

Victoria Street Roadway and Trail Conceptual Design Study

Study Report | August 2022



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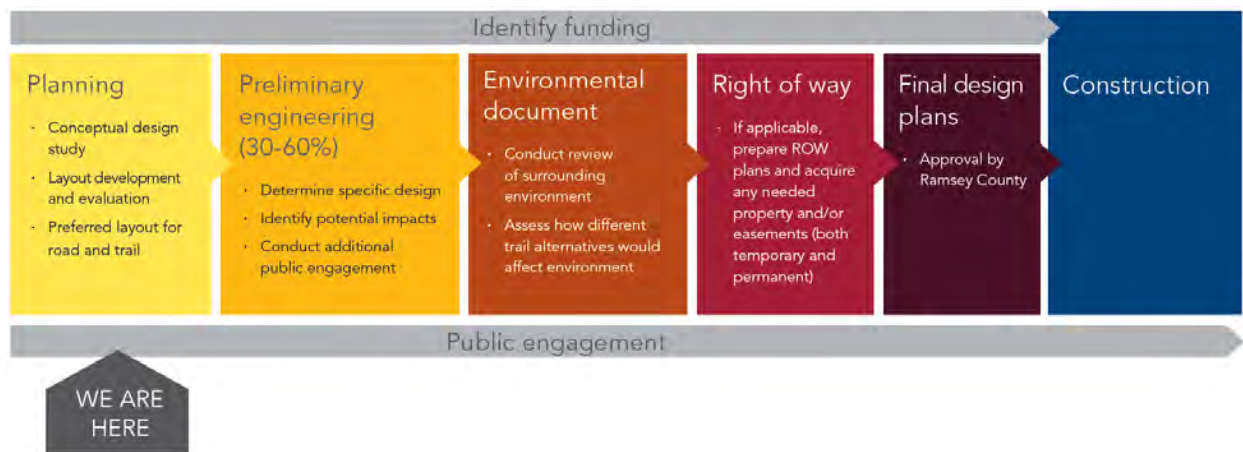
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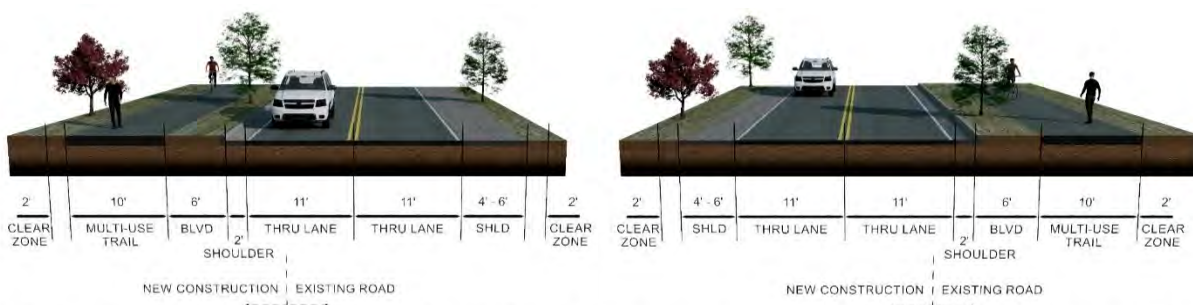
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Executive Summary

The *Victoria Street Roadway & Trail Conceptual Design Study* (Study) was initiated by Ramsey County in the fall of 2021 to analyze several options for a trail or bikeway along the Victoria Street [County State Aid Highway (CSAH) 52] corridor in Ramsey County, between County Road C in Roseville (south end of corridor) and Harriet Avenue in Shoreview (north end of corridor). The Study included an existing conditions analysis, public and stakeholder engagement, analysis of preliminary cross section concepts, development of two full roadway and trail concept layouts, technical evaluation of the two concepts and planning-level cost estimates. Community and stakeholder engagement included three rounds of open houses, three online surveys, online interactive comment maps and four meetings with the project's technical advisory committee. The Study was completed in the summer of 2022 and is the first step towards construction of a future Victoria Street project as shown in the graphic below.



Two full concepts were developed and evaluated, one with a 10-foot bituminous multiuse trail on the east side of Victoria Street and one with a trail on the west side (see below). A concrete curb and gutter would be constructed between the roadway and trail. The width of the shoulder adjacent to the trail would also be reduced, and motor vehicle travel lanes would be restriped to reduce widths from 12 feet to 11 feet. These improvements would be considered Phase 1. A future Phase 2 could include full reconstruction of Victoria Street, which would include the need for re-evaluation of a sidewalk or trail on the opposite side of the road.



VICTORIA STREET WEST SIDE CONCEPT, TYPICAL SECTION D - D **VICTORIA STREET EAST SIDE CONCEPT, TYPICAL SECTION D - D**

The Study did not formally identify a preferred roadway and trail design concept, but results of the technical analysis suggest that a trail on the west side of Victoria Street is more favorable than a trail on the east side. A trail on the west side would best address the project needs and would likely result in fewer potential impacts across several social, economic and environmental resources that were reviewed. A formally recommended roadway and trail design will be determined in a future design phase. At the time this report was developed, no funding for the future trail or roadway design has been identified and there is no defined schedule for future construction. Planning level cost estimates for both concepts are approximately \$3.0 M.

I. Introduction and Overview

Study Background and Report Overview

In 2015 Ramsey County adopted their Countywide Pedestrian and Bicycle Plan - a resource and a framework for development of a connected Ramsey County where communities and residents are engaged in the process of building a great place for walking and bicycling. The plan identified the Victoria Street corridor as a planned local corridor within the County's Connected Ramsey Communities Network. The Victoria Street corridor passes along the west side of Lake Owasso for a short distance and extends north from County Road C in the City of Roseville to Cannon Avenue in the City of Shoreview.

Ramsey County initiated this study in the fall of 2021 to analyze several options for the addition of a trail or bikeway along the Victoria Street. The study process included community engagement with residents along the corridor and other community members, and documentation of the pros and cons of various concepts. Over the course of the study, the northern terminus of the study area was extended from Cannon Avenue to Harriet Avenue to better capture connections to the existing trail network near St. Odilia School and Island Lake Elementary School.

This report documents the results and findings of the study, including summaries of the existing conditions analysis, public and stakeholder engagement, the two roadway and trail concepts, technical evaluation of the two concepts, planning-level cost estimates and next steps.

Study Purpose

The purpose of the study is to establish a conceptual planning level design vision for Victoria Street that safely and effectively accommodates bicycle and pedestrian activity now and into the foreseeable future.

Study Goals

The goals of the study are to:

- Create a safe and comfortable walking/biking environment along and across Victoria Street for users with all abilities.
- Link to existing trail infrastructure and nearby destinations.
- Improve safety for all users of Victoria Street.
- Minimize property impacts.
- Develop improvements that are financially feasible.

Study Area Overview

The study area is the portion of Victoria Street [County State Aid Highway (CSAH) 52] from County Road C (CSAH 23) in Roseville to Harriet Ave in Shoreview, all located in Ramsey County (**Figure 1** and **Figure 2**).¹ Victoria Street's designation as an arterial indicates it is key to the area's transportation network. This is also demonstrated by relatively high average daily traffic (4,950–6,200). The only non-motorized transportation facilities on the corridor within the study area is a sidewalk on the west side of the street at the far southern end of the corridor, between County Road C and Woodhill Drive, a trail on the east side of the corridor between Cannon Ave and Harriet Ave, and some intersecting sidewalks or trails, such as on Woodhill Dr, W Owasso Blvd, W County Rd D.

¹ Note: The study area was revised during the course of the study to extend to Harriett Avenue, beyond the original end point at Cannon Avenue.

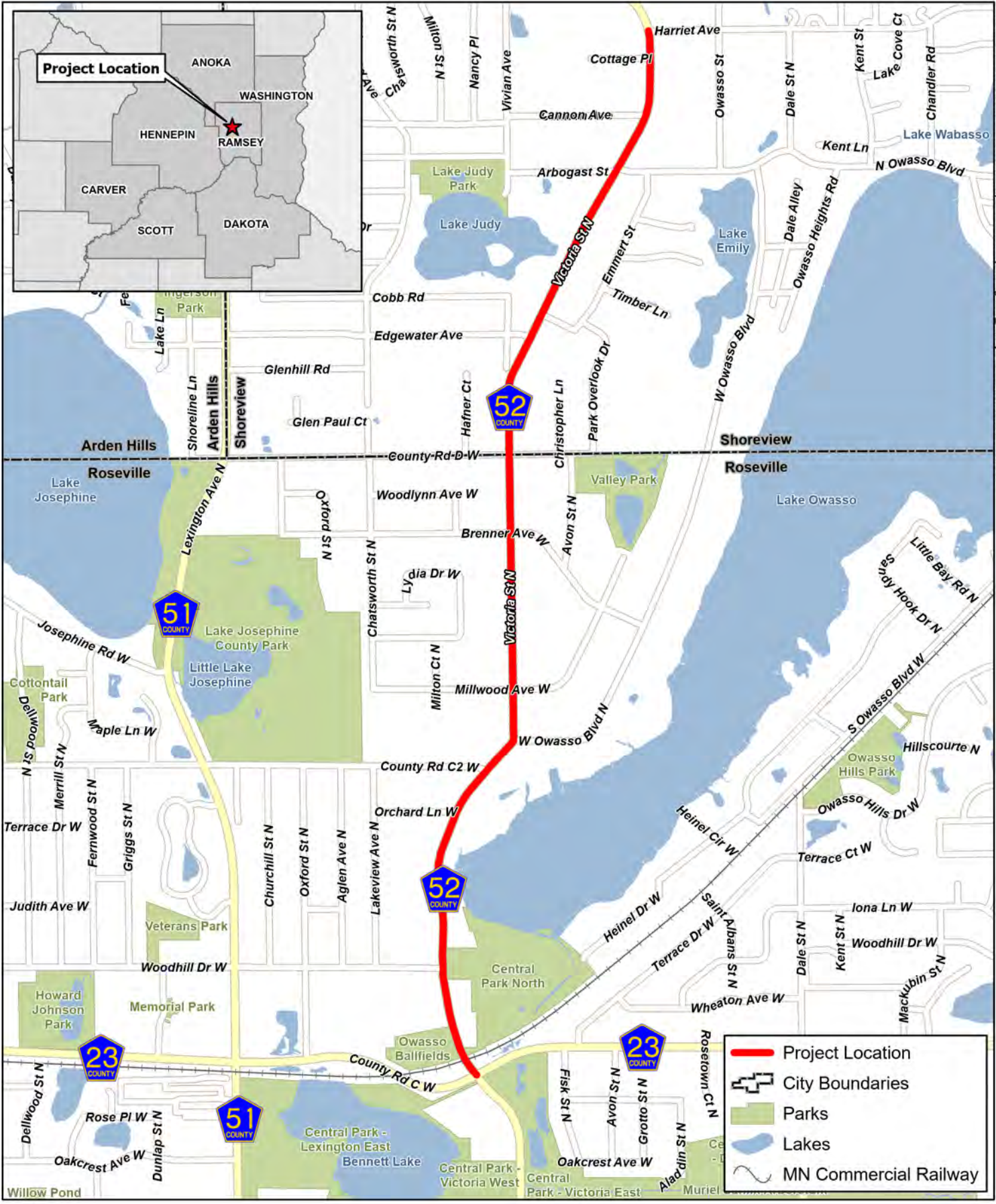
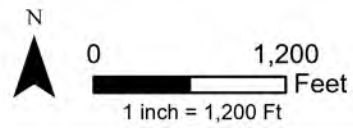


Figure 1 - Study Area

Victoria Street Roadway and Trail Conceptual Design Study
Ramsey County, MN



II. Existing Conditions

This section summarizes the existing conditions on the study corridor. Additional details are available in **Attachment A**.

Corridor Characteristics

Victoria Street is a two-lane, two-way roadway with paved shoulders and is designed as a rural section with ditch and swale drainage. On the far south end of the corridor there is an existing at-grade railroad crossing just north of County Road C. Adjacent land use is primarily single family residential with many driveways directly accessing the corridor. Other uses include senior living, multiple family, a church and a daycare center. Speed limits, traffic volumes and other key roadway information are listed in **Table 1**.

Table 1: Corridor Characteristics Summary

Characteristic	Data
Corridor length (mi.)	1.8
Speed Limit (mph)	35–40
Existing Right of Way	62'–84'
Annual Average Daily Traffic (AADT) ¹	4,950–6,200
Functional Classification	Other Arterial
Road Geometry	-Two-lane, two-way with paved shoulders -Rural cross section
Parking	Restricted and partially restricted
Existing Non-motorized facilities	-One small sidewalk segment -One small trail segment -Striped shoulders
Drainage	Largely ditch and swale drainage, small amount of curb and gutter at south end

(1) MnDOT, 2019



Existing roadway configuration along the northern part of the Victoria Street corridor.

Figure 3 and **Figure 4** depict the existing typical sections and their general locations along the corridor. There are several geometric constraints in addition to right of way that informed the development of concepts for the corridor, including:

- Utility poles near the roadway.
- Variation in elevation between adjacent homes/yards and the roadway.
- Horizontal curves.
- Variation in ditches and slopes along the corridor.
- Railroad crossing near County Road C.

There are limited sidewalks and trails in the study area for pedestrians and bicyclists to use. The corridor has some marked but uncontrolled pedestrian crossings. Including by New Perspective Senior Living at the southern end of the corridor and at W County Rd D. There is an existing sidewalk on the west side of Victoria Street from County Road C to Woodhill Drive, at the southern end of the corridor. Striped shoulders of varying width are present along the corridor, providing limited separation for bicycle travel. There are no dedicated bicycle facilities along the corridor in the study area, however there is a trail that begins at Arbogast Street just east of Victoria Street and heads north along Victoria Street from Cannon Avenue to County Road E and beyond. **Figure 5** shows the existing and planned nonmotorized transportation network in the study area.



An uncontrolled pedestrian crossing over Victoria Street at W County Rd D.



Existing roadway configuration along the northern segment of the Victoria Street corridor.

Metro Transit Route 227 travels along Victoria Street in the study area and provides weekday and weekend local bus service between Rosedale Transit Center in Roseville and Super Target in Shoreview, with weekday service to Deluxe Corp. headquarters in Shoreview. Transit stops are located along Victoria Street between Woodhill Drive and Arbogast Street.



A sidewalk along the western side of Victoria Street in the southern portion of the study corridor.

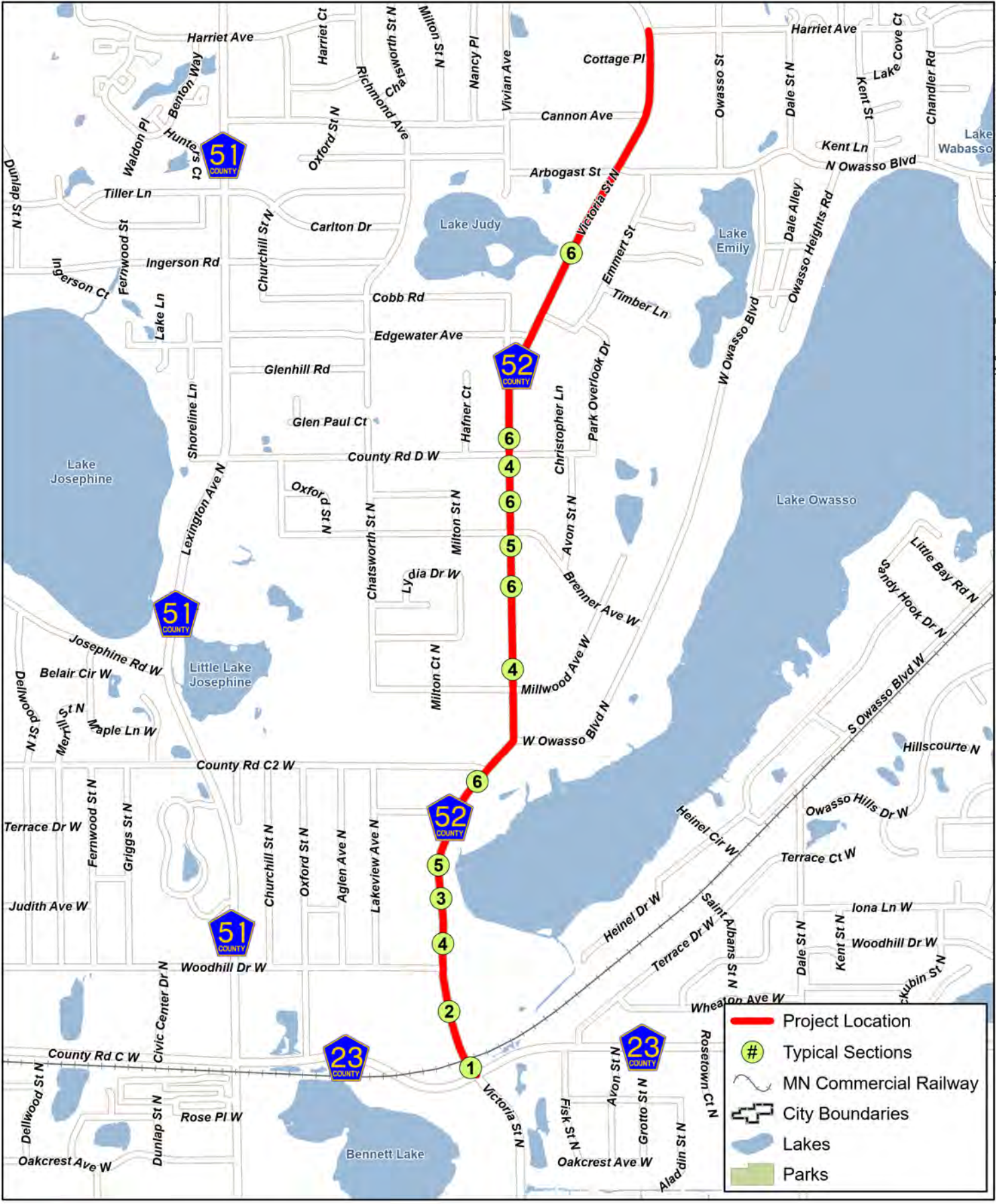
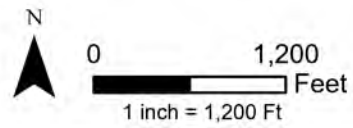
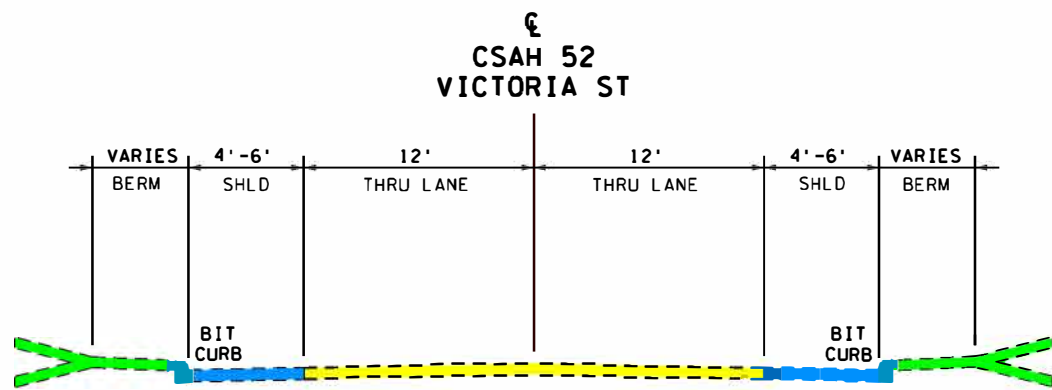
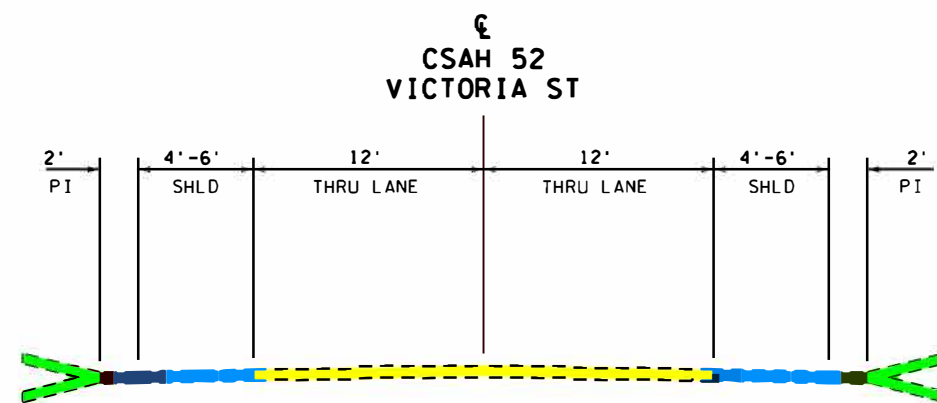


