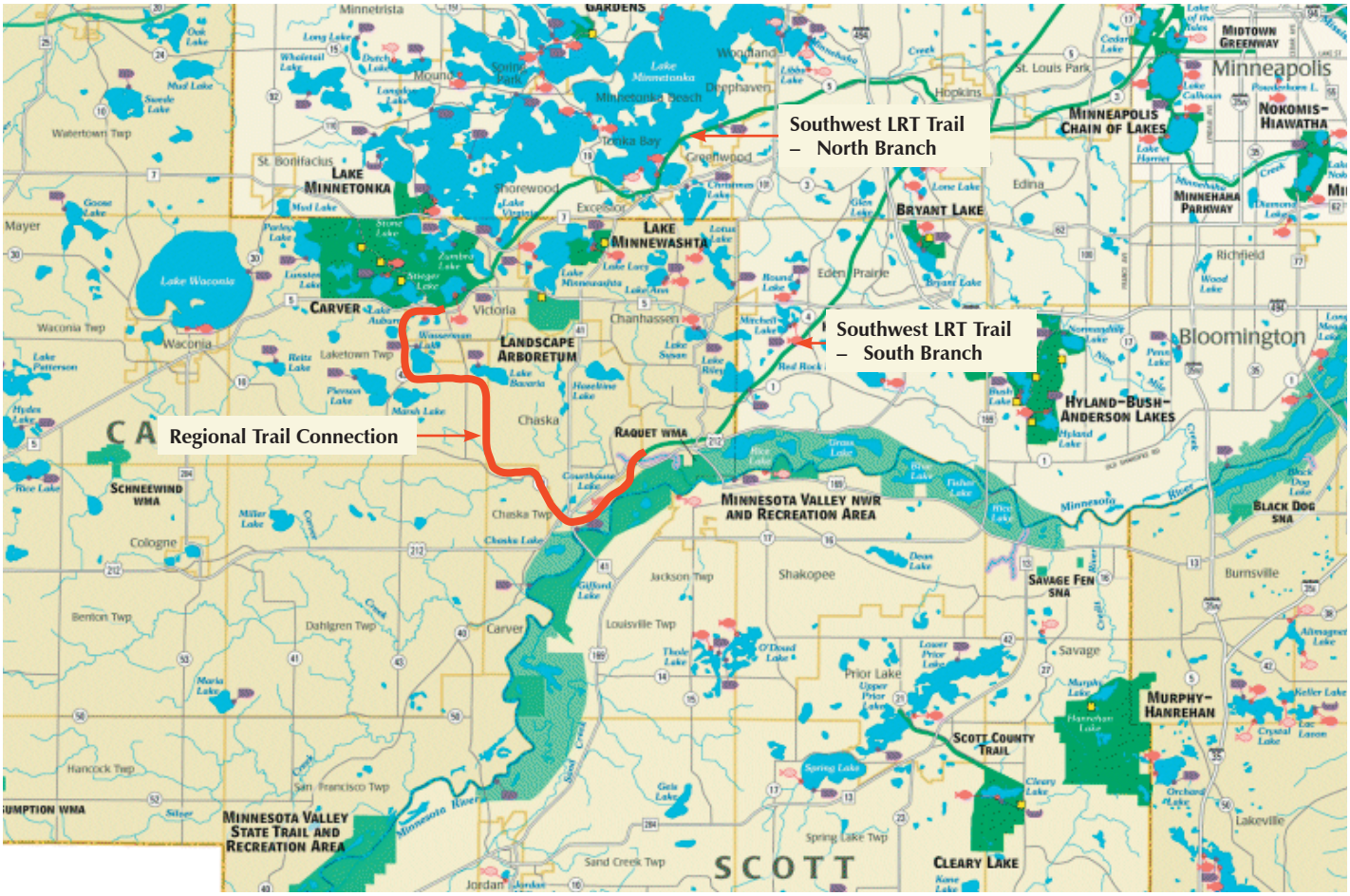
Carver County Southwest Regional Trail Connection

Chaska to Victoria



Carver County Parks

January 2006

Prepared By:
Brauer & Associates, Ltd.

Introduction / Acknowledgments

Introduction

In 2005, the Carver County Board of Commissioners retained Brauer & Associates, Ltd. to collaborate with county staff and local citizens to complete a master plan for the Southwest Regional Trail Connection. This document represents the results of the planning process, which was completed in January of 2006.

Acknowledgments

The consultant team would like to thank Carver County for undertaking an open and constructive public process at the County level as well as taking extensive input from the City of Chaska and City of Victoria.

The consultant team would also like to thank the Carver County Parks Commission and Carver County Board for participating in this project and adopting the plan as part of the County's overall regional park and trail system.

The consultant team also extends a heartfelt thank you to the Carver County staff, especially Marty Walsh, Parks Director, for his vision and follow through with the public process. His understanding of the larger regional context and how this trail fits into the overall system of trails within the county was of high value as final conclusions were drawn.

The staff from the Cities of Chaska and Victoria should also be commended for their input into the planning process. Their understanding of local land use planning issues and how the alignment of the regional trail interfaced with local trails and anticipated land development patterns was especially valuable.

Finally, the consultant team extends a thank you to the citizens who took the time to attend meetings, write letters, and make phone calls so that the County could understand the issues first hand and find solutions that seemed reasonable and workable.

Sincerely,

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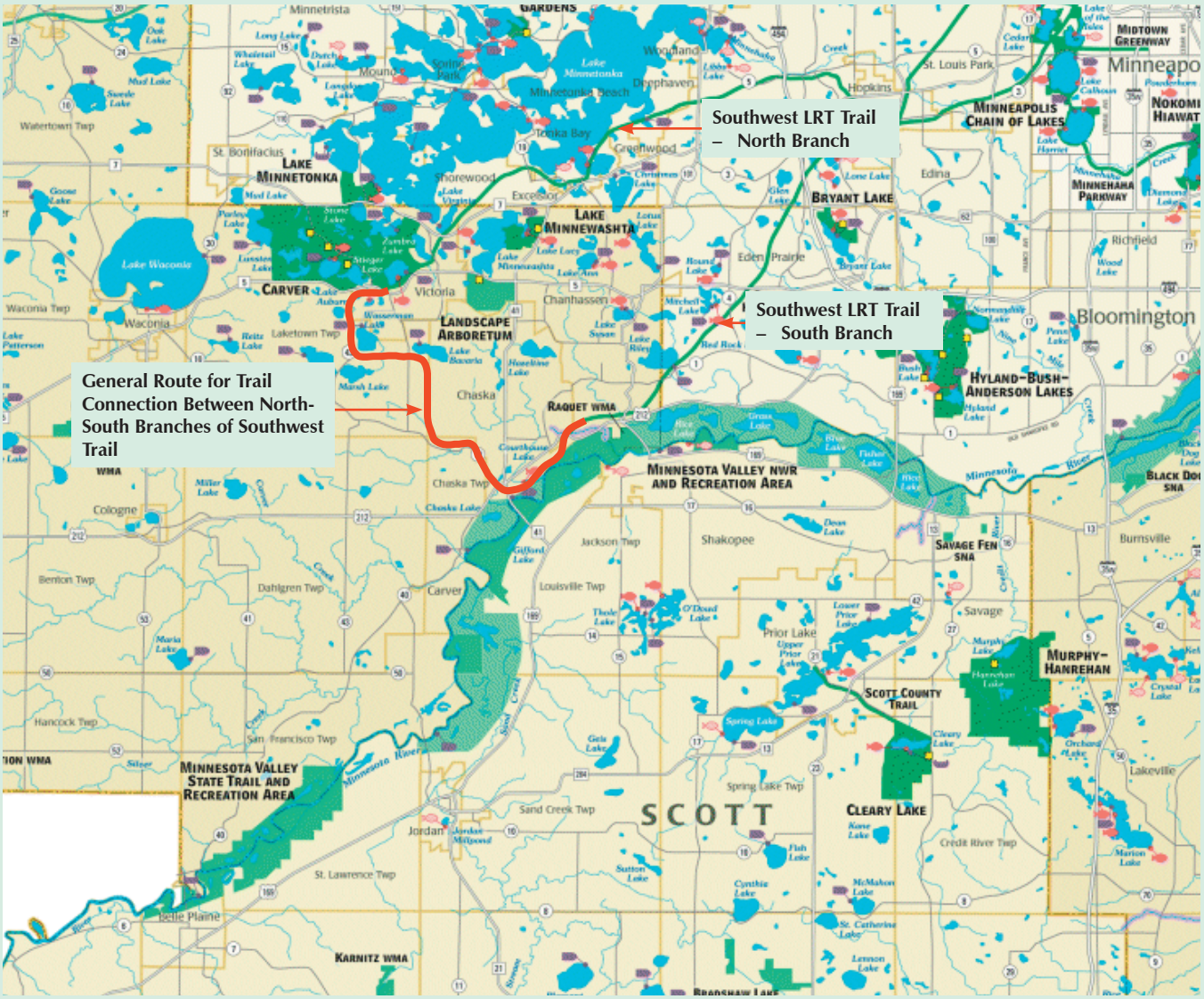
Section I Planning Context / General Background

Project Scope

The project focused on preparing a regional trail master plan for the connection between the north and south branches of the Southwest Regional Trail. The southern branch currently ends in the City of Chaska, with the northern branch ending in the City of Victoria. The following map illustrates the general location of the proposed regional trail relative to the two existing trail branches.

Study Area Map And Overview



As the map illustrates, the proposed trail route defined under this master plan would make the connection between the north and south branches of the Southwest Regional Trail.

Rationale For Developing A Regional Trail Corridor

The primary rationale for developing this regional trail connection is to: 1) link the north and south branches of the Southwest Regional Trail to form a loop and 2) tie together numerous federal, state, regional, and local parks, natural areas, and trails into a cohesive, interlinked system.

In recent years, increasing development pressures in Carver County also heightened the importance of establishing this trail corridor while there is still an opportunity to consider alternative alignments.

Interconnection With Public Parks And Natural Areas

As noted, linking together parks and natural areas within the study area is one of the reasons for the regional trail. The following considers some of the key areas that the Southwest Regional Trail helps link together, especially with the addition of the trail connection defined under this master plan.

Carver Park Reserve

Located on the western edge of the Twin Cities, Carver Park Reserve supports a large wildlife population of trumpeter swans, osprey, mink, white-tailed deer, barred owls and numerous waterfowl and songbirds. The park reserve is home to the Lowry Nature Center, the first public environmental education center of its kind in the state. The park offers rolling wooded terrain and interconnected lakes and marshes. The park features miles of trails that wind around the nature center, historic Grimm Farm and the King Waterbird Sanctuary. The trails provide a valuable link to the Southwest Regional Trail. The park also offers boating, angling, and camping opportunities.

The Lowry Nature Center provides a wide variety of nature-oriented programming for school children, adults and families. A 1,700-foot boardwalk winds through marsh and tamarack swamps, while wood-chipped trails through woods allow visitors to observe wildlife.

Bryant Lake Regional Park

Located on Bryant Lake in Eden Prairie, this 170 acre park is nestled among rolling hills, woodlands, wetlands and grasslands offering habitat for deer, waterfowl and a variety of songbirds.

The sand-bottomed Bryant Lake is ideal for swimming, boating and fishing. An enclosed pavilion, available for group reservations from early May through the end of September, is in close proximity to the creative play area, fishing pier and other park amenities.

Lake Minnewashta Regional Park

Lake Minnewashta Regional Park is a developing park on the shores of Lake Minnewashta. Facilities completed to date include a swimming beach, bathhouse, reservable picnic shelters, volleyball courts, creative playground, and concessions. Two boat accesses within the park accommodate 35 vehicles with boat trailers. A fishing pier is located north of the beach area within a picnic area.

