

# MASTER PLAN FOR POINT DOUGLAS REGIONAL TRAIL

DRAFT

DR



SUBMITTED BY THE CITY OF SAINT PAUL  
DEPARTMENT OF PARKS & RECREATION  
ADOPTED XXXXXX, XX 2022



**SAINT PAUL**  
MINNESOTA

# ACKNOWLEDGMENTS

The contributions and support of the following individuals and organizations were instrumental in the creation of this plan and are gratefully acknowledged:

MN Department of Transportation (MnDOT)  
 Minnesota Department of Natural Resources  
 Ramsey County  
 Friends of the Mississippi River

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## Saint Paul Parks and Recreation Mission:

To build a city that works for all of us, Saint Paul Parks and Recreation will facilitate the creation of active lifestyles, vibrant places and a vital environment.

## Saint Paul Parks and Recreation Vision:

Saint Paul Parks and Recreation will make Saint Paul a city that works for all of us by:  
 Responding creatively to change.  
 Innovating with every decision.  
 Connecting the entire city.



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Saint Paul Parks Commission, XXXX XX, 2021  
 Saint Paul City Council, XXXX XX, 2021



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# BACKGROUND

## Purpose of the Plan

Point Douglas (Bruce Vento Washington Co) is identified in the 2040 Regional Parks Policy Plan as a regional trail search corridor. As an implementing agency, the City of Saint Paul was encouraged to prepare a master plan for the corridor in order to become eligible for Regional Park System funding for acquisition and implementation. See below referenced Figure 1: Regional Trail Search Corridor Map in the 2040 Regional Parks Policy Plan. This master plan proposes to officially change the name to Point Douglas Regional Trail and was prepared following preliminary engineering work that identified conflicts with intersection crossings, road widths, stormwater, and utilities. The preferred alignment was chosen to balance trail safety standards and to reduce conflicts with vehicles and private land owners.

There is currently no continuous off-street trail connection within the Mississippi River Valley between Saint Paul and Washington County on the east side of the river. The Point Douglas Regional Trail will connect major sections of the existing regional bike commuter and recreation trail systems. It will also eliminate existing and future potential conflicts between recreational activities and vehicles.

The Point Douglas Regional Trail Master Plan addresses the content requirements for Regional Parks and Open Space Master Plans for a Linking Trail as outlined by the Metropolitan Council's 2040 Regional Parks Policy Plan 2020 amendment. (Figure 1)

The proposed trail connection will be part of multiple existing long term commitments to strengthening the Metropolitan Area's transportation and recreational trail systems as shown on Figure 3, including five existing Saint Paul systems:

1. The existing Saint Paul Bike Plan that provides both transportation and recreational trail connections between city public parks.
2. The Great River Passage, Saint Paul's planned vision for a comprehensive riverfront park system will synergistically connect the natural and urban ecologies of Saint Paul through existing and proposed bikeways. The plan supports enhancing and improving trail connections to draw more users to the trails and river.
3. The Mississippi National River and Recreation Area (MNRRA) is a National Park encompassing 72 miles of Mississippi River basin.
4. The Mississippi River Trail (MRT) is a multi-state transportation and recreational trail that begins at the headwaters of the Mississippi River and extends through ten states on its way to the Gulf of Mexico. MnDOT is supporting the trail and recognizes that the goal of developing a multi-state and national trail brings both quality of life and economic benefits to St. Paul and the entire metropolitan region (Figure 2).
5. As part of the 2040 Transportation Policy Plan, the Regional Bicycle Transportation Network (RBTN) is a vision to create an integrated bikeway, to connect regional designations and to prioritize potential corridors. The RBTN identifies the Point Douglas Regional Trail along a designated RBTN Tier 1 alignment with connections to Sam Morgan Regional Trail (Tier 1 alignment), Lower Afton Road (Tier 1 Alignment), and Bailey Road (Tier 1 west of Point Douglas Rd & Tier 2 east of Pt Douglas Rd).

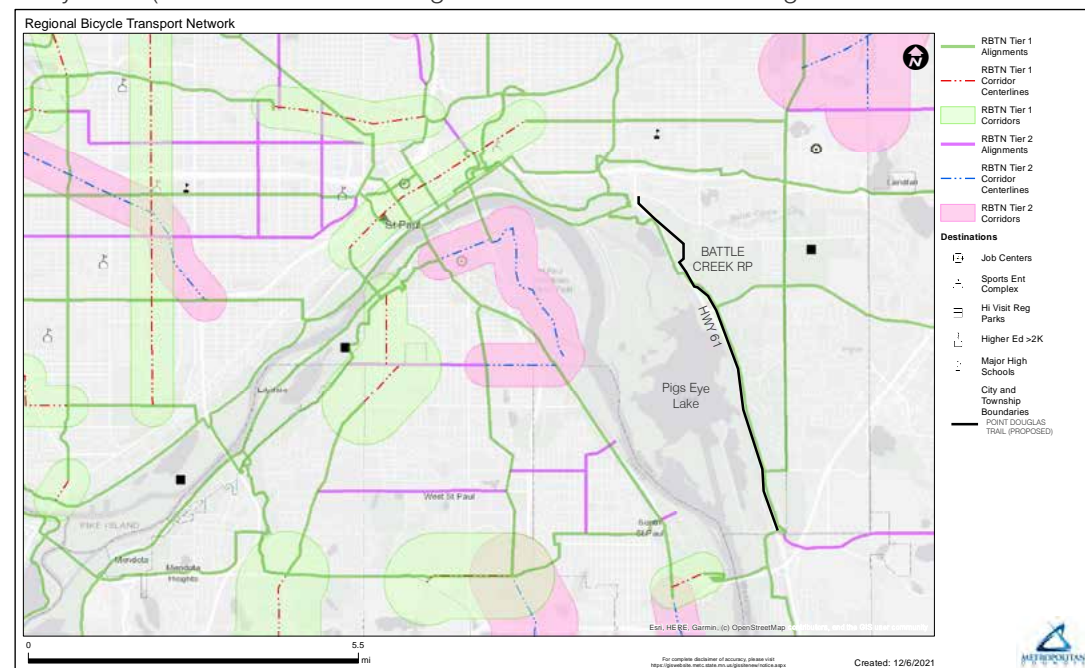


Figure 2: Regional Bicycle Transportation Network Map

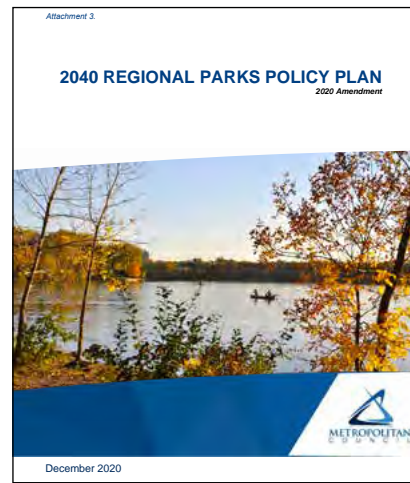


Figure 1: 2040 Regional Parks Policy Plan

# BACKGROUND CONTINUED

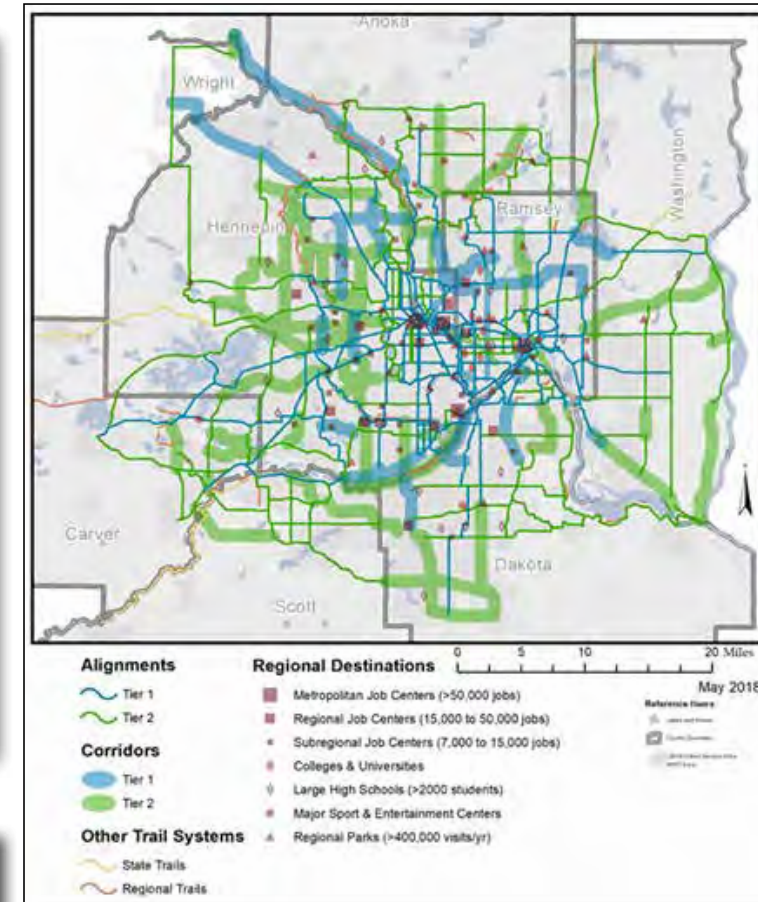
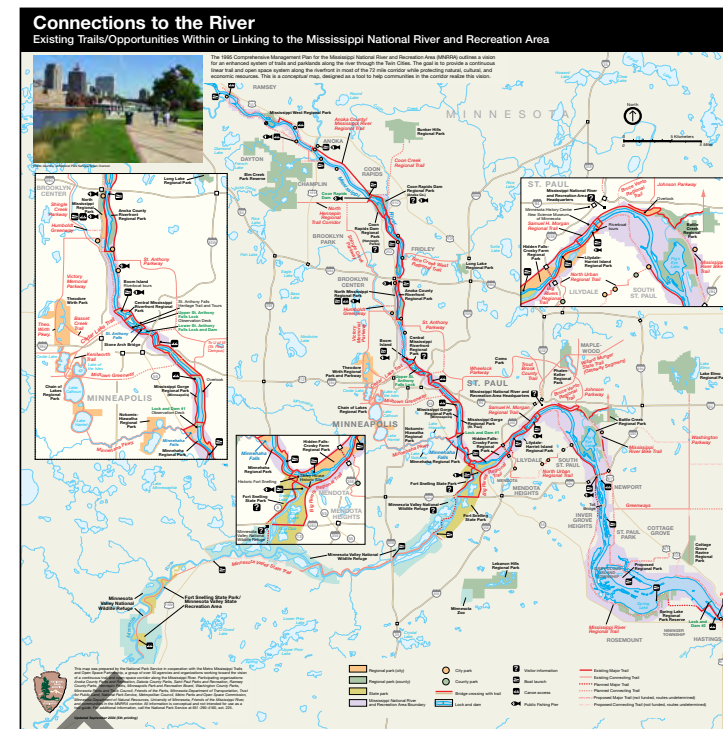
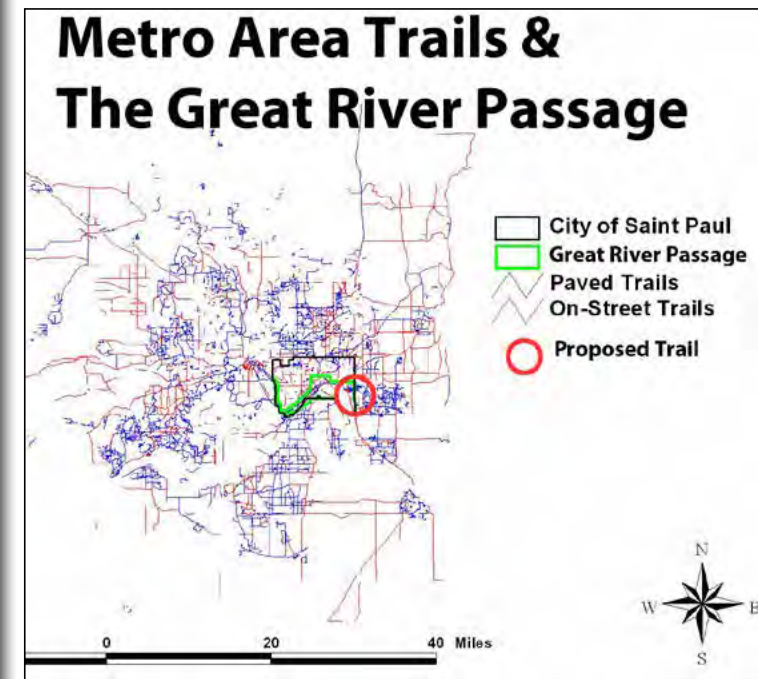


Figure 3: Multiple existing plans anticipate a trail connection from Harriet Island to South Saint Paul



# INTRODUCTION

## CITY OF SAINT PAUL

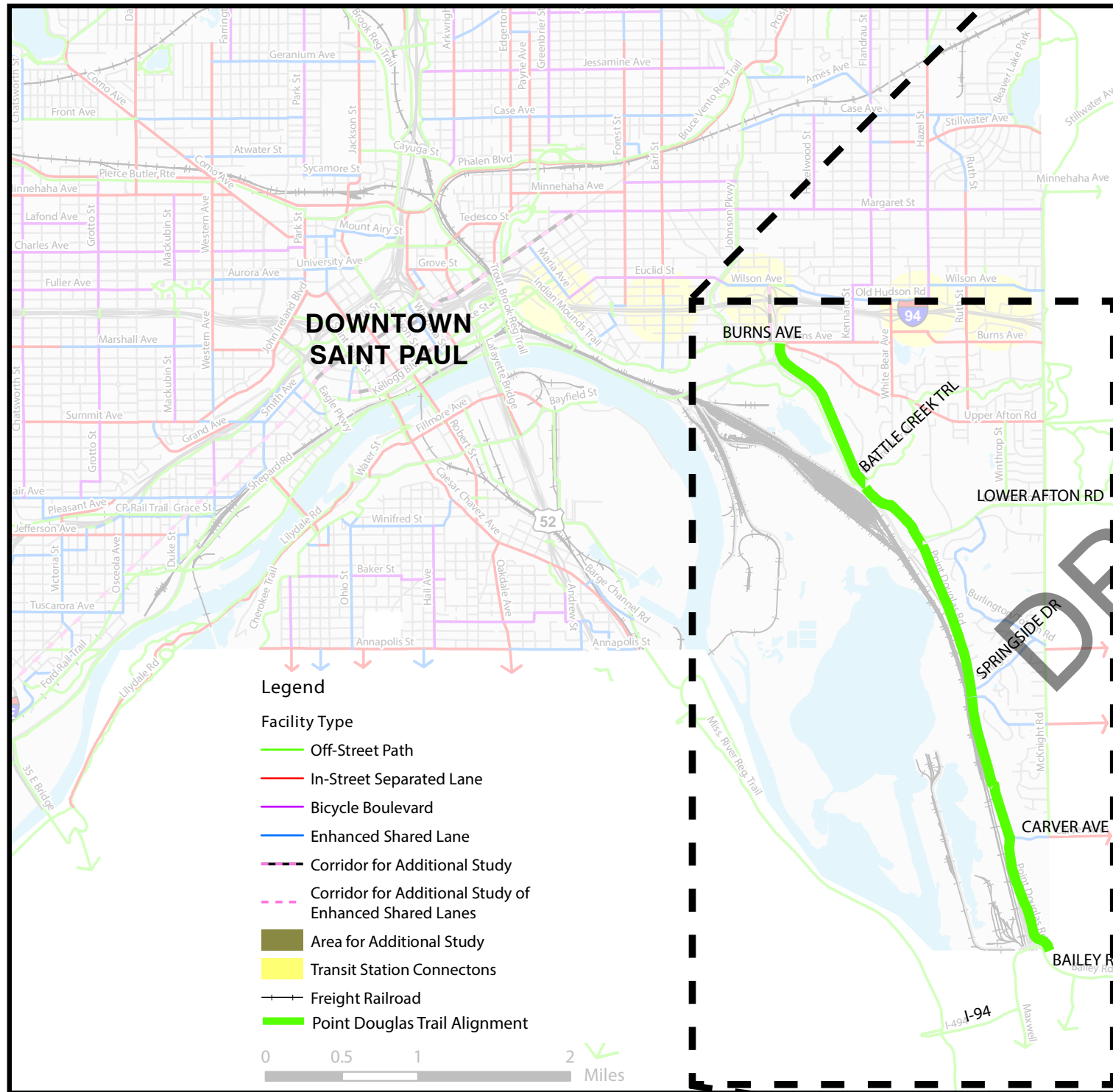


Figure 4: City of Saint Paul Location Map

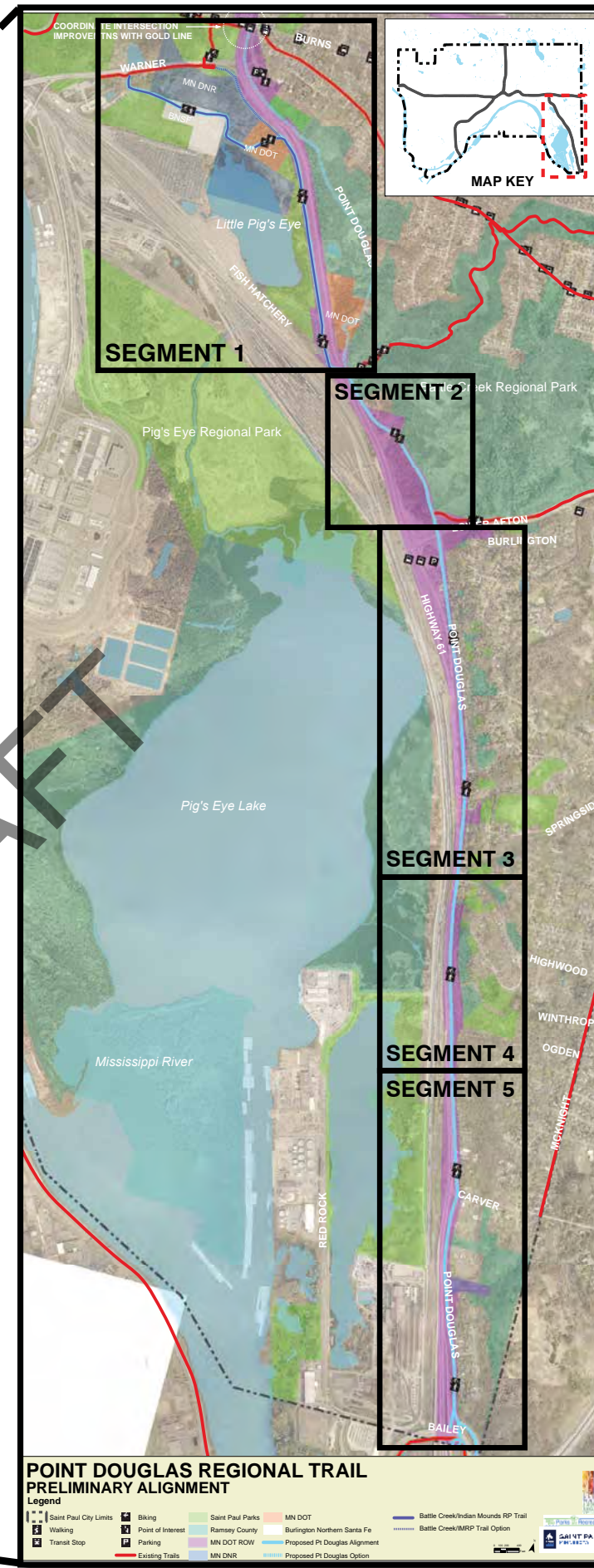


Figure 5: Location Enlargement Map

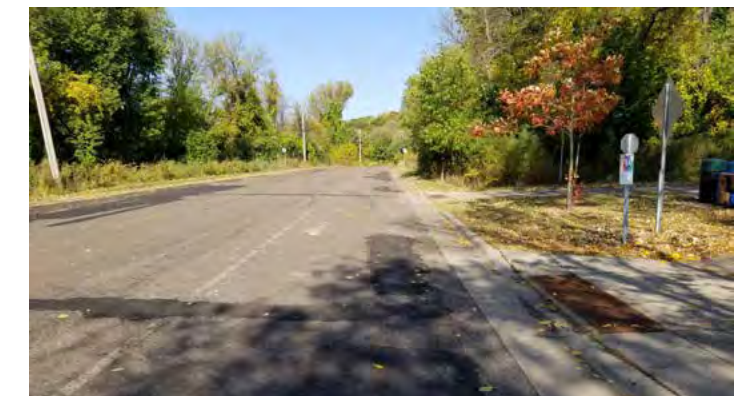
## Introduction

Point Douglas Trail is located along Highway (Hwy) 61 between Burns Avenue and Bailey Road in Saint Paul, MN. It connects Washington County to regional parks and trails in Saint Paul including Battle Creek-Indian Mounds Regional Park, Samuel H. Morgan Regional Trail, and the Saint Paul Grand Round.

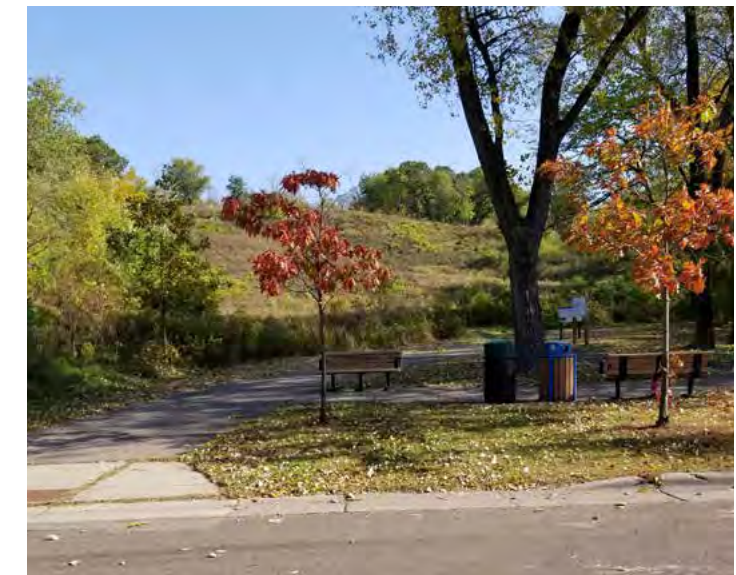
Located in the “rural” southeast quadrant of the city, the trail consists of a variety of on and off street facilities. Similar to rural towns or suburbs, the shared roadway conditions (on street) consist of road side ditches, overhead utilities, mailboxes, and no curbs. It is a lesser known trail because it transitions between on and off street facilities and lacks consistent wayfinding signs. The trail is primarily used by pedestrians for running and walking, and also by cyclists for recreation and commuting into and out of the city.

Land ownership along Point Douglas Road varies as the corridor is located in both the City of Saint Paul and MnDOT right of way (ROW). The eastern ROW abuts private residences, garages, driveways and off street parking.

This plan provides an overview of the corridor, a recommended alignment, and alternative alignments based upon the existing site conditions, community input, and industry design standards for people of all ages and abilities.



Segment 2: Looking north at Ramsey County trail head



Segment 2: Looking east toward Ramsey County trail head

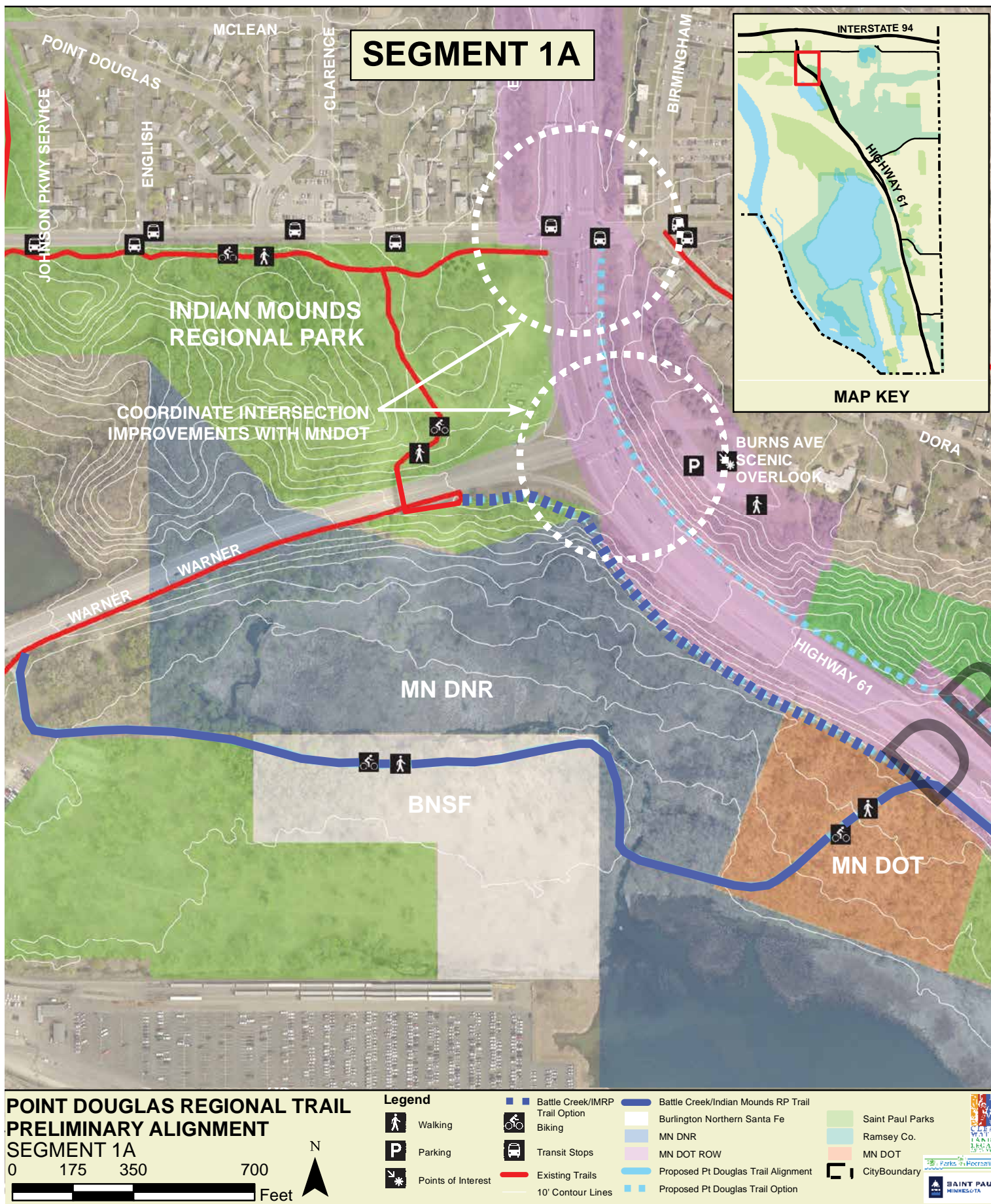


Figure 6: Agreements required for trail sections through BNSF Railroad, DNR and MnDOT property (Segment 1).

# 1. BOUNDARIES & ACQUISITION COST

The alignment of the Point Douglas Regional Trail maximizes the use of existing City of St. Paul and MnDOT ROW. Additional easements needed for trail construction on private land will be acquired at costs determined by the appraised value of the properties.

## All Segments: MnDOT ROW

A majority of the preferred trail alignment is located with MnDOT ROW which will require a 10-year limited use permit to allow for construction and maintenance of a bituminous trail, retaining walls and vehicle barriers. A similar limited use permit was established for existing portions of the Battle Creek/Indian Mounds Regional Park (IMRP) Trail (Segment 1A & B west of Hwy 61) and the existing off-street trail south of Highwood Avenue in Segment 4 (Figure 6).

MnDOT also owns an existing underpass located west of Ramsey County's Battle Creek Trailhead parking lot (see underpass image on right). The City of Saint Paul currently maintains the trail through the underpass and the continued use and maintenance will be included in a future limited use permit. Securing these agreements remains likely at the cost of preparing and executing the documents and it will not include a review fee.

## Segment 1A: Battle Creek/IMRP Trail through Department of Natural Resources (DNR)

Segment 1A, west of Hwy 61, will utilize the existing Battle Creek/IMRP trail through DNR property which will require a 10-year limited use permit to allow for construction and operation of an approximately 16,632 sf bituminous trail. A limited use permit was established in 2005 and expired in 2014. Discussions have continued between the City and DNR and securing these agreements remains likely at the cost of preparing and executing the documents and it will not include a review fee. (Figure 6)

## Segment 1A: Battle Creek/IMRP Trail through Burlington Northern Santa Fe (BNSF) Railroad

Segment 1A, west of Hwy 61, will utilize the existing Battle Creek/IMRP trail through BNSF property including blocks 1-4, 9 & 10 of the Lower Town Saint Paul Division. There is no easement on record and the City will collaborate with the BNSF Railroad to review the design for compliance and secure agreements to allow for construction and operation of 7,680 SF (approximate) of trail. An unknown fee is anticipated to complete the railroad review process (Figure 6). Consider an alternate alignment through DNR property if an agreement cannot be secured.

