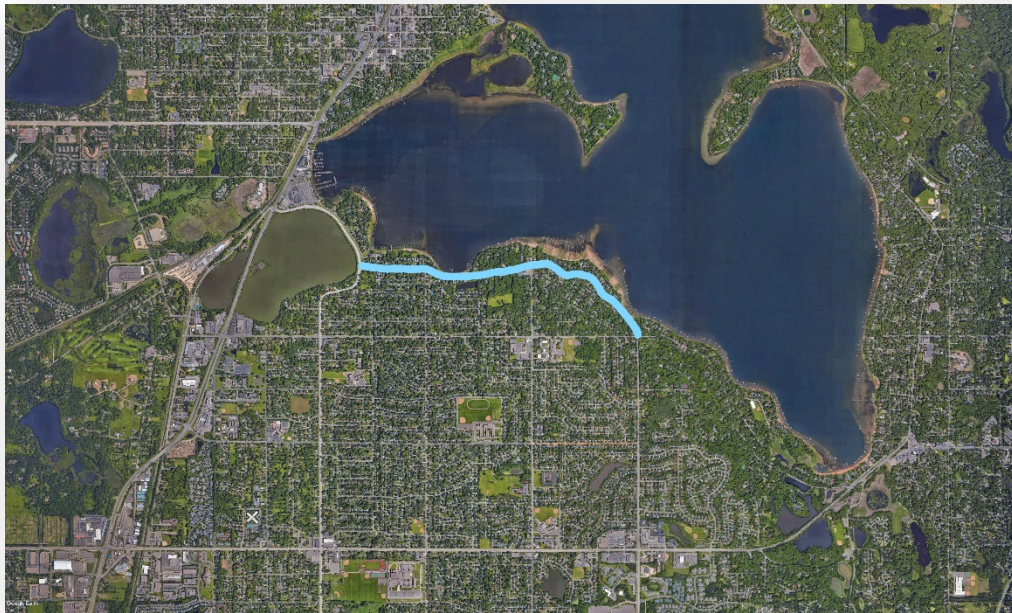


# South Shore Boulevard Trail Preliminary Design Development Report

Prepared for:  
Ramsey County

in cooperation with:  
City of White Bear Lake & White Bear Township



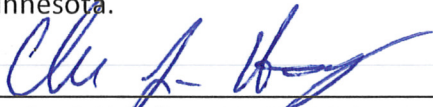
Prepared By:



April 27, 2018

## **CERTIFICATION**

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the state of Minnesota.

  
\_\_\_\_\_  
Charles J. Howley, PE, CPESC, LEED AP  
Lic. No. 42728

4-27-18  
Date

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## **PROJECT SUMMARY/BACKGROUND**

This report summarizes the results of a preliminary design development study for incorporating a multi-use trail along South Shore Boulevard. The area of focus for this study was limited to the South Shore Boulevard corridor, between White Bear Avenue and East County Line Road. Alternative alignments outside of this corridor were not reviewed as part of this study due to the specific nature of the funding received for the effort.

South Shore Boulevard (Ramsey County Road 94) is a 1.5-mile-long two-way rural roadway located along the southern shore of White Bear Lake. The western two thirds of the road lie within the City of White Bear Lake with the eastern one third within White Bear Township. The majority of the abutting land use is single family residential, although there is a church and a public beach located at the intersection with Bellaire Avenue. The road is used both for access to the homes located within the corridor as well as a connection between White Bear Avenue and East County Line Road.

This corridor was identified in the Lake Links Trail Network Master Plan as one of the various segments needed to complete the overall network of multi-use trails. The Master Plan was completed in January 2001 (see Exhibit A).

This preliminary design development effort is being led by Ramsey County and was funded by State GO bond funds via a pass-through grant from the Metropolitan Council. The overall State funding amount was \$255,000 and included designated funding for other multi-use trail projects in the area, including:

- \$130,000 to the City of White Bear Lake for the Old White Bear Avenue segment
- \$38,000 to the cities of Mahtomedi and Dellwood for the TH244 segment
- \$34,000 to the City of Mahtomedi for the Birchwood Road to Hall Road segment

A Project Advisory Team (PAT) was formed for this study and includes representatives from:

- Ramsey County Parks and Recreation
- Ramsey County Public Works
- City of White Bear Lake
- White Bear Township

The main goal of the study is to identify conceptual funding amounts and how to feasibly implement the trail. The tasks completed by the PAT to date have been:

- Preparation of high level concepts for the trail alignment along South Shore Boulevard
- Conducted a robust public outreach campaign including 2 public information meetings
- Evaluation and scoring of the prepared concepts
- Preparation of a summary report

The concepts were developed based on performing several tasks, including; performing a limited traffic study; reviewing existing right-of-way and topography; laying out various road

and trail configurations; consideration of public input; and reviewing potential impacts to private property.

Reconfiguring South Shore Boulevard from the existing two-way traffic flow to one-way is an underlying concept for some of the options and was originally proposed as part of the Lake Links Master Plan engagement. This traffic flow conversion would undoubtedly have an impact to the surrounding roadway system and thus was a priority focus for the PAT to review.

The remaining tasks to be completed are to report the findings of this study to the three jurisdictional authorities (City of White Bear Lake Council, White Bear Town Board, and Ramsey County), to obtain their feedback, and to get further direction on the project implementation. The nature of the jurisdictional reporting is planned to be conducted independently by their various staff personnel, but in a collaborative effort with the other PAT members.

## **STATEMENT OF NEED**

The compelling need for performing this study is to move the implementation of the South Shore Boulevard segment of the Lake Links Master Plan in a forward direction while building upon recent funding support momentum. This is supported by the concept that an interlinked trail system within and between local communities will offer outstanding recreational potential and provide high community value. Completing a comprehensive trail system will also help alleviate unsafe conditions now found for pedestrians and bicyclists within the study area.

## **EXISTING CONDITIONS**

Due to its proximity to White Bear Lake, South Shore Boulevard is identified as a highly sought-after recreational and transportation opportunity, and thus was a main reason for designating this specific corridor as a segment of the overall Lake Links Trail Network.

Characteristics of the existing South Shore Boulevard corridor are as follows:

- Bituminous pavement
- Low speed (posted 30 mph)
- Two-way traffic
- Rural cross section (ditch drainage, no curb and gutter)
- 12-foot drive lanes and shoulders of varying width
- All way stop condition at Bellaire Avenue
- Numerous driveway connections on both sides of the street
- Varying right-of-way width, with wider and more consistent width on the west compared to irregular and narrower on the east
- No dedicated sidewalk or trail
- Areas of steep topography and varying vegetative density on both sides of the road



Most of the vehicular traffic volume for South Shore Boulevard consists of east/west commuters rather than local access. Reportedly, this route is commonly used in lieu of County Road F due to its' shorter length and more scenic nature. A vehicular speed study was recommended but not able to be performed due to the time of year when the study was completed.

The existing non-vehicular traffic (bicycles and pedestrians) volume using the corridor has not been quantified and was not part of the scope of the traffic study. The potential volume of non-vehicular traffic for this corridor may be relatively hard to predict, as there is reason to believe some of the users are avoiding this corridor due to existing safety concerns.



*Existing conditions near west  
end of South Shore Boulevard*



*Existing conditions near east  
end of South Shore Boulevard*

The traffic study broke the corridor down into 3 segments based on intersections with the main north/south local streets (McKnight Road and Bellaire Avenue). These north/south streets provide alternate vehicular routes connecting County Road F and South Shore Boulevard, and thereby result in varying traffic volumes along the road, generally decreasing as you go east.

The following is a summary of the traffic volumes for each segment (additional information can be found in Appendix D):

1. White Bear Avenue to McKnight (City of White Bear Lake), ADT 5900
2. McKnight Road to Bellaire Avenue (City of White Bear Lake), ADT 3850
3. Bellaire Avenue to East County Line Road (White Bear Township), ADT 2600

## **TRAIL NETWORKS AND PLANNING**

The vision of the Lake Links Trail Network is to provide a safer and more accommodating path around White Bear Lake for various types of users including pedestrians, bicyclists, and commuters. As the Master Plan is now more than fifteen years old, there has been a

substantial amount of time and effort related to its implementation. The various segments are in different stages of completion as they have been being implemented independently of each other. Each segment is also taking on various types of paths, depending on its surroundings, such as on-road segments, one-way segments, paths through wooded areas, etc.

Currently the South Shore Boulevard segment is not identified as regional in nature, however is classified as a Tier 1 Priority Regional Bicycle Transportation Corridor (Alignment Undefined) by the Met Council (see Appendix A). Obtaining a regional trail designation will be re-visited by the County through a separate effort outside of this study.

## **TRAIL OPTIONS**

Six (6) distinct options were ultimately evaluated by the PAT although these options were condensed and presented as three higher-level alternatives for the public outreach campaign. Renderings for these alternatives are shown in Appendix B.

The higher-level alternatives consisted of:

1. Adding a trail while keeping the two-way traffic configuration
2. Adding a trail while converting South Shore Boulevard to a one-way configuration
3. Adding a trail while converting only the eastern portion of South Shore Boulevard to a one-way configuration (referred to as the Combo option)

Within each of these alternatives a subset of options was reviewed, although not studied in great detail, including:

- Locating the trail adjacent to, or separated from, the road
- Fully reconstructing the road or merely performing a maintenance activity
- Shifting the road alignment or keeping centerline in its current location
- Placing the trail on the north or south side of the road
- Which direction the switch to one-way traffic flow would be
- Incorporating a vertical separation for the trail or just using striping
- For the Combo option, making the transition from a two-way to a one-way at McKnight Road or Bellaire Avenue

The following summarizes the six (6) options developed and evaluated by the PAT:

### **1. STRIPE EXISTING**

The existing road would undergo scheduled pavement and drainage maintenance activities upon which a portion of the existing pavement would be striped as a dedicated multi-use trail. If the pavement maintenance activity allows the centerline (crown) to shift, then the trail could be located on the north side and would be approximately 6 feet wide. If the centerline does not move, then the striped trail would have to be located on the south side of the road and would be approximately 5 feet wide. Additional improvements such as signage, barriers, enhanced striping and/or lane demarcation, and traffic calming

measures should also be considered to provide a safe environment for the trail users. The current two-way traffic flow would remain and no temporary or permanent right-of-way acquisition would be required.

## **2. TWO-WAY SEPARATED**

The road would be fully reconstructed with an urban cross section consisting of 11-foot drive lanes, curbing, 5-foot vegetated boulevard, and a 10-foot paved trail on the north side. Stormwater management and other drainage improvements would be included. Roadway centerline alignment would likely be optimized within the right-of-way to reduce impacts. Temporary and permanent right-of-way acquisition would be required.

## **3. TWO-WAY OPTIMIZED**

The road would be fully reconstructed in the same manner as the Two-Way Separated option, however the difference is that the trail would be pulled in adjacent to the back of curb in various locations to avoid impacts to existing conditions. Temporary and permanent right-of-way acquisition would still be required.

## **4. ONE-WAY SEPARATED**

The road would be fully reconstructed with an urban cross section with a switch to a one-way traffic flow. The direction of one-way traffic flow has not been selected and needs further study. The section would consist of an 11-foot drive lane, a 3-foot shoulder, curbing, a 5-foot vegetated boulevard, and a 10-foot paved trail on the north side. Stormwater management and other drainage improvements would be included. Temporary and, potentially permanent, right-of-way acquisition may be required, but needs further study.

## **5. COMBINATION**

This option is a combination of the Two-Way Separated and One-Way Separated options. The transition between the traffic flow change would occur either at McKnight Road or Bellaire Avenue. The preferred location and the configuration of this transition would need further study. Stormwater management and other drainage improvements would also be included. Temporary and, potentially permanent, right-of-way acquisition may be required, but also needs further study.

## **6. ONE-WAY (NON-RECONSTRUCTION)**

The existing road would undergo scheduled pavement and drainage maintenance activities upon which it would get converted to a one-way traffic flow (direction to be determined). As part of this conversion, a portion of the roadway width would be dedicated as a multi-use trail. The drive lane would be 11-feet wide with 3-shoulder and the trail would be 10-feet wide and on the north side. Installation of a curb for vertical separation would be added between

the road and trail. No temporary or permanent right-of-way acquisition would be required.

The reason for studying a concept involving conversion to a one-way road was based on documented support by members of the community. This support comes from various residents who live directly on South Shore Boulevard and ones who reside further out but is not a unanimous position by the general public as a whole. There are strong public opinions concerning the traffic flow conversion, both for and against.

The one-way traffic flow concept was originally introduced during the development of the Lake Links Trail Network Master Plan. The underlying concept for the traffic switch is that the footprint for the road and trail would be narrower, and thus would blend into the existing conditions with less impacts to right-of-way, driveways, topography and front yards. However, these impacts are not the only items to consider when converting traffic from a two-way to one-way configuration. Other items include change in traffic volumes on surrounding roadways, emergency vehicle access, service access such as waste hauling and mail delivery, and accessibility concerns among others. The impacts of a traffic flow conversion are expanded upon in the traffic study prepared for the project which can be found in Appendix C, however the scope of the study did not include studying the impacts to local roadways.

An issue that also must be considered when discussing the one-way concepts is that this type of traffic flow operation is incompatible with a road on the County system, and thus could lead to a transfer of jurisdictional authority. This potential transfer of jurisdiction of South Shore Boulevard to the City of White Bear Lake and White Bear Township was first proposed in 1992 in the County's "Public Works Subcommittee Final Consolidation Report" but has remained under County jurisdiction. The County plans to update this study in 2018, so the jurisdiction question will be considered separately from the South Shore Boulevard Preliminary Design Development Report.

## **PUBLIC ENGAGEMENT PROCESS**

The PAT administered two (2) public meetings to present the trail concepts and to solicit feedback from the attendees. The meetings were held on November 16, 2017 and December 7, 2017. They were held at the South Shore Trinity Lutheran Church, which is located within the project corridor at 2480 South Shore Boulevard. The meetings were advertised in various ways including sending postcards in the mail, announcements at standing public meetings, a sign placed in front of the church, word of mouth, and with notifications to the White Bear Chamber of Commerce, Lake Links Trail Association, and local businesses including Kowalski's. The mailing notification area for the first meeting was an approximate 300-foot radius around the area bounded by South Shore Boulevard, White Bear Avenue, and County Road F. The notification area for the second meeting was expanded southerly approximately ¼ mile to attract more residents south of County Road F.

The meetings were structured such that an initial short presentation by County staff and design team members was made, followed by a breakout session at multiple tables to talk in more detail about the process and concepts, and to answer questions from the attendees. Feedback was solicited using various methods, included a comment card box, sticky notes for placement directly on large corridor roll plots, verbal, and via email to the County's Park and Recreation Department.

Eighty-five (85) people signed in at the first meeting, although it appeared closer to 100 were in attendance. At the second meeting, 119 people signed in, but again, there was more in attendance than signed in. As part of the second meeting, there was a separate corridor roll plot at a designated table specifically for attendees to place a colored dot on their property that equated to their preferred alternative (Two-way, One-way, or Combo). This way we could analyze which alternative was favored based on where they live.

The following table summarizes the preferences of the public that chose to give a written opinion:

	Two-Way	One-Way	Combo	No Opinion
City of White Bear Lake residents who live on South Shore Blvd*	22%	53%	25%	n/a
White Bear Township residents who live on South Shore Blvd*	0%	76%	24%	n/a
Other area residents who don't live on South Shore Blvd*	35%	27%	38%	n/a
<b>All written comments received from both meetings regardless of where they live</b>	<b>9%</b>	<b>34%</b>	<b>11%</b>	<b>46%</b>

*\*Based on roll plot with colored dots*

Written comments from the public meetings were documented and summarized in spreadsheet format. These summaries along with some of the exhibits presented at the meetings are included in Appendix D, however due to physical size, the larger roll plots from the meetings can be viewed on the County's website found at:

<https://www.ramseycounty.us/residents/parks-recreation/parks-trails/parks-planning-projects/lake-links-trail-project>

## **COST ESTIMATES**

The 6 options have varying project costs associated with them. The largest factor is the cost of acquiring temporary easements and/or permanent right-of-way. Since the existing right-of-way is variable and of an unknown accuracy, the associated costs of the acquisition are currently approximations. An assumed number of impacted parcels was made, followed by an assumed width of acquisition, and then a Square Foot (SF) price of \$2 for temporary and \$20 for permanent was applied.