Approximately five miles of trails meander along the edge of Lake Minnewashta and through forested and prairie areas of this 340 acre-park. In the winter, separate trails are groomed for skiing and walking. Although the park is not directly connected to the Southwest Regional Trail, it will be accessible from the regional trail via local trail systems in the future.

Connection to Minnesota River State Trail

The Southwest Regional Trail connects with the Minnesota River State Trail that runs between Chaska and Shakopee. The connection point between the trails is at the State Highway 41 bridge crossing the Minnesota River on the south side of downtown Chaska (refer to Trail Segment #1).

Connections To Natural Areas

The Southwest Regional Trail also connects with the Minnesota Valley National Wildlife Refuge (NWR) – Chaska Lake Area. The comprehensive plan for the NWR area includes provisions for refuge uses, natural vegetation and habitat protection, and environmental education. The Southwest Regional Trail will connect with nature trails in the Chaska Lake NWR area just outside of downtown Chaska (refer to Trail Segment #1). The regional trail also overlooks the refuge as it traverses along the southern edge of downtown Chaska along the existing levee.

Land Use Or Other Conflicts

With the majority of the trail located in public rights-of-way, conflicts with private land uses are expected to be minimal.

No major land use or other conflicts are anticipated with the regional trail alignment as defined under this master plan. Carver County, City of Chaska, and City of Victoria have each approved the master plan and have incorporated the trail's alignment into their local comprehensive parks and trails plans.

Since the majority of the proposed trail is located within public rights-of-way, land acquisition is not a significant issue of concern for much of the trail. Where the trail is shown to traverse across private property, it is anticipated that land will be obtained under a willing seller basis as part of future developed proposals that would be overseen and approved by the local LGUs.

As shown on the trail segment maps, the master plan provides alternative routes in select areas to provide Carver County, Chaska, and Victoria with some flexibility to work with land owners and developers on determining the best location for the trail at the time of implementation. As development occurs, the local LGU in concert with Carver County will determine which route in these instances best serves the public's best interests while minimizing any conflicts that may arise.

Aside from the trail alignment issues as defined above, no other conflicts with other land uses or proposed projects are envisioned.

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Section II Vision and Public Values Statement

Overview

The undertaking of this planning process was based on the presumption that making this connection between the north and south branches of the Southwest Regional Trail would be of high regional and local value. To ensure that the perspectives of all interested individuals and stakeholders were considered, Carver County, in partnership with Chaska and Victoria, undertook an extensive and inclusive public process. This section defines the findings of that process.

Vision Statement

The vision for the master plan is to establish a regional trail that offers high recreational value, which is defined as being:

- Visually appealing (i.e., provide scenic values) by taking advantage of scenic areas where encountered
- Contiguous, with limited interruptions and impediments to travel
- Of an acceptable grade suitable for all levels of ability
- Safe to use for a family or those with limited skills

By creating this connection between the existing branches of the trail, the overall recreational value of the Southwest Regional Trail will be considerably enhanced to better serve residents of the area.

Community Value Of The Regional Trail

The community value statement defines the benefits that the regional trail would bring to a regional constituency relative to any potential impacts – ranging from safety and crime to property values and loss of privacy. In this context, regional constituency refers to those residing in or traveling to the area for recreational pursuits.

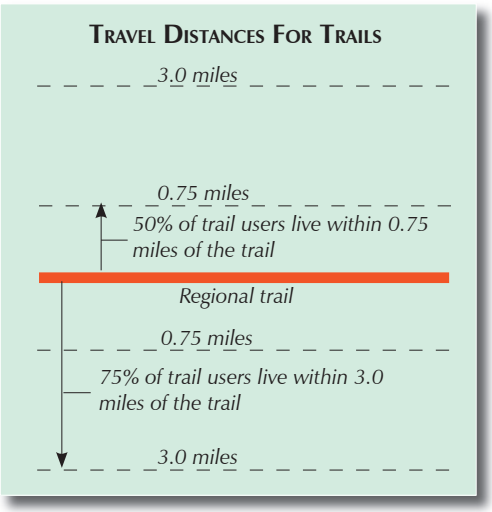
Taken as a whole, the community value statement defines whether or not the perceived benefits of the trail outweigh perceived impacts to justify its development. The following statement summarizes these findings.

Community Value Statement

With respect to the overall benefits, research clearly indicates that trails offer a very high degree of community value by providing the type of recreational amenity that the majority of the population would actually use and like to have available near their home. As defined in the table on the next page, recreational trends indicate that trail activities are the highest ranked recreational pursuits in this metropolitan region.

In addition, the improved safety for pedestrians and bicyclists as they travel along the proposed trail corridor is a value that some would argue is more important than that of the recreational experience. The community value statement is strengthened by evidence suggesting that potential down sides, such as crime, trespassing, and littering, generally do not manifest themselves to any appreciable degree when a new trail is developed.

In terms of actual users of trails, recent research by the Metropolitan Council indicates that majority of trail users live within three miles of the trail, as the graphic to the left illustrates. The table on the next page provides an overview of the other key research on the community values associated with regional trails.



Community Values From Trails

Variable	Discussion
Demand For Trails	From a regional perspective, trails are the highest ranked recreational activity. Survey results conclude: • Walking, especially within the neighborhood, is the #1 ranked recreational activity, with 85% of respondents being interested in this activity.* • Walking in natural areas and large parks is the #2 ranked recreational activity, with 78% of respondents being interested in this activity.* • Leading activity for Minnesota adults is walking/hiking outdoors, with 54% actually participating annually. *Source: Recreational trends survey conducted by the University of Minnesota Survey Research Center on behalf of the Metropolitan Council* and 2004 Outdoor Recreation Participation Survey (MNDNR)***
Longer-Term Trends	A ten-year forecast of Minnesota adult outdoor recreation participation was completed by the MNDNR in 2004. With respect to trails, annually participation in walking and hiking outdoors is projected to remain very stable and highest among all outdoor recreational activities. Based on the study, the current 54% rate of actual participation is expected to remain at about that same level out to 2014, the end of the forecast. This is substantially higher than any other outdoor recreational pursuit listed in the study.
Use Of Trails	The following summarizes the dynamics of trail use of the Gateway Trail based on regional trail use surveys: • 80% of trail users are adult. • Median age of trail users is 40-44, although youth use is growing. • 80% of trail users live within the county or city where the trail is located. • Proximity of the trail to one's place of residence is very important to discovering it. • Visiting new areas was not all that important to trail users. • 95% use the trail for recreation, 4% for commuting, and 1% for getting to retail stores. • Walking is the most popular use (39%), biking second (31%), and jogging third (18%). • Use of the trail has increased dramatically in the last sixteen years. *Source: Metropolitan Council – Twin Cities Regional Trail Visitor Study (1999).*
Impact Of Trails On Adjacent Properties	The following summarizes the results of a survey related to a new trail retrofitted into an area: • Usage – 75% of adjacent property owners use the trail (many of which were against the trail being developed). • Problems – over 95% of the adjacent property owners reported no problems with the trail (such as loitering, litter, and trespassing). • Economic impacts – vast majority reported that they believed that the trail would have no negative impact on their property values, with many believing that it could even increase values. • Values – 75% say living near the trail offers distinct advantages, such as ease of access, convenience, exercise, and so forth. *Source: Lake Wobegon Regional Trail, Stearns County.*
Policing And Crime	Review of policing issues associated with trails within Washington and Ramsey County yields the following: • Incidents of crime associated with trails is so low that local police do not keep track of it separately. • The contention that trail users routinely commit crimes to adjacent properties is not supported by crime statistics and evidence. • Biggest area of concern with crime is at parking lots, where occasionally theft from the cars of trail users occurs (Note: Theft from cars in parking lots is not unique to trails, but occurs at parks, shopping centers, and other areas where the opportunity for a quick getaway exists). *Source: Washington and Ramsey County Sheriffs Department.*
Safety Of Developed Trails	Discussions with local cities that have retrofitted trails into similar settings yields the following with respect to safety for the trail user: • Actual and perceived pedestrian safety is improved when off-street trails are added along busy roads simply because people are no longer walking along the shoulder of the road where traffic speeds can be up to 55 MPH and shoulder widths are often very narrow. • The incidence of conflict between pedestrians and vehicles at driveway crossings has not been found to be a major issue, with few reported occurrences of accidents (Note, however, that both the driver and the trail user have a responsibility to watch out for each other similar to any crosswalk or sidewalk system common in many cities). • Adhering to accepted design standards and practices for trails, including driveway crossings, is important to maintaining a safe pedestrian environment.

Population Trends Affecting The Region

One of the more important trends affecting the region is that the population in the metropolitan area is expected to continue to grow substantially over the next 20 and 50 years. As the following table illustrates, the population in Carver County is expected to be near the top in terms of percentage increase in population over that time period.

Population Trends

Population forecasts stratified by regional park agency jurisdiction. (Source: Metropolitan Council System Analysis of the Regional Recreation Open Space System)

	Preliminary Population estimates			Total increase from 2000		% increase from 2000	
County/City	2000	2020	2050	2020	2050	2020	2050
Dakota County	351,240	456,160	579,436	104,920	228,196	30%	65%
Suburban Henn County	646,550	737,480	837,189	90,930	190,639	14%	29%
Washington County	203,120	288,670	377,082	85,550	173,962	42%	86%
Anoka County	295,910	350,410	440,575	54,500	144,665	18%	49%
Scott County	81,990	137,910	187,452	55,920	105,462	68%	129%
Carver County	66,160	104,420	145,144	38,260	78,984	58%	119%
Suburban Ramsey Co.	231,020	243,340	263,916	12,320	32,896	5%	14%
St. Paul	274,500	294,000	301,723	19,500	27,223	7%	10%
Minneapolis	370,000	388,000	392,656	18,000	22,656	5%	6%
Bloomington	88,500	91,000	92,978	2,500	4,478	3%	5%
Total	2,608,990	3,091,390	3,618,151	482,400	1,009,162	18%	39%

Note: Suburban Hennepin County does not include Bloomington or Minneapolis
Note: Suburban Ramsey County does not include St. Paul

Undoubtedly, this population growth trend will increase pressure for developing regional trails to service an expanding population with a wide range of outdoor recreation pursuits and service expectations.

Local Input From The Public Process

Making the connection between the southern and northern branches of the Southwest Regional Trail has been considered to be desirable by the cities of Chaska and Victoria for many years. To ensure public access to the planning process, a number of opportunities for public input were provided in both cities as part of this project, as the following meeting schedule illustrates:

- Victoria Park Commission Meeting May 5, 2005
- Chaska Planning Commission May 11, 2005
- Victoria Planning Commission May 17, 2005
- Chaska City Council May 16th, 2005 – resolution adopted
- Carver County Park Commission June 8th, 2005
- Victoria City Council August 11, 2005
- Victoria City Council October 13th, 2005 – resolution adopted

Public comments and findings from these meetings were consistent with the regional trends and the community value statement previously defined in this section. After taking public comment, there was a general consensus among those on the various boards, commissions, and city councils that the trail would be a positive amenity to their communities and they each look forward to its completion. With the approval of the resolutions in support of the trail connection, the cities of Chaska and Victoria formally adopted the proposed regional trail master plan.

Subsequent to the local meetings, the master plan was publicly reviewed approved and adopted by the Carver County Park Commission and Carver County Board of Commissioners in January and February of 2006.

Influence Of The Public Process On Planning Outcomes

At a community values level, research indicates that a regional trail through the study area is justified and would be successful. Local adoption of the trail plan confirms that the local communities also see considerable value in the trail. By staying within public rights-of-way to the degree possible, the proposed trail alignment also poses the least disruption to private property interests while still fulfilling the goals of the project.