## Segment 2: Ramsey County Parks and Recreation

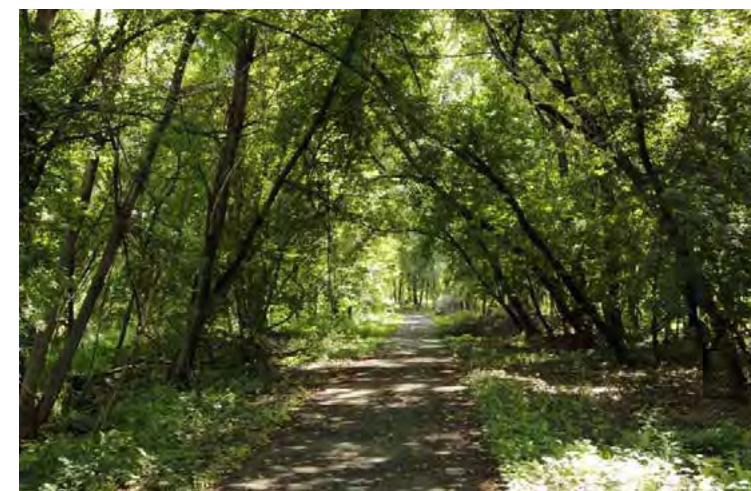
Ramsey County Parks and Recreation property borders much of the proposed Point Douglas Trail. Segment 2 of the trail alignment begins at Ramsey County's Battle Creek Regional Park Trailhead and turns south along lots 58 & 77 (near the parking lot) which are partially owned by Ramsey County. This scenario will require a limited use permit to allow for



Segment 4: Off-street trail in MnDOT ROW.



Segment 1/2 : MnDOT owned trail underpass below Hwy 61



Segment 1: Fish Hatchery Trail through DNR property



Figure 7: Private land easement needed in Burlington Heights Division (Segment 3).

construction and operation of 1,560 sf bituminous trail, curb and retaining wall along Point Douglas Rd South. The City and County will continue collaboration to transfer ownership and maintenance of the entire Battle Creek Entrance Road from the City to the County. Completing the transfer of ownership remains likely at the cost of preparing and executing the documents and it will not include a fee. (Figure 8)

### Segment 3: Land Acquisition

MnDOT ROW between Hwy 61 and Point Douglas Road is adequate for a trail in Segment 3 until the point where the ROW narrows between Howard Street and Highwood Ave. Concrete jersey barriers currently separate Hwy 61 from Point Douglas Rd along this .25 mile segment. As a short- to mid-term solution, consider using a portion of Hwy 61 shoulder (west of Point Douglas) for a grade separated facility. Exact acquisition limits will be determined during final design and continued coordination is needed during design phases. The City's use of this land would be accomplished through a limited use permit. As a long-term solution, the proposed trail alignment may require an easement on private land in Block 6: Lots 20-23, and Block 10: Lots 1, 2, 3 & 4 of the Burlington Heights Division No.1. Property acquisition is recommended for Lots 18 & 19 in Block 6 due to be eligible for Park Acquisition Opportunity Fund (PAOF). The project would not necessitate removal of the home, but at a minimum, the project would require demolition of the garage, reconstruction of the garage and significant grade corrections for access. Exact acquisition limits will be determined during final design and continued coordination is needed during design phases. The City's use of this land will be accomplished either by an easement or land acquisition from the owner to the City of Saint Paul. (Figure 7)

### Private Land Acquisition and Summary

SEGMENT	PARCEL ID/ ADDRESS	AREA	TOTAL COST
SEGMENT 3	142822120008 824 PT DOUGLAS RD	.27 ACRE	\$200,800.00
SEGMENT 3	142822120009 828 PT DOUGLAS RD	778 SF	\$11,558.00
SEGMENT 3	142822120010 840 PT DOUGLAS RD	362 SF	\$8,785.00
SEGMENT 3	142822130094 2028 SPRINGSIDE DR	969 SF	\$14,395.00
SEGMENT 3	142822130095 858 PT DOUGLAS RD	3,086 SF	\$45,672.00
TOTAL		.39 ACRE	\$278,625.00

\*Estimated costs reflect 2020 tax assessed values for the portion of parcel needed.

### Segment 5: Washington County ROW

Segment 5 will terminate at Bailey Road in Washington County and this alignment may require a cooperative agreement for construction and operation of 1,350 sf of trail. Securing an agreement remains an option at the cost of preparing and executing the documents. See Figure 9 for location of Washington County property and Segment 5 trail alignments.

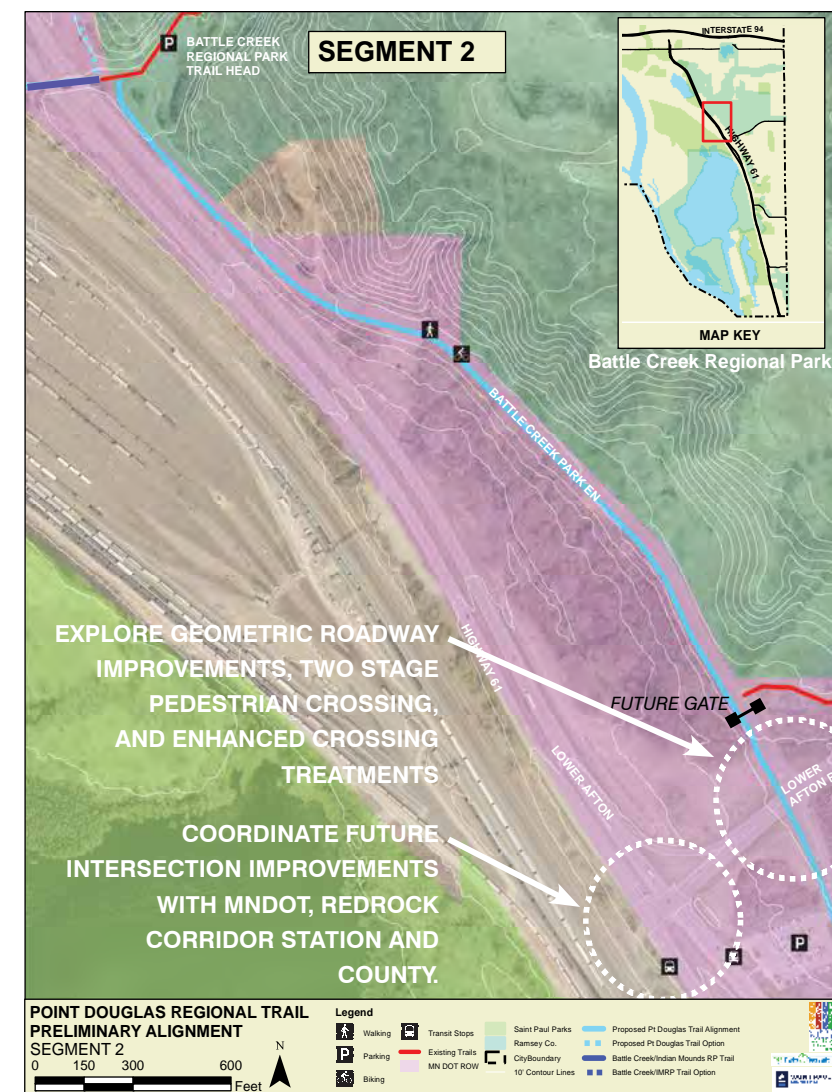


Figure 8: Ramsey County Parks and Recreation Property (green). Segment 2 begins at Battle Creek Reg Park Trailhead

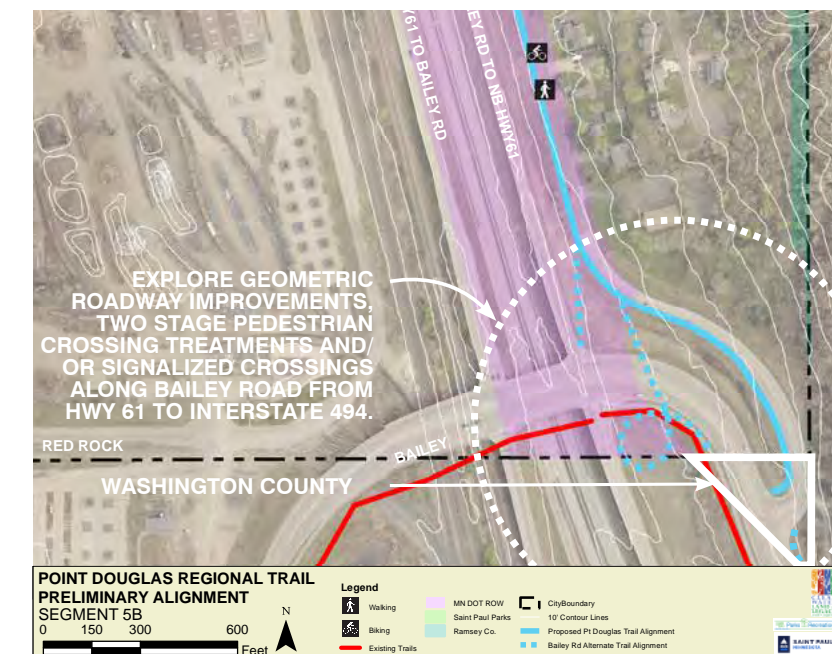


Figure 9: Washington County ROW.



Segment 3: Rendering of future trail (final cross-section to be determined during design phase).

## 2. DEMAND FORECAST

### Park Overview

Based on the Metropolitan Council Annual Use Estimate of the Metropolitan Regional Park System for 2019, the following are comparable trail counts:

Trail Name	Annual Users
• Bruce Vento Regional Trail	275,000
• Samuel H. Morgan Regional Trail	575,000
• Trout Brook Regional Trail	150,000

The 2016 Regional Parks System Visitor Study shows that walking, hiking and biking are rated as the most popular activities for regional parks and trails. The surveys also indicate that trails provide important access to other activities within a park such as swimming and fishing. According to MnDOT, the number of individuals using bike trails for transportation is on the rise and the 2010 MSP Travel Behavior Inventory share shows a 13% increase biking and a 6% decrease in driving in the metropolitan area as of 2000. The bike mode share in Saint Paul (based on 2010 regional Travel Behavior Inventory data) is about 1.9%.

The Point Douglas Regional Trail is included in the Saint Paul Bicycle Plan as a Major Bikeway and is identified as a Tier 1 Alignment in the Regional Bicycle Transportation Network making it an important component of the local and regional bicycle network. The primary connections to existing trails include the Samuel H. Morgan Regional Trail and the Grand Round North Regional Trail. These trails establish further connections to the Bruce Vento Regional Trail via the Saint Paul Grand Round and the trail through Indian Mounds Regional Park. In addition, the trail connects to the future Metro Gold Line Etna Street Station and to the Lower Afton Park and Ride.

### Mississippi River Trail Use Projections

Mississippi River Trail (MRT) development in Minnesota is supported by MnDOT as one component of their multi-modal transportation planning strategy. With its multiple connections to other riverfront trails and its close river proximity, it is expected that the Point Douglas Regional Trail will become an important segment of the existing MRT. The continued development of an off-street trail along the MRT is considered a long term project with MnDOT and National Park Service (NPS) partnerships. Minnesota's MRT portion is likely to continue to be at the forefront of off-street trail development and use for the near future. See Figure 10 for the Point Douglas segment along MRT.

### National Park Service /MNRRA

The Point Douglas trail will be part of the network of trails that lie in close proximity to the river and within the National Park System's Mississippi National River and Recreation Area. (MNRRA) The trail will support a key NPS goal of increasing non-motorized access to the river for park visitors as part of the MNRRA Alternative Transportation Plan (ATP). See page 3 for a map of MNRRA.



Segment 3: Looking NW toward downtown St Paul

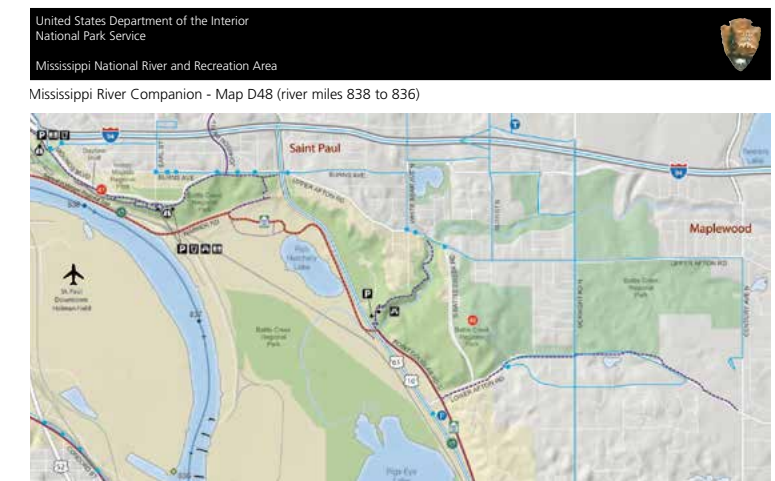


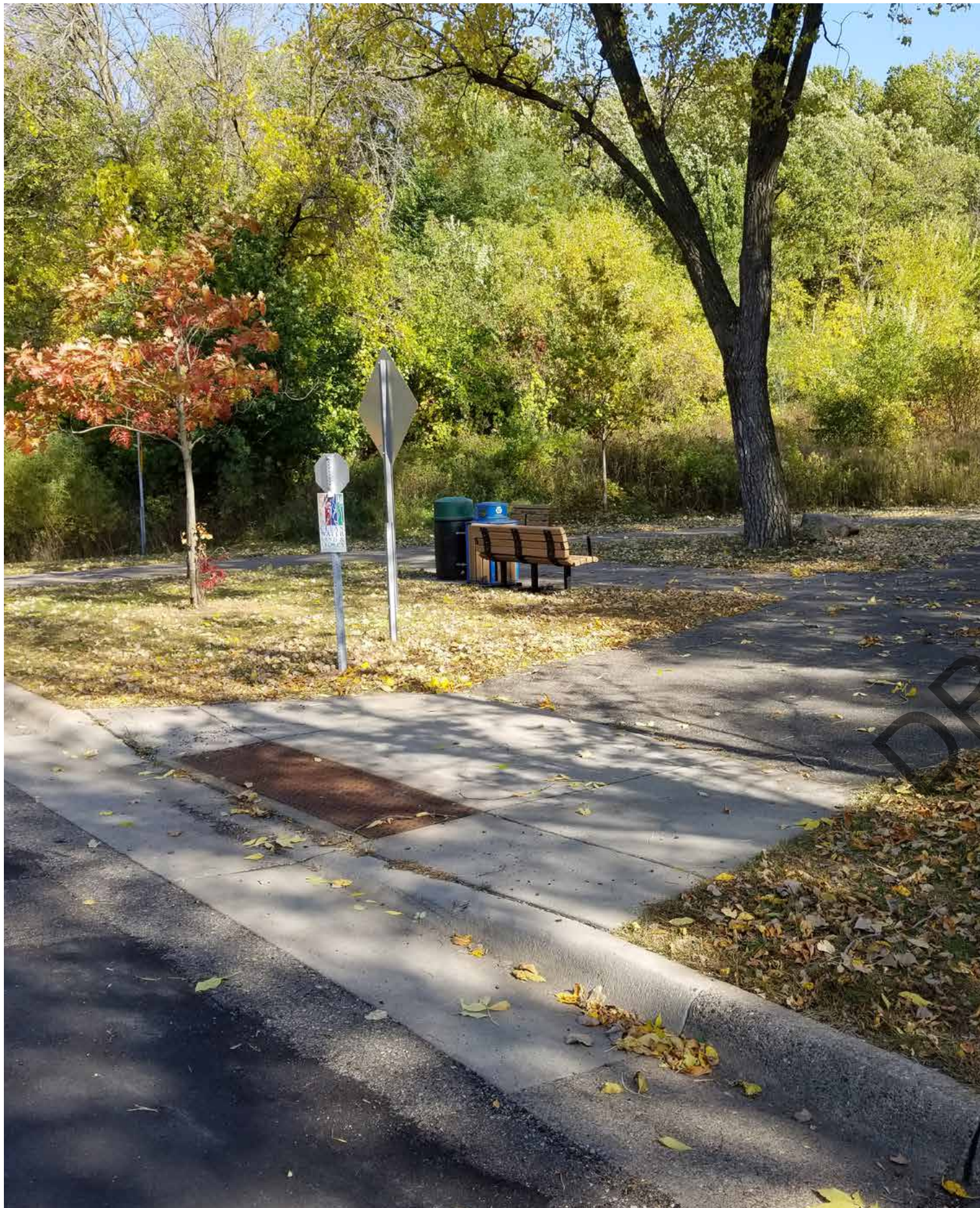
Figure 10: Mississippi River Trail Section D map

### Connections to other units

The Point Douglas Regional Trail (RT) connects to the trail along Lower Afton which is in the Afton Bluffs Regional Trail Search Corridor.

The trails south into Newport are in the Mississippi River RT Search Corridor and could provide a future connection between Point Douglas RT and Cottage Grove Ravine Regional Park.

Ramsey County is planning a boundary adjustment of Battle Creek Regional Park which would potentially provide numerous connection points with the Point Douglas RT, including at Fish Creek.



Segment 2: End of segment at intersection of Ramsey County trail

### 3. DEVELOPMENT CONCEPT

#### Overall Trail Development

Figure 11 (right) shows the overall project plan, separated into 5 segments based upon corridor characteristics including ROW width, existing trail segments, and phasing options. A consultant was hired during the master plan process to complete a corridor analysis, conduct preliminary engineering and develop a cost estimate to understand the feasibility of the trail alignments and scope of work. The trail alignment was then developed based upon 3 factors: 1) community input, 2) preliminary engineering, and, 3) existing site conditions. The result is an official Point Douglas trail alignment located on the east side of Hwy 61. The existing trail on the west side of Segment 1 is the Battle Creek/IMRP trail which is separate from the proposed Point Douglas Trail. Between Segment 2 and Segment 5, the Point Douglas trail will follow the west shoulder of the Point Douglas Road.



Segment 2: Beginning of segment at Battle Creek Regional Park

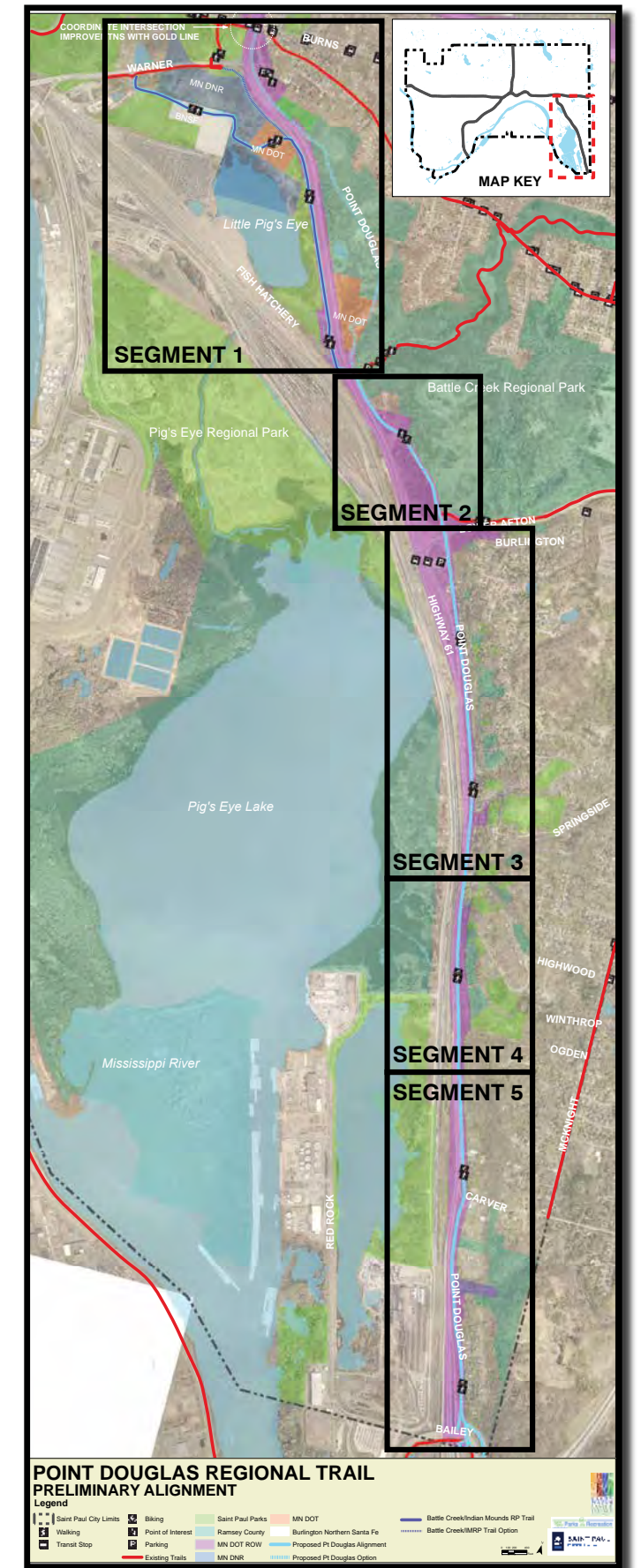


Figure 11: Overall Alignment Map



## Segment 1A & B: Burns Ave to Battle Creek Regional Park Trailhead

Segment 1 proposes three separated, off-street trails including two trail alignments on the west side of Hwy 61 and one alignment on the east side of Hwy 61. The 0.68 mile trail on the east of Hwy 61 is the official Point Douglas Trail alignment and utilizes MnDOT right of way. This alignment follows the old Point Douglas corridor (no longer visible) through deciduous tree cover. This alignment would separate trail users from Hwy 61 and provide a better trail experience through the deciduous forest. This trail alignment will require collaboration with MnDOT for future Burns Ave and Warner Rd intersection improvements as highlighted with the dash white circles on Figure 12. The estimated cost for this segment is \$1,100,000 and includes trail reconstruction, slope stabilization, retaining walls, wayfinding, and restoration. See Fig. 13 and 15 for trail location and elevation.

The primary alignment on the west side of Hwy 61 follows the existing Battle Creek/IMRP trail through MnDOT, BNSF Railroad, DNR properties, and MnDOT right of way along Hwy 61. This trail alignment would not be part of the Point Douglas Regional Trail because it is part of the Battle Creek/IMRP and the regional trail policy plan says trails cannot be redundant within a mile and a half. Improvements will include trail reconstruction, slope stabilization, retaining walls, way finding, and landscaping. The City has secured FY'19-20 Parks and Trails Legacy and Federal Highway Administration grants. The estimated cost for the work is \$2,771,000. A secondary alignment on the west side of Hwy 61 was recommended by the community, the Project Advisory Committee, and referenced in previous planning documents including the Great River Passage & Saint Paul Bike Plan. This alignment is a 0.3 mile spur trail along the southbound right of way of Hwy 61 in Segment 1A and it would not be part of the Point Douglas Regional Trail because it is part of the Battle Creek/IMRP. This alignment will provide a direct connection to Battle Creek/Indian Mounds Regional Park pedestrian overpass in lieu of the existing route which has a steep uphill segment along Warner Road. The estimated cost for this segment is \$700,000, and includes trail reconstruction, slope stabilization, retaining walls, wayfinding, and landscaping. See Figure 12 for Segment 1A alignment.



Figure 12: Segment 1A

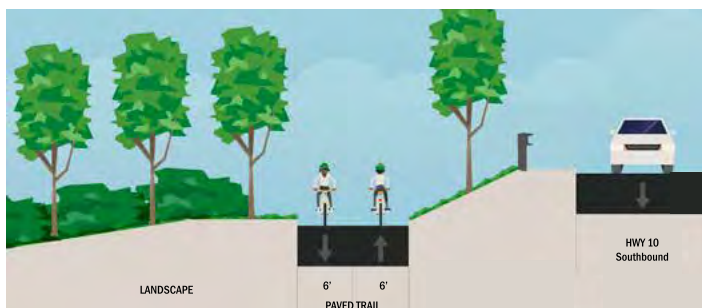


Figure 14: Segment 1A section on west side of Hwy 61.

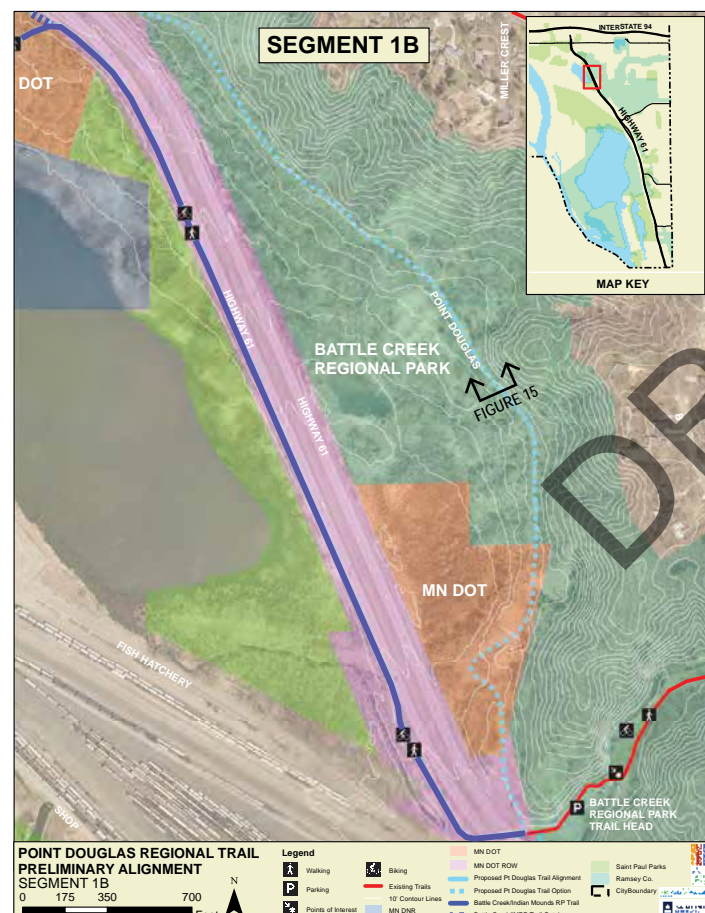


Figure 13: Segment 1B

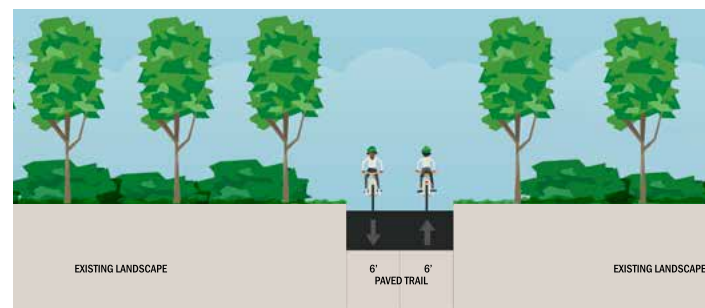


Figure 15: Segment 1B following historic Point Douglas Rd corridor through existing tree cover. Road is no longer visible.

## Segment 2: Battle Creek Reg Park Trailhead to Lower Afton Road

Segment 2 is a separated, off-street trail beginning at the Battle Creek Regional Park Trail Head. Steep grades south of the underpass and overhead utility poles will require curb and bike lane removal to achieve federal trail standards. Available road width of 43.5 feet will allow for construction of the trail while maintaining road function requirements. The City and County will continue collaboration that may transfer ownership and maintenance of the entire Battle Creek Entrance Road from the City to the County and include installation of a vehicle barrier gate 200 feet north of Lower Afton Road. The estimated cost for this segment is approximately \$470,000 and includes curb/road modification, trail construction, traffic signage, and restoration. Segment 2 terminates at Lower Afton Road and intersection improvements are required due to steep grades, poor sight-lines, high traffic speeds and traffic volumes. Future design phases will explore a combination of geometric roadway improvements, two stage pedestrian crossing, signals, and enhanced crossing treatments. The estimated cost for intersection improvements could range from \$100,000 - \$500,000 depending upon the future design.



Beginning of segment 2 at Battle Creek Regional Park trail head underpass



Beginning of segment 2 at Battle Creek Regional Park trail head looking south



Segment 2 looking south toward downtown St Paul

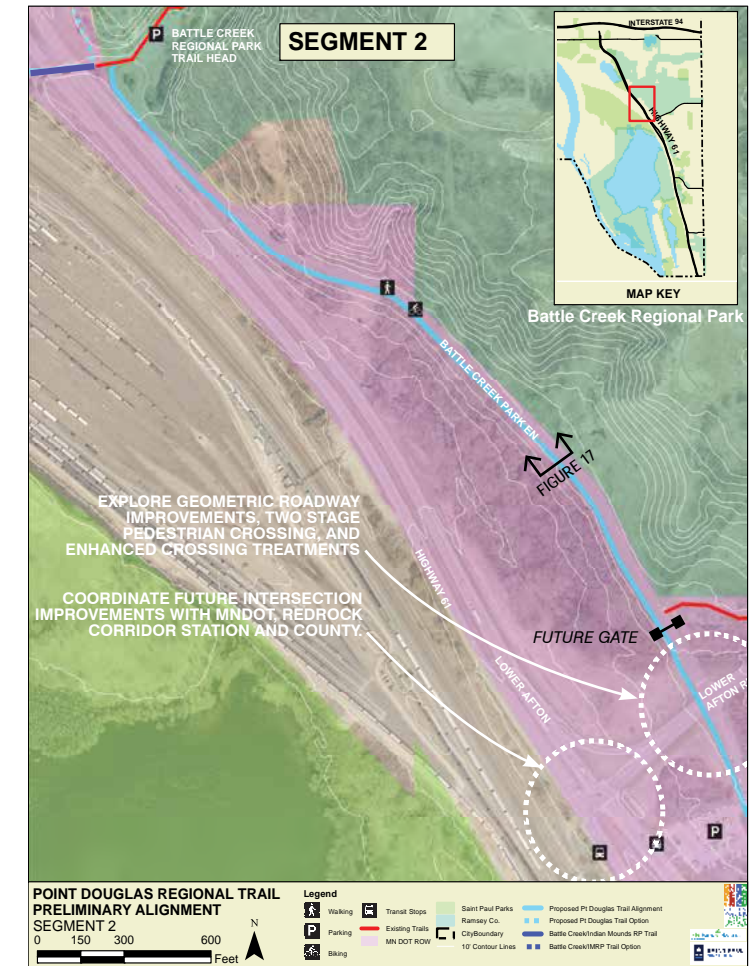


Figure 16: Segment 2 trail alignment map.

