and Century Boulevard at TH 5. The benefit of a trail underpass is that it provides safe access to the other side of a high-volume roadway without interaction with vehicular traffic. Several factors need to be considered when planning the location for underpasses. Groundwater levels, existing grades and sufficient right-of-way are all important considerations to assess when locating underpasses.

## 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.

### Trail Amenities

Wayfinding Signage: Regional trail wayfinding signage provides trail users with orientation and location information for amenities and services. Wayfinding signage may provide:

- An overview map of the regional trail network in Carver County, and 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 suburban nature of the TH 5 Regional Trail requires wayfinding signage at strategic delineated points (Figure 12 & Figure 13). These typically include major roadway intersections with other trails, trailheads, parks or other adjacent public facilities. The exact location and content of wayfinding signage will be determined in conjunction with local community input and is often dictated by available public right-of-way.

Carver County Parks incorporates kiosks at trailheads as wayfinding signage to identify trail routes, system amenities, and to provide interpretation of local history or other amenities. Developing directional



*Example of Wayfinding Signage.*



*Existing Lake Minnetonka LRT Regional Trail Directional Wayfinding Signage.*

signage for the TH 5 Regional Trail that includes visual indication of direction and location of points of interest along the trail will benefit trail users along the trail route. The design of the directional sign can include arrow blades and/or text to identify features. Descriptions of each are as follows:

**Kiosks:** A free-standing structure that provides trail users with a map of the park or trail system, the park or trail rules, and general information about the park or trail.

**Directional Signage:** A post structure depicting the direction, the name, and the distance to major destinations and points of interest on the trail.



Example of Rest Stop.



Example of Kiosk.



Example of Trail Stop Sign.

DIRECTIONAL SIGN
Lake Minnetonka LRT Regional Trail and Rolling Acres Road
TH 5 and Rolling Acres Road
TH 5 and Minnewashta Parkway
Arboretum Drive at Minnesota Landscape Arboretum gate house
TH 5 and Century Boulevard
Century Boulevard and West 78th Street
Century Boulevard and Chanhassen Nature Preserve (Alternate Route)
Chanhassen Nature Preserve and Coulter Boulevard (Alternate Route)
Galpin Boulevard and Coulter Boulevard (Alternate Route)
Chanhassen Recreation Center and Coulter Boulevard (Alternate Route)
Bluff Creek underpass and West 78th Street (Alternate Route)
West 78th Street and Powers Boulevard
TH 5 and Powers Boulevard
TH 5 and Dell Road
KIOSK
Lake Minnetonka LRT Regional Trail and Rolling Acres Road
Arboretum Drive at Minnesota Landscape Arboretum gate house
Lake Ann Park
TRAILHEAD
Lake Ann Park
REST STOP
University of Minnesota Landscape Arboretum

Figure 12: Wayfinding and Signage Locations



- ■ ■ ■ Proposed Regional Trail
- Proposed Regional Trail on Existing Sidewalk/Trail
- Regional Trails
- Green Space



Figure 13: Wayfinding and Signage Location Map

**Rest Stops:** Rest stops are located at key locations and provide places for trail users to stop and rest along the trail and an area for amenities such as benches, and bicycle racks. These simple but important amenities can serve to reinforce the identity of the regional trail route. Locations for rest stops will be evaluated and incorporated into TH 5 Regional Trail as appropriate during design and implementation. The cost per rest stop is approximately \$6,000 each (2017 dollars).

**Traffic Signage and Devices:** In addition to wayfinding signage, the regional trail will incorporate traffic control signs and devices, such as trail stop signs and trail crossing signage. These signs and devices will reflect the physical characteristics and usability of individual trail segments and the system as a whole. Therefore, as trail segments are developed (or reconstructed), trail signs and devices may require modification.

**Drainage**

In many locations, the drainage of the regional trail is similar to that of a typical sidewalk. 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

route, such as through parks or other green spaces, alternative stormwater best management practices, such as rain gardens and infiltration swales, may be explored during the design phase of the regional trail. Stormwater must shed rapidly from the surface of the trail to prevent hazardous situations for the users, such as water pooling on the trail surface.

**Sub-Standard Trail Segments**

Eight existing trail segments do not meet regional

trail design standards, which are identified in Figure 14. The trail segment from Century Boulevard to the Bluff Creek underpass is proposed as a temporary trail alignment, until a permanent trail can be developed. It is the intent of Carver County to bring existing segments of trail into compliance when reconstruction is needed, or other opportunities present themselves.

EXISTING SUB-STANDARD TRAIL SEGMENTS				
FROM	TO	ALONG	MATERIAL	LENGTH
Lake Minnetonka LRT Regional Trail	Western property boundary of the Minnesota Landscape Arboretum Apple House	Rolling Acres Rd	8' Bituminous	0.1
Eastern property boundary of the Minnesota Landscape Arboretum Apple House	Underpass near Minnewashta Parkway and TH 5	TH 5	8' Bituminous	0.2
Century Boulevard	Galpin Boulevard	Coulter Blvd	8' Bituminous	0.8
Galpin Boulevard	Eastern edge of Chanhassen Recreation athletic fields	Coulter Blvd	8' Concrete	0.3 mi
Eastern edge of Chanhassen Recreation athletic fields	Concrete to Asphalt pavement transition through Athletic Fields	Chanhassen Recreation Center	6' Concrete	0.1 mi
Concrete to Asphalt pavement transition through Athletic Fields	West 78th Street	Bluff Creek Underpass	8' Bituminous	0.3
Market Boulevard	Great Plains Boulevard	TH 5	8' Concrete	0.2 mi
Chanhassen Rd	Dell Rd/ County Line	TH 5	8' Bituminous	0.6 mi

Figure 14: Existing Sub-Standard Trail Segments

## ROUTE ASSESSMENT

The section of the TH 5 Regional Trail covered in this master plan has been divided into six segments (Figure 15 & Figure 16) that are composed of developed and undeveloped trail. To preserve and protect the longevity of the trail and rights and responsibilities associated with owning, operating, and maintaining a regional trail, public trail easements are recommended for the entire corridor, regardless of the compliance of existing segments with the design standards of the governing agency. Securing easements to bring non-compliant trail segments into compliance is important, but it is less important than securing easements for trail sections that currently do not exist. The trail segments are described in detail on the following pages.

TH 5 REGIONAL TRAIL SEGMENTS				
SEGMENT	FROM	TO	ALONG	LENGTH
Segment 1	Lake Minnetonka LRT Regional Trail	Minnewashta Pkwy	Rolling Acres Rd	1.2 mi
Segment 2	Minnewashta Pkwy	Century Blvd	Minnesota Landscape Arboretum	1.8 mi
Segment 2 Alternate	Minnewashta Pkwy	Century Blvd	Minnesota Landscape Arboretum	1.9 mi
Segment 3	Century Blvd	Bluff Creek Underpass	W 78th St	1.1 mi
Segment 3 Alternate	Century Blvd	Bluff Creek Underpass	Coulter Blvd	1.5 mi
Segment 4	Bluff Creek Underpass	Audubon Rd	W 78th St	0.6 mi
Segment 5	Audubon Rd	Market Blvd	W 78th St	1.5 mi
Segment 6	Market Blvd	Dell Rd/ County Line	TH 5	1.2 mi

Figure 15: TH 5 Regional Trail Segment Table

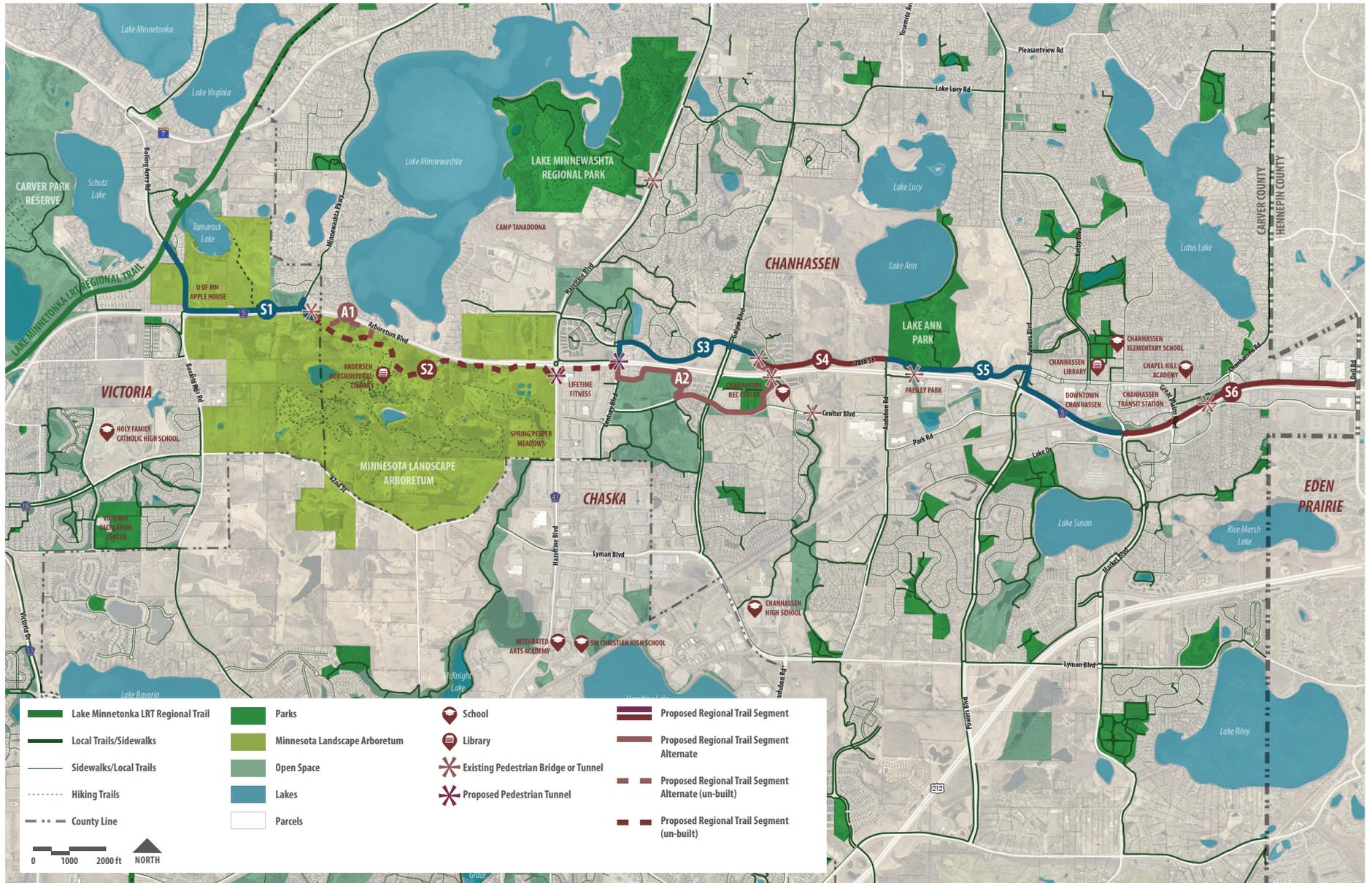


Figure 16: TH 5 Regional Trail Segment Map

**Segment 1- Lake Minnetonka LRT Regional Trail to Underpass at Minnewashta Parkway**

Segment 1 measures approximately 1.2 miles long and extends from Lake Minnetonka LRT Regional Trail to the underpass at Minnewashta Parkway, near the west trail entrance into the Minnesota Landscape Arboretum. Segment 1 will extend south from the Lake Minnetonka LRT Regional Trail utilizing the existing trail along the east side of Rolling Acres Road to TH 5. At TH 5, the trail will extend east utilizing the existing Victoria Regional Trail along the north side of TH 5. Segment 1 runs adjacent to the University of Minnesota Landscape Arboretum Apple House and connects to the Lake Minnetonka LRT Regional Trail.

While the entire length of segment 1 utilizes existing trail, trail widening and intersection upgrades will be required to meet ADA and the preferred regional trail width. The trail segment from the Minnetonka LRT Regional Trail to the property boundary of the

Minnesota Landscape Arboretum Apple House will require two feet of widening from the existing eight-foot bituminous trail to a ten-foot bituminous trail. In addition, the stop sign trail crossing pedestrian ramp at Tamarack Trail will require upgrading to meet current ADA standards when this trail segment is upgraded from eight feet to a ten-foot-wide trail. The trail segment traveling along the Minnesota Landscape Arboretum Apple House property is a new ten-foot bituminous trail. This trail segment will not require any upgrades to meet the preferred 10-foot width. East of the Apple House, the trail extends along the north side of TH 5 to Minnewashta Parkway and an underpass under TH 5 that extends the trail into the Minnesota Landscape Arboretum. This eight-foot bituminous trail segment will require widening to meet the standards. The Minnewashta Parkway intersection along this trail sub segment meets ADA standards. However, several comments were received by the public regarding intersection

safety due to high traffic volumes. Intersection safety improvements at Minnewashta Parkway will be evaluated during final design of Segment 1. In addition, the steep topography that is currently present on the portion of the trail that travels through the open space property may be addressed when the trail is upgraded. However, the existing wetland and natural topography may make it infeasible to reduce the slope.

SEG	INTERSECTION	PEDESTRIAN RAMP MEETS STANDARDS	SIGNALIZED, STOP SIGN, OR MID BLOCK CROSSING	CROSSING INCLUDES PEDESTRIAN PUSH BUTTON POSTS	CROSSING INCLUDES AUDIBLE NOTIFICATION	CROSSING INCLUDES COUNT DOWN TIMERS
Seg 1	Rolling Acres Rd and Tamarack Trail	No	Stop Sign	-	-	-
Seg 1	Rolling Acres Rd and TH 5	Yes	Signalized	Yes	Yes	Yes
Seg 1	TH 5 and Tamarack Lake Driveway	Not built	Stop Sign	-	-	-
Seg1	Minnewashta Pkwy and TH 5	Yes	Stop Sign	-	-	-

Figure 17: Segment 1 Intersections

### TRAIL LENGTH - S1

1.2 miles

### TRAIL WIDTH - S1



Figure 18: Segment 1 Existing Trail Width



Lake Minnetonka LRT Regional Trail and Rolling Acres Road



Driveway into Apple House



8' trail along open space property with steep grades



8' at grade trail crossing at Tamarack Trail and Rolling Acres Road



Existing trail spur to the intersection of TH5 and Rolling Acres Road



At grade trail crossing Minnewashta Parkway



New 10' trail along Minnesota Landscape Arboretum Apple House property



Existing 10' trail along TH 5



Underpass into Minnesota Landscape Arboretum at TH 5 and Minnewashta Parkway

**Segment 2- Underpass at Minnesota Landscape Arboretum to Century Boulevard**

Segment 2 measures approximately 1.8 miles long and extends from the underpass at the Minnesota Landscape Arboretum to Century Boulevard. Segment 2 will extend east from the underpass into the Minnesota Landscape Arboretum along the north side of Arboretum Drive. Wetland impacts and tree removals will be required to construct a trail along Arboretum Drive (Figure 21). An alternate trail alignment with less wetland impacts utilizes an old road alignment through the upland forest north of the wetland complex. The proposed trail alternate continues along TH 5 right-of-way to an existing underground utility corridor crossing the wetlands (Figure 22). The trail then heads south on the existing underground utility corridor on a proposed boardwalk. Alternatively, additional fill could be

added to the existing utility corridor. This option would likely require wetland impacts. Whether the arboretum trail extends along the alternate route or the preferred route will be determined when design development is underway for that segment of trail and will depend on input from the University of Minnesota Landscape Arboretum.

Both trail options will utilize the same route from the existing parking lots to Century Boulevard. The trail will continue along the north side of the existing parking lots. The trail then wraps around an existing collection of coniferous trees to connect to the existing gate house where trail users can pay to enter the Arboretum. The trail then extends northeast on the east side of Arboretum Drive. The trail continues east through the Arboretum property along TH 5. This portion of segment 2 will require retaining walls and tree removals to construct. The trail continues

by wrapping around the back side of the existing Arboretum entrance sign to connect to the proposed underpass at TH 41. The TH 41 underpass will be built in anticipation of future road widening. From the proposed underpass at TH 41, the trail continues east within MnDOT right-of-way along the south side of Trunk Highway 5. This trail segment will extend along the north side of the Lifetime Fitness parking lot. The trail segment will extend across the signalized intersection at Century Boulevard. Currently, Century Boulevard does not have any pedestrian infrastructure on the south side. The pedestrian infrastructure on the north side of Century Boulevard will require upgrades to meet current ADA standards.

SEG	INTERSECTION	PEDESTRIAN RAMP MEETS STANDARDS	SIGNALIZED, STOP SIGN, OR MID BLOCK CROSSING	CROSSING INCLUDES PEDESTRIAN PUSH BUTTON POSTS	CROSSING INCLUDES AUDIBLE NOTIFICATION	CROSSING INCLUDES COUNT DOWN TIMERS
Seg 2 & 2A	Century Blvd and TH 5	No	Signalized	No	No	No
Seg 2 & 2A	Arboretum Drive and existing trail near underpass at Minnewashta Parkway	No	Uncontrolled	-	-	-
Seg 2 & 2A	Arboretum Drive and Arboretum gate house	No	Stop Sign	-	-	-

Figure 19: Segment 2 Intersections

**TRAIL LENGTH - S2**

1.8 miles

**TRAIL WIDTH - S2**



**TRAIL LENGTH - S2A**

1.9 miles

**TRAIL WIDTH - S2A**

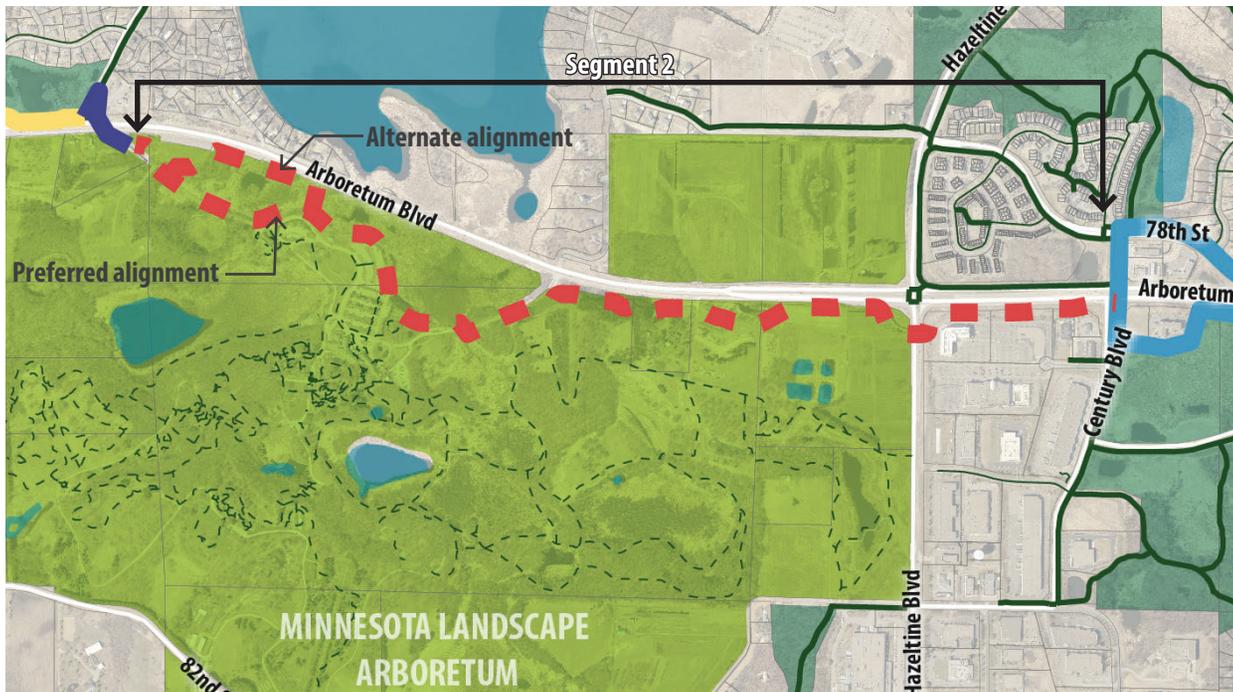


Figure 20: Segment 2 Existing Trail Width

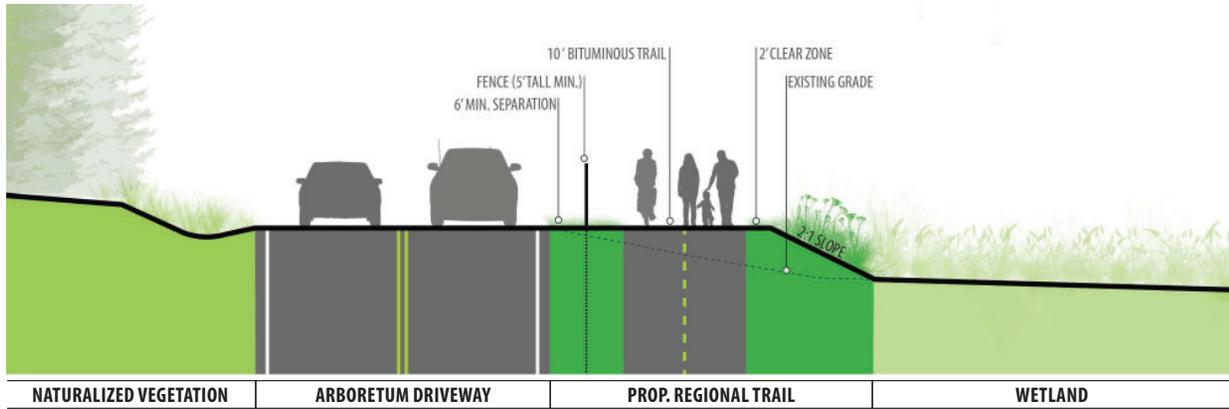


Figure 21: Arboretum Trail Alignment - Preferred

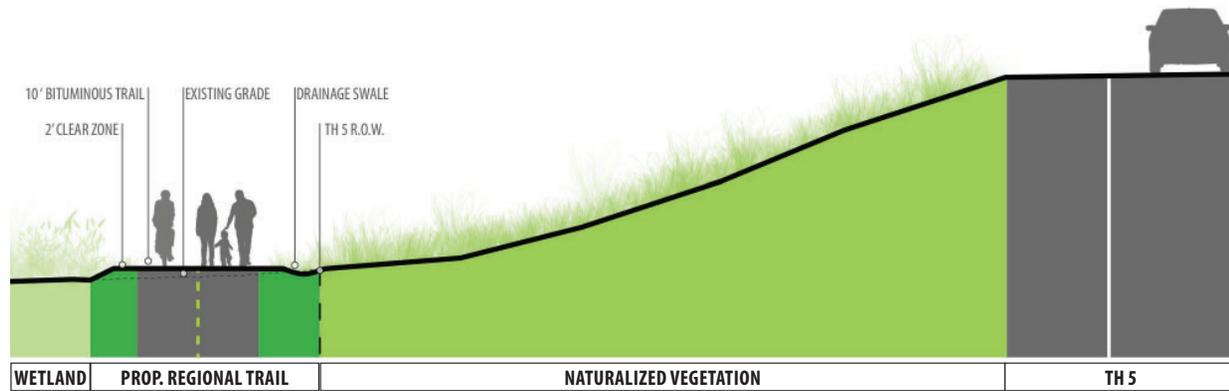


Figure 22: Arboretum Trail Alignment - Alternate



Arboretum entrance fence on Arboretum Drive



Trail location along existing parking lots



Trail location near existing Arboretum sign



Underground utility corridor



Trail location near gate house



Trail location along TH 5 near Lifetime Fitness



Trail location along Arboretum Drive near wetlands



Trail location along Arboretum Drive (main entrance road)