Section III Trail Master Plan

Overview

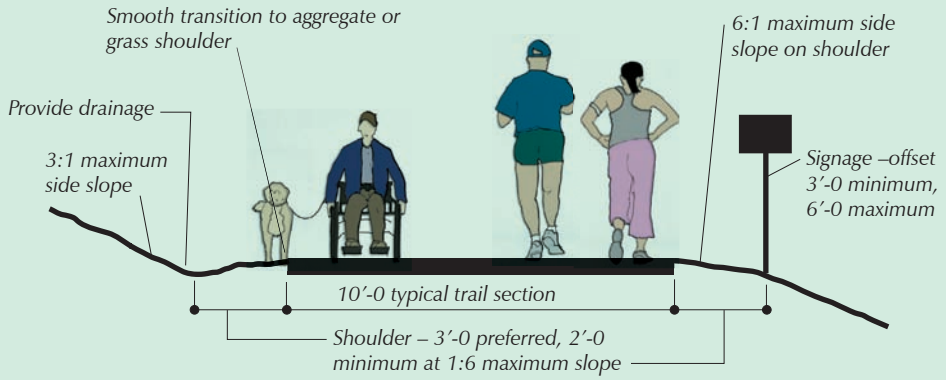
The master plan for this regional trail connection consists of a combination of existing local trails and new trail alignments that will be used to link the existing south and north branches of the Southwest Regional Trail. Under the master plan, the local existing trails will be reclassified as regional trails to ensure consistency in development standards, operations, and maintenance. **The overall length of the interconnecting trail is 13.1 miles, of which 7.9 miles will be new trail and 5.2 miles will follow existing trail alignments (which are now 8'-0 wide, but will be widened to 10'-0).**

Trail Uses And Overall Trail Characteristics

Consistent with regional standards, the trail will be 10'-0 wide and asphalt surfaced to accommodate walkers, bicyclists, inline skaters, and wheelchairs. It will not accommodate any unauthorized motorized uses. The existing local trails that are currently 8'-0 wide will be upgraded over time to 10'-0 to be consistent with the regional standard. The following graphics and photos highlight these trail characteristics and design standards.

Typical Trail Cross-Section

Anticipated trail grades: Given the character of the landscape in this part of Carver County, trail grades are expected to average 5% or less, with an occasional segment being slightly steeper at 6% to 7%. Overall, the trail is expected to be a very "accessible" trail.



Note: Existing local trails that are used as part of the regional trail will be upgraded over time from 8'-0 to 10'-0 wide.

(Left photo.) Existing local trails used as part of the regional trail interconnection will be widened to 10'-0 over time.

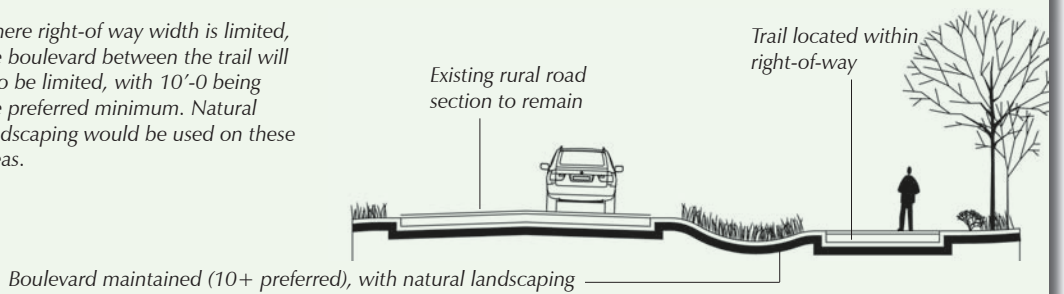
(Right photo.) Wherever feasible, the new regional trail will be developed to a 10'-0 wide standard with some form of vertical and/or horizontal separation from the roadway. (This photo is associated with Section C on Trail Segment Map #1)

Relative Trail Locations

The varying width and character of the public rights-of-ways and trail easements encountered along the trail corridor requires some flexibility in where the trail will be located. The following cross-sections highlight the location of the trail under varying right-of-way and trail easement conditions.

Trail Location In Rights-Of-Ways And Trail Easements

Where right-of way width is limited, the boulevard between the trail will also be limited, with 10'-0 being the preferred minimum. Natural landscaping would be used on these areas.

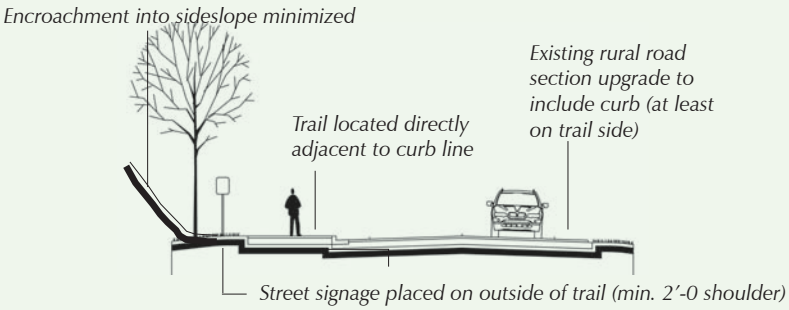


Trail Location In Road Right-Of-Way With Limited Width

Where right-of way width is ample, the boulevard between the trail will be maximized to create a sense of separation between the trail and vehicular traffic. Natural landscaping and ditches would be common in these areas.

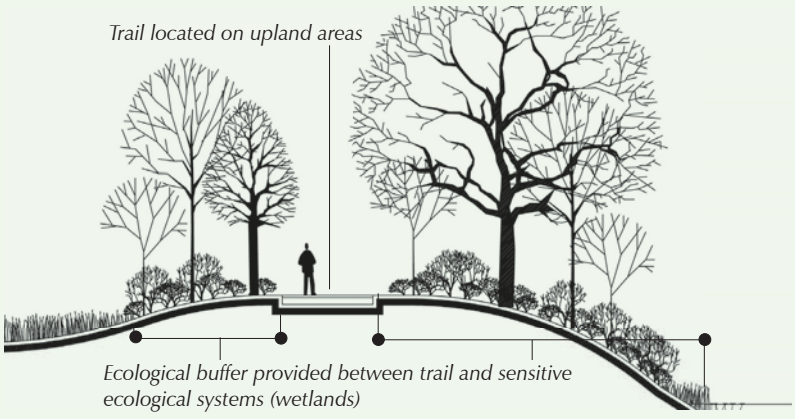
Trail Location In Road Right-Of-Way With Greater Width

Where space is very limited due to right-of-way width, topography, or vegetation, the trail may be placed along a curb line to provide a vertical separation between it and the roadway.



Trail Location Directly Adjacent to Roadway

In areas where the trail is within an easement through a natural area, ecological buffers will be provided on each side of the trail to minimize impacts to sensitive ecological systems.

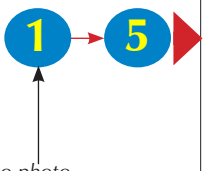


Trail Located In Trail Easement Through Natural Area

The cross-section and accompanying photos on the *Trail Master Plan Segment Maps 1 - 3* provide additional information on the anticipated location of the trail in rights-of-way or trail easements.

Overview Of Master Plan Trail Segment 1 Of 3

As shown on the corresponding master plan, The *Southwest Regional Trail Connection* begins in Chaska at the end of the existing southern branch of the trail near Flying Cloud Drive/US Highway 212. The southern branch of the trail is currently aggregate surfaced. The following describes each of the trail segments from this point.



Numbers correspond to photo numbers on Trail Segment Map 1 of 3 to provide an approximate reference between the text and the mapping.

Flying Cloud Drive/Engler Boulevard/East Chaska Creek Channel Segment

As shown on the plan, the first segment of trail along Flying Cloud Drive will be a new trail located within the existing right-of-way. Once it reaches Engler Boulevard, the trail will tie into an existing local 8'-0 wide asphalt trail that heads west until it crosses Audubon Road and ties into the existing East Creek Channel trail. An existing parking lot with ample parking is provided at this intersection.

The 8'-0 asphalt East Creek Channel trail follows the channel south all the way down to the Minnesota River. The grade-separated crossings along this segment provide a safe, unimpeded trail experience separated from vehicular traffic.

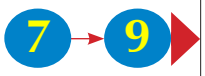
Levee Trail Segment Along The Minnesota River

Once to the Minnesota River, the existing 8'-0 asphalt trail continues southwest along the top of the levee, offering pleasant views of the edge of the city and natural areas along the river banks. Several overlooks are already provided, as shown on the plan. The trail continues along the levee until it reaches 1st Street West, where there is an at-grade crossing.

A number of parking areas are provided along the levee section of the trail, which collectively should be adequate for day-to-day trail use. There is also room to expand these facilities in the future if warranted by demand. Street parking in the nearby downtown area and residential streets is also available on a periodic, low level basis.

At the State Highway 41 bridge the trail interconnects with the Minnesota River Valley State Trail that runs between Chaska and Shakopee. From this point, the levee trail also connects with the downtown area and an existing public plaza and park area, which provides a pleasant rest area and trailhead location.

At the intersection with 1st Street West, the regional trail will connect with a spur trail over to the Chaska Lake NWR, which is part of the larger refuge system along the river and provides nature trails and interpretive opportunities that complement the regional trail.



Railroad Corridor To Flying Cloud Drive/US Highway 212 Segment

From the 1st Street West at-grade crossing, the existing 8'-0 asphalt trail heads northeast following an existing railroad corridor until it ends at a local street, as shown on the plan. The existing trail crosses the railroad tracks at a midway point along this segment where sightlines in both directions appear adequate. As the regional trail plan is implemented, the safety of this crossing should be reevaluated to ensure that it meets regional standards for the anticipated levels and types of use.

The new segment of the trail starts at the intersection with the local street with an at-grade crossing, then heads northwest across West Chaska Creek on the north side of the street. Since the bridge crossing the creek is too narrow, an adjacent pedestrian bridge will be required to accommodated the trail.

At Flying Cloud Drive/US Highway 212, another at-grade crossing is encountered at a signalized intersection, which provides a relatively safe crossing movement for those using the trail. The trail then continues northerly along the west side of Flying Cloud Drive until it reaches an at-grade crossing of Creek Road. Given the limited right-of-way and grades along Flying Cloud Drive, the trail will likely be located in close proximity to the road edge. As shown on cross-section "C" on the plan, a curb is recommended along this segment of road to create some vertical separation between the trail and roadway to enhance pedestrian safety.

10 → 15

Chaska Creek And Creek Road Segment

From Flying Cloud Drive, the regional trail follows the Creek Road right-of-way in a northerly direction. As shown on the plan, a portion of this road will ultimately be abandoned as part of the Chaska's long range transportation plan resulting in the reconfiguration of roads in this area. Initially, the trail will stay within the right-of-way on the north side of Creek Road from Flying Cloud Drive until it reaches a proposed cul-de-sac as shown on the plan. From the cul-de-sac, the trail will be placed on what will be an abandoned road bed, which significantly reduces development impacts along the steepest and most constricted part of this ravine area along Chaska Creek. (This segment of trail will be very pleasant.)

At the northern end of the Creek Road where another cul-de-sac is planned, the trail will once again be located on the north side of the roadway within the right-of-way until it reaches Engler Boulevard, where there will be an at-grade, signalized crossing. From Engler, the trail heads north along Clover Ridge Drive, where an existing 8'-0 wide asphalt trail already exists. Note that the master plan also identifies an alternate route that starts at this intersection, which is considered in more detail under the following description for Trail Segment 2.