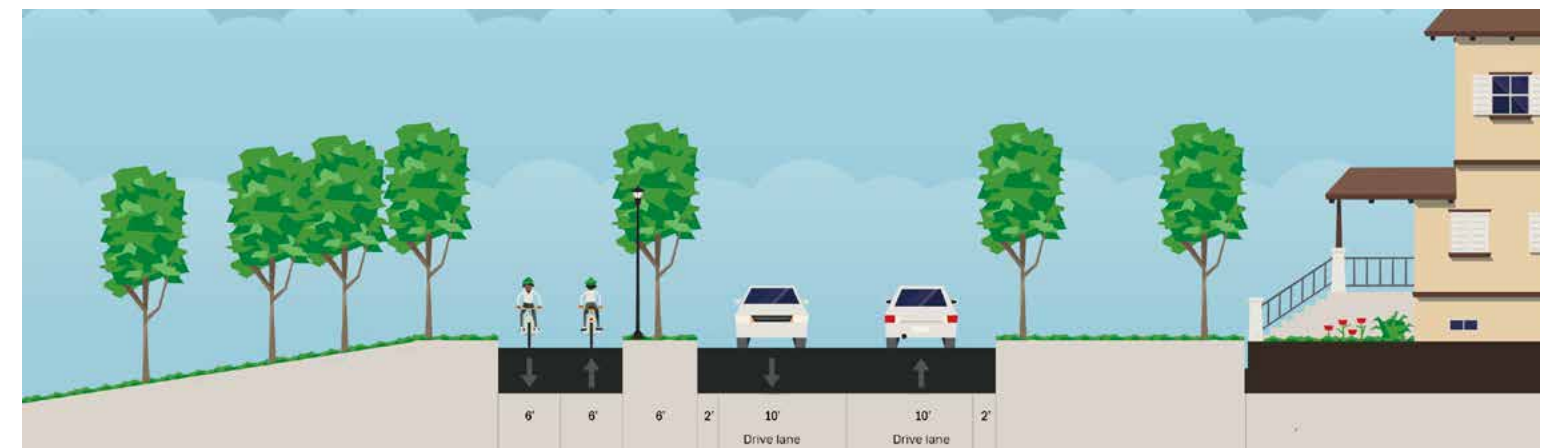


Figure 17: Segment 2 typical section.

### Segment 3A

Segment 3A is a separated, off-street trail located on the west side of Point Douglas Rd. The alignment on the west side of the road was based upon recommendations from the project advisory committee, the community engagement process, and from anticipated conflicts with utilities, parking, and residential driveways. The trail will utilize available ROW and it will be separated from vehicles by a boulevard, new curb, and tree plantings. Close collaboration between St. Paul Public Works, adjacent property owners, Metro Transit, and MnDOT will lead to a trail section, retaining wall and curb design that meets established trail standards and coexists with the functional needs of the roadway and hydrology. The estimated cost for this segment is \$1,024,000 and includes curb/road modification, trail construction, traffic signage, and restoration.

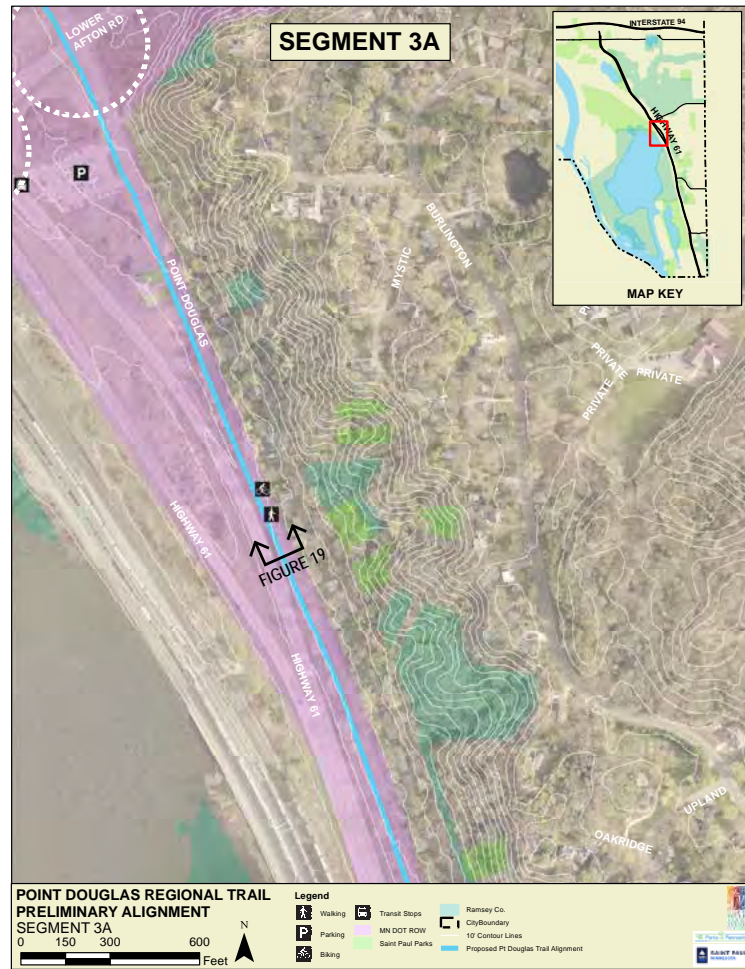


Figure 18: Segment 3A



Segment 3 looking north between Hwy 61 & Pt Douglas Rd



Figure 19: Segment 3A typical section.

### Segment 3B

Segment 3B continues as a separated, off-street trail located on the west side of Point Douglas and separated from vehicles by a boulevard, curb, and tree plantings. The MnDOT ROW between Hwy 61 and Point Douglas Road is adequate for a trail in Segment 3 until the ROW narrows between Howard Street and Highwood Ave. Due to the narrow ROW, consider a short- to mid-term solution, by using a portion of the MnDOT Hwy 61 northbound shoulder for a temporary grade separated facility. A variety of design exceptions may be considered including a temporary reduced trail width. The City's use of this land would be accomplished through a limited use permit with MnDOT.

A long term solution is to acquire private land between Howard Street and Highwood Ave, through purchase or easements. The estimated cost to built the long-term grade separate trail is \$1,327,000 and includes trail construction, wayfinding signage, land acquisition roadway realignment, and restoration. Exact acquisition limits will be determined during final design and continued collaboration is needed between St. Paul Public Works, adjacent property owners, and MnDOT to meet minimum trail standards and the functional needs of the roadway.



Point Douglas Rd at Highwood Ave section



Point Douglas Rd at Highwood Ave section

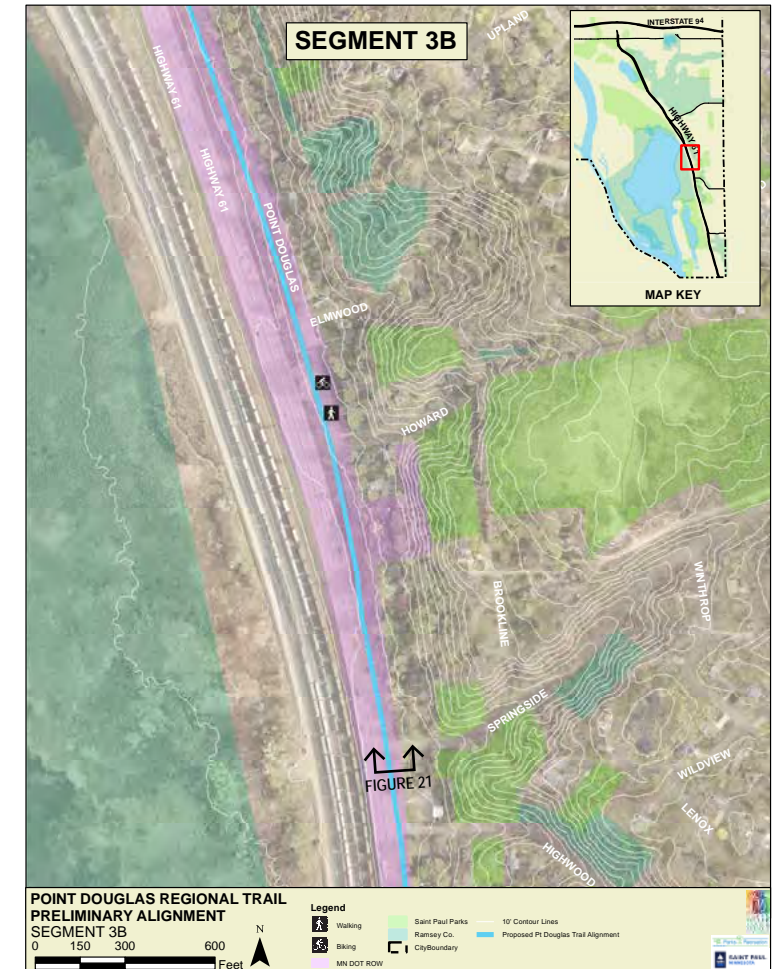


Figure 20: Segment 3B



Figure 22: Segment 3B grade separated trail along Point Douglas Rd between Highwood Ave and Howard Ave.

**Segment 4: Highwood Avenue to Cul-da-sac North of Carver Ave**

Segment 4 will utilize the existing protected, off-street trail between the Hwy 61 and the hillside. Due to the proximity to Hwy 61, the community engagement process recommended shifting the trail closer to the hillside to allow for more vehicle separation while not effecting the hydrologic system. Geophysical analysis will be required during the design phase to determine limits of bedrock to avoid effects to bluff. Coordination is needed with MnDOT to determine horizontal clear zones from the roadway edge. The estimated cost for this segment is \$578,000 and includes trail construction, wayfinding signage, and restoration.



Figure 23: Segment 4



End of Segment 4 looking south toward Carver Ave.



Segment 4 looking north. Notice existing 8'-0" trail.



Figure 24: Segment 4 typical section. 12'-0" trail to replace existing 8'-0" trail, new vegetation buffer & pedestrian lights.



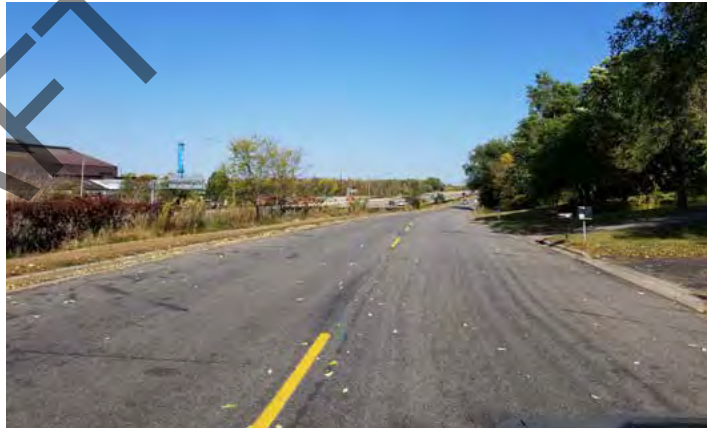
End of Segment 4 at cul-da-sac looking northwest.

**Segment 5A: Cul-da-sac North of Carver Ave to Fish Creek**

Segment 5 returns to the Point Douglas Rd right of way as a protected, off-street trail separate by a boulevard, curb, and tree plantings. In most cases, there is adequate right of way to install the trail without effecting the existing curb line until Stinchfield Street. The estimated cost for this segment is \$550,000 and includes trail construction, wayfinding signage, and restoration.



Point Douglas Rd at Carver Avenue



Point Douglas Rd north of Stinchfield Street.

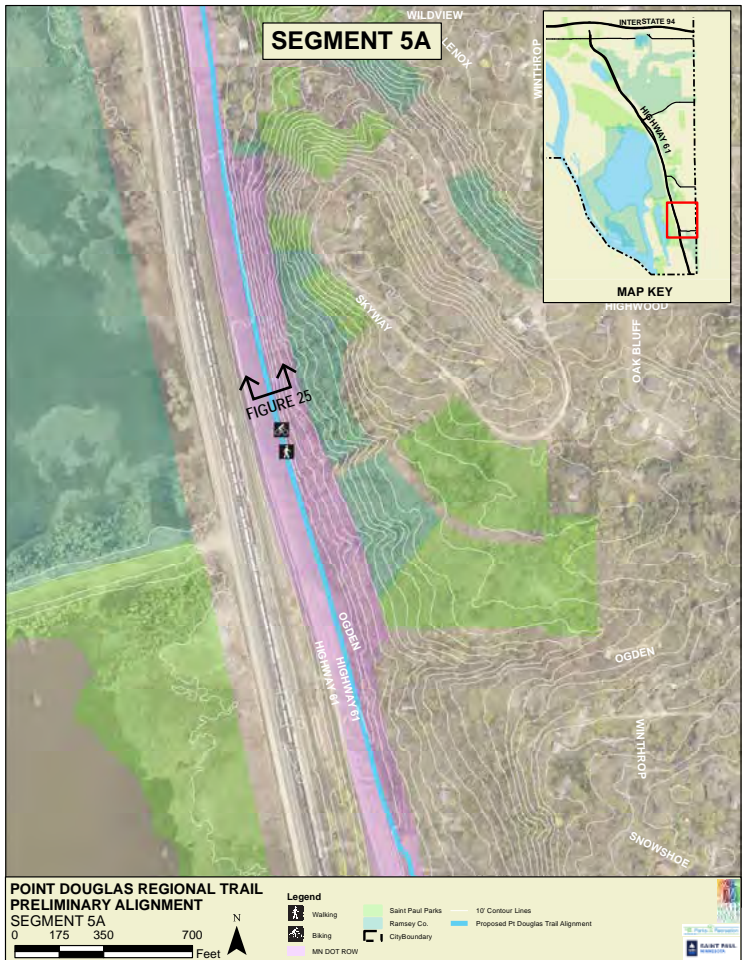


Figure 25: Segment 5A typical section

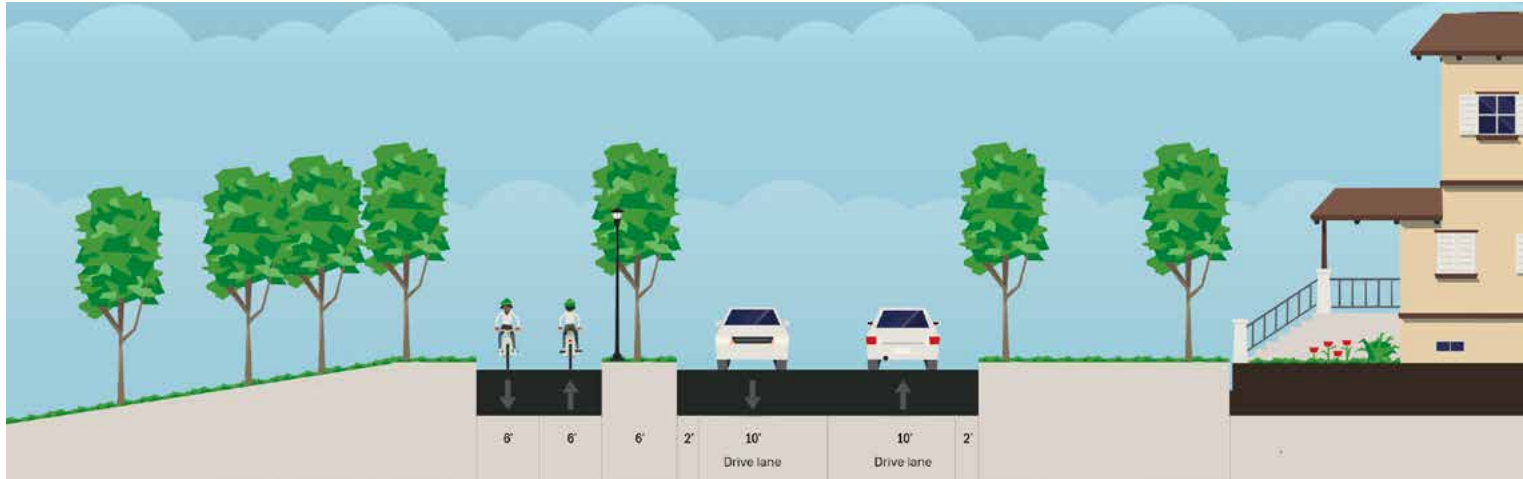


Figure 26: Segment 5 typical section

**Segment 5B: Fish Creek to Bailey Road**

Segment 5 continues on Point Douglas Rd right of way as a protected, off-street trail until Stinchfield Street where the roadway and available right of way narrows. This narrow section of the corridor will require a retaining wall on the west side of the trail and relocation of the western curb line to the east. The estimated cost of this segment is \$1,089,000 and includes trail construction, wayfinding signage, retaining wall, roadway realignment, and restoration. Collaboration is needed with St. Paul Public Works to meet federal trail standards and the functional needs of the roadway. Segment 5 terminates at Bailey Road with a variety of crossing options to Washington County. Explore a combination of geometric roadway improvements, two stage pedestrian crossing treatments and/or signalized crossings along Bailey Road from Hwy 61 to Interstate 494. Bailey Rd intersection improvements identified as an at grade crossing on the opinion of probable cost. (Figure 29)



Point Douglas Rd south of Stinchfield Street.

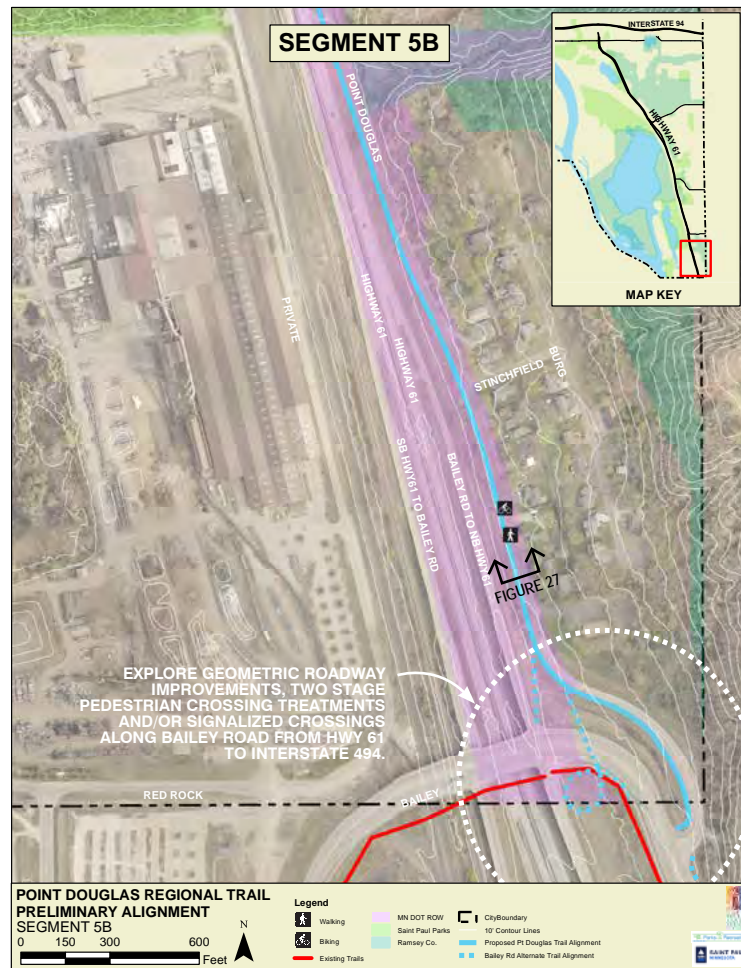


Figure 27: Segment 5B

SUMMARY	
SEGMENT	COST
SEGMENT 2	\$470,151.70
LOWER AFTON ROAD CROSSING CONCEPT 1 (BASE)	\$120,213.00
SEGMENT 3A	\$1,024,539.28
SEGMENT 3B CONCEPT 1 (BASE)	\$895,312.28
SEGMENT 4	\$578,605.65
SEGMENT 5A	\$549,085.25
SEGMENT 5B	\$1,089,280.75
BAILEY ROAD CONCEPT 1 (BASE)	\$209,351.35
Construction Costs	\$4,936,539.25
20% Contingency	\$987,307.85
20% Non-Construction Cost	\$1,184,769.42
<b>TOTAL PROJECT COST BASE COST</b>	<b>\$7,108,616.52</b>
ALTERNATES	COST
ADD ALTERNATE: LOWER AFTON ROAD CROSSING CONCEPT 2	\$510,272.75
ADD ALTERNATE: SEGMENT 3B CONCEPT 2	\$1,327,555.48
DEDUCT ALTERNATE: BAILEY ROAD CONCEPT 2	-\$244,265.18

Figure 29: Cost estimate by segment. Costs based upon 2021 pricing and does not account for inflation.



Figure 28: Segment 5B typical section south of Stinchfield St.



Segment 1: Looking north along Hwy 61. Aggregate base in place as a temporary measure where the slope failed due to erosion.

## 4. CONFLICTS

### All Segments: Utilities

Utilities along Point Douglas Road are within the ROW and typically located behind the curb. In segments without curb, the ROW becomes less visible and a survey will be required before the design phase. Most buried utilities will be avoided because of the proposed shallow 12" excavation depth for trails. Some utilities such as water mains, storm and sanitary sewers will need to be relocated if the curb line is moved. Continued coordination with St. Paul Public Works and private utility owners is needed.

### Segment 1: Slope Failure

The trail along southbound Hwy 61 was recently reconstructed due to slope failure at the embankment slope. A consultant was hired to perform geotechnical engineering review and to assist in developing remediation solutions. Subsurface drainage was determined to be the source of the slope instability and compacted free-draining granular fill was recommended for the embankment side slope. Replacement of the existing trail or construction of the new spur trail to Warner/Hwy 61 will require geotechnical analysis and structural design. See top right image for slope failure and image on page 22 for slope correction. Parks and Recreation has already secured funding to complete this work. See page 14.

### Segment 3A: Narrow Right of Way

Midway through Segment 3, the shoulder on the west side of Point Douglas narrows because of a swale between Hwy 61 and Point Douglas Road. A retaining wall will be required to accommodate a trail that meets MnDOT standards. See center right image for narrow right of way and slope.

### Segment 3B: Narrow Right of Way

MnDOT right of way between Hwy 61 and Point Douglas Road is adequate throughout Segment 3 until Springside Drive and Highwood Ave. Concrete jersey barriers separate Hwy 61 from Point Douglas Rd during this two block segment. The proposed trail alignment located on the west side of Point Douglas will require an easement on private land to relocate the roadway to the east. On going maintenance will need to be considered including snow removal and storage during the winter months. See bottom right image for existing ROW conditions.

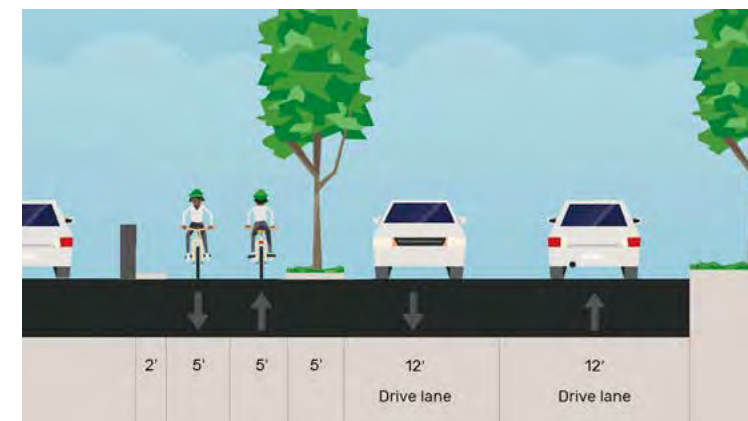


Figure 30: Segment 3B narrow right of way between Hwy 61 & Point Douglas.



Segment 1 slope failure along southbound Hwy 61.



Segment 3A narrow shoulder and overhead utilities.



Segment 3B narrow right of way between Hwy 61 & Pt Douglas.

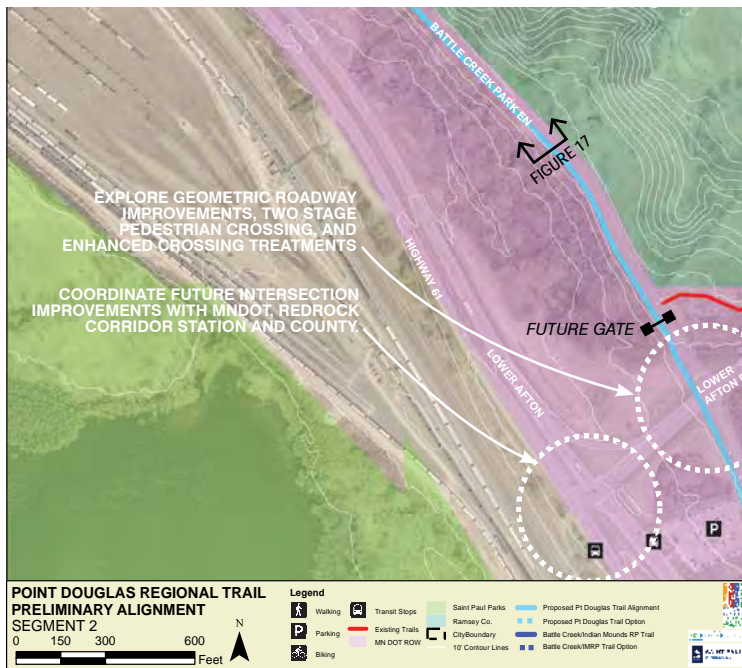


Figure 31: Segment 2 Lower Afton Rd intersection crossing.

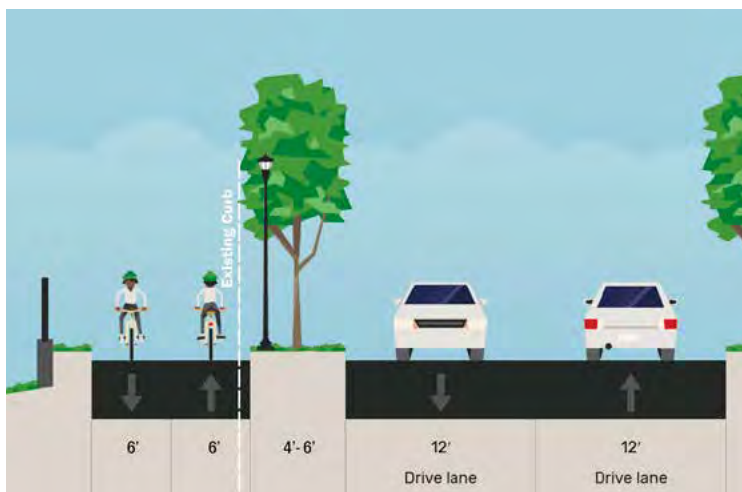


Figure 32: Segment 5 narrow right of way and retaining wall needs.

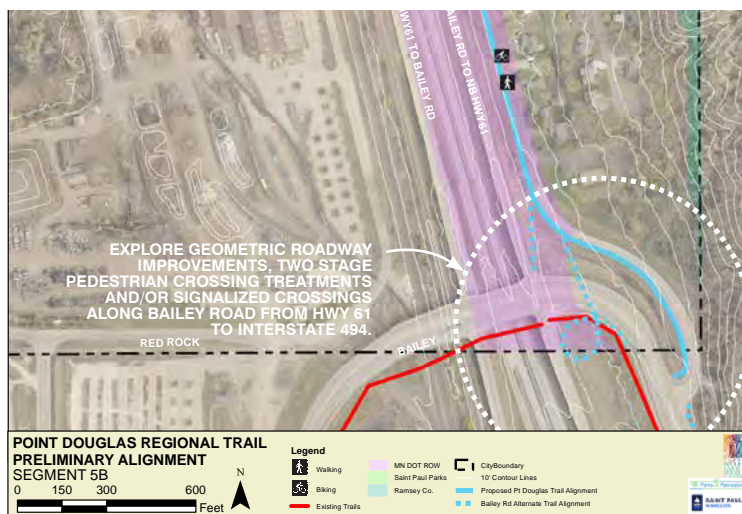


Figure 33: Segment 5 Bailey Road intersection crossing.

### Segment 2: Lower Afton Road Intersection Crossing

Lower Afton Road is under Ramsey County jurisdiction. The intersection at Point Douglas Rd is a pedestrian and cyclist barrier because of high traffic speeds (45 MPH), high volumes (10,000 ADT), steep grades from the east, obstructed sight-lines, proximity to Hwy 61, and crossing length. During the design process, this intersection was identified as one of the biggest barriers to use. Explore geometric improvements, traffic signal revisions or installations, two stage crossing, enhanced crossing treatments and/or a controlled intersection. Continued coordination is needed with MnDOT and Ramsey County.

### Segment 5: Narrow Right of Way

Sufficient right of way begins to narrow along Segment 5 south of Stinchfield Ave because of an existing drainage feature on the west side of the road. This narrow section of the corridor will require a retaining wall on the west side of the trail, relocating utilities, relocating the curb to the east, and a combination of parking restrictions and/or new parking bump-ins along the east curb. Continued collaboration is needed with St. Paul Public Works to meet federal trail standards, the functional needs of the roadway and functional needs of the stormwater system (swale). Finally, public engagement recommended to keep existing trees on the west side of Point Douglas to reduce industrial and vehicle pollution. A tree inventory, preservation and removal plan will be required during the design phase to determine tree loss and replacements due to retaining wall installation.