The construction costs are based on an average cost per SF of pavement reconstruction and includes drainage improvements where appropriate. The design costs were then assigned as a percentage of the construction costs. Maintenance costs are not quantified but are shown as a relative value based on reconstructed options having more longevity.

Costs associated with offsite improvements that may either be required or recommended, such as sidewalk or traffic control modifications on adjacent roads, are not included in these estimates; nor are any utility improvements that may be incorporated along with the trail project. The costs shown are based on 2018 dollars and do not include inflation or other potential cost escalations.

The cost summary is shown in the following table:

	#1 STRIPE EXISTING	#2 TWO-WAY SEPARATED	#3 TWO-WAY OPTIMIZED	#4 COMBO	#5 ONE-WAY SEPARATED	#6 ONE-WAY (NON- RECON)
RIGHT OF WAY	\$0	\$3.0 M	\$2.0 M	\$1.8 M	\$1.5 M	\$0
CONSTRUCTION	\$600 K	\$4.2 M	\$4.1 M	\$3.9 M	\$3.7 M	\$1.1 M
DESIGN	\$100 K	\$1.1 M	\$1.1 M	\$1.0 M	\$0.9 M	\$0.2 M
MAINTENANCE	High	Med	Med	Med	Med	High
<b>TOTAL</b>	<b>\$700 K</b>	<b>\$8.3 M</b>	<b>\$7.2 M</b>	<b>\$6.7 M</b>	<b>\$6.1 M</b>	<b>\$1.3 M</b>

There are no current short or long-term funding programs designated by the County for the reconstruction of South Shore Boulevard, however there are funds identified for the ongoing maintenance needs of the roadway. These maintenance funds could feasibly be used to implement Options 1 or 6 in a relatively short period of time (2019/2020), but due to the relatively high costs identified for the other options, County and local funding alone is likely not a feasible approach for implementation. The need for State funding has been discussed regularly in the PAT meetings. Further study of the project costs once a survey is completed along with a more refined cost/benefit evaluation is needed.

## **EVALUATION OF OPTIONS**

An evaluation matrix was developed to compare the various plan options for the purposes of the PAT coming to a mutually agreed upon preferred option. This matrix consisted of various criteria that the options were scored against. The criteria consist of costs, traffic operations, bicycle/pedestrian considerations, public opinion, and additional considerations. Each criterion received an overall priority and sub-criteria priority ranking, which in turn weights the scores relatively. For example, the scores under bike/ped considerations, which are essentially safety for the user, received a higher weight in the overall score when compared to the scores in traffic operations since the priority for that criterion was not assigned as high.

Each of the jurisdictions (City, Town and County) filled out one evaluation matrix independent from the others. These individual scores and priorities were then averaged and entered into a combined single matrix. The results of the combined evaluation show that the One-Way Separated Option scored the highest.

The following table summarizes the combined scores for each option (See Appendix E for the various individual jurisdictional and combined matrices):

	Stripe Existing	Two-Way Separated	Two-Way Optimized	Combo	One-Way Separated	One-Way (Non-Reconstruct)
Score	4.3	7.0	6.7	6.9	7.5	7.1
Est. Cost	\$700 K	\$8.3 M	\$7.2 M	\$6.7 M	\$6.1 M	\$1.3 M

## **RECOMMENDATION**

Even though the One-Way Separated option scored the highest, the recommendation from the PAT is to hold off identifying this option as the preferred alternative at this time and to do further study on these and other trail options outside of the South Shore Boulevard corridor.

The justification for this recommendation is based on the following factors:

- The magnitude of costs when compared to their perceived benefits.
- The proximity of other County roadway facilities that potentially may be better suited for a regional trail
- Viewing the overall trail network from a larger vantage point and broadening our look, rather than focusing merely on the proximity to the lakeshore
- The limited and irregular right-of-way of South Shore Boulevard
- The resulting scores for 5 of the options are within a small fraction of each other with no clear preference
- Obtaining mutual jurisdictional support
- The need for additional information to make a more informed recommendation

This recommendation comes with acknowledgement of potential public perception of a delayed project implementation and expeditious use of public funds. The following tasks are also recommended to be performed either separately or as part of the further study:

1. Perform a survey of the corridors to be studied, particularly with respect to South Shore Boulevard due to its complexity and impacts of right-of-way acquisition costs.
2. Perform a more detailed traffic study that includes potential impacts to local roadways, along with inclusion of non-vehicular traffic.
3. Continue to hold PAT meetings.
4. Work towards a regional trail designation for this segment and potentially widen the Tier 1 corridor mapping.
5. Study where the transition point is best suited to be located between the two-way and one-way traffic flow. This falls within the Combination option.

## **APPENDIX A**

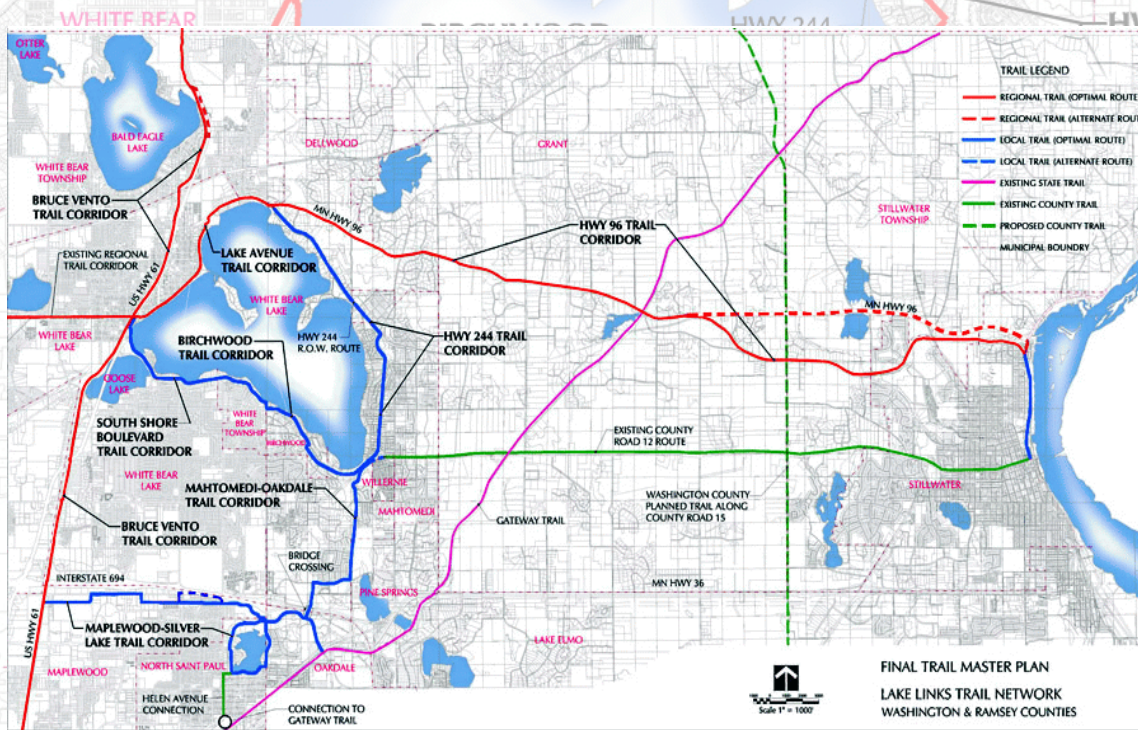
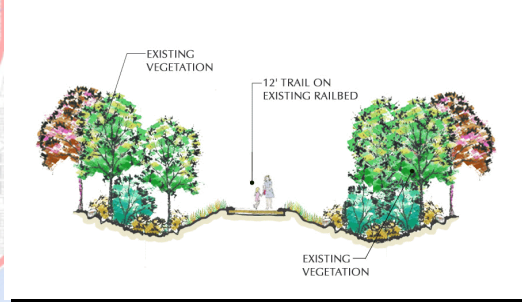
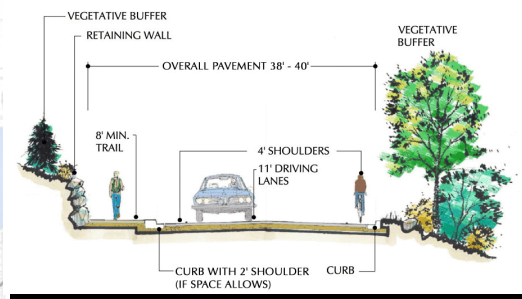


# Lake Links Trail Network Master Plan

Prepared For:  
Washington County Parks  
Ramsey County Parks

January 1, 2001

Prepared By:  
Brauer & Associates, Ltd.





# Regional Bicycle Transportation Network (RBTN) Corridors

PROPOSED

### RBTN Corridors with Alignments

- Tier 1 Alignments
- Tier 2 Alignments

### RBTN Corridors (Alignments Undefined)

- Tier 1 Priority Regional Bicycle Transportation Corridor
- Tier 2 Regional Bicycle Transportation Corridors

### Other Trail Systems

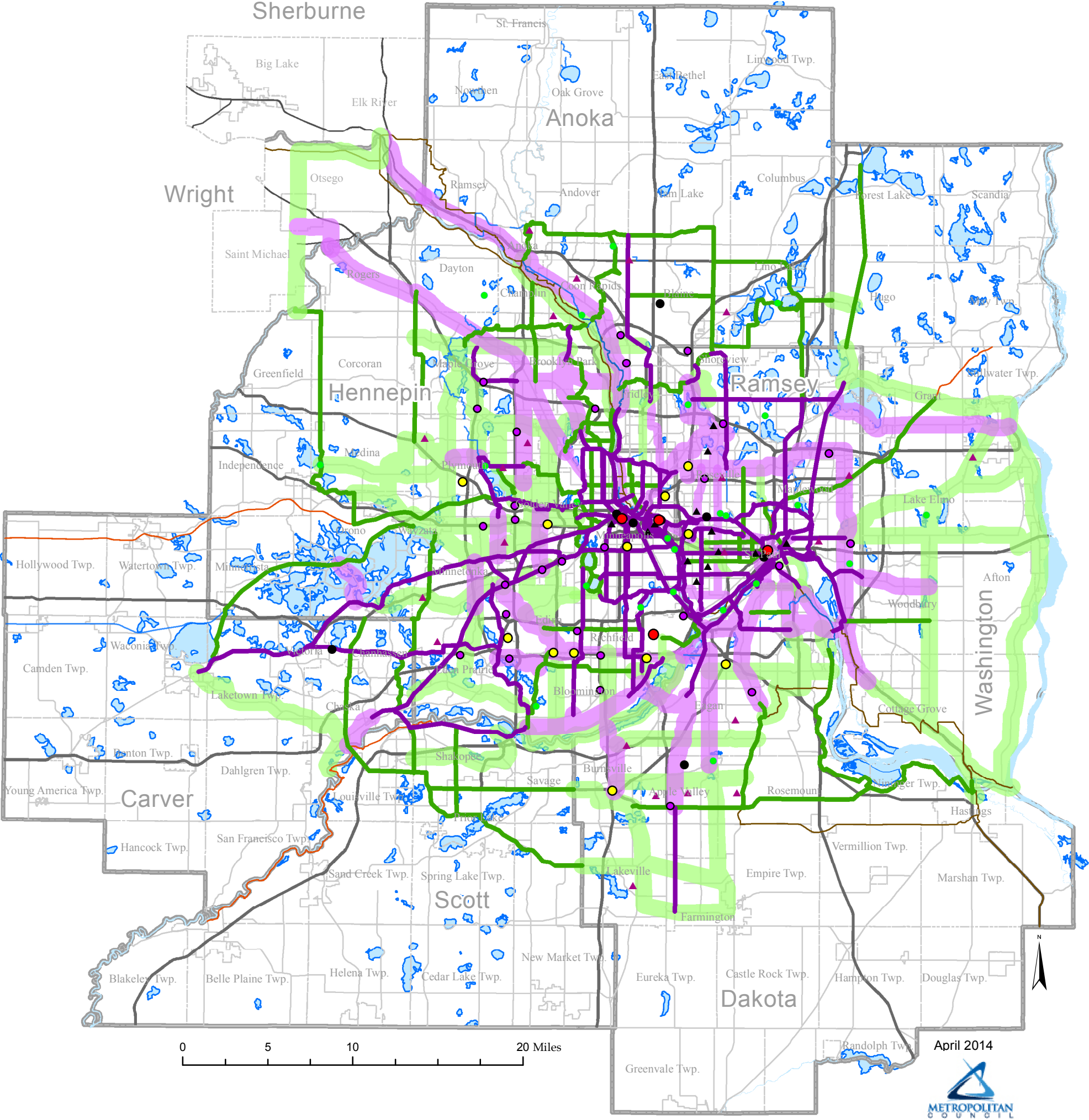
- Regional Trails (Regional Parks Policy Plan)
- Mississippi River Trail (US Route 45)
- State Trails (DNR)

### Regional Destinations

- Metropolitan Job Centers (50,000+ jobs)
- Regional Job Centers (15,000 - 50,000 jobs)
- Subregional Job Centers (7,000 - 15,000 jobs)
- Large High Schools (2000+ Students)
- Colleges & Universities (2000+ Students)
- Major Sport & Entertainment Centers
- Highly Visited Regional Parks (400,00+ visits per year)

### Reference Items

- Principal Arterial Roads
- Lakes and Rivers
- City Boundary
- County Boundary
- 2040 Municipal Urban Service Area
- MPO Area