Overview Of Master Plan Trail Segment 2 Of 3

16 → 20

Numbers correspond to photo numbers on Trail Segment Map 2 of 3 to provide an approximate reference between the text and the mapping.

Clover Ridge Drive Segment

Heading north from Engler Boulevard along Clover Ridge Drive, the existing trail on the west side of the road continues through a new development area, as shown on the plan. From the railroad tracks, the trail will be located in the right-of-way of a future local road that will connect to Victoria Drive. Although this alignment will work, it is a bit constricted in some areas though a new development and additional signage may be required to ensure that trail users recognize where the regional trail goes.

The master plan also includes an alternate trail alignment in this area that would make use of roadway that is anticipated to be abandoned by the City as part of the local transportation plan. If and when that occurs, the corridor would be potentially available for regional trail use. The main advantage of this trail route is that it is more contiguous and has fewer road crossings than the previously defined existing trail. It also connects more directly with the local school and park than the existing trail.

The determination as to which of the trail routes between Engler Boulevard and Victoria Drive is best suited for the regional trail will be determined at the time of plan implementation when the dynamics of roadway abandonment, future development patterns, and any local resident issues are better understood.

Shady Oak Drive Segment (With Guernsey Avenue Alternate)

From Victoria Drive, there are two route options shown on the plan. The first alignment follows Shady Oak Drive, with an alternate alignment following Guernsey Avenue. The determination as to which of these trail routes is best suited for the regional trail will be made at the time of plan implementation when the dynamics of future development patterns are better understood. The route that is ultimately the most contiguous with the fewest roadway crossings at that time will be selected.

Following either of these routes, the trail will be located within the road right-of-way until it reaches the proposed city park as shown on the plan. Once to this parcel, the trail will traverse through the park in some manner consistent with its to-be-developed master plan. Note that the section of road on the south side of Lake Bavaria will be abandoned in the future, with the roadway being converted to the regional trail, as shown on the plan.

At this point, at-grade crossings are being proposed across Victoria Drive for both of these routes. Note that grade-separated crossings or signalized intersections may need to be considered at the time of implementation based on actual traffic counts and safety considerations.

Guernsey Avenue to Church Lake Boulevard (CSAH43) Segment

At Guernsey Avenue, a grade-separated crossing is proposed to maximize crossing safety and trail continuity. Existing road grades in this area should provide adequate space for a box-culvert type underpass.

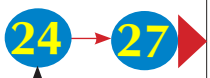
Once across Guernsey Avenue, the trail heads west over to Church Lake Boulevard. The first part of this trail segment has been constructed as part of a 2005/2006 development, as shown on the plan. From the end of this existing trail to Church Lake Boulevard, the trail alignment traverses across currently undeveloped land. As shown on the plan, the optimal route follows wetland and lake edges to take advantage of the natural setting and scenic qualities of the area. Assuming this route is followed, an adequate buffer between the trail and any sensitive ecological systems encountered will be provided. Providing an adequate buffer between the trail and any future development should also be considered at the local level as development occurs to ensure that the natural character of this trail segment is retained.

Given the extent of wetlands and other land use uncertainties in this area, an alternative trail alignment on the south side of the lake is included in the master plan. As shown on the plan, this segment will have to be integrated with any future development to ensure that an adequate trail corridor is provided. Although this is a viable option, the route adjacent to the lake is more appealing and is considered the highest priority.

Once to Church Lake Boulevard, the trail will have to cross the road due to limited right-of-way and excessive grades further to the north along the road. A grade-separated crossing is shown on the plan at this location for safety and maintaining trail continuity. If that is not possible, relocating the crossing to an intersection is an acceptable approach, albeit less desirable since it forces trail users go out of their way to make the crossing.

After the crossing, the trail will head north staying within the right-of-way on the west side of Church Lake Boulevard.

Overview Of Master Plan Trail Segment 3 Of 3



Numbers correspond to photo numbers on Trail Segment Map 3 of 3 to provide an approximate reference between the text and the mapping.

Heading north on the west side of Church Lake Boulevard, the trail continues in the right-of-way, making an at-grade crossing at Tellers Road. From there, it continues north along the road until it branches off and heads north through a rapidly developing area, as shown on the plan. The trail corridor through this undeveloped area is already part of Victoria's local trail plan, which will ensure that it will be integrated into future developments as they occur.

As the trail corridor approaches the small lake, it turns north and follows an existing farm road through a wetland area. This route was selected to avoid any additional impacts to the wetlands in this area and to take advantage of the natural, scenic qualities and views of the surrounding area.

On the north side of the lake, the proposed trail corridor connects with the abandoned rail grade that has already been established as a trail corridor further to the east. Following this rail grade, the trail ultimately connects with the northern branch of the Southwest Regional Trail near a small local park, where a small parking lot is provided.

Trailheads and Parking

Since the regional trail traverses through or near a variety of park areas, downtown districts, schools, and other public facilities, the need to develop standalone parking lots and other facilities specifically for the regional trail is very limited. With respect to parking, the existing lots as shown on the plans are expected to be sufficient to accommodate trail users driving to the trail.

Should demand warrant, there are several locations where parking could be expanded. This includes providing additional parking along the levee in Chaska and adding parking near the trail at Carver Park Reserve.

Design Elements To Meet Special Needs

As defined by the master plan, the regional trail is aligned to accommodate a wide-range of user groups with varying abilities and offers access to many populations.

With reasonable grades throughout, there is ample opportunity for trail visitors of all abilities to find a place to recreate.

Under current policy, Carver County Parks will not charge a fee for use of the trail, making it affordable to all populations.

Public Services

Consistent with other comments, there are no major new public services required to support the trail other than those previously identified in this section.

Section IV Natural Resources Stewardship Plan

Overview

Natural resources stewardship refers to the thoughtful care of ecological systems to preserve or enhance their natural qualities, which are intrinsic to the trail's value as a place of scenery and respite from the built form. Although much of the trail follows existing rights-of-way, there are still numerous natural resources and ecological issues that need to be addressed. This section provides a framework for stewardship consistent with those of other parks and open spaces managed by Carver County.

Consistency With Other Natural Resource Stewardship Plans

Where appropriate and applicable, the development of the trail will be consistent with all natural resource stewardship plans associated with the public properties directly traversed or adjacent to the trail corridor. The most pertinent of these are the provisions in the *2004 Comprehensive Plan for the Minnesota Valley National Wildlife Refuge*. The natural resource preservation and protection policies adopted by Carver County pertaining to regional parks under their management authority will also be adhered to as appropriate as the trail is developed. Any related policies by the cities of Chaska and Victoria will be also be given due consideration.

Ecological Protection Strategy Associated With The Trail Corridor

There are two main aspects to the ecological protection strategy as it relates to the actual development of the trail. The first is managing stormwater from the trail in an ecologically sustainable manner. The second is aligning the trail to minimize disruption to natural systems. The following considers these in greater detail.

Using Natural Infiltration For Stormwater Management

Stormwater runoff is one of the major natural forces to contend with in trail planning, design, and development. Managing runoff in an ecologically sensitive way is fundamental to creating sustainable trails where impacts to adjacent ecological systems are minimal.

Using a natural infiltration approach to stormwater management that relies on passive, overland routing of runoff offers a couple of distinct advantages over conventional systems (i.e., storm sewers, engineered ponds, and other built structures), including:

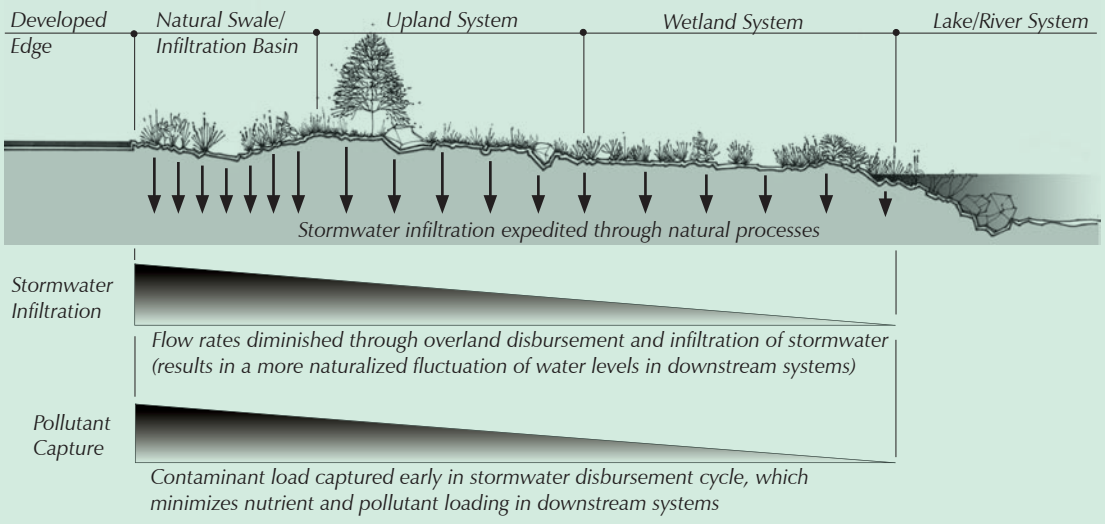
- Introduced contaminants picked up by runoff are removed at the initial stages of water flowage rather than being transported to downstream locations and accumulating in wetland, lake, and river systems. This greatly reduces degradation to water quality and vegetative health in downstream systems.
- Stormwater flow rates and volumes more closely emulate natural conditions. This greatly reduces unnatural fluctuations in water levels in downstream systems (wetlands and lakes) and therefore reduces impacts to the natural condition of water systems and vegetation.

For these reasons, the natural infiltration will be the primary approach used to manage stormwater associated with the development of the regional trail and related support structures.

Components of Natural Infiltration Systems

Natural infiltration systems typically consist of four primary components, as illustrated in the following graphic box.

Natural Infiltration System



Each of the components illustrated in the previous graphic box function in sequence to treat the water before it enters wetlands, lakes, and rivers. The following considers each of these components.

Shallow Natural Infiltration Swales and Basins Systems

Initially, stormwater runoff from the built environment is routed into natural or man-made shallow swales or, more recently, "raingardens" or "natural infiltration basins" that are planted with native plants with deep root systems. These swales, basins, and raingardens provide initial infiltration and removal of pollutants, as well as convey runoff from developed areas and disperse it across upland and prairie systems.

Upland Systems

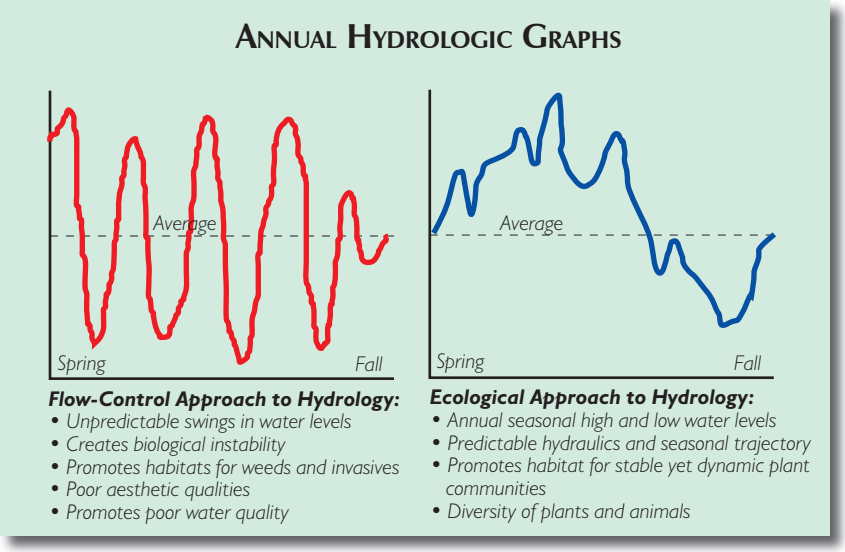
The upland systems (i.e., prairies and oak savannas) are the second component of this method, functioning to convey stormwater as diffused overland flow to the wetland systems that often link directly or indirectly to bordering lakes and rivers. These systems infiltrate a substantial portion of the annual surface runoff volume due to their very deep root system. They also provide additional solids settling and biological treatment.