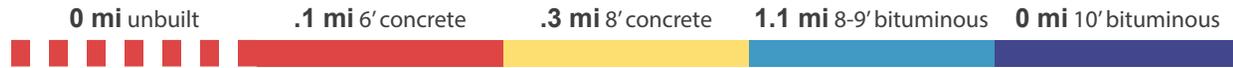


Trail crossing at Century Boulevard and TH 5

### TRAIL LENGTH - S3A

1.5 miles

### TRAIL WIDTH - S3A



### TRAIL WIDTH - S3



### TRAIL LENGTH - S3

1.1 miles

### Segment 3- Century Boulevard to Bluff Creek Underpass

Segment 3 measures approximately 1.1 miles long and extends from Century Boulevard and TH 5 to the Bluff Creek Underpass. Segment 3 heads north across TH 5 utilizing the existing trail on the east side of Century Boulevard. This trail segment extends north through the signalized intersection at TH 5 and Century Boulevard, which will require pedestrian ramp upgrades to meet current ADA standards. The County will work with MnDOT to lengthen the crossing time to improve safety and comfort for trail users. When TH 5 is reconstructed or when funds are available, a trail underpass will be installed under TH 5 at Century Boulevard. After crossing TH 5 at Century Boulevard, the trail continues on the east side of Century Boulevard on the existing 10' trail. Trail segment 3 then crosses West 78th Street at the stop sign intersection requiring pedestrian ramp upgrades to meet current ADA standards. The remaining portion of Segment 3 continues east on the existing 10' trail on the north side of West 78th Street to the existing Bluff Creek underpass. This trail segment extends through two additional stop sign intersections at Ridgeview Way and Vasserman Trail that will require pedestrian ramp upgrades to meet ADA standards. The pedestrian ramp at the stop sign intersection at Galpin Boulevard and West 78th Street currently meets ADA standards.

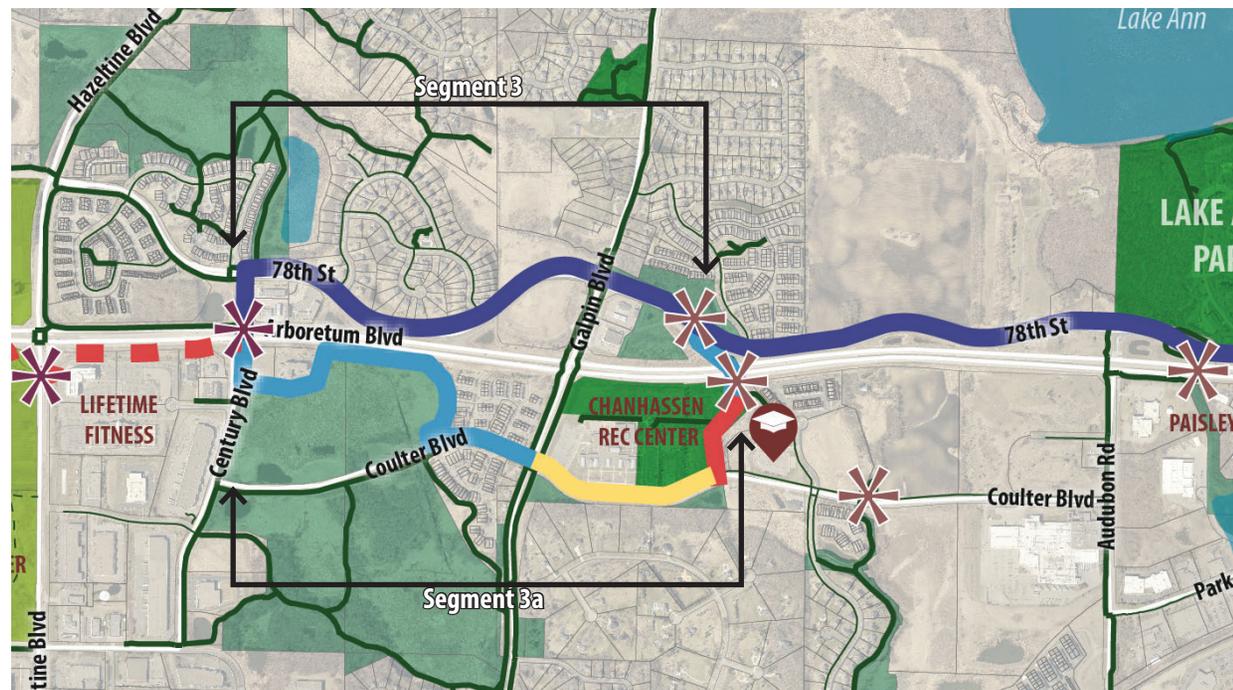


Figure 23: Segment 3 Existing Trail Width

**Segment 3 Alternate - Century Boulevard to Bluff Creek Underpass**

Since the underpass at TH 5 and Century Boulevard is several years from development, an interim alignment that utilizes the existing Bluff Creek Underpass is proposed. This interim alternate alignment will provide a safe crossing of the busy TH 5 until an underpass is constructed and or until pedestrian ramp and other safety improvements are made at Century Boulevard and TH 5.

There are several factors that Carver County will consider to determine the final alignment for Segment 3. These include identifying funding sources and timing, coordination with MnDOT on future roadway projects on TH 5 and potential future

improvements of City facilities at the Chanhassen Recreation Center.

Segment 3 Alternate measures approximately 1.5 miles long and extends from Century Boulevard to the existing Bluff Creek Underpass. Segment 3a will travel south utilizing the existing eight-foot bituminous trail on the east side of Century Boulevard. This trail segment will require two feet of widening to meet the preferred 10' width and pedestrian ramp improvements at Century Boulevard and the Holiday Inn driveway. The trail travels east on the existing 8' bituminous trail that loops around the Chanhassen Nature Preserve. Wetland impacts may be encountered when the trail is widened from eight feet to ten feet. Segment 3 Alternate continues east utilizing the existing eight-foot trail on the north

side of Coulter Boulevard. This trail segment extends through Harvest Lane, Autumn Ridge Avenue, and Galpin Boulevard intersections, which are all controlled with stop signs. These intersections will require upgrades to meet current ADA pedestrian ramp standards. Further pedestrian crossing infrastructure at Galpin Boulevard may be installed to improve pedestrian crossing comfort and safety. East of Galpin Boulevard, the trail utilizes an existing eight-foot concrete sidewalk that is adjacent to Bluff Creek Elementary and the Chanhassen Recreation Center. To meet the preferred design width, the sidewalk will require widening to a ten-foot bituminous trail at a later date. Furthermore, the pedestrian ramps at the driveway entrances to the elementary school and recreation center will require upgrades to meet

SEG	INTERSECTION	PEDESTRIAN RAMP MEETS STANDARDS	SIGNALIZED, STOP SIGN, OR MID BLOCK CROSSING	CROSSING INCLUDES PEDESTRIAN PUSH BUTTON POSTS	CROSSING INCLUDES AUDIBLE NOTIFICATION	CROSSING INCLUDES COUNT DOWN TIMERS
Seg 3-A	Century Blvd and Holiday Inn driveway	No	Stop Sign	-	-	-
Seg 3-A	Harvest Ln and Coulter Blvd	No	Stop Sign	-	-	-
Seg 3-A	Autumn Ridge Ave and Coulter Blvd	No	Stop Sign	-	-	-
Seg 3-A	Galpin Blvd and Coulter Blvd	Yes	Stop Sign	-	-	-
Seg 3-A	Bluff Creek Elementary School driveways and Coulter Blvd	No	Stop Sign	-	-	-
Seg 3	Century Blvd and W 78th St	No	Stop Sign	-	-	-
Seg 3	Ridgeview Way and W 78th St	No	Stop Sign	-	-	-
Seg 3	Vasserman Trail and W 78th St	No	Stop Sign	-	-	-
Seg 3	Galpin Blvd and W 78th St	Yes	Stop Sign	-	-	-

Figure 24: Segment 3 Intersections



8' trail at Century Boulevard and Holiday Inn



Pavement transition through Chanhassen Recreation Center



Coulter Boulevard and Galpin Boulevard Intersection



8' trail through Chanhassen Nature Preserve



Bluff Creek Underpass



West 78th Street Crossing at Century Boulevard



8' trail at Harvest Lane and Coulter Boulevard



Bluff Creek Underpass



Existing Trail Along West 78th Street

current ADA standards. The trail then extends north on the existing six-foot sidewalk along the athletic fields of the Chanhassen Recreation Center. This trail segment should be widened to a 10' bituminous trail at a later date. The six-foot sidewalk transitions to an eight-foot bituminous trail that extends through the Bluff Creek Underpass of TH 5 and West 78th Street.

**Segment 4 - Bluff Creek Underpass to Audubon Road**

Segment 4 measures approximately 0.6 miles long and extends from the Bluff Creek Underpass to Audubon Road, along West 78th Street. Segment 4 extends east on the existing ten-foot bituminous

trail on the north side of West 78th Street. Segment 4 crosses Prairie Flower Boulevard, but will require new pedestrian ramps for the trail crossing. Trail segment 4 continues along the north side of West 78th Street. The existing trail does not have an intersection at Audubon Road because the road does not extend north across West 78th Street. However, the trail crossing West 78th Street on the west side of Audubon Road that connects to existing local trail does not meet current ADA standards

**Segment 5 - Audubon Road to Market Boulevard**

Segment 5 measures approximately 1.5 miles long and extends from Audubon Road to Market

Boulevard. Segment 5 extends east on the existing ten-foot trail on the north side of West 78th Street. Segment 5 will not require trail widening. This trail segment is located adjacent to Lake Ann Park where a trailhead is proposed. The trailhead will utilize the existing athletic field parking lot located near West 78th Street. An existing trail spur into the parking already exists. Pedestrian ramps at Lake Ann Drive will require improvements to meet ADA standards. In addition, the pedestrian ramps where the trail crosses the Eckankar Spiritual Center driveway will require improvements to meet ADA standards. The trail continues east utilizing the existing trail north of West 78th Street across the signalized intersection at

SEG	INTERSECTION	PEDESTRIAN RAMP MEETS STANDARDS	SIGNALIZED, STOP SIGN, OR MID BLOCK CROSSING	CROSSING INCLUDES PEDESTRIAN PUSH BUTTON POSTS	CROSSING INCLUDES AUDIBLE NOTIFICATION	CROSSING INCLUDES COUNT DOWN TIMERS
Seg 4	Prairie Flower Blvd and W 78th St	No	Stop Sign	-	-	-
Seg 4	Audubon Rd and W 78th St	No	Stop Sign	-	-	-
Seg 5	Lake Ann Dr and W 78th St	No	Stop Sign	-	-	-
Seg 5	Eckankar Spiritual Center and W 78th St	No	Stop Sign	-	-	-
Seg 5	Powers Blvd and W 78th St	Yes	Signalized	No	No	No
Seg 5	W 78th St and Powers Blvd	Yes	Signalized	No	No	No

Figure 25: Segment 4 and Segment 5 Intersections

Powers Boulevard. Then, the trail extends south on an existing ten-foot bituminous trail along Powers Boulevard to an existing ten-foot trail traveling east along the north side of TH 5. The signalized intersection at Powers Boulevard has pedestrian ramps that meet current ADA standards. However, the intersection will require push button posts, installation of audible notification, and count down timer lights to meet current ADA standards. Trail segment 5 continues east on the existing ten-foot bituminous trail along TH 5 to Market Boulevard. The trail utilizes the shoulder of the TH 5 roadway bridge over the BNSF railroad tracks on a separated eight-foot concrete walkway. The bridge crossing will remain in its current condition until the TH 5 bridge over the railroad improved or replaced. Several notable destinations can be reached by local trail connections, including downtown Chanhassen, the Chanhassen Library, and Paisley Park.

### TRAIL LENGTH - S4

.6 miles

### TRAIL WIDTH - S4



### TRAIL LENGTH - S5

1.5 miles

### TRAIL WIDTH - S5

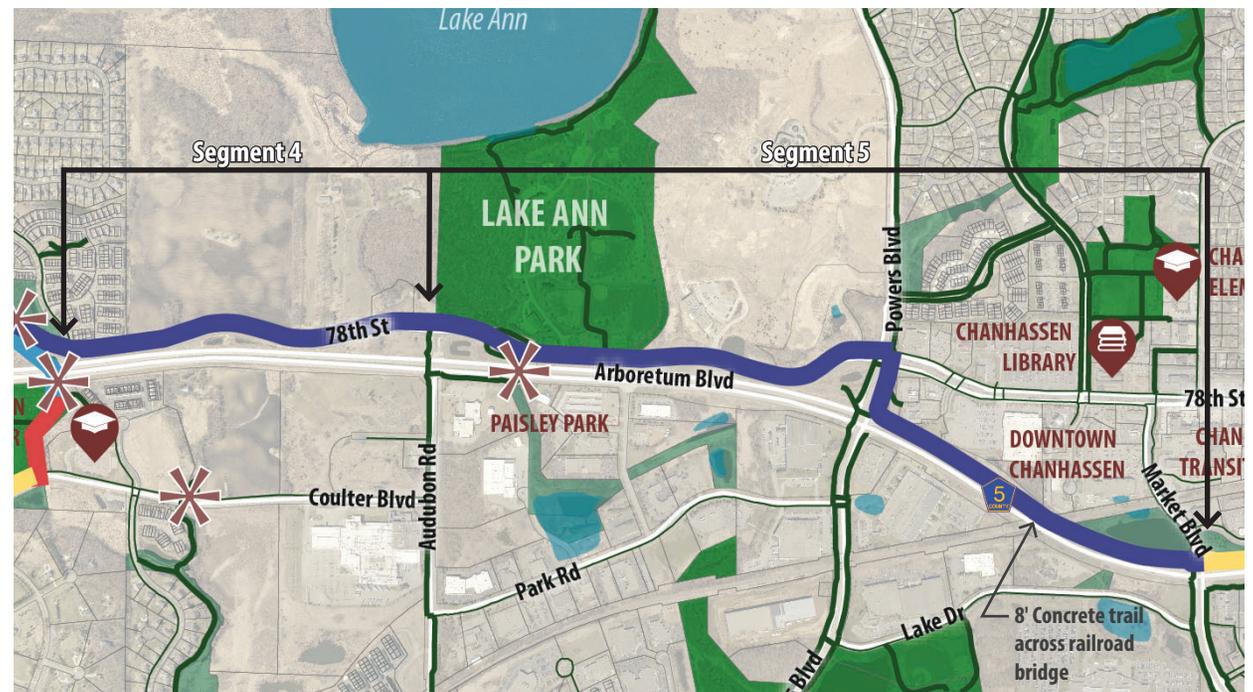


Figure 26: Segment 4 and Segment 5 Existing Trail Width



10' trail intersection at Prairie Flower Boulevard and West 78th Street



10' trail crossing at Lake Ann Park Drive and West 78th Street



Signalized intersection at Powers Boulevard and West 78th Street



Typical 10' trail section along West 78th Street



Trailhead location at Lake Ann Park



New 10' bituminous trail along TH 5



Typical 10' trail section along West 78th Street



Trail crossing at Eckankar driveway



8' concrete trail on TH 5 bridge over railroad

**Segment 6 - Audubon Road to Market Boulevard**

Segment 6 measures approximately 1.2 miles long and extends from Market Boulevard to Dell Road/ Carver County- Hennepin County line. The trail continues east on the existing trail located on the north side of TH 5. The trail extends through the signalized intersection at Market Boulevard. This intersection has recently been replaced with pedestrian infrastructure that meets current ADA standards. East of Market Boulevard, the existing trail narrows from a ten-foot bituminous trail to an eight-foot concrete trail. The eight-foot concrete trail extends to Great Plains Boulevard. The existing trail widens to a ten-foot bituminous trail between Great Plains Boulevard and Chanhassen Road. The

trail crossings at the Great Plains Boulevard and Chanhassen Road intersections have been updated to meet current ADA standards. From Chanhassen Road, the trail continues east to Dell Road. The trail segment between Chanhassen Road and Dell Road narrows to an eight-foot bituminous trail. The signalized intersection at Dell Road does not meet current ADA standards. In addition, the signalized light pole foundation's proximity to the pedestrian ramp obstructs pedestrian movement. The proposed TH 5 Regional Trail ends at Dell Road, but an existing local trail extends approximately 1.9 miles along the north side of TH 5 where it connects to the Minnesota River Bluffs LRT Regional Trail.

SEG	INTERSECTION	PEDESTRIAN RAMP MEETS STANDARDS	SIGNALIZED, STOP SIGN, OR MID BLOCK CROSSING	CROSSING INCLUDES PEDESTRIAN PUSH BUTTON POSTS	CROSSING INCLUDES AUDIBLE NOTIFICATION	CROSSING INCLUDES COUNT DOWN TIMERS
Seg 6	Market Blvd and TH 5	Yes	Signalized	Yes	Yes	Yes
Seg 6	Great Plains Blvd and TH 5	Yes	Signalized	Yes	Yes	Yes
Seg 6	Chanhassen Rd and TH 5	Yes	Signalized	Yes	Yes	Yes
Seg 6	Dell Rd and TH 5	No	Signalized	No	No	No

Figure 27: Segment 6 Intersections

## TRAIL LENGTH

1.2 miles

## TRAIL WIDTH

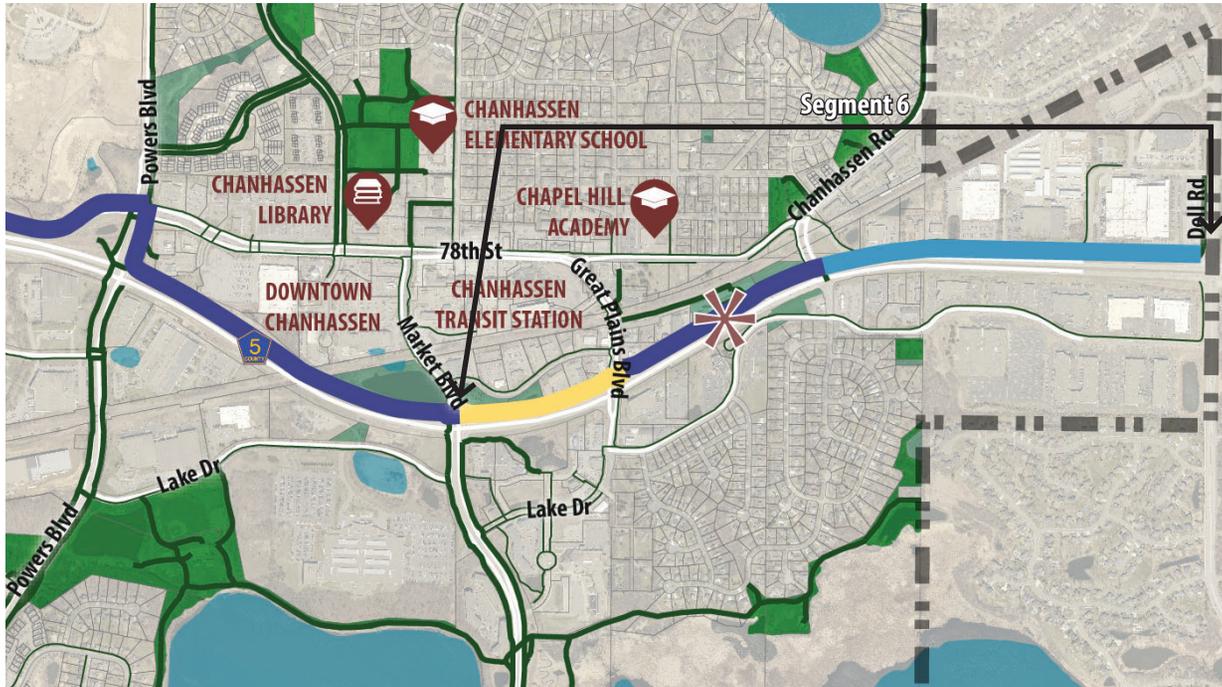


Figure 28: Segment 6 Existing Trail Width



Trail crossing at Market Boulevard and TH 5



Intersection at Great Plains Boulevard and TH 5



Signalized intersection at Chanhassen Boulevard and TH 5



Existing 8' sidewalk along TH 5



Existing 10' bituminous trail along TH 5



Existing 8' bituminous trail



Intersection at Great Plains Boulevard and TH 5



Existing pedestrian bridge near



Signalized intersection at Dell Road

## IMPLEMENTATION

### Overview

Much of the TH 5 Regional Trail will utilize existing regional trails, local trails and sidewalks. The segment located between Minnewashta Parkway and Century Boulevard will require new trail construction to fill a gap in the trail system through the University of Minnesota Landscape Arboretum. Carver County currently has federal funds available in 2019 for trail improvements, which may be used to develop the segment through the Arboretum.