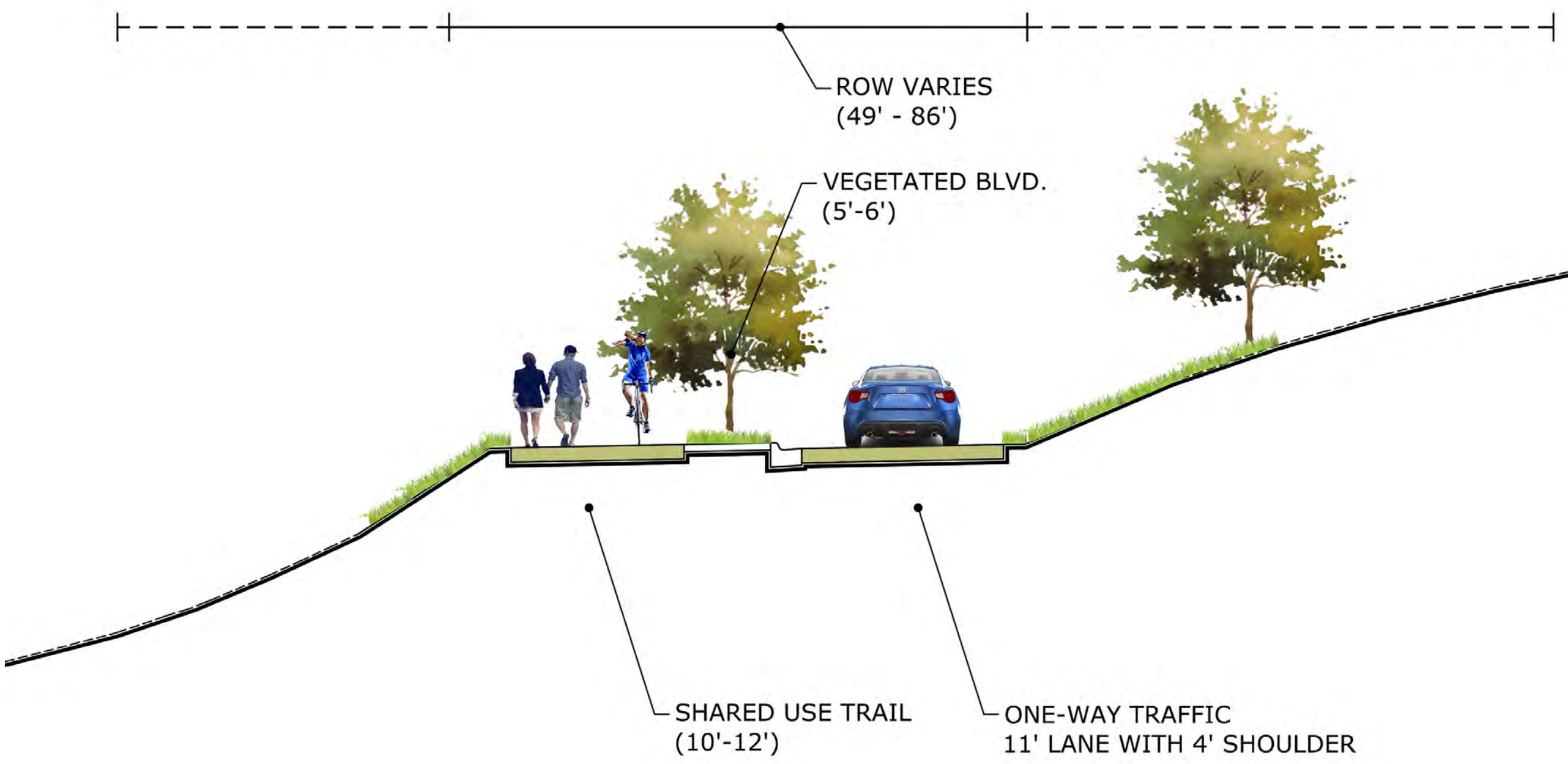


## **APPENDIX B**

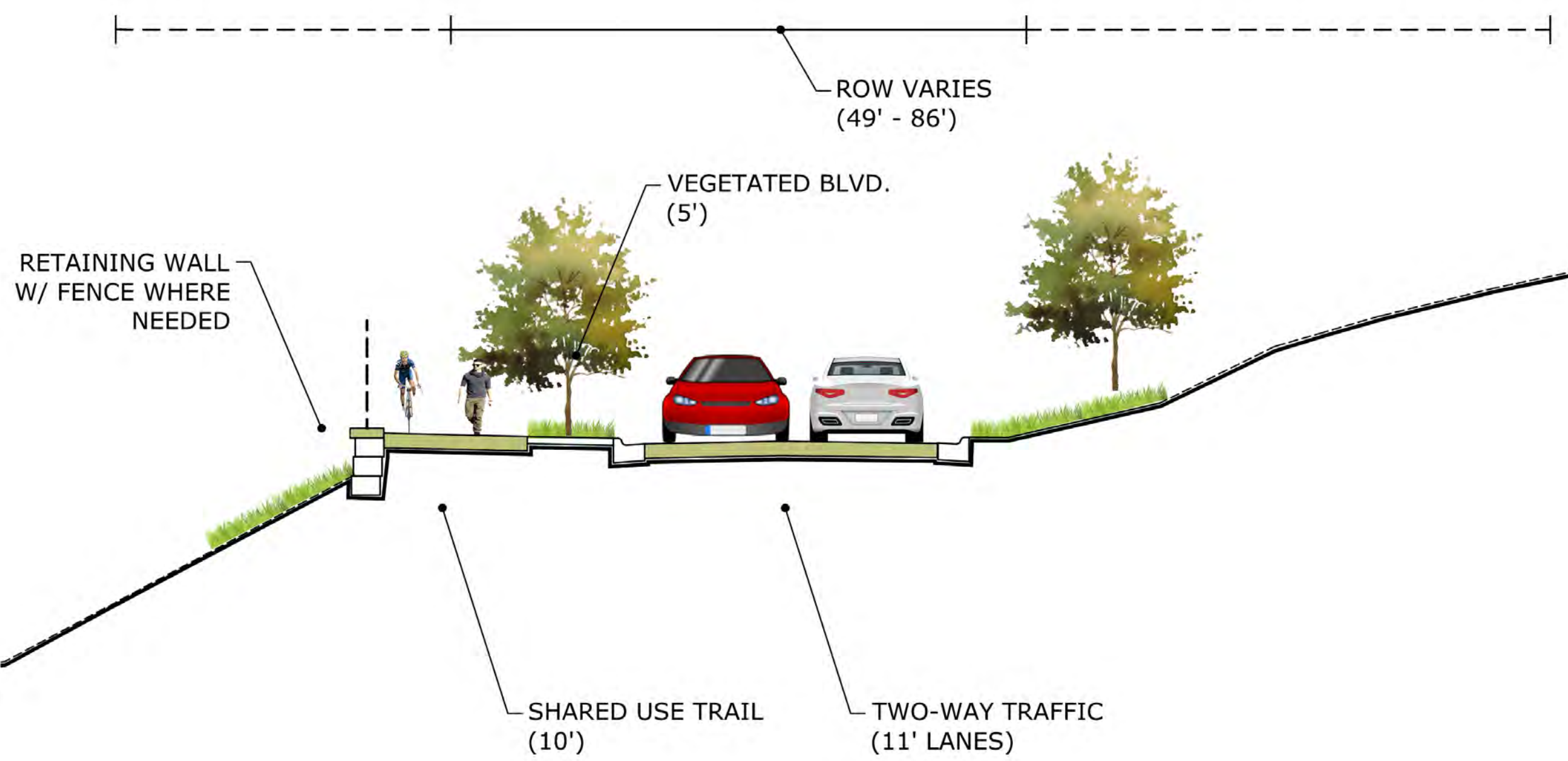


SOUTH SHORE BOULEVARD LAKES LINK  
TRAIL NETWORK

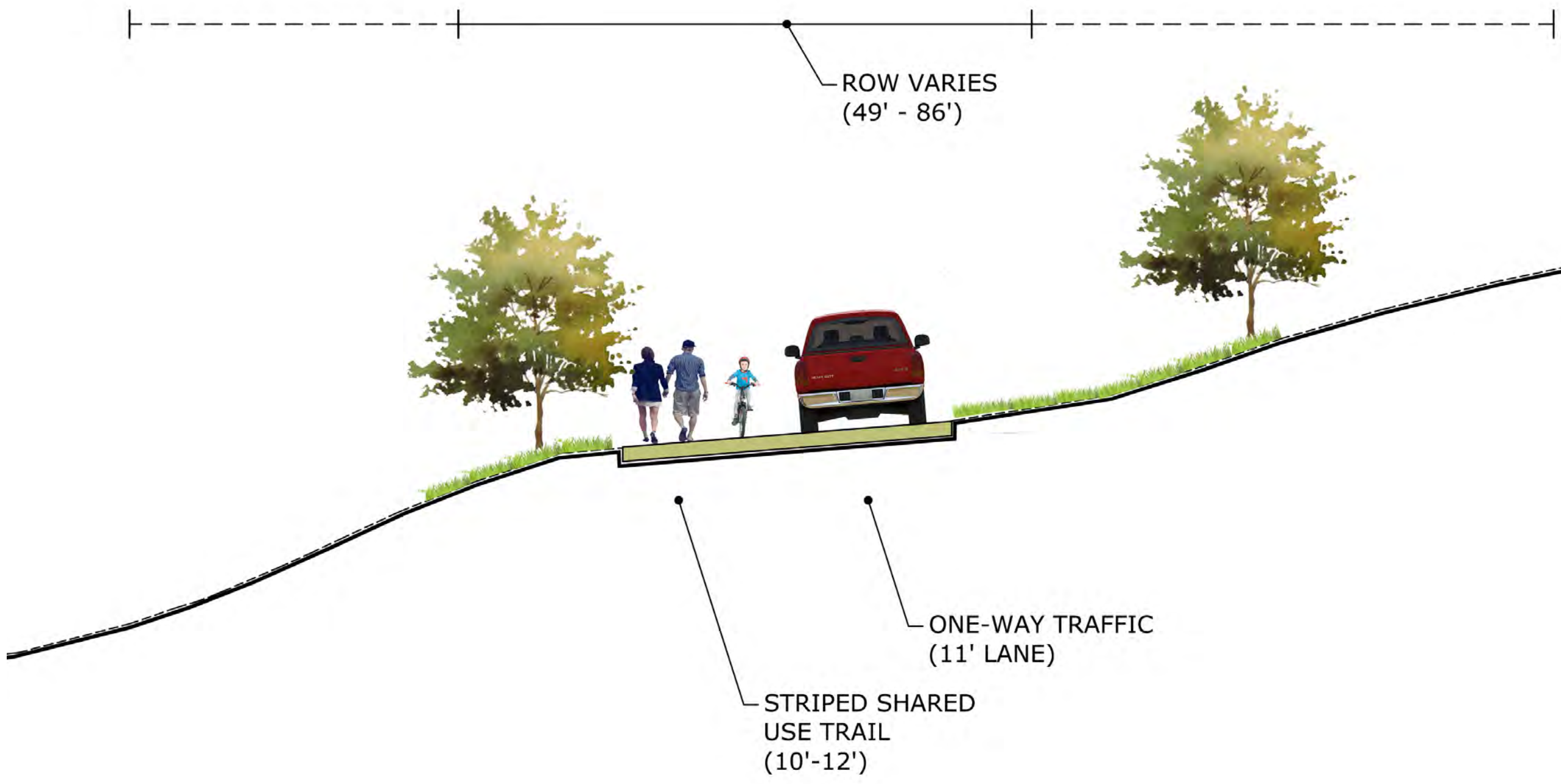
ONE-WAY SEPARATED TRAIL



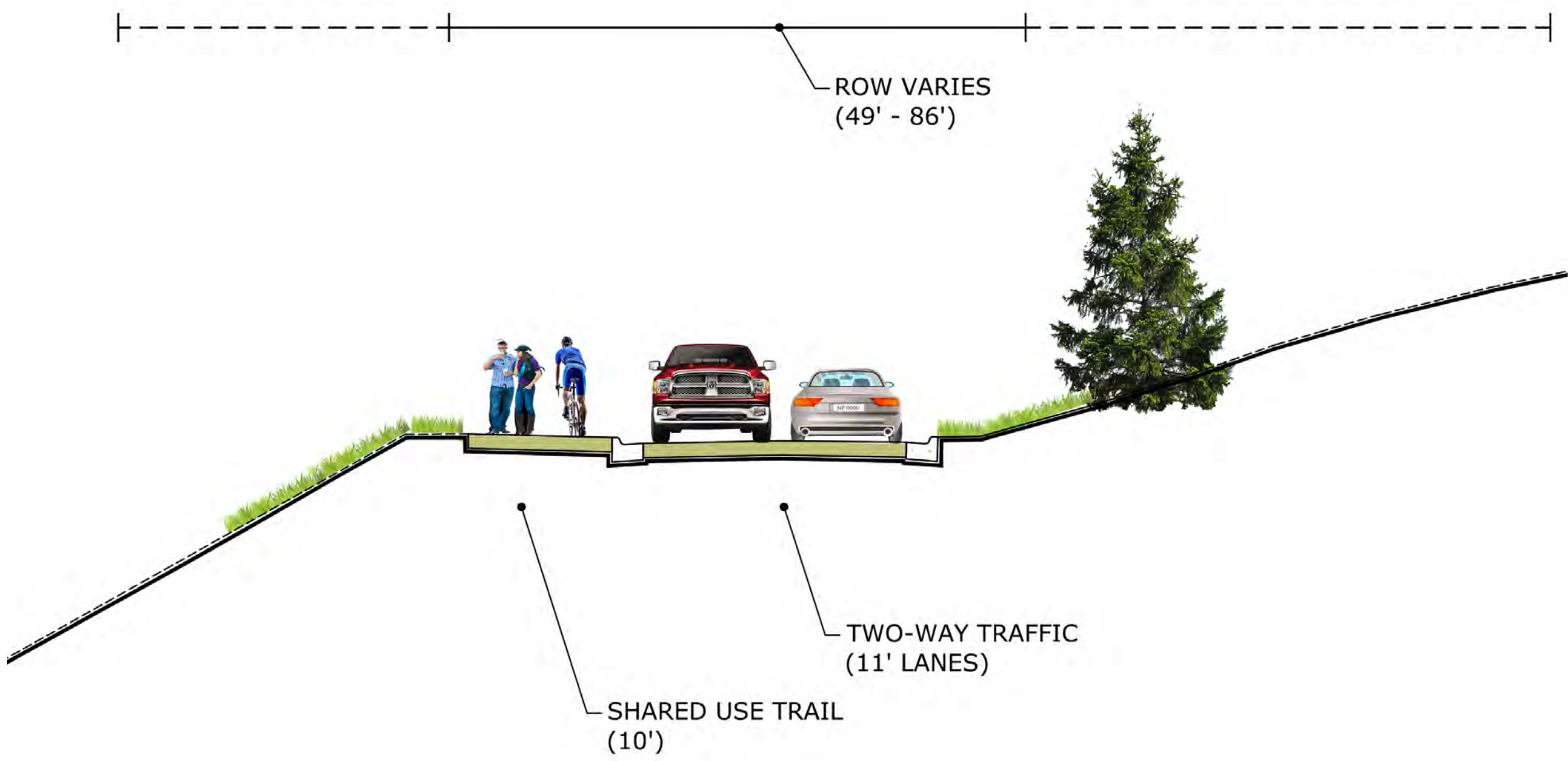
TWO-WAY SEPARATED TRAIL



ONE-WAY ON-ROAD TRAIL



TWO-WAY OPTIMIZED TRAIL





## **APPENDIX C**

# Technical Memorandum

**To:** Charlie J. Howley, PE, CPECS, LEED AP  
**From:** Bryant J. Ficek, P.E., P.T.O.E.  
**Date:** February 12, 2018  
**Re:** South Shore Boulevard Evaluation

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## Purpose of Report and Study Objectives

The purpose of the study is to review traffic operations along South Shore Boulevard between White Bear Avenue and County Road F and determine the feasibility of geometric changes to the roadway. The geometric changes, in turn, could provide space within the right-of-way for bike lanes along the corridor. For this study, South Shore Boulevard was separated into three segments between the following intersections:

- White Bear Avenue to McKnight Road.
- McKnight Road to Bellaire Avenue.
- Between Bellaire Avenue and County Road F.

South Shore Boulevard is currently a two-way, two-lane road. Geometric changes to the roadway could be switching the roadway to one-way in either the east or west directions.

The objectives of the study are:

- I. Document the existing conditions and characteristics of the corridor.
- II. Determine the practicality of all the options for the three South Shore Boulevard segments.
- III. Determine the viability of the remaining options.
- IV. Identify changes with the implementation of different geometric options.

## Existing Conditions

Multiple factors are important in considering geometric changes to South Shore Boulevard. The key traffic characteristics for the road are: the daily traffic volumes, posted speed limits, traffic control, and important signage along the corridor. These existing characteristics are shown in Figure 1. The general traffic breakdown is up to 62% westbound traffic and 38% eastbound traffic depending upon the segment. For planning level purposes, the capacity of a two-lane roadway is about 10,000 vehicles per day. All segments analyzed are within capacity in the existing condition.

Beyond the roadway characteristics, the corridor segment characteristics are important. For each intersection, the surrounding characteristics are listed below.

- White Bear Avenue to McKnight Road – The segment is 0.3 miles. There are 25 private accesses and three public accesses on this segment. There are no parking restrictions on this segment.

- McKnight Road to Bellaire Avenue – The segment is 0.5 miles. There are 30 private accesses and zero public accesses on this segment. There is a parking restriction in front of the South Shore Trinity Church just west of Bellaire Avenue.
- Bellaire Avenue to County Road F – The segment is 0.7 miles. There are 69 private accesses and seven public accesses on this segment. There are parking restrictions on both sides both sides of the roadway within 500 feet of the intersection with County Road F.

Records from the Minnesota Crash Mapping Analysis Tool for years 2011 thru 2015 provided the crashes along the corridor. The entire South Shore Boulevard corridor from White Bear Avenue to County Road F had 28 crashes during these five years. These crashes were spread throughout the corridor with most areas having only one or two crashes. The intersection of South Shore Boulevard with White Bear Avenue had 12 crashes, almost half of the total for the entire corridor. Of these 12, six crashes were westbound rear end or westbound left turn/right-angle crashes that could be correctable by a switch to one-way eastbound traffic.

## Evaluation

The options for each study segment are to remain two-way traffic, switch to one-way eastbound, or switch to one-way westbound, which equals 27 possible configurations. However, 16 options were eliminated prior to the analysis as they could prove unsafe or cause driver confusion. For example, having both a westbound one-way and an eastbound one-way section, or having a one-way, two-way, then one-way again. Eliminating these options left 11 potential configurations.

Further discussion about the corridor determined the most benefit of providing space for a trail is with one-way traffic at the east end of the corridor while the most benefit of remaining two-way traffic (from a connectivity and access standpoint alone) is at the west end of the corridor. Therefore, providing a one-way corridor on the west end and switching to two-way traffic at the east end was not carried forward as a viable option.