Figure 3 - Typical Section Locations
 Victoria Street Roadway and Trail Conceptual Design Study
 Ramsey County, MN

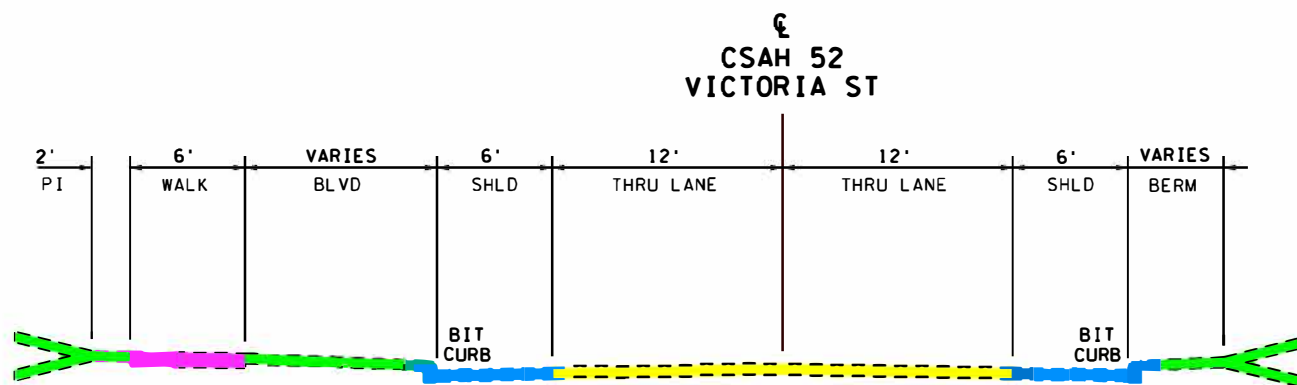




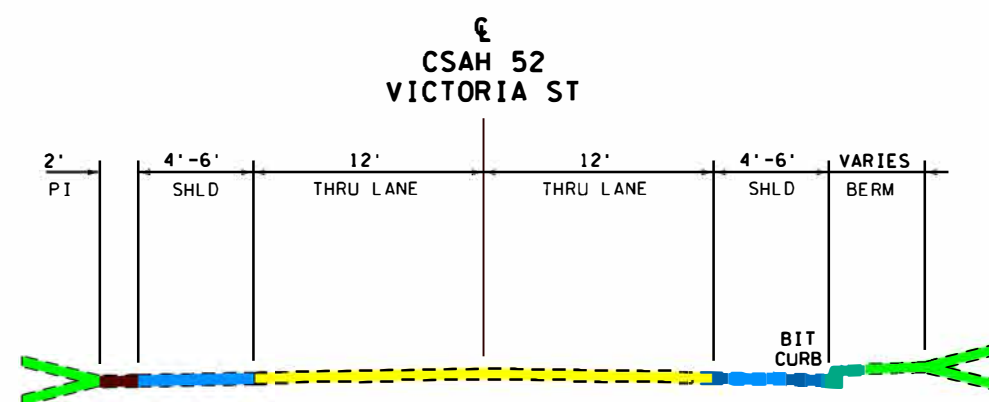
EXISTING TYPICAL 3



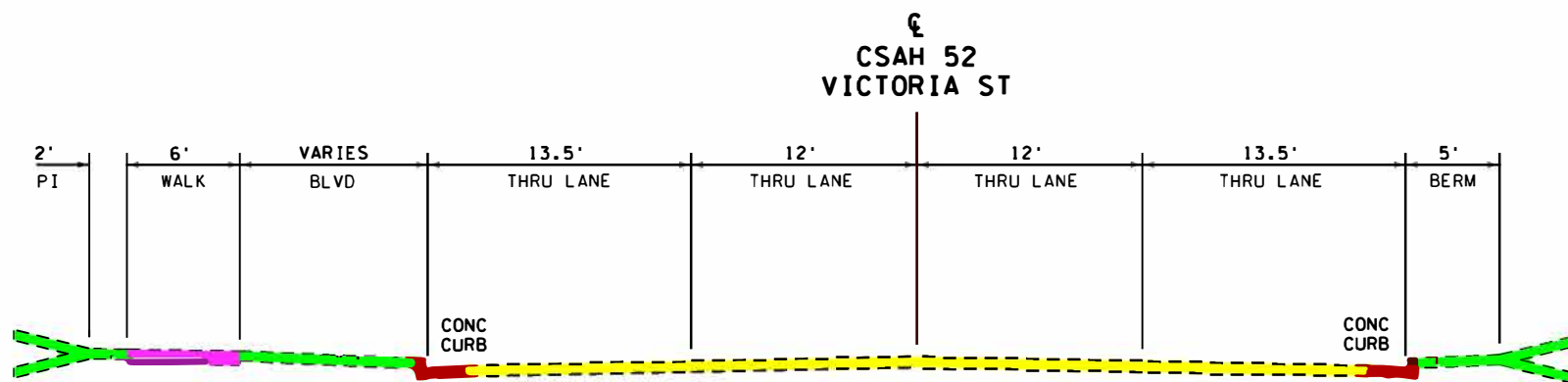
EXISTING TYPICAL 6



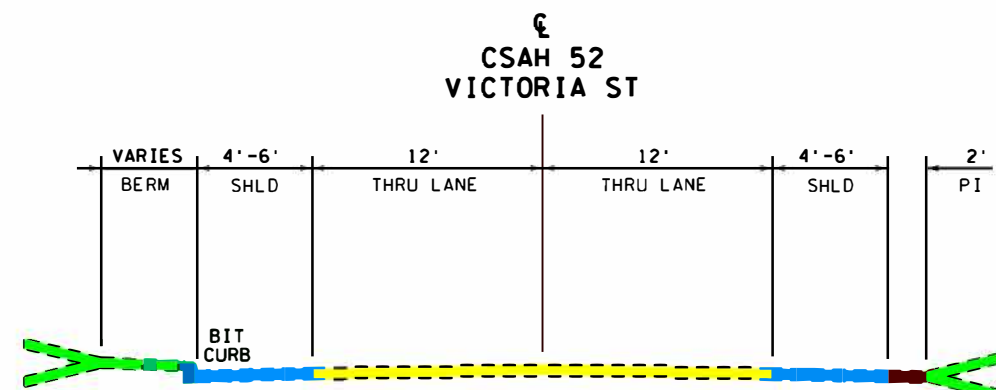
EXISTING TYPICAL 2



EXISTING TYPICAL 5



EXISTING TYPICAL 1



EXISTING TYPICAL 4

Figure 4 - Existing Typical Sections
Victoria Street Roadway and Trail Conceptual Design Study
Ramsey County, MN

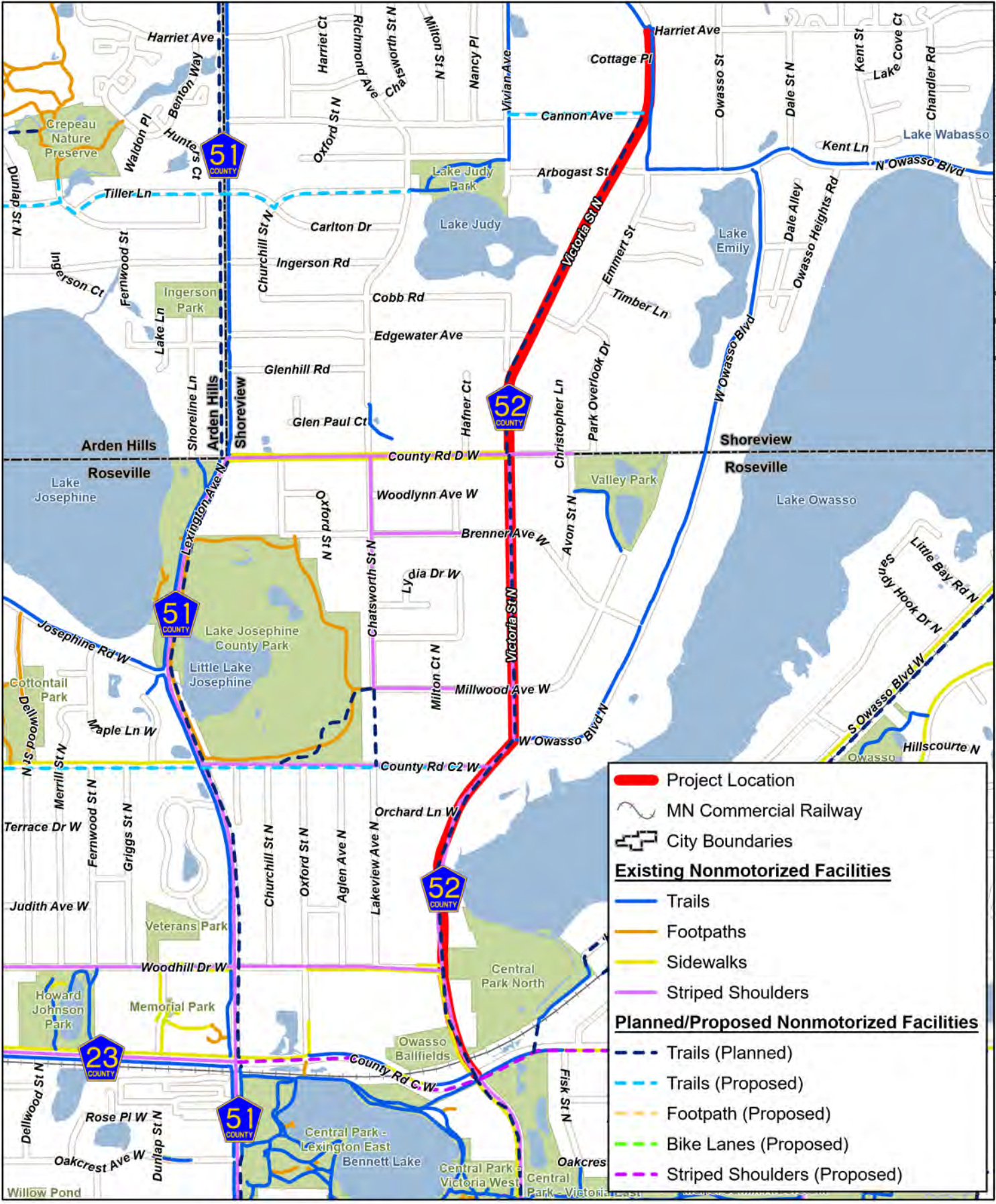
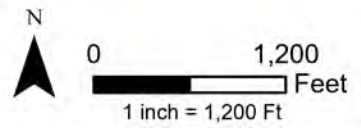


Figure 5 - Existing and Planned Nonmotorized Transportation Network
 Victoria Street Roadway and Trail Conceptual Design Study
 Ramsey County, MN



Motor Vehicle Capacity Review

Current motor vehicle capacity (i.e., the number of vehicles that can be accommodated under existing conditions) was determined at key intersections along Victoria Street using traffic volumes (excluding 2020) from the Minnesota Department of Transportation's (MnDOT) Traffic Mapping Application.

The corridor has a level of service (LOS) C and a volume to capacity (V/C) ratio of 0.23. The corridor is under capacity for a two-lane roadway. All minor approaches at the intersections along Victoria Street are also under capacity based on the estimated peak hour volumes. Approaches with separate turn lanes increase the capacity, such as on County Road D and Woodhill Drive.

Crash and Safety Analysis

The most recent three-year (January 2017–December 2019) crash data for the corridor was extracted from MnDOT's Crash Analysis Mapping Tool (MnCMAT2). Data from year 2020 was excluded in the analysis because of lower-than-normal traffic volumes due to the COVID-19 pandemic. Crash data for each intersection along the corridor was analyzed, as well as all of Victoria Street. There were 17 reported crashes along the Victoria Street corridor during this period.

The northern (County Road D to Cannon Avenue) and southern (County Road C to Owasso Boulevard) segments on Victoria Street have above average crash rates, however the crash rates are under the critical crash rate threshold². Victoria Street between Owasso Boulevard and County Road D was the only segment below the average crash rate.

One fatality occurred in May of 2018. A driver going north on Victoria Street near Cannon Avenue veered off road and struck a retaining wall. No crashes involving a pedestrian or bicycle were reported along the corridor within the 2017-2019 time period. The only reported bicycle-related crash within the most recent 10-year period occurred in May of 2012 near Owasso Boulevard, where a vehicle was backing out of a driveway and struck another vehicle and bicycle traveling on Victoria Street.

Four of the five intersections with reported crashes have higher crash rates than average (County Rd C, County Rd C2, County Rd D, and Arbogast St), but all are below the critical crash rate. No crashes involving a pedestrian/ bicycle were reported at any intersection along the corridor within the 2017-2019 period.

Land Use, Parks and Schools

The nearly two-mile-long portion of Victoria Street that is being studied is located in Shoreview and Roseville—both built out, suburban communities. Land uses along Victoria Street are largely single family residential, with some multi-family residential at the south end, including a retirement community, a nursing home and an assisted living facility.

The City of Roseville's Owasso Ballfields are located at the far southern end of the corridor on the west side of Victoria Street. Central Park North is also located at the south of the study corridor, directly across from Owasso Ballfields. Additional portions of Central Park are located on the south side of County Road C. Valley Park is located roughly one block east of Victoria Street along County Road D. Lake Josephine Park (Ramsey County) is several blocks west of the corridor between County Road C2 and Brenner Avenue. Lake Judy Park is located just west of Victoria Street along Arbogast Street in Shoreview.

² Average crash rate is defined as the number of crashes per million vehicle miles traveled over a given period of time. Critical crash rate is calculated by weighting the average crash rate for similar segments in the state by existing traffic volumes.

Emmet D. Williams Elementary School (Roseville Area Schools) is located just west of Victoria Street along County Road D in Shoreview. Island Lake Elementary School (Mounds View Public Schools) and St. Odilia School are located along Victoria Street just north of the study area. **Figure 6** shows the location of parks and schools in relation to the study area.