Wetland, Lake, and River Systems

The wetlands are the third component of the natural infiltration method and provide both stormwater detention and biological treatment prior to runoff entering the lake and river systems. The final component is the lake or river, which provides stormwater detention, additional solids settling and biological treatment.

Hydrograph Associated With Natural and Flow Rate Control Approaches

The use of a natural infiltration system also produces a much more natural hydrograph, resulting in lower peak flows and higher base flows relative to the hydrograph of a typical engineered flow rate control approach, as illustrated in the following graphic box.



For trail planning, design, and development, natural infiltration methods will be used as the primary approach to creating sustainable trails where impacts to adjoining natural systems are minimal. Engineered or mechanical systems for conveying stormwater will only be used when natural approaches are technically not feasible or reliable.

Best Management Practices For Stormwater Management

Under the master plan, the natural infiltration approach philosophy to managing stormwater is supported by *Best Management Practices* that address common development circumstances likely to be encountered as the trail is developed. These practices define specific techniques that can be applied to different development scenarios to achieve stated environmental protection objectives.

The Metropolitan Council's *Urban Small Sites Best Management Practice Manual* provides the basic underpinning for many of the techniques that will be employed wherever applicable as the trail is developed. Note also that newly emerging ecologically-based techniques will also be applied to achieve desired ecological benefits. Specific techniques envisioned to have application for the trail include:

- Use of infiltration systems (e.g., biofiltration systems, rain gardens, filter strips, swales, and slotted/flat curbs) as part of trail designs
- Use of site grading techniques to achieve naturalized infiltration objectives
- Use of contemporary erosion control techniques to prevent migration of soils during the construction process

In addition to the *Best Management Practices*, the master plan is also supported by the Metropolitan Council's *Model Storm Water Management Ordinance*, which defines specific approaches to protecting a site's ecological resources, especially wetland systems. The provisions of the model ordinance will be applied to the trail's development as applicable.

Minimizing Disruption To Natural Ecological Systems

Aligning the trail to minimize disruption to natural systems is also a major objective of the regional trail master plan. Along the trail corridor, two primary developmental situations are encountered: 1) right-of-way alignments; and 2) natural area alignments. Each of these requires slightly different approaches to trail development, as the following considers.

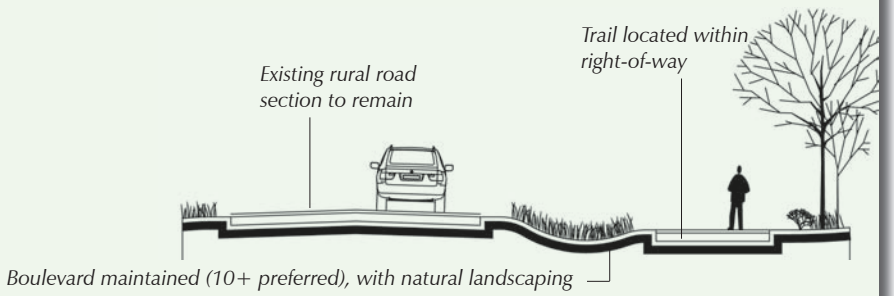
Right-Of-Way Alignments

In these situations, the primary objective of trail alignment is to: 1) minimize disruption to the ecological and scenic qualities of natural vegetation within the corridor; and 2) managing stormwater using natural infiltration techniques. The most advantageous way to accomplish this is being flexible on the location of the trail within the right-of-way to respond to found conditions, as the following graphic illustrates.

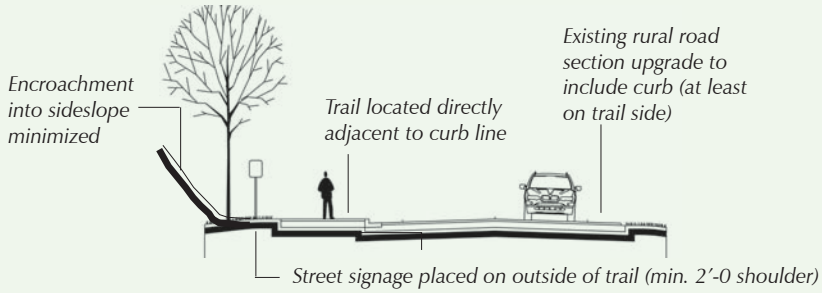
Trail Location In Right-Of-Way To Minimize Disruption To Ecological Systems

From top to bottom, the graphics illustrate progressively more constricted rights-of-way. As illustrated, the trail will be located in response to found conditions to minimize disruption to the ecological and scenic qualities of the corridor. In each case, stormwater will be managed using natural infiltration techniques to the degree possible, with the third example illustrating the most challenging (and infrequent) situation.

Trail Location In Road Right-Of-Way With Greater Width



Trail Location In Road Right-Of-Way With Limited Width



Trail Location Directly Adjacent to Roadway

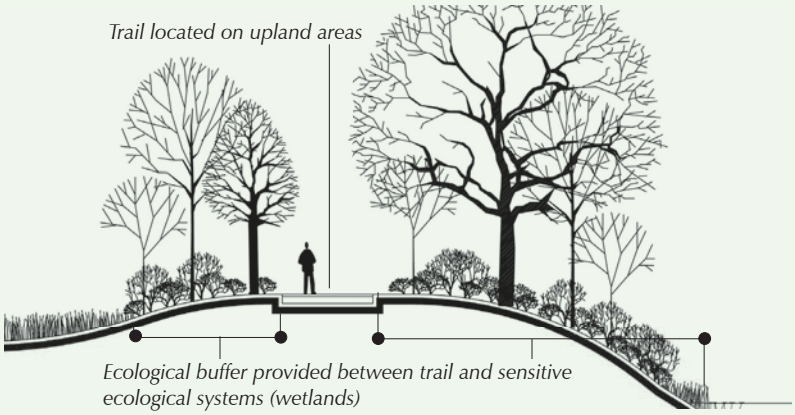
Natural Area Alignments

In these situations, the primary objective of trail alignment is to provide an adequate buffer between the trail and sensitive ecological systems, as the following graphic illustrates.

Trail Location In Easement Through Natural Area

Wherever natural areas are encountered, the trail location will be evaluated and designed with the aid of a trained resource specialist to minimize disruption to natural ecological systems. This most often will take the form of providing an adequate buffer between the trail and sensitive ecological systems.

The biggest concern with paving trails in natural areas is managing increased stormwater runoff. To prevent erosion and unnatural fluctuations in water flows, ecological-based natural infiltration will be used along all of these segments whenever possible.



Technical Resources In Support Of The Natural Resources Stewardship Plan

The guidelines for natural resource stewardship defined in two publications from the MNDNR are referenced as part of this master plan. The first is *Guidelines for Managing and Restoring Natural Plant Communities Along Trails and Waterways* (2000) and the second is *Trail Planning, Design, and Development Guidelines* (scheduled for release in early 2006). Both of these provide valuable technical information that support the strategies defined in this master plan.

End of section. This page is purposefully blank.

Section V Implementation And Management Plan

Overview

Implementing the master plan will require significant initial and long-term capital investments for physical development, operations, and maintenance. Implementation is expected to occur over a number of years as funding and other resources become available and plans become refined and ready for implementation.

The following considers an overall strategy for implementing the master plan and managing the trail once it is completed. This section also considers Carver County's approach to operations and management as it pertains to the trail. Implementation components include:

- Acquisition Plan
- Development Cost Projections
- Implementation Strategy and Priorities
- Management and Operations
- Public Involvement in Implementing the Master Plan

This following considers each of these in greater detail.

Acquisition Plan

As shown on the master plan maps, most of the trail is located in the public right-of-way. In the limited situations where it traverses across private property, a trail right-of-way or easement will be sought by the County in concert with the LGU as part of future land development proposals or direct negotiations with the land owner. If land acquisition is not feasible through local park or trail dedication or by other negotiated means, Carver County will seek acquisition funding assistance through the Metropolitan Council.

Where feasible, a 100 foot right-of-way or easement width will be used as the basis for negotiation and determining the cost for acquisition. This easement width is recommended to provide adequate space for the trail and ecological and visual buffers, drainageways, and utilities. Note that the master plan does allow Carver County and the local cities some flexibility on the final width of rights-of-ways or easements to accommodate site-specific concerns of property owners and the realities of negotiating with a developer or land owner under a willing seller context.

Trail Easement Acquisition Cost Projections

Given the rapidly changing land values and the typical sensitivity of the issue to local land owners, acquisition cost projections have not been established. Once the master plan has been adopted, Carver County will maintain an open a dialogue with the local cities and affected property owners to stay abreast of market rate acquisition costs and their level of interest in providing a right-of-way or an easement. At the time of trail funding, Carver County will formally establish property values for review and approval by the Carver County Board and Metropolitan Council. To-date, no property owner has been individually contacted about acquisition or property valuations.

Development Cost Projections

Cost projections for developing the trail are on a unit basis based on typical average costs for developing similar trails in Carver County and other counties and local municipalities. Typically, development costs to build a 10 foot wide asphalt trail range from $140,000 to $180,000/mile, with standard grading and site preparation costs included. For this estimate, an average cost of $160,000/mile is used, with additional line items provided as needed for special features.

For estimating purposes, the cost to upgrade an 8'-0 trail to 10'-0 assumes that an overlay would be placed across the whole trail. An average cost of $80,000/mile is used for this purpose.

The following table defines the projected cost for developing the *optimal* trail route only. Alternate routes are not considered.

Trail Development Cost Projections

The table provides cost projections for the optimal regional trail route. Alternative routes are not included in the estimate. Costs are based on 2005 dollars.

Item	Description	Cost Estimate
New Trails	Development of 7.9 miles of new paved asphalt trail at 10 feet wide. Includes 2.5 inches of asphalt and 7 inches of Class 5 aggregate base. Also includes basic grade preparation. $160,000/mile was used.	$1,264,000
Upgrade Existing Trails	Upgrading of 5.2 miles of existing paved asphalt trail at 10 feet wide. Includes 2.5 inches of asphalt over existing trail + extra base work. Also includes basic grade preparation. $80,000/mile was used.	$416,000
Trail Box Culverts	Two box culverts under roads at $90,000/ each	$180,000
Trail Amenities	Basic support amenities, including information signage, trailhead kiosks, benches, picnic tables, and related.	$90,000
Misc.	Extra construction related to trail development, including native vegetation reestablishment/enhancement, retaining walls, storm sewers, etc.	$150,000
	Total Master Plan Cost Estimate	$2,100,000
	Professional Fees (Survey, Design, Engineering) @ 15%	$315,000
	Total Overall Master Plan Cost Estimate	$2,415,000

Implementation Strategy And Priorities

Optimally, full development of the trail under one phase would be the most efficient and serve the broadest public need. Realistically, actual implementation of the master plan will occur over a period of time as funding becomes available and the remaining trail rights-of-way can be acquired as development occurs. The timing of local roadway realignments and abandonments will also factor into the time frame for trail development along some segments.

Project Phasing And Priorities

The implementation of the master plan is expected to start in Chaska, where the first priority will be for Carver County to negotiate with the City to take over the responsibility for operating, maintaining, and redeveloping the existing local trails that are identified as being part of this regional trail. Carver County's operation of the trail will be consistent with its established policies. This does not include plowing the trails in the winter, although the County will allow the City to take on this responsibility under a separate agreement, if so requested.