Eliminating these four options, the seven configurations left for additional analyses are:

1. Remain two-way on all three segments.
2. Eastbound only on all three segments.
3. Westbound only on all three segments.
4. Two-way from White Bear Avenue to McKnight Road, and then one-way eastbound on both the McKnight Road to Bellaire Avenue and Bellaire Avenue to County Road F segments.
5. Two-way from White Bear Avenue to McKnight Road, and then one-way westbound on both the McKnight Road to Bellaire Avenue and Bellaire Avenue to County Road F segments.
6. Two-way from White Bear Avenue through McKnight Road to Bellaire Avenue, and then one-way eastbound on the Bellaire Avenue to County Road F segment.
7. Two-way from White Bear Avenue through McKnight Road to Bellaire Avenue, and then one-way westbound on the Bellaire Avenue to County Road F segment.



The evaluation metrics looked at for this study are:

- ADTs on the corridor, parallel routes, and connecting streets (South Shore Blvd, County Road F, White Bear Ave, McKnight Rd, and County Line Rd).
- Number of accesses impacted by the change.
- Crash History/Safety Impacts (any crash trends in the area that would be solved or exaggerated, left turn vs. right turn dynamic, etc.).
- Travel Routes to/from each segment (distance and number of stops).
- Access routes of major generators (Bellaire Beach and South Shore Trinity).
- Emergency Vehicle routes (distance and number of stops).

The ADTs used observations of the corridors and turning movements at the public intersections to determine travel paths. Volume shifts assumed a close-system in the study area, meaning that all traffic was assumed to redirect to a parallel path (from South Shore Boulevard to County Road F). It is likely that some traffic would redirect to other roads outside of the corridors examined here. Despite an acknowledged weakness in the methodology, the shifting of traffic and a corresponding change in volume on the various roads does provide insight into the approximate magnitude of changes expected.

The number of accesses affected is a straightforward count of public roadways and private driveways. When a segment is changed to one-way, all accesses along that segment would be impacted.

As mentioned, six of 12 crashes at the intersection of South Shore Boulevard/White Bear Avenue would have been prevented with a switch to one-way eastbound traffic. This metric notes whether the configuration option would impact this area of safety concern.

Currently, motorists are able to use the most direct route between places outside the study area to each segment. A conversion to one-way will disrupt some of these routes, causing a re-direction to other routes. The result is an increase in mileage and potentially extra stops if having to travel through more intersections with stop or signal control. The changes in travel distance and stops is noted for each option.

Bellaire Beach and South Shore Trinity are two destinations along South Shore Boulevard for potential non-resident, non-commuter drivers. Likely coming from Highway 61 or beyond, the direct path to or from these traffic generators will change if one-way operation is enacted. As with the general travel routes, the changes in distance and number of stops are noted.

Emergency vehicles (police, fire, etc.) can proceed down any road with their lights and siren, even if traveling the opposite of one-way operation. However, the preference is to remain consistent with the normal rules of the road to minimize the risk of an incident with other drivers. Two fire stations are within a relatively short distance of the study area; one to the north just west of Highway 61 and one to the south in the southwest quadrant of the McKnight Road/County Road E intersection. Assuming the fire trucks follow the rules of the road, the change in travel time and the number of stops are noted.

Accounting for these six metrics, Figures 2 through 4 show the alternative configurations for the study corridor. Each option is compared against the existing conditions to show the magnitude of change. In addition, the metrics were used to determine if 'red flags' exist that suggest a particular configuration should not be pursued.

In summary, the changes could include:

- Decrease of up to 62% or an increase of up to 122% depending on the roadway segment and configuration. All roadways remain within the planning-level capacity of two-lane roads.
- Up to 14 public roads and 124 private driveways impacted.
- Expected reduction in crashes at the South Shore Boulevard/White Bear Avenue intersection.
- Up to a 1.4-mile increase with up to three extra stops due to a change in routes for general travel to/from the study segments.
- Up to a 0.9-mile increase with up to two extra stops due to a change in routes for travel to/from Bellaire Beach and South Shore Trinity.
- Up to a 1.5-mile increase with up to three extra stops for fire truck travel to the study segments, assuming normal rules of the road are followed.

Based on this analysis, any change to one-way operations will have some impacts to the current operations of South Shore Boulevard. However, no impact is significant enough to suggest an option should be eliminated due to traffic concerns or issues. Instead, each of the seven options, including remaining two-way, are viable from a traffic standpoint.

### Other Traffic Considerations

Beyond the metrics analyzed, other traffic issues should be considered with any potential change in roadway configuration for South Shore Boulevard, including:

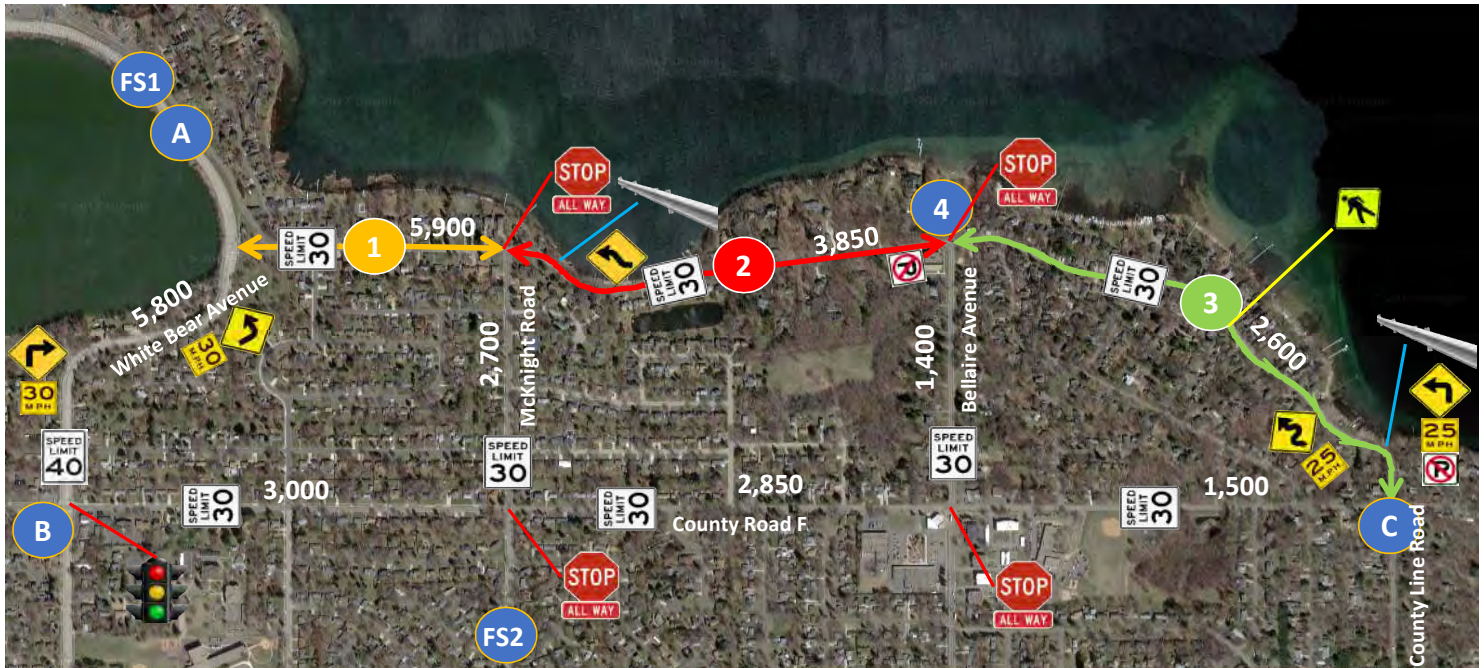
- Mail delivery. The position of mailboxes and route of the mail carrier may need to change.
- Garbage/Recycling Collection. Where the bins sit on collection day and the route of the trucks may need to change.
- Parking. The cross-section of South Shore Boulevard should consider if and how parking is provided along the corridor, particularly for using the docks without direct home access.
- Dock access. For those docks without direct home access, vehicles access will be necessary.
- Winter operations. Anecdotally, eastbound drivers approach the curves just east of McKnight Road too fast, which is a particular problem with icy roads. Similarly, the curve and slopes at the east end near the approach to the County Road F intersection have been noted as a potential issue by residents.

While these are traffic issues for consideration, none are a significant 'red flag' that could not be managed if a conversion to one-way operation occurs.

## Conclusions

The South Shore Boulevard corridor and surrounding roadways currently operate within the planning-level capacity of two-lane roads and have few significant traffic concerns. The potential to change the current configuration on South Shore Boulevard to one-way operation was examined through different traffic metrics. Dividing the study corridor into three segments, seven of a possible 27 options are feasible for the area.

The seven options were compared, each considering various impacts on the corridor and surrounding transportation network. While one-way operation in any format will create traffic operation issues to be solved, safe and efficient traffic flow can still be provided if the conversion is properly managed. Therefore, the various one-way operation configurations are viable options for the South Shore Boulevard corridor. The decision on which option is best for the area should be based upon factors beyond these traffic considerations.



South Shore Boulevard:

- 1** Segment 1 - White Bear Avenue to McKnight Road      **2** Segment 2 - McKnight Road to Bellaire Avenue      **3** Segment 3 - Bellaire Avenue to County Line Road

**Preliminary Information:**

Traffic Breakdown: Based on AM and PM peak hour spot counts, daily traffic on South Shore Boulevard is slightly favored toward the westbound direction (up to 62% westbound and 38% eastbound depending upon the segment)

Two-Lane Roadway Capacity: 10,000 vehicles per day for planning level purposes

**Parking Restrictions:**

Signed: Northbound traffic, just north of South Shore Boulevard intersection with County Road F/County Line Road  
Eastbound traffic, north side of South Shore Trinity between access driveway and South Shore Boulevard intersection with Bellaire Avenue

County Text Descriptions: 30 feet east to 30 feet west of 2480 South Shore Boulevard (South Shore Trinity)  
20 feet between 2595 and 2601 South Shore Boulevard (Bellaire Beach)  
500 feet on either side of South Shore Boulevard intersection with County Road F

**Primary Options for Consideration:**

One-Way Eastbound: Eliminate westbound travel on South Shore Boulevard segments 1, 2, and 3 (Individual segment optional variations not shown)

One-Way Westbound: Eliminate eastbound travel on South Shore Boulevard segments 1, 2, and 3 (Individual segment optional variations not shown)

**Impact Metrics for Conversion to One-Way:**

Average Daily Traffic Volumes The percent of change expected from the existing daily traffic to the forecasted traffic with one-way operation

Access The percent number of existing accesses, both public streets and private driveways, impacted by a change to one-way operation  
Considers how many intersections will require a different action by the driver, not any impact to volumes or routes

Crash History The percent number of crashes reduced or increased based on the historic crash types and trends  
Only the South Shore Drive intersection with White Bear Lake had a high number of crashes to be considered for impacts  
At South Shore Drive & White Bear Avenue 6 of the 12 crashes could be prevented by switching to an eastbound only configuration

Travel Routes The percent of change expected from the existing in terms of route mileage and number of stops within that route  
Considers the travel routes from each segment (1, 2, and 3) to each destination (A, B, and C)

Major Generators The percent of change expected from the existing in terms of route mileage and number of stops within that route  
Considers the travel routes from the west (from White Bear Lake or Highway 61) to S Shore Trinity or Bellaire Beach (Item 4)

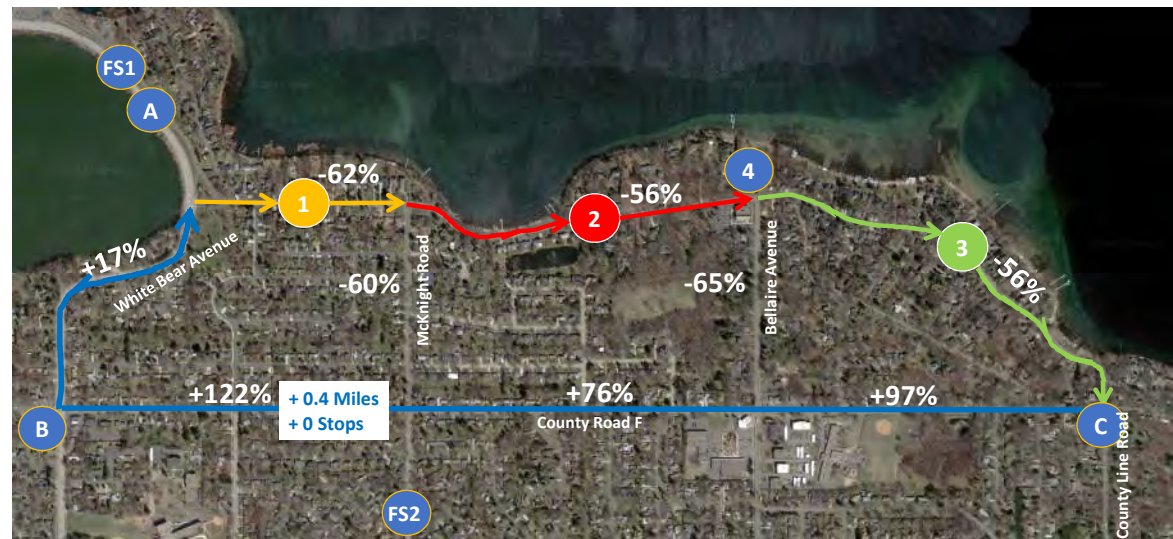
Emergency Vehicles The percent of change expected from the existing in terms of route mileage and number of stops within that route  
Considers the travel routes from White Bear Lake Fire Station 1 (FS1) and White Bear Lake Fire Station 2 (FS2) to segments 1, 2, and 3  
Note: assumes the emergency vehicle obeys the one-way operation as opposed to wrong way driving with the lights and siren on



Figure 2  
South Shore Boulevard One-Way Options



Eastbound Only Travel Option Comparison



Evaluation Criteria	Existing Configuration		One-Way Eastbound			
	Travel Route Mileage	Travel Route Stops	Travel Route Mileage	Travel Route Stops	Change In Travel Route Mileage	Change In Travel Route Stops
<b>Travel Route Impacted by Conversion</b>						
Segment 1						
To A	0.3	1	1.6	3	+1.3	+2
To B	0.6	2	1.0	3	+0.4	+1
From C	1.3	2	2.1	3	+0.8	+1
Segment 2						
To A	0.7	2	2.1	4	+1.4	+2
To B	1.1	3	1.6	4	+0.5	+1
From C	0.9	1	1.6	3	+0.7	+2
Segment 3						
To A	1.3	3	2.4	3	+1.1	0
To B	1.6	4	1.8	3	+0.2	-1
From C	0.4	0	1.1	2	+0.7	+2
<b>Major Trip Generator Route Impacted by Conversion</b>						
Spot 4						
To A	1.0	3	1.9	4	+0.9	+1
To B	1.3	4	1.4	4	+0.1	0
<b>Emergency Vehicle Route Impacted By Conversion</b>						
FS1						
No Changes	-	-	-	-	-	-
To Segment 1	1.5	4	2.1	4	+0.6	0

**Preliminary Information:**

**Traffic Breakdown:** Based on AM and PM peak hour spot counts, daily traffic on South Shore Boulevard is slightly favored toward the westbound direction (up to 62% westbound and 38% eastbound depending upon the segment)

**Two-Lane Roadway Capacity:** 10,000 vehicles per day for planning level purposes

**Parking Restrictions:**

**Signed:** Northbound traffic, just north of South Shore Boulevard intersection with County Road F/County Line Road

**County Text Descriptions:** Eastbound traffic, north side of South Shore Trinity between access driveway and South Shore Boulevard intersection with Bellaire Avenue  
30 feet east to 30 feet west of 2480 South Shore Boulevard (South Shore Trinity)  
20 feet between 2595 and 2601 South Shore Boulevard (Bellaire Beach)  
500 feet on either side of South Shore Boulevard intersection with County Road F

**Primary Options for Consideration:**

**One-Way Eastbound:** Eliminate westbound travel on South Shore Boulevard segments 1, 2, and 3 (Individual segment optional variations not shown)

**One-Way Westbound:** Eliminate eastbound travel on South Shore Boulevard segments 1, 2, and 3 (Individual segment optional variations not shown)

**Impact Metrics for Conversion to One-Way:**

**Average Daily Traffic Volumes** The percent of change expected from the existing daily traffic to the forecasted traffic with one-way operation