### Segment 5: Bailey Road Intersection Crossing

Bailey Road is under jurisdiction of both MnDOT and Washington County. Similar to Lower Afton Rd, the intersection at Bailey/Point Douglas is a pedestrian and cyclist barrier because of high traffic speeds (40 MPH), high volumes (15,000 ADT), steep grades from the east increasing vehicle speeds, obstructed sight-lines, and crossing length. Explore geometric improvements, traffic signal revisions or installations, two stage crossing, enhanced crossing treatments and/or an underpass. Continued coordination is needed with MnDOT and Washington County. If the underpass is determined to be the long-term solution, the project may require a phased approach that would include Phase I: At grade crossing, and then Phase II: Underpass crossing.

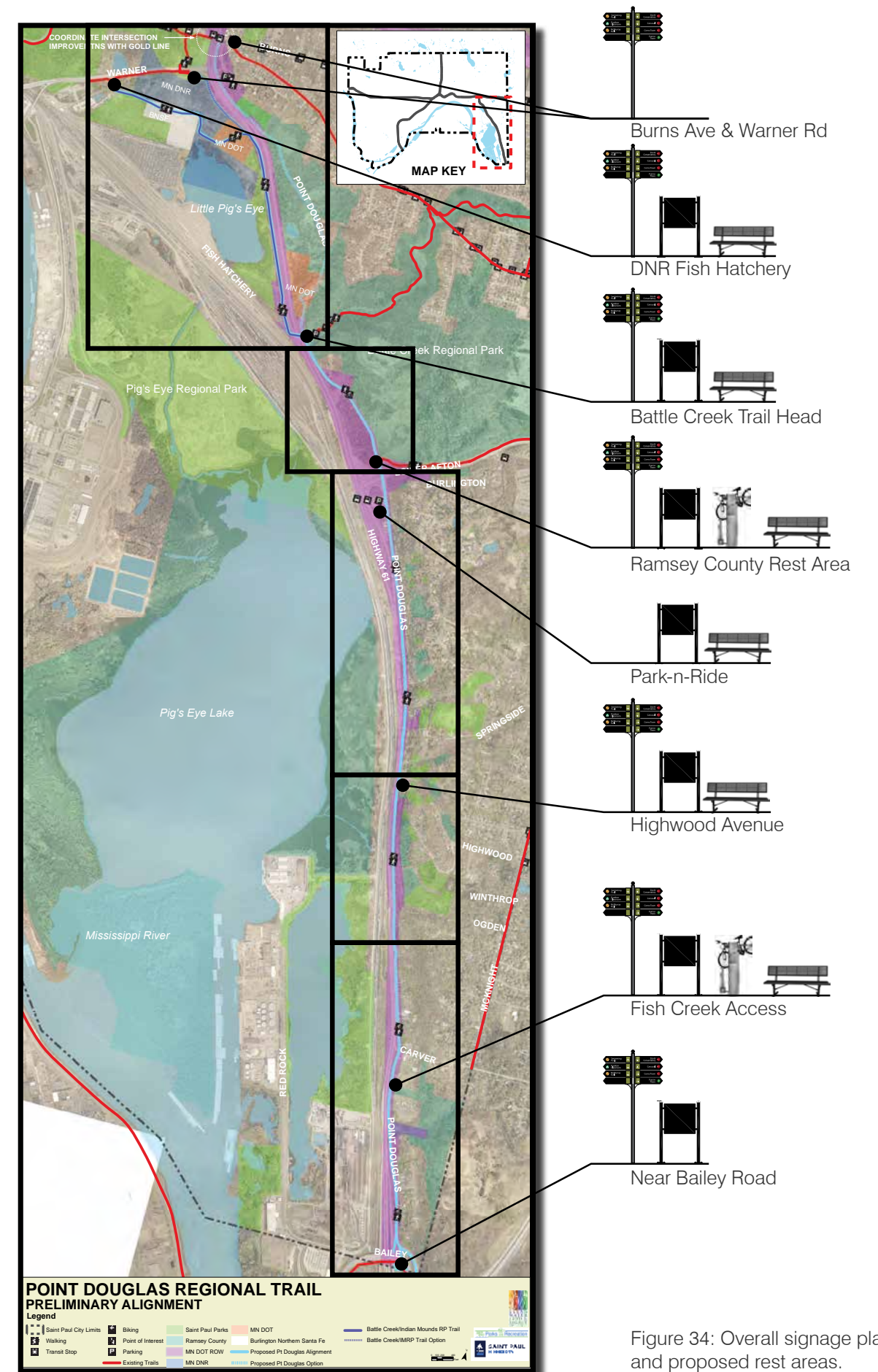


Figure 34: Overall signage plan and proposed rest areas.

# 5. PUBLIC SERVICES

Based upon the survey results, it was suggested that future trail amenities would encouraged more frequent trail use. The project proposed rest areas and amenities strategically spaced every 1/2 - 1 mile along corridor. The comfort amenities include features such as shade, benches, drinking fountains, fix-it stations, lighting and signs. The rest areas and associated features will be installed as part of the first phase of construction. Rest area locations were determined based upon available right of way, existing shade, and convenience. We also propose to utilized the existing infrastructure at the Battle Creek Trailhead and Lower Afton rest area. Further coordination is needed with Ramsey County, MnDOT, and Washington County during the design process. See Figure 34 for locations of the individual features.

## Wayfinding/Directional Signs/Kiosk

The Point Douglas Regional Trail will include wayfinding and interpretive signage from the City of Saint Paul Parks and Recreation comprehensive signage plan. By adhering to established standards, the signs will be consistent with visual identity elements within each local jurisdiction and also provide the functional aspects that trail users can rely on for safety and wayfinding assistance. Location maps will be installed at key decision points to provide information about the trail and its connections to other City and regional facilities. The location maps (\$2,500/sign) or kiosk (\$20,000) will be identified during the design process and the following locations are recommended:

- Warner Road and Fish Hatchery Rd
- Battle Creek Regional Park Trail Head
- At the border of Washington County and City of St Paul
- Metro Transit Park and Ride

Other directional signage (\$4,500/sign) will be located at key decision points along the corridor:

- Burns Ave & Hwy 61
- Warner Road pedestrian overpass
- Warner Road and Fish Hatchery Rd
- Battle Creek Regional Park Trail Head
- Battle Creek Entrance Rd at Ramsey County trail
- Carver Ave and Point Douglas Rd
- At the border of Washington County and City of St Paul

Trail users will be guided by trail use designation signs (\$1,500/ sign) placed every quarter to half mile. See Figure 34 for map of overall signage plan. A final detailed signage plan will be developed during the design process.

## Interpretive sign

Opportunities for interpretation will be considered at several locations along the trail corridor. The interpretive signs (\$2,500/ sign) will be identified during the design process and initially the following locations are recommended:

- Warner Road and Fish Hatchery Rd
- Battle Creek Regional Park Trail Head
- Metro Transit Park and Ride
- Lower Afton Road and Battle Creek Entrance Rd (at Ramsey County Trail)
- At the border of Washington County and City of St Paul

Final interpretive themes will be selected but preliminary themes include: Historic Dakota trail, Somali immigration, fur trading route and military route, Mississippi River Trail Corridor, Railroad History, St. Paul East Side History

## Bike Repair/ Bottle Filler

Currently, no drinking fountains are available along the 4.5 mile corridor due to limited water services. Two locations within proximity of a water main are identified at the Ramsey County rest area north of Lower Afton Rd and the Fish Creek Access. Explore a water tap at NW quadrant of Lower Afton & Pt Douglas intersection and extend water line 250' to Ramsey County rest area to utilize existing seating and shade. Also, explore water tap near Fish Creek access and incorporate repair station with drinking fountains. Continued coordination with Ramsey County is needed.



## Pedestrian Lighting

Based upon the survey results, pedestrian scale lighting is proposed to increase safety, visibility, and site lines through the corridor. Consistent lighting will also reinforce the character of the trail and reinforce a neighborhood identity as suggested in the Saint Paul Street Design Manual. The amount of illumination will be determined in future design phases and roadway lighting can also be used in combination with pedestrian scale lighting to enhance security, safety at intersections or decision points. Parks and Recreation would be responsible for ownership and maintenance of pedestrian scale lighting.

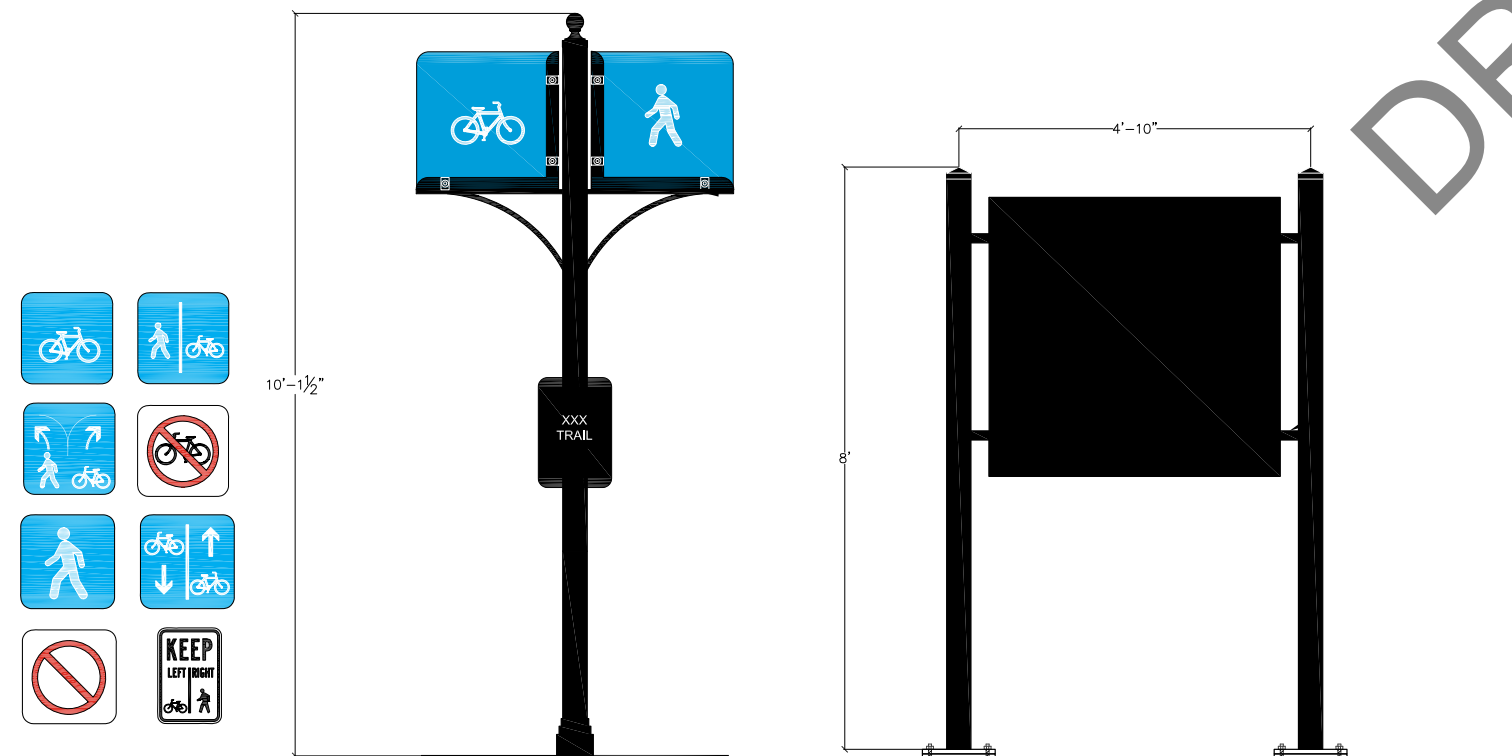
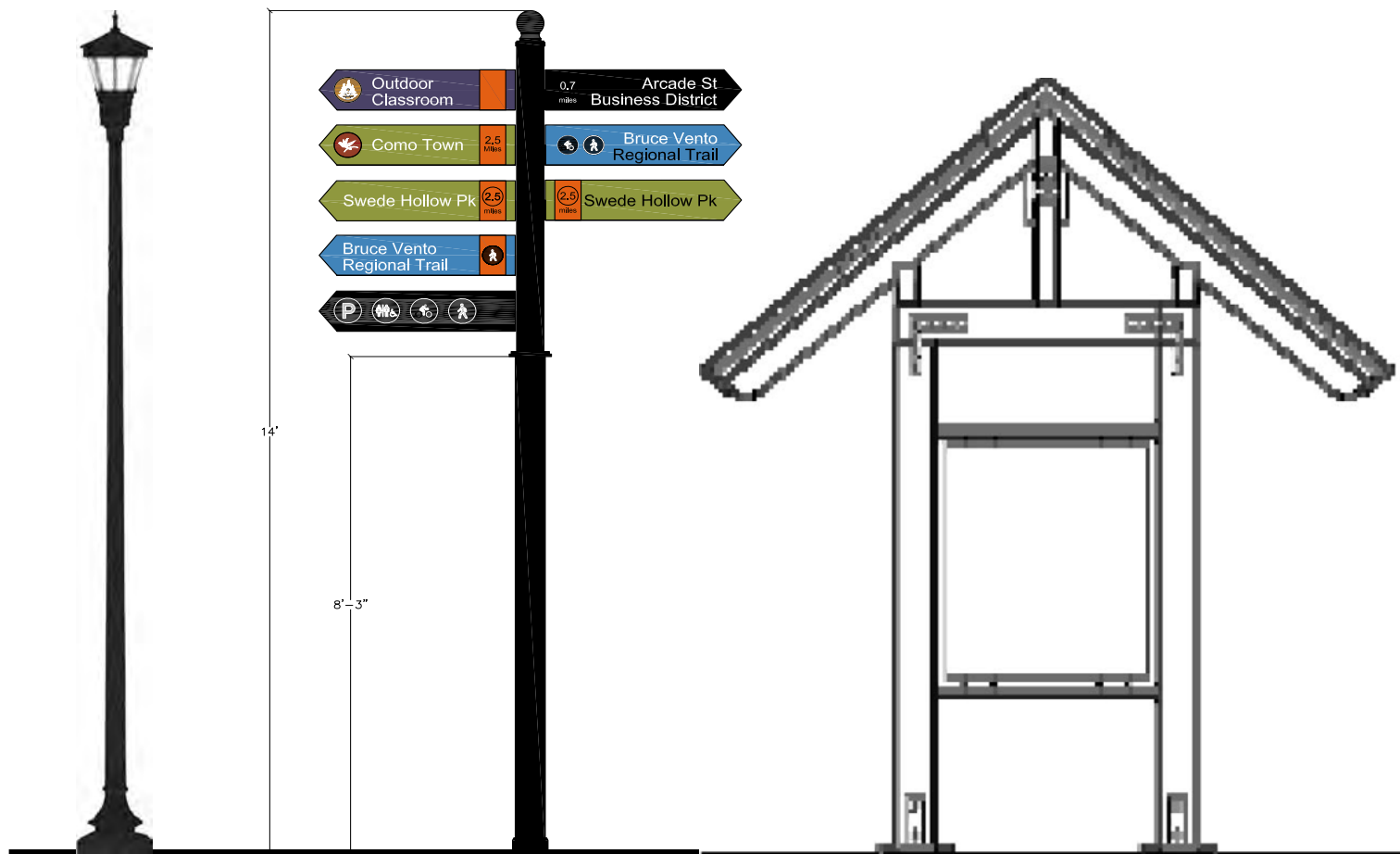


Figure 35: (Clock-wise) City of Saint Paul typical pedestrian light (\$9,000 per light), directional sign (\$4,500 per sign), 4-sided kiosk (\$20,000), trail use designation sign (\$1,500 per sign), and interpretive/ location map sign (\$2,500)

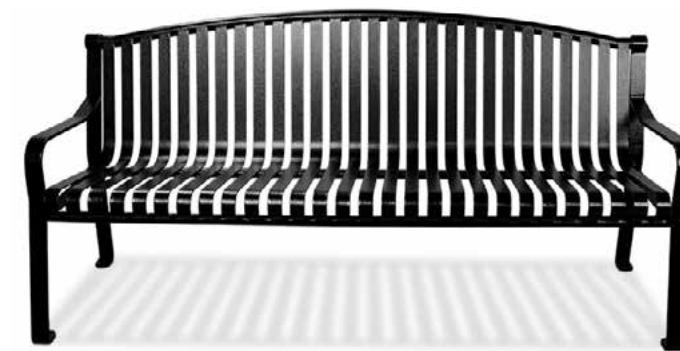


Figure 36: City of Saint Paul bench (\$2,000) and repair/water fountain (\$6,000).



## 6. OPERATIONS

All regional trails within St. Paul are included in the park operations and maintenance budget. This includes annual assessment of the trail conditions, repair and renovation of the trail components as needed. The completed Point Douglas Regional Trail will be included in the normal operations and maintenance cycle funded in part with Regional Park maintenance funds.

### Snow Plowing

Parks maintenance departments will add this trail to the list of other regional bicycle and pedestrian trails that are routinely plowed. As a component in the City and County's non-motorized transportation planning, snow plowing would be performed as needed following measurable snow falls. Further coordination is needed during the design phase to account for climate change and snow storage areas.

### Mowing and Tree Care

Mowing adjacent turf areas will be done routinely along with other landscape maintenance activities including tree pruning. Native planting areas will be maintained using the most current accepted and sustainable practices. In areas where it is feasible, there may be periodic burning of native grass plantings to reduce the presence of invasive plant species. Consider a tree inventory, preservation and removal plan during the design phase to determine tree loss and replacements.

### Maintenance Costs\*

Task	Annual Cost
Plow snow (<5", 2 passes)	\$7,646
Broom winter (2 passes)	\$4,683
Sand/salt path	\$1,744
Mow grass (6' both sides)	\$4,795
Broom summer (2 passes)	\$2,341
Pick litter	\$3,267
Empty trash	\$5,637
Brush back	\$1,101
Site Furnishings	\$2,500
Patching	\$3,051
<b>Annual Total</b>	<b>\$36,756</b>



\*Note: The trail costs on the left are based on the 2021 operation and maintenance costs for a typical paved section of a similar trail design.

## 7. PARTNER ENGAGEMENT

The following organizations were involved in the development of the master plan and there were no major concerns or opposition. The partners valued the need to improve the existing corridor.

### City of Saint Paul

Parks and Recreation and Public Works Departments collaborated on the future improvements and it was widely agreed to continue discussions to meet federal trail standards, functional needs of the roadway, and maintenance responsibilities.

### DNR, BNSF, MnDOT

The existing trail alignment was constructed on both public and privately owned lands. The city is currently in the process of renewing or securing limited use permits from each landowner. In some cases, a limited use permit cannot be executed until design plans can be submitted and on-going collaboration is needed.

### Ramsey County

Several agency meetings were held with Washington and Ramsey County to coordinate bicycle and pedestrian connections to multiple neighborhoods and through intersection crossings. It was agreed by all agencies that continued collaboration is needed during the design process and trail completion will provide a regional and national connection between Saint Paul and surrounding municipalities.

Ramsey County also conducted a multi-year community input process during the Battle Creek Master Plan and identified future trail connections to the Point Douglas Trail. The City and County will continue collaboration that may transfer ownership and maintenance of the entire Battle Creek Entrance Road including a vehicle barrier gate 200 feet north of Lower Afton Road.

(Note: Washington County was aware of the process and provided review and comment of the draft master plan document.)



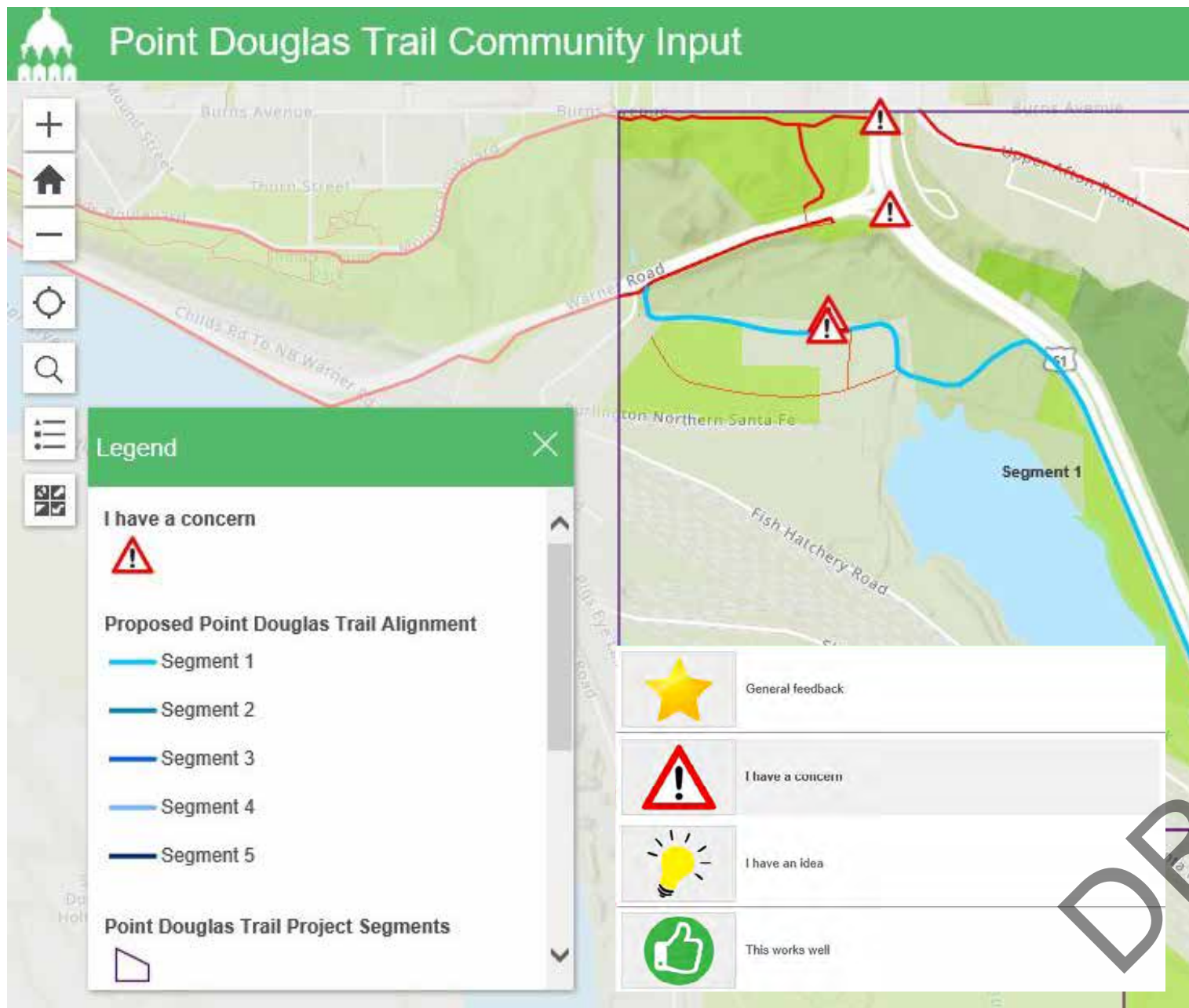


Figure 37: Opportunities and constraints interpretive map

Q8 What restricts your use of the bikeway and/or multi-use trails along Point Douglas?

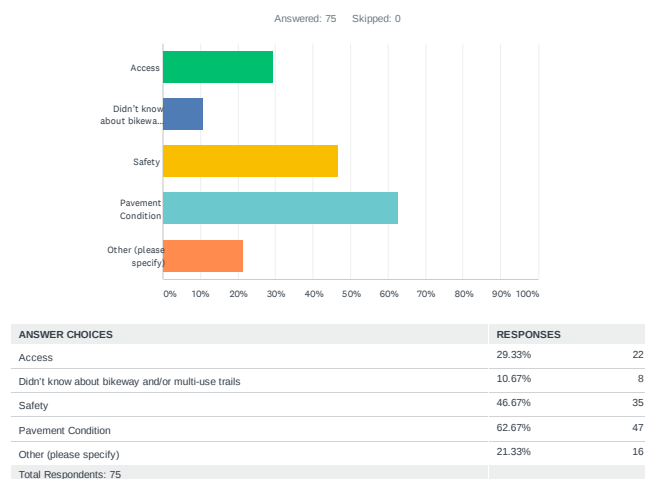


Figure 38: Public survey question #8.

Q9 If you answered safety for question 8, please specify why:

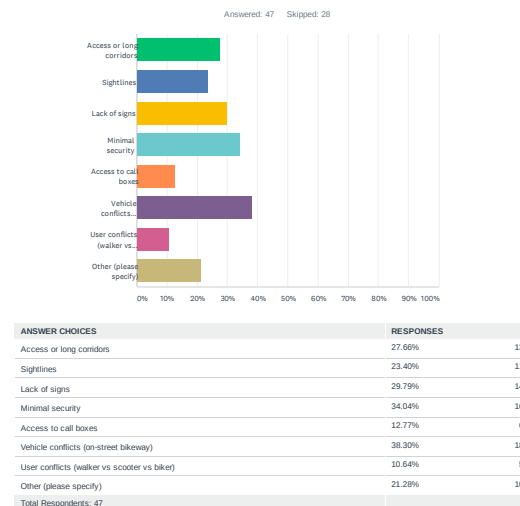


Figure 39: Public survey question #9.

## 8. PUBLIC ENGAGEMENT PARTICIPATION

### Great River Passage Public Engagement

In 2014, the City of Saint Paul adopted a comprehensive master plan called the Great River Passage for all 17 miles of riverfront parks and trails along the Mississippi River Corridor. Several public planning charrettes were held and a public task force was convened to represent planning districts throughout the city. One chapter is dedicated to improving and implementing better connectivity to the river and proposed trails on east side of St. Paul (District 1 and Ward 7), including the Point Douglas Regional Trail (See Appendix for plans and public process). The following are goals and objectives identified during the public planning process:

- “Continue to work with multiple jurisdictions to complete an interconnected regional plan for the Mississippi National River and Recreation Area (MNRRA), Mississippi River Trail (MRT), and Ramsey and Dakota County greenway systems.”
- “Place priority on completing bikeway segments that link to existing facilities in the citywide bicycle system, as well as projects that are programmed for near term improvements in the Transportation Chapter of the Comprehensive Plan and the Bike Walk Central Corridor Action Plan”
- “Adopt a goal to complete continuous corridors of travel that are at least 2.5 miles in length – the national average bike commuter trip distance. Focusing on completing projects that contribute to a primary system of longer continuous corridors will serve multiple neighborhoods and contribute to an overall increase in levels of biking citywide.”
- “Calm vehicular traffic and implement high-visibility at-grade crossings where multi modal park access streets intersect with major roadways. Add signals where warranted. Ensure all crossings meet ADA requirements. Construct new bicycle/pedestrian overpasses and underpasses in key locations to provide connectivity to neighborhoods and address gaps in the trail and bikeway system. Utilize pedestrian and bicycle overpass and underpass structures when necessary to overcome major access barriers”
- “Regional trails serve both recreation and transportation needs of the city connecting it to the larger state and regional trail systems. Complete the network by providing a continuous off-road trail on both sides of the river that connects Minneapolis and Saint Paul. Regional trails accommodate a broad range of users, including recreational and commuter bicyclists, walkers, joggers, in-line skaters, cross-country skiers and race tour participants.”
- “Highway 61 needs grade separated ped/bike crossing”

### Point Douglas Regional Trail Public Engagement

The City of Saint Paul kickoff community engagement in March 2020 with a survey and interactive map. The project was delayed for 6 months due to the pandemic and community engagement resumed in October 2020 with two virtual presentations (1. Opportunities & Constraints, 2. Preliminary Trail Alignment), two virtual focus group meetings, a door-to-door flyer, and

posting on social media sites. A design advisory committee was also convened to represent residents, local stakeholders, District 1 and Ward 7. The following are goals and objectives identified during the public planning process:

- Maintenance: Trail must accommodate winter snow removal.
- Safety: Improve intersection crossings at Warner, Lower Afton, Highwood, and Bailey roads.
- Safety/Security: Improve safety and security with lighting.
- Alignment: Trail corridor should be located on west side of Point Douglas Road versus east side.
- Signage: Improve wayfinding signs to major destinations and make local connections.

The trail alignment and master plan document was presented to multiple boards for approval, including:

- Southeast Community Organization (District 1)
- Saint Paul Transportation Commission
- Parks and Recreation Commission
- Saint Paul City Council

See Appendix for letters of support.

### Saint Paul Bicycle Plan Public Involvement

In 2014, the City of Saint Paul conducted four open house events to receive comments from the public and the district councils for the Saint Paul Bikeways Plan. The following are major themes or comments directly related to the Point Douglas Road corridor:

Bike Plan Major Theme:

- Develop better bicycle facilities to and through the East Side
- Facilitate / prioritize safe bicycle access across physical barriers - Railroad corridors/trenches, I-94 and I-35E, and major roadways.

District 1 Comment:

- “In conjunction with these trail connections to the riverfront, the Mississippi River Trail from which these connections would be accessed should be made safer and more attractive, particularly along the portions that exist in-road on Point Douglas Rd South.”
- “This bikeway is a regional trail and the primary north-south route used by residents for the southeast corner of Saint Paul. Its connection to the Sam Morgan Trail allows the flattest, most direct route into downtown. The biggest concern with this bikeway is the persistent problem with potholes between Lower Afton Rd and Highwood Ave that make bicycling in this area treacherous. Greater attention would need to be paid to maintaining the roadway if no separated facilities are implemented, particularly if sharrows or other pavement treatments are introduced. Additionally, the off-street path extending south from Highwood Ave is rarely cleared of snow in the winter which closes this vital bikeway for several months each year. Snow removal should be incorporated into maintenance activities to keep this bikeway open.”