The second implementation priority is for Carver County to continue to work with each of the local cities on securing trail rights-of-ways as development occurs to accommodate the trail alignment as shown on the master plan. This is expected to occur over the next five years or less, given the current pace of development in this area.

The third implementation priority will be to fill in any gaps that remain. This will occur as funding allows over time.

Management And Operations

Carver County is an implementing regional park agency of the Metropolitan Regional Park System. As an implementing agency, Carver County plans, operates and maintains regional parks and trails. The Metropolitan Council establishes policies governing regional parks and trails. The Council's capital improvement program budgets and prioritizes funds for the acquisition, development and redevelopment of regional parks and trails. Matching funds are provided by the State of Minnesota to the Metropolitan Council for capital improvements to the Regional Park System. The Metropolitan Council distributes capital improvement funds to implementing regional park agencies.

Carver County Parks is charged with the management and operation of the County's parks and trails system, including the trail defined by this master plan. The Carver County Board of Commissioners establishes policies and ordinance for the park and trail system. The County Board sets a budget for operations and maintenance as well as capital improvements for the Parks Department.

The Parks Commission, appointed by the County Board of Commissioners, serves as an advisory committee advocate for County parks and trails. Specific responsibilities include:

- Review proposals and make recommendations concerning park and trail acquisition
- Update the park and trail section of the County Comprehensive Plan
- Prepare master plans for regional parks and trails
- Recommend park operating policies and fees
- Perform fact finding tasks as directed by the County Board

Ordinances

Carver County will be amending its park ordinance to govern public use and enjoyment of the Southwest Regional Trail Connection. The ordinance will incorporate pertinent Minnesota statutes and address the following issues:

- Regulation of Public Use
- Regulation of General Conduct
- Regulations pertaining to General Park Land Operations
- Protection of Property, Structures, and Natural Resources
- Regulation of Recreation Activity
- Regulation of Motorized Vehicles and Parking

A copy of the ordinance will be available through Carver County.

Enforcement

Trail users will be informed of trail rules and regulations in a variety of ways. Kiosks and signs will be strategically located to address specific information about allowable trail uses, permitted and prohibited activities, fees, and directions. The Carver County Sheriff's Department responds to emergencies and criminal complaints.

General Operations

The Parks Division has an annual operations and maintenance budget of approximately $780,000 to operate and maintain the County's park and trail system with approximately 6 permanent employees. In addition, approximately 12 seasonal employees are hired each year as maintenance workers and gate attendants.

Maintenance

Maintenance of facilities and lands is essential to protect public investment, enhance natural resource qualities and achieve the County's goals of providing users clean, safe, enjoyable year round park experiences. Carver County Parks Division has a clearly defined maintenance program. Reporting to the Park Director is the Lead Park Keeper who directs full and part-time maintenance workers in the maintenance and operations of the park system.

Accomplishing the maintenance needs of this regional trail will add new challenges. As trails and other park land and facilities are further developed, new or expanded maintenance services will need to be provided. Carver County recognizes the need to remain committed to the maintenance needs of parks and trails. The County will budget additional resources as appropriate to operate and maintain new units of the park system.

Outreach and Marketing

Carver County continues to expand its outreach effort, in an effort to improve public awareness of its park and trail facilities, programs, and services. This outreach effort has various components, including the following:

- **Printed Materials:** Carver County has developed and distributes on a regular basis brochures and maps, including trail and park maps and picnic, camping, and other brochures. Park and trail fliers are also distributed to County departments, libraries, community agencies, and other contacts throughout the community.
- **Electronic Communication:** Carver County has a web page to inform citizens about the County's functions and services (e.g., Park Commission meetings, the master planning process, trails, park facilities, and programs). In addition, the public can contact the Parks office through the County's e-mail system.
- **Other Outreach:** Other forms of outreach and marketing include displays at the Carver County Fair, articles in the County Commissioners' quarterly newspaper, the production of flyers and brochures and the display of information at County Service Centers and park kiosks. The County also publishes news releases and advertisements in local community and metropolitan area newspapers that highlight upcoming programs and facility openings. The County also promotes park and trail use through feature articles and presentations to other County departments and local agencies.

- **Marketing Initiatives:** Carver County will continue to expand its marketing efforts over time to increase public awareness, understanding, and use of park facilities, services and programs. In addition, the marketing plan will identify the need to expand and diversify marketing and communication efforts to advance park use by minority populations and special needs groups.

Public Involvement In Implementing The Master Plan

Public involvement and comment will continue to be sought during the design and construction phase to ensure that any individual concerns about trail development are addressed in a good-faith manner. In addition, forums for broader public input (e.g., open houses and presentations) are also envisioned as needed to communicate and exchange ideas with interested citizens.

The objectives associated with involving citizens in the implementation process include:

- Determine who the stakeholders are and their interest in a particular segment of the trail
- Understand their needs and unique perspectives
- Identify and understand concerns and problems
- Develop alternatives and find appropriate solutions with input from stakeholders

In addition, Carver County has an appointed Park Commission that advises the County Board on development initiatives within the county. The public is welcome to attend its regularly scheduled meetings. Also, Carver County is continuing to develop numerous tools to provide a consistent level of communication with interested citizens, as previously defined.

End of master plan. This page is purposefully blank.

APPENDIX A OFFICIAL RESOLUTIONS

OVERVIEW

Following are the official resolutions from the City of Chaska and City of Victoria for approval of the master plan.

RESOLUTION NO. 05-74

A RESOLUTION OF SUPPORT FOR THE REGIONAL TRAIL ALIGNMENT

WHEREAS, Carver County is an implementing regional park and trail agency of the Metropolitan Council and proposes a trail alignment connecting the North LRT Line and the South LRT line with a regional trail; and

WHEREAS, Carver County is developing a master plan for this regional trail; and

WHEREAS, Victoria supports the proposed regional trail alignment connecting the North LRT Line with the South LRT Line passing through the City and connecting to the City of Chaska; and

WHEREAS, the proposed regional trail alignment is consistent with the City's plan for a regional trail.

THEREFORE BE IT RESOLVED, Victoria hereby supports the proposed regional trail alignment which connects the North LRT Line with the South LRT Line.

Adopted this 13th day of October 2005, by the Victoria City Council.

Jerry Bohn, Mayor AYE

Mary Hershberger Thun AYE

Kim Roden AYE

Terrence Bishop AYE

Richard Tieden AYE

ATTEST:

Jennifer Kretsch, City Clerk

Jerry Bohn, Mayor

CERTIFICATION

The undersigned, being the duly qualified and acting Clerk of the City of Victoria, hereby certifies the foregoing Resolution No. 05-74 is a true and correct copy of a resolution presented to and adopted by the Council of the City of Victoria at a duly authorized meeting thereof held on the 13th day of October 2005, as shown by the minutes of the aforesaid meeting in possession of the undersigned.

Jennifer Kretsch, City Clerk

(Seal)

CITY OF CHASKA

CARVER COUNTY, MINNESOTA

RESOLUTION

DATE MAY 16, 2005 RESOLUTION NO. 05-47

MOTION BY COUNCILMEMBER MALUCHNIK SECOND BY COUNCILMEMBER ROHE

A Resolution finding that the proposed Chaska to Victoria regional trail alignment is consistent with the Chaska Comprehensive Plan/P.C. No. 05-12 / Carver County Parks

WHEREAS, the primary purpose of the City's Trails Plan is to provide a comprehensive and consolidated set of policies and plans relative to the type, location and function of the various trails in the City; and

WHEREAS, the Trails Plan is intended to provide City Council, Commissions, City Staff and developers with detailed, quantifiable standards and guidelines for achieving a unified trail system, which will serve both destination and leisure oriented users, and which will help foster an enhanced sense of community; and

WHEREAS, the Hennepin County Regional Railroad Authority (HCRRA) acquired two abandoned rail lines in the early 1990's for potential Light Rail Transit (LRT) use, the lines originate in Hopkins as two legs of a triangle with the north leg extending westerly through Minnetonka and Excelsior to Victoria, and the south leg (former C & NW Railroad) extending southwesterly through Eden Prairie and Chanhassen to Chaska, and both of these routes are considered to be long-range LRT projects, however, in the interim, an agreement between HCRRA and the Suburban Hennepin Regional Park District (SHRPD) allows the right-of-way to be used for "temporary" ag lime regional trails; and

WHEREAS, the two trails have become very popular and receive extensive use although the lack of a connection to Chaska's trails has limited use of the segment west of Bluff Creek Road and due to their popularity, considerable discussion has occurred about linking the two trails by providing the triangle's third leg between Victoria and Chaska; and

WHEREAS, Chaska's Ultimate Community Trails Plan, designates a trail corridor about seven miles in length between Chaska and Victoria, but does not identify a specific alignment and thus the need for such a regional trail connection is indicated but additional study and coordination between the two communities, Carver County and Metro Council is needed to bring the trail concept to fruition; and

WHEREAS, the Comprehensive Plan has a policy statement that the City of Chaska shall take a proactive position in providing a regional trail from Chaska to Victoria thereby connecting Carver Park to the Minnesota Valley State Trail and completing a loop trail system connecting Hopkins, Victoria and Chaska; and

Resolution No. 05-47
May 16, 2005
Page 2

WHEREAS, on May 11, 2005, the Planning Commission reviewed this request and recommended that the proposed regional trail alignment from Chaska to Victoria is consistent with Chaska's Comprehensive Plan.

NOW, THEREFORE, BE IT RESOLVED, the City Council of the City of Chaska, Minnesota, hereby finds that the proposed Chaska to Victoria regional trail alignment is consistent with Chaska's Comprehensive Plan.

Passed and adopted by the City Council of the City of Chaska, Minnesota, this 16th day of May, 2005.

Gary Van Eyll, Mayor

Attest
Margo G. Steffel, Deputy Clerk

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CARVER COUNTY SOUTHWEST REGIONAL TRAIL CONNECTION – CHASKA TO VICTORIA

TRAIL SEGMENT 1 OF 3

EXISTING TRAIL LOCATED WITHIN RIGHT-OF-WAY OF CLOVER RIDGE DR.

ALTERNATE TRAIL ROUTE

ENGLER BLVD. / CSAH 10

AT-GRADE ROAD CROSSING WITH SIGNALIZED INTERSECTION

TRAIL WOULD BE LOCATED WITHIN RIGHT-OF-WAY OF FUTURE ROADWAY

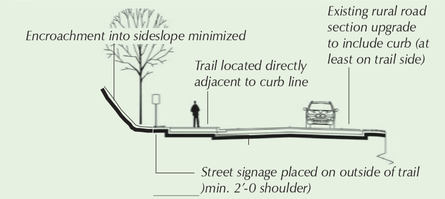
FUTURE CUL-DE-SAC

CREEK ROAD TO BE CONVERTED TO TRAIL CORRIDOR THIS SEGMENT AS PART OF LOCAL TRANSPORTATION PLAN

CONCEPTUAL FUTURE ROADWAY ALIGNMENTS AS PART OF LOCAL TRANSPORTATION PLAN

15 — This segment of the trail along Clover Ridge Drive is already in place, albeit to a narrower width than desired (8'-0 wide versus 10'-0). *(Viewed looking north)*

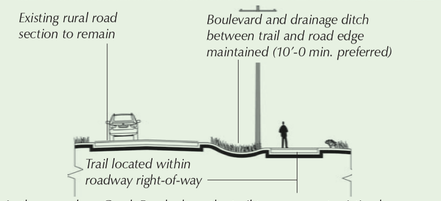
9



With limited space between the existing sideslope, the trail will be placed along the curb line when this roadway is upgraded.