**Access** The percent number of existing accesses, both public streets and private driveways, impacted by a change to one-way operation

**Crash History** Considers how many intersections will require a different action by the driver, not any impact to volumes or routes

**Travel Routes** The percent number of crashes reduced or increased based on the historic crash types and trends

**Major Generators** Only the South Shore Drive intersection with White Bear Lake had a high number of crashes to be considered for impacts

**Emergency Vehicles** At South Shore Drive & White Bear Avenue 6 of the 12 crashes could be prevented by switching to an eastbound only configuration

The percent of change expected from the existing in terms of route mileage and number of stops within that route

Considers the travel routes from each segment (1, 2, and 3) to each destination (A, B, and C)

The percent of change expected from the existing in terms of route mileage and number of stops within that route

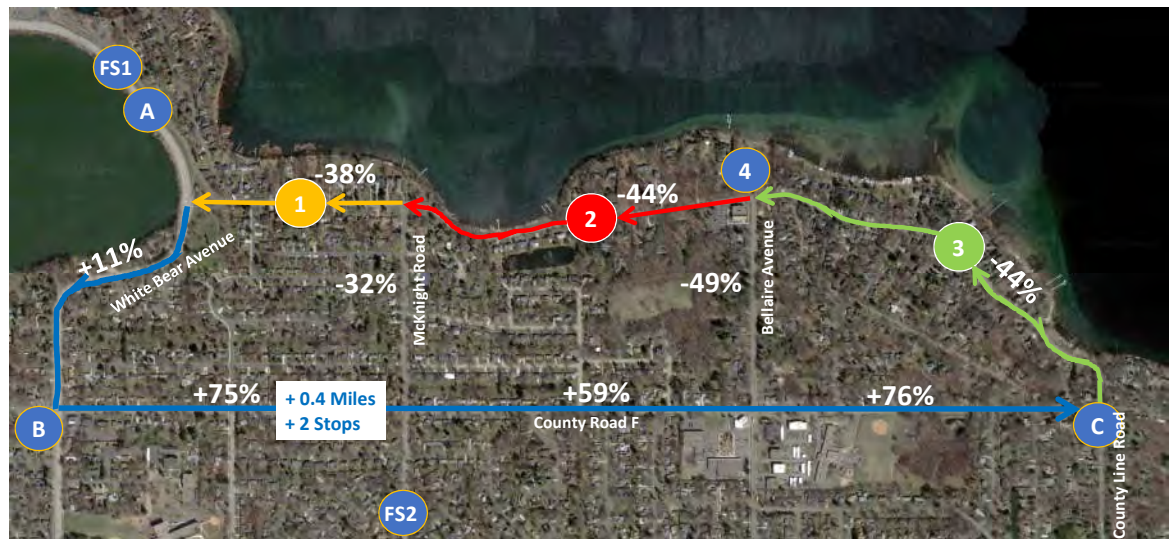
Considers the travel routes from the west (from White Bear Lake or Highway 61) to S Shore Trinity or Bellaire Beach (Item 4)

The percent of change expected from the existing in terms of route mileage and number of stops within that route

Considers the travel routes from White Bear Lake Fire Station 1 (FS1) and White Bear Lake Fire Station 2 (FS2) to segments 1, 2, and 3

Note: assumes the emergency vehicle obeys the one-way operation as opposed to wrong way driving with the lights and siren on

Westbound Only Travel Option Comparison



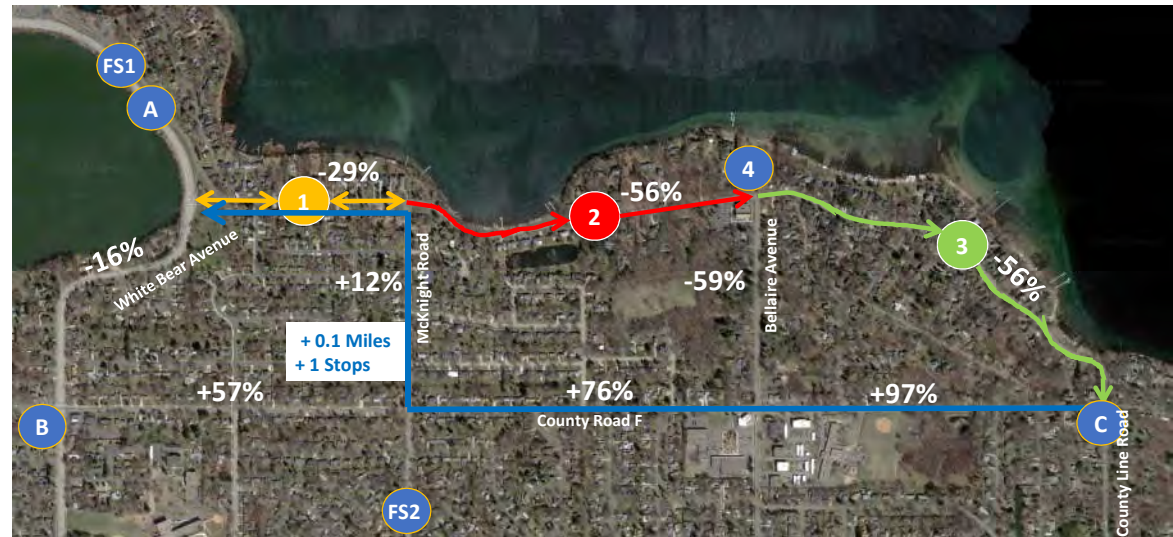
Evaluation Criteria	Existing Configuration		One-Way Westbound			
	Travel Route Mileage	Travel Route Stops	Travel Route Mileage	Travel Route Stops	Change In Travel Route Mileage	Change In Travel Route Stops
<b>Travel Route Impacted by Conversion</b>						
Segment 1						
From A	0.3	0	1.6	3	+1.3	+3
From B	0.6	1	1.0	3	+0.4	+2
To C	1.3	2	2.1	4	+0.8	+2
Segment 2						
From A	0.7	1	2.1	4	+1.4	+3
From B	1.1	2	1.6	4	+0.5	+2
To C	0.9	1	1.6	4	+0.7	+3
Segment 3						
From A	1.3	2	2.4	4	+1.1	+2
From B	1.6	3	1.8	4	+0.2	+1
To C	0.4	0	1.1	3	+0.7	+3
<b>Major Trip Generator Route Impacted by Conversion</b>						
Spot 4						
From A	1.0	2	1.9	4	+0.9	+2
From B	1.3	3	1.4	4	+0.1	+1
<b>Emergency Vehicle Route Impacted By Conversion</b>						
FS1						
To Segment 1	1.6	3	2.9	6	+1.3	+3
To Segment 2	2.0	4	3.5	7	+1.5	+3
To Segment 3	2.6	5	3.7	7	+1.1	+2
FS2						
To Segment 2	1.6	4	2.1	5	+0.5	+1
To Segment 3	2.2	5	2.4	5	+0.2	0



Figure 3  
South Shore Boulevard One-Way/Two-Way Alternative 1



Combined Two-Way then Eastbound Only Travel Option Comparison



**Average Daily Traffic Volumes** The expected percentage change (+ or - ##%) in traffic is shown above for each study segment  
All roads remain under the daily planning level capacity  
**Access** 7 of 14 public road intersections and 99 of 124 private driveway accesses would be impacted by this conversion  
**Crash History** South Shore Drive intersection with White Bear Avenue would not have had any of the 12 crashes eliminated with this conversion  
**Travel Routes** New Westbound Corridor Route - Change in mileage and number of stop controlled intersections from existing route

Evaluation Criteria	Existing Configuration		Two-Way / One-Way Eastbound			
	Travel Route Mileage	Travel Route Stops	Travel Route Mileage	Travel Route Stops	Change In Travel Route Mileage	Change In Travel Route Stops
<b>Travel Route Impacted by Conversion</b>						
Segment 1						
From C	1.3	2	1.5	3	+ 0.2	+ 1
Segment 2						
To A	0.7	2	1.9	5	+ 1.2	+ 3
To B	1.1	3	1.6	4	+ 0.5	+ 1
From C	0.9	1	1.6	3	+ 0.7	+ 2
Segment 3						
To A	1.3	3	2.1	4	+ 0.8	1
To B	1.6	4	1.9	3	+ 0.3	- 1
From C	0.4	0	1.1	2	+ 0.7	+ 2
<b>Major Trip Generator Route Impacted by Conversion</b>						
Spot 4						
To A	1.0	3	1.6	5	+ 0.6	+ 2
To B	1.3	4	1.4	4	+ 0.1	0
<b>Emergency Vehicle Route Impacted By Conversion</b>						
FS1						
No Changes	-	-	-	-	-	-
FS2						
No Changes	-	-	-	-	-	-

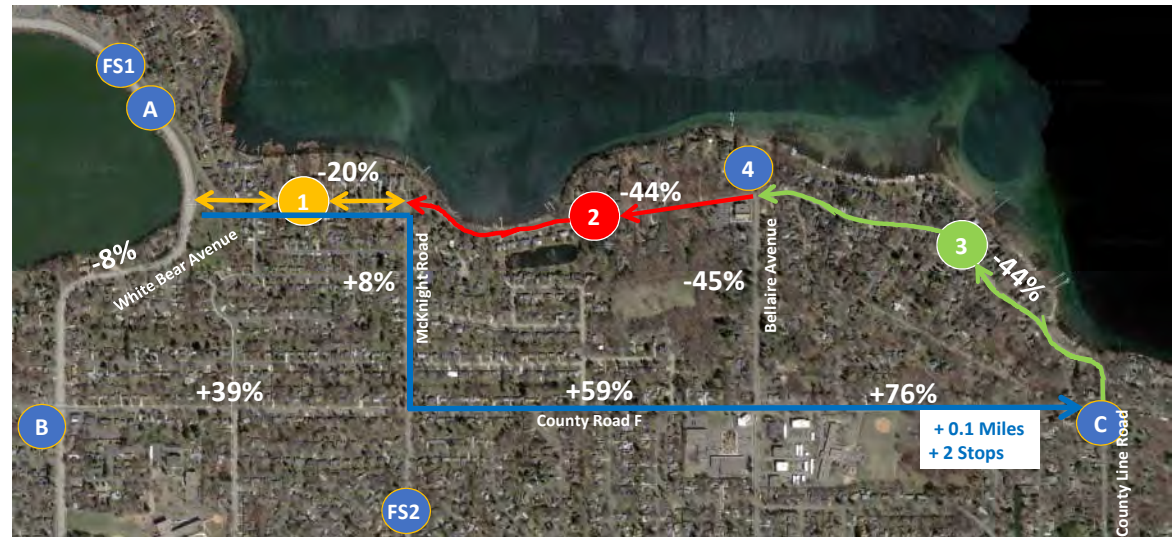
**Preliminary Information:**  
**Traffic Breakdown:** Based on AM and PM peak hour spot counts, daily traffic on South Shore Boulevard is slightly favored toward the westbound direction (up to 62% westbound and 38% eastbound depending upon the segment)  
**Two-Lane Roadway Capacity:** 10,000 vehicles per day for planning level purposes

**Parking Restrictions:**  
**Signed:** Northbound traffic, just north of South Shore Boulevard intersection with County Road F/County Line Road  
Eastbound traffic, north side of South Shore Trinity between access driveway and South Shore Boulevard intersection with Bellaire Avenue  
**County Text Descriptions:** 30 feet east to 30 feet west of 2480 South Shore Boulevard (South Shore Trinity)  
20 feet between 2595 and 2601 South Shore Boulevard (Bellaire Beach)  
500 feet on either side of South Shore Boulevard intersection with County Road F

**Primary Options for Consideration:**  
**One-Way Eastbound:** Eliminate westbound travel on South Shore Boulevard segments 1, 2, and 3 (Individual segment variation shown here)  
**One-Way Westbound:** Eliminate eastbound travel on South Shore Boulevard segments 1, 2, and 3 (Individual segment variation shown here)

**Impact Metrics for Conversion to One-Way:**  
**Average Daily Traffic Volumes** The percent of change expected from the existing daily traffic to the forecasted traffic with one-way operation  
**Access** The percent number of existing accesses, both public streets and private driveways, impacted by a change to one-way operation  
Considers how many intersections will require a different action by the driver, not any impact to volumes or routes  
**Crash History** The percent number of crashes reduced or increased based on the historic crash types and trends  
Only the South Shore Drive intersection with White Bear Lake had a high number of crashes to be considered for impacts  
At South Shore Drive & White Bear Avenue 6 of the 12 crashes could be prevented by switching to an eastbound only configuration  
**Travel Routes** The percent of change expected from the existing in terms of route mileage and number of stops within that route  
Considers the travel routes from each segment (1, 2, and 3) to each destination (A, B, and C)  
**Major Generators** The percent of change expected from the existing in terms of route mileage and number of stops within that route  
Considers the travel routes from the west (from White Bear Lake or Highway 61) to S Shore Trinity or Bellaire Beach (Item 4)  
**Emergency Vehicles** The percent of change expected from the existing in terms of route mileage and number of stops within that route  
Considers the travel routes from White Bear Lake Fire Station 1 (FS1) and White Bear Lake Fire Station 2 (FS2) to segments 1, 2, and 3  
Note: assumes the emergency vehicle obeys the one-way operation as opposed to wrong way driving with the lights and siren on

Combined Two-Way then Westbound Only Travel Option Comparison



**Average Daily Traffic Volumes** The expected percentage change (+ or - ##%) in traffic is shown above for each study segment  
All roads remain under the daily planning level capacity  
**Access** 7 of 14 public road intersections and 99 of 124 private driveway accesses would be impacted by this conversion  
**Crash History** South Shore Drive intersection with White Bear Avenue would not have had any of the 12 crashes eliminated with this conversion  
**Travel Routes** New Eastbound Corridor Route - Change in mileage and number of stop controlled intersections from existing route

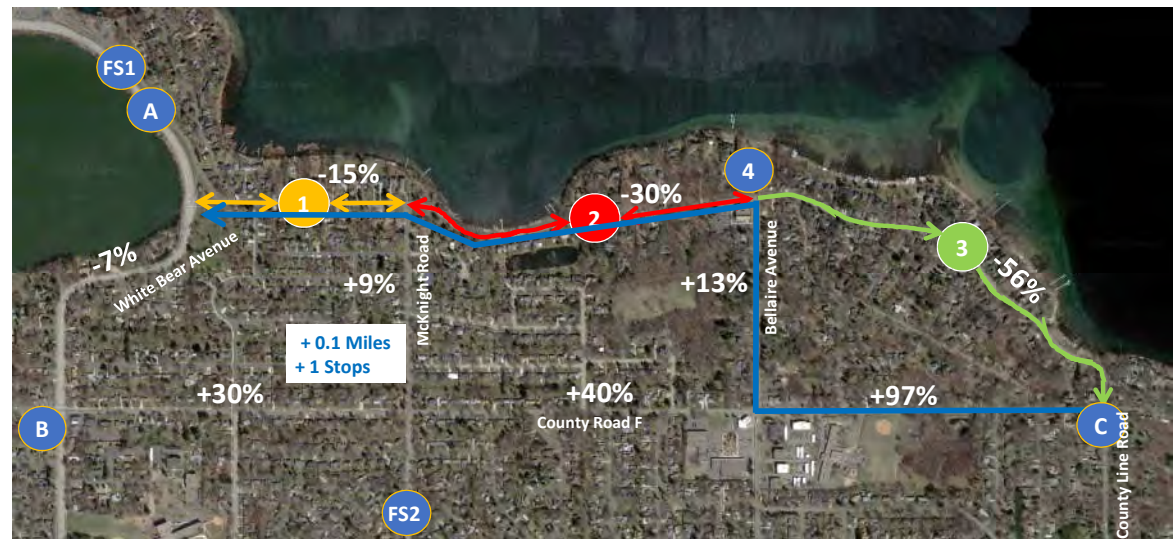
Evaluation Criteria	Existing Configuration		Two-Way / One-Way Westbound			
	Travel Route Mileage	Travel Route Stops	Travel Route Mileage	Travel Route Stops	Change In Travel Route Mileage	Change In Travel Route Stops
<b>Travel Route Impacted by Conversion</b>						
Segment 1						
To C	1.3	2	1.5	4	+ 0.2	+ 2
Segment 2						
From A	0.7	1	1.9	4	+ 1.2	+ 3
From B	1.1	2	1.6	4	+ 0.5	+ 2
To C	0.9	1	1.6	4	+ 0.7	+ 3
Segment 3						
From A	1.3	2	2.1	4	+ 0.8	+ 2
From B	1.6	3	1.9	4	+ 0.3	+ 1
To C	0.4	0	1.1	3	+ 0.7	+ 3
<b>Major Trip Generator Route Impacted by Conversion</b>						
Spot 4						
From A	1.0	2	1.7	4	+ 0.7	+ 2
From B	1.3	3	1.4	4	+ 0.1	+ 1
<b>Emergency Vehicle Route Impacted By Conversion</b>						
FS1						
To Segment 2	2.0	4	3.5	7	+ 1.5	+ 3
To Segment 3	2.6	5	3.7	7	+ 1.1	+ 2
FS2						
To Segment 2	1.6	4	2.1	5	+ 0.5	+ 1
To Segment 3	2.2	5	2.4	5	+ 0.2	0