Corridor Resources

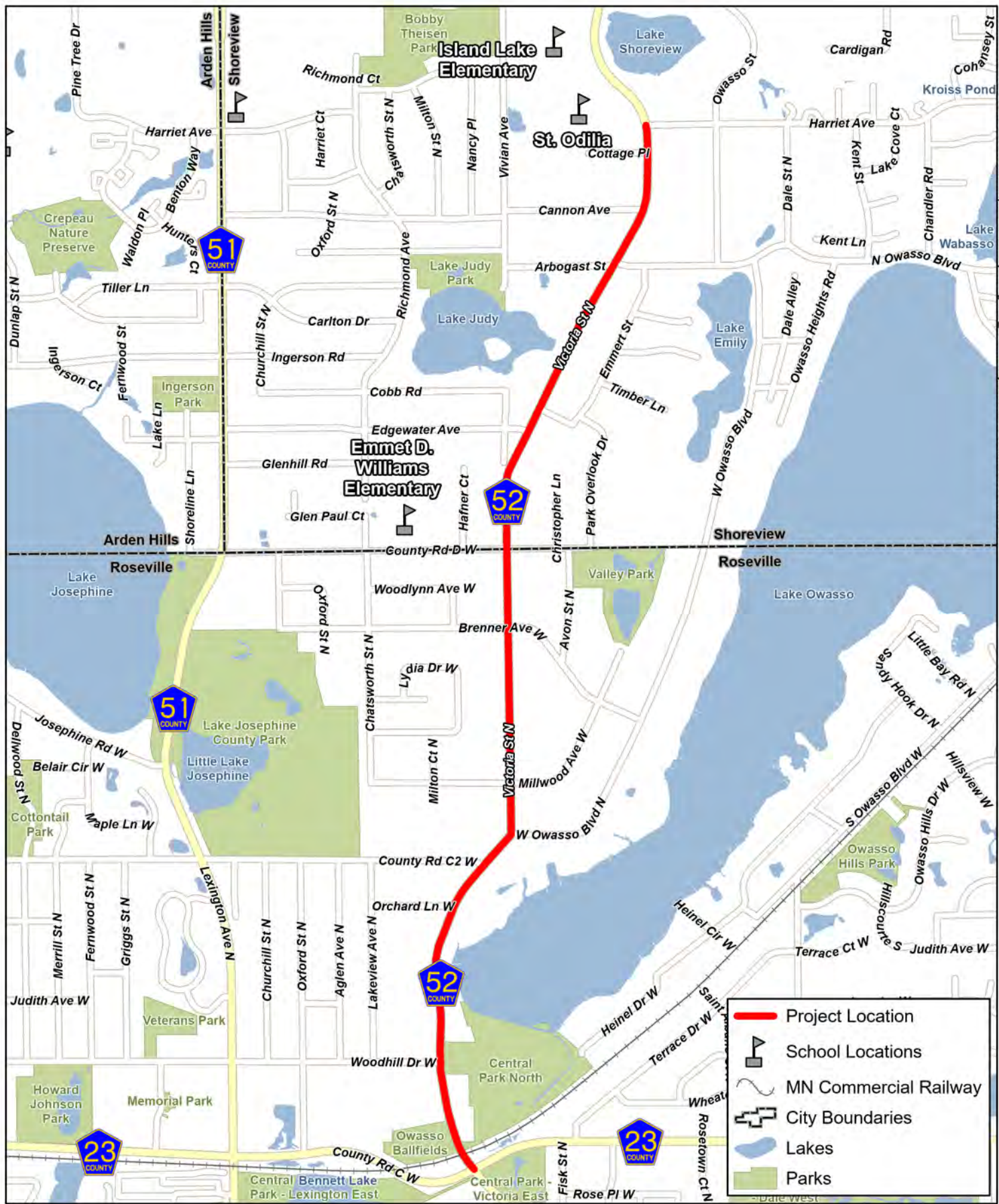
Attachment A provides additional details on other resources that were reviewed in the process of developing the project team's understanding of the corridor, including:

- Utilities.
- Above ground structures.
- Water resources, including wetlands and floodplains.
- Threatened and endangered species.
- Historic and cultural resources.
- Land use.

Opportunities and Constraints

Based on the existing conditions analyses described above, a list of opportunities and constraints was identified to inform the creation of concepts for the corridor. Key opportunities include:

- Improve overall pedestrian and bicycle safety, connectivity and access for the corridor and surrounding residential neighborhoods.
- Improve safety, convenience and access to three elementary and middle schools: Island Lake Elementary, Emmet D. Williams Elementary and St. Odilia (K-8).
- Opportunity to seek funding for project construction through Safe Routes to School grants, Metropolitan Council Regional Solicitation grants or other grant funding opportunities.
- Building of an "All Ages and Abilities" link as consistent with the Ramsey County Pedestrian & Bicycle Plan.
- Opportunity to increase corridor aesthetics and residential real estate value through development of a boulevard-separated trail on one side of Victoria Street.
- Opportunity to link to the existing trail near the project's northern terminus to provide a seamless and "All Ages and Abilities" walk/bike connection for area neighborhoods to Island Lake County Park and to the employment and residential district near County Road E and Victoria Street.
- Opportunity to provide a safe environment for bicycle riders and pedestrians while also facilitating the mobility and safety needs of vehicle traffic.
- Opportunity to tie into existing trails and planned roadway safety improvements at County Road C.
- Provide safe crossings of Victoria Street for the surrounding neighborhood - potential for installation of Rectangular Rapid Flashing Beacons (RRFB), median crossing refuges and/or other measures as needed.



	Project Location
	School Locations
	MN Commercial Railway
	City Boundaries
	Lakes
	Parks



Figure 6 - Community Resources

Victoria Street Roadway and Trail Conceptual Design Study
 Ramsey County, MN

N

0 1,200 Feet

1 inch = 1,200 Ft



In addition to the need to avoid, minimize and mitigate impacts to environmental resources, several constraints in the corridor were considered and should inform future designs:

- Limited right of way.
- Many driveways/access locations.
- Utility poles near the roadway as well as underground utilities.
- Existing above ground structures (e.g., mailboxes, road signs).
- Variation in elevation between adjacent homes/yards and the roadway.
- Horizontal curves.
- Variation in ditches and slopes along the corridor.
- Existing rural (ditch) section on corridor uses more space than an urban (curb and gutter) section.
- Environmental features including trees.
- Railroad crossing near County Road C.
- Consistency with existing Victoria Street trail north of Cannon Avenue.

III. Concept Development & Evaluation

Design Standards, Considerations and Best Practices

In the process of developing the recommended concepts, the project team reviewed and considered a range of local, state and national standards and sources of design guidance. These are discussed briefly in the sections that follow.

Ramsey County All Abilities Transportation Network Policy

The Ramsey County Board of Commissioners approved the All-Abilities Transportation Network in December 2016 to advance the county's vision of "A vibrant community in which all are valued and thrive." This policy commits the County to "creating and maintaining a transportation system that provides equitable access for all people regardless of race, ethnicity, age, gender, sexual preference, health, education, abilities and economics." The policy includes a hierarchy of transportation system users that should be considered during transportation planning and implementation, with more vulnerable users to be considered first (**Figure 7**).

Figure 7: Ramsey County All Abilities Transportation Network Policy – Modal Hierarchy

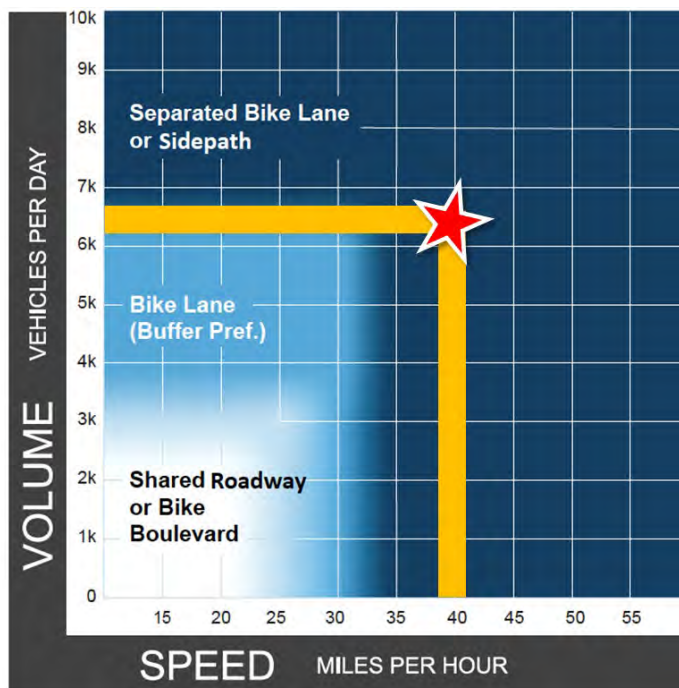


Source: Ramsey County All Abilities Transportation Network Policy

Federal Highway Administration and MnDOT

The Federal Highway Administration (FHWA) and MnDOT publish guidance to assist agencies with the process of selecting bicycle facilities that enhance safety and mobility for users in different roadway contexts. **Figure 8** depicts a tool that can be used to inform the selection of a bikeway facility based on the amount of traffic and the speed of vehicles on a roadway. This tool is found in the FHWA Bikeway Selection Guide as well as the MnDOT Bicycle Facility Design Manual. This guidance assumes that the facility is being designed for someone who is interested in biking, but who experiences the same level of stress and discomfort related to riding in proximity to motor vehicle traffic as the majority of the adult population. Based on the traffic volumes and vehicle speeds present on Victoria Street in the study area, a separated bike lane or sidepath is recommended.

Figure 8: FHWA Bikeway Selection Guide – Victoria Street



Source: Adapted from FHWA Bikeway Selection Guide

The MnDOT Bicycle Facility Design Manual discusses the types of bicyclists who are likely to use roadways with different levels of traffic stress (LTS), a system that categorizes roadways based on their suitability and comfort level for biking. To create an all ages and abilities network link along Victoria Street, an LTS 1 facility is most appropriate (**Figure 9**). LTS 1 is the lowest level of traffic stress and means that a facility is suitable for adults of all ages and levels of bicycle-riding experience as well as unsupervised children.

State Aid Standards

As a County State Aid Highway (CSAH), Victoria Street falls under the jurisdiction of Ramsey County and is subject to State Aid Standards for roadway and adjacent trail design. MnDOT State Aid design standards that would be applicable the preliminary cross sections under consideration for Victoria Street include:

- 8820.9995 Minimum Off-Road and Shared Use Path Standards.
- 8820.9936 Minimum Design Standards, Urban; New or Reconstruction Projects.
- 8820.9920 Minimum Design Standards; Rural and Suburban Undivided; New Or Reconstruction Projects.

Americans With Disabilities Act (ADA) Requirements

While the purpose of this study was not to develop detailed roadway designs for Victoria Street, the transportation needs of people with disabilities were considered in the development of concepts. All future project designs along with the final constructed project will comply with all applicable ADA standards.

Figure 9: Level of Traffic Stress

LTS LEVEL	DESCRIPTION	HIGHLY CONFIDENT BICYCLISTS WILL RIDE	SOMEWHAT CONFIDENT BICYCLISTS WILL RIDE	INTERESTED BUT CONCERNED BICYCLISTS WILL RIDE
LTS 1	Presents the lowest level of traffic stress; demands less attention from people riding bicycles, and attractive enough for a relaxing bicycle ride. Suitable for almost all people riding bicycles, including children trained to ride in the street and to safely cross intersections.	YES	YES	YES
LTS 2	Presents little traffic stress and therefore suitable to most adults riding bicycles, but demands more attention than might be expected from children.	YES	YES	SOMETIMES
LTS 3	More traffic stress than LTS 2, yet significantly less than the stress of integrating with multilane motor vehicle traffic.	YES	SOMETIMES	NO
LTS 4	Includes roadways that have no dedicated bicycle facilities and moderate to higher motor vehicle speeds and volumes OR high speed and high volume roadways WITH an exclusive bike lane where there is a significant speed differential between motor vehicles and bicyclists.	YES	NO	NO

Source: MnDOT Bicycle Facility Design Manual

New Facility – Desired Characteristics

Based on the project goals, applicable guidance and design standards, the project team determined that a new bicycle and pedestrian facility for Victoria Street should be consistent with the Ramsey County All Abilities Transportation Network Policy and reflect LTS 1. A typical LTS 1 facility in a suburban context is a fully separated trail, sometimes called a shared use path or sidepath. Based on applicable MnDOT State Aid standards, a ten-foot trail width is recommended, with an acceptable eight-foot minimum.

Phased Implementation

While this study developed a complete corridor vision, full reconstruction of Victoria Street is not planned for the near term. Ramsey County does not have funding identified for a full reconstruct of Victoria Street.

The goal of this study is to establish a vision for Victoria Street that can effectively accommodate bicycle and pedestrian activity now and into the future.

As a result, the study included a discussion of phasing the implementation of the identified corridor vision. Phasing will allow the County to improve safety and mobility for bicycle and pedestrian users in the corridor before funding is available for a full reconstruction of Victoria Street.

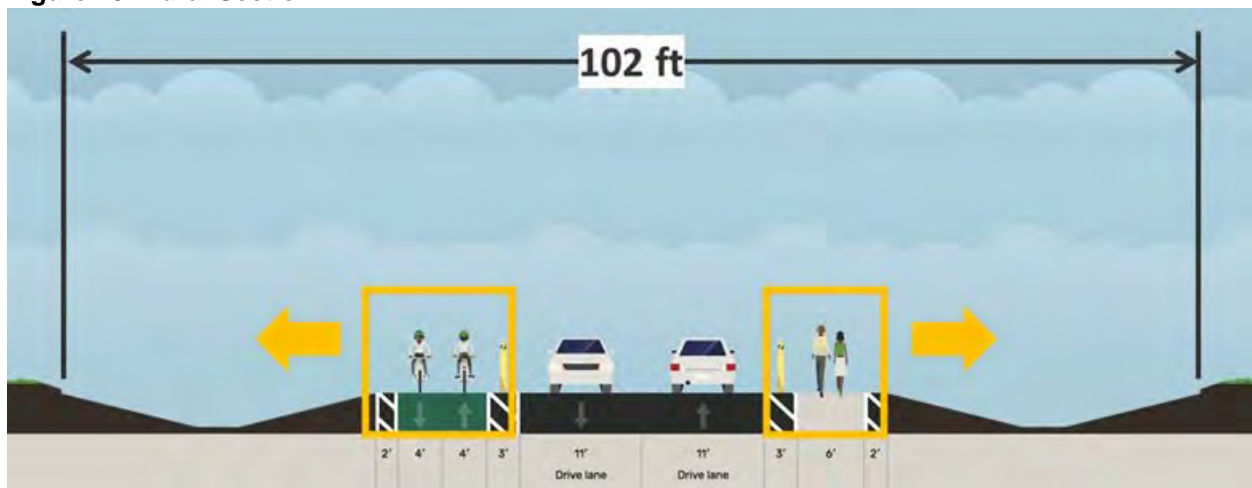
Phase 1 would likely include the construction of an urban section (curb and gutter) and a trail on one side of Victoria Street. The side of Victoria Street without the trail would remain in place. **Phase 2** would likely include full reconstruction of Victoria Street, including the existing roadway. During planning efforts for Phase 2, the County would evaluate the need and desire for the addition of a trail or sidewalk on the opposite side of the Phase 1 trail.

Preliminary Cross Section Concepts

Based on the project goals, public input and design considerations, the project team developed several preliminary cross section concepts for evaluation. These cross sections are shown as “full build” visions that would reflect full implementation of Phases 1 and 2, discussed above. Each cross section shows the applicable minimum and/or range of dimensions for motor vehicle travel lanes, pedestrian and bicycle facilities, boulevard and clear zones. Total required right of way is also shown. All cross sections show motor vehicle lanes narrowed to 10 or 11 feet from the existing 12 feet. It is important to note that although the public right of way available along this stretch of Victoria Street varies widely, at its narrowest dimension it is approximately 60 feet wide. To reduce the likelihood of needing to acquire public property for development of the new facilities, a total width of 60 ft was used as the maximum acceptable dimension for the concepts developed by the study.

Figure 10 depicts a roadway with the required dimensions if Victoria Street were to be reconstructed as a “rural” section roadway, or a roadway with ditches for drainage rather than curb and gutter (also known as an “urban” roadway). The majority of the study corridor now has a rural section; however, the design is not consistent with MnDOT State Aid’s current design standards. Designing a rural roadway that is consistent with MnDOT State Aid Design Standards would require a footprint of over 100 ft. This width greatly exceeds the available right of way which ranges from 62 to 84 ft.

Figure 10: Rural Section

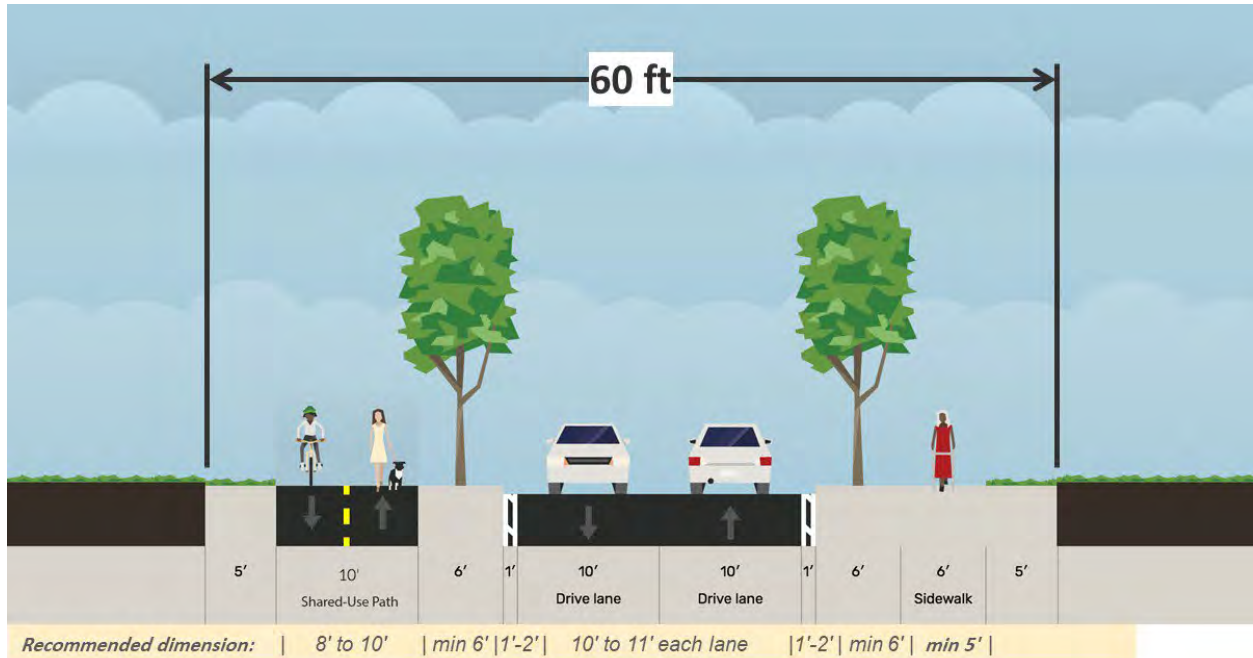


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Figure 11 and **Figure 12** show two options for a roadway with a trail and sidewalk on opposite sides, while **Figure 13** shows a trail on both sides. **Figure 14** depicts one-way separated bike lanes separated from the roadway by a boulevard with adjacent sidewalks, and **Figure 15** shows the same elements with