C SECTION ALONG HIGHWAY 212

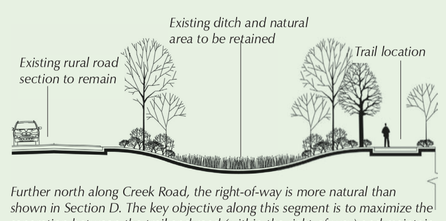
10



In the area along Creek Road where the trail traverses past existing homes with maintained lawns, the boulevard would be kept to the minimum necessary for safety and drainage to minimize encroachment.

D SECTION ALONG CREEK ROAD *(Viewed looking northwest)*

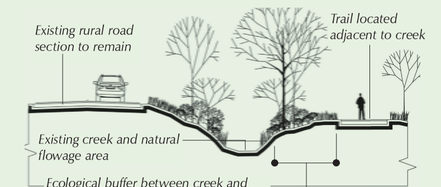
12



Further north along Creek Road, the right-of-way is more natural than shown in Section D. The key objective along this segment is to maximize the separation between the trail and road (within the right-of-way) and maintain the drainage ditch and natural vegetation.

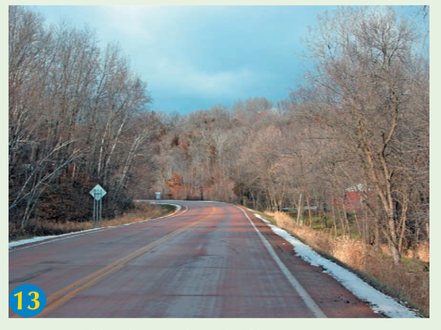
E SECTION ALONG CREEK ROAD *(Viewed looking north)*

14

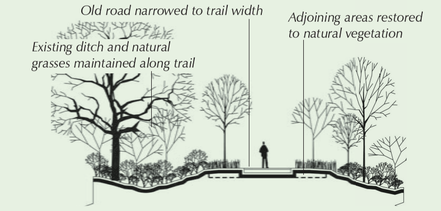


With limited space between the road and creek, the trail would be located on the east (right) side of the existing creek.

G SECTION ALONG CREEK ROAD *(Viewed looking north)*



13



The existing road would be abandoned along much of West Chaska Creek as shown on the map and converted to the regional trail route.

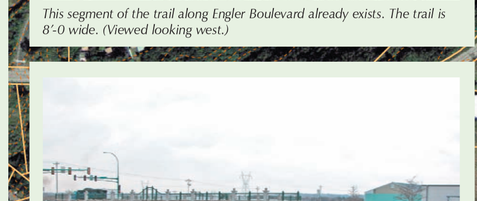
F SECTION ALONG CREEK ROAD *(Viewed looking north)*

11 — *The existing bridge over West Chaska Creek is too narrow to accommodate the regional trail. A trail bridge will be required to the east (right) of this bridge. (Viewed looking north.)*

6 — *This segment of existing trail follows the top of the levee along the Minnesota River. The trail is 8'-0 wide. (Viewed looking west.)*

7 — *This segment of existing trail follows a railroad right-of-way. As shown on the map, the trail crosses the tracks at the midpoint of this section with an at-grade crossing. The trail is 8'-0 wide. (Viewed looking northeast.)*

2 — *This segment of the trail along Engler Boulevard already exists. The trail is 8'-0 wide. (Viewed looking west.)*



3 — *From Engler Boulevard, the existing trail continues south along a drainage channel all the way to the Minnesota River. Trailhead parking is also available at this location, with approximately 15 parking spaces provided. The trail is 8'-0 wide. (Viewed looking south)*

LOCAL TRAIL CONNECTION TO MINNESOTA ARBORETUM

TRAIL LOCATED WITHIN RIGHT-OF-WAY ALONG FLYING CLOUD DRIVE/HWY. 212

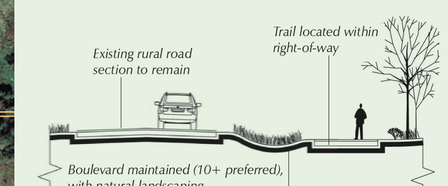
TRAIL CONNECTS WITH EXISTING SOUTHERN BRANCH OF SOUTHWEST REGIONAL TRAIL

EXISTING TRAIL WITHIN RIGHT-OF-WAY ALONG ENGLER BOULEVARD

EXISTING TRAILHEAD PARKING (15 CARS)

GRADE-SEPARATED CROSSING

1



With limited space between the road and creek, the trail would be located on the east (right) side of the existing creek.

A SECTION ALONG FLYING CLOUD DRIVE *(Viewed looking north)*

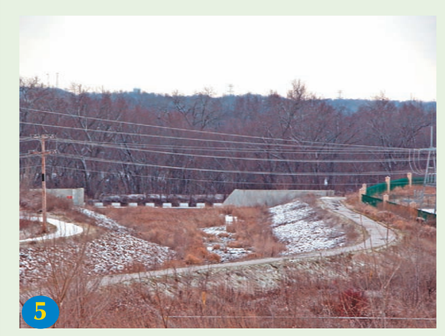
EXISTING TRAIL FOLLOWING EAST CREEK CHANNEL

GRADE-SEPARATED CROSSING

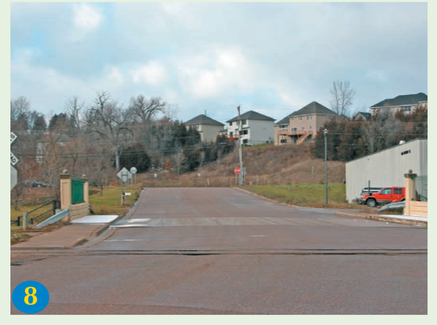
EXISTING RIVER OVERLOOK

EXISTING TRAIL FOLLOWING LEVEE

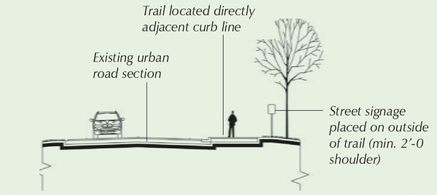
4



5

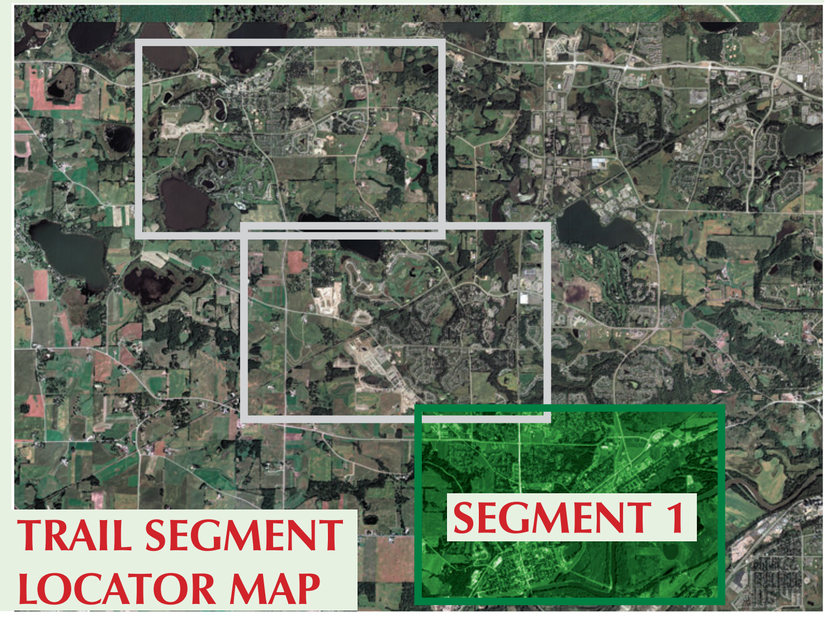


8



The connection between the existing trail along the railroad tracks and US Highway 212 would follow N. Hickory Street along the curb line to stay within the right-of-way and minimize encroachment.

B SECTION ALONG N. HICKORY STREET *(Viewed looking north)*



TRAIL SEGMENT LOCATOR MAP

AT-GRADE CROSSING

EXISTING PUBLIC PARKING AREA

AT-GRADE, SIGNALIZED CROSSING

AT-GRADE CROSSING

EXISTING AT-GRADE RAILROAD TRACK CROSSING

LOCAL TRAIL CONNECTION

EXISTING TRAIL LOCATED ADJACENT TO RAILROAD TRACKS THIS SEGMENT

EXISTING TRAIL FOLLOWING LEVEE

GRADE-SEPARATED CROSSING

AT-GRADE CROSSING

TRAILWAY ADDED TO EXISTING BRIDGE IN 2005

MINNESOTA RIVER VALLEY STATE TRAIL (CONNECTION BETWEEN CHASKA AND SHAKOPEE)

FUTURE LOCAL TRAIL TO PUBLIC PARKING AREA AND CONNECTION TO CHASKA LAKE NWR

EXISTING BOAT LAUNCH (AND TRAILHEAD) PARKING (20 CARS)

EXISTING PUBLIC PARK/PLAZA

EXISTING TRAIL FOLLOWING LEVEE

NORTH

0′ 500′ 1000′ 1500′

GRAPHIC SCALE

LEGEND

- EXISTING TRAIL ROUTE
- PROPOSED TRAIL ROUTE
- ALTERNATE TRAIL ROUTE

Carver County Southwest Regional Trail Connection – Chaska to Victoria

Trail Segment 2 of 3

REGIONAL TRAIL ROUTE FOLLOWS EDGE OF THE LAKE ON UPLAND AREAS (BUFFER REQUIRED BETWEEN TRAIL AND SENSITIVE ECOLOGICAL SYSTEMS)

GRADE-SEPARATED CROSSING (UNDERPASS)

ALTERNATIVE ROUTE FOR REGIONAL TRAIL ALONG EDGE OF WETLAND SYSTEMS (WOULD HAVE TO BE INTEGRATED WITH FUTURE LAND USES)

ALTERNATIVE CROSSING AT INTERSECTION (IF UNDERPASS IS NOT FEASIBLE)

CHURCH LAKE BLVD. / CSAH 43

NEW ROAD (AS PART OF SUBDIVISION)

GRADE SEPARATED CROSSING (UNDERPASS)

SHADY OAK DRIVE TO BE CONVERTED TO TRAIL CORRIDOR THIS SEGMENT AS PART OF LOCAL PARK AND TRANSPORTATION PLAN

EXISTING TRAIL SEGMENT DEVELOPED AS PART OF SUBDIVISION (2005)

NEW SUBDIVISION AREA (2005)

LAKE BAVARIA

ACCESS TO EXISTING BOAT LAUNCH TO REMAIN (AS PART PARK MASTER PLAN)

GUERNSEY AVE / CSAH 11

ALIGNMENT THROUGH PARK IS CONCEPTUAL

PROPOSED CITY PARK LAND (NATURE PARK FOR PASSIVE USES)

MARSH LAKE RD.