Figure 4  
South Shore Boulevard One-Way/Two-Way Alternative 2



Combined Two-Way then Eastbound Only Travel Option Comparison



**Average Daily Traffic Volumes** The expected percentage change (+ or - ##%) in traffic is shown above for each study segment  
All roads remain under the daily planning level capacity  
**Access** 7 of 14 public road intersections and 69 of 124 private driveway accesses would be impacted by this conversion  
**Crash History** South Shore Drive intersection with White Bear Avenue would not have had any of the 12 crashes eliminated with this conversion  
**Travel Routes** New Westbound Corridor Route - Change in mileage and number of stop controlled intersections from existing route

Evaluation Criteria	Existing Configuration		Two-Way / One-Way Eastbound			
	Travel Route Mileage	Travel Route Stops	Travel Route Mileage	Travel Route Stops	Change In Travel Route Mileage	Change In Travel Route Stops
<b>Travel Route Impacted by Conversion</b>						
Segment 1						
From C	1.3	2	1.5	3	+ 0.2	+ 1
Segment 2						
From C	0.9	1	1.1	2	+ 0.2	+ 2
Segment 3						
To A	1.3	3	2.1	4	+ 0.8	1
To B	1.6	4	1.9	3	+ 0.3	- 1
From C	0.4	0	1.1	2	+ 0.7	+ 2
<b>Major Trip Generator Route Impacted by Conversion</b>						
Spot 4						
No Changes	-	-	-	-	-	-
<b>Emergency Vehicle Route Impacted By Conversion</b>						
FS1						
No Changes	-	-	-	-	-	-
FS2						
No Changes	-	-	-	-	-	-

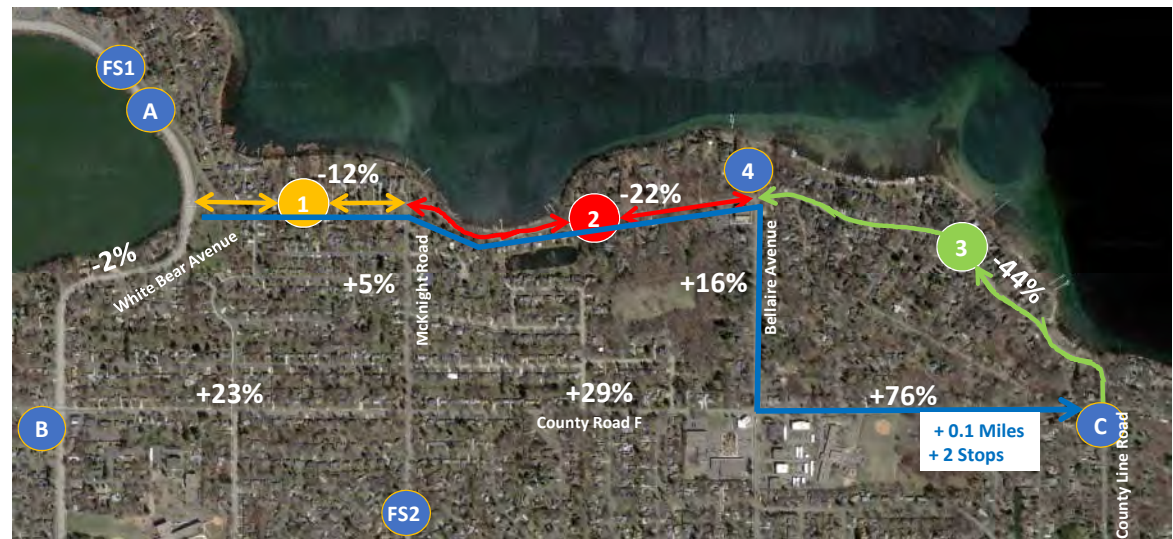
**Preliminary Information:**  
**Traffic Breakdown:** Based on AM and PM peak hour spot counts, daily traffic on South Shore Boulevard is slightly favored toward the westbound direction (up to 62% westbound and 38% eastbound depending upon the segment)  
**Two-Lane Roadway Capacity:** 10,000 vehicles per day for planning level purposes

**Parking Restrictions:**  
**Signed:** Northbound traffic, just north of South Shore Boulevard intersection with County Road F/County Line Road  
Eastbound traffic, north side of South Shore Trinity between access driveway and South Shore Boulevard intersection with Bellaire Avenue  
**County Text Descriptions:** 30 feet east to 30 feet west of 2480 South Shore Boulevard (South Shore Trinity)  
20 feet between 2595 and 2601 South Shore Boulevard (Bellaire Beach)  
500 feet on either side of South Shore Boulevard intersection with County Road F

**Primary Options for Consideration:**  
**One-Way Eastbound:** Eliminate westbound travel on South Shore Boulevard segments 1, 2, and 3 (Individual segment variation shown here)  
**One-Way Westbound:** Eliminate eastbound travel on South Shore Boulevard segments 1, 2, and 3 (Individual segment variation shown here)

**Impact Metrics for Conversion to One-Way:**  
**Average Daily Traffic Volumes** The percent of change expected from the existing daily traffic to the forecasted traffic with one-way operation  
**Access** The percent number of existing accesses, both public streets and private driveways, impacted by a change to one-way operation  
Considers how many intersections will require a different action by the driver, not any impact to volumes or routes  
**Crash History** The percent number of crashes reduced or increased based on the historic crash types and trends  
Only the South Shore Drive intersection with White Bear Lake had a high number of crashes to be considered for impacts  
At South Shore Drive & White Bear Avenue 6 of the 12 crashes could be prevented by switching to an eastbound only configuration  
The percent of change expected from the existing in terms of route mileage and number of stops within that route  
Considers the travel routes from each segment (1, 2, and 3) to each destination (A, B, and C)  
**Travel Routes** The percent of change expected from the existing in terms of route mileage and number of stops within that route  
Considers the travel routes from the west (from White Bear Lake or Highway 61) to S Shore Trinity or Bellaire Beach (Item 4)  
**Major Generators** The percent of change expected from the existing in terms of route mileage and number of stops within that route  
Considers the travel routes from White Bear Lake Fire Station 1 (FS1) and White Bear Lake Fire Station 2 (FS2) to segments 1, 2, and 3  
**Emergency Vehicles** Note: assumes the emergency vehicle obeys the one-way operation as opposed to wrong way driving with the lights and siren on

Combined Two-Way then Westbound Only Travel Option Comparison



**Average Daily Traffic Volumes** The expected percentage change (+ or - ##%) in traffic is shown above for each study segment  
All roads remain under the daily planning level capacity  
**Access** 7 of 14 public road intersections and 69 of 124 private driveway accesses would be impacted by this conversion  
**Crash History** South Shore Drive intersection with White Bear Avenue would not have had any of the 12 crashes eliminated with this conversion  
**Travel Routes** New Eastbound Corridor Route - Change in mileage and number of stop controlled intersections from existing route

Evaluation Criteria	Existing Configuration		Two-Way / One-Way Westbound			
	Travel Route Mileage	Travel Route Stops	Travel Route Mileage	Travel Route Stops	Change In Travel Route Mileage	Change In Travel Route Stops
<b>Travel Route Impacted by Conversion</b>						
Segment 1						
To C	1.3	2	1.5	4	+ 0.2	+ 2
Segment 2						
To C	0.9	1	1.1	3	+ 0.4	+ 2
Segment 3						
From A	1.3	2	2.1	4	+ 0.8	+ 2
From B	1.6	3	1.9	4	+ 0.3	+ 1
To C	0.4	0	1.1	3	+ 0.7	+ 3
<b>Major Trip Generator Route Impacted by Conversion</b>						
Spot 4						
No Changes	-	-	-	-	-	-
<b>Emergency Vehicle Route Impacted By Conversion</b>						
FS1						
To Segment 3	2.6	5	3.7	7	+ 1.1	+ 2
FS2						
To Segment 3	2.2	5	2.4	5	+ 0.2	0

## **APPENDIX D**





#### Possible Alignment Options

- Corridor Alignment:
- One Way Road With Separated Trail
- Two Way Road With Either On-Road or Separated Trail
- Combination of One Way Road and Two Way Road With Trail

#### PREFERENCE LEGEND

- TWO WAY OPTION
- ONE WAY OPTION
- COMBINATION

#### Legend

- Conceptual Alignment Search Corridor A
- Public Park Space
- Public Facilities





Comments	One or Two way	One way Direction	Type of Trail	Other Comments
We would like a one way going east bound with the trail on the north side. Also lower the speed limit as low as you can. Also, would like a vegetative area in the middle for safety from cars. This is the best and most cost effective plan that can get done as soon as possible with the least amount of problems and cost in our opinion. Thank you.	One	East		
One way all the way, trail on North Side, East Bound Direction	One	East		
Thanks for all your effort. Prefer one way west bound or combination. Need to accommodate parking for Snyder Bay Association, 6-8 cars, summer only				
One way east (or a floating trail)				
Prefer combo with West bound one way. Need parking plan for access to shared docks & lawn services. Removal of overhead powerlines is essential in open lake-view area. Co. Rd. F is underutilized and S. Shore blvd is overutilized, so combo plan is appropriate.	One	West		Utilities buried.
The assumption that all traffic from S. Shore, if road is converted to one way, will all go to County F is False. East Bound one way does not necessarily shift all West bound traffic to F. Worst case scenario is how it should be presented.				
West only if have to do one way.				
2 way is the best, do not make S. Shore east only.	Two			
Keep South Shore a two way. Increasing or even doubling the traffic on County Road F is unthinkable. Residents will not be able to get out of their driveways during rush hours. Putting more traffic on an already high traffic road makes no sense. County Road F has a much higher population than South Shore Blvd. Consider the welfare of the majority of the people - the noise and dangers caused by congestion would be unbearable.	Two			
One Way west bound, would very much support underground utilities.	One	West		Utilities buried.
We prefer the one way option in either direction. It is the quickest, easiest, cheapest, and has the least impact on people's yards. We cant wait to walk our dog on the new trail (and bike)	One			
I like the one way option - would love to be able to bike/walk on south shore without dodging cars	One			
nightmares about my kids getting hit by a car while walking on South Shore or in my front yard. The full one way would have the biggest traffic reduction so it would be my top choice. I think the one way would make for the best pedestrian experience much like Lake Ave. If it is the cheapest and lowest property impact option then the one way seems like a no brainer.	One			
We live between White Bear Ave and McKnight. We prefer a one way option going eastbound with the trail on the north side and vegetative barrier. Currently there is way too much traffic. Also please lower the speed limit to 25 mph or lower and enforce it!	One	East		
Definitely want 2 way road for the entire route. Definitely want bigger than 10 ft. wide trail as much as possible. Prefer delineate walk and 2 way bike areas with paint.	Two			
If any one-way option is chosen, you should make the intersection at Cty F and Hazel a 4 way stop.				
If combined option is chosen, please choose direction with the least traffic impact on Cty F. The same goes for a one-way option, least traffic impact.				
1. I am concerned about the cost assessment to me and unknowns about how it will be paid for. 2. I am concerned that there are still so many unknowns as to type of road, direction if one-way, etc. 3. I live on lakeside, if trail is on north side how will it be to exit my driveway to cross it.				
I strongly prefer one way traffic, east bound would be better - from white bear ave to East County line. Combination roadway and bike lane like Lake Ave would be most efficient. Second preference: two way White Bear Ave o McKnight - one way McKnight to East Cty line.	One	East		Like Lake Ave



Advocate maintaining two-way road so strongly in favor of two-way option with only repair, service or utility parking as necessary	Two	Waiting to hear back as put comments on website
2 way from WB Ave to Bellaire with retaining wall at Schneiders Bay	Two	
One way on South Shore Please - either way.	One	
2 way from WB Ave to Bellaire	Two	
You will be inconveniencing many people for the benefit of a few. How about just having a 5 ft. bike path. You are not sure if we will be assessed for this.		
As South Shore homeowners, we're concerned about any cost to us - for the initial project as well as future assessments for maintenance, especially if the township takes ownership of the road in the event of a one-way.		
Not enough information		
I do believe that the one way combined West bound will do the most to calm driving behavior that often has cars 50% beyond the speed limit on 120 North bound. Regrettably that will result in enormous Cty Rd. F traffic - which im concered for the impact of traffic on Cty Rd. F. for any of the one way options.		
I prefer the combination with the 2 way being on segment 1 and an eastbound 1 way on segment 2&3. EB: because the corner of S. Shore and Cty line E is very dangerous when traveling downhill in WB direction. 2 way on segment 1 would make it easier/quicker to travel to downtown to WBL, 61, & 96. Also prefer mutli-use trail on N side of road for safety (less intersection) and would be more scenic (safer for Pedestrians & Cyclists to stop and take in lake views on same side of road as the lake)		
A 2 way with a small bike trail is better - do not make South Shore a one way.	Two	
A one way east on South Shore would be a major problem for people traveling on 120 from 694 to downtown White Bear.		
A one way east on South Shore is a bad idea - it will hurt business in downtown White Bear.		
Best option (most "classy" for the city) 2 way with connecting trail. Trail is defined same as trail on opposite side of lake. 2nd option - one way westbound with connection trail. Just like the trail on the opposite side of the lake. Keep downtown as a focal point!		
I live on S Shore blvd and support a one way road with a muti-use path on the North side of the road. The two way road does not have my support.	One	
Two way - WB Ave to Bellaire. One way - Bellaire to County Line, no preference which direction.		
I am strongly in favor of a LLT, but I think a one way is one of the stupidest ideas ever. You will make a lot of local residents really inconvenienced. There is not a practical way for us to then logically move. No. Lake Ave in WBL is a totally different situation. There is room for bikes and 2 way traffic.		
Meeting was great thank you for all the info. Definitely need a one-way! Would prefer eastbound, but either option would be better than what we currently have and would increase safety immensely. 2 way option is not only too costly, but also appears to have major impacts on some properties along S. Shore.		
1st: One Way, 2nd: Combination	One	East
Would like to see two way traffic between McKnight & White Bear Ave and one way moving East from McKnight with trail on North side of road.		
Wonderful		
Why not simply replicate the road/path configuration of Lake Ave?		
One Way East Bound		
Bury power lines in open lakeview area.		
Would need a 4 way stop at Hazel & F		
This option is not acceptable.		
Love this option.		
Separate road & path with a curb for Ped. Safety.		
One way east	One	East