Several of the existing trail segments in the TH 5 Regional Trail corridor vary in width, compliance with ADA requirements and regional trail standards and could be improved to provide consistency in trail quality and continuity in trail amenities, including signage.

### Implementation Plan

An implementation plan was developed by combining data about the location of constructed and unconstructed trail segments and existing trail conditions including the pavement assessment, width analysis, trail or sidewalk material type and other trail infrastructure. The plan includes six segments that are identified in the cost estimate located in Appendix B. Priority for development or redevelopment of the trail segments has not been identified because implementation may depend on local and regional funding opportunities, future adjacent roadway

development projects or other unforeseen trail development opportunities.

## ESTIMATED COSTS & FUNDING

Regional trail implementation has both initial costs (acquisition and development) and on-going 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 Carver County and local City Councils. Currently, Carver County has acquired federal funds to construct a portion of the unbuilt section of the TH 5 Regional Trail through the Minnesota Landscape Arboretum in 2019. Additional

individual development projects may move ahead of schedule to coincide with development adjacent to the trail corridor that can result in cost savings.

### Development Costs

Regional 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. In total, the estimated development cost for the TH 5 Regional Trail is \$6,014,884. The detailed cost estimate, located in Appendix B, list costs for individual trail segments.



## VISUAL ASSESSMENT OF TRAIL CONDITION

A visual assessment of the conditions of existing trails throughout the proposed regional trail corridor was developed to identify where improvements of existing trails are needed most. The trail visual assessment identifies four trail conditions, which align with the conditions identified in the State of the Trails Report published by the Parks and Trail Council of Minnesota in February of 2017. The intent of the visual assessment is to provide planning-level analysis of the current condition of existing trail segments in the TH 5 Regional Trail corridor. This assessment is not intended to be used for identifying capital improvement projects. Additional pavement condition analysis conducted by a licensed engineer is recommended to determine the exact condition of the existing trails.

The trail condition ratings include:

- Excellent: Trail is smooth and provides ideal riding conditions
- Good: Trail is comfortable to ride, with few bumps or depressions.
- Fair: Trail is tolerable to ride, with intermittent bumps or depressions.
- Poor: Trail is uncomfortable to ride, with frequent bumps or depressions.

The visual assessment of trail condition data was based on photographs and in-person documentation of the existing trails in the proposed trail corridor.



### Segment 1 Visual Assessment

Overall, the trail condition of segment 1 is in good condition. Much of trail segment 1 has been recently constructed. New trail pavement is located on the trail segment along the Minnesota Landscape Arboretum Apple House property and the trail segment near the trail underpass at Minnewashta Parkway and TH 5. Most of segment 1 is in excellent condition with only a small portion of the trail in fair condition.

#### TRAIL LENGTH

1.2 miles

#### VISUAL ASSESSMENT - S1



Figure 29: Segment 1 Visual Assessment of Trail Condition

### Segment 2 Visual Assessment

Trail visual assessment does not apply to segment 2 because no trails exist.

#### TRAIL LENGTH - PREFERRED

1.8 miles

#### VISUAL ASSESSMENT - PREFERRED

1.8 mi unbuilt

0 mi 6' concrete

0 mi 8' concrete

0 mi 8-9' bituminous

0 mi 10' bituminous



#### TRAIL LENGTH - ALTERNATE

1.9 miles

#### VISUAL ASSESSMENT - ALTERNATE

1.9 mi unbuilt

0 mi 6' concrete

0 mi 8' concrete

0 mi 8-9' bituminous

0 mi 10' bituminous



Figure 30: Segment 2 Visual Assessment of Trail Condition

### Segment 3 Alternate Visual Assessment

Most of trail segment 3a is in good condition. A small portion of the eight-foot trail through the Chanhassen Nature Preserve exhibits significant longitudinal and horizontal cracking. Furthermore, portions of the pavement are heaving due to drainage culverts and roots. These characteristics signify that a small portion of trail segment 3 is in poor condition. In addition, standing water on the trail was noted at the Bluff Creek underpass. The consistently wet conditions create slippery conditions.

### Segment 3 Visual Assessment

Trail segment 3 is in good condition. The entire trail length along West 78th Street has been recently seal coated providing a smooth surface for trail users.

#### TRAIL LENGTH - S3A

1.5 miles

#### VISUAL ASSESSMENT - S3A



#### VISUAL ASSESSMENT - S3

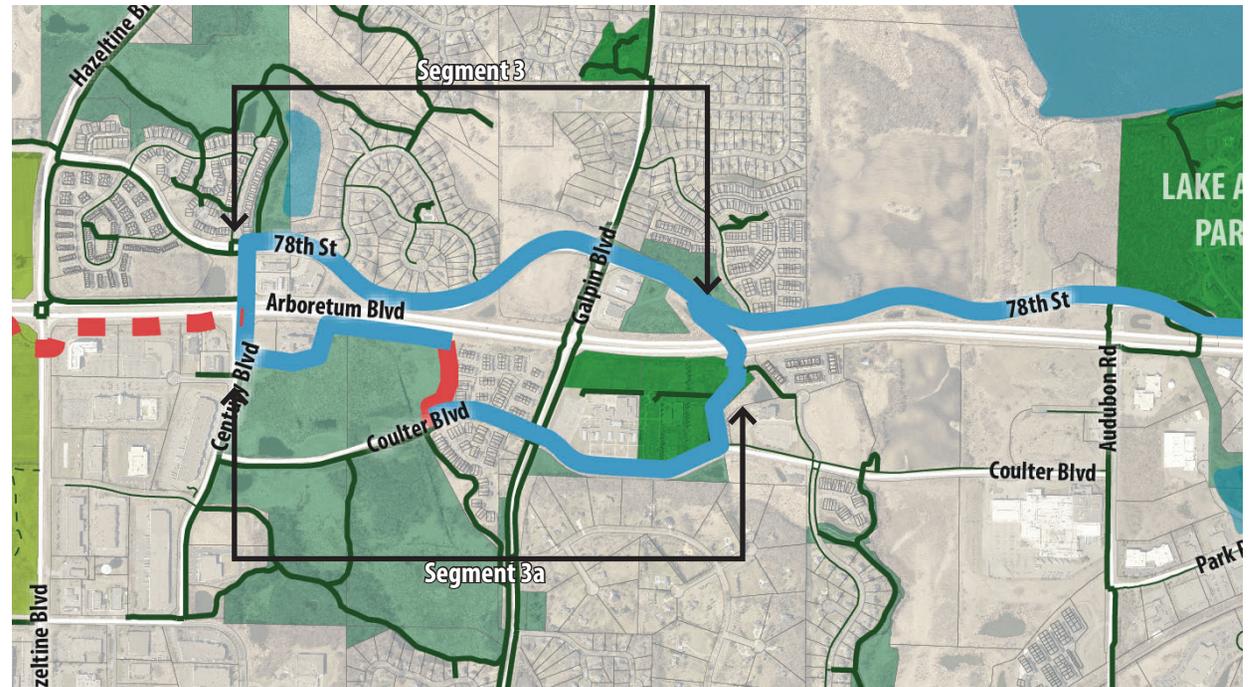


Figure 31: Segment 3 Visual Assessment of Trail Condition

### Segment 4 Visual Assessment

All of segment 4 is in good condition. A seal coat has recently been applied to this trail segment which provides a smooth surface for trail users.

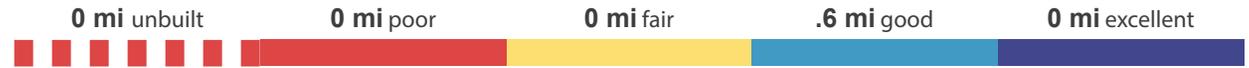
### Segment 5 Visual Assessment

The trail condition of segment 5 remains in good condition until Powers Boulevard. The trail segment improves from good condition to excellent condition between Powers Boulevard and Market Boulevard. This trail segment has new bituminous pavement with no cracks.

#### TRAIL LENGTH - S4

.6 miles

#### VISUAL ASSESSMENT - S4



#### VISUAL ASSESSMENT - S5

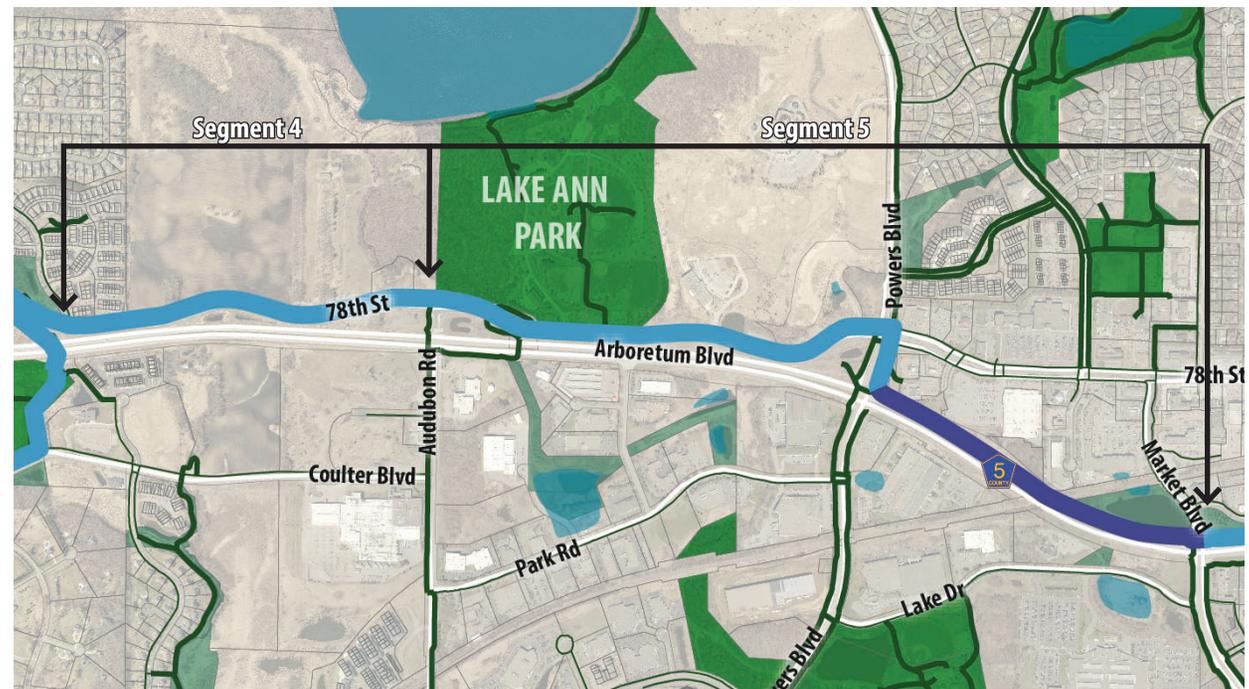


Figure 32: Segment 4 and Segment 5 Visual Assessment of Trail Condition

### Segment 6 Visual Assessment

Overall, the trail condition of segment 6 is in good condition. A small portion of the trail is in excellent condition, with the rest of the trail segment appears in good condition. Between Market Boulevard and Great Plains Boulevard, the trail segment was given a good trail condition rating. This trail segment was characterized by concrete sidewalk with minimal signs of cracking. The following trail segment between Great Plains Boulevard and Chanhassen Road was given an excellent trail condition rating. An excellent trail condition rating was given to this segment because the segment was recently repaved and showed no signs of cracking. The remaining portion of segment 6 was given a visual assessment condition rating of good. This trail segment exhibits periodic horizontal cracking.

### TRAIL LENGTH

1.2 miles

### VISUAL ASSESSMENT - S6

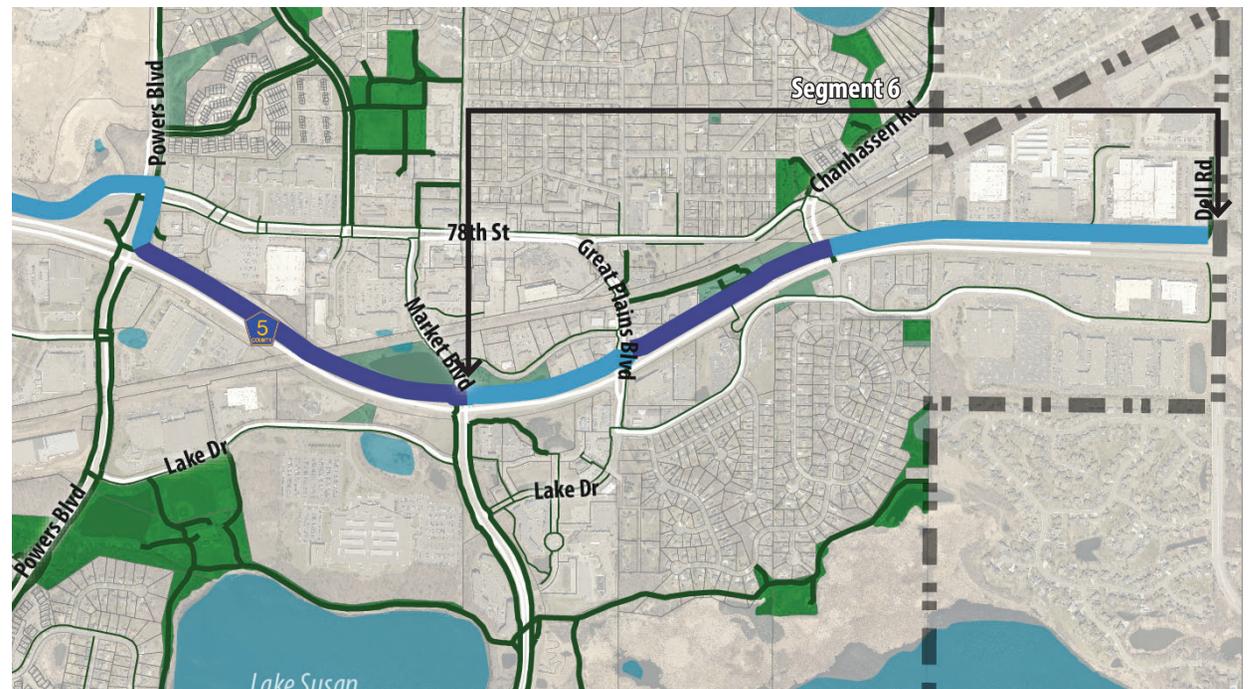
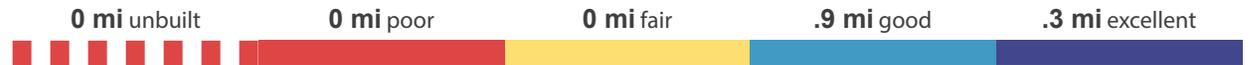


Figure 33: Segment 6 Visual Assessment of Trail Condition

## SECTION IV: CONFLICTS AND ADJACENT PUBLIC SERVICES

Most of the TH 5 Regional Trail is proposed to be developed along existing trails or sidewalks within public right-of-way. Additional right-of-way may be needed to develop the trail underpasses at TH 41/ Hazeltine Blvd. Final determination of right-of-way needs will be identified when the underpasses are proposed. The unconstructed trail segment through the University of Minnesota Landscape Arboretum will be developed outside the public right-of-way. The University of Minnesota Board of Regents will provide a right-of-way agreement to Carver County to allow the TH 5 Regional Trail to extend through the Arboretum property. The trail alignment through the Arboretum will minimize impacts to significant

trees, research areas, and gardens and will incorporate fencing, walls and possibly boardwalks to achieve minimal disturbance.

Conflicts with existing utilities may arise during final design of the un-built trail segments. Preliminary trail alignment plans of the Arboretum trail segment from TH 41 to Arboretum Drive avoid conflicts with the overhead utilities. East of Arboretum Drive, the proposed trail corridor may utilize an existing underground utility corridor. Further coordination with utilities will be required during design development to ensure that the trail is constructed without impacting existing utility infrastructure.

There are three locations where trail improvements may impact existing wetlands. The largest wetland conflict is along Arboretum Drive west of the Education Center, extending approximately 1,000 linear feet to the existing deer fence at the Arboretum's west trail access. Other wetland impacts may be encountered in locations where existing sub-standard trail segments are widened to the preferred 10 foot width. These locations include the existing eight-foot trail at the Chanhasen Nature Center and near the pond west of the Minnewashta Parkway and Trunk Highway 5 intersection.



*This page was intentionally left blank*

## SECTION V: OPERATIONS AND MAINTENANCE

Carver County manages and operates its park and trail system with internal staff including 7.5 permanent employees. In addition, approximately 40 seasonal employees are hired each year as life guards, maintenance workers and gate attendants. The Parks Division has an annual operations and maintenance budget of approximately \$1.36 million to operate and maintain the County's park and trail system.

The TH 5 Regional Trail will be overseen by professional public safety, operations and maintenance staff. The trail consists of existing local trail segments in both Chanhassen and Victoria. City maintenance crews will continue to maintain the trails for day-to-day and annual trail maintenance activities.

### PROPOSED MAINTENANCE ACTIVITIES

Maintenance operations will include seasonal condition assessments and periodic inspections, followed by necessary maintenance actions. Inspections will address possible safety issues, vandalism, and non-routine maintenance concerns. The local park agencies will continue to respond to maintenance issues identified by the public, on a timely basis, as funding permits. Extraordinary maintenance may be required to respond to storm damage, vandalism and other unplanned circumstances.

There will be no additional maintenance or operations

cost to the regional trail system for the developed segments of trail that are currently operated and maintained by the Cities of Victoria and Chanhassen. As segments of the current local trails along TH 5 are converted to the regional trail system through improvements and agreements with the cities of Victoria and Chanhassen, trail maintenance will be guided by the County's Trails Cost Participation Policy. Cities will continue to maintain the local trail segments until improvements and agreements

are reached to convert these sections of trail to the regional system in accordance with their trail maintenance programs. Annual operations and maintenance costs for the new trail segment between Century Boulevard and Minnewashta Parkway will cost an estimated \$3,000 in personnel wages and \$5,000 in equipment for a total of \$8,000. Carver County will determine which agency will be responsible for maintaining this trail segment at a later date.



*Mowing turf trail shoulders.*

According to Carver County's Cost Participation Policy, the cities of Chanhassen and Victoria will provide routine maintenance as identified below.

- Snow removal
- Trail sweeping
- Trail clearing

Carver County and the city of Chanhassen and Victoria will split costs 50/50 for preservation, repair and replacement of bituminous surface.

Carver County will coordinate with the Minnesota Landscape Arboretum, Chanhassen and Victoria to develop a maintenance plan that incorporates local maintenance crews for the undeveloped trail segments through the Arboretum property.

## **PUBLIC SAFETY**

Carver County Sheriff's Department, along with the Chanhassen and Victoria contracted Police officers will provide public safety services on the TH 5 Regional Trail.

## **SOURCES OF REVENUE**

Carver County budgets annually for operating the park and trail system. The budget includes maintenance of recreation facilities and management of natural resources within the parks. Revenue for these expenditures originates from three primary sources:

- Park fees
- Operations and maintenance grants
- General funds

Carver County does not charge for trail use.