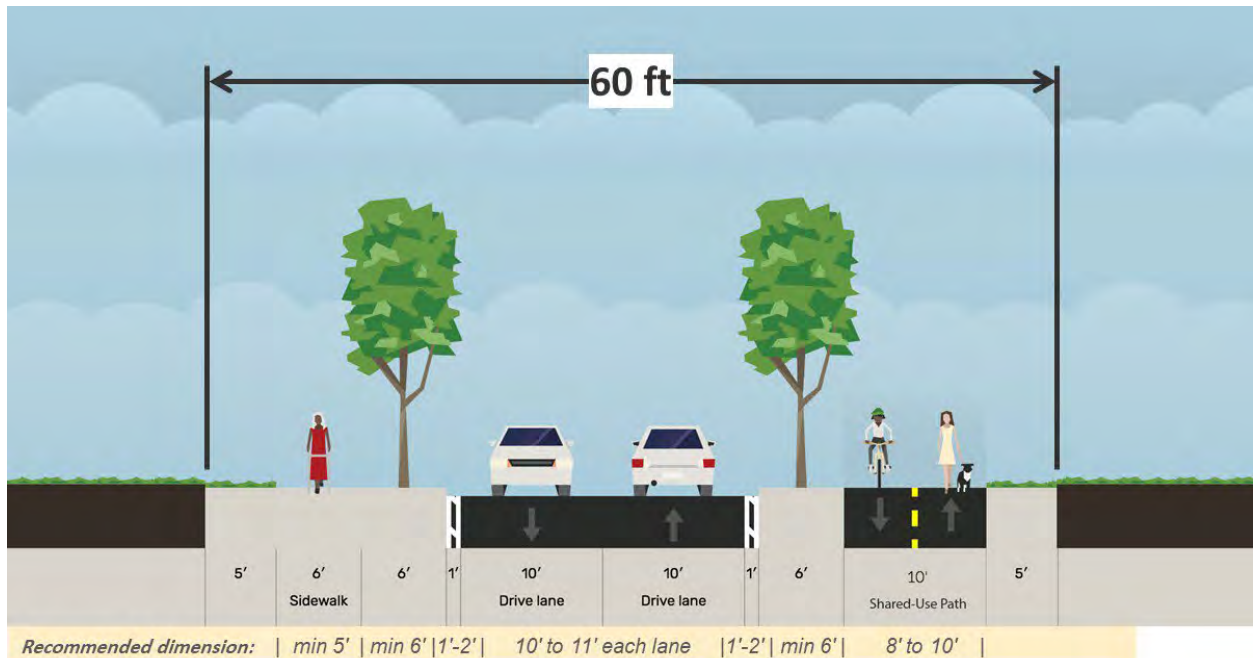
the boulevard instead between the bikeway and sidewalk. All of these options fit within the 60 ft limit intended to avoid or reduce impacts beyond the currently existing right of way.

Figure 11: Trail on West Side; Sidewalk on East Side



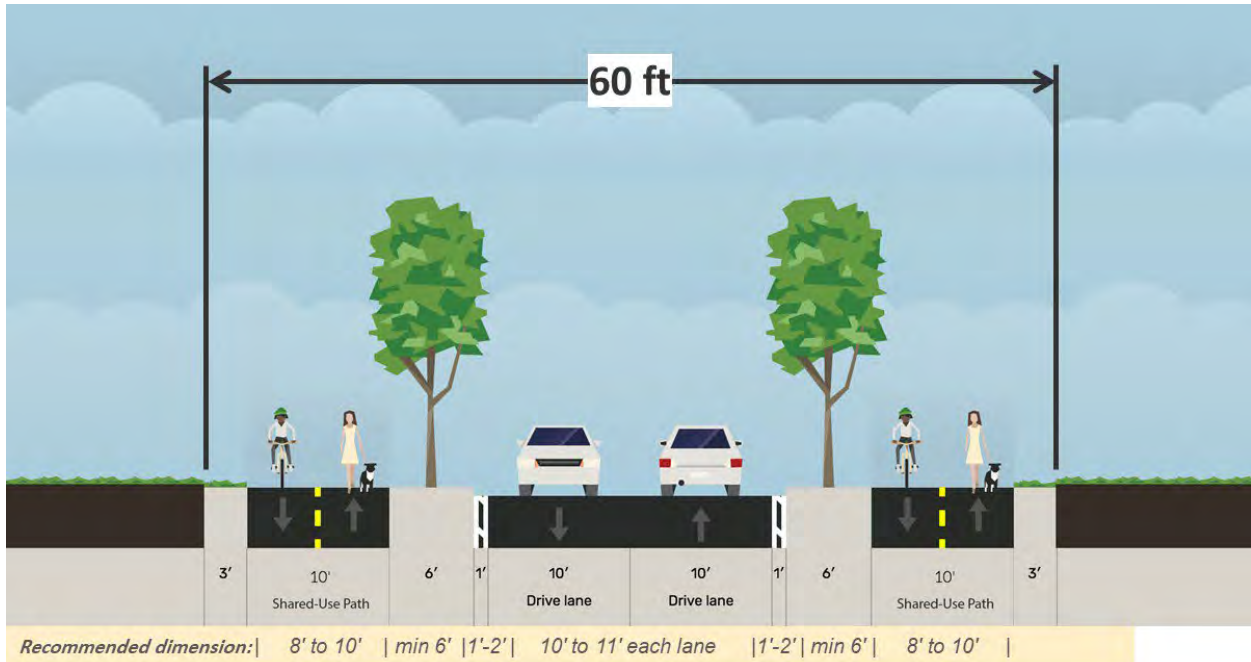
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Figure 12: Trail on East Side; Sidewalk on West Side



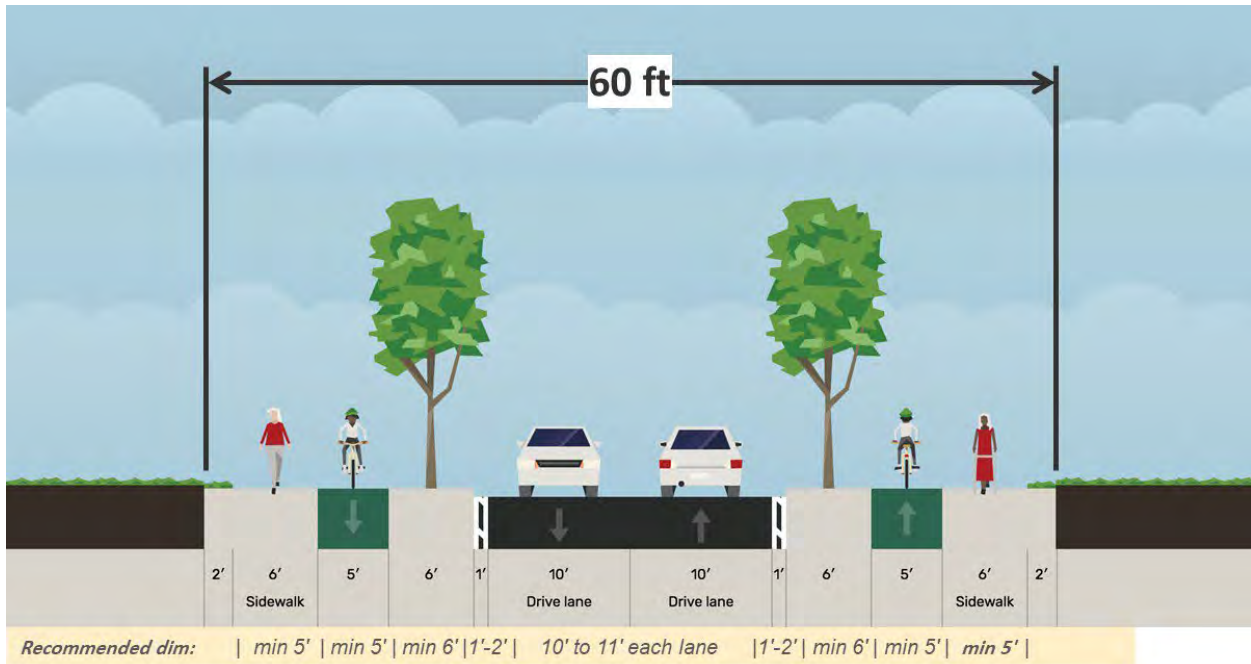
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Figure 13: Trail on Both Sides



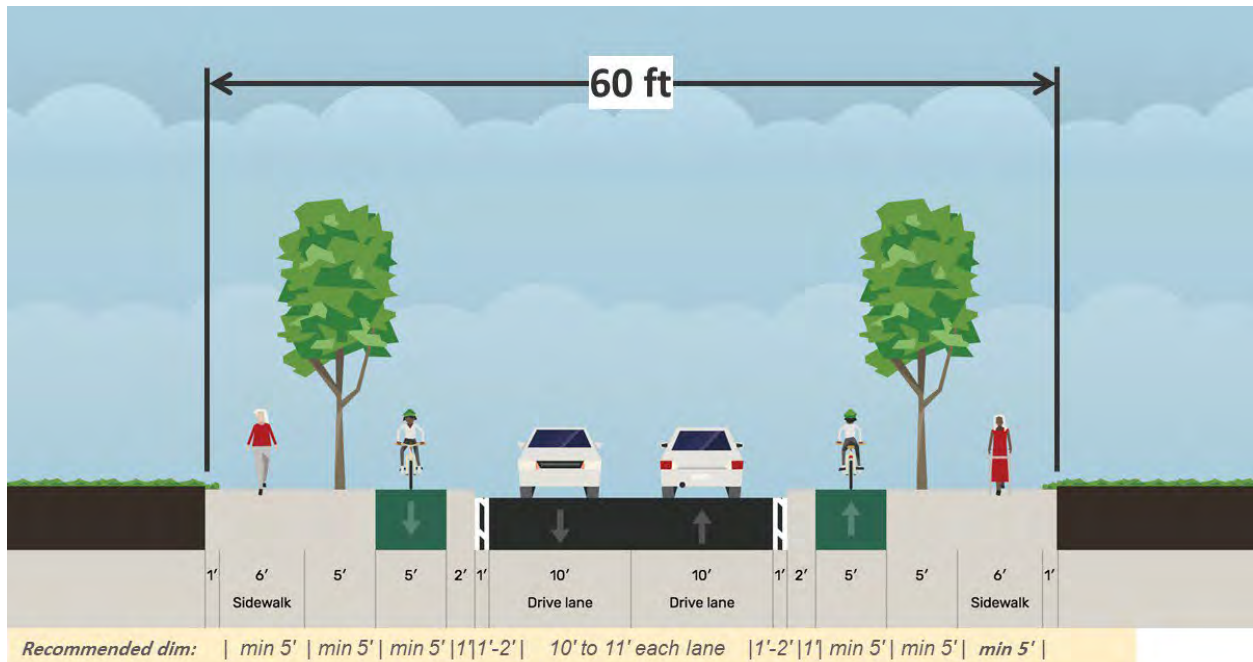
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Figure 14: Separated Bike Lanes (Option 1)



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Figure 15: Separated Bike Lanes (Option 2)



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Evaluation Process Overview

An evaluation process was developed to screen the preliminary cross section concepts and the full study area concepts. The evaluation of cross sections included both a “fatal flaw” analysis as well as a more in-depth screening. Following the cross section screening, full concepts were evaluated based on their ability to meet project needs and minimize social, economic and environmental impacts.

Cross Section Screening

The preliminary cross sections were first analyzed at a high level based on “fatal flaws,” or characteristics that would cause them to not move forward in the process based on a high-level understanding of potential benefits and impacts. All of the preliminary cross section concepts:

- Would improve safety for people walking and biking along Victoria Street.
- Would meet State Aid design Standards (required due to Victoria Street’s status as a CSAH).
- Would not result in social, environmental or economic impacts that could not be avoided, minimized or mitigated.

Next, the preliminary cross section concepts were evaluated based on the following criteria:

- The design avoids major permanent right of way impacts.
- The design is consistent with the context of the corridor.
- The design meets the needs of people of all abilities, consistent with County policy.
- Implementation of the design could be phased.
- If the implementation was phased, connections to the key destinations identified on the west side of the corridor would be improved.

The results of the cross section screening are shown in **Table 2**.

Table 2: Cross Section Screening Results

Type	Concepts (Long-Term Vision)	Avoids Major Permanent ROW Impacts ¹	Consistent With Context	Meets Needs of All Abilities	Phasing Possible	If Phased, Trail Would Directly Connect to Key Destinations West of Victoria ²
Rural	Trail on one side, sidewalk on other side	No – Ditches result in 100'+ cross section and higher right of way costs	Yes	Yes	Yes	Maybe – Depends on trail construction phasing
Urban	Trail on west side, sidewalk on east side	Yes	Yes	Yes	Yes	Yes
	Trail on east side, sidewalk on west side	Yes	Yes	Yes	Yes	No
	Trail on both sides	Yes	Yes	Yes	Yes	Maybe – Depends on trail construction phasing
	Separated bike lanes adjacent to sidewalk	Yes	No – More common in urban context	No – Separated bike lanes are directional	No	
	Separated bike lanes adjacent to road	Yes	No – More common in urban context	No – Separated bike lanes are directional. Less comfort for some users next to road.	No	
Legend:						
	Yes					
	No					
	Maybe					

(1) All concepts are likely to require temporary construction easements and/or minor permanent right of way acquisition.

(2) With phased approach, trail would be constructed on one side along with curb & gutter, improving connectivity to some destinations in the short term.

As noted in **Table 2**, the rural section would result in much greater right of way impacts due to the dimensions required by State Aid standards. The two separated bike lane concepts are not consistent with the surrounding nonmotorized network and are less intuitive for users of all abilities. The two bike lanes also could not be built in phases because only one direction of travel is provided on each side of the road.

The remaining cross sections, after being considered from a phased approach where a nonmotorized facility is only constructed on one side of Victoria St, were consolidated into two concepts that moved forward for further development and evaluation:

- Trail on the west side.
- Trail on the east side.

Full Concepts

Based on the outcomes of the cross section screening, two concepts were developed for the full study area. Based on public input and additional analysis, the study area was revised during concept development to extend north to Harriet Avenue rather than Cannon Avenue. This allowed the full corridor concepts to consider connectivity to the existing trails along Victoria Street north of Cannon Avenue.

Concept 1: Trail on West Side

Concept 1 (Phase 1) would construct a 10-foot bituminous multiuse trail along the west side of Victoria Street from County Road C to Harriet Avenue, where it would connect to the existing trail along the west side of Victoria Street that begins at Harriet Avenue. The existing sidewalk along the west side of Victoria Street between County Road C and Woodhill Drive would be replaced by the new trail. The existing trail along the east side of Victoria Street between Arbogast Street and Harriet Avenue would remain in place. Retaining walls would be required in some locations along the corridor.

A concrete curb and gutter would be constructed along the west side of the road. The width of the shoulder on the west side would also be reduced, and motor vehicle travel lanes would be restriped to reduce widths from 12 feet to 11 feet.

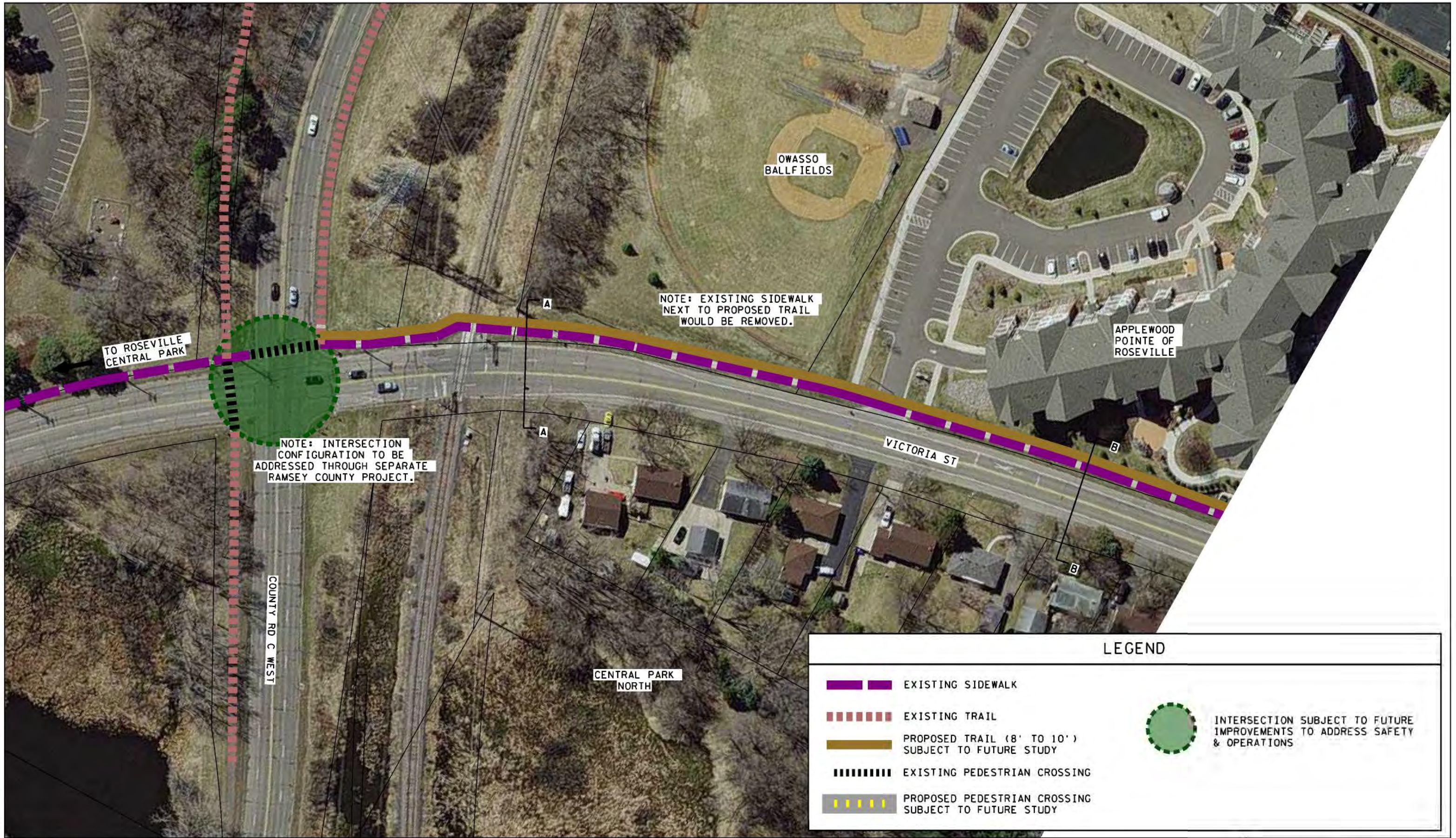
A plan view of Concept 1 is shown in **Figure 16**, with additional details shown in **Attachment B**. Typical sections that correspond to the markers in the plan view concept are shown in **Figure 17** (A-A through E-E).