One way east	One	East
This concept is great! Definitely need one way!	One	
This is great! Raises our property values too!		
Prefer one way from WBA entire corridor. 1, 2, 3, to E. County Line for less congestion, less confusion and increase in safety and slow down traffic!	One	
One way car traffic with combined bike path would be least disruptive, most usable, least costly and dramatically safer than current.	One	
I think this is a great option! Huge improvement for Kids and Families.		
One Way westbound.	One	West
One Way eastbound	One	East
Safety enhancements for bikers, walkers, school bus stops on Cty. Rd. F. (sidewalk, painting bike lanes, PVC pipe barriers)		
4 way stop at county road f and east county line.		
Like this best - one way separated.	One	
Prefer one way going west.	One	West
Prefer West for cars.	One	West
Go west only.	One	West
Need parking for shared group docks (6-8 cars)		
Beautiful		
No Parking (preferred) for associations. They should live on the lake.		
Consider pull-off for association to allow association members ability to unload coolers, etc. Pull-off would be 10 min. parking vs. all day parking (which happens now).		
Support one way if, however, the individual cost to S. Shore homeowners is reasonable.	One	
I question need for median between road and bike path. Single car lane, one way is the best alternative - with path.	One	
Love this concept!		
All east bound traffic on C.R. F., already too busy, not a good option.		
One way is great! Also bury powerlines.	One	
One way is a great idea.	One	
No parking other than repair, service, or utility vehicles as necessary.		
By far the preferred option.		
Will the county be conducting land surveys on lakeside land portions affected by possible retaining wall?		
Enhance safety for walkers and bikers on County Road F.		
Associations should not get preferred treatment for parking. Should live on lake instead.		
Support no parking. If necessary, a short term pull-off for unloading heavy coolers would be enough. Or 1 hour or 2 hour parking. Cars now are parked on S. Shore for hours and hours.		
2 way only. What about driveway access N & S?		
Keep two way blvd.	Two	
Two way road with non separated trail.	Two	
Is there a way to slow down one-way traffic going up the hill?		
Occasionally cars cant make it up the hill in winter, they slide back north.		
Nice option, big improveemnt for kids/bikes/pedestrians.		
Extra design effort & investment in scenic open lakeview area.		
2 way only.		
Prefer WB		
Could trail continue up to wildwood ave?		
4 way stops at intersections. Cty Rd F & E County Line. Cty Rd F & Birchknoll Dr.		
This is the best option! Cost and traffic combined.		
Safety enhancements are need for bikers, walkers, and school bus stops on County Road F.		
Seriously look at one way from County Line to Bellaire only - Two way Bellaire to White Bear Ave.		
This option represents the least disruption and greatest ROI while making good on Ramsey County Bike & Ped Plan		
Keep two way road		



All traffic goes on CR F which is already too busy.
A one-way east on South Shore is a bad idea - it will hurt businesses in downtown White Bear.
Consider 2 way WB ave to Bellaire
Idea - take traffic to Co. Rd. E instead of F. It is busy already and the businesses on Co. Rd. E would appreciate it. There are no businesses on F.
Love this idea - a safe bike route.
Favor the Combo option - definitely for segment 1 and hopefully for segment 2. No preference on direction.
Go West only.
Study the number of walkers and bikers on County Rd. F today. Also look at the number of City and School bus stops.
Any increase of traffic on Co. Rd. F is a bad idea. Safety, getting out of driveway or stopping to get in driveway is a hazard now. Mail Access is dangerous. I have lived there for 44 years.
Please consider the increased traffic on Cty Rd. F. It already has a lot of traffic and if it increases that is very unfortunate for the residents especially Children - just for a bike path!
Would need a 4 way stop at Hazel & F
Very good idea as compromise
I prefer this combination. 2 way from WB ave & McKnight then one way east bound the rest.
Good combination, best efficiency, least disruption.
Prefer 2 way WB ave to E. Co line. This option is a fair alternative
Prefer one way West.
No parking for associations. They should not get preferred treatment.
For association, an alternative to parking would be a 2 car length pull-off to allow association members ability to unload personal items for loading on to boat (thus not long term parking).
Need parking for association (6-8 cars - shared property).
Prefer 2 way to McKnight traffic one way going East.
One way west bound to E Co. Line, 2 way at McKnight.
Good combination is a one way eastbound or westbound.
Im a trauma nurse and I am scared to ride on this road. So excited for a trail.
Prefer entire section of road be one-way, 2 way is still too dangerous - cars drive too fast!
Love them all, just build the Trail! I cant wait. If you made me choose, I like this one.
I like the 2 way WBA to McKnight and 1 way McKnight to 120. Entire route needs physical boundary, if even slanted curb, between trail & road.



Comments	One Way - Two Way - Combo	One way Direction	Type of Trail	Other Comments
Prefer combo with West bound one way. Need parking plan for access to shared docks & lawn services. Removal of overhead powerlines is essential in open lake-view area. Co. Rd. F is underutilized and S. Shore blvd is overutilized, so combo plan is appropriate.	Combo	West		Utilities buried, Parking
2 way from WB Ave to Bellaire with retaining wall at Schneiders Bay	Combo			
2 way from WB Ave to Bellaire	Combo			
I do believe that the one way combined West bound will do the most to calm driving behavior that often has cars 50% beyond the speed limit on 120 North bound. Regrettably that will result in enormous Cty Rd. F traffic - which im concerned for the impact of traffic on Cty Rd. F. for any of the one way options.	Combo	West		
I prefer the combination with the 2 way being on segment 1 and an eastbound 1 way on segment 2&3. EB: because the corner of S. Shore and Cty line E is very dangerous when traveling downhill in WB direction. 2 way on segment 1 would make it easier/quicker to travel to downtown to WBL, 61, & 96. Also prefer multi-use trail on N side of road for safety (less intersection) and would be more scenic (safer for Pedestrians & Cyclists to stop and take in lake views on same side of road as the lake)	Combo	East		
Two way - WB Ave to Bellaire. One way - Bellaire to County Line, no preference which direction.	Combo			
Would like to see two way traffic between McKnight & White Bear Ave and one way moving East from McKnight with trail on North side of road.	Combo	East		
Nice option, big improveemnt for kids/bikes/pedestrians.	Combo			
This is the best option! Cost and traffic combined.	Combo			
Seriously look at one way from County Line to Bellaire only - Two way Bellaire to White Bear Ave.	Combo			
This option represents the least disruption and greatest ROI while making good on Ramsey County Bike & Ped Plan	Combo			
Consider 2 way WB ave to Bellaire	Combo	West		
Love this idea - a safe bike route.	Combo			
Favor the Combo option - definitely for segment 1 and hopefully for segment 2. No preference on direction.	Combo			
Go West only.	Combo	West		
Very good idea as compromise	Combo			
I prefer this combination. 2 way from WB ave & McKnight then one way east bound the rest.	Combo	East		
Good combination, best efficiency, least disruption.	Combo			
Prefer 2 way WB ave to E. Co line. This option is a fair alternative	Combo	West		
Prefer 2 way to McKnight traffic one way going East.	Combo	East		
One way west bound to E Co. Line, 2 way at McKnight.	Combo	West		
Good combination is a one way eastbound or westbound.	Combo			
Love them all, just build the Trail! I cant wait. If you made me choose, I like this one.	Combo			
I like the 2 way WBA to McKnight and 1 way McKnight to 120. Entire route needs physical boundary, if even slanted curb, between trail & road.	Combo			
We would like a one way going east bound with the trail on the north side. Also lower the speed limit as low as you can. Also, would like a vegetative area in the middle for safety from cars. This is the best and most cost effective plan that can get done as soon as possible with the least amount of problems and cost in our opinion. Thank you.	One	East		North Side
One way all the way, trail on North Side, East Bound Direction	One	East		North Side
We prefer the one way option in either direction. It is the quickest, easiest, cheapest, and has the least impact on people's yards. We cant wait to walk our dog on the new trail (and bike)	One			
I like the one way option - would love to be able to bike/walk on south shore without dodging cars	One			
Improving pedestrian safety would be my #1 priority. I have frequent nightmares about my kids getting hit by a car while walking on South Shore or in my front yard. The full one way would have the biggest traffic reduction so it would be my top choice. I think the one way would make for the best pedestrian experience much like Lake Ave. If it is the cheapest and lowest property impact option then the one way seems like a no	One			
We live between White Bear Ave and McKnight. We prefer a one way option going eastbound with the trail on the north side and vegetative barrier. Currently there is way too much traffic. Also please lower the speed limit to 25 mph or lower and enforce it!	One	East		North Side



One way on South Shore Please - either way.	One		
I live on S Shore blvd and support a one way road with a multi-use path on the North side of the road. The two way road does not have my support.	One		North Side
Meeting was great thank you for all the info. Definitely need a one-way! Would prefer eastbound, but either option would be better than what we currently have and would increase safety immensely. 2 way option is not only too costly, but also appears to have major impacts on some properties along S. Shore.	One	East	
1st: One Way, 2nd: Combination	One		
One way east	One	East	
One way east	One	East	
This concept is great! Definitely need one way!	One		
Prefer one way from WBA entire corridor. 1, 2, 3, to E. County Line for less congestion, less confusion and increase in safety and slow down traffic!	One		
One way car traffic with combined bike path would be least disruptive, most usable, least costly and dramatically safer than current.	One		
One Way westbound.	One	West	
One Way eastbound	One	East	
Like this best - one way separated.	One		
Prefer West for cars.	One	West	
Go west only.	One	West	
Support one way if, however, the individual cost to S. Shore homeowners is reasonable.	One		
I question need for median between road and bike path. Single car lane, one way is the best alternative - with path.	One		
One way is great! Also bury powerlines.	One		Utilities buried
One way is a great idea.	One		
1. The trail needs to be on the north side of the street. Much safer since it eliminates all of the intersection crossings that would be present if it was on the south side. 2. One way is the cheapest and the way it should be done in my opinion. Providing two way plus a trail going east from McKnight would be a big project and expensive due to the narrow and sloped terrain from McKnight around the bay. I think there are similar issues on the east end of the trail near 120. 3. Keeping two way on south shore east of cottage park is feasible but making it one way would be a safer option in addition to being cheaper. 4. The one way road should be heading east since that reduces the traffic flow on the road along the trail more than a westerly flow. 5. I understand there will be increased traffic on alternate roads but I am not sure it will be as large an increase as projected and even if it is the roads are designed to handle that traffic load, Thank you again and I look forward to your recommendation on how to proceed.	One	East	North Side
Thanks for all your effort. Prefer one way west bound or combination. Need to accommodate parking for Snyder Bay Association, 6-8 cars, summer only	One	West	Parking at bay
One way east (or a floating trail)	One	East	
Wonderful	One		
One Way East Bound	One	East	
Love this option.	One		
This is great! Raises our property values too!	One		
I think this is a great option! Huge improvement for Kids and Families.	One		
Beautiful	One		
Love this concept!	One		
Prefer one way West.	One	West	
Prefer entire section of road be one-way, 2 way is still too dangerous - cars drive too fast!	One		
One Way west bound, would very much support underground utilities.	One	West	Utilities buried
I strongly prefer one way traffic, east bound would be better - from white bear ave to East County line. Combination roadway and bike lane like Lake Ave would be most efficient. Second preference: two way White Bear Ave o McKnight - one way McKnight to East Cty line.	One	East	Like Lake Ave
Prefer one way going west.	One	West	
2 way is the best, do not make S. Shore east only.	Two		



Keep South Shore a two way. Increasing or even doubling the traffic on County Road F is unthinkable. Residents will not be able to get out of their driveways during rush hours. Putting more traffic on an already high traffic road makes no sense. County Road F has a much higher population than South Shore Blvd. Consider the welfare of the majority of the people - the noise and dangers caused by congestion would be unbearable.	Two
Definitely want 2 way road for the entire route. Definitely want bigger than 10 ft. wide trail as much as possible. Prefer delineate walk and 2 way bike areas with paint.	Two
Advocate maintaining two-way road so strongly in favor of two-way option with only repair, service or utility parking as necessary	Two
A 2 way with a small bike trail is better - do not make South Shore a one way.	Two
Keep two way blvd.	Two
Two way road with non separated trail.	Two
I would like to contact the committee who is in charge of the Lake Link Trails project making a bike path between WB Ave and East Co Line. I am a 32 year resident of South Shore and my husband and I am VERY opposed to changing the road to make a one way for a bike trail! Who is making this decision? Are the people who are working on this project a resident of South Shore or Co Rd F? Because you are making life changing decisions that will impact our lives drastically if the street becomes a one way all for a path that would be used for about 6 months of the year! My fear is you are leading people to believe they are having a say by voting at the meetings when this committee is going to do what it wants! Anyone who is going to vote for this probably DOES NOT LIVE on South Shore! This is not fair! The decision should be up to the residents only. Widening the street for a safer shoulder would be great for bikers and walkers if the county had extra money for this but the horrendous cost that this project could possibly incur if you put in medians and trees and move power lines, build retaining walls and all the man power to do this! If there is any budget that the county has for parks then I suggest they use that money to make the parks that exist now a more clean, safe and debris free for children and adults! My husband and I feel so strongly about this project even if this is just in the planning stages. What can we really do to STOP a one way from being built?	
Thank you for passing this information along to the decision maker powers.	Two
Best option (most "classy" for the city) 2 way with connecting trail. Trail is defined same as trail on opposite side of lake. 2nd option - one way westbound with connection trail. Just like the trail on the opposite side of the lake. Keep downtown as a focal point!	Two
I am strongly in favor of a LLT, but I think a one way is one of the stupidest ideas ever. You will make a lot of local residents really inconvenienced. There is not a practical way for us to then logically move. No. Lake Ave in WBL is a totally different situation. There is room for bikes and 2 way traffic.	Two
This option is not acceptable.	Two
All east bound traffic on C.R. F., already too busy, not a good option.	Two
By far the preferred option.	Two
2 way only. What about driveway access N & S?	Two
2 way only.	Two
Keep two way road	Two
A one-way east on South Shore is a bad idea - it will hurt businesses in downtown White Bear.	Two
Any increase of traffic on Co. Rd. F is a bad idea. Safety, getting out of driveway or stopping to get in driveway is a hazard now. Mail Access is dangerous. I have lived there for 44 years.	Two
The assumption that all traffic from S. Shore, if road is converted to one way, will all go to County F is False. East Bound one way does not necessarily shift all West bound traffic to F. Worst case scenario is how it should be presented.	
West only if have to do one way.	
If any one-way option is chosen, you should make the intersection at Cty F and Hazel a 4 way stop.	Traffic improvements at CR F
If combined option is chosen, please choose direction with the least traffic impact on Cty F. The same goes for a one-way option, least traffic impact.	

1. I am concerned about the cost assessment to me and unknowns about how it will be paid for. 2. I am concerned that there are still so many unknowns as to type of road, direction if one-way, etc. 3. I live on lakeside, if trail is on north side how will it be to exit my driveway to cross it.

You will be inconveniencing many people for the benefit of a few. How about just having a 5 ft. bike path. You are not sure if we will be assessed for this.

As South Shore homeowners, we're concerned about any cost to us - for the initial project as well as future assessments for maintenance, especially if the township takes ownership of the road in the event of a one-way.

Not enough information

A one way east on South Shore would be a major problem for people traveling on 120 from 694 to downtown White Bear.

A one way east on South Shore is a bad idea - it will hurt business in downtown White Bear.

Why not simply replicate the road/path configuration of Lake Ave?

Bury power lines in open lakeview area.

Utilities buried

Would need a 4 way stop at Hazel & F

Separate road & path with a curb for Ped. Safety.

Safety enhancements for bikers, walkers, school bus stops on Cty. Rd. F. (sidewalk, painting bike lanes, PVC pipe barriers)

4 way stop at county road f and east county line.

Need parking for shared group docks (6-8 cars)

No Parking (preferred) for associations. They should live on the lake.

Consider pull-off for association to allow association members ability to unload coolers, etc. Pull-off would be 10 min. parking vs. all day parking (which happens now).

No parking other than repair, service, or utility vehicles as necessary.

Will the county be conducting land surveys on lakeside land portions affected by possible retaining wall?

Enhance safety for walkers and bikers on County Road F.

Associations should not get preferred treatment for parking. Should live on lake instead.

Support no parking. If necessary, a short term pull-off for unloading heavy coolers would be enough. Or 1 hour or 2 hour parking. Cars now are parked on S. Shore for hours and hours.

Is there a way to slow down one-way traffic going up the hill?

Occasionally cars cant make it up the hill in winter, they slide back north.

Extra design effort & investment in scenic open lakeview area.

Prefer WB

Could trail continue up to wildwood ave?

4 way stops at intersections. Cty Rd F & E County Line. Cty Rd F & Birchknoll Dr.

Safety enhancements are need for bikers, walkers, and school bus stops on County Road F.

All traffic goes on CR F which is already too busy.

Idea - take traffic to Co. Rd. E instead of F. It is busy already and the businesses on Co. Rd. E would appreciate it. There are no businesses on F.

Study the number of walkers and bikers on County Rd. F today. Also look at the number of City and School bus stops.

Please consider the increased traffic on Cty Rd. F. It already has a lot of traffic and if it increases that is very unfortunate for the residents especially Children - just for a bike path!

Would need a 4 way stop at Hazel & F

No parking for associations. They should not get preferred treatment.