*Regular trail maintenance including pavement repair will be scheduled by Carver County to keep the trail functional and operational.*

# SECTION VI: PUBLIC ENGAGEMENT AND PARTICIPATION

## OVERVIEW

Carver County strives to provide an inclusive public engagement process for its trail planning efforts. To reach a diverse cross-section of the community and to engage people of diverse races, ethnicities, classes, ages, abilities and national origin, Carver County staff developed a plan to provide information to the public in multiple ways with an emphasis on trying to make it easy and accessible for all interested citizens to participate in the planning process. Carver County held the open house meetings at the Chanhassen Recreation Center, a facility that is welcoming to residents of all ethnicities and income levels. One open house was held at an outdoor pavilion and was timed to coincide with little league baseball games in an effort to attract young families from a wide cross-section of County residents. Pop-up events were held at various community events such as the Arboretum's 5K bud break run and at Life Time Fitness.

The public engagement process included several meetings with the Task Force committee and public. Public open houses and pop-up meetings were held to keep the communities updated about the master plan process. The public was also able to provide input using a web based questionnaire operated through Survey Monkey. The general public, including park and trail users and Carver County residents are important stakeholders in the master planning

process and their input is highly valued. Comments received have been addressed in revisions to the master plan.

## REGIONAL TRAIL PLANNING

Planning for the TH 5 Regional Trail is in response to expressed demand for recreational and non-motorized transportation options in suburban edge communities. The TH 5 Regional Trail is identified as a Regional Trail Search Corridor in the Metropolitan Council 2040 Regional Parks Policy Plan. As such, the TH 5 Regional Trail needs an approved master plan to become eligible for Metropolitan Council regional parks system funding for development.

## TH 5 REGIONAL TRAIL TASK FORCE COMMITTEE

A TH 5 Regional Trail Task Force Committee was established to guide the trail master plan and coordinated planning efforts within the local communities and greater region. Members of the Task Force included representatives from the following stakeholders:

- City of Chanhassen
- City of Victoria
- Carver County Public Health
- Carver County
- Carver County Parks Commission

- Carver County Parks
- Eastern Carver County Trails
- Eastern Carver County Schools
- University of Minnesota Landscape Arboretum
- Lifetime Fitness

The responsibilities of the Task Force included:

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

The full Task Force met three times:

- January 30, 2017
- April 10, 2017
- July 10, 2017

Throughout the master planning process, Carver County staff met with Task Force members to identify opportunities and address and resolve their issues and concerns. These meetings often involved other individuals, groups, and organizations as detailed route information was exchanged.

### **CARVER COUNTY PARK COMMISSION**

The Carver County Park Commission reviewed planning updates and the final draft master plan throughout the planning process, including:

- November 7, 2017

### **PUBLIC COMMUNICATIONS/SOCIAL MEDIA**

Online questionnaire and social media tools were identified as alternative ways to get information and updates to the public. The Carver County website was the primary on-line portal for meeting information and for posting draft plans for public review. All open houses and pop-up meetings were listed on the County's website and in local newspapers. The County utilized its Facebook and Twitter accounts to promote the pop-up events. In addition, fliers were printed and posted at County facilities to promote the pop-up events.

### **PUBLIC OPEN HOUSES & POP-UP MEETINGS**

Carver County presented the TH 5 Regional Trail

planning efforts at two open houses to provide members of the public an opportunity to learn about and comment on the planning process. The public open houses were held at the Chanhassen Recreation Center. This location provided a central venue that is situated in the middle of the proposed trail corridor. One benefit of utilizing the Chanhassen Recreation Center for the open houses is that there were several other public events occurring at the same time, allowing people to stop in on their way to or from other community activities. The second open house was held at an outdoor pavilion at the Chanhassen Recreation Center. The benefit of holding the public meeting at an outdoor pavilion is that it provided opportunities for families in youth softball, soccer and baseball to visit the meeting without going out of their way. Several individuals commented that they appreciated the locations and convenience of the open house meetings. The open houses were held on the following dates:

- March 15, 2017 at the Chanhassen Recreation Center indoor meeting room
- May 23, 2017 at the Chanhassen Recreation Center outdoor pavilion

Carver County held two public pop-up events to seek more input about the master plan. County staff worked with project partners to create opportunities

for members of the public to learn about the planning process. Pop-up style tabling allows for more in-depth, one-on-one conversations. The pop-up events were held at the University of Minnesota Landscape Arboretum during the annual Spring Bud Run 5k Race. This provided the opportunity for interaction with local runners and outdoor recreation enthusiasts. Approximately 100 people stopped by the table that was set up near the start of the race on the plaza outside the main entrance to the Oswald Visitor Center. The second pop-up event was held at the Chanhassen Lifetime Fitness Center in the front lobby. This unique location provided the opportunity for County staff to engage with Lifetime members and guests about the planning process for a trail that will pass literally in front of the gym's building. The pop-up meetings were held on the following dates:

- May 7, 2017      Spring Bud Run at the University of Minnesota Landscape Arboretum
- May 16, 2017    Chanhassen Lifetime Fitness Lobby

### **Open House #1 Approach & Findings**

The first public open house was held on March 15, 2017 at the Chanhassen Recreation Center meeting room. The Chanhassen Recreation Center meeting room is located adjacent to the trail corridor in an

easily accessible public building with ample parking. The location also had youth athletic programs occurring at the same time in other rooms. Some parents attending youth athletic programs were attending the open house simply because they were already in the same building. Attendance at the open house included 45 members of the public and representatives from Carver County Parks and other local agencies on the Task Force Team. The proposed trail alignment maps were presented at the meeting. Feedback from the first open house was positive with interest in developing the regional trail using the trail alignment north of TH 5. There was excitement with the proposal of a regional trail through the University of Minnesota Landscape Arboretum. Specific comments from the open house are listed in Figure 17.

### **Open House #2 Approach & Findings**

A second open house was held on May 23, 2017 at the Chanhassen Recreation Center warming house/adjacent outdoor pavilion. The Chanhassen Recreation Center warming house/adjacent outdoor pavilion is located adjacent to the trail corridor in an easily accessible public athletic field with ample parking. During the meeting, several youth softball games were being played. The light rain directed many parents and players into the pavilion where the

meeting was being held. This gave the opportunity for community who otherwise would not have attended the open house the opportunity to offer input. Attendance at the open house included approximately 40 members of the public and representatives from Carver County Parks and other local agencies on the Task Force Team. Approximately 20 children playing softball viewed the open house materials during the brief period of rain. In addition to the analysis graphics presented at the first open house, revisions to the trail alignment maps were shown. Those in attendance provided input on the proposed revisions to the trail alignments. Positive feedback was given about the proposed regional trail. A complete list of comments from the public meetings is included in Figure 17.

### **Pop-Up Event #1 Approach & Findings**

In an effort to obtain more input from the public about the TH 5 Regional Trail Master Plan, Carver County held two pop-up meetings. The first pop-up event was held at the May 7, 2017 Spring Bud Run at the University of Minnesota Landscape Arboretum. This pop-up event was strategically located here because this is a popular public event that attracts potential trail users. The facility is located adjacent to the proposed TH 5 Regional Trail alignment. Approximately 100 visitors asked questions about the



*Community Open House #2*



*Pop-up meeting at Arboretum*

master plan and provided input. Several comments were made about the preference to utilize the existing underpass underneath TH 5 at Bluff Creek Elementary School. These comments were used in determining an interim trail alignment until Century Boulevard can be improved with either an underpass or additional pedestrian and other safety improvements. A complete list of comments from the public meetings is included in Figure 17.

### **Pop-up Event #2 Approach & Findings**

The second pop-up event was held at the Lifetime Fitness Lobby on May 16, 2017. Forty people stopped by the pop-up event to provide comments and ask questions about the trail master plan. This pop-up meeting was scheduled during the evening during the popular workout time. Lifetime Fitness is located adjacent to the proposed trail corridor near Century Boulevard. When the trail is built, many gym members will likely utilize the trail for running. This location provided the opportunity for likely trail users to provide input. Several comments were made about the preference to cross TH 5 at underpass near the Bluff Creek Elementary School rather than the at-grade crossing at Century Boulevard. People also commented about the short crossing time at the signalized intersection at Century Boulevard and TH 5. People were thrilled about the proposed underpass

at TH 41 into the University of Minnesota Landscape Arboretum. A complete list of comments from the public meetings is included in Figure 17.

### **On-Line Questionnaire**

The on-line questionnaire, which was run through Survey Monkey, was promoted on the County's web page and social media sites. The survey was available from May through June. Eighty-six people provided comments via the on-line questionnaire. The majority of the comments received were from recreational trail users. There was a strong preference to utilize existing trail underpasses rather than at grade crossing to cross TH 5 even if it required traveling farther. A complete list of comments from the public meetings is included in "Appendix D: Public Input Materials".

### **Community Engagement Results**

The various meetings and public outreach events that were conducted as part of the TH 5 Regional Trail Master Plan process provided the project team with beneficial input about what the public wants for this regional trail. The comments received in the community engagement process supported the County's sentiment to expand the regional trail system and develop the trail in a safe and thoughtful

way. Several themes and ideas came out during the public process. These included:

- A trail is, by nature, a linear feature that not only passes through its surroundings, but becomes part of the community fabric.
- Make local trail connections a priority.
- Provide connectivity with established points and destinations.
- Utilize existing underpasses to direct users to safer ways to cross TH 5.
- Utilize existing trails where possible.
- Minimize adjacent property impacts.
- Provide consistency with existing agency planning and policies.

### **Summary of Public Engagement Comments**

The following table summarizes the comments that were received at the open houses and pop-up meetings throughout the master planning process. Several of the comments were repeated at multiple events but are listed only once for clarity.

<b>OPEN HOUSE MEETING #1</b>	
<b>Public Comment/Question</b>	<b>Response</b>
Dislike at-grade crossing of TH 5. Prefer alignment that utilizes existing underpass	The plan addresses this comment.
Love it! Makes me happy!	The plan addresses this comment.
Could the trail extend on the north side of TH 5 past the Arboretum?	Steep grades and wetlands would raise costs and environmental impacts.
Crossing TH 5 and 41 has been a problem for a long time	Better addressed during design development.
Biking along TH 5 is loud. The segment through the Arboretum that utilizes Arboretum Drive is better because it is farther away from the highway	The plan addresses this comment.
Crossing TH 5 at at-grade crossings could be dangerous	The plan addresses this comment.
Provide a trail entrance at Lifetime Fitness	The plan addresses this comment.
The Century Blvd crossing is not long enough for pedestrians and the light timing favors vehicles	The plan addresses this comment.
North alignment along West 78th Street is more direct	The plan addresses this comment.
There is a tight sidewalk on the Powers Blvd. Bridge over the railroad tracks.	The bridge over the railroad tracks will be replaced when the TH 5 bridge requires replacement
<b>OPEN HOUSE MEETING #2</b>	
Building a new trail along TH 5 from Bluff Creek underpass to the existing wetland trail is not worth the investment since there are already trails north and south of TH 5.	The plan addresses this comment.
A new trail along TH 5 from Bluff Creek underpass to the existing wetland trail would make the existing Bluff Creek underpass a more direct route.	The plan addresses this comment.
Many trail users who use the Bluff Creek underpass do not like backtracking to use the 78th Street Bluff Creek underpass. Many users cut through the boulevard to avoid backtracking.	The plan addresses this comment.
The underpass at 41 is a great idea! Build it now!!	The plan addresses this comment.
Build a boardwalk adjacent to TH 5 through the wetland in the Arboretum to avoid the need for a fence.	This option would increase construction cost significantly.
Creating large regional trail loops will help Minnesota compete with other places for bicycle destinations. The TH 5 trail will connect the Minnetonka LRT Regional Trail and the Minnesota River Bluffs LRT Regional Trail.	The plan addresses this comment.
I like that I could ride to/through the Arboretum and on to Victoria.	The plan addresses this comment.
<b>POP UP MEETING #1</b>	
The trails along TH 5 are currently not user friendly.	The plan addresses this comment. The trails will be widened to 10 feet
Concern about at-grade trail crossing on Rolling Acres Road.	Better addressed during design development.
Liked the option with the box culvert underneath TH 5 at Bluff Creek Elementary School.	The plan addresses this comment.
Prefer the route to the Elementary School. It will be easier for more kids to use.	The plan addresses this comment.
Show transit connections in Chanhassen, specifically to the Chanhassen Transit Station.	The plan addresses this comment.
Utilize the existing underpasses. It would be good to have an underpass at Century Boulevard under TH 5.	The plan addresses this comment.
<b>POP UP MEETING #2</b>	
Concern about at-grade crossing and signal timing at TH 5 and Century Blvd.	The plan addresses this comment.

*This page was intentionally left blank*

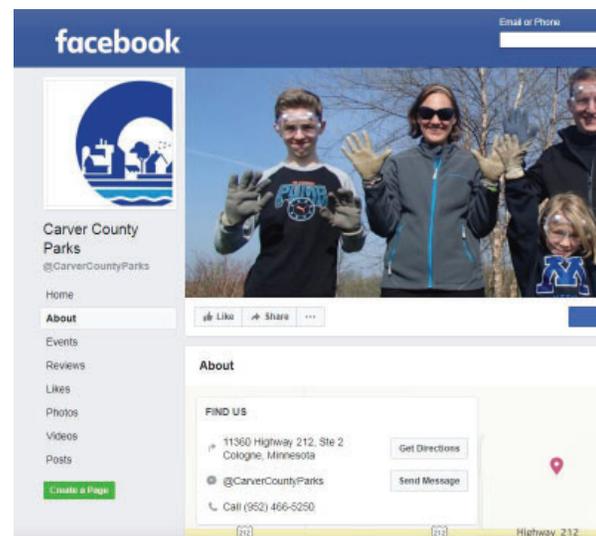
# SECTION VII: PUBLIC AWARENESS

Carver County uses public relations, marketing, and media relations tools, such as a website, event planning, press releases, and promotional materials to promote their parks and trails. Carver County also collaborates with a wide array of community, business, and government organizations to promote their facilities, programs, and services and to educate the public about the available resources.

Carver County Parks engages the public through several on-line and social media tools. The County website has a page dedicated to parks and trails that provides information on the parks and trails across the county, lists information about programs and events, explains how individuals can support the park

system by donating or volunteering, and provides information and a link for reservations and permits. Carver County actively posts information on Twitter and Facebook to share news and information about the park system.

Opportunities for expanding social media and on-line resources for public awareness will likely expand in the future as new media tools and new platforms become available. Younger park users frequently access public service information on-line and will continue to seek additional ways to engage with the County about the park system through social media.



*This page was intentionally left blank*

# SECTION VII: ACCESSIBILITY

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

All regional trail facilities described in the master plan will be developed in accordance with Americans with Disabilities Act (ADA) standards and guidelines. More specifically, the TH 5 Regional Trail will adhere to the Minnesota Bikeway Facility Design Manual (MnDOT 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 Accessibility Guidelines for Buildings and Facilities (U.S. 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 lots and rest rooms will be designed to accommodate individuals with disabilities. In addition, the paved trail will safely accommodate two-way directional non-motor vehicle traffic and

incorporate periodic rest stops to provide users an opportunity to rest and comfortably interact with other trail users.

Compliance with ADA standards is an important goal of trail design. Routing the trail within existing street right-of-way makes it a challenge to fully comply with ADA standards in certain areas. Carver County and local municipalities have made every attempt to identify a trail route that minimizes these occurrences. Parking is available at existing local parks, shopping centers along the trail. Regional amenities and community parks function as trailheads for the proposed trail in addition to other identified key orientation points along the trail.

Crossing major roadways is necessary because the trail passes through fully developed urban areas. Carver County will investigate opportunities to coordinate grade-separated pedestrian crossings with appropriate agencies, modify, or add traffic signal timing, crosswalks and signage to ensure the trail meets all relevant design guidelines. The trail has also been planned to provide access to important local community destinations such as parks, commercial areas, community facilities, and transit facilities. The regional trail passes through a variety of neighborhoods with varying demographics, providing access to people with a range of social and cultural backgrounds.

On a broader scale, the TH 5 Regional Trail provides direct access to the Metropolitan Regional Trail System for an area currently under served by regional trails. Communities adjacent to the trail will not only have access to the TH 5 Regional Trail, but also gain direct access to three existing regional parks and park reserves including Lake Ann Park, Carver Park Reserve, and Lake Minnewashta Regional Park. Local trail connections occur along the trail to further increase access to neighboring communities.

## AFFORDABILITY

Trails are free to use in Carver County, providing a recreational opportunity to residents of all income levels. The TH 5 Regional Trail will also provide access to the City of Chanhassen's Lake Ann Park, the Lake Minnetonka LRT Regional Trail, and the University of Minnesota Landscape Arboretum. The Arboretum charges access fees for all patrons, including those who walk or bicycle to the facility.

*This page was intentionally left blank*

# APPENDIX A: TRAIL PLANS

*This page was intentionally left blank*

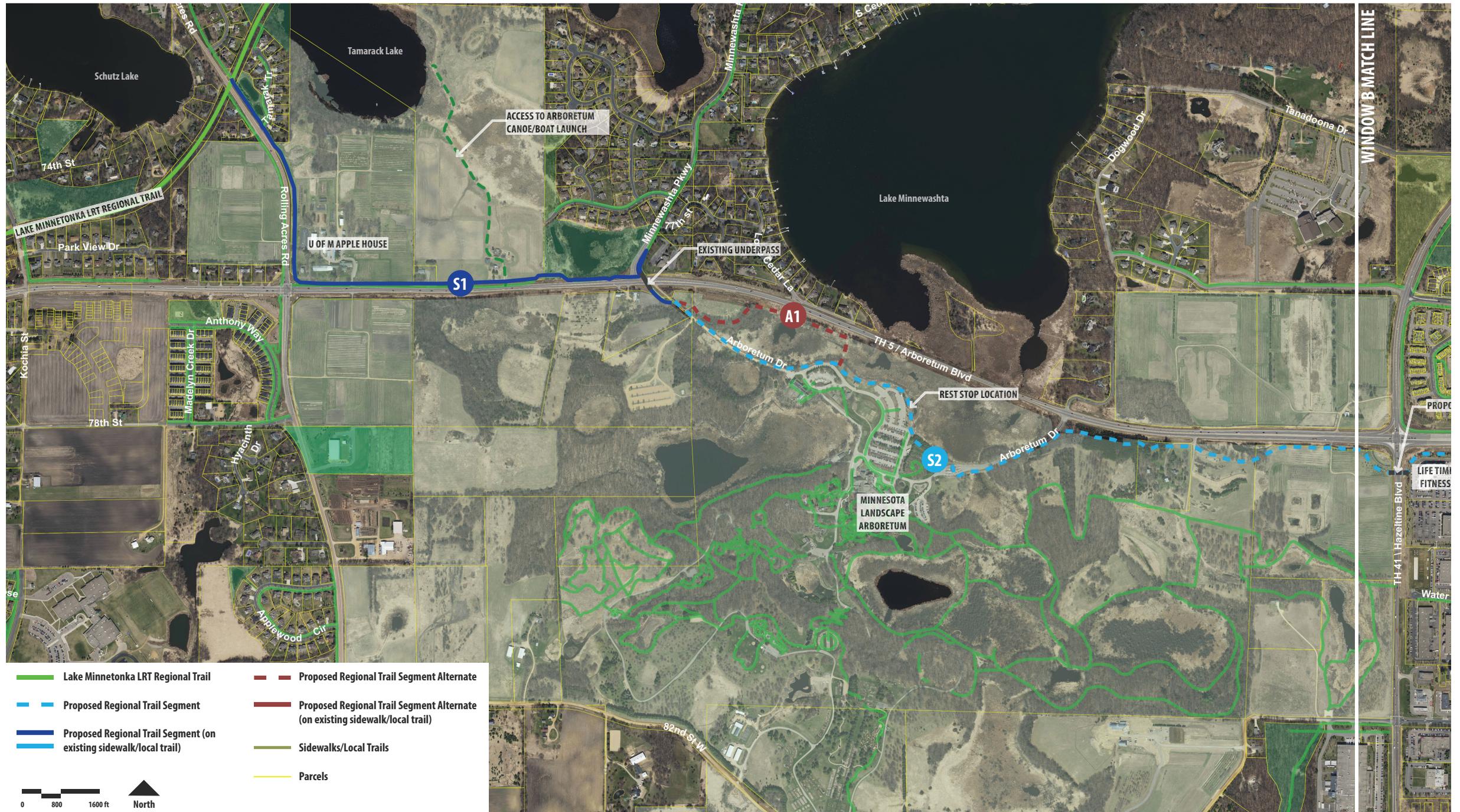


Figure 34: Trail Alignment Window A

*This page was intentionally left blank*



Figure 35: Alignment Window B

*This page was intentionally left blank*



Figure 36: Trail Alignment Window C

*This page was intentionally left blank*

# APPENDIX B: DETAILED COST ESTIMATE

<b>Estimated Project Construction Cost</b>	Estimated Quantity	Unit of Measurement	Estimated Unit Cost	Estimated Total Cost	Notes
<b>Segment 1 (Lake Minnetonka LRT Regional Trail to Minnewashta Parkway)</b>					
Existing 8' Trail Removal	1,584	Lin Ft	\$16	\$25,344	5
Trail Construction	1,584	Lin Ft	\$90	\$142,560	6
Pedestrian Ramps	4	Each	\$2,500	\$10,000	7
Wayfinding Directional Signage	3	Each	\$4,000	\$12,000	
Wayfinding Kiosk	1	Each	\$23,000	\$23,000	
Rectangular Rapid Flashing Beacon (2 Per Crossing)	1	LS	\$17,000	\$17,000	
Traffic Control Signs and Devices (includes MUTCD signage)	96	SqFt	\$75	\$7,200	9
			<b>Segment 1 Total</b>	<b>\$237,104</b>	
<b>Segment 2 (Minnewashta Parkway to Century Boulevard Through Arboretum)</b>					
Trail Construction	9,504	Lin Ft	\$90	\$855,360	6
Pedestrian Ramps	6	Each	\$2,500	\$15,000	7
Signal Intersection Improvements at Century Boulevard and TH 5	1	Each	\$20,000	\$20,000	
Wayfinding Directional Signage	2	Each	\$4,000	\$8,000	
Wayfinding Kiosk	1	Each	\$23,000	\$23,000	
Rest Stops	1	Each	\$6,000	\$6,000	8
Traffic Control Signs and Devices (includes MUTCD signage)	128	SqFt	\$75	\$9,600	9
Wetland Mitigation	21,460	SqFt	\$2	\$42,920	10
Retaining Wall	875	SqFt	\$50	\$43,750	12
Fence	7,704	Lin Ft	\$75	\$577,800	15
Underpass (TH 41)	1	LS	\$850,000	\$850,000	13
Property Acquisition Area A	0.5	AC	\$192,000	\$96,000	14
			<b>Segment 2 Total</b>	<b>\$2,547,430</b>	
<b>Segment 2a (Minnewashta Parkway to Century Boulevard Through Arboretum)</b>					
Trail Construction	10,032	Lin Ft	\$90	\$902,880	6
Pedestrian Ramps	6	Each	\$2,500	\$15,000	7
Signal Intersection Improvements at Century Boulevard and TH 5	1	Each	\$20,000	\$20,000	
Wayfinding Directional Signage	2	Each	\$4,000	\$8,000	
Wayfinding Kiosk	1	Each	\$23,000	\$23,000	
Rest Stops	1	Each	\$6,000	\$6,000	8
Traffic Control Signs and Devices (includes MUTCD signage)	128	SqFt	\$75	\$9,600	9
Boardwalk	112	Lin Ft	\$1,200	\$134,400	
Wetland Mitigation	4,540	SqFt	\$2	\$9,080	11
Retaining Wall	875	SqFt	\$50	\$43,750	12
Fence	6,204	Lin Ft	\$75	\$465,300	15
Underpass (TH 41)	1	LS	\$850,000	\$850,000	13
Property Acquisition Area A	0.5	AC	\$192,000	\$96,000	14
			<b>Segment 2a Total</b>	<b>\$2,583,010</b>	