# District 1

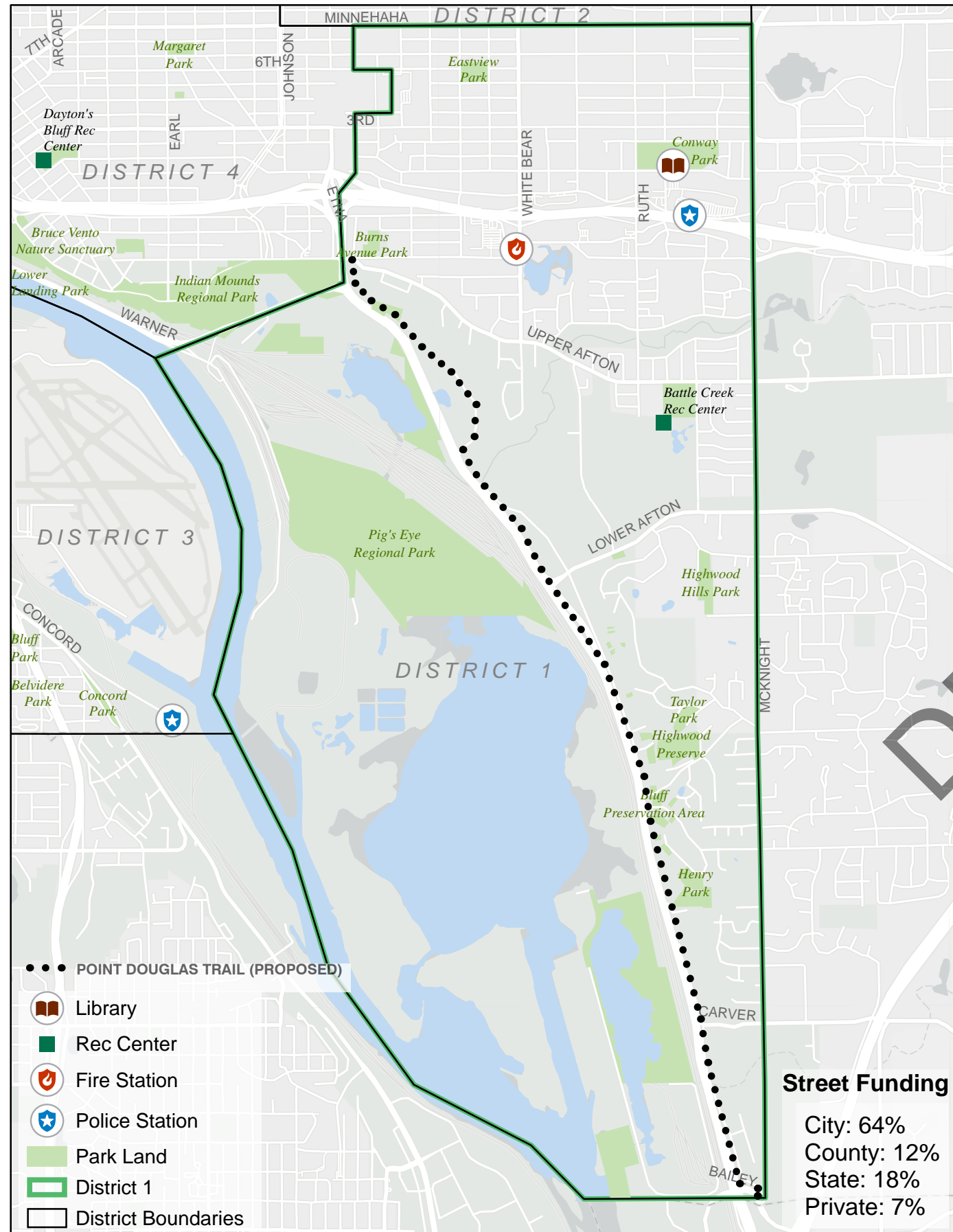


Figure 40: District 1 map

# 9. EQUITY ANALYSIS

## 1. Project Data

**a. Scope: What are the boundaries and demographics of the public engagement area? Please consider neighborhoods adjacent to the park or trail, travel sheds, and agency/regional boundaries.**

The proposed Point Douglas Trail will connect the communities of District 1 (Southeast Community Organization) to local amenities, downtown, and Washington County. See Figure 40 for District 1 boundary map and proposed trail alignment.

**b. Context: What is known about future stakeholders, underserved populations, and how the region's history created present-day inequitable outcomes?**

According to District 1's Equity Plan, 1 in 10 people were a person of color in 1990. Today, 6 in 10 people are people of color and this cultural and racial diversity is expected to increase. In addition, the City of Saint Paul's 2040 Comprehensive Plan, says District 1 has some of the highest percentages of children and people of color. Identified in the comprehensive plan is a social equity priority to reduce barriers to Parks and Recreation facilities and programming including those caused by financial, physical, language and perception issues. The following engagement process begins to identify ways to reduce those barriers and involve the community. See Fig. 41 for District 1 demographics.

## 2. Public Engagement and participation

**a. Participants: Which stakeholders discussed in 1b contributed to the planning effort?**

The project planning team identified stakeholder groups that could benefit from the trail and used a survey determined what prevents them from using the regional trail corridor. Initial outreach from homeowners immediately adjacent to the trail corridor consisted of responses from middle aged people who self-identify as white or caucasian. As a result, the project planning team extended the community engagement process to expand project awareness and to reach out to other groups that more accurately reflect the District's demographics. A new approach was developed by customizing a community engagement plan for the Somali community (Horn of Africa Community), teens (St. Paul Youth Commission) and students.

**b. Engagement: What engagement, outreach, and communication was conducted for stakeholders described in 2a?**

The level of engagement was to "Involve" as identified by the International Association for Public Participation Spectrum. This allowed participants to comment on trail alignments and amenities. Engagement opportunities consisted of physical mailings to residents immediately adjacent to the trail, pop-up meetings at public spaces in the community (trailheads & events) website updates, e-blasts, virtual meetings, and virtual presentations.

**c. Public Participation: What did you learn from the engagement conducted in 2b?**

The advice we received during community engagement is summarized the by the following stakeholder groups:

### Somali Community

One of the highest housing densities in District 1 also corresponded to the highest percentages of children and people of color. The project planning team reached out to the Horn of Africa Community and local businesses. We learned that the Somali community primarily communicates verbally compared to electronic means such as email, Facebook or web pages. In coordination with the community group and local businesses, the project team distributed surveys door-to-door to known Somali homes and businesses. The survey was translated to Somali and the community leaders assisted with translation services (if needed). Survey responses revealed that even though the trail corridor is adjacent to many families of color, many people didn't know about the trail. The community engagement process itself began to solve an unknown barrier which was the trail identity itself. Responses also suggested future trail promotion, programming and multilingual information is needed to encourage trail use, trail ownership, and to celebrate a share amenity (grand opening).

### Saint Paul Youth Commission

The Saint Paul Youth Commission consists of a diverse group of 10-12 youth between the grades of 9 through 12. The project team reached out to the Youth Commission to receive feedback about the proposed trail and to receive recommendations for public outreach. Specifically, the Youth Commission was asked to provide creative ways to engage students since the initial survey results consisted of middle age white or caucasian respondents. The Commission recommended the project team distribute an electronic survey to the nearby Harding High School. The survey responses more accurately reflected the District 1 demographics. A majority of the high school respondents said the lack of trail identity was the one of the biggest barrier to use. Once again many people did not know about the existing trail. The results also suggested that site amenities such as benches, signage, and drinking fountains would entice them to use the trail.

### District 1 Demographics

Race & Ethnicity (2015-2019)		
White	10,379	43.7%
Of Color	13,378	56.3%
Black or African American alone	6,060	25.5%
American Indian and Alaskan Native alone	suppressed	
Asian or Pacific Islander alone	5,326	22.4%
Other alone	suppressed	
Two or more races alone	1,026	4.3%
Hispanic or Latino	2,085	8.8%

Figure 41: District 1 Demographics

### 3. Evaluation Summary

#### a. Transparency How did the public participation from 2c impact the decisions and policies made?

Feedback received guided the development of the master plan and reinforced the need of the community to make the trail more safe, accessible, and accommodating. The following are recommendations from the community by theme:

**Community:** Promote the proposed trail alignment and organize a grand opening to celebrate a shared public amenity.

**Community:** Provide multilingual information (signs, maps) and provide interpretation of underrepresented groups (Dakota, Somali)

**Infrastructure:** Increase safety by improving lighting, trail surfacing, and separation from vehicle traffic.

**Infrastructure:** Increase access by improving connection across intersections and to local and regional destinations.

**Amenities:** Increase demand by providing amenities such as shade, lighting, benches, multilingual signage, and drinking fountains

#### b. Accountability: How will the planning effort create better outcomes?

The engagement process helped establish relationships between students, residents, local government and state agencies. The relationships developed will provide a conduit to relay future communication and project updates. Compared to previous planning studies, the project reached more individuals through virtual presentations on social media sites. However, outreach was limited to middle aged people who self-identify as white or caucasian. This required the project team to increase project awareness by re-engaging a broader demographic including people of color and low income residents. This extended engagement benefited the project by providing multilingual information, creating trail awareness, and promoting a shared amenity that is reflective of the community.

## 10. PUBLIC AWARENESS

### Great River Passage

In 2014, the City of Saint Paul adopted a comprehensive master plan called the Great River Passage for all 17 miles of riverfront parks and trails along the Mississippi River Corridor. The completed master plan identifies the Point Douglas Regional Trail and strategies to improve access, wayfinding, and regional trail connections.

### National Park Service

The Point Douglas Regional Trail is located within the National Parks Service Mississippi National River and Recreation Area (MNRRA). The Point Douglas Regional Trail and surrounding amenities are identified in the Mississippi River Companion which is a guide to navigate the MNRRA. The trail will benefit from the identification and marketing efforts of the Mississippi River Companion document. In addition, the National Park Service conducts “Bike with a Ranger” event to learn and explore the MNRRA. Consider partnering with the NPS to program a “Bike with a Ranger” event in conjunction with the grand opening of the trail.

### Mississippi River Trail

MnDOT continues to support and expand the Point Douglas Regional Trail as part of the Mississippi River Trail (MRT). This includes a commitment to support MRT improvement projects and to publicize the trail through the development of the Mississippi River Trail Bikeway Marketing Toolbox. The toolbox assists communities with bicycle tourism and to promote the route.

### City of Saint Paul

As part of the community engagement plan, the Point Douglas Regional Trail gained public awareness via social media, direct email and postcard flyers. Once complete, the trail will be promoted through web pages, print brochures, and other trail related publications available at park facilities. Consider hosting a grand opening to celebrate and publicize the new community and regional trail

## 11. ACCESSIBILITY

### Americans with Disabilities Act (ADA)

All park facilities will be developed in accordance with the Americans with Disabilities Act (ADA). Other local guidelines, such as the DNR’s Trail Planning, Design and Development resource book, and the MnDOT Bicycle Facility Design Manual will be used when developing accessible bicycle and pedestrian facilities including trail surfaces, the street crossings and the bridge connection in South Saint Paul.

### Community Engagement

The community highlighted several accessibility issues along the corridor including barriers to crossing intersections, uneven roadways currently used as a shared pedestrian/vehicle route and lack of directional wayfinding. A dedicated off-street multi-use trail will resolve these issues and transform Point Douglas into a pedestrian oriented corridor.

## 12. MISSISSIPPI RIVER CORRIDOR CRITICAL AREA

The Mississippi River Corridor Critical Area (MRCCA) is a State-designated land corridor along 72 miles of the Mississippi River in the Twin Cities Metropolitan Area, including 17 miles of river and 26 miles of shoreline in Saint Paul. The Minnesota Rules, Chapter 6106 regulates the planning and development by requiring local governments to complete a MRCCA plan defined by six districts. The language within the MRCCA, along with the 2040 City of Saint Paul Comprehensive plan, and this document, will serve as the legal guidance for planning, design, and maintenance of the trail corridor. The Point Douglas trail is located within the River Neighborhood District (CA-RN) and Rural and Open Space District (CA-ROS).

### River Neighborhood District

The CA-RN district is primarily residential neighborhoods that are visible from the river or riparian parkland. Management practices include maintaining the character of the river corridor, protecting and enhancing habitat, parks, views, and natural or historic areas. In addition, the Great River Passage (2013) identified four River Reaches in Saint Paul and Point Douglas Trail is located in the Floodplain Reach which consists of a high-speed highway, floodplain forest, and the Highwood bluffs which define the eastern valley edge.

### River Neighborhood District

The CA-ROS district is has rural and low density development characteristics, and similar to CA-RN, has views of the river and/or riparian parkland. It can contains large tracts of land with high ecological and scenic value. Management practices include maintaining the rural and natural character, protecting and enhancing habitat, parks, river views, and natural or historic area.

### Bluff Impact Zone

Several trail segments, most notably Segment 4, are located within the bluff impact zone because the trail is within 20 of the bluff brow or toe. MRCCA design guidelines will be followed during the design process.

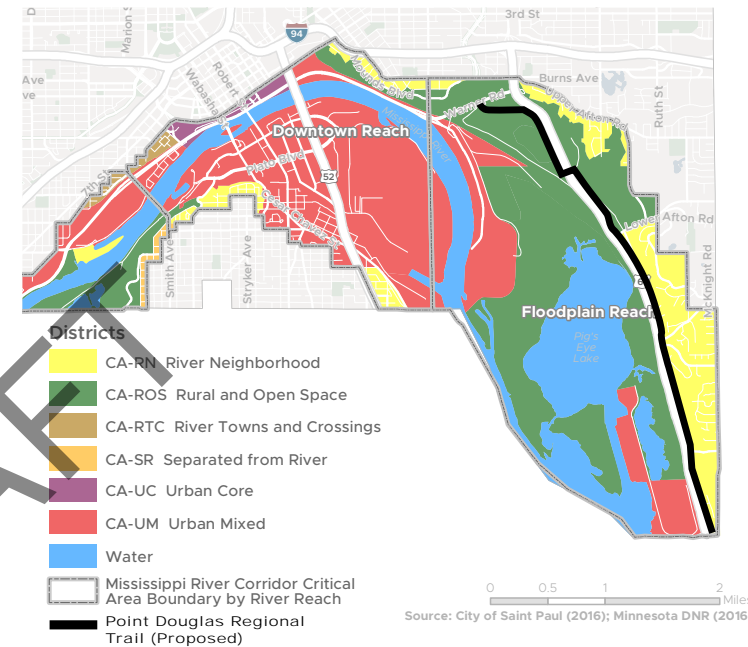


Figure 42: Mississippi River Corridor Critical Area

## REFERENCES

Great River Passage Initiative website:

<https://greatriverpassage.org/projects/>

Mississippi National River and Recreation Area:

<https://www.nps.gov/miss/learn/historyculture/confluence.htm>

Saint Paul Bicycle Plan:

<https://www.stpaul.gov/sites/default/files/Media%20Root/Public%20Works/Saint%20Paul%20Bicycle%20Plan.pdf>

City of Saint Paul, Department of Parks and Recreation rules and regulations:

<https://www.stpaul.gov/departments/parks-recreation/parks/park-security/park-rules-and-regulations>

Metropolitan Council 2040 plan:

<https://metro council.org/planning/projects/thrive-2040.aspx>

2016 Met Council: Regional Park Systems Visitor Study Report:

<https://metro council.org/Parks/Publications-And-Resources/PARK-USE-REPORTS/VISITOR-STUDY-REPORTS/2016-Regional-Parks-and-Trails-Visitor-Study-Report.aspx>

Metropolitan Council, “The 2010 MSP Travel Behavior Inventory Report (TBI)” 2010:

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MN Compass Census Data

<https://www.mncompass.org/>

Saint Paul Street Design Manual

<https://www.stpaul.gov/sites/default/files/Media%20Root/Planning%20%26%20Economic%20Development/Street%20Design%20Manual%20Final101416.pdf>

# APPENDIX A: GREAT RIVER PASSAGE

## 2.3 Planning Process and Key Partners

GOALS, OBJECTIVES, & STRATEGIES

The year-long planning process, led by the City of Saint Paul Parks and Recreation Department, was guided by a Steering Committee consisting of City department leaders and the Riverfront Corporation. A Community Task Force, that included community leaders, public agencies and key interest groups, guided the development of master plan recommendations through a series of focused work sessions. Stakeholders and the general public participated in public meetings and community design forums, held to discuss the issues and opportunities of interest to the wide variety of communities within the City.



Public meetings were focused on issues and opportunities



The Community Task Force developed solutions and priorities



Community Design Forums facilitated the generation of ideas



July, 2012

DRAFT

## The Planning Process

A wide range of public and private planning partners participated in developing the Great River Passage Master Plan, which by its comprehensive nature, required broad community participation and development of approaches that can be implemented over a long period of time.

Beginning in May, 2010, the City launched a year-long collaborative planning process, inviting the participation of City departments, special districts, national park, state and county agencies, civic and environmental organizations, community leaders and key stakeholders.

The Saint Paul Parks and Recreation Department created a Steering Committee comprised of representatives of key City departments and the Saint Paul Riverfront Corporation. A Leadership Group of directors from each department represented on the Steering Committee monitored the planning process.

The Community Task Force and the Technical Resource Group included more than 60 community leaders, representing business and property owners, neighborhood organizations, public and nonprofit agencies, council and special districts, and environment and arts organizations. The Community Task Force met regularly to work with the Steering Committee and the consultant team to review proposals and develop recommendations.

The first step in the community outreach process was conducting a CulturalAudit®, which consisted of on site interviews with a variety of community residents and visitors to the riverfront. The CulturalAudit® outreach identified people that would not normally attend public meetings, especially those with diverse ethnic backgrounds. The results of the CulturalAudit® can be found at the following website link: [www.greatriverpassage.org](http://www.greatriverpassage.org).

In August, 2010 more than 300 people attended the first of many public meetings and workshops. At the plan rollout in June, 2011, over 1,000 people celebrated its completion. Before each public meeting, the Steering Committee and the Community Task Force provided feedback on plan recommendations to ensure that they accurately represented the input of the community and its constituents.

The consultant team facilitated a series of community design forums, hosted by the Parks and Recreation Department, that encouraged open discussion of key issues and opportunities with stakeholders and to explore the breadth of ideas for potential river corridor projects. The forums covered a broad range of topics, including water quality and stream restoration, public art, outdoor recreation, development and redevelopment, and access to parks and to the river.

The project team organized a series of focus group meetings with representatives of environmental organizations, local watershed districts, river oriented industries, recreation and adventure sports organizations, artists and experts in specific fields, to brainstorm opportunities and critique plan proposals. City representatives and the consultant team met at key points in the planning process with individual stakeholders, community members, and agency officials to discuss and further develop issues and opportunities. Meeting notes and public comments are included in the Appendix.

## 2.4 Gap Analysis - Access and Connections

### Key Issues by Reach

**GORGE**

- Existing neighborhood street grid provides multiple travel options from the Mississippi River Blvd and I-94.
- Completing proposed bicycle improvements on Marshall Ave and Highland Parkway will create three designated east/west bicycling corridors.
- Conversion of the BNSF Soo Line into the Midtown Greenway—on the south side of the river—will provide an east/west and additional crossing of the Mississippi River into Minneapolis.

**VALLEY**

- Land use, topography, and traffic combine to cut off this section of the river corridor and Sam Morgan Regional Trail from neighborhoods north of W. Seventh Street.
- Two streets create barriers to connectivity: Shepard Road has narrow sidewalks and a steep grade; and the Riverfront Drive carries high volumes of traffic traveling at slower speeds.
- Land use, setbacks and building orientation add to the auto-dominated feel of Shepard Road.
- Existing pedestrian crossings lack visibility and connecting street corridors have poor quality walking environments.
- Improvements to the riverfront, including the Eggenbush and Jefferson Ave to connect into the citywide bicycle system.

**DOWNTOWN**

- The location of topography, railroads, parking lots, and roadways severely limits access from Downtown Saint Paul to the river corridor.
- New pedestrian infrastructure and wayfinding is desired to shorten walking distances and make more direct connections.
- Existing bridges provide access across the river, but often do not connect down to facilities along the river.
- With multi-agency coordination, new roadway and transit infrastructure projects offer opportunities to make new non-motorized connections.
- On the south side, the bluff top neighborhoods from I-94 comprising the Great River Park.
- The West Side neighborhood also lacks a connection to the southeast to access both the river and the Dakota County greenway system.

**FLOODPLAIN**

- Highway 1061 and multiple railroad lines create a significant barrier for residents living on the western edge of Saint Paul to access the Great River Park.
- Highway 1061 and the Riverfront Parkway is linked.
- Suburban and rural development patterns further lengthen trip distances for persons on foot or bike.



bicycling and walking access to the Great River Park corridor needs to focus on enhancing urban environments and overcoming barriers in strategic locations

**Bicycle/Trail System**  
 Existing trails, paths, sidewalks, bike lanes  
 Priority projects for implementation  
 Area with critical gaps in system

**Major Barriers**  
 Railroads  
 Principal arterials  
 Staff topography

### Opportunities for becoming... More Connected

#### Focus on Completing Saint Paul's Bicycle Network

- >> Form an integrated bicycling system by seamlessly connecting off-road trails and on-street bicycle facilities.
- >> Complete key missing links. Disconnected individual projects do not provide network travel options. Focus on linking river trails with existing bikeways and corridors slated for short-term implementation.
- >> Prioritize segments that will complete primary bicycling corridors at least 2.5 miles long – which is the national average bicycle trip length. Secondary corridors and neighborhood connectors can be added over time to create a finer grain to the network.
- >> Implement bicycling improvements as part of multimodal, complete streets projects.

#### Enhance Saint Paul's Pedestrian Environments

- >> Implement key projects to overcome barriers. Prioritize big ticket items such as stairs, bridges, walkways and/or elevators in select locations to shorten trip distances.
- >> Plant street trees and add pedestrian supportive landscaping to enhance the urban environment and separate sidewalks from vehicular traffic. The presence of green streets will help extend the Great River Park into the community.
- >> Implement widened sidewalks within select multimodal corridors in conjunction with implementing bicycle accommodations.
- >> Slow traffic to move at speeds appropriate for urban settings where pedestrians are present.
- >> Create neighborhood gateways and enhance pedestrian crossings of major streets.

### Link Non-Motorized Modes with Transit

- >> Holistically address land use and urban form to create pedestrian-supportive transit corridors.
- >> Prioritize multimodal improvements within corridors that connect to LRT stations.
- >> Enhance routes and use wayfinding to direct bicyclists and pedestrians to the river corridor from transit stops.
- >> Examine the potential for transit, circulators and water taxis to serve riverfront destinations.

### Preserve Vehicular Access and Circulation

- >> Accommodate vehicular flow – but at appropriate speeds – throughout the study area. Pedestrian-friendly environments can exist along corridors carrying larger numbers of automobiles at moderate to slow speeds.
- >> Enhance the city's parkways and implement the vision for the Grand Round parkway system.
- >> Smaller street grid where possible.
- >> Provide adequate parking at trailheads and overlook areas while preserving natural environments.
- >> Explore options for green infrastructure leading to the Great River Passage.



July, 2012

# Access and Connections

- Can you easily and safely get to the river? If not, why?
- Do you drive, bike, or walk there?
- Do you currently use the river trails? If not, why?



# Tell us what you think

Please write down your thoughts on a post-it note and stick it in the white space below.

**THIS IS THE TOP ISSUE**

- > Transportation hub of downtown-crossroads. That's why the city is where it is.
- > Drive and walk-love it!
- > 1. Yes--in fall, winter and spring. 2. I walk or bike there. 3. Yes many times per week.
- > River access has improved over the years
- > My family regularly bikes and walks along the river (Harriet Island to Fort Snelling and back)
- > 7th key corridor for multi-modal originally Fort to Landing now Airport to downtown and excel energy center

**BLUFF TOPS TO RIVERFRONT PEDESTRIAN CONNECTIONS ARE LACKING**

- > Need to show existing trail across north side of Mendota Bridge
- > Green stair replacement on west side to connect bluffs to flats
- > Absence of the "Green Stairs" is a major negative access issue.
- > Please replace the green stairs! We used it and miss it!
- > Wabasha/Channel "Green" stairs and Ohio St. Stairs on the west side have been lost and should be replaced
- > Replace green stairs!
- > Preserve and develop the system of pedestrian stairs
- > Give serious attention to replacing system/network of stairs on bluffs -- critical part of transportation system
- > Stairs on the Shepard Road side up to the Wabasha bridge--ideally an elevator or spiral ramp for wheelchairs or bikes. Another idea--check elevator in Salvador, Brazil for idea for ped bridge from downtown to bluffs.
- > Access (bike and ped) from Smith to riverfront
- > Open up historic views from Cheesee Park to reconnect people with the river
- > Ped connections from West side bluffs needs emphasis--great park to look at from bluff but impossible to walk to

**WATER TAXIS WOULD BE A GREAT ADDITION**

- > Water taxis would be a wonderful idea
- > Where is the water taxi?
- > Water taxis similar to what Chicago has (Harriet Island to Upper Landing)
- > Water taxi
- > Water taxis--yes!! also better bi trail signage as to what's ahead

**TRAIL ACCESS ACROSS HWY 61 TO PIGS EYE LAKE IS NEEDED**

- > Trail and bridges from Henry Park to Pig's Eye Lake
- > Physical access to Pig's Eye trailhead at reserve street, then looped trails north of Pig's Eye with trail east side of Hwy 61 and bridge over 61 to staircase south of Mounds Blvd to Warner--closed (exit pavilion and go south) to old fish hatchery
- > Pig's Eye needs a trail out of Battle Creek to bring bikers into Pig's Eye
- > Pig's Eye Lake is a special place that should be accessible.
- > Access from Henry Park out Pig's Eye over Hwy 61--also boardwalk along East side of Lake
- > Barge repair to move SE of airport in process of rebuilding Lafayette Bridge. Access to river off Barge Channel Road? (direct river access from West side neighborhoods to East)
- > Trail around Holman Field
- > Trail at river's edge at Holman Field
- > Access to Pig's Eye Lake from South

**CONNECTIONS TO RIVER CORRIDOR FROM DOWNTOWN & NEIGHBORHOODS ARE LACKING**

- > Crosswalks at both Jackson and Kirby
- > Needs a crosswalk to Harriet Island main entrance (Better connectivity between Ohio & Harriet Island)
- > Create visitor boat parking (short term) and transit shuttle running passengers up to downtown
- > Increase access between Science Museum and river
- > How about a ferry to cross river at Upper Landing
- > Cable tramway from downtown to Harriet Island
- > Standing in Lowertown, you can't even tell there's a river a few blocks away--!
- > Pedestrian bridge from Science Museum or new condos to Harriet Island (like Grant Park in Chicago)
- > Bike trails/paths crossing from Upper Landing to Harriet Island
- > Access from Kellogg is too restricted. It would be great to have more STs, such as Wall St, open to river
- > Walking/biking connections to WS neighborhood
- > Better connections to the river through pedestrian bridges across Shepard and Warner Roads. Today's crosswalks from Lowertown to river.
- > Better trails are needed from P & Y Club in Lilydale to Harriet Island
- > Enhance trail access on Warner from Bruce Vento
- > Desire for trail heading SE off Warner Rd closer to river
- > Possibly move RR tracks back into first arch north on Robert Street Bridge
- > Lower town/Broadway connection directly to river -- visual and physical
- > Realize Safety to east and RR tracks for better visual access and physical access

**SAFE PEDESTRIAN & BIKE CONNECTIONS ARE NEEDED**

- > Check bike crash stats -- especially on Ohio
- > Slow cars on Humboldt/Wabasha from George down hill, wide enough for bikes but speeds at crossing are tough
- > Lethal bike trail connections on Warner Road at trainyards! (Marked now as existing trail.)
- > Pay attention to bike access points, eg. bike lane access from Jackson to Warner/Shepherd
- > Link bike trail from Cheesee Park to the river
- > Bike trails need connections.
- > Bikes should stay on the trails that are built for them -- it is safer.
- > Commuter traffic north of Lexington toward Piece Butler Road area makes biking tough
- > Pedestrian walks on Lake and Franklin Street bridges need to be safer for children
- > Improve the walking aesthetics of the Robert Street bridge--feels unsafe with no railings between traffic and pedestrians
- > A bridge crossing (foot, car?) between 494 and downtown
- > We need a bridge to connect with Saint Paul to lower town area. Also will be nice to see biking trail improvement down the Brick Factory.
- > I ran along the river 3-5x per week. We need more ped signs on Shepard Rd
- > Need either Lexington and/or Snelling to be improved to go north/south across railroad tracks (traffic calming)
- > Connections to and from river
- > Access from future LRT stops

**NEED BETTER WAYFINDING**

- > Signage for all trails like the Grand Rounds in Minneapolis
- > More welcoming entry into trailhead parking areas so that "getting" is also an experience, in other to Crosby described as street level.
- > Signage to bring attention to the natural features of the
- > Access to downtown from river--signage needed--visit not know where to go
- > Covington Inn access and signs
- > Gateway signage for Mounds Park (entrances)

## Detail Design Community Engagement Plan.

Following the Great River Passage Master plan community engagement process that affirmed the importance of the trail connection and the proposed alignment, the preliminary engineering and design development and detail design process will include a community engagement process that will provide input on the project's detailed design elements. The public engagement process is outlined in the preliminary engineering proposal, Task 2. description excerpted below. Ultimately, the community engagement process will seek wide and diverse participation from both Saint Paul and Dakota County's neighborhoods and project stakeholders.