For association, an alternative to parking would be a 2 car length pull-off to allow association members ability to unload personal items for loading on to boat (thus not long term parking).

Need parking for association (6-8 cars - shared property).

Im a trauma nurse and I am scared to ride on this road. So excited for a trail.

## **APPENDIX E**

COMBINED - FINAL PAT SCORING

CRITERIA	OPTIONS					
	A	B	C	D	E	F
	STRIPE EXISTING	TWO WAY SEPARATED	TWO WAY OPTIMIZED	COMBO	ONE WAY SEPARATED	ONE WAY (Non- Reconstruct)
COSTS	\$700k	\$7.4M	\$7.2M	\$6.9M	\$6.4M	\$1.3M
RIGHT OF WAY	9	2	4	6	8	9
CONSTRUCTION	9	2	3	6	7	9
DESIGN	8	4	4	5	6	8
MAINTENANCE	6	6	6	6	6	7
LONG TERM VALUE	2	9	8	7	7	5
SUBTOTAL	6.6	4.8	5.1	6.1	6.8	7.5
TRAFFIC OPERATIONS						
VOLUME IMPACT ON S SHORE BLVD -42% One Way / -36% Combo	7	6	6	6	6	6
VOLUME IMPACT ON ALTERNATE ROUTES +70% One Way / +58% Combo	5	8	8	5	2	3
IMPACT ON EMERGENCY SERVICES	6	8	8	4	3	3
IMPACT ON NON-EMERGENCY SERVICES	6	8	8	4	3	3
CONVENIENCE/ACCESS	6	8	8	4	3	3
SUBTOTAL	6.0	7.6	7.6	4.6	3.4	3.6
BIKE/PED CONSIDERATIONS						
ABILITY OF DESIGN TO MEET STANDARDS	2	10	8	9	10	9
LAKE LINKS ROUTE COMPATIBILITY	3	10	9	9	10	9
SUBTOTAL	2.5	10.0	8.5	9.0	10.0	9.0
PUBLIC OPINION						
SOUTH SHORE BLVD RESIDENTS (CITY) 53% One Way / 25% Combo / 22% Two Way	3	6	5	7	8	6
SOUTH SHORE BLVD RESIDENTS (TWNShP) 76% One Way / 24% Combo / 0% Two Way	3	5	5	7	9	9
OTHER AREA RESIDENTS (not on SSB) 27% One Way / 38% Combo / 35% Two Way	3	7	7	7	6	4
BASED ON ALL COMMENTS RECEIVED 34% One Way / 11% Combo / 9% Two Way / 46% No Opinion	3	5	5	6	8	6
SUBTOTAL	3.0	5.7	5.5	6.8	7.8	6.4
ADDITIONAL CONSIDERATIONS						
PARKING IMPACTS	2	5	5	6	6	4
PLACEMAKING BENEFIT	2	9	8	8	10	8
CREATES A RECREATIONAL ASSET	3	9	8	8	10	9
OPPORTUNITY CAPTURE	3	6	6	7	7	7
TIMING OF IMPLEMENTATION (SCHEDULE)	10	4	6	6	7	10
CONSTRUCTION IMPACTS TO PRIVATE PROPERTY	9	3	5	6	8	9
SUBTOTAL	4.6	6.3	6.5	6.9	8.1	7.9
TOTAL SCORE	4.3	7.0	6.7	6.9	7.5	7.1

**Notes:**

One Way options could potentially result in a jurisdictional transfer from County to Local authority

Scoring of OPTIONS is based on the Scale to the right

Utility costs are not included in the estimates

Traffic VOLUME impacts are based on the One Way being a WB direction

See attached summary of each Option

**\*Priority and Scoring values (and the resulting total Score) are based on an average of individual County/City/Township evaluations**

SCORING SCALE		PRIORITY SCALE	
Exceptional	10	Highest	9 - 10
Outstanding	9	High	7 - 8
Excellent	8	Medium	5 - 6
Very Good	7	Low	3 - 4
Good	6	Lowest	1 - 2
Satisfactory	5		
Fair	4		
Marginal	3		
Poor	2		
Not Acceptable	1		

Sub-Criteria Priority		Overall Priority	
		Medium	6
Medium	6		
Medium	6		
Medium	5		
Medium	6		
High	7		

		Medium	5
Medium	6		
Medium	6		
Medium	6		
Medium	5		
Medium	5		

		High	8
High	7		
Medium	6		

		Medium	6
Medium	6		
Medium	6		
Medium	5		
Medium	5		

		Medium	6
Medium	5		
Medium	6		
High	7		
Medium	6		
Medium	5		
Medium	5		



CITY OF WHITE BEAR LAKE

CRITERIA	OPTIONS					
	A	B	C	D	E	F
	STRIPE EXISTING	TWO WAY SEPARATED	TWO WAY OPTIMIZED	COMBO	ONE WAY SEPARATED	ONE WAY (Non- Reconstruct)
COSTS	\$700k	\$7.4M	\$7.2M	\$6.9M	\$6.4M	\$1.3M
RIGHT OF WAY	9	4	5	6	6	9
CONSTRUCTION	9	4	4	5	6	9
DESIGN	7	5	5	5	5	7
MAINTENANCE	7	5	5	5	5	7
LONG TERM VALUE	2	10	9	7	5	2
SUBTOTAL	6.5	5.8	5.8	5.7	5.4	6.5
TRAFFIC OPERATIONS						
VOLUME IMPACT ON S SHORE BLVD -42% One Way / -36% Combo	8	10	10	6	3	3
VOLUME IMPACT ON ALTERNATE ROUTES +70% One Way / +58% Combo	9	10	10	5	1	1
IMPACT ON EMERGENCY SERVICES	9	10	10	4	1	1
IMPACT ON NON-EMERGENCY SERVICES	9	10	10	4	1	1
CONVENIENCE/ACCESS	8	10	10	4	2	2
SUBTOTAL	8.6	10.0	10.0	4.6	1.6	1.6
BIKE/PED CONSIDERATIONS						
ABILITY OF DESIGN TO MEET STANDARDS	2	10	10	10	10	9
LAKE LINKS ROUTE COMPATIBILITY	2	10	10	10	10	9
SUBTOTAL	2.0	10.0	10.0	10.0	10.0	9.0
PUBLIC OPINION						
SOUTH SHORE BLVD RESIDENTS (CITY) 53% One Way / 25% Combo / 22% Two Way	2	8	8	9	10	5
SOUTH SHORE BLVD RESIDENTS (TWNShP) 76% One Way / 24% Combo / 0% Two Way	2	8	8	10	10	10
OTHER AREA RESIDENTS (not on SSB) 27% One Way / 38% Combo / 35% Two Way	2	10	10	9	8	2
BASED ON ALL COMMENTS RECEIVED 34% One Way / 11% Combo / 9% Two Way / 46% No Opinion	2	9	9	9	9	3
SUBTOTAL	2.0	8.8	8.8	9.3	9.3	5.0
ADDITIONAL CONSIDERATIONS						
PARKING IMPACTS	1	8	8	9	10	6
PLACEMAKING BENEFIT	1	10	10	10	10	5
CREATES A RECREATIONAL ASSET	1	10	10	10	10	10
OPPORTUNITY CAPTURE	1	10	10	8	6	2
TIMING OF IMPLEMENTATION (SCHEDULE)	10	8	8	9	10	10
CONSTRUCTION IMPACTS TO PRIVATE PROPERTY	9	7	8	8	9	9
SUBTOTAL	3.4	9.1	9.2	9.0	8.9	6.6
TOTAL SCORE	4.1	8.9	8.9	8.1	7.5	5.9

**Notes:**

One Way options could potentially result in a jurisdictional transfer from County to Local authority

Scoring of OPTIONS is based on the Scale to the right

Utility costs are not included in the estimates

Traffic VOLUME impacts are based on the One Way being a WB direction

See attached summary of each Option

**\*Priority and Scoring values (and the resulting total Score) are based on an average of individual County/City/Township evaluations**

SCORING SCALE		PRIORITY SCALE	
Exceptional	10	Highest	9 - 10
Outstanding	9	High	7 - 8
Excellent	8	Medium	5 - 6
Very Good	7	Low	3 - 4
Good	6	Lowest	1 - 2
Satisfactory	5		
Fair	4		
Marginal	3		
Poor	2		
Not Acceptable	1		

Sub-Criteria Priority		Overall Priority	
		Low	4
Medium	5		
Low	4		
Low	4		
Medium	6		
Medium	6		

		Medium	5
Medium	5		
Medium	5		
Medium	5		
Medium	5		
Medium	5		

		High	7
Medium	6		
Medium	6		

		High	7
Medium	6		
Medium	6		
Medium	6		
Medium	6		

		Medium	5
Low	4		
Medium	5		
Medium	5		
High	7		
Medium	5		
Low	3		

WHITE BEAR TOWNSHIP

CRITERIA	OPTIONS					
	A	B	C	D	E	F
	STRIPE EXISTING	TWO WAY SEPARATED	TWO WAY OPTIMIZED	COMBO	ONE WAY SEPARATED	ONE WAY (Non- Reconstruct)
COSTS	\$700k	\$7.4M	\$7.2M	\$6.9M	\$6.4M	\$1.3M
RIGHT OF WAY	10	2	4	6	9	10
CONSTRUCTION	10	2	4	6	7	9
DESIGN	9	4	5	5	6	9
MAINTENANCE	9	5	6	6	7	8
LONG TERM VALUE	2	10	8	8	9	9
SUBTOTAL	8.0	4.5	5.3	6.3	7.7	9.1
TRAFFIC OPERATIONS						
VOLUME IMPACT ON S SHORE BLVD -42% One Way / -36% Combo	5	5	5	6	7	7
VOLUME IMPACT ON ALTERNATE ROUTES +70% One Way / +58% Combo	5	5	5	4	2	2
IMPACT ON EMERGENCY SERVICES	5	5	5	4	4	4
IMPACT ON NON-EMERGENCY SERVICES	5	5	5	4	3	3
CONVENIENCE/ACCESS	5	4	5	3	3	3
SUBTOTAL	5.0	4.8	5.0	4.2	3.8	3.8
BIKE/PED CONSIDERATIONS						
ABILITY OF DESIGN TO MEET STANDARDS	2	10	7	8	10	9
LAKE LINKS ROUTE COMPATIBILITY	4	10	8	9	10	10
SUBTOTAL	2.9	10.0	7.4	8.4	10.0	9.4
PUBLIC OPINION						
SOUTH SHORE BLVD RESIDENTS (CITY) 53% One Way / 25% Combo / 22% Two Way	3	7	6	9	8	8
SOUTH SHORE BLVD RESIDENTS (TWNSHP) 76% One Way / 24% Combo / 0% Two Way	2	6	6	7	8	8
OTHER AREA RESIDENTS (not on SSB) 27% One Way / 38% Combo / 35% Two Way	3	7	7	8	6	6
BASED ON ALL COMMENTS RECEIVED 34% One Way / 11% Combo / 9% Two Way / 46% No Opinion	2	4	4	6	8	8
SUBTOTAL	2.5	6.0	5.8	7.5	7.5	7.5
ADDITIONAL CONSIDERATIONS						
PARKING IMPACTS	4	3	3	4	5	5
PLACEMAKING BENEFIT	2	10	8	9	10	10
CREATES A RECREATIONAL ASSET	4	8	6	8	10	9
OPPORTUNITY CAPTURE	5	8	6	8	9	10
TIMING OF IMPLEMENTATION (SCHEDULE)	10	3	7	7	7	10
CONSTRUCTION IMPACTS TO PRIVATE PROPERTY	9	2	4	6	7	9
SUBTOTAL	5.6	5.6	5.6	6.9	8.0	8.7
TOTAL SCORE	4.9	6.4	5.9	6.8	7.7	8.0

**Notes:**

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Scoring of OPTIONS is based on the Scale to the right

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See attached summary of each Option

**\*Priority and Scoring values (and the resulting total Score) are based on an average of individual County/City/Township evaluations**

SCORING SCALE		PRIORITY SCALE	
Exceptional	10	Highest	9 - 10
Outstanding	9	High	7 - 8
Excellent	8	Medium	5 - 6
Very Good	7	Low	3 - 4
Good	6	Lowest	1 - 2
Satisfactory	5		
Fair	4		
Marginal	3		
Poor	2		
Not Acceptable	1		

Sub-Criteria Priority		Overall Priority	
		High	8
High	8		
High	8		
Medium	5		
Medium	6		
High	7		

		Medium	6
Medium	6		
Medium	6		
High	8		
Medium	6		
Medium	5		

		Highest	9
Highest	9		
High	7		

		Medium	5
Medium	5		
Medium	5		
Medium	5		
Medium	5		

		Medium	6
Medium	6		
Medium	5		
High	7		
Medium	5		
Medium	5		
Medium	6		

RAMSEY COUNTY

CRITERIA	OPTIONS					
	A	B	C	D	E	F
	STRIPE EXISTING	TWO WAY SEPARATED	TWO WAY OPTIMIZED	COMBO	ONE WAY SEPARATED	ONE WAY (Non- Reconstruct)
COSTS	\$700k	\$7.4M	\$7.2M	\$6.9M	\$6.4M	\$1.3M
RIGHT OF WAY	9	1	2	6	8	9
CONSTRUCTION	8	1	2	6	7	8
DESIGN	8	3	3	6	8	9
MAINTENANCE	3	7	7	6	5	5
LONG TERM VALUE	3	6	6	5	6	5
SUBTOTAL	5.8	4.0	4.3	5.8	6.6	9.0
TRAFFIC OPERATIONS						
VOLUME IMPACT ON S SHORE BLVD -42% One Way / -36% Combo	9	3	3	5	9	9
VOLUME IMPACT ON ALTERNATE ROUTES +70% One Way / +58% Combo	2	10	10	5	2	5
IMPACT ON EMERGENCY SERVICES	5	10	10	5	5	5
IMPACT ON NON-EMERGENCY SERVICES	5	10	10	5	5	4
CONVENIENCE/ACCESS	4	10	10	5	4	4
SUBTOTAL	5.0	8.4	8.4	5.0	5.0	5.5
BIKE/PED CONSIDERATIONS						
ABILITY OF DESIGN TO MEET STANDARDS	2	10	8	8	10	9
LAKE LINKS ROUTE COMPATIBILITY	2	10	8	8	10	9
SUBTOTAL	2.0	10.0	8.0	8.0	10.0	9.0
PUBLIC OPINION						
SOUTH SHORE BLVD RESIDENTS (CITY) 53% One Way / 25% Combo / 22% Two Way	3	2	2	4	5	5
SOUTH SHORE BLVD RESIDENTS (TWNSHP) 76% One Way / 24% Combo / 0% Two Way	5	1	1	4	8	8
OTHER AREA RESIDENTS (not on SSB) 27% One Way / 38% Combo / 35% Two Way	3	4	4	4	3	3
BASED ON ALL COMMENTS RECEIVED 34% One Way / 11% Combo / 9% Two Way / 46% No Opinion	4	1	1	2	6	6
SUBTOTAL	3.8	2.0	2.0	3.5	5.6	5.6
ADDITIONAL CONSIDERATIONS						
PARKING IMPACTS	1	5	5	5	2	1
PLACEMAKING BENEFIT	3	8	6	5	9	9
CREATES A RECREATIONAL ASSET	3	8	7	6	9	9
OPPORTUNITY CAPTURE	3	1	2	5	5	8
TIMING OF IMPLEMENTATION (SCHEDULE)	10	1	2	3	5	10
CONSTRUCTION IMPACTS TO PRIVATE PROPERTY	9	1	2	4	8	9
SUBTOTAL	4.6	4.6	4.4	4.8	6.7	7.9
TOTAL SCORE	4.0	5.9	5.4	5.5	7.0	7.5

**Notes:**

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See attached summary of each Option

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Good	6	Lowest	1 - 2
Satisfactory	5		
Fair	4		
Marginal	3		
Poor	2		
Not Acceptable	1		

Sub-Criteria Priority		Overall Priority	
		Medium	6
Medium	5		
Medium	5		
Medium	5		
High	7		
High	7		

		Medium	5
Medium	6		
Medium	6		
Medium	5		
Medium	5		
Medium	5		

		High	8
Medium	5		
Medium	5		

		High	7
Medium	6		
Medium	6		
Medium	5		
Medium	5		

		Medium	6
Medium	5		
High	7		
High	8		
Medium	5		
Medium	5		