<b>Estimated Project Construction Cost</b>	Estimated Quantity	Unit of Measurement	Estimated Unit Cost	Estimated Total Cost	Notes
<b>Segment 3 (Century Boulevard to Bluff Creek Underpass)</b>					
Pedestrian Ramps	6	Each	\$2,500	\$15,000	7
Wayfinding Directional Signage	3	Each	\$4,000	\$12,000	
Traffic Control Signs and Devices (includes MUTCD signage)	128	SqFt	\$75	\$9,600	9
Underpass (TH 5)	1	LS	\$850,000	\$850,000	13
			<b>Segment 3 Total</b>	<b>\$886,600</b>	
<b>Segment 3a (Century Boulevard to Bluff Creek Underpass)</b>					
Existing 8' Trail Removal	7,920	Lin Ft	\$16	\$126,720	5
Trail Construction	7,920	Lin Ft	\$90	\$712,800	6
Pedestrian Ramps	8	Each	\$2,500	\$20,000	7
Wayfinding Directional Signage	7	Each	\$4,000	\$28,000	
Rectangular Rapid Flashing Beacon (2 per crossing)	1	LS	\$17,000	\$17,000	
Traffic Control Signs and Devices (includes MUTCD signage)	160	SqFt	\$75	\$12,000	9
Wetland Mitigation	27,000	SqFt	\$2	\$54,000	16
			<b>Segment 3a Total</b>	<b>\$970,520</b>	
<b>Segment 4 (Bluff Creek Underpass to Audubon Road)</b>					
Pedestrian Ramps	3	Each	\$2,500	\$7,500	7
Traffic Control Signs and Devices (includes MUTCD signage)	64	SqFt	\$75	\$4,800	9
			<b>Segment 4 Total</b>	<b>\$12,300</b>	
<b>Segment 5 (Audubon Road to Market Boulevard)</b>					
Existing 8' Trail Removal	528	Lin Ft	\$16	\$8,448	5
Trail Construction	528	Lin Ft	\$90	\$47,520	6
Pedestrian Ramps	4	Each	\$2,500	\$10,000	7
Signal Intersection Improvements at Powers Blvd and West 78th Street	1	Each	\$20,000	\$20,000	
Wayfinding Directional Signage	2	Each	\$4,000	\$8,000	
Wayfinding Kiosk	1	Each	\$23,000	\$23,000	
Traffic Control Signs and Devices (includes MUTCD signage)	128	SqFt	\$75	\$9,600	9
			<b>Segment 5 Total</b>	<b>\$126,568</b>	
<b>Segment 6 (Market Boulevard to Dell Road)</b>					
Existing 8' Trail Removal	4,224	Lin Ft	\$16	\$67,584	5
Trail Construction	4,224	Lin Ft	\$90	\$380,160	6
Pedestrian Ramps	2	Each	\$2,500	\$5,000	7
Signal Intersection Improvements at Dell Road and TH 5	1	Each	\$20,000	\$20,000	
Wayfinding Directional Signage	1	Each	\$4,000	\$4,000	
Traffic Control Signs and Devices (includes MUTCD signage)	128	SqFt	\$75	\$9,600	9
			<b>Segment 6 Total</b>	<b>\$486,344</b>	
			<b>Subtotal preferred route</b>	<b>\$4,296,346</b>	
<b>Subtotal Construction Cost Estimate</b>				<b>\$4,296,346</b>	
<b>20% Construction Contingency<sup>1</sup></b>				<b>\$859,269</b>	
<b>Subtotal Construction Cost Estimate with Construction Contingency</b>				<b>\$5,155,615</b>	
<b>20% Design and Engineering Contingency</b>				<b>\$859,269</b>	
<b>Total Estimated Construction Cost</b>				<b>\$6,014,884</b>	

**Cost Estimate Notes:**

---

1. Construction cost estimate includes a 20% design and administration fee and an additional 20% construction contingency factor for unforeseen costs.
2. Estimates are based on current 2017 construction costs.
3. Cost participation between regional park implementing agencies and other agencies on improvements beyond construction of the actual trail, such as any roadway reconstruction to accommodate the regional trail, shall be reviewed as implementation is considered.
4. Estimate does not include any utility relocation costs.
5. Existing trail removal assumes 8' wide bituminous trail. Actual dimensions may vary.
6. Existing trail construction 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.
7. Includes items such as removing and reinstalling curb and gutter, driveway aprons and storm sewer catch basins.
8. Includes concrete pad, bench, trash receptacle, and bike rack.
9. Assumes 32 SqFt per intersection. SqFt based on local roadway crossing. Includes steep slope signage.
10. Assumes 20 feet of impacts at Arboretum Drive.
11. Assumes 20 feet of impacts at utility corridor.
12. Assumes modular block wall.
13. Trail underpass price includes contingency costs for utility relocation, traffic control, construction and contractor safety.
14. Based on parcel tax data 2017, 5.78 ac valued at \$1,008,100, plus 10%= \$192,000/ac.
15. Assumes 10' chain link fence.
16. Assumes 10 feet of impacts at Chanhassen Nature Preserve.

*This page was intentionally left blank*

# APPENDIX C: RESOLUTIONS OF SUPPORT

DocuSign Envelope ID: FAF089F3-F974-4CDC-BB51-B05F075419C0



## BOARD OF COUNTY COMMISSIONERS CARVER COUNTY, MINNESOTA

Date: February 20, 2018 Resolution No.: 18-18

Motion by Commissioner: Ische Seconded by Commissioner: Maluchnik

**WHEREAS**, Carver County is an Implementing Regional Park and Trail Agency of the Metropolitan Council; and

**WHEREAS**, Carver County proposes a regional trail master plan consistent with the Highway 5 Regional Trail Search Corridor of the Metropolitan Council's 2040 Regional Parks Policy Plan; and

**WHEREAS**, Carver County has developed the TH 5 Regional Trail Master Plan; and

**WHEREAS**, the developed regional trail master plan is consistent with Carver County's Comprehensive Plan for trails.

**NOW THEREFORE, BE IT RESOLVED** the Carver County Board hereby recommends approval of the TH 5 Regional Trail Master Plan to the Metropolitan Council.

YES	ABSENT	NO
<u>Degler</u>	<u>                    </u>	<u>                    </u>
<u>Ische</u>	<u>                    </u>	<u>                    </u>
<u>Lynch</u>	<u>                    </u>	<u>                    </u>
<u>Maluchnik</u>	<u>                    </u>	<u>                    </u>
<u>                    </u>	<u>Workman</u>	<u>                    </u>

### STATE OF MINNESOTA COUNTY OF CARVER

I, Dave Hemze, duly appointed and qualified County Administrator of the County of Carver, State of Minnesota, do hereby certify that I have compared the foregoing copy of this resolution with the original minutes of the proceedings of the Board of County Commissioners, Carver County, Minnesota, at its session held on the    day of   , 2018, now on file in the Administration office, and have found the same to be a true and correct copy thereof.

Dated this 20<sup>th</sup> day of February, 2018.

DocuSigned by:  
Dave Hemze  
County Administrator



City of Victoria  
County of Carver  
State of Minnesota

**CITY OF VICTORIA  
RESOLUTION 2017-78**  
*MOTION BY MEMBER: Vogt*  
*SECONDED BY MEMBER: Gregory*

**A RESOLUTION SUPPORTING CARVER COUNTY'S TH 5 REGIONAL TRAIL  
MASTER PLAN**

**WHEREAS**, Carver County is an implementing regional park and trail agency of the Metropolitan Council; and

**WHEREAS**, Carver County proposes a regional trail master plan consistent with the Highway 5 Regional Trail Search Corridor of the Metropolitan Council's 2040 Regional Parks Policy Plan; and

**WHEREAS**, Carver County has developed the TH 5 Regional Trail Master Plan

**WHEREAS**, the proposed regional trail master plan is consistent with the City's plan for trails.

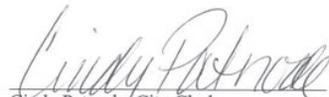
**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF VICTORIA,  
MINNESOTA AS FOLLOWS:** hereby supports the Regional Trail Master Plan.

Councilmember	Aye	Nay	Abstain	Absent
Tom Funk	X			
Jim Crowley	X			
Tom Gregory	X			
Tom Strigel	X			
Tom Vogt	X			

Adopted this 27th day of November 2017.

  
Thomas C. Funk, Mayor

ATTEST:

  
Cindy Patnode, City Clerk

*This page was intentionally left blank*

# APPENDIX D: PUBLIC INPUT MATERIALS

# TH 5 REGIONAL TRAIL MASTER PLAN

## OPEN HOUSE #1



WELCOME



Chanhassen Recreation Center  
March 15, 2017

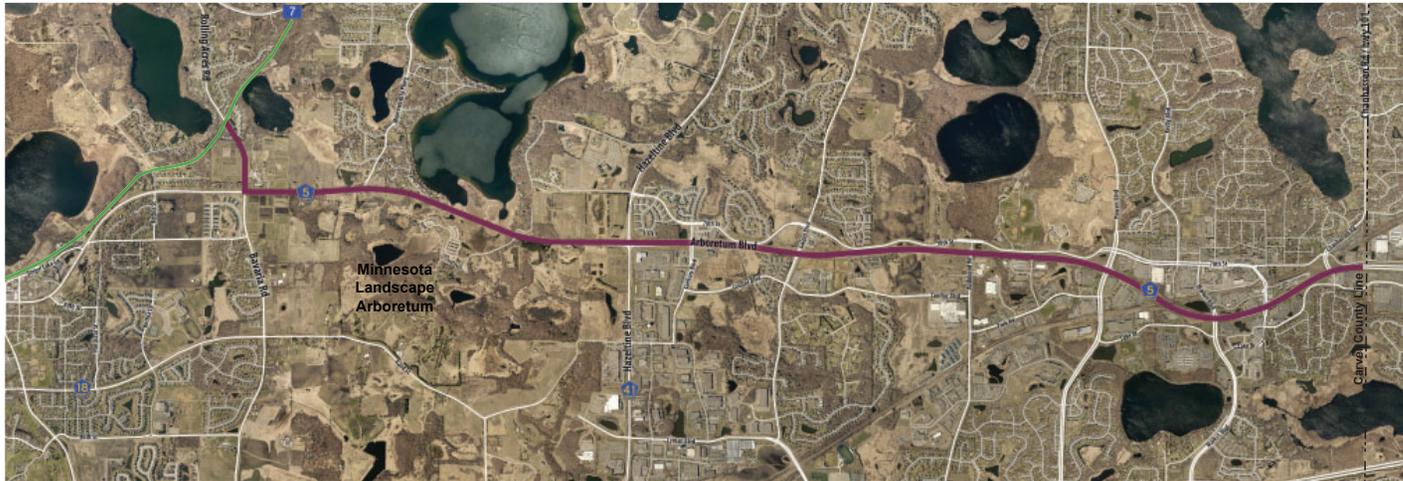
## PROJECT OVERVIEW

The TH 5 Regional Trail Master Plan is a project of Carver County Parks that will provide the County with a plan to implement a new regional trail along the Highway 5 corridor. Once the master plan is completed and approved by the Metropolitan Council, Carver County will be able to request and utilize regional park system development funds to begin implementing trail development and improvements as identified in the master plan.

## PROJECT EXTENTS

The proposed trail will extend from the Carver County/Hennepin County line, near County Road 101 in Chanhassen to the Lake Minnetonka LRT Regional Trail crossing of Rolling Acres Road in Victoria. The regional trail will utilize several existing local trail segments, the Victoria Regional Trail and a new trail alignment through the Minnesota Landscape Arboretum. The proposed trail fills a gap in the regional trail network and is identified as regional trail search corridor. When completed, the trail corridor will provide users with an off-road, independent trail alignment connecting several significant local and regional park and trail facilities, including:

- Minnesota Landscape Arboretum
- Lake Minnetonka LRT Regional Trail
- Lake Ann Park in Chanhassen
- Trail connection to Lake Minnewashta Regional Park
- Trail connection to Carver Park Reserve



PROJECT CORRIDOR



### TRAIL DESIGN

The proposed 10' wide, paved multi-use trail will be designed in accordance with the MnDOT Bikeway Facility Design Manual which reflects state and federal guidelines. Some trail segments may be 12' wide upon city request and available right-of-way. Boardwalks, where proposed, may be 12' wide across wetlands or other sensitive sites. New trail underpasses will be developed to meet state and federal trail guidelines to provide access for maintenance vehicles. Many of the site-specific details that are not addressed during the planning phase will be addressed during the design phase. This includes the configuration of trail crossings, and locations of signage, rest stops and trailheads.

### MAINTENANCE

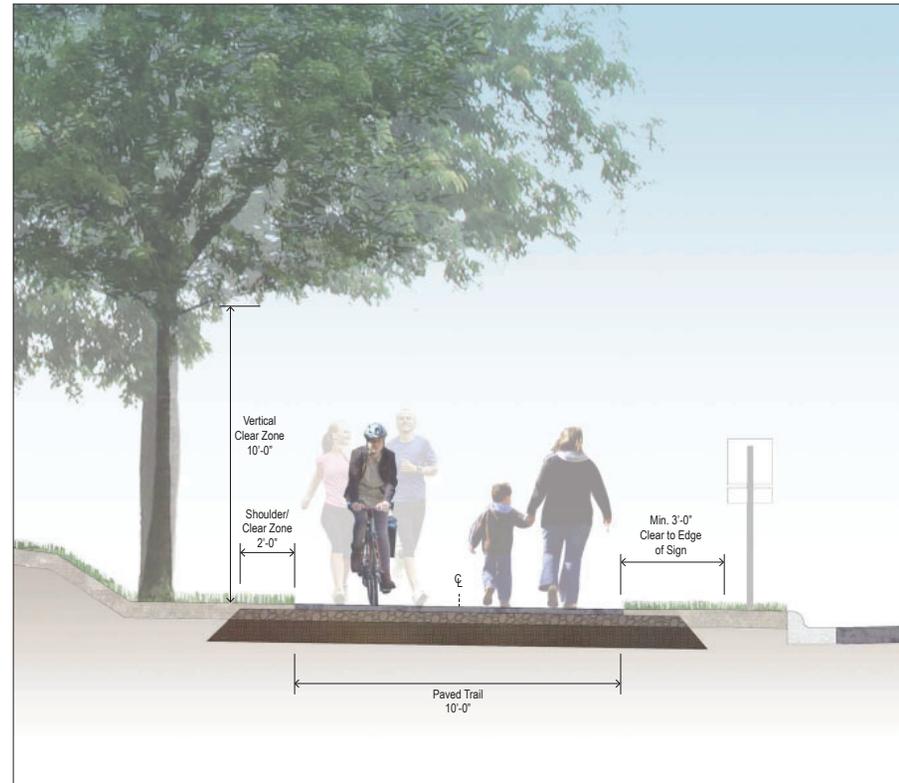
Carver County, through joint powers agreements with Chanhassen, Victoria and the Minnesota Landscape Arboretum will provide maintenance services for the regional trail. Routine maintenance includes mowing, trash removal, vegetation trimming, and sweeping. Inspections to the regional trail will also be included to ensure trails are usable and meet the expectations of the visitors they serve. Extraordinary maintenance will occur in response to storm damage, and other unplanned circumstances.

### PUBLIC SAFETY

The TH 5 Regional Trail will be patrolled by contracted police services and/or the Carver County Park Patrol services.

### ALLOWED USES

Walking, dog-walking, running/jogging, bicycling, and in-line skating during the non-winter months. Winter use will be determined by the individual cities in which the trail is located.