### TASK 2: PUBLIC AND STAKEHOLDER INVOLVEMENT

**2.1 Public Involvement Plan:** Develop a Public Involvement Plan with input from the City of Saint Paul and Dakota County in coordination with project partners. The jointly developed public engagement plan will help stakeholders understand and reach consensus on the issues, options, and decisions around trail design. The community engagement process for this project begins with the following critical tasks:

- » **Identify Stakeholders.** Working with the PMT, identify the key stakeholders for the project. The result of this effort will define the scope of the public and stakeholder engagement. Key to this discussion will be a collective understanding of how the stakeholders may vary along the trail corridor, by issue, by their "stake", and how they use or intersect with the trail corridor.
- » **Set Engagement Parameters.** Work with the PMT to define the engagement parameters connected to technical issues. Project team members will identify the key issues on which we are and are not seeking stakeholder input/feedback, the formal decision-making processes for this project, and how stakeholder contributions are integrated into the process and products.
- » **Stakeholder Involvement Plan.** Based on the initial discussions, work with the PMT to finalize a comprehensive Public Involvement Plan.
- » **Stakeholder Communications.** Working with project leads, provide information to ensure that stakeholders have the information they need to participate meaningfully throughout the process, as well as information on engagement opportunities and project progress.

**2.2 Project Management Team Meetings:** Prepare for and attend monthly PMT meetings. These meetings will provide the opportunity for our team and the PMT to work together to establish project goals, discuss project issues, identify design and engineering strategies, strategize outreach efforts, and consider public input. (16 joint meetings)

**2.3 Council Meetings:** Prepare presentations for meetings with the South St. Paul City Council and the Lilydale City Council. We assume that two meetings will be conducted with each City Council. (County – four meetings)

**2.4 Public Meetings:** Prepare for and conduct three public open houses in Dakota County and two public open houses in the City of Saint Paul. The open houses will be held at key points during the process to present the purpose and need of the project, identify issues and concerns, solicit input on design concepts and evaluation results, and present design and engineering recommendations. Specific tasks will include the following:

- » Prepare for and conduct Dakota County Public Open House 1. The first County open house will provide the opportunity to inform the public about the project purpose and to solicit input on issues and concerns.
- » Prepare for and conduct Dakota County Public Open House 2 and City of Saint Paul Public Open House 1. These open houses will provide the opportunity to present schematic design concepts and receive feedback.
- » Prepare for and conduct Dakota County Public Open House 3 and City of Saint Paul Public Open House 2. These open houses will provide the opportunity to present project outcomes to the public and receive comments prior to finalization of design development.

(City - two meetings, County - three meetings; City and County to publicize the meetings and mail responses).



Excerpt from Great River Passage Public Comment Summary

**Establish a protective buffer of natural areas and preserves**

To protect natural areas, a park buffer will be established that allows limited access in areas designated as natural areas or preserves. Rehabilitated creeks, wetlands and water-quality treatment areas will be created for secondary watersheds, such as Battle Creek and Fish Creek, as part of the buffer areas.

**Incorporate the Highwood Bluffs into the City's open space system**

Park land will be acquired to protect the scenic and ecological value of the bluffs along the east side of Highway 61. Natural areas will be expanded to provide a continuous open-space corridor connecting from Indian Mounds Regional Park to Fish Creek and beyond. Trails, scenic overlooks and passive recreational uses will be included to better connect the east side to the City and to the region.

**Improve connections between Pig's Eye Regional Park and nearby city and regional parks**

New and expanded trails will improve connections to Pig's Eye Regional Park from the east side, Indian Mounds Regional Park, Battle Creek Regional Park and Highwood Bluff. Several grade separated trail connections from the bluffs, across Highway 61, will improve access to Pig's Eye. A network of park and rustic trails that connect to the regional system will be developed within Pig's Eye Regional Park. In the long term, the potential for improved recreational access within industrial areas, such as along Childs Road and Red Rock Road, should be re-evaluated as land uses evolve.

**Integrate recreational uses in the Pig's Eye area.**

The current State DNR facility can become a gathering place, a trailhead and interpretive center serving the Pig's Eye Lake area. Vehicle, bicycle and pedestrian access will be improved from Warner Road at Pig's Eye Road, and a trailhead established near Pig's Eye Lake. Improved access across existing rail lines will benefit river-related industries while allowing public access to a variety of outdoor recreation uses around the lake. Nature based recreation activities include boating, fishing, hiking and wildlife viewing.

**Improve the aesthetic quality of Warner Road and Highway 61.**

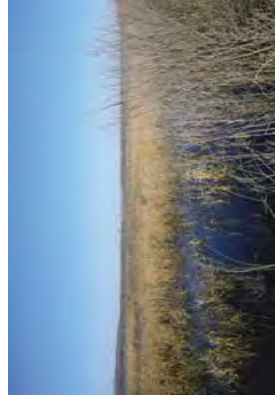
The native landscape along Warner Road, especially at the intersection of Highway 61 will be restored with Oak Savanna plantings, parkway-like amenities and signage. Warner Road will take on more of a parkway-like character that helps identify it as an integral part of the Grand Round.



The floodplain supports a rich and dynamic ecosystem.



Trails provide assessable connections to natural areas in the city.



The Pig's Eye ecosystem provides habitat for fish and wildlife as well as flood control and water quality.



This plan is a concept only, and is subject to further planning, design and public input.

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**Warner Road Area Vision**



Existing view of Warner Road looking southwest at Highway 61. There is currently nothing that would indicate its significance as part of the City's Grand Round.



Highway 61 looking west along Warner Road. Restoration of the oak savanna that once existed at the intersection, along with native stone walls, and the restoration of panoramic views of the River Valley will identify the intersection as a gateway into the City and a part of the historic Grand Round.

This plan is a concept only, and is subject to further planning, design and public input.



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**LEGEND**

- 1. Fish Hatchery Trailhead
- 2. Regional Trail
- 3. Nature Trail
- 4. Levee Trail
- 5. Park Access Bridge
- 6. DNR Regional Office
- 7. Industrial Area
- 8. Potential River Edge Trail<sup>1</sup>
- 9. Battle Creek Restoration
- 10. Parkway Improvements
- 11. New Park Access Road
- 12. Warner Road Gateway
- 13. Green Connections provide visual access to the river
- 14. Trailhead Park<sup>2</sup>

<sup>1</sup> Potential trail location subject to approval of the Federal Aviation Administration and the Metropolitan Airport Commission.

<sup>2</sup> Potential acquisition & park development subject to change in existing commercial uses and Port Authority approval.

**Enhance the image of Warner Road**

Enhance the image of Warner Road from its intersection with Highway 61, west to the river and Downtown. Improve landscape, street lighting and signage to create a parkway-like character along Warner Road and its intersections. Selectively clear adjacent woodland understorey of invasive weed species on the downhill side, to restore historic vistas of the river valley and the city skyline.

Warner Road at Highway 61 will become one of the main gateways to the Great River Passage. Its landscape, lighting and amenities will extend the Grand Round character from Downtown, better integrating it as an important part of the Great River Passage. Further studies will be required to determine the limits and feasibility of landscape enhancements at Highway 61, with respect to highway sight lines and setback requirements.

**Develop Fish Hatchery Trailhead improvements.**

Improvements at the Fish Hatchery site will allow for convenient parking access to a network of local, park and rustic trails at Indian Mounds Regional Park and the upper parts of Pig's Eye. A signalized intersection at Pig's Eye Road including improved access, signing and parking, will support expansion of trail use and facilitate recreational access throughout the area.

**Improve public access to Pig's Eye Regional Park**

Partner with the railroads, the Port Authority, Ramsey County, the State Department of Natural Resources and commercial industry and businesses, to improve access to natural areas at Pig's Eye Regional Park. A new road and bridge that provides improved access for trucks, cars, bicycles and pedestrians, must accommodate the needs of industrial as well as recreational uses. Streetscape improvements on Pig's Eye and Childs Roads will help support safe recreational access.

Work with the Port Authority and river industry tenants to find opportunities that provide safe public access (visual or physical) to the river and lake edges. Provide landscape buffers adjacent to the more unsightly industrial uses.

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**6.4 Warner Road Area**

Strategies and Projects	Agency/Partners	Est. Cost	Phasing
<b>Warner Road Area Management</b>			
Develop plan for area in conjunction with master plan for Pig's Eye Regional Park and as part of the Grand Round	DNR, MNRRRA, PA	\$ 100,000	short
Develop working partnership with DNR, Ramsey County and Port Authority to improve management of and access to parks		n/a	
Determine feasibility of reusing DNR facilities for Pig's Eye Regional Park access, education and administration	DNR, MNRRRA	n/a	
<b>Road and Trails</b>			
Provide a new signalized intersection at Fish Hatchery Road		\$ 300,000	med
Add and improve parking at the Fish Hatchery		\$ 100,000	med
Extend the Regional trail along the south side of Warner Road at Highway 61 and connect to the Battle Creek Regional Trail		\$ 75,000	med
Separate the Samuel Morgan Trail from the Warner Road/Childs Road highway ramps to provide a continuous trail system		\$ 200,000	short
Add Park trail connections to Mounds Park, the Fish Hatchery, Childs Road and Pig's Eye Road		\$ 250,000	med
Provide a continuous Park trail connection from the MnDOT overlook to Battle Creek Regional Park, connecting back to the neighborhoods		\$ 250,000	med
Provide a Park trail along the Childs Road levee to the Water Treatment Plant looped back to Pig's Eye Lake Road		\$ 200,000	med
Expand and improve Rustic trails in Upper Pig's Eye and Battle Creek Parks		\$ 150,000	short
Extend Rustic trail along the West Side from the Float Plane Basin to Barge Channel Road if it meets requirements of FAA		\$ 100,000	med
<b>Structures and Related Improvements</b>			
Provide public art involvement and enhanced design and pedestrian amenities as part of the Warner Road bridge redesign	SPPW, PASP	\$ 100,000	short
Provide a grade separated Park access road over the rail lines to Pig's Eye Lake Road	SPPW, RR	\$ 7,000,000	long
Implement signage and wayfinding systems		\$ 50,000	short
<b>Landscape and Site Improvements</b>			
Restore wetlands near storm outfalls below Highway 61 along Battle Creek and Little Pig's Eye Lake		\$ 2,000,000	
Restore base flows to Battle Creek to the degree possible, diverting a portion of it as it passes under Hwy. 61		\$ 1,500,000	med
Improve the character of Warner Road to be more parkway-like including bridges, lighting, guardrails, signs and landscaping		\$ 1,500,000	short
Selectively manage vegetation at key view opportunities to the river by removing invasive species and restoring natives		\$ 150,000	med
Create main gateway to the Great River Passage at Warner Road adn Hwy 61			med

**Summary Plan Recommendations:**

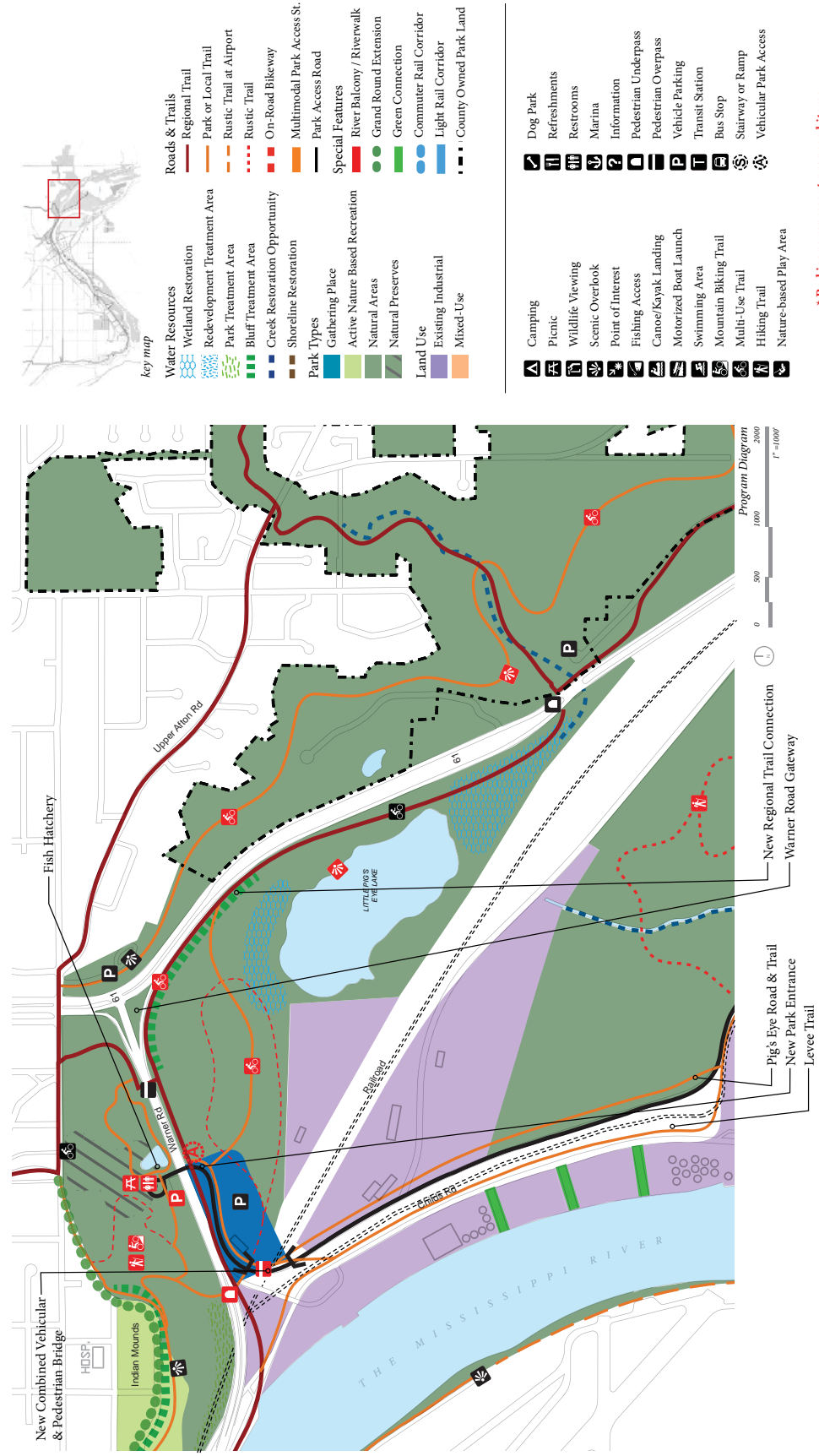
**Warner Road Area**

Enhance Warner Road as it extends from the narrows between Indian Mounds bluffs and the river, to its intersection with State Highway 61. Vehicular park access improvements include the redesign of Warner Road intersections at the Fish Hatchery and at Childs Road. From the intersection at the Fish Hatchery a new bridge over the existing railroad corridor will improve access to Childs Road and provide multimodal access to the Pig's Eye Lake area.

Warner Road improvements will include new trailhead areas and better trail connections that will vastly improve recreational access to the regional park system. An expanded network of trails will accommodate bicycle and pedestrian access between Indian Mounds and Pig's Eye and improvements to the Samuel Morgan Regional trail will enhance bicycle commuting options from the east side.

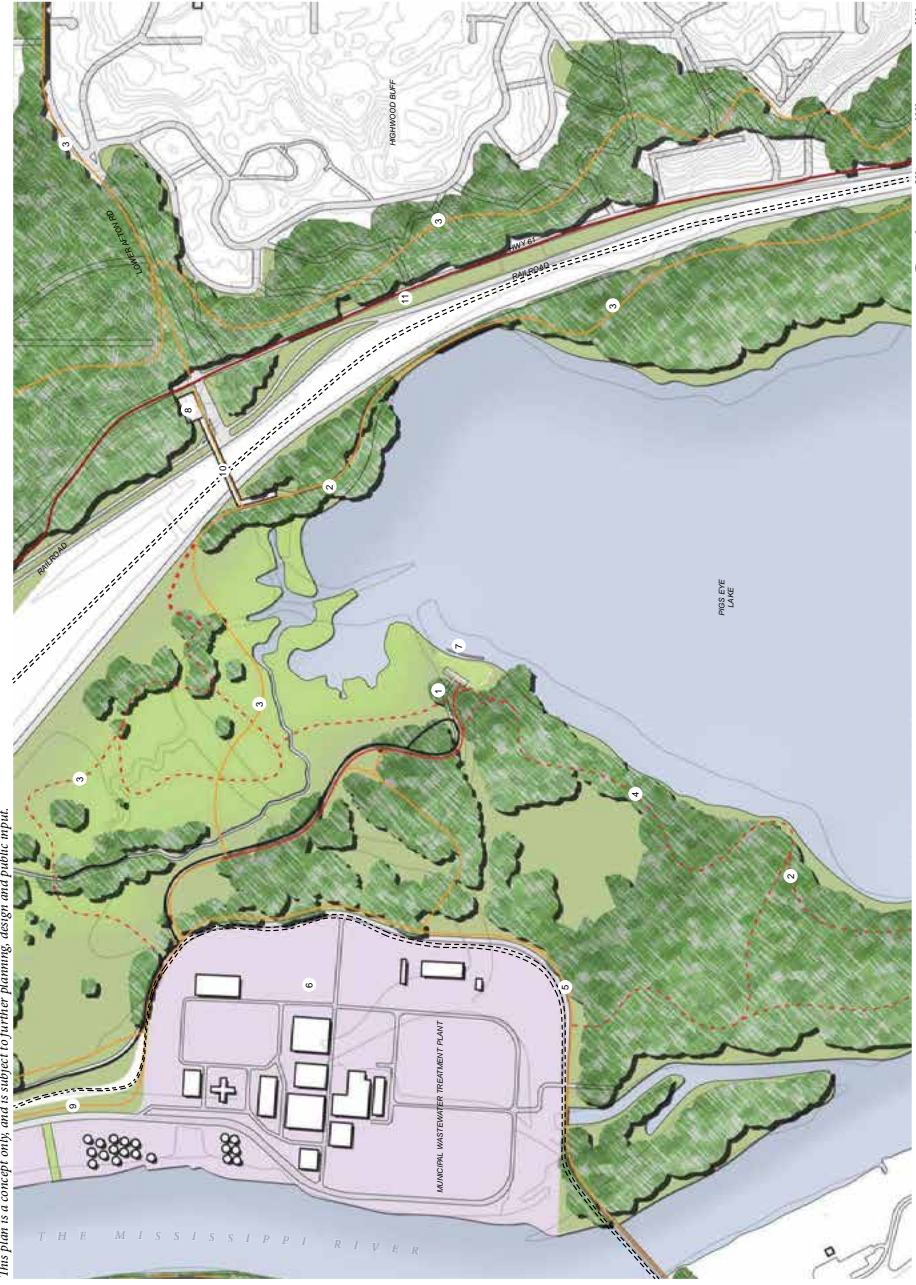
Warner Road, as part of the Grand Round, will include enhanced landscaping, lighting, guardrails and signage improvements. The intersection with Highway 61 will be improved to reflect the historic landscape character of the area, and as a gateway to the Grand Round.

- Improve Warner Road to make it more parkway like.
- Develop a gateway treatment of the intersection at Highway 61 and Warner Road.
- Mimic historic vegetation patterns of the oak savanna hillsides into the Warner Road landscape and integrate it into the Great River Passage.
- Improve the Fish Hatchery Road intersection at Warner Road and improve trailhead parking with restrooms and picnic area at the Fish Hatchery.
- Collaborate with DNR to coordinate potential joint use of the existing DNR facilities, as a river Gathering Place that serves the Pig's Eye natural area.
- Reconstruct the Childs Road interchange to improve the Samuel Morgan Regional trail, eliminating at grade ramp crossings.



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This plan is a concept only, and is subject to further planning, design and public input.





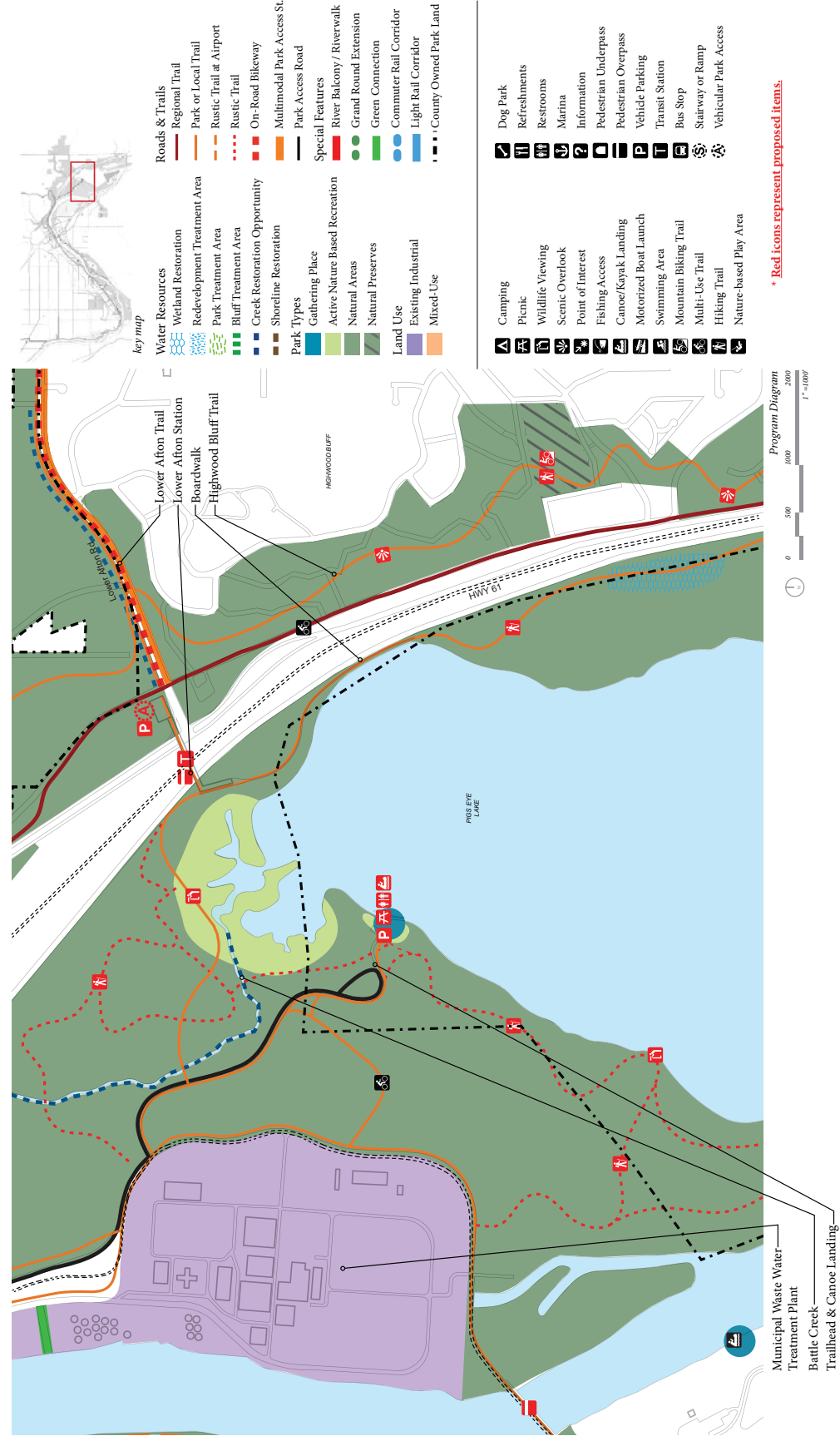
6.4 Upper Pig's Eye and Highwood Bluffs

Strategies and Projects	Agency/Partners	Est. Cost	Phasing
<b>Upper Pig's Eye Lake Management</b>			
Develop a master plan for long term recreation and habitat improvements at the Pigs Eye Regional park	MNRRA, DNR, Ramsey Co.	\$ 200,000	short
Pursue a joint parks management agreement with MNRRA, DNR and Ramsey County Parks for the Pig's Eye Area	MNRRA, DNR, Ramsey Co.	n/a	short
Work with DNR to identify opportunities to clean up contaminated areas and make them accessible for public open space uses	DNR	n/a	
Work with Ramsey County Wastewater Treatment to integrate the wastewater management facility into the Passage	Ramsey County	n/a	
Acquire open space land along Highwood Bluff to provide a continuous open space connection from Battle Creek to Henry Park	Ramsey County	n/a	
Identify alternative location to relocate city's mulching and storage operations to enhance open space	MNRRA, DNR, Cty	n/a	
Create an interpretive program that includes environmental education, history of land uses and water treatment and quality			
<b>Design and Construction</b>			
<b>Road and Trails</b>			
Improve and extend new Park access road to Pig's Eye Lake	Ramsey County, RR	\$ 1,000,000	short
Provide grade separate trail crossing with proposed Ramsey County Regional Rail station improvements at Lower Afton Road		n/a	long
Add trailhead parking at the northern edge of the Lake		\$ 50,000	short
Create Park trails providing access to Pig's Eye lake area and connecting to the river and Lower Afton Road		\$ 500,000	med
Provide Rustic trails as part of a hierarchy of looped trails with boardwalks along the east side of and adjacent to Pig's Eye Lake		\$ 200,000	med
Provide a continuous midbluff Park trail from Battle Creek to Henry Park, connecting back to the neighborhood.		\$ 250,000	med
Extend the Park trail along Lower Afton Road from Highway 61 to McKnight Road		\$ 225,000	med
Preserve options for making future connection across River from Pig's Eye to Kaposia Landing using existing rail bridge		n/a	long
<b>Structures and Related Improvements</b>			
Provide rustic toilet facilities near the trailhead		\$ 200,000	short
Provide storage for small non-motorized boats		\$ 50,000	short
Provide wildlife blinds and observation tower to provide views to lake water fowl and Heron rookery		\$ 500,000	med
Implement Signage and wayfinding systems		\$ 100,000	short
<b>Recreation Improvements/Use areas</b>			
Provide controlled/seasonal access for hiking, wildlife viewing, photography and non-motorized boating		\$ 100,000	short
Add overlooks at key viewing opportunities along Highwood bluff and in Pig's Eye		\$ 100,000	med
<b>Landscape and Site Improvements</b>			
Restore shoreline area in vicinity of small boat landing	Watershed District	\$ 50,000	short
Restore Pine Creek along Lower Afton Road		n/a	long
Identify and protect sensitive ecologies such as wetlands and bird habitat areas	MNRRA, DNR	\$ 200,000	short
Identify and selectively manage invasive plant species and restore with native species		\$ 500,000	med
Restore wetlands near storm outfalls below Highway 61 along Pig's Eye Lake	Watershed District	\$ 1,000,000	med



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Upper Pig's Eye and Highwood Bluffs Plan Recommendations 6.4



# APPENDIX B: LETTERS OF SUPPORT

February 11, 2021

City of Saint Paul City Council  
15 Kellogg Blvd W  
Saint Paul, MN 55102



Honorable City Councilmembers:

The Board of the Southeast Community Organization heard a presentation from City staff about the Point Douglas Regional Trail master planning project at our January 2021 board meeting. We appreciated the opportunity to get an update on this project and to be able to ask questions about the various factors being considered for the master plan.

Our organization has long supported investments in safe streets and alternative forms of transportation beyond the single-occupant vehicle. The Transportation Chapter of our Community Plan contains many policies supporting these efforts. We are also excited to hear that the Fish Hatchery Trail will be reconstructed with a permanent fix for the underlying erosion issues in 2023. The completion of that project will leave the remaining part of the Mississippi River Trail in our district—along Point Douglas Road—on-road and unprotected. The safety benefits for walkers, runners, and bicyclists from constructing this trail will be tremendous for our residents.

We are thrilled to support the adoption of a master plan for the trail and will support efforts in the future to secure funding to construct the trail. We now ask the City Council to support the adoption of the master plan so that the work of funding construction can get underway.

Sincerely,

Laurie Siever  
President

Cc: Councilmember Jane Prince  
Councilmember Amy Brendmoen  
Mike Hahm, Director of Parks and Recreation  
Brett Hussong, St. Paul Parks and Recreation Landscape Designer

Southeast Community Organization | 2105 ½ Old Hudson Rd | St. Paul, MN 55119  
Southeastside.org | 651/578-7600

# APPENDIX C: PARKS AND RECREATION COMMISSION APPROVAL



PARKS AND RECREATION COMMISSION  
JAZMIN GLASER-KELLY, CHAIR

City Hall Annex  
25 West 4th Street, Suite 400  
Saint Paul, MN 55102  
Tel: 651-266-6400

## RESOLUTION # 21-17 Point Douglas Regional Trail Master Plan

WHEREAS, the Saint Paul Parks and Recreation Commission ("Commission") is an appointed body established to advise the Mayor and City Council on long-range and city-wide matters related to the Department of Parks and Recreation; and

WHEREAS, the Metropolitan Council's 2040 Thrive MSP Regional Parks Policy plan identifies a regional trail search corridor along Point Douglas Road; and

WHEREAS the Saint Paul Department of Parks and Recreation received \$150,000 from Metropolitan Council Parks and Trail Legacy funding to complete a trail master plan; and

WHEREAS, the Saint Paul Department of Parks and Recreation assembled and facilitated a series of community and key stakeholder meetings, hired an engineering consultant, and worked across City and County agencies to develop of a preferred alignment for the Point Douglas Regional Trail Master Plan; and

WHEREAS, the Saint Paul Department of Parks and Recreation has now completed a preferred concept plan and master plan document for the Point Douglas Regional Trail; and

WHEREAS, the Saint Paul Department of Parks and Recreation received approval on October 4, 2021 from the City of Saint Paul Transportation Committee to move the plan forward for City Council and Metropolitan Council approvals; and

RESOLVED, that the Saint Paul Parks and Recreation Commission hereby acknowledges the work of the community and stakeholders and affirms that the Department of Parks and Recreation can proceed with seeking approval from the Saint Paul City Council and Metropolitan Council.