PROPOSED REALIGNED LOCAL ROAD

SHADY OAK DRIVE

AT-GRADE CROSSING

ALTERNATE ROUTE FOR REGIONAL TRAIL FOLLOWS VICTORIA DRIVE AND GUERNSEY AVE/CSAH 11 TO PROPOSED PARK LAND

AT-GRADE CROSSING

TRAIL COULD BE LOCATED ON EITHER SIDE OF THE ROAD, DEPENDING ON INTERCONNECTING TRAILS AT TIME OF DEVELOPMENT

AT-GRADE CROSSING

VICTORIA DRIVE

TRAIL WOULD BE LOCATED ADJACENT TO FUTURE LOCAL ROAD

PROPOSED LOCAL ROAD EXTENSION (2005)

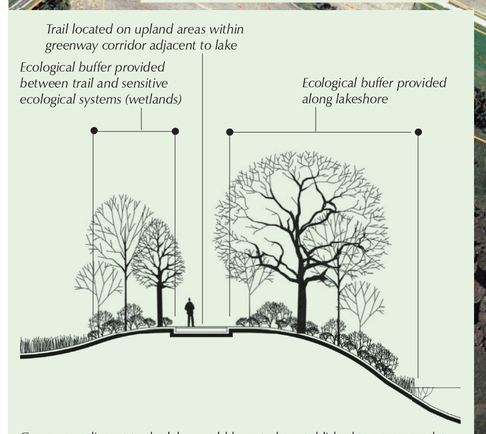
AT-GRADE RAILROAD TRACK CROSSING

LOCAL PARK

LOCAL SCHOOL

WATER TOWER PARK RD.

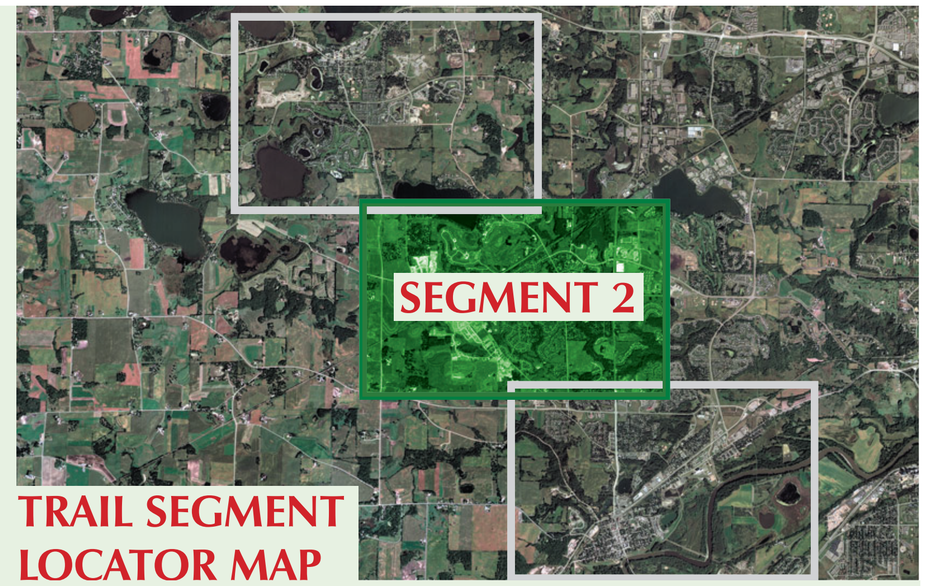
ALTERNATE ROUTE FOR REGIONAL TRAIL FOLLOWS ABANDONED ROADWAY ALIGNMENTS (ROUTE IS MORE CONTIGUOUS AND CONNECTS WITH LOCAL SCHOOL AND PARK)



Greenway adjacent to the lake would have to be established to accommodate the trail as shown. The trail will have to be weaved through this area to minimize disruption to wetlands, shoreline vegetation, and mature trees.

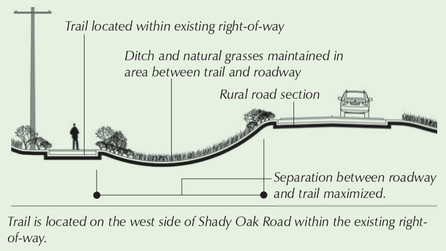
K SECTION ALONG LAKE EDGE
(Viewed looking west)

23 — *The trail through this new development area was being constructed in 2005. It will be located initially on the south (left) side of the development's entrance road and then cross over near the top of the hill to the north (right) side of the road. (Photo taken fall of 2004, looking west.)*



TRAIL SEGMENT LOCATOR MAP

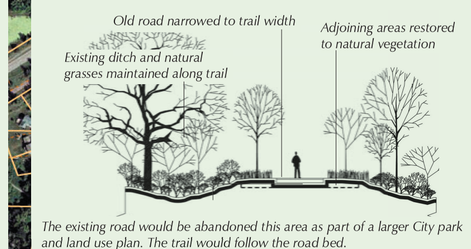
21



Trail is located on the west side of Shady Oak Road within the existing right-of-way.

I SECTION ALONG SHADY OAK DRIVE
(Viewed looking north)

22



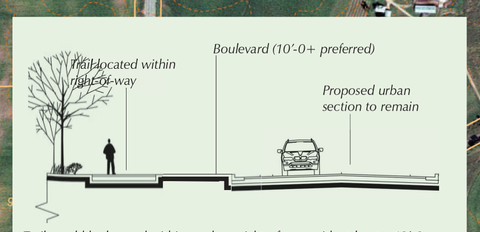
The existing road would be abandoned this area as part of a larger City park and land use plan. The trail would follow the road bed.

J SECTION ADJACENT TO LAKE BAVARIA
(Viewed looking northwest)

20 — *This segment of the trail along Victory Drive/County Road 111 is existing. The trail is 8'-0 wide. (Viewed looking west.)*

19 — *This segment of the trail was constructed in 2004. The trail is 8'-0 wide. (Viewed looking north.)*

18 — *This segment of the trail was constructed in 2004. The trail is 8'-0 wide. (Viewed looking north.)*



Trail would be located within roadway right-of-way, with at least a 10'-0 boulevard between the road and trail preferred.

H SECTION ALONG LOCAL ROAD
(Viewed looking north)

17 — *This segment of the trail is already in place as part of a 2004 housing development. Although it encroaches on the adjoining housing units, sight lines along the trail are adequate and the fence provides a reasonable sense of separation. Given the narrow corridor and street crossing, elite bicyclists may have a tendency to ride on the adjacent road through this section of trail.*

16 — *This segment of the trail is already in place as part of a 2004 housing development. As illustrated, concrete was used in lieu of asphalt for a several block section of the trail. This gives the trail a sidewalk appearance that will tend to slow bicyclists down – which is appropriate for the setting. Conversely, the crack control joints make for a rougher ride over time and some bicyclists will bypass this section and ride on the adjacent road. Although the building setback is limited, sightlines along the trail are adequate and should not pose any major constraints to trail use or safety.*

NORTH

0′ 500′ 1000′ 1500′

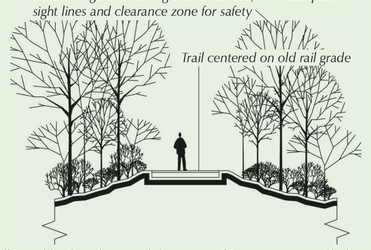
GRAPHIC SCALE

LEGEND

- EXISTING TRAIL ROUTE
- PROPOSED TRAIL ROUTE
- ALTERNATE TRAIL ROUTE

26

Natural vegetation along trail enhanced, with adequate sight lines and clearance zone for safety



Trail follows old rail grade toward the east until it connects up with the existing trail near Highway 5.

N SECTION ALONG OLD RAIL GRADE
(Viewed looking east)

27

Trail connects with existing Northern LRT Regional Trail and an adjacent small local trail south (right) of the trail.
(Viewed looking east)

CARVER PARK RESERVE

STATE HWY. 5

EXISTING OLD RAIL GRADE PROVIDES STABLE BASE FOR TRAIL DEVELOPMENT

TRAIL CONNECTS WITH EXISTING NORTHERN BRANCH OF SOUTHWEST REGIONAL TRAIL

EXISTING LOCAL PARK

27

26

N

POTENTIAL FUTURE CONNECTION TO LAKE WACONIA REGIONAL PARK

TRAIL FOLLOWS EXISTING FARM ROAD THROUGH WETLAND AREA ADJACENT TO LAKE (MOST ECOLOGICALLY SUITABLE ROUTE)

RESIDENTIAL DEVELOPMENT AREA (2005)

CHURCH LAKE BLVD. / CSAH 43

REGIONAL TRAIL ROUTE FOLLOWS EDGES OF UPLAND AREAS (BUFFER REQUIRED BETWEEN TRAIL AND SENSITIVE ECOLOGICAL (WETLAND) SYSTEMS)

25

M

TELLERS RD.

L

STEEP BANK DIRECTLY ADJACENT TO THE ROAD LEADS DOWN TO A WETLAND

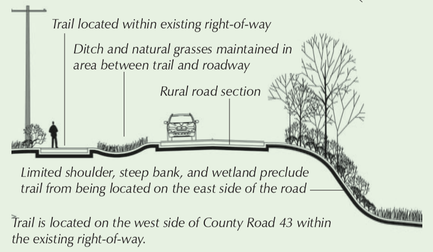
24

NORTH

0 500 1,000 2,000 3,000 Feet

1 inch equals 500 feet

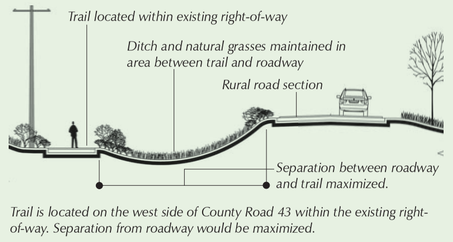
24



Trail is located on the west side of County Road 43 within the existing right-of-way.

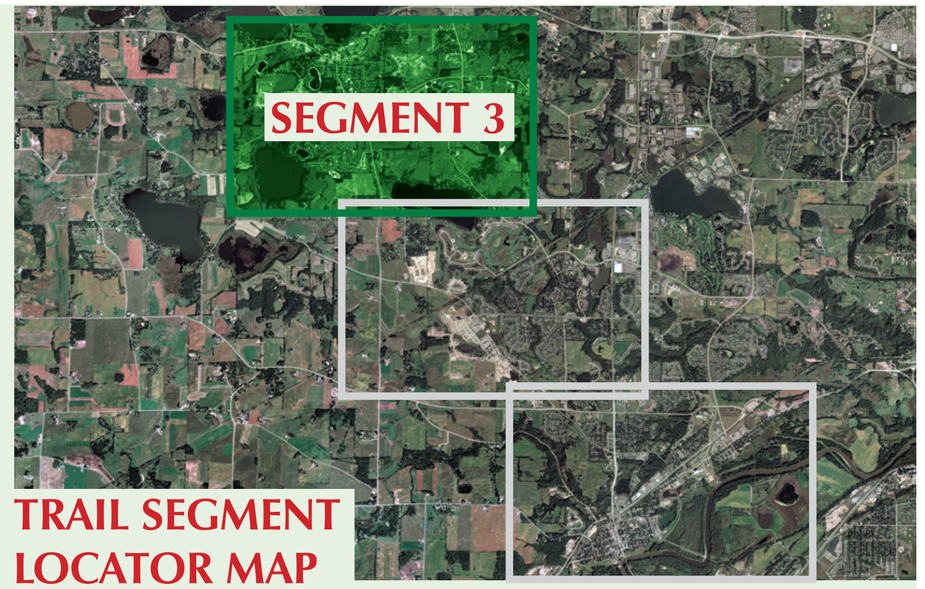
L SECTION ALONG COUNTY ROAD 43
(Viewed looking north)

25



Trail is located on the west side of County Road 43 within the existing right-of-way. Separation from roadway would be maximized.

M SECTION ALONG COUNTY ROAD 43
(Viewed looking north)



TRAIL SEGMENT LOCATOR MAP

NORTH

0′ 500′ 1000′ 1500′

GRAPHIC SCALE

LEGEND

- EXISTING TRAIL ROUTE
- PROPOSED TRAIL ROUTE
- ALTERNATE TRAIL ROUTE

CARVER COUNTY SOUTHWEST REGIONAL TRAIL CONNECTION – CHASKA TO VICTORIA

TRAIL SEGMENT 3 OF 3