Typical Trail Section



Carver County TH 5 Trail Master Plan		2017								
Task	January	February	March	April	May	June	July	August	September	
Inventory & Analysis	■									
Trail Alignment & Amenity Alternatives	■									
Develop Preferred Trail Alignment			■							
Master Plan Document Preparation				■ ■ ■ ■	■					
Cost Estimate					■					
County and Met Council Review						■				
<b>Meetings</b>										
Task Force Meeting (4)		●		●		●	●			
Open House (2)			●		●					
Pop-up Meeting (2)				●	●					
On-line Questionnaire				■						



PROJECT SCHEDULE





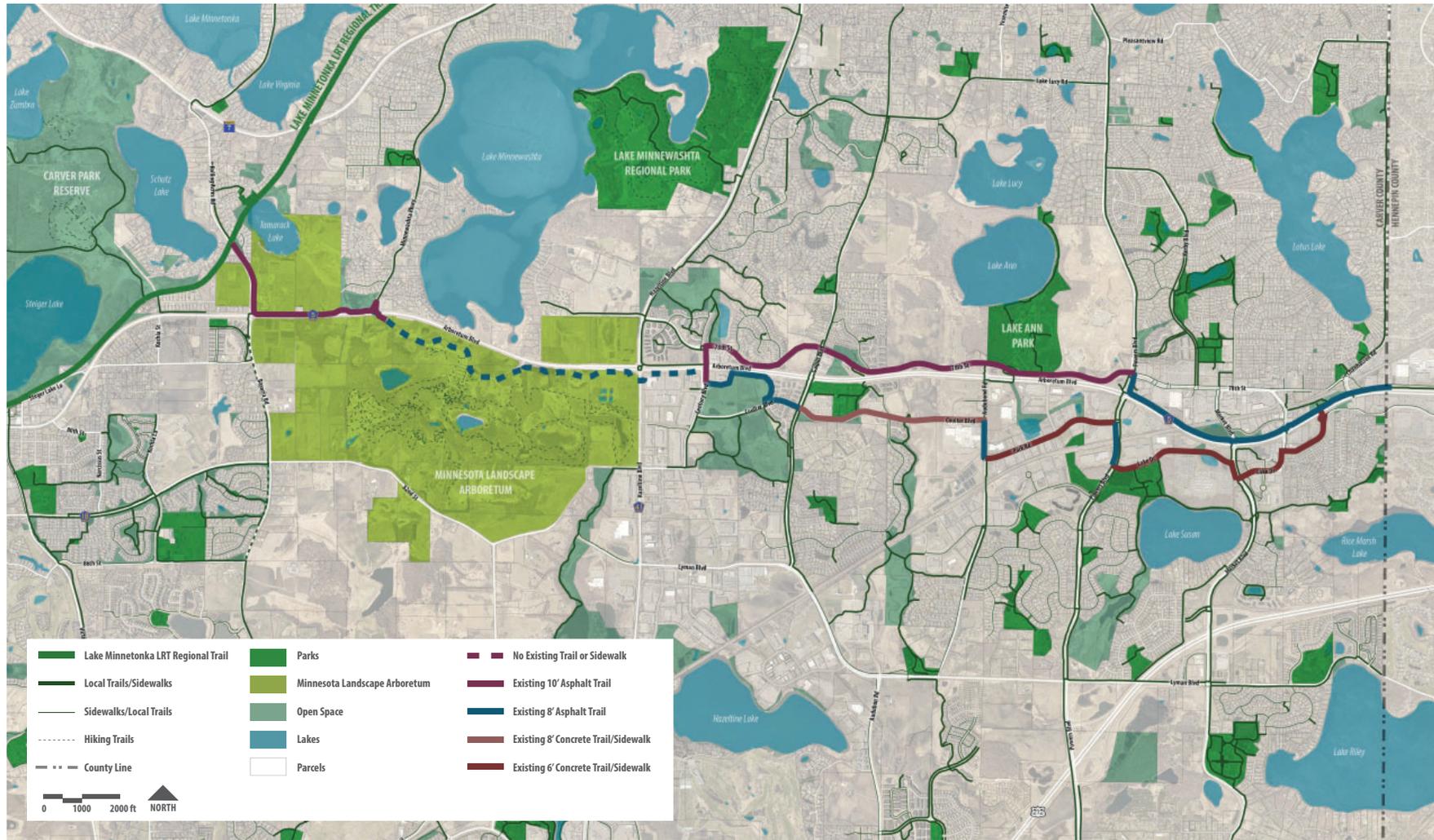
## TRAIL ALIGNMENT ALTERNATIVES

Segment	From	To	Along   Through	Total Trail Length	No Trail Length	Existing Asphalt Trail Length	Existing Asphalt Trail Width	Existing Concrete Trail Length	Existing Concrete Trail Width	Number of Adjacent Parcels <sup>4</sup>	Driveway Crossing	At Grade Road Crossings	Destinations Connected By Trail
A-1	Lake Minnetonka LRT Regional Trail	Minnewashta Pkwy	County Road 5	1.3	0	1.3	10	0	0	7	4	2	1
<i>Subtotal</i>				1.3	0	1.3	10	0	0	7	4	2	1
Segment	From	To	Along   Through	Total Trail Length	No Trail Length	Existing Asphalt Trail Length	Existing Asphalt Trail Width	Existing Concrete Trail Length	Existing Concrete Trail Width	Number of Adjacent Parcels <sup>4</sup>	Driveway Crossing	At Grade Road Crossings	Destinations Connected By Trail
B-1	Minnewashta Pkwy	Century Blvd	Minnesota Landscape Arboretum	1.83	1.68	0	0	0	0	9	4	3	2
B-2	Minnewashta Pkwy	Century Blvd	Minnesota Landscape Arboretum	1.89	1.68	0	0	0	0	9	3	3	2
<i>Subtotal</i>				1.89	1.68	0	0	0	0	9	3	3	2
Segment	From	To	Along   Through	Total Trail Length	No Trail Length	Existing Asphalt Trail Length	Existing Asphalt Trail Width	Existing Concrete Trail Length	Existing Concrete Trail Width	Number of Adjacent Parcels <sup>4</sup>	Driveway Crossing	At Grade Road Crossings	Destinations Connected By Trail
C-1	Century Blvd	Galpin Blvd	Coulter Blvd	0.76	0	0.76	8 to 10	0	0	8	6	2	0
C-2	Galpin Blvd	Audubond Rd	Coulter Blvd	1.14	0	0.95	8	0.19	8	9	2	2	0
C-3	Audubon Rd	Market Blvd	Park Dr and Lake Dr	1.67	0	0.22	8	1.45	6	19	16	3	3
C-4	Market Blvd	County Line	Lake Dr and Th 5	1.09	0	0.46	8	0.63	6	15	9	4	1
<i>Subtotal</i>				4.66	0	2.39	24	2.27	20	51	33	11	4
Segment	From	To	Along   Through	Total Trail Length	No Trail Length	Existing Asphalt Trail Length	Existing Asphalt Trail Width	Existing Concrete Trail Length	Existing Concrete Trail Width	Number of Adjacent Parcels <sup>4</sup>	Driveway Crossing	At Grade Road Crossings	Destinations Connected By Trail
D1	Century Blvd	Galapin Blvd	78th St	0.78	0	0.78	10	0	0	12	0	4	0
D-2	Galapin Blvd	Audubond Rd	78th St	0.85	0	0.85	10	0	0	8	0	2	0
D-3	Audubond Rd	Market Blvd	78th St	1.5	0	1.5	10	0	0	12	0	3	0
D-4	Market Blvd	County Line	Th 5	0.84	0	0.84	10	0	0	11	0	3	0
<i>Subtotal</i>				3.13	0	3.13	30	0	0	43	0	12	0



SEGMENT ANALYSIS MATRIX





EXISTING TRAIL WIDTHS





**TH 5 REGIONAL TRAIL A1: LAKE MINNETONKA LRT REGIONAL TRAIL TO MINNESOTA LANDSCAPE ARBORETUM**  
 Carver County Parks



**TH 5 REGIONAL TRAIL B1-B2: MINNESOTA LANDSCAPE ARBORETUM**  
 Carver County Parks



**TH 5 REGIONAL TRAIL C1, C2, D1 & D2: CENTURY BOULEVARD - AUDUBON ROAD**  
Carver County Parks



**TH 5 REGIONAL TRAIL C3, C4, D3 & D4: AUDUBON ROAD - COUNTY LINE**  
 Carver County Parks

**Location:** SRF Consulting Group  
**Client:** Carver County Parks  
**Date:** March 15, 2017  
**Subject:** TH 5 Regional Trail Master Plan Open House #1 summary of public comments  
**Attendees:** ~45 members of the public (19 on the sign-in sheet)

### Purpose of Meeting:

The purpose of the meeting was to introduce the project and to receive feedback from the public about the trail alignment options and analysis of the TH 5 Regional Trail in Carver County.

### Summary of Meeting

#### Comments from comment cards submitted at the open house

- Cities represented on comment cards received: Chanhassen (4), Vasserman Ridge, Eden Prairie, Excelsior, Victoria
- Do not like at-grade crossings of Hwy 5. Like trail alignment on south side of Hwy 5 from Arboretum to Lake Ann. Cross Hwy 5 at underpass.
- Cross Hwy 5 with grade separation.
- Love it! Makes me happy!
- Like C1 (south side). Keeps traffic south of Hwy 5 in line with proposed extension west. Could transfer north of Hwy 5 if needed further east of existing underpass east of Galpin Rd.
- I understand the reason for going through the Arboretum rather than on the north side of Hwy 5 but along the north side would be more effective.
- If trail along TH 5 means being along side traffic, is there not a more quieter way to get the trail west [at Arboretum]?
- Definitely looking forward to getting from SW Eden Prairie to the Arboretum on a bike. Crossing TH 5 and 41 has been a problem for a long time.
- I like B1 for the Arboretum section. It is a more smooth flow, and will be a more beautiful experience for the people. It will be off the noisy highway and promote the Arboretum better. I'll ride it every day to work (Arboretum) and to Life Time.
- Everything looks good. Crossing on Century and other at-grade busy road crossings could be dangerous.
- In favor of expansion into Arboretum.
- Keep paths open in winter as they are now. Keep tunnels well lit.
- I like the fact that it goes on the south side of Hwy 5 past the Arboretum.

- Underpasses wherever possible instead of crossing at intersections.

**Additional comments provided to staff or written on post-it notes on the maps**

Alignment A (west of Arboretum)

- There are steep slopes on existing trail west of Minnewashta Parkway.
- Consider installing a trail underpass under Minnewashta Parkway on the north side of TH 5. This intersection is very bad for trail users.

Alignment B (Arboretum to Century Blvd)

- Could the trail extend on the north side of TH 5 past the Arboretum?
- Keep the trail on the north side of TH 5 as long as possible (past Hazeltine Rd. if possible)
- Provide a trail entrance at Life Time Fitness.
- Concern about at-grade crossings, especially at TH 41 and Century Blvd.
- The Century Blvd crossing is not long enough for pedestrians and the light timing favors vehicles.

Alignment C & D (east of Century Blvd)

- Use underpasses to cross TH 5.
- Provide better access to wetland area [between Century and Galpin Blvds south of TH 5].
- North side alignment serves more residents.
- Favor north side alignment.
- Use underpasses not at-grade crossings of TH 5
- There is an existing RRFB midblock on Powers Blvd. between Park Road and the railroad bridge.
- There is a tight sidewalk on the Powers Blvd. bridge over the railroad tracks.
- The trail along the north side of TH 5 is very noisy.
- Is Lake Drive a private road?
- Confirm Hennepin/Carver County line location at TH 5.

# TH 5 REGIONAL TRAIL MASTER PLAN

## OPEN HOUSE #2



Chanhasen Recreation Center  
May 23, 2017

## PROJECT OVERVIEW

The TH 5 Regional Trail Master Plan is a project of Carver County Parks that will provide the County with a plan to implement a new regional trail along the Highway 5 corridor. Once the master plan is completed and approved by the Metropolitan Council, Carver County will be able to request and utilize regional park system development funds to begin implementing trail development and improvements as identified in the master plan.

## PROJECT EXTENTS

The proposed trail will extend from the Carver County/Hennepin County line, near County Road 101 in Chanhassen to the Lake Minnetonka LRT Regional Trail crossing of Rolling Acres Road in Victoria. The regional trail will utilize several existing local trail segments, the Victoria Regional Trail and a new trail alignment through the Minnesota Landscape Arboretum. The proposed trail fills a gap in the regional trail network and is identified as regional trail search corridor. When completed, the trail corridor will provide users with an off-road, independent trail alignment connecting several significant local and regional park and trail facilities, including:

- Minnesota Landscape Arboretum
- Lake Minnetonka LRT Regional Trail
- Lake Ann Park in Chanhassen
- Trail connection to Lake Minnewashta Regional Park
- Trail connection to Carver Park Reserve



## PROJECT INTRODUCTION



### TRAIL DESIGN

The proposed 10' wide, paved multi-use trail will be designed in accordance with the MnDOT Bikeway Facility Design Manual which reflects state and federal guidelines. Some trail segments may be 12' wide upon city request and available right-of-way. Boardwalks, where proposed, may be 12' wide across wetlands or other sensitive sites. New trail underpasses will be developed to meet state and federal trail guidelines to provide access for maintenance vehicles. Many of the site-specific details that are not addressed during the planning phase will be addressed during the design phase. This includes the configuration of trail crossings, and locations of signage, rest stops and trailheads.

### MAINTENANCE

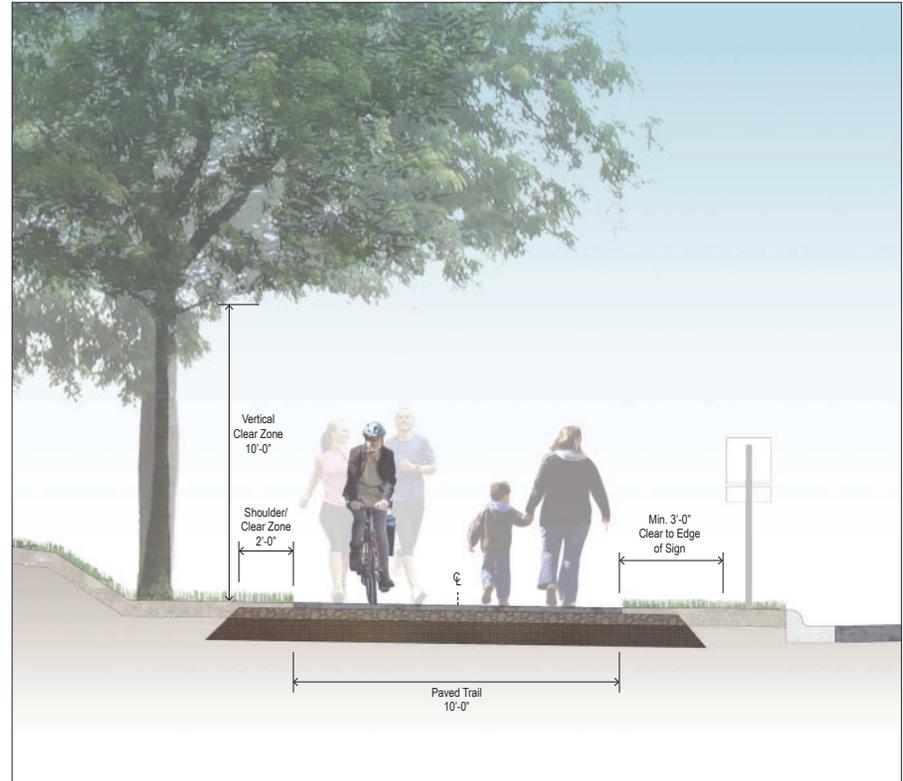
Carver County, through joint powers agreements with Chanhassen, Victoria and the Minnesota Landscape Arboretum will provide maintenance services for the regional trail. Routine maintenance includes mowing, trash removal, vegetation trimming, and sweeping. Inspections to the regional trail will also be included to ensure trails are usable and meet the expectations of the visitors they serve. Extraordinary maintenance will occur in response to storm damage, and other unplanned circumstances.

### PUBLIC SAFETY

The TH 5 Regional Trail will be patrolled by contracted police services and/or the Carver County Park Patrol services.

### ALLOWED USES

Walking, dog-walking, running/jogging, bicycling, and in-line skating during the non-winter months. Winter use will be determined by the individual cities in which the trail is located.



Typical Trail Section

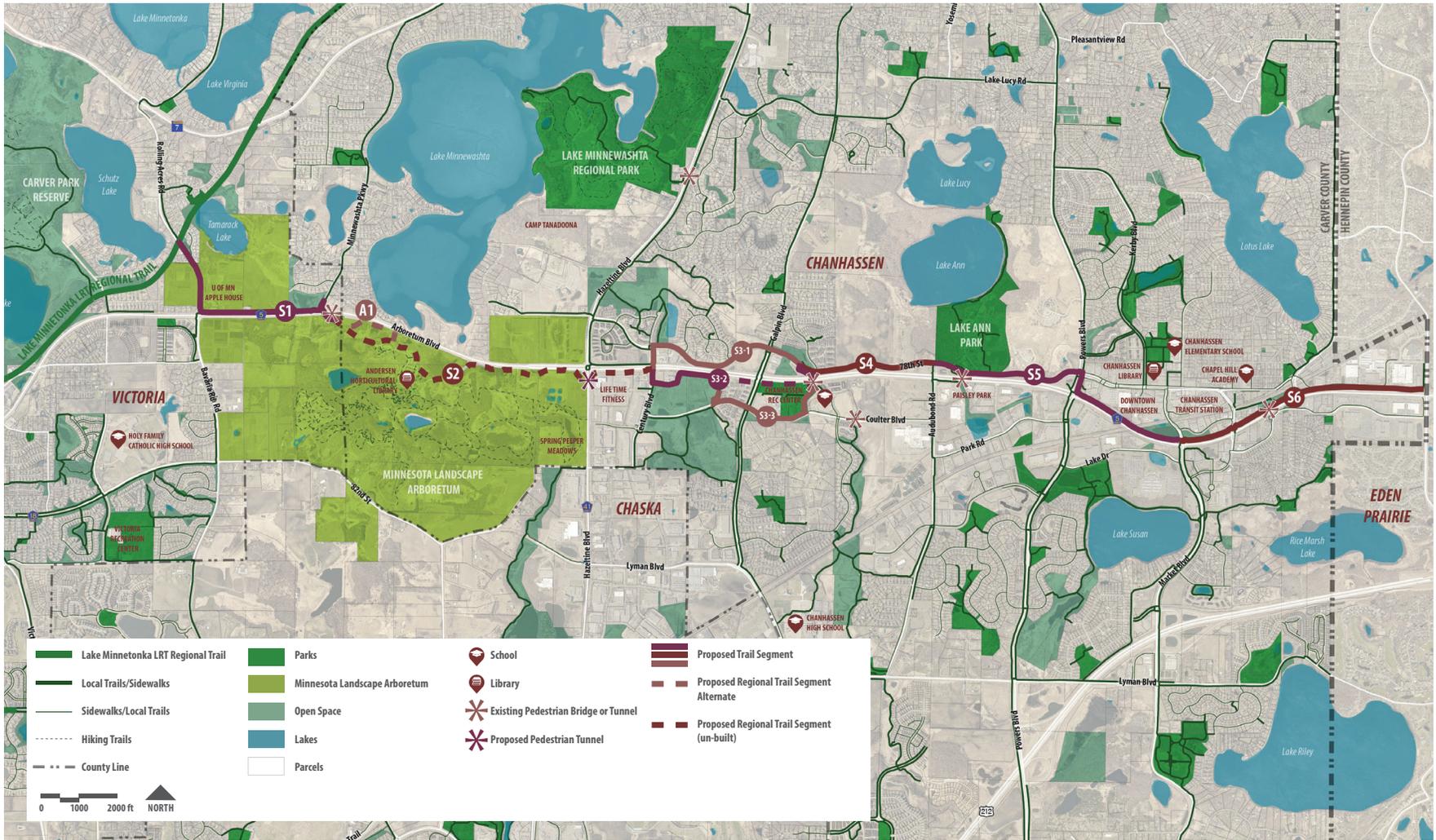


Carver County TH 5 Trail Master Plan	2017								
Task	January	February	March	April	May	June	July	August	September
Inventory & Analysis	█								
Trail Alignment & Amenity Alternatives	█								
Develop Preferred Trail Alignment			█						
Master Plan Document Preparation				█ █ █ █ █	█				
Cost Estimate					█				
County and Met Council Review						█			
<b>Meetings</b>									
Task Force Meeting (4)	●			●		●		●	
Open House (2)			●		●				
Pop-up Meeting (2)				●	●				
On-line Questionnaire					█				

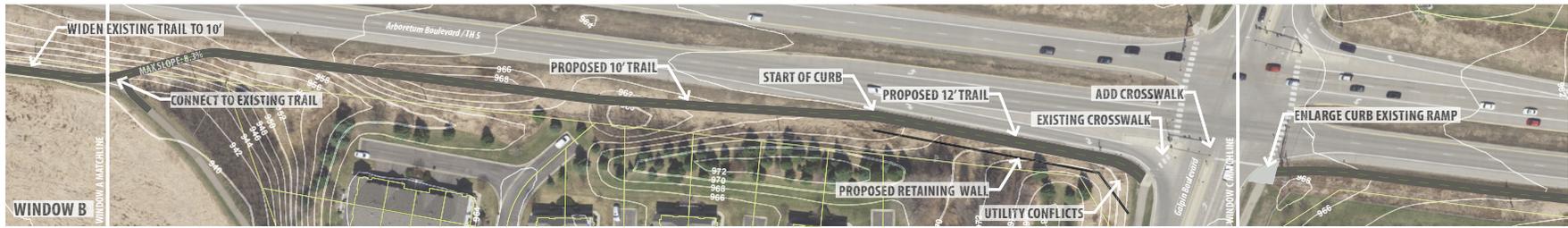


PROJECT SCHEDULE





**TRAIL ALIGNMENT ALTERNATIVES**



TRAIL ALIGNMENT ALTERNATIVE: CENTURY BOULEVARD TO CHANHASSEN RECREATION CENTER UNDERPASS





Rolling Acres Road and Lake Minnetonka LRT Regional Trail



Existing trail crossing at Minnewashta Parkway



TH 5 Underpass into Minnesota Landscape Arboretum near Minnewashta Parkway



Preferred trail alignment through Minnesota Landscape Arboretum



Preferred trail alignment near Lifetime Fitness



Opportunity for pedestrian crossing improvements at TH 5 and Century Boulevard



Trail alignment options between Century Boulevard and Chanhassen Recreation Center

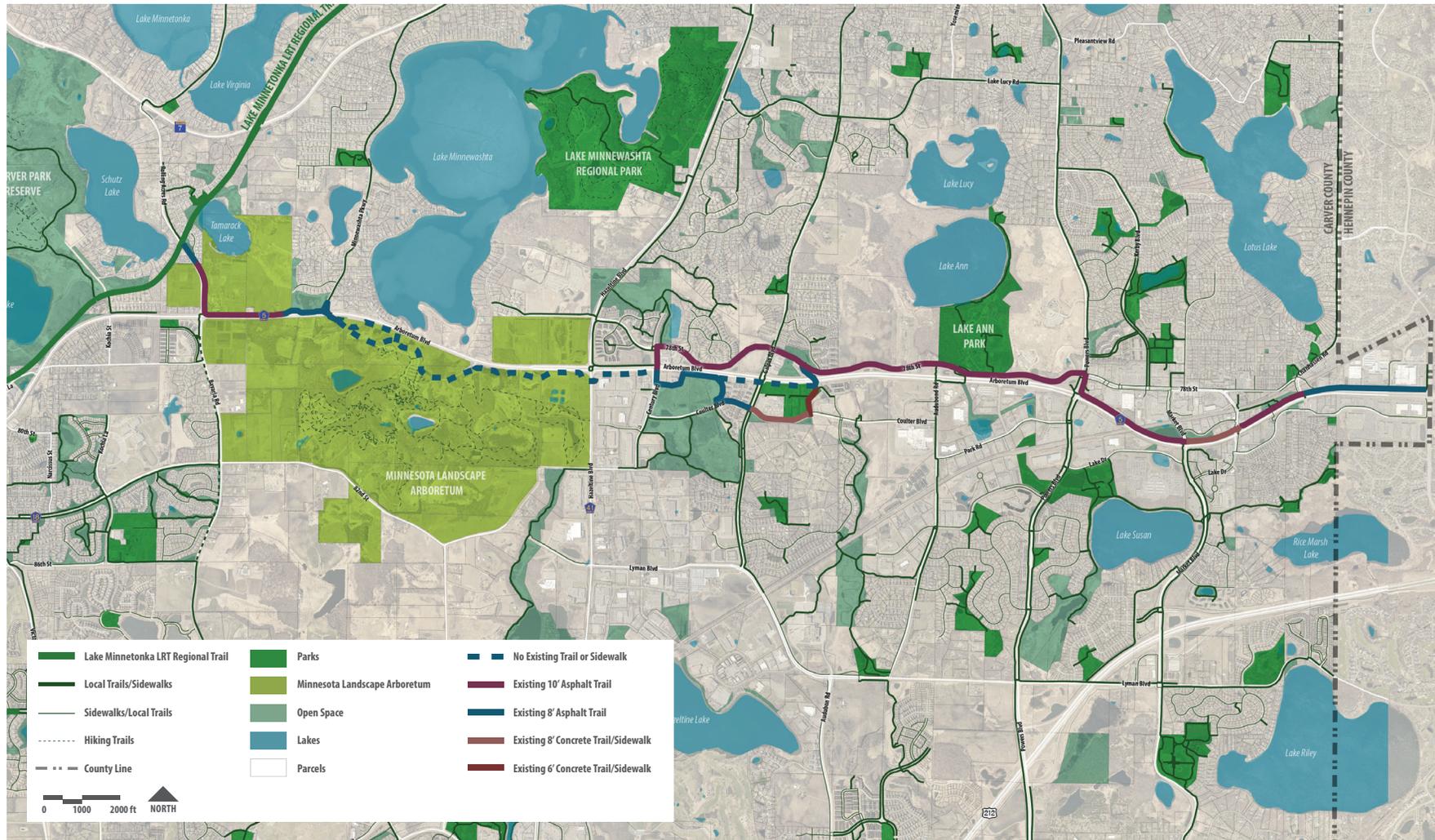


Underpass at Chanhassen Recreation Center



Typical 10' trail along 78th Street

 EXISTING CONDITION PHOTOS



EXISTING TRAIL WIDTHS





- Location:** SRF Consulting Group  
**Client:** Carver County Parks  
**Date:** May 23, 2017  
**Subject:** TH 5 Regional Trail Master Plan Open House #2 summary of public comments  
**Attendees:** ~40 members of the public

### **Purpose of Meeting:**

The purpose of the meeting was to receive feedback from the public about the preferred trail alignment option and analysis of the TH 5 Regional Trail in Carver County.