Concept 2: Trail on East Side

Concept 2 (Phase 1) would construct a 10-foot bituminous multiuse trail along the east side of Victoria Street from County Road C to Cannon Avenue, where it would connect to the existing trail along the east side of Victoria Street between Arbogast Street and Harriet Avenue. The existing sidewalk along the west side of Victoria Street between County Road C and Woodhill Drive would remain in place. Retaining walls would be required in some locations along the corridor.

A concrete curb and gutter would be constructed along the east side of the road. The width of the shoulder on the east side would also be reduced, and motor vehicle travel lanes would be restriped to reduce widths from 12 feet to 11 feet.

A plan view of Concept 2 is shown in **Figure 18**, with additional details shown in **Attachment C**. Typical sections that correspond to the markers in the plan view concept are shown in **Figure 19** (A-A through E-E).



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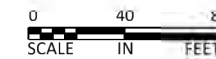
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	EXISTING TRAIL		
	PROPOSED TRAIL (8' TO 10') SUBJECT TO FUTURE STUDY		
	EXISTING PEDESTRIAN CROSSING		
	PROPOSED PEDESTRIAN CROSSING SUBJECT TO FUTURE STUDY		

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CONCEPT 1 - WEST TRAIL ALIGNMENT







Victoria Street Road Study



Concept 1
Sheet 1 of 9
West Trail



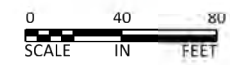
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IMPROVEMENTS TO ADDRESS SAFETY
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CONCEPT 1 - WEST TRAIL ALIGNMENT
Victoria Street Road Study



Concept 1
Sheet 2 of 9
West Trail



LEGEND

-  EXISTING SIDEWALK
-  EXISTING TRAIL
-  PROPOSED TRAIL (8' TO 10')
SUBJECT TO FUTURE STUDY
-  EXISTING PEDESTRIAN CROSSING
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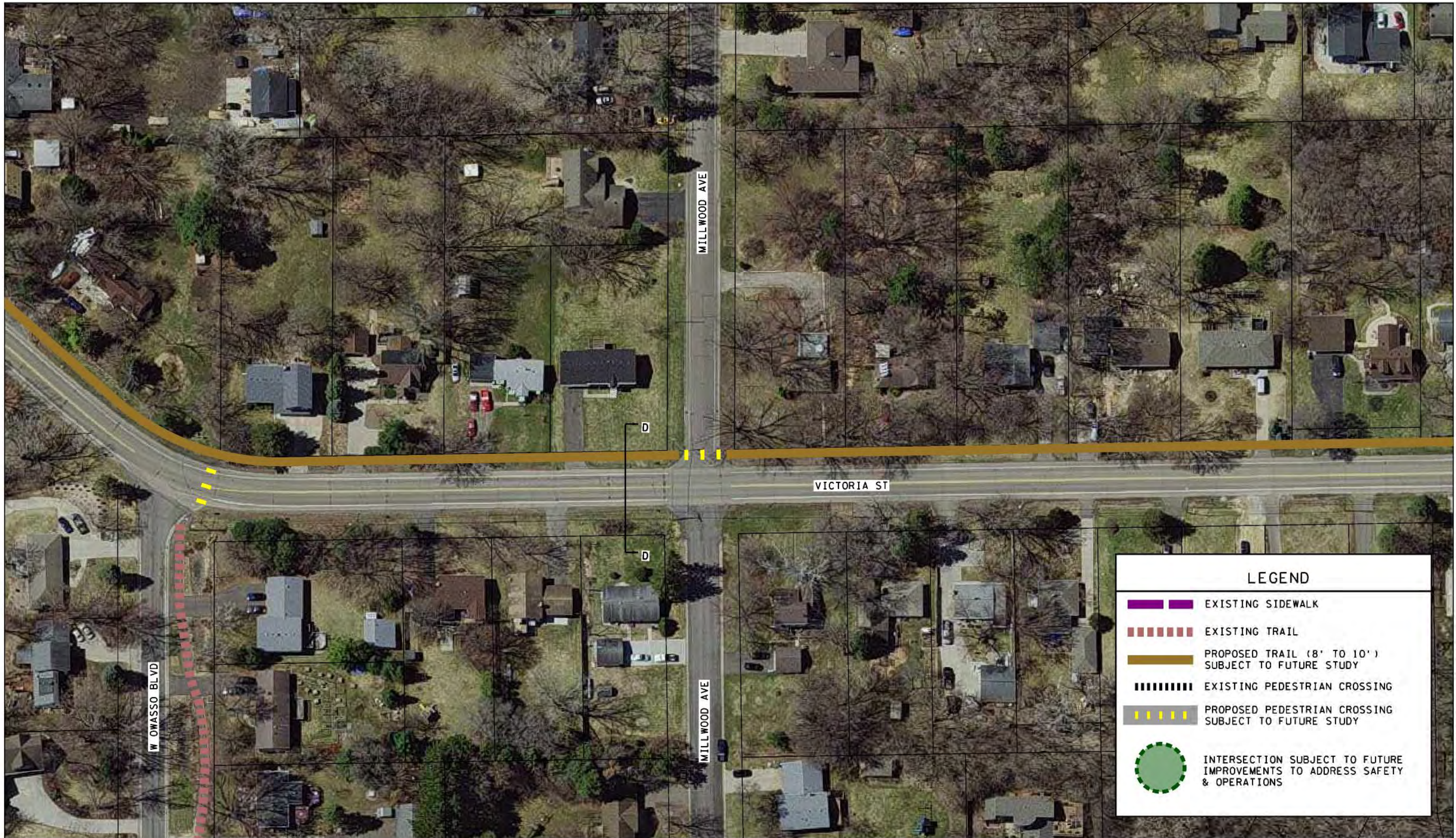
CONCEPT 1 - WEST TRAIL ALIGNMENT
Victoria Street Road Study









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Concept 1
Sheet 3 of 9
West Trail

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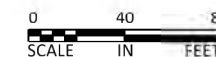
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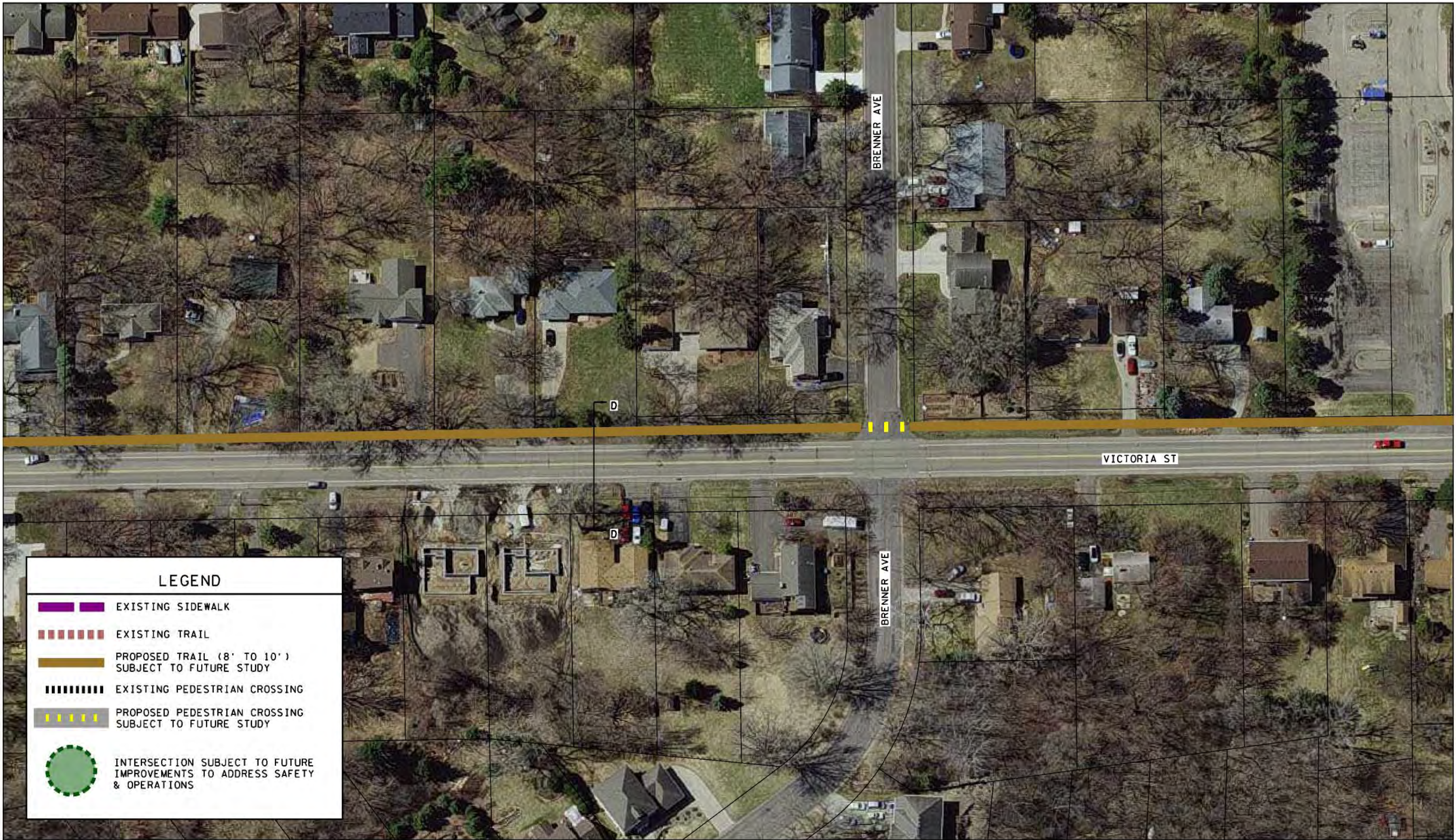
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SUBJECT TO FUTURE STUDY
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IMPROVEMENTS TO ADDRESS SAFETY
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CONCEPT 1 - WEST TRAIL ALIGNMENT

Victoria Street Road Study











LEGEND

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-  EXISTING TRAIL
-  PROPOSED TRAIL (8' TO 10')
SUBJECT TO FUTURE STUDY
-  EXISTING PEDESTRIAN CROSSING
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IMPROVEMENTS TO ADDRESS SAFETY
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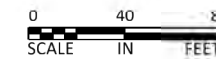
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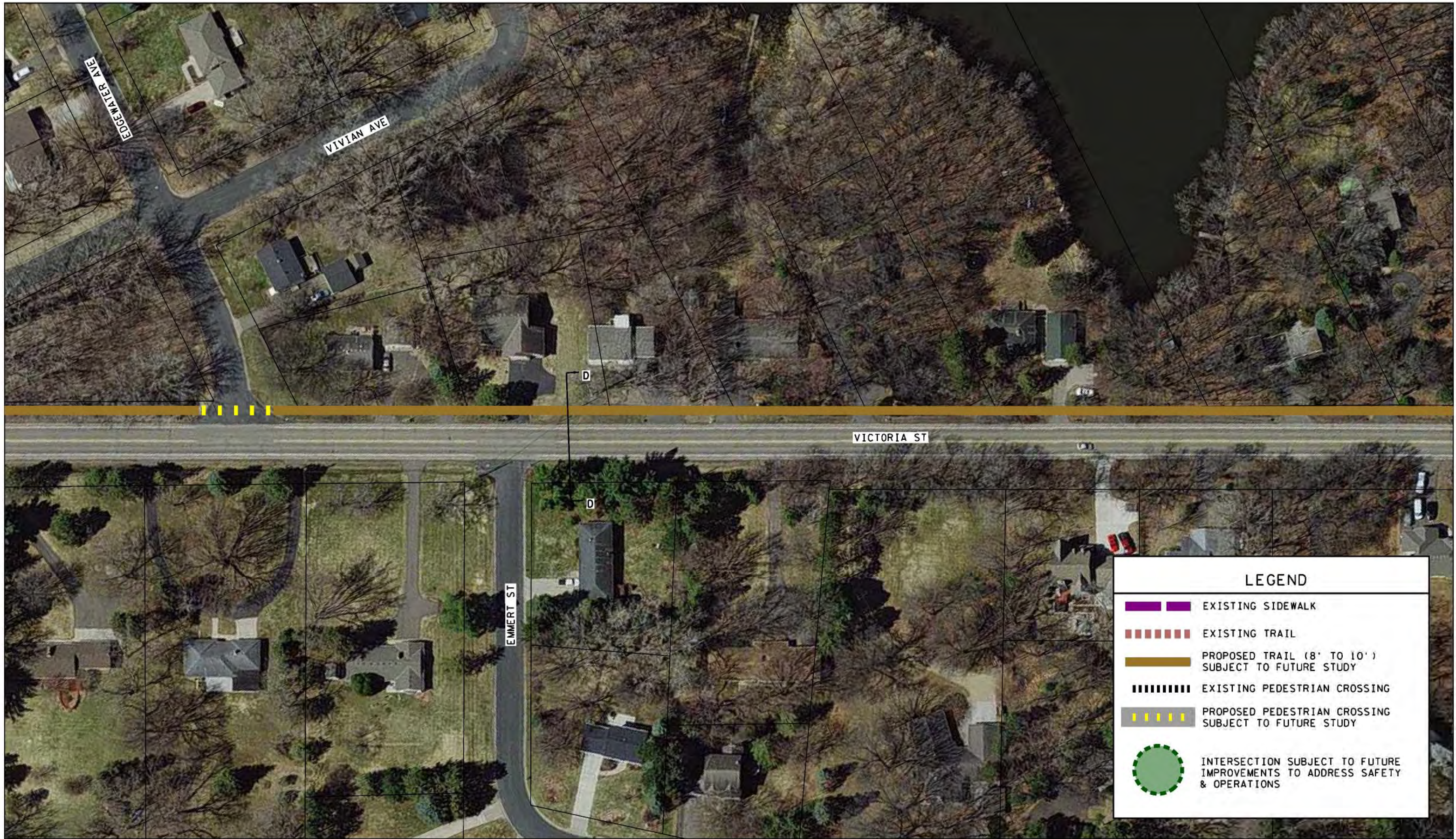
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CONCEPT 1 - WEST TRAIL ALIGNMENT
Victoria Street Road Study



Concept 1
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West Trail



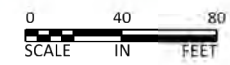
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CONCEPT 1 - WEST TRAIL ALIGNMENT
Victoria Street Road Study



Concept 1
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West Trail



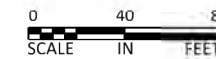
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CONCEPT 1 - WEST TRAIL ALIGNMENT
Victoria Street Road Study



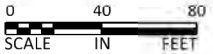
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Sheet 8 of 9
West Trail



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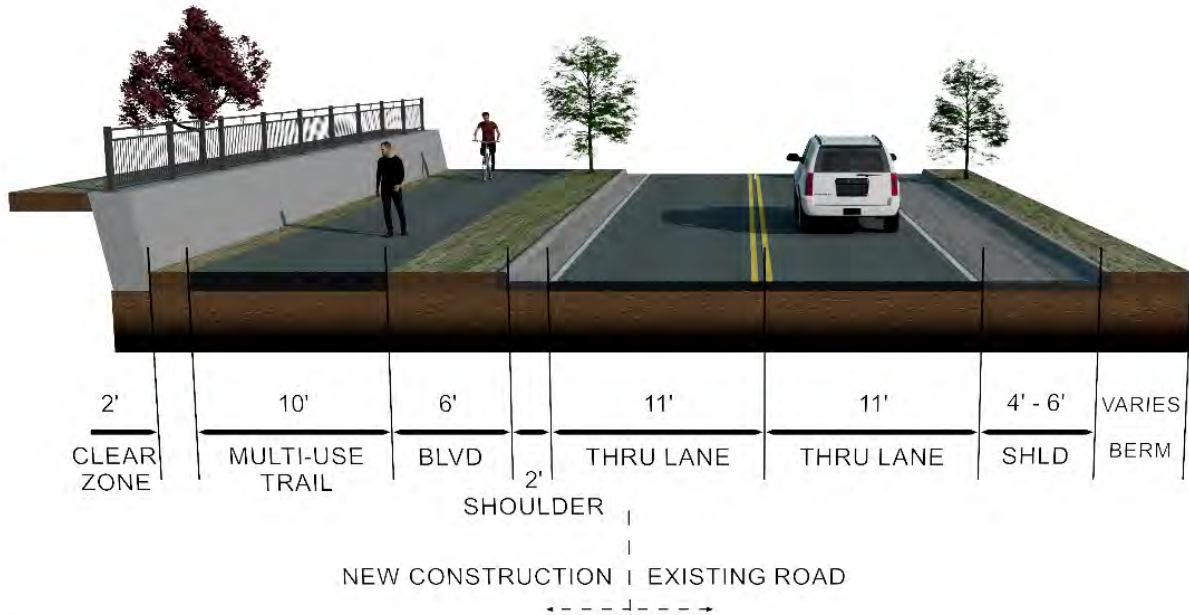
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IMPROVEMENTS TO ADDRESS SAFETY
& OPERATIONS