Adopted by the Saint Paul Parks and Recreation Commission on October 14, 2021:

Approved:	Yeas	<u>5</u>
	Nays	<u>0</u>
	Absent:	<u>4</u>

Resolution #21-17

Attested to by:

*Elizabeth S. McDonald*

Staff to the Parks and Recreation Commission

CITY OF SAINT PAUL  
MELVIN CARTER, MAYOR  
STPAUL.GOV

AN AFFIRMATIVE ACTION &  
EQUAL OPPORTUNITY EMPLOYER



# APPENDIX D: SAINT PAUL TRANSPORTATION COMMITTEE APPROVAL

# APPENDIX E: SAINT PAUL CITY COUNCIL

## Transportation Committee Recommendation

Committee date: 10/04/2021

Committee recommendation	<i>Recommended approval of Point Douglas Regional Trail Master Plan</i>
Committee vote	<i>9-0</i>
Staff recommendation	<i>Recommend approval of Point Douglas Regional Trail Master Plan</i>

**Project Name:** Point Douglas Regional Trail Master Plan

**Geographic Scope:** Point Douglas Rd from Burns Ave to Bailey Rd

**Project Contact:** Brett Hussong

**Project Webpage:** [www.stpaul.gov/PointDouglasTrail](http://www.stpaul.gov/PointDouglasTrail)

**Project Description:** To prepare a master plan for the future Point Douglas Regional Trail running along Point Douglas Rd for people of all ages and abilities.

**Project Stage & General Timeline:** Planning. Master Plan Document approval.

### Public Hearing Date & Location:

October 8, 2020. Virtual presentation

December 7, 2020. Virtual presentation

October 2021. 30-day virtual review of master plan document.

**Cost & Primary Funding Source(s):** \$150,000. Parks and Trail Legacy

### Transportation Committee Role:

- Inform project scope & approach     Inform design     Inform implementation  
 Make recommendation

**Explanation:** We anticipate the preliminary trail alignment to follow the existing trail through Fish Hatchery and then become an off-street trail located on the west side of Point Douglas Rd. The master plan will address intersection crossings to safely move pedestrians and cyclists through the corridor. The master plan considers alternate alignments from Indian Mounds Regional Park to Battle Creek Regional Park Trailhead.

### Attachments include:

- Complete Streets Checklist     Scoping document     CIB request  
 Summary of Engineering Recommendations

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*Placeholder  
City Council Approval Letter*

# APPENDIX D: ONLINE SURVEY

## Q1 Please enter your zip code

Answered: 72 Skipped: 3

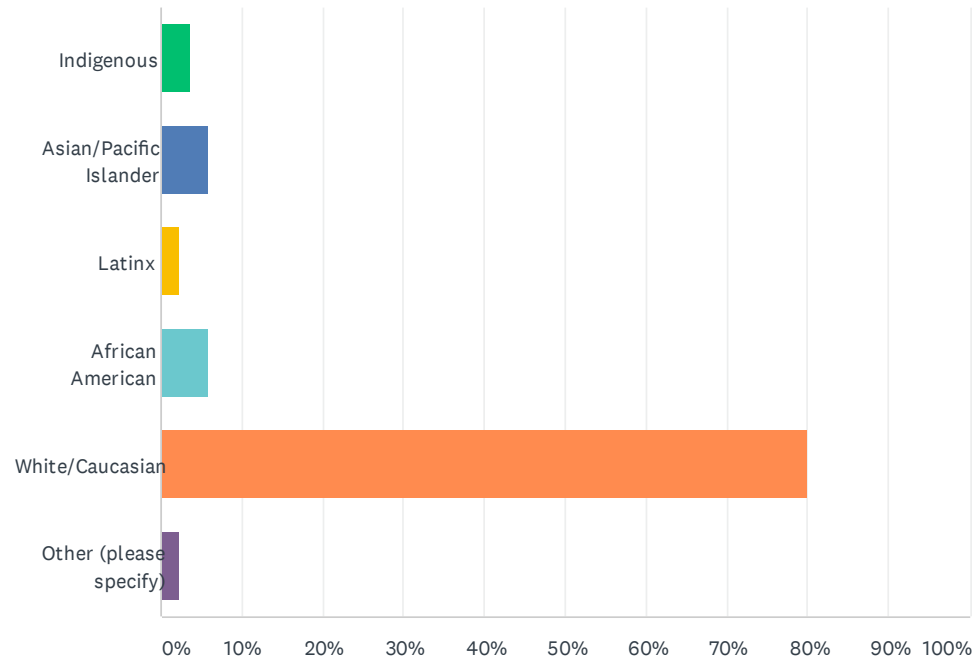
#	RESPONSES	DATE
1	55106	9/6/2020 10:33 AM
2	55104	9/1/2020 5:10 PM
3	55119	8/24/2020 9:14 PM
4	55119	7/23/2020 2:06 PM
5	55101	7/22/2020 3:15 PM
6	55119	7/22/2020 11:05 AM
7	55108	6/23/2020 12:58 PM
8	55127	5/27/2020 5:22 PM
9	55082	4/28/2020 9:22 AM
10	55102	4/27/2020 7:38 PM
11	55001	4/23/2020 1:06 PM
12	55106	4/23/2020 12:09 PM
13	55106	4/23/2020 11:07 AM
14	55106	4/22/2020 3:00 PM
15	55406	4/22/2020 1:05 PM
16	55104	4/6/2020 4:54 PM
17	55109	4/3/2020 8:52 AM
18	55104	4/2/2020 12:43 PM
19	55119	4/2/2020 10:45 AM
20	55119	4/1/2020 7:45 PM
21	55106	4/1/2020 3:31 PM
22	55119	4/1/2020 3:09 PM
23	55119	3/31/2020 7:37 PM
24	55055	3/29/2020 5:35 PM
25	55407	3/29/2020 4:48 PM
26	55119	3/27/2020 9:47 PM
27	55119	3/26/2020 9:08 PM
28	55119	3/23/2020 7:05 PM
29	55125	3/22/2020 6:29 PM
30	55119	3/20/2020 3:05 PM
31	55119	3/20/2020 2:21 PM
32	55106	3/20/2020 11:27 AM
33	55106	3/20/2020 9:00 AM
34	55117	3/19/2020 8:29 PM
35	55106	3/19/2020 7:54 PM
36	55106	3/19/2020 4:59 PM
37	56108	3/19/2020 4:24 PM

38	55119	3/19/2020 3:55 PM
39	55117	3/19/2020 3:44 PM
40	55104	3/19/2020 2:44 PM
41	55101	3/19/2020 2:17 PM
42	55116	3/19/2020 1:44 PM
43	55105	3/19/2020 1:05 PM
44	55119	3/19/2020 1:05 PM
45	55119	3/19/2020 12:58 PM
46	55102	3/19/2020 12:55 PM
47	55116	3/19/2020 12:42 PM
48	55102	3/19/2020 12:39 PM
49	55103	3/19/2020 12:38 PM
50	55105	3/19/2020 12:34 PM
51	55102	3/19/2020 12:33 PM
52	55102	3/19/2020 12:15 PM
53	55115	3/19/2020 9:47 AM
54	55125	3/19/2020 12:52 AM
55	55105	3/19/2020 12:06 AM
56	55119	3/18/2020 9:22 PM
57	55119	3/18/2020 5:08 PM
58	55119	3/18/2020 9:47 AM
59	55119	3/18/2020 8:19 AM
60	55125	3/18/2020 6:27 AM
61	55016	3/17/2020 5:49 PM
62	55106	3/17/2020 5:34 PM
63	55119	3/17/2020 5:21 PM
64	55016	3/17/2020 5:01 PM
65	55119	3/17/2020 4:57 PM
66	55116	3/17/2020 4:52 PM
67	55125	3/17/2020 4:50 PM
68	55119	3/17/2020 4:38 PM
69	55106	3/17/2020 4:35 PM
70	55119	3/17/2020 9:32 AM
71	55119	3/13/2020 5:18 PM
72	55106	3/12/2020 12:33 PM

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### Q1 Please self-identify your race/ethnicity

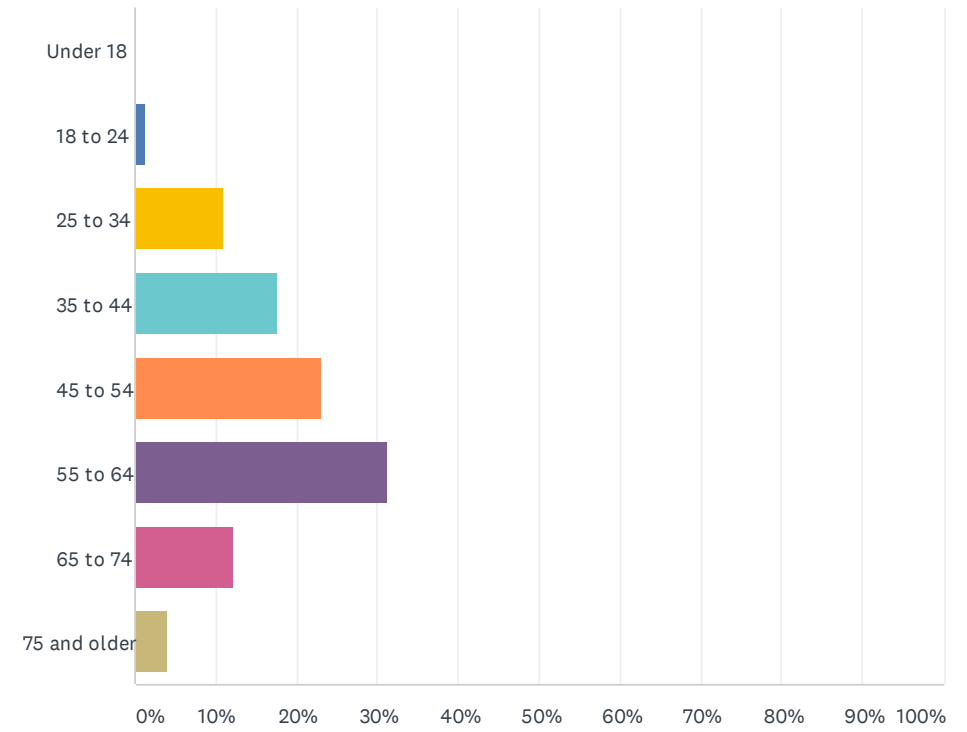
Answered: 85 Skipped: 2



ANSWER CHOICES	RESPONSES	
Indigenous	3.53%	3
Asian/Pacific Islander	5.88%	5
Latinx	2.35%	2
African American	5.88%	5
White/Caucasian	80.00%	68
Other (please specify)	2.35%	2
<b>TOTAL</b>		<b>85</b>

### Q3 Please select your age

Answered: 74 Skipped: 1

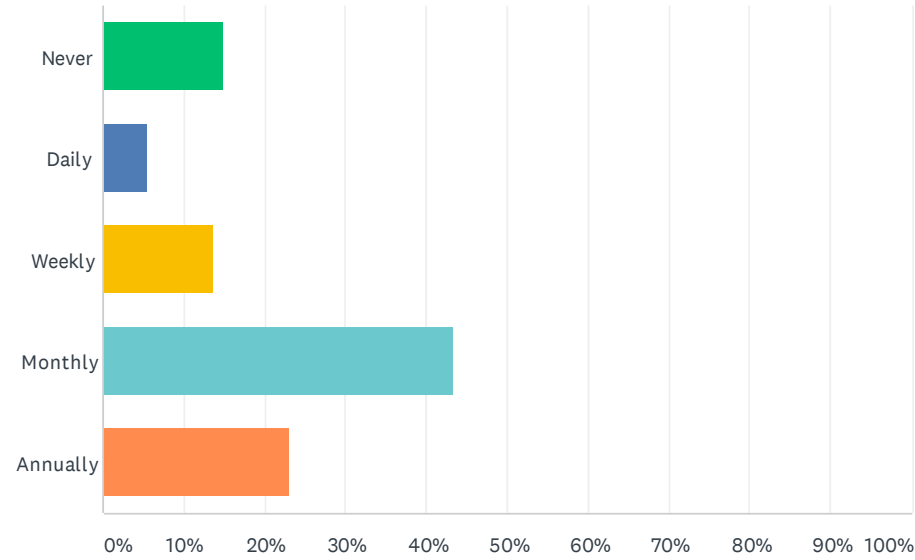


ANSWER CHOICES	RESPONSES	
Under 18	0.00%	0
18 to 24	1.35%	1
25 to 34	10.81%	8
35 to 44	17.57%	13
45 to 54	22.97%	17
55 to 64	31.08%	23
65 to 74	12.16%	9
75 and older	4.05%	3
<b>TOTAL</b>		<b>74</b>

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### Q4 How often do you use the bikeway along Point Douglas?

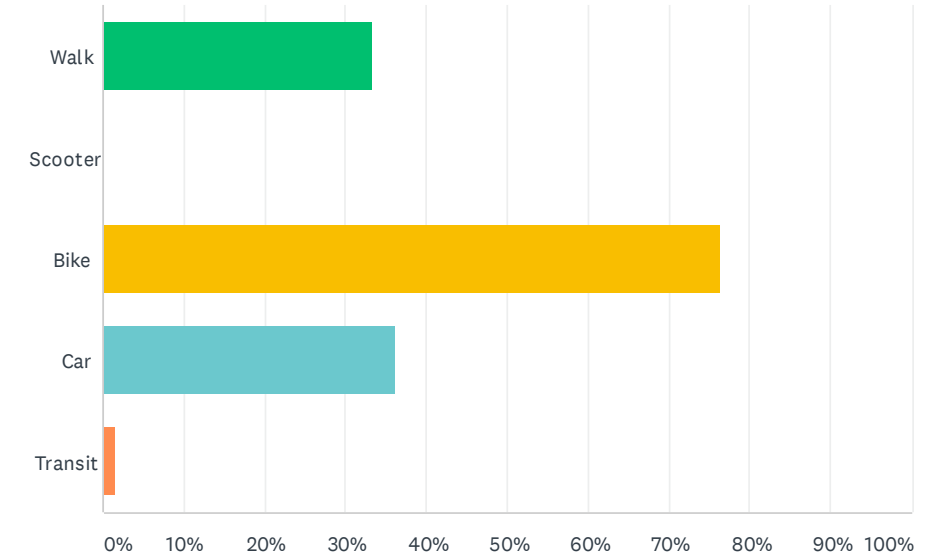
Answered: 74 Skipped: 1



ANSWER CHOICES	RESPONSES	
Never	14.86%	11
Daily	5.41%	4
Weekly	13.51%	10
Monthly	43.24%	32
Annually	22.97%	17
<b>TOTAL</b>		<b>74</b>

### Q5 How do you currently travel to the bikeway and/or multi-use trails along Point Douglas?

Answered: 72 Skipped: 3

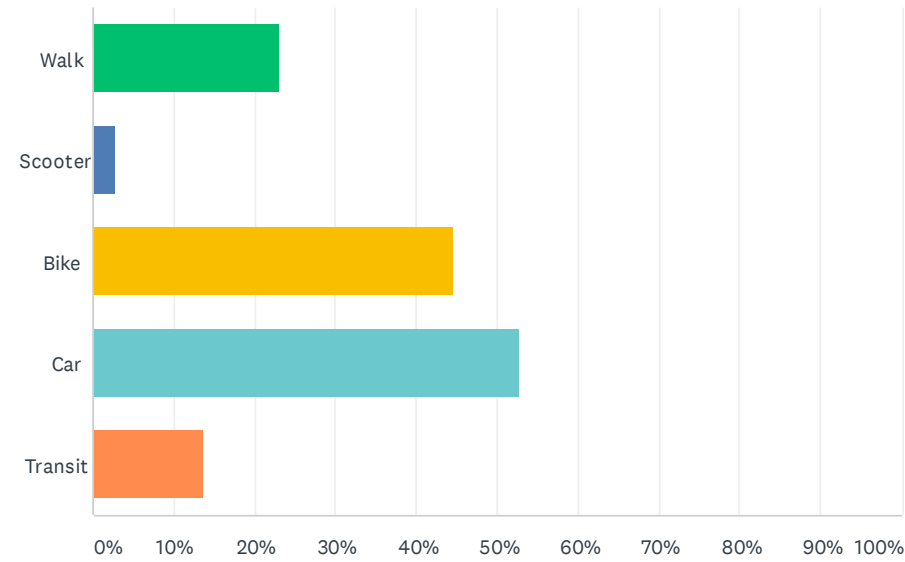


ANSWER CHOICES	RESPONSES	
Walk	33.33%	24
Scooter	0.00%	0
Bike	76.39%	55
Car	36.11%	26
Transit	1.39%	1
<b>Total Respondents: 72</b>		

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### Q6 What is your preferred mode of daily travel?

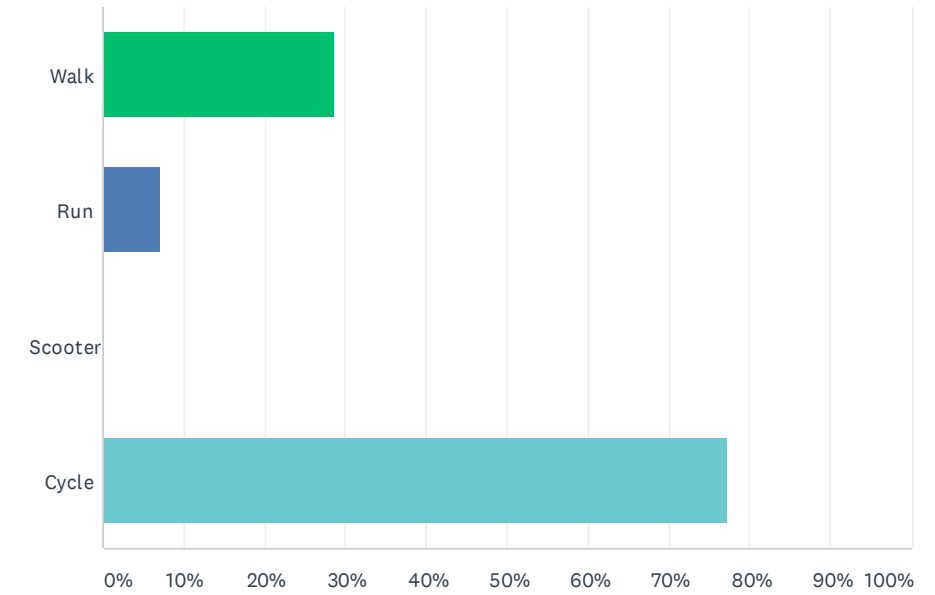
Answered: 74 Skipped: 1



ANSWER CHOICES	RESPONSES	Count
Walk	22.97%	17
Scooter	2.70%	2
Bike	44.59%	33
Car	52.70%	39
Transit	13.51%	10
Total Respondents: 74		

### Q7 What is your most common type of activity along the Point Douglas trail?

Answered: 70 Skipped: 5

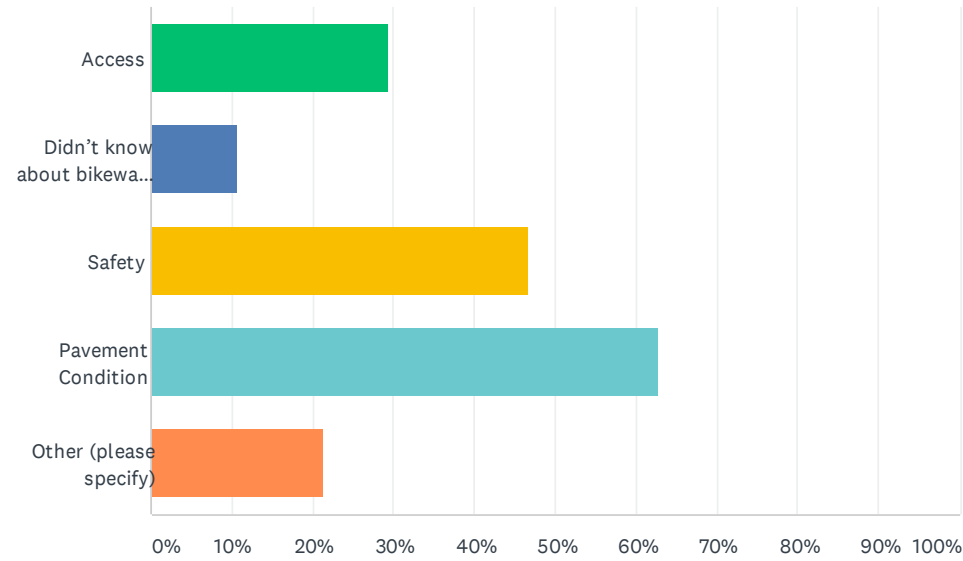


ANSWER CHOICES	RESPONSES	Count
Walk	28.57%	20
Run	7.14%	5
Scooter	0.00%	0
Cycle	77.14%	54
Total Respondents: 70		

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### Q8 What restricts your use of the bikeway and/or multi-use trails along Point Douglas?

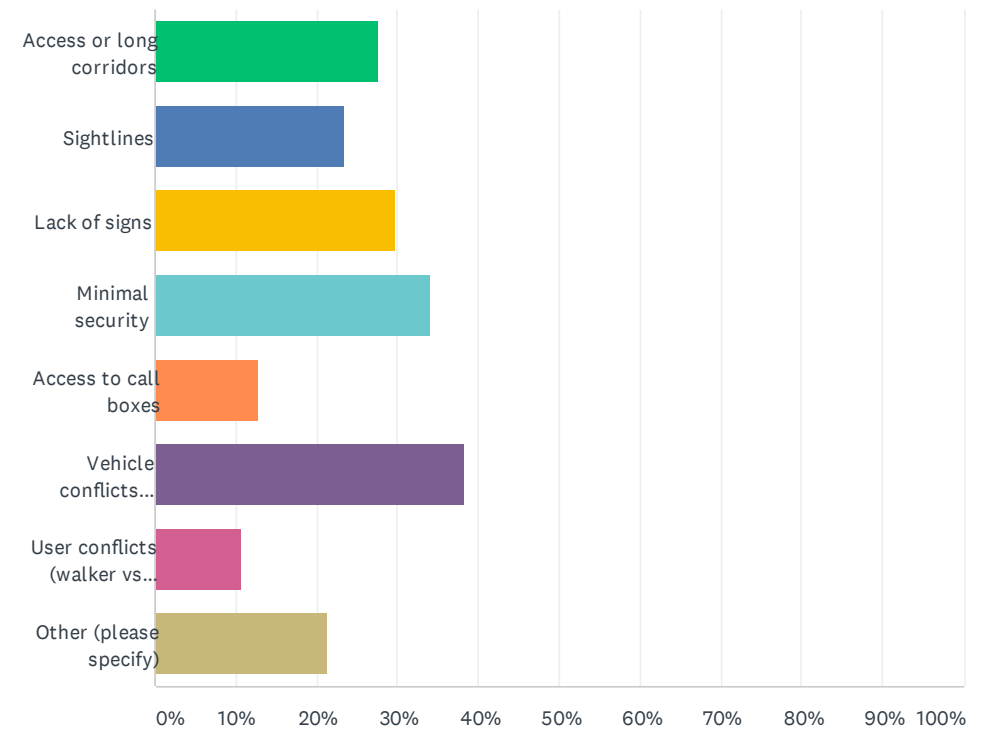
Answered: 75 Skipped: 0



ANSWER CHOICES	RESPONSES
Access	29.33% 22
Didn't know about bikeway and/or multi-use trails	10.67% 8
Safety	46.67% 35
Pavement Condition	62.67% 47
Other (please specify)	21.33% 16
Total Respondents: 75	

### Q9 If you answered safety for question 8, please specify why:

Answered: 47 Skipped: 28

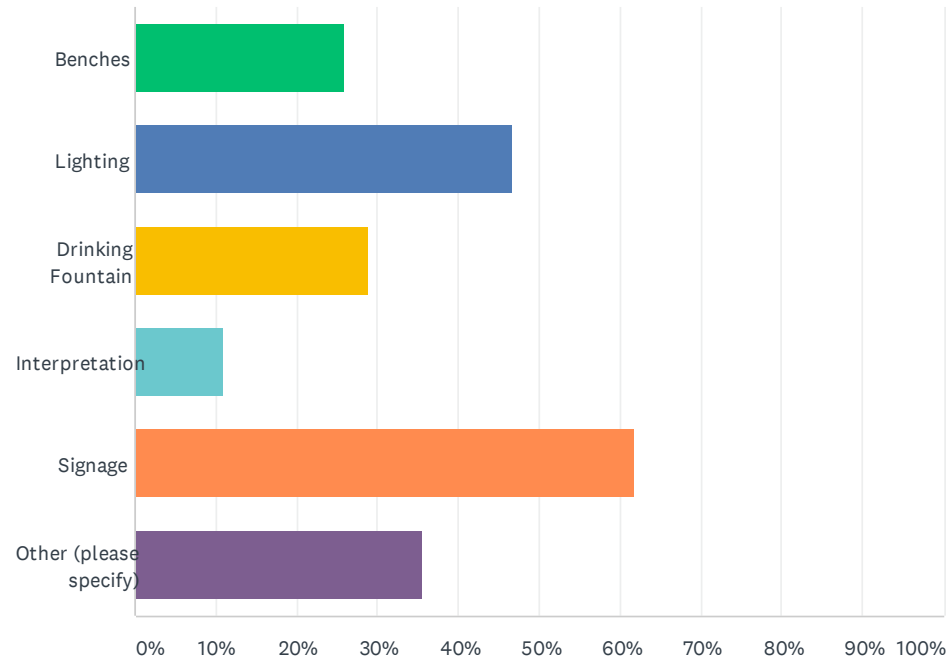


ANSWER CHOICES	RESPONSES
Access or long corridors	27.66% 13
Sightlines	23.40% 11
Lack of signs	29.79% 14
Minimal security	34.04% 16
Access to call boxes	12.77% 6
Vehicle conflicts (on-street bikeway)	38.30% 18
User conflicts (walker vs scooter vs biker)	10.64% 5
Other (please specify)	21.28% 10
Total Respondents: 47	



### Q10 What features or amenities would entice you to use a future off-street trail?

Answered: 73 Skipped: 2



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ANSWER CHOICES	RESPONSES
Benches	26.03% 19
Lighting	46.58% 34
Drinking Fountain	28.77% 21
Interpretation	10.96% 8
Signage	61.64% 45
Other (please specify)	35.62% 26
Total Respondents: 73	

# APPENDIX E: OPINION OF PROBABLE COST

## Opinion of Probable Cost to Construct



### Opinion of Probable Cost to Construct Summary



Client Name: City of Saint Paul - Parks And Recreation Department  
 Location: Point Douglas Road  
 ISG Project Number: 20-24073  
 Date: 08/09/2021

Client Name: City of Saint Paul - Parks And Recreation Department  
 Location: Point Douglas Road  
 ISG Project Number: 20-24073  
 Date: 08/09/2021

SEGMENT	TOTAL COST*
SEGMENT 2	\$677,000
LOWER AFTON CROSSING CONCEPT 1 (BASE)	\$173,000
SEGMENT 3A	\$1,476,000
SEGMENT 3B CONCEPT 1 (BASE)	\$1,289,000
SEGMENT 4	\$833,000
SEGMENT 5A	\$790,000
SEGMENT 5B	\$1,569,000
BAILEY RD CONCEPT 1 (BASE)	\$301,000
<b>TOTAL PROJECT COST BASE COST</b>	<b>\$7,108,000</b>
ALTERNATES	TOTAL COST*
LOWER AFTON CROSSING CONCEPT 2 (ADD ALTERNATE)	\$510,000
SEGMENT 3B CONCEPT 2 (ADD ALTERNATE)	\$1,328,000
BAILEY RD CONCEPT 2 (DEDUCT ALTERNATE)	-\$244,000

\* Total cost assumes 20% contingency and 20% design fees and does not account for permitting