### **Summary of Meeting**

#### **Comments provided verbally to staff**

- Dislike crossing TH 5 at Century Boulevard. An underpass here or an alternate route that uses the existing Bluff Creek underpass would be nice.
- Building a new trail along TH 5 from Bluff Creek underpass to the existing wetland trail is not worth the investment since there are already trails north and south of TH 5.
- A new trail along TH 5 from Bluff Creek underpass to the existing wetland trail would make the existing Bluff Creek underpass a more direct route.
- Many trail users who use the Bluff Creek underpass do not like backtracking to use the 78<sup>th</sup> Street Bluff Creek underpass. Many users cut through the boulevard to avoid backtracking.
- The underpass at 41 is a great idea! Build it now!!
- A trail through the Arboretum will be nice.
- Build a boardwalk adjacent to TH 5 through the wetland in the Arboretum to avoid the need for a fence.
- Love it!
- Trails located right next to TH 5 are very load due to car traffic. It is nice when the trail is on a frontage road.
- Creating large regional trail loops will help Minnesota compete with other places for bicycle destinations. The TH 5 trail will connect the Minnetonka LRT Regional Trail and the Minnesota River Bluffs LRT Regional Trail.

#### **Comments written on comment card**

- *What do you like or dislike about the proposed TH 5 Regional Trail alignment alternatives?*
  - I like that I could ride to/through the Arboretum and on to Victoria.

- *Do you have suggestions or ideas for the development of the TH 5 Regional Trail?*
  - Right of way and basic construction should be the first priority. Underpasses are great if affordable.
  - Complete the path through the Arboretum.
- *Additional Comments*
  - TH 41 and Minnetonka west – 35 mph sign – Is the size of the sign correct?

#### **Comments submitted via email**

- Hello! I am not able to attend the open house May 23, so thought I would email you instead. I was just reading the article in the Chanhassen Villager about the proposed trail. We live 1/2 mile south of Hwy. 5 on Bavaria (Rolling Acres) intersection, so we would be very happy if the proposed trail segment was approved. It would be great to be connected to Chanhassen. I was hoping a trail going South along Bavaria from Hwy 5 would also be proposed. We get a lot of bikers along Bavaria going North/South. Also, the neighborhoods along Bavaria have sidewalk segments but not a constant sidewalk or trail North and South, which is a challenge with having young children or trying to get to the LRT with all the traffic. So we are very excited about the proposal. However, would like it very much if Bavaria South of Hwy. 5 would be looked at also.
- Hi Marty, I just read the article in the Chanhassen Villager about the bike trail. Thank you for working on this project. The trail is very important and there is a good chance it will save a life. This weekend I attempted to ride my bike from Chanhassen to the underpass at Highway 5 and Highway 15. I was going West. I found there is no shoulder on Highway 5 along Lake Minnewashta, (the North side 5). There is only a few feet of gravel. Cars are speeding by, probably over the limit, literally inches away. The risk was too high and I turned around and walked my bike back to Hazeltine Blvd. I think this section of the trail should be made the highest priority. I could make it the rest of the way on side streets, but this section is extremely dangerous. Thanks again.

# TH 5 REGIONAL TRAIL MASTER PLAN

POP-UP EVENT - ARBORETUM BUD RUN

An aerial photograph of a rural landscape. A paved road with several cars runs vertically through the center. To the left of the road are green fields and a dense line of trees. To the right are more fields, some with rows of crops, and a few farm buildings. In the background, a large blue lake is visible, surrounded by more trees and a distant town. The sky is clear and blue.

# WELCOME



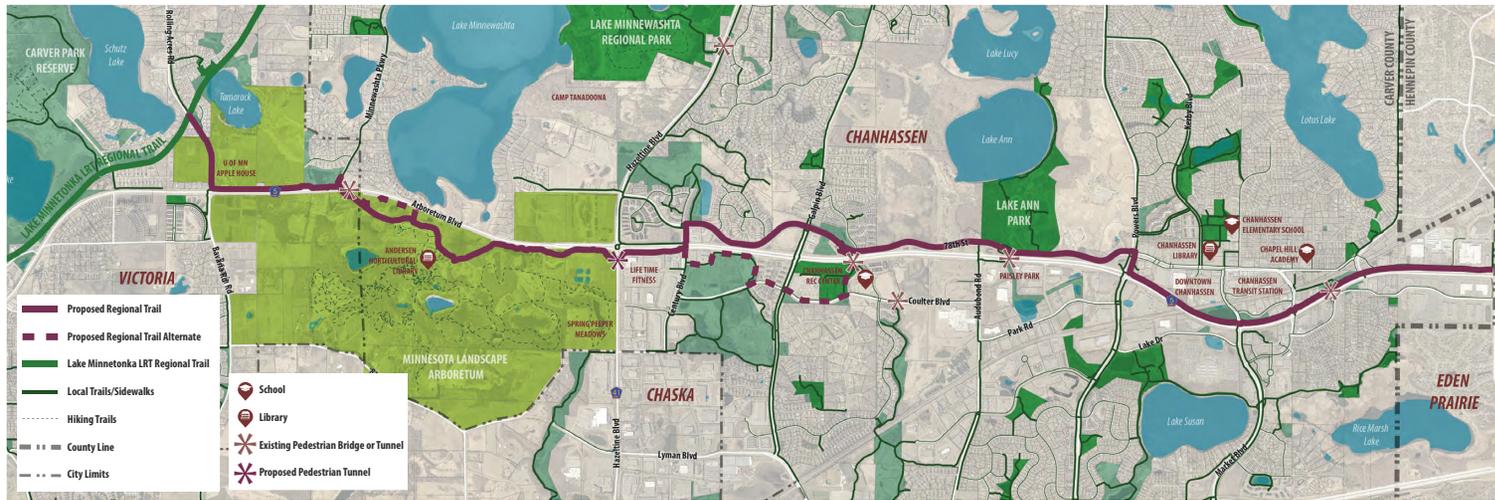
## PROJECT OVERVIEW

The TH 5 Regional Trail Master Plan is a project of Carver County Parks that will provide the County with a plan to implement a new regional trail along the Highway 5 corridor. Once the master plan is completed and approved by the Metropolitan Council, Carver County will be able to request and utilize regional park system development funds to begin implementing trail development and improvements as identified in the master plan.

## PROJECT EXTENTS

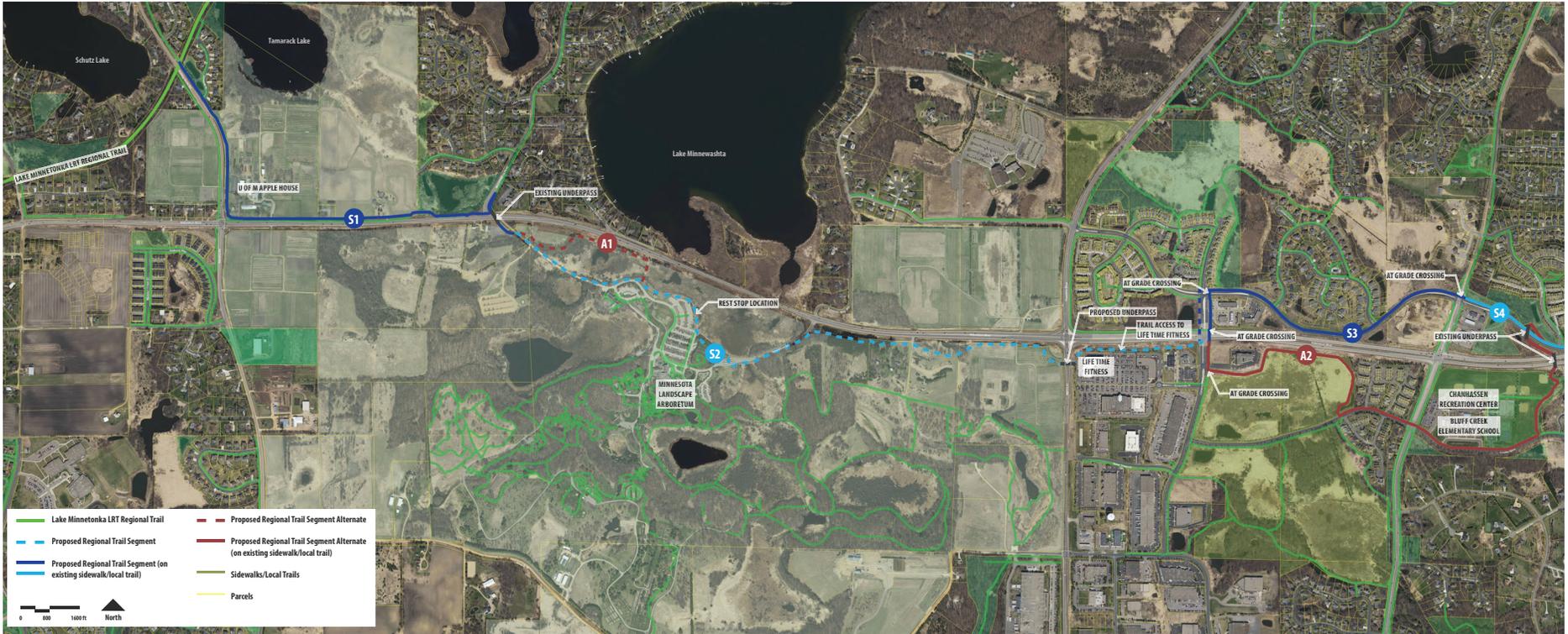
The proposed trail will extend from the Carver County/Hennepin County line, near County Road 101 in Chanhassen to the Lake Minnetonka LRT Regional Trail crossing of Rolling Acres Road in Victoria. The regional trail will utilize several existing local trail segments, the Victoria Regional Trail and a new trail alignment through the Minnesota Landscape Arboretum. The proposed trail fills a gap in the regional trail network and is identified as regional trail search corridor. When completed, the trail corridor will provide users with an off-road, independent trail alignment connecting several significant local and regional park and trail facilities, including:

- Minnesota Landscape Arboretum
- Lake Minnetonka LRT Regional Trail
- Lake Ann Park in Chanhassen
- Trail connection to Lake Minnewashta Regional Park
- Trail connection to Carver Park Reserve

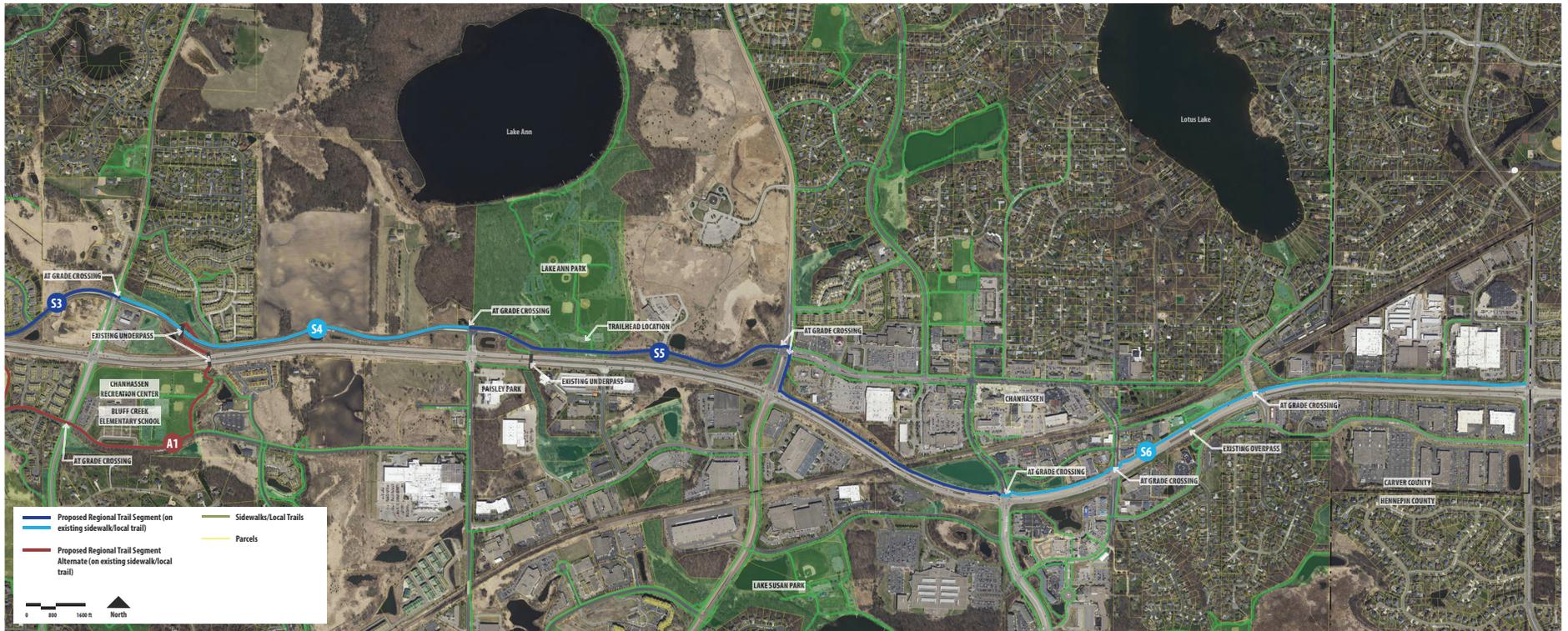


PROJECT CORRIDOR





**TH 5 REGIONAL TRAIL PREFERRED ALIGNMENT**  
Carver County Parks



**TH 5 REGIONAL TRAIL PREFERRED ALIGNMENT**

Carver County Parks

- Project:** TH 5 Regional Trail Master Plan
- Client:** Carver County
- Date:** 4/24/17 & 4/26/17
- Subject:** Summary notes for the pop-up event at MN Landscape Arboretum
- Attendees:** Marty Walsh, Carver County; Stewart Crosby, SRF

### **Purpose of Events:**

The purpose of the pup-up meeting was to provide additional opportunities for the public to learn about and comment on the TH 5 Regional Trail Master Plan. The event was held at the MN Landscape Arboretum on the morning of Sunday, May 7, 2017 during the Spring Bud Run event at which over 400 people participated.

### **Summary of Pop-Up Event**

- 99 people provided input on the master plan.
- The trails along TH 5 are currently not user friendly.
- Concern about at-grade trail crossing on Rolling Acres Road.
- Liked the option with the box culvert underneath TH 5 at Bluff Creek Elementary School.
- Great. Like to see a connection to the MN River Bluffs Regional Trail.
- The comment was made that the trail plan was great.
- Show transit connections in Chanhassen, specifically to the Chanhassen Transit Station.
- A comment was made that a paved trail is preferred.
- Prefer the route to the Elementary School. It will be easier for more kids to use.
- Utilize the underpasses. Additional comment was made that the proposed TH 41 underpass was great.
- The comment was made that it would be good to have an underpass at Century Boulevard under TH 5.

# TH 5 REGIONAL TRAIL MASTER PLAN

POP-UP EVENT - LIFETIME FITNESS



## PROJECT OVERVIEW

The TH 5 Regional Trail Master Plan is a project of Carver County Parks that will provide the County with a plan to implement a new regional trail along the Highway 5 corridor. Once the master plan is completed and approved by the Metropolitan Council, Carver County will be able to request and utilize regional park system development funds to begin implementing trail development and improvements as identified in the master plan.

## PROJECT EXTENTS

The proposed trail will extend from the Carver County/Hennepin County line, near County Road 101 in Chanhassen to the Lake Minnetonka LRT Regional Trail crossing of Rolling Acres Road in Victoria. The regional trail will utilize several existing local trail segments, the Victoria Regional Trail and a new trail alignment through the Minnesota Landscape Arboretum. The proposed trail fills a gap in the regional trail network and is identified as regional trail search corridor. When completed, the trail corridor will provide users with an off-road, independent trail alignment connecting several significant local and regional park and trail facilities, including:

- Minnesota Landscape Arboretum
- Lake Minnetonka LRT Regional Trail
- Lake Ann Park in Chanhassen
- Trail connection to Lake Minnewashta Regional Park
- Trail connection to Carver Park Reserve



PROJECT CORRIDOR





**Project:** TH 5 Regional Trail Master Plan  
**Client:** Carver County  
**Date:** 5/16/17  
**Subject:** Summary notes for the pop-up event at Life Time Fitness  
**Attendees:** Sam Pertz, Carver County; Mike McGarvey, SRF

### **Purpose of Events:**

The purpose of the pup-up meeting was to provide additional opportunities for the public to learn about and comment on the TH 5 Regional Trail Master Plan. The event was held at Life Time Fitness in the afternoon of Tuesday, May 16, 2017 from 4:00 pm to 6:15 pm.

### **Summary of Pop-Up Event**

- 40 people provided input on the master plan.
- Excited about the underpass south of TH 5 under TH 41 connecting to the Arboretum.
- The trails along TH 5 are not user friendly, specifically at crossings.
- Concern about at-grade crossing and signal timing at TH 5 and Century Blvd.
- Prefer the alignment alternative that utilizes the box culvert underneath TH 5 at Bluff Creek Elementary School.
- Like to see a connection to the MN River Bluffs Regional Trail.