CONCEPT 1 - WEST TRAIL ALIGNMENT
Victoria Street Road Study

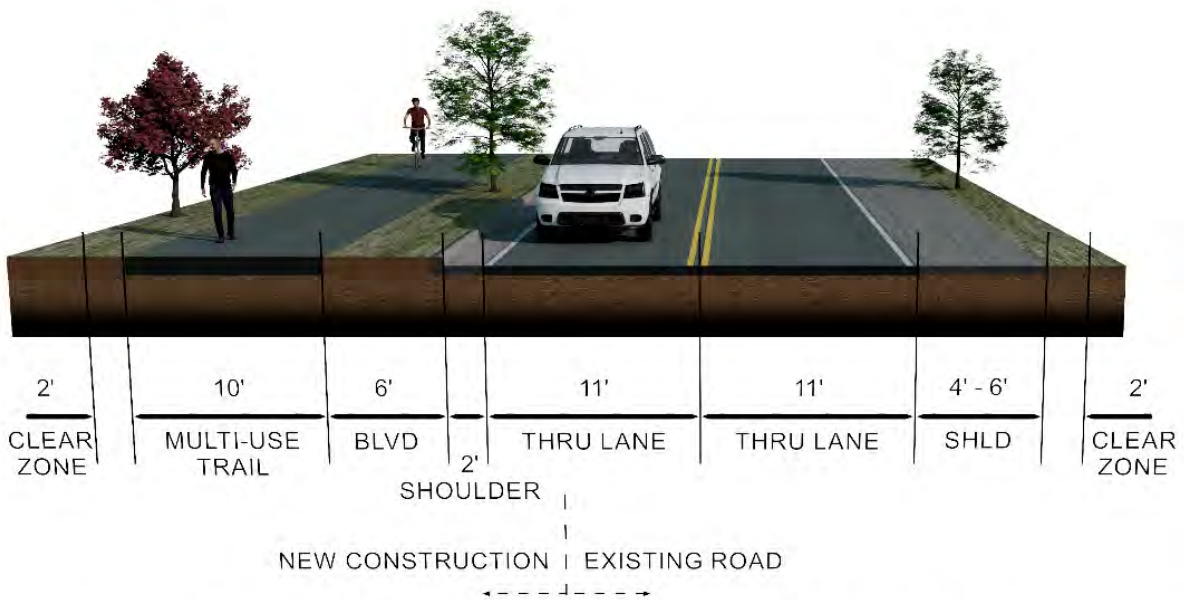


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West Trail

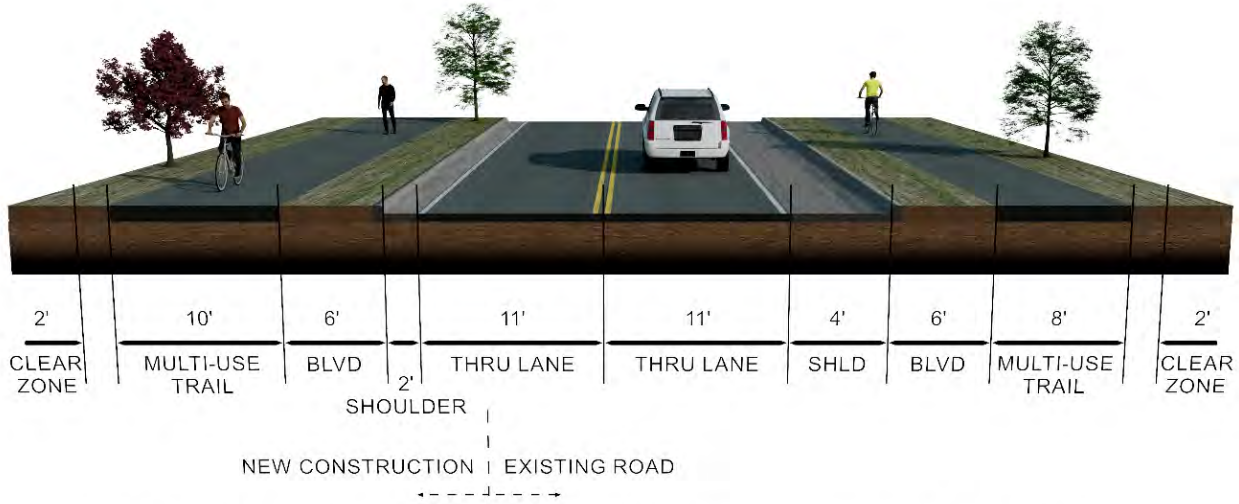
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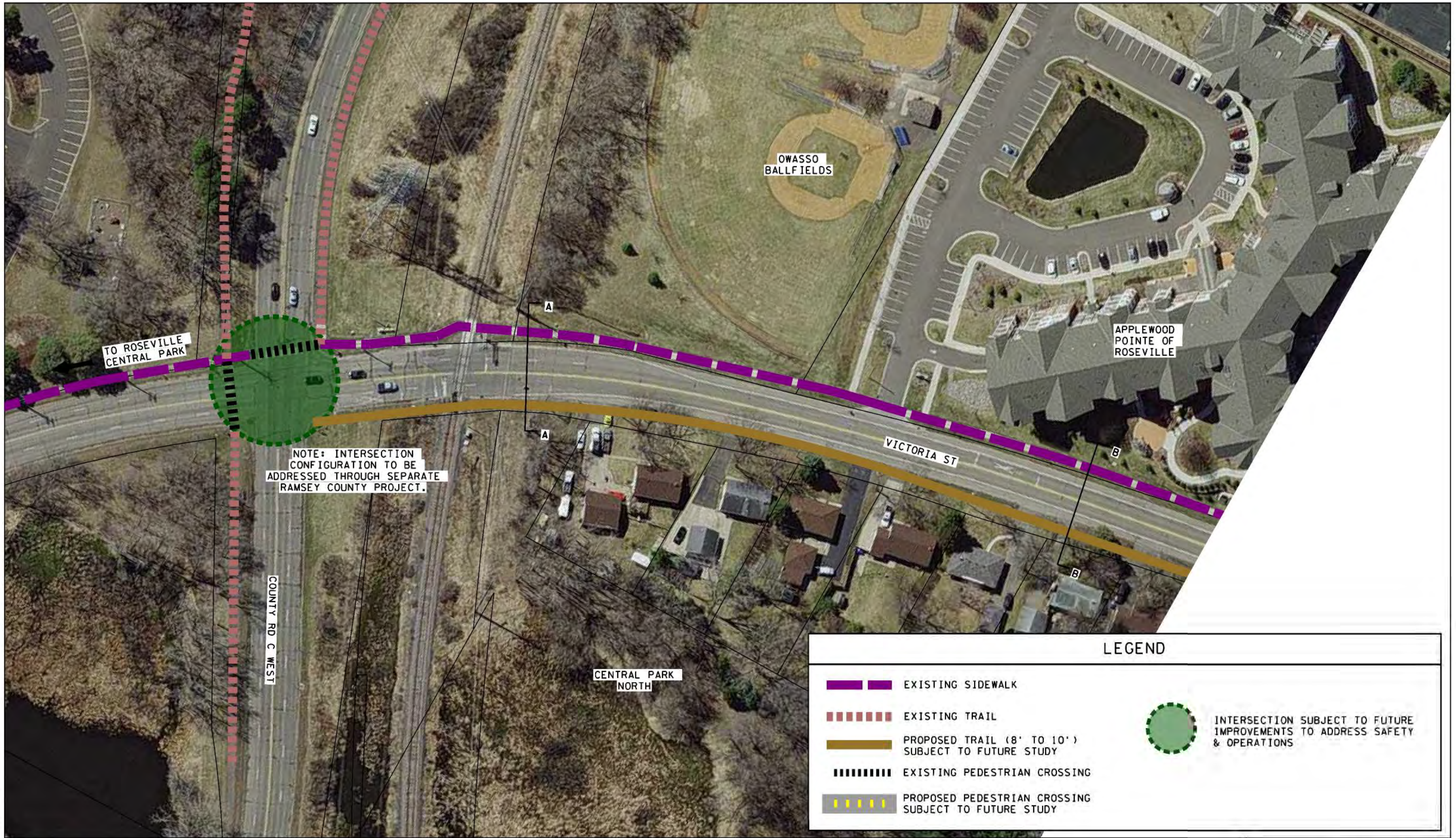
VICTORIA STREET WEST SIDE CONCEPT, TYPICAL SECTION C - C









VICTORIA STREET WEST SIDE CONCEPT, TYPICAL SECTION D - D



VICTORIA STREET WEST SIDE CONCEPT, TYPICAL SECTION E - E



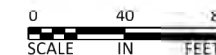
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CONCEPT 2 - EAST TRAIL ALIGNMENT
Victoria Street Road Study



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East Trail



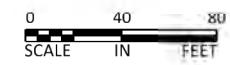
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CONCEPT 2 - EAST TRAIL ALIGNMENT







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East Trail



LEGEND

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-  EXISTING TRAIL
-  PROPOSED TRAIL (8' TO 10')
SUBJECT TO FUTURE STUDY
-  EXISTING PEDESTRIAN CROSSING
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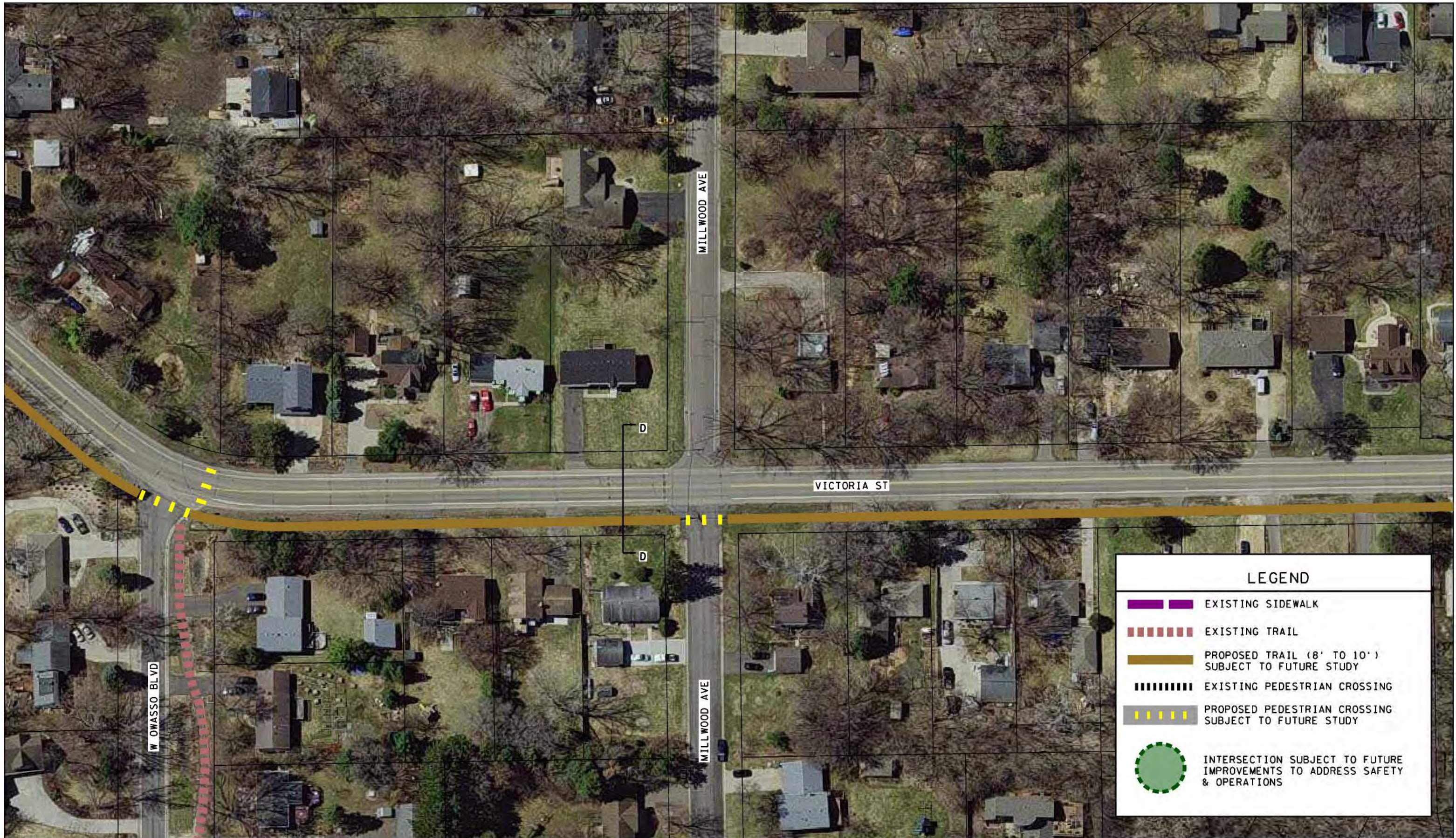
CONCEPT 2 - EAST TRAIL ALIGNMENT
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Concept 2
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East Trail

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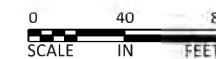
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CONCEPT 2 - EAST TRAIL ALIGNMENT

Victoria Street Road Study









Concept 2
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East Trail

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LEGEND

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SUBJECT TO FUTURE STUDY
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IMPROVEMENTS TO ADDRESS SAFETY
& OPERATIONS



CONCEPT 2 - EAST TRAIL ALIGNMENT

Victoria Street Road Study



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East Trail



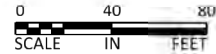
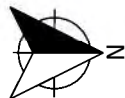
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CONCEPT 2 - EAST TRAIL ALIGNMENT
Victoria Street Road Study



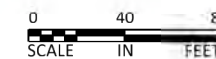
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East Trail



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CONCEPT 2 - EAST TRAIL ALIGNMENT
 Victoria Street Road Study



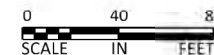
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 East Trail



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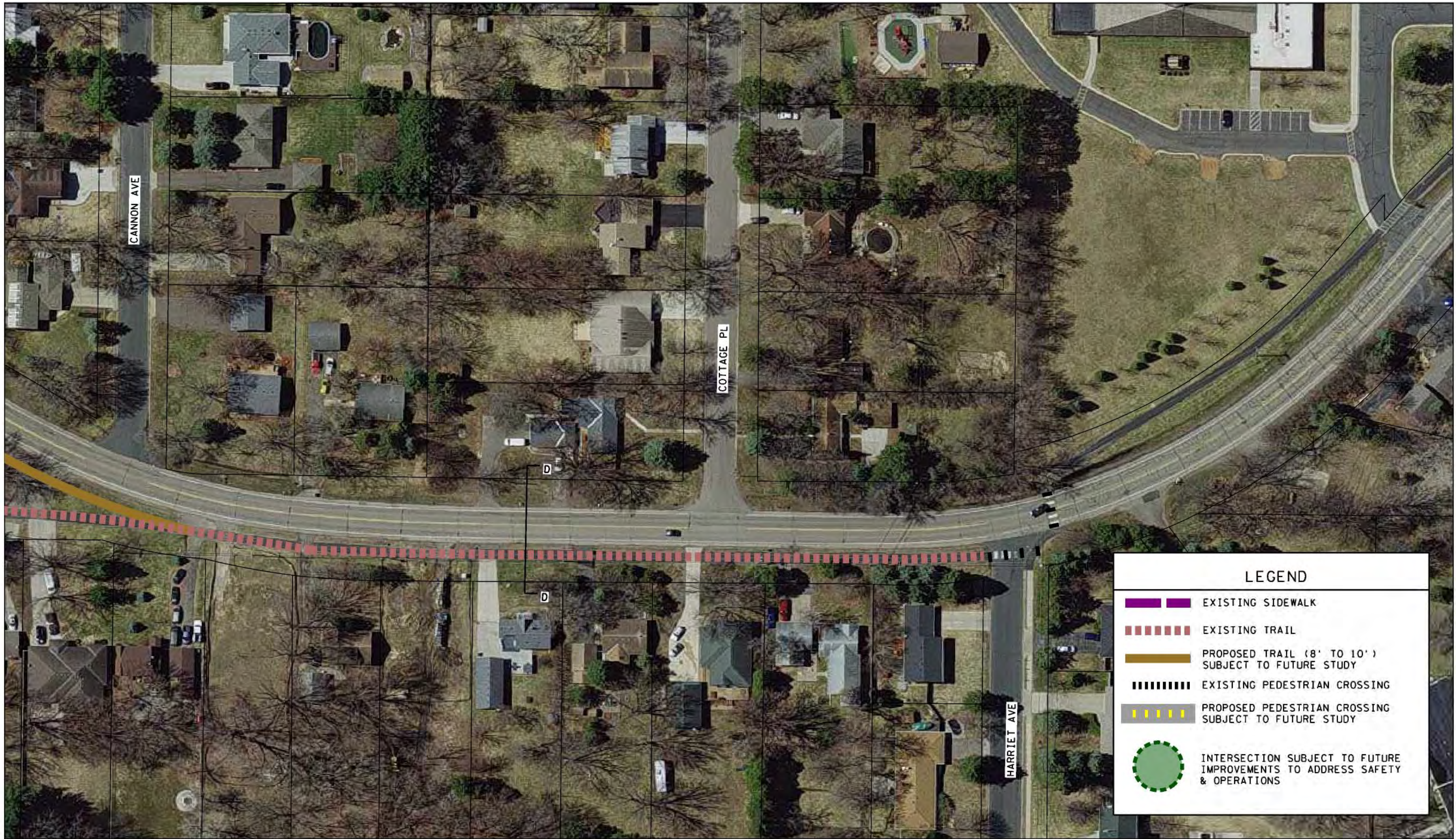


CONCEPT 2 - EAST TRAIL ALIGNMENT
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East Trail

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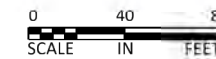