### ENGINEER'S OPINION of PROBABLE COST

#### SEGMENT 2

No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION (5%)	LS	1	\$ 22,400.00	\$22,400.00
2	TRAFFIC CONTROL	LS	1	\$ 4,500.00	\$4,500.00
3	REMOVE BITUMINOUS PAVEMENT	SY	7260	\$ 5.00	\$36,300.00
4	REMOVE CURB AND GUTTER	LF	3150	\$ 6.00	\$18,900.00
5	REMOVE STORM STRUCTURE	EA	9	\$ 650.00	\$5,850.00
6	REMOVE STORM PIPE	LF	100	\$ 12.00	\$1,200.00
7	REMOVE TREES	LS	1	\$ 20,000.00	\$20,000.00
8	RELOCATE OVERHEAD POWER POLES	EA	15	\$ 450.00	\$6,750.00
9	COMMON EXCAVATION (EV)	CY	1783	\$ 11.00	\$19,611.90
10	SUBGRADE PREPARATION	SY	5610	\$ 2.25	\$12,622.50
11	AGGREGATE BASE, TRAIL (8" THICK)	CY	970	\$ 30.00	\$29,100.00
12	AGGREGATE BASE, ROAD (18" THICK)	CY	728	\$ 30.00	\$21,840.00
13	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	3960	\$ 18.00	\$71,280.00
14	BITUMINOUS PAVEMENT, ROAD (5" THICK)	SY	1320	\$ 20.00	\$26,400.00
15	CONCRETE CURB & GUTTER	LF	3150	\$ 27.00	\$85,050.00
16	CONCRETE RAMP (6" THICK)	SY	22	\$ 70.00	\$1,540.00
17	TRUNCATED DOMES	SF	40	\$ 55.00	\$2,200.00
18	CONNECT TO EXISTING STORM PIPE	EA	8	\$ 450.00	\$3,600.00
19	STORM STRUCTURE	EA	8	\$ 4,000.00	\$32,000.00
20	STORM/SANITARY MANHOLE ADJUSTMENT	EA	20	\$ 750.00	\$15,000.00
21	4" DOUBLE YELLOW CENTERLINE STRIPING	LF	2970	\$ 1.65	\$4,900.50
22	4" WHITE STRIPING	LF	89	\$ 1.20	\$106.80
23	SIGN AND POST	EA	10	\$ 350.00	\$3,500.00
24	EROSION CONTROL	LS	1	\$ 15,000.00	\$15,000.00
25	TURF ESTABLISHMENT (SEEDING)	AC	1	\$ 3,500.00	\$3,500.00
26	BENCH	EA	2	\$ 3,500.00	\$7,000.00
				Construction Costs	\$470,151.70
				20% Contingency	\$94,030.34
				20% Non-Construction Cost	\$112,836.41
				<b>TOTAL SEGMENT 2 COST</b>	<b>\$677,018.45</b>

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**SEGMENT 2/3 CROSSING : LOWER AFTON ROAD**

No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
<b>CONCEPT 1: AT GRADE CROSSING (BASE)</b>					
1	MOBILIZATION (5%)	LS	1	\$ 5,800.00	\$5,800.00
2	TRAFFIC CONTROL	LS	1	\$ 8,500.00	\$8,500.00
3	COMMON EXCAVATION (EV)	CY	40	\$ 12.00	\$480.00
4	SUBGRADE PREPARATION	SY	172	\$ 2.25	\$387.00
5	AGGREGATE BASE, TRAIL (8" THICK)	CY	39	\$ 30.00	\$1,170.00
6	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	178	\$ 18.00	\$3,204.00
7	CONCRETE RAMP (6" THICK)	SY	33	\$ 70.00	\$2,310.00
8	TRUNCATED DOMES	SF	40	\$ 55.00	\$2,200.00
9	PEDESTRIAN CROSSWALK FLASHER SYSTEM (OVERHEAD)	LS	1	\$ 60,000.00	\$60,000.00
10	CROSSWALK STRIPING	SF	216	\$ 32.00	\$6,912.00
11	SIGN AND POST	EA	4	\$ 350.00	\$1,400.00
12	EROSION CONTROL	LS	1	\$ 1,500.00	\$1,500.00
13	TURF ESTABLISHMENT	AC	0.1	\$ 3,500.00	\$350.00
14	TRAIL LIGHTING	EA	4	\$ 6,500.00	\$26,000.00
Construction Costs					\$120,213.00
20% Contingency					\$24,042.60
20% Non-Construction Cost					\$28,851.12
<b>TOTAL CONCEPT 1: AT GRADE CROSSING (BASE) COST</b>					<b>\$173,106.72</b>

**CONCEPT 2: PEDESTRIAN UNDERPASS (ADD ALTERNATE)**

1	MOBILIZATION (5%)	LS	1	\$ 22,600.00	\$22,600.00
2	TRAFFIC CONTROL	LS	1	\$ 20,000.00	\$20,000.00
3	REMOVE BITUMINOUS PAVEMENT	SY	239	\$ 5.00	\$1,195.00
4	REMOVE CURB AND GUTTER	LF	60	\$ 6.00	\$360.00
5	COMMON EXCAVATION (EV)	CY	570	\$ 11.00	\$6,270.00
6	COMMON EMBANKMENT (CV)	CY	999	\$ 19.00	\$18,981.00
7	SUBGRADE PREPARATION	SY	1911	\$ 2.25	\$4,299.08
8	AGGREGATE BASE, TRAIL (8" THICK)	CY	350	\$ 30.00	\$10,500.00
9	AGGREGATE BASE, ROAD (18" THICK)	CY	125	\$ 30.00	\$3,750.00
10	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	1498	\$ 18.00	\$26,964.00
11	BITUMINOUS PAVEMENT, ROAD (5" THICK)	SY	239	\$ 20.00	\$4,780.00
12	CONCRETE CURB & GUTTER	LF	60	\$ 27.00	\$1,620.00
13	12" - 18" RC PIPE SEWER	LF	80	\$ 45.00	\$3,600.00
14	12" - 18" RC PIPE APRON	EA	8	\$ 1,200.00	\$9,600.00
15	14x12 PRECAST BOX CULVERT	LF	108	\$ 1,600.00	\$172,800.00
16	WING WALL	SF	784	\$ 100.00	\$78,400.00
17	TUNNEL LIGHTING	LS	1	\$ 15,000.00	\$15,000.00
18	TRAIL LIGHTING	EA	10	\$ 6,500.00	\$65,000.00
19	SIGN AND POST	EA	6	\$ 350.00	\$2,100.00
20	EROSION CONTROL	LS	1	\$ 5,000.00	\$5,000.00
21	TURF ESTABLISHMENT (SEEDING)	AC	0.5	\$ 3,500.00	\$1,750.00
Construction Costs					\$474,569.08
20% Contingency					\$94,913.82
20% Non-Construction Cost					\$113,896.58
<b>TOTAL CONCEPT 2: PEDESTRIAN UNDERPASS (ADD ALTERNATE) COST</b>					<b>\$683,379.47</b>

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**SEGMENT 3A**

No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION (5%)	LS	1	\$ 48,800.00	\$48,800.00
2	TRAFFIC CONTROL	LS	1	\$ 12,000.00	\$12,000.00
3	REMOVE BITUMINOUS PAVEMENT	SY	2422	\$ 5.00	\$12,110.00
4	REMOVE CURB AND GUTTER	LF	525	\$ 6.00	\$3,150.00
5	REMOVE STORM STRUCTURE	EA	3	\$ 650.00	\$1,950.00
6	REMOVE STORM PIPE	LF	29	\$ 12.00	\$348.00
7	REMOVE HYDRANT	EA	1	\$ 2,500.00	\$2,500.00
8	RELOCATE OVERHEAD POWER POLES	EA	18	\$ 450.00	\$8,100.00
9	SALVAGE AND REINSTALL MAILBOX	EA	15	\$ 150.00	\$2,250.00
10	COMMON EXCAVATION (EV)	CY	1448	\$ 11.00	\$15,928.00
11	SUBGRADE PREPARATION	SY	1328	\$ 2.25	\$2,987.33
12	AGGREGATE BASE, TRAIL (8" THICK)	CY	878	\$ 30.00	\$26,340.00
13	AGGREGATE BASE, ROAD (18" THICK)	CY	329	\$ 30.00	\$9,870.00
14	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	3764	\$ 18.00	\$67,752.00
15	BITUMINOUS PAVEMENT, ROAD (5" THICK)	SY	627	\$ 20.00	\$12,540.00
16	CONCRETE CURB & GUTTER	LF	2823	\$ 27.00	\$76,221.00
17	12" - 18" RC PIPE SEWER	LF	50	\$ 45.00	\$2,250.00
18	STORM STRUCTURE	EA	4	\$ 4,000.00	\$16,000.00
19	STORM/SANITARY CASTING ADJUSTMENT	EA	19	\$ 750.00	\$14,250.00
20	HYDRANT	EA	1	\$ 4,500.00	\$4,500.00
21	RETAINING WALL, LARGE BLOCK	SF	5625	\$ 65.00	\$365,625.00
22	6' CHAIN-LINK FENCE, POLYMER COATED	LF	1402	\$ 55.00	\$77,110.00
23	4" DOUBLE YELLOW CENTERLINE STRIPING	LF	2823	\$ 1.65	\$4,657.95
24	SIGN AND POST	EA	8	\$ 350.00	\$2,800.00
25	EROSION CONTROL	LS	1	\$ 8,000.00	\$8,000.00
26	TURF ESTABLISHMENT (SEEDING)	AC	2	\$ 3,500.00	\$7,000.00
27	TRAIL LIGHTING	EA	24	\$ 6,500.00	\$156,000.00
28	STORMWATER MANAGEMENT	LS	1	\$ 60,000.00	\$60,000.00
29	BENCH	EA	1	\$ 3,500.00	\$3,500.00
				Construction Costs	\$1,024,539.28
				20% Contingency	\$204,907.86
				20% Non-Construction Cost	\$245,889.43
				<b>TOTAL SEGMENT 3 COST</b>	<b>\$1,475,336.56</b>

**SEGMENT 3B**

No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
<b>CONCEPT 1: AT GRADE ROAD SHARED USE TRAIL FINAL 675' (BASE)</b>					
1	MOBILIZATION (5%)	LS	1	\$ 42,700.00	\$42,700.00
2	TRAFFIC CONTROL	LS	1	\$ 12,000.00	\$12,000.00
3	REMOVE BITUMINOUS PAVEMENT	SY	1170	\$ 5.00	\$5,850.00
4	REMOVE CURB AND GUTTER	LF	675	\$ 6.00	\$4,050.00
5	REMOVE STORM STRUCTURE	EA	3	\$ 650.00	\$1,950.00
6	REMOVE STORM PIPE	LF	25	\$ 12.00	\$300.00
7	REMOVE HYDRANT	EA	1	\$ 2,500.00	\$2,500.00
8	RELOCATE OVERHEAD POWER POLES	EA	15	\$ 450.00	\$6,750.00
9	SALVAGE AND REINSTALL MAILBOX	EA	14	\$ 150.00	\$2,100.00
10	COMMON EXCAVATION (EV)	CY	1194	\$ 11.00	\$13,134.00
11	SUBGRADE PREPARATION	SY	1095	\$ 2.25	\$2,462.63
12	AGGREGATE BASE, TRAIL (8" THICK)	CY	609	\$ 30.00	\$18,270.00
13	AGGREGATE BASE, ROAD (18" THICK)	CY	386	\$ 30.00	\$11,580.00
14	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	2608	\$ 18.00	\$46,944.00
15	BITUMINOUS PAVEMENT, ROAD (5" THICK)	SY	735	\$ 20.00	\$14,700.00
16	CONCRETE CURB & GUTTER	LF	2621	\$ 27.00	\$70,767.00
17	12" - 18" RC PIPE SEWER	LF	30	\$ 45.00	\$1,350.00
18	STORM STRUCTURE	EA	4	\$ 4,000.00	\$16,000.00
19	STORM/SANITARY CASTING ADJUSTMENT	EA	18	\$ 750.00	\$13,500.00
20	HYDRANT	EA	1	\$ 4,500.00	\$4,500.00
21	RETAINING WALL, LARGE BLOCK	SF	4348	\$ 65.00	\$282,620.00
22	6' CHAIN-LINK FENCE, POLYMER COATED	LF	1082	\$ 55.00	\$59,510.00
23	4" DOUBLE YELLOW CENTERLINE STRIPING	LF	2621	\$ 1.65	\$4,324.65
24	8' WIDE BIKEWAY STRIPING SYSTEM	LF	675	\$ 40.00	\$27,000.00
25	SIGN AND POST	EA	7	\$ 350.00	\$2,450.00
26	EROSION CONTROL	LS	1	\$ 8,000.00	\$8,000.00
27	TURF ESTABLISHMENT (SEEDING)	AC	2	\$ 3,500.00	\$7,000.00
28	TRAIL LIGHTING	EA	23	\$ 6,500.00	\$149,500.00
29	STORMWATER MANAGEMENT	LS	1	\$ 60,000.00	\$60,000.00
30	BENCH	EA	1	\$ 3,500.00	\$3,500.00
				Construction Costs	\$895,312.28
				20% Contingency	\$179,062.46
				20% Non-Construction Cost	\$214,874.95
				<b>TOTAL CONCEPT 1: AT GRADE ROAD SHARED USE TRAIL FINAL 675' (BASE) COST</b>	<b>\$1,289,249.68</b>

CONCEPT 2: FULL ROAD RECONSTRUCT FINAL 675' (ADD ALTERNATE)					
1	ROW ACQUISITION	SF	4000	\$ 5.50	\$22,000.00
2	PROPERTY ACQUISITION	EA	1	\$ 241,000.00	\$241,000.00
3	MOBILIZATION (5%)	LS	1	\$ 74,100.00	\$74,100.00
4	TRAFFIC CONTROL	LS	1	\$ 18,000.00	\$18,000.00
5	REMOVE BITUMINOUS PAVEMENT	SY	2970	\$ 5.00	\$14,850.00
6	REMOVE CURB AND GUTTER	LF	1350	\$ 6.00	\$8,100.00
7	REMOVE STORM STRUCTURE	EA	6	\$ 650.00	\$3,900.00
8	REMOVE STORM PIPE	LF	50	\$ 12.00	\$600.00
9	REMOVE HYDRANT	EA	2	\$ 2,500.00	\$5,000.00
10	REMOVE STAIRS	EA	2	\$ 500.00	\$1,000.00
11	REMOVE TREES AND LANDSCAPING	LS	1	\$ 15,000.00	\$15,000.00
12	REMOVE CONCRETE DRIVEWAY	EA	6	\$ 600.00	\$3,600.00
13	RELOCATE OVERHEAD POWER POLES	EA	18	\$ 450.00	\$8,100.00
14	SALVAGE AND REINSTALL MAILBOX	EA	19	\$ 150.00	\$2,850.00
15	SALVAGE AND REINSTALL RETAINING WALL	SF	600	\$ 55.00	\$33,000.00
16	COMMON EXCAVATION (EV)	CY	2537	\$ 11.00	\$27,907.00
17	SUBGRADE PREPARATION	SY	2325	\$ 2.25	\$5,232.15
18	AGGREGATE BASE, TRAIL (8" THICK)	CY	783	\$ 30.00	\$23,490.00
19	AGGREGATE BASE, ROAD (18" THICK)	CY	1331	\$ 30.00	\$39,930.00
20	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	3355	\$ 18.00	\$60,390.00
21	BITUMINOUS PAVEMENT, ROAD (5" THICK)	SY	2535	\$ 20.00	\$50,700.00
22	CONCRETE CURB & GUTTER	LF	3971	\$ 27.00	\$107,217.00
23	CONCRETE DRIVEWAY	EA	6	\$ 2,000.00	\$12,000.00
24	CONCRETE BARRIER	LF	675	\$ 175.00	\$118,125.00
25	RETAINING WALL, LARGE BLOCK	SF	4348	\$ 65.00	\$282,620.00
26	RETAINING WALL, SMALL BLOCK STONE	SF	2145	\$ 80.00	\$171,600.00
27	CHAINLINK FENCE	LF	3296	\$ 40.00	\$131,840.00
28	STAIRS AND HANDRAIL	EA	2	\$ 2,500.00	\$5,000.00
29	12" - 18" RC PIPE SEWER	LF	40	\$ 45.00	\$1,800.00
30	STORM STRUCTURE	EA	8	\$ 4,000.00	\$32,000.00
31	STORM/SANITARY CASTING ADJUSTMENT	EA	12	\$ 750.00	\$9,000.00
32	HYDRANT	EA	2	\$ 4,500.00	\$9,000.00
33	4" DOUBLE YELLOW CENTERLINE STRIPING	LF	2621	\$ 1.65	\$4,324.65
34	SIGN AND POST	EA	22	\$ 350.00	\$7,700.00
35	EROSION CONTROL	LS	1	\$ 4,500.00	\$4,500.00
36	TURF ESTABLISHMENT (SEEDING)	AC	3	\$ 3,500.00	\$8,750.00
37	PRIVATE LANDSCAPING	LS	1	\$ 25,000.00	\$25,000.00
38	TRAIL LIGHTING	EA	23	\$ 6,500.00	\$149,500.00
39	STORMWATER MANAGEMENT	LS	1	\$ 75,000.00	\$75,000.00
40	BENCH	EA	1	\$ 3,500.00	\$3,500.00
Construction Costs					\$1,817,225.80
20% Contingency					\$363,445.16
20% Non-Construction Cost					\$436,134.19
<b>TOTAL CONCEPT 2: FULL ROAD RECONSTRUCT FINAL 675' (ADD ALTERNATE) COST</b>					<b>\$2,616,805.15</b>

SEGMENT 4					
No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION (5%)	LS	1	\$ 27,600.00	\$27,600.00
2	TRAFFIC CONTROL	LS	1	\$ 7,500.00	\$7,500.00
3	REMOVE BITUMINOUS PAVEMENT	SY	2031	\$ 5.00	\$10,155.00
4	REMOVE TREES	LS	1	\$ 25,000.00	\$25,000.00
5	COMMON EXCAVATION (EV)	CY	371	\$ 12.00	\$4,452.00
6	SUBGRADE PREPARATION	SY	4767	\$ 2.25	\$10,726.65
7	AGGREGATE BASE, TRAIL (8" THICK)	CY	1011	\$ 30.00	\$30,330.00
8	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	4334	\$ 18.00	\$78,012.00
9	STORM/SANITARY STRUCTURE ADJUSTMENT	EA	13	\$ 750.00	\$9,750.00
10	RETAINING WALL, LARGE BLOCK	SF	1360	\$ 65.00	\$88,400.00
11	6' CHAIN-LINK FENCE, POLYMER COATED	LF	186	\$ 55.00	\$10,230.00
12	SIGN AND POST	EA	12	\$ 350.00	\$4,200.00
13	EROSION CONTROL	LS	1	\$ 11,000.00	\$11,000.00
14	TURF ESTABLISHMENT (SEEDING)	AC	1.5	\$ 3,500.00	\$5,250.00
15	TRAIL LIGHTING	EA	26	\$ 6,500.00	\$169,000.00
16	STORMWATER MANAGEMENT	LS	1	\$ 80,000.00	\$80,000.00
17	BENCH	EA	2	\$ 3,500.00	\$7,000.00
Construction Costs					\$578,605.65
20% Contingency					\$115,721.13
20% Non-Construction Cost					\$138,865.36
<b>TOTAL SEGMENT 4 COST</b>					<b>\$833,192.14</b>

**SEGMENT 5A**

No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION (5%)	LS	1	\$ 26,200.00	\$26,200.00
2	TRAFFIC CONTROL	LS	1	\$ 7,500.00	\$7,500.00
3	REMOVE BITUMINOUS PAVEMENT	SY	4533	\$ 5.00	\$22,665.00
4	REMOVE CURB AND GUTTER	LF	2400	\$ 6.00	\$14,400.00
5	REMOVE STORM STRUCTURE	EA	5	\$ 650.00	\$3,250.00
6	REMOVE STORM PIPE	LF	200	\$ 12.00	\$2,400.00
7	REMOVE HYDRANT	EA	1	\$ 2,500.00	\$2,500.00
8	COMMON EXCAVATION (EV)	CY	1643	\$ 11.00	\$18,073.00
9	SUBGRADE PREPARATION	SY	1013	\$ 2.25	\$2,279.25
10	AGGREGATE BASE, TRAIL (8" THICK)	CY	782	\$ 30.00	\$23,460.00
11	AGGREGATE BASE, ROAD (18" THICK)	CY	587	\$ 30.00	\$17,610.00
12	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	3200	\$ 18.00	\$57,600.00
13	BITUMINOUS PAVEMENT, ROAD (5" THICK)	SY	1067	\$ 20.00	\$21,340.00
14	CONCRETE CURB & GUTTER	LF	2400	\$ 27.00	\$64,800.00
15	CONCRETE RAMP (6" THICK)	SY	33	\$ 70.00	\$2,310.00
16	TRUNCATED DOMES	SF	40	\$ 55.00	\$2,200.00
17	CONNECT TO EXISTING STORM SEWER PIPE	EA	7	\$ 450.00	\$3,150.00
18	STORM STURCTURE	EA	7	\$ 4,000.00	\$28,000.00
19	STORM/SANITARY CASTING ADJUSTMENT	EA	20	\$ 750.00	\$15,000.00
20	HYDRANT	EA	1	\$ 4,500.00	\$4,500.00
21	4" DOUBLE YELLOW CENTERLINE STRIPING	LF	2400	\$ 1.65	\$3,960.00
22	CROSSWALK STRIPING	SF	234	\$ 32.00	\$7,488.00
23	SIGN AND POST	EA	4	\$ 350.00	\$1,400.00
24	EROSION CONTROL	LS	1	\$ 5,000.00	\$5,000.00
25	TURF ESTABLISHMENT (SEEDING)	AC	1.0	\$ 3,500.00	\$3,500.00
26	TRAIL LIGHTING	EA	20	\$ 6,500.00	\$130,000.00
27	STORMWATER MANAGEMENT	LS	1	\$ 55,000.00	\$55,000.00
28	BENCH	EA	1	\$ 3,500.00	\$3,500.00
	Construction Costs				\$549,085.25
	20% Contingency				\$109,817.05
	20% Non-Construction Cost				\$131,780.46
	<b>TOTAL SEGMENT 5 COST</b>				<b>\$790,682.76</b>

**SEGMENT 5B**

No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
1	MOBILIZATION (5%)	LS	1	\$ 51,900.00	\$51,900.00
2	TRAFFIC CONTROL	LS	1	\$ 7,500.00	\$7,500.00
3	REMOVE BITUMINOUS PAVEMENT	SY	3544	\$ 5.00	\$17,720.00
4	REMOVE CURB AND GUTTER	LF	2900	\$ 6.00	\$17,400.00
5	REMOVE STORM STRUCTURE	EA	6	\$ 650.00	\$3,900.00
6	REMOVE STORM PIPE	LF	271	\$ 12.00	\$3,252.00
7	REMOVE HYDRANT	EA	1	\$ 2,500.00	\$2,500.00
8	REMOVE TREES	LS	1	\$ 22,000.00	\$22,000.00
9	COMMON EXCAVATION (EV)	CY	3044	\$ 11.00	\$33,484.00
10	SUBGRADE PREPARATION	SY	2071	\$ 2.25	\$4,659.75
11	AGGREGATE BASE, TRAIL (8" THICK)	CY	654	\$ 30.00	\$19,620.00
12	AGGREGATE BASE, ROAD (18" THICK)	CY	1883	\$ 30.00	\$56,490.00
13	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	2675	\$ 18.00	\$48,150.00
14	BITUMINOUS PAVEMENT, ROAD (5" THICK)	SY	3424	\$ 20.00	\$68,480.00
15	CONCRETE CURB & GUTTER	LF	2900	\$ 27.00	\$78,300.00
16	CONNECT TO EXISTING STORM SEWER PIPE	EA	7	\$ 450.00	\$3,150.00
17	STORM STURCTURE	EA	7	\$ 4,000.00	\$28,000.00
18	STORM/SANITARY CASTING ADJUSTMENT	EA	25	\$ 750.00	\$18,750.00
19	RETAINING WALL, LARGE BLOCK	SF	4761	\$ 65.00	\$309,465.00
20	6' CHAIN-LINK FENCE, POLYMER COATED	LF	775	\$ 55.00	\$42,625.00
21	HYDRANT	EA	1	\$ 4,500.00	\$4,500.00
22	4" DOUBLE YELLOW CENTERLINE STRIPING	LF	2900	\$ 1.65	\$4,785.00
23	SIGN AND POST	EA	4	\$ 350.00	\$1,400.00
24	EROSION CONTROL	LS	1	\$ 5,000.00	\$5,000.00
25	TURF ESTABLISHMENT (SEEDING)	AC	1.5	\$ 3,500.00	\$5,250.00
26	TRAIL LIGHTING	EA	25	\$ 6,500.00	\$162,500.00
27	STORMWATER MANAGEMENT	LS	1	\$ 65,000.00	\$65,000.00
28	BENCH	EA	1	\$ 3,500.00	\$3,500.00
	Construction Costs				\$1,089,280.75
	20% Contingency				\$217,856.15
	20% Non-Construction Cost				\$261,427.38
	<b>TOTAL SEGMENT 5 COST</b>				<b>\$1,568,564.28</b>

**ROAD CROSSING : BAILEY ROAD**

No.	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL AMOUNT
<b>CONCEPT 1: AT GRADE CROSSING AT BAILEY ROAD INTERSECTION (BASE)</b>					
1	MOBILIZATION (5%)	LS	1	\$ 10,000.00	\$ 10,000.00
2	TRAFFIC CONTROL	LS	1	\$ 4,500.00	\$ 4,500.00
3	REMOVE BITUMINOUS PAVEMENT	SY	387	\$ 5.00	\$ 1,935.00
4	REMOVE CURB AND GUTTER	LF	869	\$ 6.00	\$ 5,214.00
5	COMMON EXCAVATION (EV)	CY	538	\$ 11.00	\$ 5,918.00
6	SUBGRADE PREPARATION	SY	1486	\$ 2.25	\$ 3,343.50
7	AGGREGATE BASE, TRAIL (8" THICK)	CY	236	\$ 30.00	\$ 7,080.00
8	AGGREGATE BASE, ROAD (18" THICK)	CY	212	\$ 30.00	\$ 6,360.00
9	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	965	\$ 18.00	\$ 17,370.00
10	BITUMINOUS PAVEMENT, ROAD (5" THICK)	SY	386	\$ 20.00	\$ 7,720.00
11	CONCRETE CURB & GUTTER	LF	869	\$ 27.00	\$ 23,463.00
12	4" DOUBLE YELLOW CENTERLINE STRIPING	LF	869	\$ 1.65	\$ 1,433.85
13	PEDESTRIAN CROSSWALK FLASHER SYSTEM (AT GRADE)	LS	1	\$ 30,000.00	\$ 30,000.00
14	CROSSWALK STRIPING	SF	252	\$ 32.00	\$ 8,064.00
15	SIGN AND POST	EA	2	\$ 350.00	\$ 700.00
16	EROSION CONTROL	LS	1	\$ 2,500.00	\$ 2,500.00
17	TURF ESTABLISHMENT	AC	0.5	\$ 3,500.00	\$ 1,750.00
18	TRAIL LIGHTING	EA	8	\$ 6,500.00	\$52,000.00
19	STORMWATER MANAGEMENT	LS	1	\$ 20,000.00	\$20,000.00

Construction Costs	\$209,351.35
20% Contingency	\$41,870.27
20% Non-Construction Cost	\$50,244.32

**TOTAL CONCEPT 1: AT GRADE CROSSING AT BAILEY ROAD INTERSECTION (BASE) COST \$301,465.94**

<b>CONCEPT 2: CONNECT TO BAILEY ROAD BRIDGE (DEDUCT ALTERNATE)</b>					
1	MOBILIZATION (5%)	LS	1	\$ 1,900.00	\$ 1,900.00
2	TRAFFIC CONTROL	LS	1	\$ 1,500.00	\$ 1,500.00
3	COMMON EXCAVATION (EV)	CY	122	\$ 11.00	\$ 1,342.00
4	COMMON EMBANKMENT (CV)	CY	245	\$ 19.00	\$ 4,655.00
5	SUBGRADE PREPARATION	SY	367	\$ 2.25	\$ 825.75
6	AGGREGATE BASE, TRAIL (8" THICK)	CY	78	\$ 30.00	\$ 2,340.00
7	BITUMINOUS PAVEMENT, TRAIL (4" THICK)	SY	334	\$ 18.00	\$ 6,012.00
8	12" - 18" RC PIPE SEWER	LF	20	\$ 45.00	\$ 900.00
9	12" - 18" RC PIPE APRON	EA	2	\$ 1,200.00	\$ 2,400.00
10	CROSSWALK STRIPING	SF	414	\$ 32.00	\$ 13,248.00
11	SIGN AND POST	EA	1	\$ 350.00	\$ 350.00
12	EROSION CONTROL	LS	1	\$ 2,500.00	\$ 2,500.00
13	TURF ESTABLISHMENT	AC	0.5	\$ 3,500.00	\$ 1,750.00
14	TRAIL LIGHTING	EA	4	\$ 6,500.00	\$ 26,000.00

Construction Costs	\$39,722.75
20% Contingency	\$7,944.55
20% Non-Construction Cost	\$9,533.46

**TOTAL CONCEPT 2: CONNECT TO BAILEY ROAD BRIDGE (DEDUCT ALTERNATE) COST \$57,200.76**

<b>SUMMARY</b>	
SEGMENT	COST
SEGMENT 2	\$470,151.70
LOWER AFTON ROAD CROSSING CONCEPT 1 (BASE)	\$120,213.00
SEGMENT 3A	\$1,024,539.28
SEGMENT 3B CONCEPT 1 (BASE)	\$895,312.28
SEGMENT 4	\$578,605.65
SEGMENT 5A	\$549,085.25
SEGMENT 5B	\$1,089,280.75
BAILEY ROAD CONCEPT 1 (BASE)	\$209,351.35
Construction Costs	\$4,936,539.25
20% Contingency	\$987,307.85
20% Non-Construction Cost	\$1,184,769.42
<b>TOTAL PROJECT COST BASE COST</b>	<b>\$7,108,616.52</b>
ALTERNATES	COST
ADD ALTERNATE: LOWER AFTON ROAD CROSSING CONCEPT 2	\$510,272.75
ADD ALTERNATE: SEGMENT 3B CONCEPT 2	\$1,327,555.48
DEDUCT ALTERNATE: BAILEY ROAD CONCEPT 2	-\$244,265.18