*This page was intentionally left blank*

**ON-LINE SURVEY RESULTS**

Carver County TH 5 Regional Trail Master Plan

**Q1 In which community do you live?**

Answered: 86 Skipped: 2

#	Responses	Date
1	Chanhassen	5/27/2017 6:45 PM
2	Scott county	5/27/2017 2:42 PM
3	Shorewood	5/23/2017 5:43 PM
4	Cologne	5/23/2017 9:10 AM
5	Camden Township, Carver County	5/22/2017 3:06 PM
6	Laketown Township	5/19/2017 12:43 PM
7	St. Boni	5/19/2017 11:20 AM
8	Chanhassen	5/18/2017 8:21 PM
9	Victoria, woodlands	5/18/2017 7:47 PM
10	Chanhassen	5/17/2017 7:19 PM
11	Victoria	5/17/2017 3:53 PM
12	Chanhassen	5/17/2017 11:56 AM
13	Chaska	5/17/2017 8:41 AM
14	Victoria	5/17/2017 8:04 AM
15	Chanhassen	5/17/2017 7:45 AM
16	Chanhassen	5/17/2017 7:41 AM
17	Chanhassen	5/17/2017 7:39 AM
18	Chanhassen	5/17/2017 5:27 AM
19	CHANHASSEN	5/17/2017 5:11 AM
20	Eden prairie	5/17/2017 3:49 AM
21	Victoria	5/16/2017 10:57 PM
22	Victoria	5/16/2017 10:20 PM
23	Chanhassen	5/16/2017 9:35 PM
24	Chaska	5/16/2017 9:35 PM
25	Chaska	5/16/2017 9:32 PM
26	Victoria	5/16/2017 9:25 PM
27	Eden Prairie	5/16/2017 9:19 PM
28	Victoria	5/16/2017 9:10 PM
29	Chanhassen	5/16/2017 9:06 PM
30	Chaska	5/16/2017 8:48 PM
31	Victoria	5/16/2017 8:46 PM
32	Chaska	5/16/2017 8:39 PM
33	Victoria	5/16/2017 8:36 PM
34	Waconia	5/16/2017 8:34 PM
35	Eden Prairie	5/16/2017 8:32 PM

## Carver County TH 5 Regional Trail Master Plan

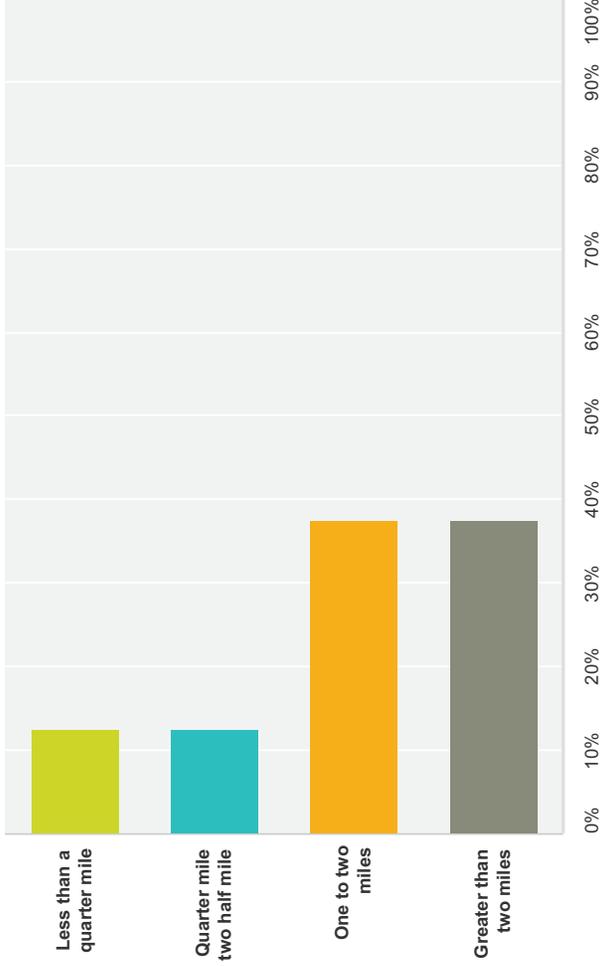
36	Chanhassen	5/16/2017 8:17 PM
37	Chanhassen	5/15/2017 2:10 AM
38	Eden Prairie - NW corner	5/14/2017 11:14 AM
39	Victoria/Chanhassen line	5/12/2017 7:04 AM
40	Victoria	5/11/2017 7:32 PM
41	Victoria	5/11/2017 3:24 PM
42	Excelsior/Shorewood	5/11/2017 1:41 PM
43	SW Eden Prairie	5/11/2017 12:17 PM
44	Chanhassen	5/11/2017 11:45 AM
45	Chanhassen	5/11/2017 11:41 AM
46	Carver	5/11/2017 10:29 AM
47	Victoria	5/11/2017 10:28 AM
48	Victoria	5/11/2017 10:23 AM
49	Chaska	5/11/2017 7:47 AM
50	Victoria	5/11/2017 7:46 AM
51	Nonwood Young America	5/11/2017 7:26 AM
52	Victoria	5/11/2017 7:25 AM
53	Chaska	5/11/2017 7:09 AM
54	Lakeside Estates	5/11/2017 6:57 AM
55	Shorewood	5/11/2017 6:42 AM
56	Chanhassen	5/11/2017 6:12 AM
57	Chanhassen	5/11/2017 5:12 AM
58	Chanhassen	5/11/2017 5:09 AM
59	chanhassen	5/10/2017 9:57 PM
60	Victoria	5/10/2017 9:54 PM
61	Chaska	5/10/2017 9:33 PM
62	Chaska	5/10/2017 9:21 PM
63	Eden Prairie	5/10/2017 9:16 PM
64	Waconia	5/10/2017 9:06 PM
65	Chaska	5/10/2017 9:05 PM
66	Carver	5/10/2017 8:54 PM
67	Victoria	5/10/2017 8:38 PM
68	Cologne	5/10/2017 8:38 PM
69	Chaska address as you enter Victoria off of Minnewashta Parkway	5/10/2017 8:36 PM
70	Waconia	5/10/2017 8:35 PM
71	Waconia	5/10/2017 8:34 PM
72	Victoria	5/10/2017 8:23 PM
73	Chaska	5/10/2017 8:09 PM
74	Glencoe	5/10/2017 8:03 PM
75	Cologne	5/10/2017 8:01 PM
76	Waconia	5/5/2017 3:21 PM

Carver County TH 5 Regional Trail Master Plan

77	Lake Minnewashta & St Joe	5/5/2017 12:44 PM
78	7052 Minnewashta Parkway	5/5/2017 12:06 PM
79	Chaska	5/4/2017 8:13 PM
80	Waconia	5/4/2017 8:09 PM
81	Chaska	5/4/2017 5:14 PM
82	Minnewashta mannor	5/4/2017 5:09 PM
83	Victoria	5/4/2017 4:13 PM
84	Waconia	5/4/2017 3:40 PM
85	Minneapolis	5/4/2017 2:46 PM
86	Chaska	5/4/2017 12:46 PM

**Q2 How close do you live to the identified TH 5 trail segment?**

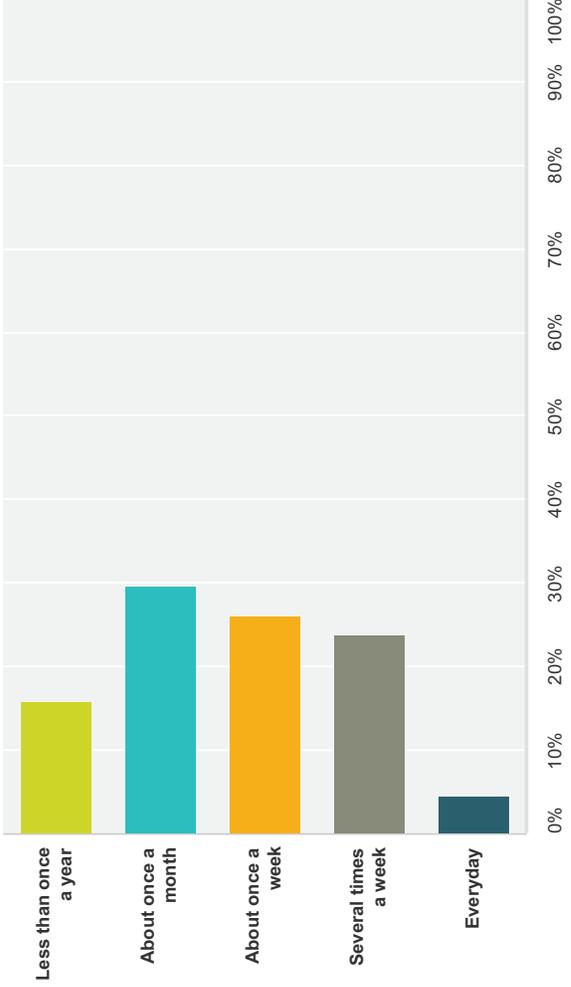
Answered: 88 Skipped: 0



Answer Choices	Responses
Less than a quarter mile	11 12.50%
Quarter mile two half mile	11 12.50%
One to two miles	33 37.50%
Greater than two miles	33 37.50%
<b>Total</b>	<b>88</b>

### Q3 How often would or do you currently use the TH 5 trail segment?

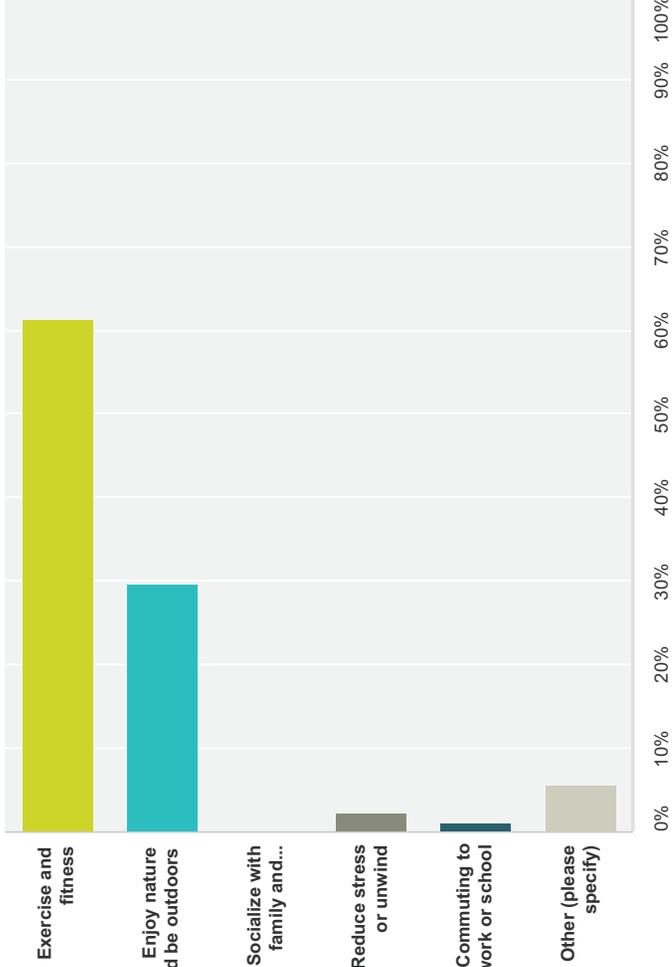
Answered: 88 Skipped: 0



Answer Choices	Responses
Less than once a year	14 15.91%
About once a month	26 29.55%
About once a week	23 26.14%
Several times a week	21 23.86%
Everyday	4 4.55%
<b>Total</b>	<b>88</b>

**Q4 What is your primary motivation for using the trail system in Carver County?**

Answered: 88 Skipped: 0

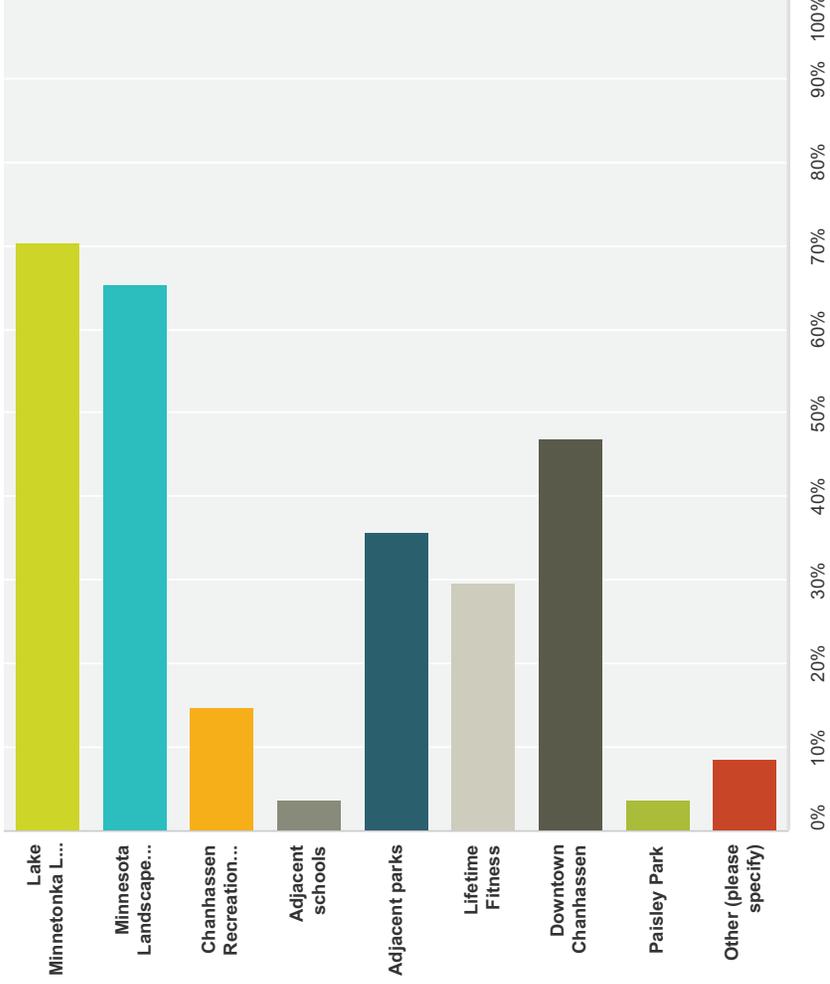


Answer Choices	Responses
Exercise and fitness	61.36% 54
Enjoy nature and be outdoors	29.55% 26
Socialize with family and friends	0.00% 0
Reduce stress or unwind	2.27% 2
Commuting to work or school	1.14% 1
Other (please specify)	5.68% 5
<b>Total</b>	<b>88</b>

#	Other (please specify)	Date
1	Running, Biking	5/18/2017 8:21 PM
2	Cycling enthusiast	5/17/2017 5:27 AM
3	All of the above EXCEPT commuting	5/11/2017 12:17 PM
4	both for exercise & fitness and enjoy nature/be outdoors	5/11/2017 11:45 AM
5	both for exercise & fitness and enjoy nature/be outdoors	5/11/2017 11:41 AM

### Q5 What are the most likely destinations you would travel to using the proposed TH 5 Regional Trail?

Answered: 81 Skipped: 7



Answer Choices	Responses
Lake Minnetonka LRT Regional Trail	57
Minnesota Landscape Arboretum	53
Chanhassen Recreation Center	12
Adjacent schools	3
Adjacent parks	29
Lifetime Fitness	24
Downtown Chanhassen	38
Paisley Park	3
Other (please specify)	7
<b>Total Respondents: 81</b>	

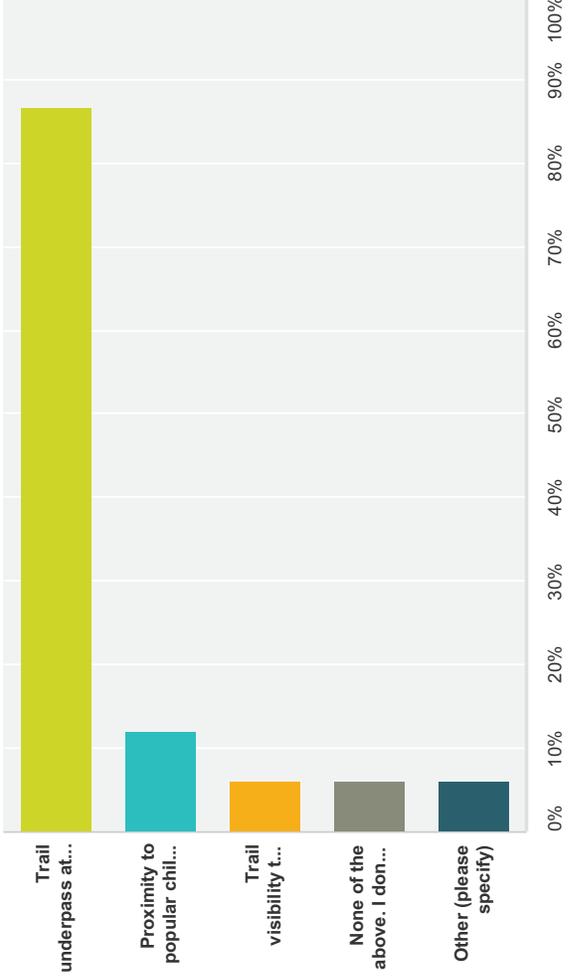
#	Other (please specify)	Date
1	Work	5/23/2017 5:47 PM

### Carver County TH 5 Regional Trail Master Plan

2	Cologne	5/23/2017 9:20 AM
3	i would incorporate it into my training rides as it would be much safer than being on the roads	5/16/2017 9:38 PM
4	any restaurant along the way (nice to have a destination)	5/11/2017 12:23 PM
5	+ Carver Park Preserve	5/11/2017 11:45 AM
6	friends/family	5/10/2017 8:39 PM
7	Work	5/4/2017 5:16 PM

### Q7 What trail attributes are most important for child safety?

Answered: 82 Skipped: 6

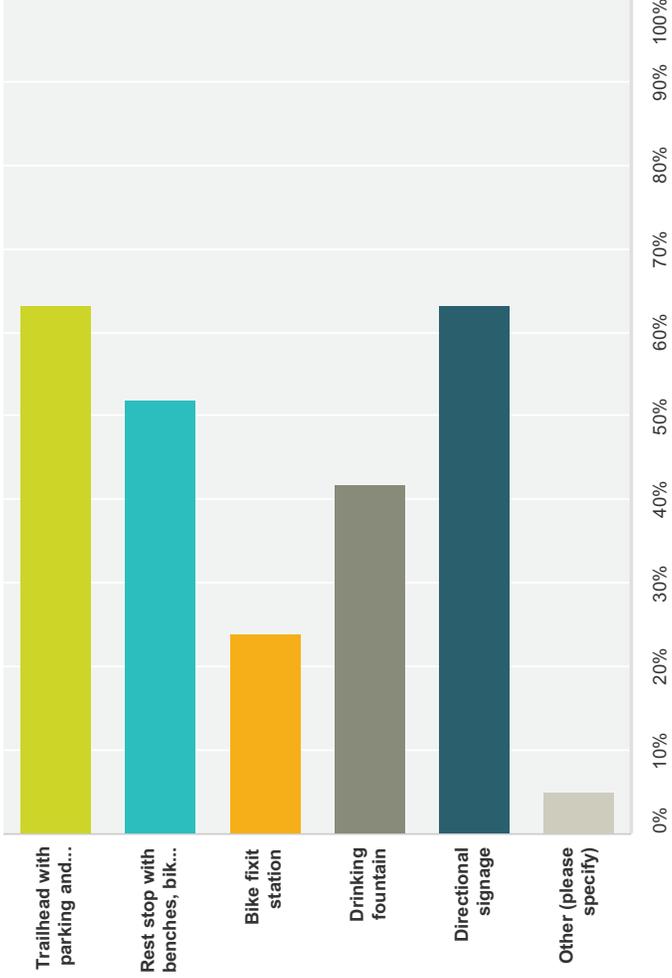


Answer Choices	Responses
Trail underpass at busy roads rather than at-grade crossings	71
Proximity to popular child destinations (schools and parks)	10
Trail visibility to major road	5
None of the above. I don't see children using the trail.	5
Other (please specify)	5
<b>Total Respondents: 82</b>	

#	Other (please specify)	Date
1	wouldn't they most likely be with an adult	5/19/2017 12:47 PM
2	Concrete as road bikes cannot ride on gravel	5/17/2017 7:23 PM
3	Traffic controls at trail/road crossings; trail bridges over busy roads; traffic calming measures around trail/road intersections.	5/11/2017 10:36 AM
4	We need stop lights at Minnewashta parkway or underpasses for both cars and pedestrians	5/10/2017 8:39 PM
5	Lites	5/10/2017 8:26 PM

**Q8 What amenities would you like to have along the proposed TH 5 Regional Trail corridor?**

Answered: 79 Skipped: 9



Answer Choices	Responses
Trailhead with parking and restrooms	63.29% 50
Rest stop with benches, bike rack and trash receptacle	51.90% 41
Bike fixit station	24.05% 19
Drinking fountain	41.77% 33
Directional signage	63.29% 50
Other (please specify)	5.06% 4
<b>Total Respondents: 79</b>	

#	Other (please specify)	Date
1	Just a trail would be ideal	5/16/2017 9:27 PM
2	Rain Shelters at rest stops	5/12/2017 7:30 AM
3	Some shade for hot days	5/11/2017 3:26 PM
4	All are good ideas. Access to businesses where possible.	5/11/2017 12:23 PM

## Carver County TH 5 Regional Trail Master Plan

27	Not needed no one wants to ride next to a busy road like hwy 5. Finish county road 11 from carver to victoria.	5/10/2017 9:08 PM
28	As an avid cyclist I like the idea of a trail that ties into other trail systems	5/10/2017 8:46 PM
29	Please add stoplights or underpass at Minnewashta Parkway for both cars and pedestrians	5/10/2017 8:39 PM
30	This sounds way too expensive for the benefits.	5/10/2017 8:38 PM
31	I volunteer with Carver Parks. I currently like to bike at the Carver Park Reserve.	5/10/2017 8:07 PM
32	having a safe direct route from st joe lake to chanhassen would be amazing to visit family, the library, target, chipotle & much more!	5/5/2017 12:47 PM
33	Great plans!	5/4/2017 8:14 PM
34	Make it look better than the portion that goes thru eden prairie, it's a mess	5/4/2017 5:13 PM
35	I would like an easy way to get from deer run to the trail.	5/4/2017 4:16 PM
36	Looking forward to the regional trail	5/4/2017 12:50 PM

*This page was intentionally left blank*