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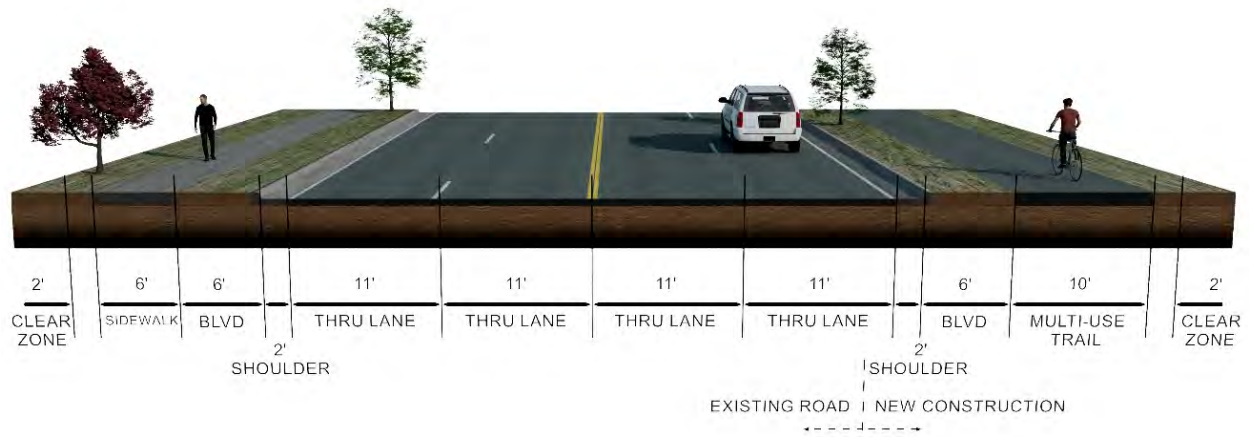


CONCEPT 2 - EAST TRAIL ALIGNMENT
Victoria Street Road Study

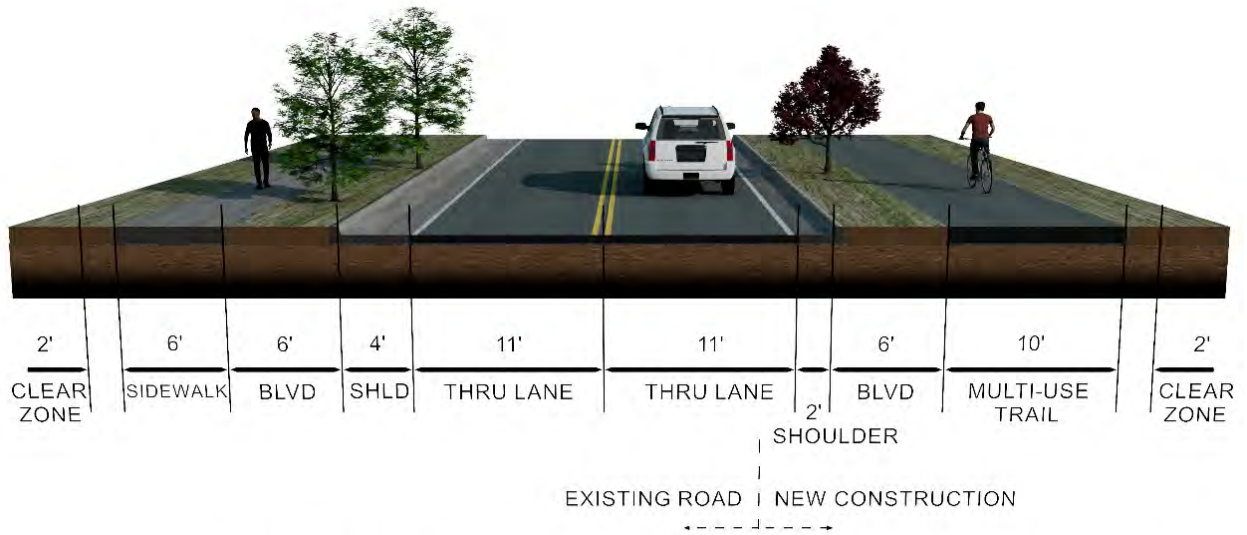


Concept 2
Sheet 9 of 9
East Trail

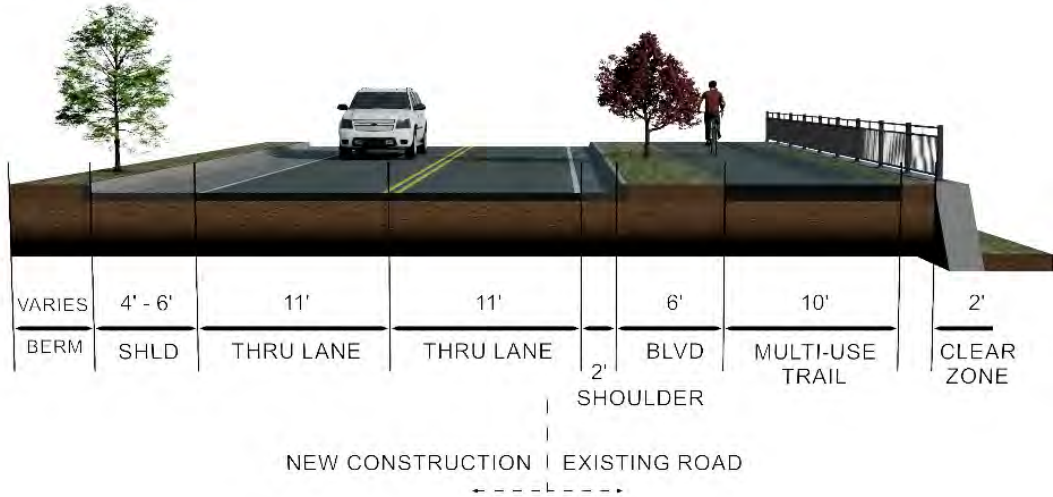
Figure 19: Concept 2 - East Side Trail Typical Sections



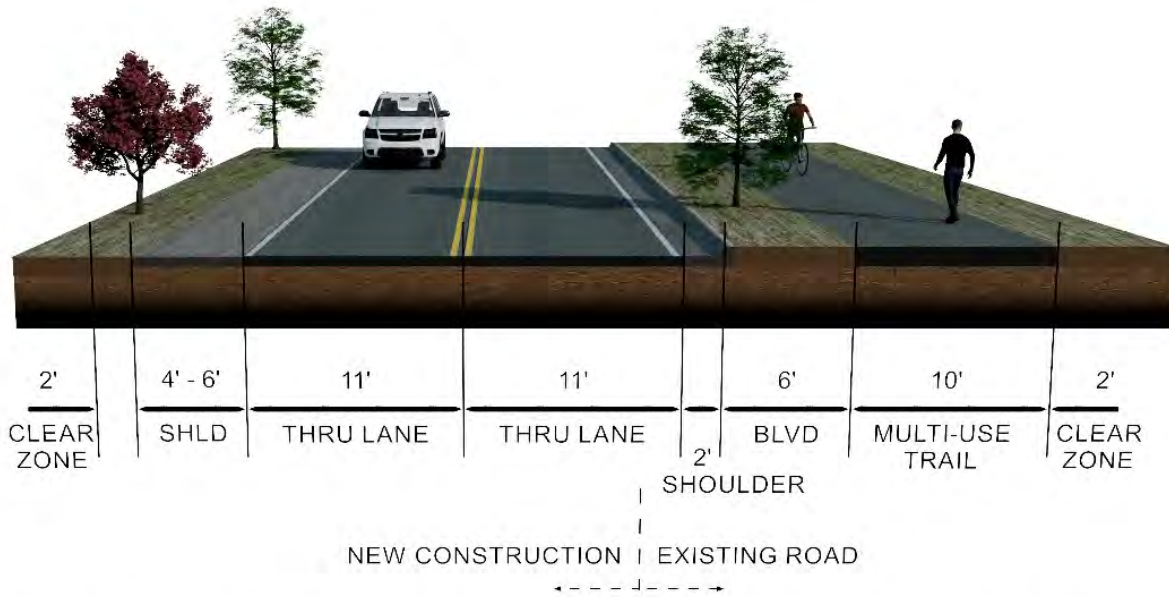
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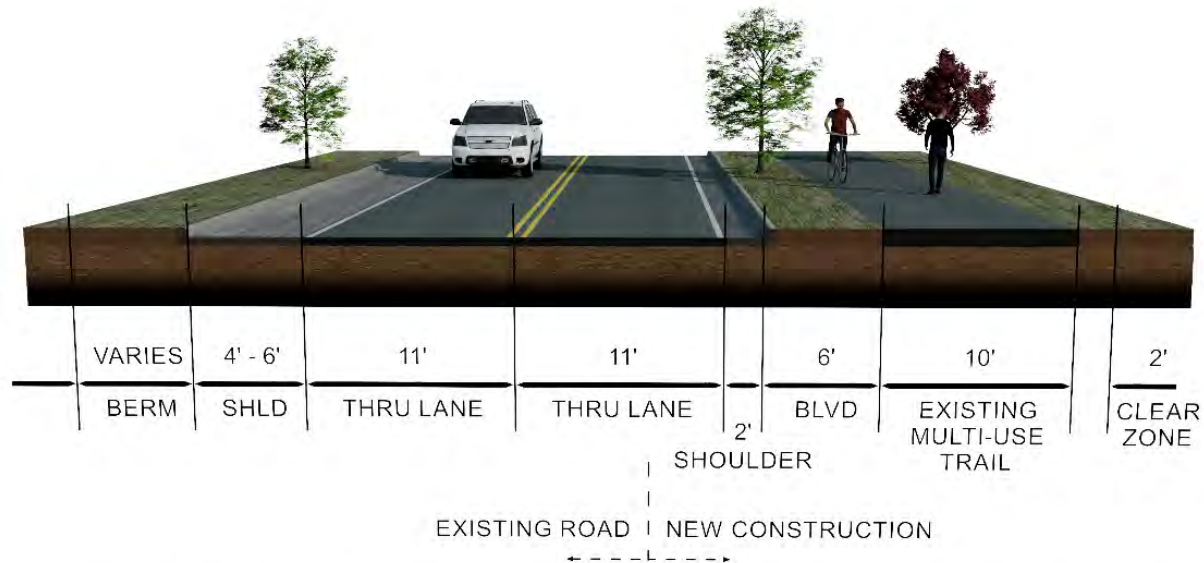
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VICTORIA STREET EAST SIDE CONCEPT, TYPICAL SECTION C - C



VICTORIA STREET EAST SIDE CONCEPT, TYPICAL SECTION D - D



VICTORIA STREET EAST SIDE CONCEPT, TYPICAL SECTION E - E

Full Concept Evaluation

Following development, the two full corridor concepts were evaluated based on three categories of evaluation criteria:

- Ability to address the identified project needs and goals.
- Ability to minimize potential impacts to social, economic and environmental resources.
- Cost.

The project team developed specific criteria and measures based on the project purpose, goals, County priorities and public engagement. The completed evaluation matrices are provided as **Table 4** and **Table 5**. A “no build” alternative has also been included in the evaluation. This allows the two concepts to be compared to current conditions with no additional improvements. This evaluation is based on an understanding of potential project benefits and impacts that reflects the high level of design detail completed for this study. Further design and engineering analysis will be required to fully evaluate the impact of any potential concept.

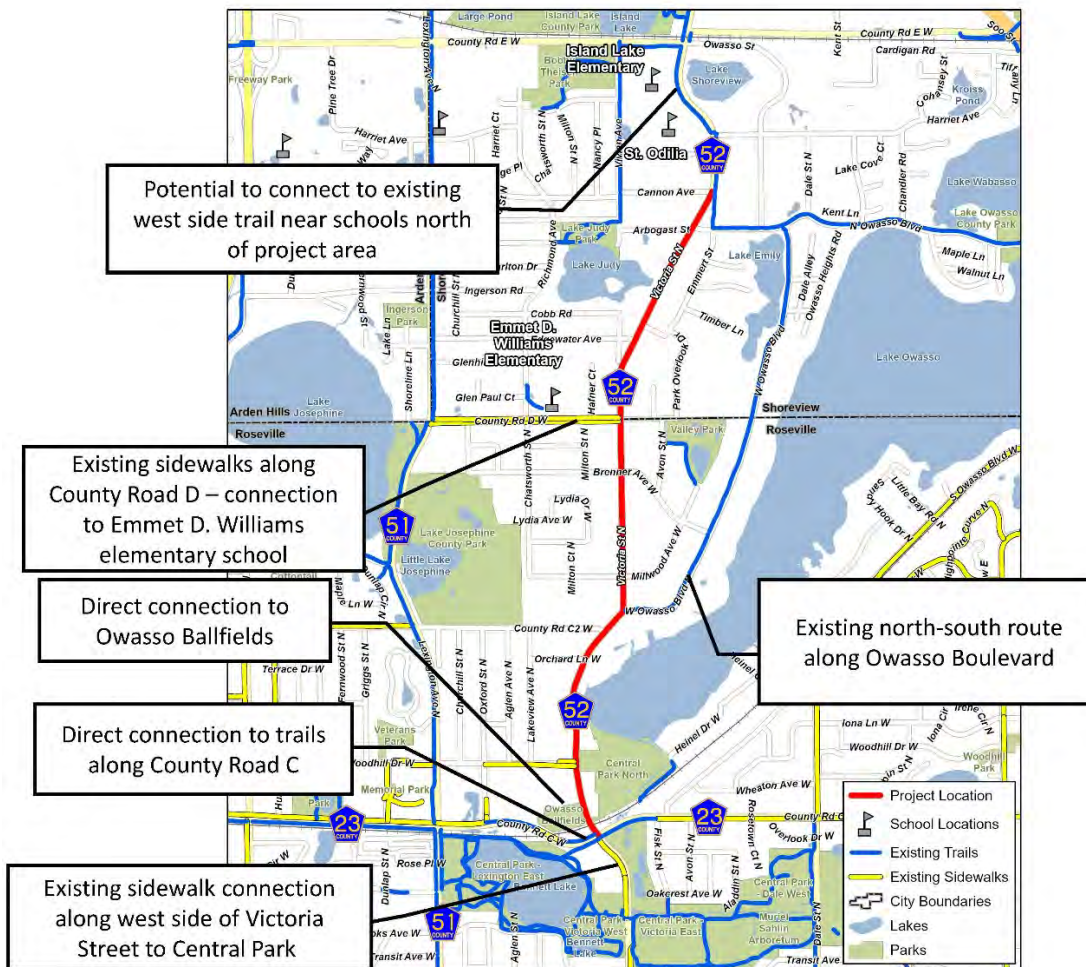
Based on the results of the evaluation, both alternatives:

- Are appropriate for users of all ages and abilities.
- Improve nonmotorized access.
- Increase local and regional nonmotorized connections.
- Maintain vehicle mobility.
- Have the potential to improve bicycle and pedestrian safety.
- Have the potential to improve motor vehicle safety.

However, there are two areas where a trail on the west side would better address the project needs. First, there are several key destinations in the corridor that are trip generators for users of all ages, including Owasso Ballfields, Island Lake County Park, Emmet D. Williams Elementary, Kinderhaus Montessori School, St. Odilia School, and Island Lake Elementary (**Figure 20**). All of these destinations are located on the west side of the corridor. A trail on the west side of Victoria Street would provide connectivity to these destinations without requiring users to complete an additional crossing of Victoria Street. Second, a

trail on the west side would be more consistent with the location of the existing trails on the west side of Victoria Street north of Harriet Avenue and south of County Road C West.

Figure 20: Connections to West Side Trail



It is anticipated that no major social, economic and environmental impacts differences would be identified between the two concepts at this high-level evaluation. Elements consistent between both concepts include:

- Traffic: Restriping and shoulder reduction.
- Wetlands: No impacts anticipated.
- Floodplain: No impacts anticipated.
- Parking: Some impacts due to shoulder reduction.
- Maintenance and Operations: Additional maintenance required for new trail.

The construction cost of the two concepts is also anticipated to be similar based on planning-level cost estimates (see Section VI for more details).

Based on a high-level evaluation, a trail on the west side is likely to result in permanent right of way impacts to roughly 18 parcels, compared to six parcels for a trail on the east side.

While both trails would impact existing roadway signage, a trail on the west side would also impact mailboxes. A trail on the east side has the potential to impact roughly 7,400 linear feet of overhead power

lines compared to 1,600 linear feet for a trail on the west side. It is also estimated to increase impervious surface in the corridor by 1.77 acres compared to 1.21 acres for a trail on the west side. Approximately 62 parcels would require temporary construction easements for an east side trail, compared to 58 for a west side trail. Finally, a trail on the east side is estimated to require construction of an estimated 343 feet of retaining wall, compared to an estimated 171 feet for a trail on the west side.

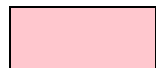
Evaluation Results

Table 3 summarizes the key differences between the ability of each of the concepts to address project needs and minimize impacts. Further evaluation will be required to refine estimates of potential impacts from the two concepts. Several additional potential impacts that were not evaluated at this early stage of design will also require investigation. For example, impacts to trees would occur by constructing a trail on either the west side or on the east side of Victoria Street. . These extent of these impacts will be quantified in the future.

The study does not formally identify a preferred roadway and trail concept. The results of the technical analysis suggest that a trail on the west side of Victoria Street is more favorable than a trail on the east side. As shown in **Table 3**, the roadway concept with a trail on the east side would not fully address two measures of bicycle and pedestrian mobility and connectivity. It is also anticipated that a trail on the east side would result in in more impacts than a trail on the west side across several key social, economic and environmental resources.

Table 3: Full Concept Evaluation – Summary of Key Differences

	Criteria	Measure	West (1)	East (2)	Notes
Needs	Bicycle and Pedestrian Mobility and Connectivity	Direct connection to key destinations west of Victoria Street?	✓	✗	East side trail would require additional crossings.
		Connectivity with existing trail/sidewalk facilities?	✓	✗	East side trail not consistent with Victoria St. trails north and south of study area.
Impacts	Utilities	Likely to impact overhead power lines?	Fewer Impacts	More Impacts	East side: impacts to more linear feet of overhead power lines are likely.
	Above Ground Structures	Likely to require relocation of mailboxes and/or roadway signage?	More Impacts	Fewer Impacts	West side will impact mailboxes. Both concepts would impact road signs.
	Drainage	Increases amount of impervious surface in corridor?	Fewer Impacts	More Impacts	East side: larger increase in acres of impervious surface is likely.
	Right of Way Impacts	Permanent right of way or easement impacts likely?	More Impacts	Fewer Impacts	West side: permanent impacts to more parcels are likely.
	Temporary Property Impacts	Temporary construction impacts likely?	Fewer Impacts	More Impacts	East side: temporary impacts to more parcels are likely.
	Retaining Walls	Likely to require construction of retaining walls?	Fewer Impacts	More Impacts	East side: more linear feet of retaining walls are likely.

 More Impacts OR Does Not Meet Need


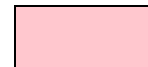
 Fewer Impacts OR Meets Need

Table 4: Concept Evaluation Matrix – Project Needs

Criteria		Measure	No Build Alternative	Build Concept 1: Trail on West Side	Build Concept 2: Trail on East Side
Project Needs	Bicycle and Pedestrian Mobility and Connectivity	Will the alternative meet the needs of users of all ages and abilities? (Yes/No)	No separated facility for walking and biking would be provided along Victoria Street.	The trail would be an LTS-1 facility, suitable for users of all ages and abilities.	The trail would be an LTS-1 facility, suitable for users of all ages and abilities.
		Will the alternative improve nonmotorized access to schools, parks and other pedestrian and bicycle trip generators? (Yes/No)	No new bicycle or pedestrian facilities would be constructed.	Access would be improved to Central Park, Owasso Ballfields, Emmet D. Williams Elementary, Kinderhaus Montessori School, St. Odilia School and other destinations.	Access would be improved to Central Park, Owasso Ballfields, Emmet D. Williams Elementary, Kinderhaus Montessori School, St. Odilia School and other destinations, however crossing Victoria Street would be required.
		Will the alternative provide a direct nonmotorized connection to key destinations west of Victoria Street without requiring additional crossings of Victoria Street? (Yes/No)	No new bicycle or pedestrian facilities would be constructed.	Users west of Victoria Street could access Owasso Ballfields, Emmet D. Williams Elementary, Kinderhaus Montessori School and St. Odilia School using the trail without crossing Victoria Street.	Users west of Victoria Street would need to cross Victoria Street, travel north or south along the trail, then cross again to access Owasso Ballfields, Emmet D. Williams Elementary, Kinderhaus Montessori School or St. Odilia School using the trail.
		Will the alternative be consistent with the configuration of existing trail facilities? (Yes/No)	No new bicycle or pedestrian facilities would be constructed.	The trail would be consistent with trails on the west side of Victoria Street north of Harriet Ave and south of County Road C West.	The trail would be consistent with the trail on the east side of Victoria Street between Cannon Ave and Harriet Ave, but would not be consistent with areas north and south of the study corridor.
		Will the alternative result in an increase in local and regional nonmotorized connections consistent with the Connected Ramsey Communities Network? (Yes/No)	No new nonmotorized connections would be created.	Local connectivity to destinations in the corridor would be improved. Regional connectivity would be improved through connections to existing facilities along Victoria Street north and south of the study area.	Local connectivity to destinations in the corridor would be improved. Regional connectivity would be improved through connections to existing facilities along Victoria Street north and south of the study area.
	Vehicle Mobility	Will the alternative maintain vehicle mobility in the corridor? (Yes/No)	There would be no changes to the current roadway geometry.	The alternative would maintain the same number of lanes for motor vehicles.	The alternative would maintain the same number of lanes for motor vehicles.
	Safety	Does the alternative have the potential to reduce the number and severity of bicycle and pedestrian crashes? (Yes/No)	With no corridor improvements, changes in existing safety conditions are unlikely.	A separated facility would be provided for people walking and biking along Victoria Street.	A separated facility would be provided for people walking and biking along Victoria Street.
		Does the alternative have the potential to reduce the number and severity of motor vehicle crashes? (Yes/No)	With no corridor improvements, changes in existing safety conditions are unlikely.	The roadway would be restriped to narrow lane widths from 12' to 11', which has the potential to improve safety by slowing vehicle speeds. The alternative would not preclude additional geometric changes to improve safety in future phases.	The roadway would be restriped to narrow lane widths from 12' to 11', which has the potential to improve safety by slowing vehicle speeds. The alternative would not preclude additional geometric changes to improve safety in future phases.

 More Impacts OR Does Not Meet Need


 Fewer or no Impacts OR Meets Need

Table 5: Concept Evaluation Matrix – Social, Economic and Environmental Impacts and Cost

Criteria	Measure	No Build Alternative	Build Concept 1: Trail on West Side	Build Concept 2: Trail on East Side	
Social, Economic and Environmental Impacts	Traffic	Will the alternative impact motor vehicle traffic on Victoria St and intersecting roadways?	No new impacts.	The alternative would maintain the same number of lanes for motor vehicles; however, lanes would be restriped to 11' and the shoulder on the west side of the roadway would be reduced. This may result in reduced traffic speeds.	The alternative would maintain the same number of lanes for motor vehicles; however, lanes would be restriped to 11' and the shoulder on the east side of the roadway would be reduced. This may result in reduced traffic speeds.
	Wetlands	How many wetlands areas does the alternative have the potential to impact? (Number of resources impacted based on National Wetland Inventory)	No new impacts.	There are no wetlands mapped directly adjacent to the roadway on the west side.	There are no wetlands mapped directly adjacent to the roadway on the east side.
	Floodplain	Is the alternative likely to require construction in a floodplain? (Yes/No)	No new impacts.	Construction within a floodplain is unlikely based on known locations mapped within the corridor.	Construction within a floodplain is unlikely based on known locations mapped within the corridor.
	Utilities	How many linear feet of overhead power lines are likely to be impacted by the alternative? (Linear feet of power lines potentially impacted)	No new impacts.	Roughly 1,600 linear feet of overhead power lines have the potential to be impacted by construction on the west side of the roadway.	Roughly 7,400 linear feet of overhead power lines have the potential to be impacted by construction on the east side of the roadway.
	Above Ground Structures	Is the alternative likely to require the relocation of existing mailboxes and/or roadway signage? (Yes/No)	No new impacts.	Trail construction adjacent to the west side of the roadway will require temporary relocation of mailboxes during construction. Following construction, mailboxes will be closer to the roadway due to removal of shoulder. Roadway signage along the west side will need to be relocated as part of construction.	Roadway signage along the east side will need to be relocated as part of construction.
	Parking	Will the alternative impact parking along Victoria St? (Yes/No)	No new impacts.	Removal of shoulder on west side will eliminate physical space for parking along one side of the roadway. <i>Note: Final parking rules/restrictions to be determined by Cities of Roseville and Shoreview.</i>	Removal of shoulder on east side will eliminate physical space for parking along one side of the roadway. <i>Note: Final parking rules/restrictions to be determined by Cities of Roseville and Shoreview.</i>
	Drainage	How will the alternative impact the amount of impervious surface in the corridor? (Acres of additional impervious surface created)	No new impacts.	A trail on the west side of the roadway would increase impervious surface by 1.21 acres.	A trail on the east side of the roadway would increase impervious surface by 1.77 acres.
	Right of Way Impacts¹	How many parcels are likely to have permanent right of way impacts or require permanent easements? (Number of parcels impacted)	No new impacts.	Approximately 18 parcels would require permanent easements for construction of a trail on the west side.	Approximately 6 parcels would require permanent easements for construction of a trail on the east side.
	Temporary Property Impacts/ Easements¹	How many parcels are likely to have temporary impacts during construction? (Number of parcels impacted)	No new impacts.	Approximately 58 parcels would require temporary easements for construction of a trail on the west side.	Approximately 62 parcels would require temporary easements for construction of a trail on the east side.
	Retaining Walls	How many linear feet of retaining wall is the alternative likely to require? (Linear feet of retaining walls)	No new impacts.	Construction of a trail on the west side may require roughly 171 linear feet of retaining walls to be constructed.	Construction of a trail on the east side may require roughly 343 linear feet of retaining walls to be constructed.
Maintenance and Operations	Will the alternative impact maintenance and operations practices compared to the existing roadway? (Yes/No)	No new impacts.	Additional maintenance activities will be required to ensure the trail remains safe and clear of debris and snow/ice.	Additional maintenance activities will be required to ensure the trail remains safe and clear of debris and snow/ice.	
Cost	Planning-Level Construction Cost	High-level construction cost	There would be no construction project in the study area, therefore there would be no new construction costs.	The planning-level cost estimate to construct a trail and add curb and gutter to the west side of Victoria Street is approximately \$2.93M	The planning-level cost estimate to construct a trail and add curb and gutter to the east side of Victoria Street is approximately \$2.95M

(1) Note: Estimate of potential permanent and temporary right of way impacts was not based on survey data.

More Impacts OR Does Not Meet Need
 Fewer or no Impacts OR Meets Need

IV. Public and Stakeholder Engagement

A variety of methods were used to engage interested stakeholders and the public in the study process. The primary method of engaging agency stakeholders was through a Technical Advisory Committee (TAC) that included representatives from multiple departments within Ramsey County as well as representatives from the Cities of Roseville and Shoreview.

Members of the general public shared input on the issues present in the corridor as well as the roadway and trail concepts through a series of in-person and virtual open house meetings supplemented by online surveys and mapping activities. The sections that follow provide a high-level summary of the information shared and input received through these engagement activities. Additional details are available in **Attachments D, E and F**.

Technical Advisory Committee

The purpose of the technical advisory committee was to provide high-level direction to the project team by reviewing project approaches and deliverables from the perspective of each agency or department represented. The TAC met four times over the course of the project:

- September 1, 2021.
- September 30, 2021.
- February 3, 2022.
- May 10, 2022.

At the first meeting on September 1, 2021, the consultant team introduced the study area, purpose, project schedule and walked through the major tasks. The group discussed corridor needs and opportunities, current and future developments, safety concerns and efficient use of space for people of all ages and abilities to walk and bike. At the second meeting on September 30, 2021, the consultant team reviewed results of data gathering, conceptual design considerations and shared draft cross sections based on the discussion. The TAC discussed the type of multimodal facility needed, school connections, roadway lane and trail dimensions and corridor speeds.

During the February 2022 meeting, the consultant team gave an overview of engagement activities conducted so far and a high-level summary of results. An overview of applicable design standards was presented, followed by a discussion of the preliminary cross section screening. The group discussed a phased implementation for future projects and discussed potential areas for crossing improvements. At the final meeting in May 2022, the group discussed the concepts in greater detail, phased implementation and remaining study tasks. The northern study area limit was reviewed further based on public comments, and it was determined that the concepts should extend to Harriet Avenue rather than Cannon Avenue. The members of the TAC are listed in **Table 6**.

Table 6: Technical Advisory Committee Members

Technical Advisory Committee Members	Affiliation
Connie Bernardy	Ramsey County Active Living
Scott Mareck	Ramsey County Public Works
Scott Yonke	Ramsey County Parks & Rec
Rich Straumann	Ramsey County Active Living Committee
Gene Gjerdigen	Ramsey County Active Living Committee
Marc Culver	City of Roseville
Ted Wesolowski	City of Shoreview

Public Engagement Activities

Public engagement was conducted in three phases, each corresponding to a specific phase of the development and evaluation of concepts. **Table 7** lists the key dates of major public engagement activities. A total of two in-person and two virtual open houses were held. Three online surveys and two interactive mapping activities were conducted. The sub-sections that follow highlight important outcomes from each round.

Online surveys were hosted on the study website (ramseycounty.us/victoriastreettrail) and online mapping activities were hosted on an ArcGIS Hub site.

Table 7: Public Engagement Timeline

Activity	Location	Timeframe
Phase 1		
In-person Open House	Emmet D. Williams Elementary School (Roseville)	October 28, 2021; 5–7 pm
Interactive Online Map #1	Study Website	October 28–November 28, 2021
Online Survey #1	Study Website	October 28–November 28, 2021
On-line Open House	Virtual (Zoom)	November 4, 2021; 7–8 pm
Phase 2		
On-line Open House #3	Virtual (Zoom)	April 7, 2022; 7–8:30 pm
Interactive Online Map #2	Study Website	April 11–May 13, 2022
Online Survey #2	Study Website	April 11–May 13, 2022
Phase 3		
In-person Open House	Shoreview Community Center	July 14, 2022; 5–7 pm
Online Survey #3	Study Website	July 15–August 15, 2022

Phase 1: Existing Conditions and Priorities

Phase 1 included an in-person open house with 24 attendees signing in (some attendees did not sign in) and an online open house with 29 attendees. A presentation sharing existing conditions and design considerations was shared during the meetings. Roseville and Shoreview residents present at the in-person meeting were generally supportive of a separated trail on Victoria Street. The level of support was higher among those who live directly on Victoria Street. Residents described Victoria Street as dangerous to cross due to drivers exceeding the speed limit and expressed hope that a trail would improve safety. Residents noted changing elevations and sharp curves as dangerous, as drivers are unable to see people along those segments due to a lack of clear sight lines. Feedback from the online open house was largely the same, except for one attendee who did not support a trail.

Phase 1 also included two online engagement tools: an interactive map and an online survey. All comments left on the map were supportive of a trail along Victoria Street and were hopeful that it will make the corridor and intersections safer for people who walk and bike, including safe connections to schools, parks and homes. Survey themes were similar based on 57 responses, with respondents rating safety for all users, a safe and comfortable walking and biking environment and connections to nearby destinations as top priorities. Email comments received during this period were also supportive and mentioned high vehicle speeds and connections to Emmet D. Williams Elementary School.

Phase 2: Preliminary Cross Sections

Phase 2 focused on presenting and gathering feedback from community members on the preliminary cross sections drawings that showed how a trail could fit on Victoria Street. There were 26 attendees at the April 2022 virtual open house, which included a presentation on activities since the first open house, design considerations for various facility types, project phasing, cross section concepts, cross section screening and initial plan view concepts. Questions and comments about safety were most common, including concern for high vehicle speeds, a desire for narrowing lanes and other traffic calming options and safe connections to destinations, especially to Central Park, Central Park North and nearby schools.

Phase 2 also included an online survey and interactive online map. Twelve people responded to the survey. Most respondents support the trail on the west side of Victoria Street. Multiple respondents mentioned that they would like to see the trail extended up to Harriet Avenue if it were to be on the west side, which would ensure that it connects to the existing trail near St. Odilia Church. Most respondents would prefer a single shared used path instead of separate walking and biking paths and would like traffic calming to reduce vehicle speeds. Feedback from the mapping activity focused on consistency with existing trails, minimizing the need to cross the road and connections to Emmet D. Williams Elementary.

Phase 3: Full Concept Review

Phase 3 included an in-person open house on July 14, 2022. This round included a presentation of work done since the last open house and a comparison of two conceptual alternatives for the corridor. The plan for a phased approach was further discussed, with information on what would be included in each phase. Roseville and Shoreview residents were generally supportive of a separated trail on Victoria Street, with a minority of open house attendees expressing concerns over a variety of topics including impacts to their properties, concerns over potential tree removal during project construction, project costs, high vehicle speeds along the roadway, and questions about there being a demand by pedestrians.

Phase 3 included an online survey following the third open house, which was still live at the time of writing this report.

Public Engagement Key Takeaways

Key public and stakeholder feedback that should be considered as potential projects on Victoria Street move forward include:

- Both the east and west side trail concepts are better than the status quo.
- A trail on the west side connects to more places that people walk and bike to.
- Support for a design that improves safety along the corridor, especially at intersections.
- High vehicle speeds should be addressed through traffic calming measures.
- If the west side concept moves forward, it should connect to the existing trail by St. Odilia and Island Lake Elementary.
- There is more support for one shared use path/trail rather than separate walking and biking trails.
- There is concern about potential property impacts, including potential tree removals.
- There are various opinions about whether trails are needed on both sides in the future.

V. Additional Recommendations

Future Crossing Improvements

While a detailed evaluation of crossing improvements was outside the scope of this study, the project team conducted a high-level screening of the 12 intersections in the original study area that should be evaluated for nonmotorized crossing improvements as part of a future Victoria Street project. The screening was based on the following criteria:

- Roadway crossing distance.
- Intersections with above average crash rates.
- Intersections with existing pedestrian and/or bicycle facilities.
- Intersections with existing pedestrian safety countermeasures.
- Intersections with a nearby transit stop.
- Intersections that provide direct access to key destinations identified in the corridor.

As shown in **Table 8** and **Figure 21**, several intersections exhibit a number of these characteristics that indicate a more in-depth evaluation of nonmotorized crossing improvements should be conducted in future phases of project development.



Victoria St at County Road D

Table 8: Intersection Screening Results

	Crossing Distance (Number of Lanes)	Safety (Crash Rate Above Average)	Intersecting Ped Facilities	Intersecting Bike Facilities	Existing Pedestrian Safety Counter-measures	Transit Access	Access to Destinations	Total Criteria Met
Cannon Ave			X	X				2
Arbogast St		X	X	X		X	X	5
Emmert St								0
Edgewater Ave						X	X	2
W County Rd D		X	X		X	X	X	5
Brenner Ave						X		1
Millwood Ave*						X		1
W Owasso Blvd*			X	X		X		3
County Rd C2 W		X						1
Orchard Ln						X		1
Woodhill Dr			X			X	X	3
County Rd C W	X	X	X	X		X	X	6

Based on this screening, it is recommended that Victoria Street intersections with above average crash rate and/or that meet three or more criteria met in **Table 8** should be considered for improvements. These include Woodhill Drive; County Road C2; W Owasso Boulevard; County Road D; and Arbogast Street. It should be noted that the County Road C intersection has been studied separately as part of Ramsey County's 4-to-3 Lane Conversion Study. Any improvements to the Victoria Street and County Road C intersection would occur as part of a separate project.



Victoria St at West Owasso Blvd

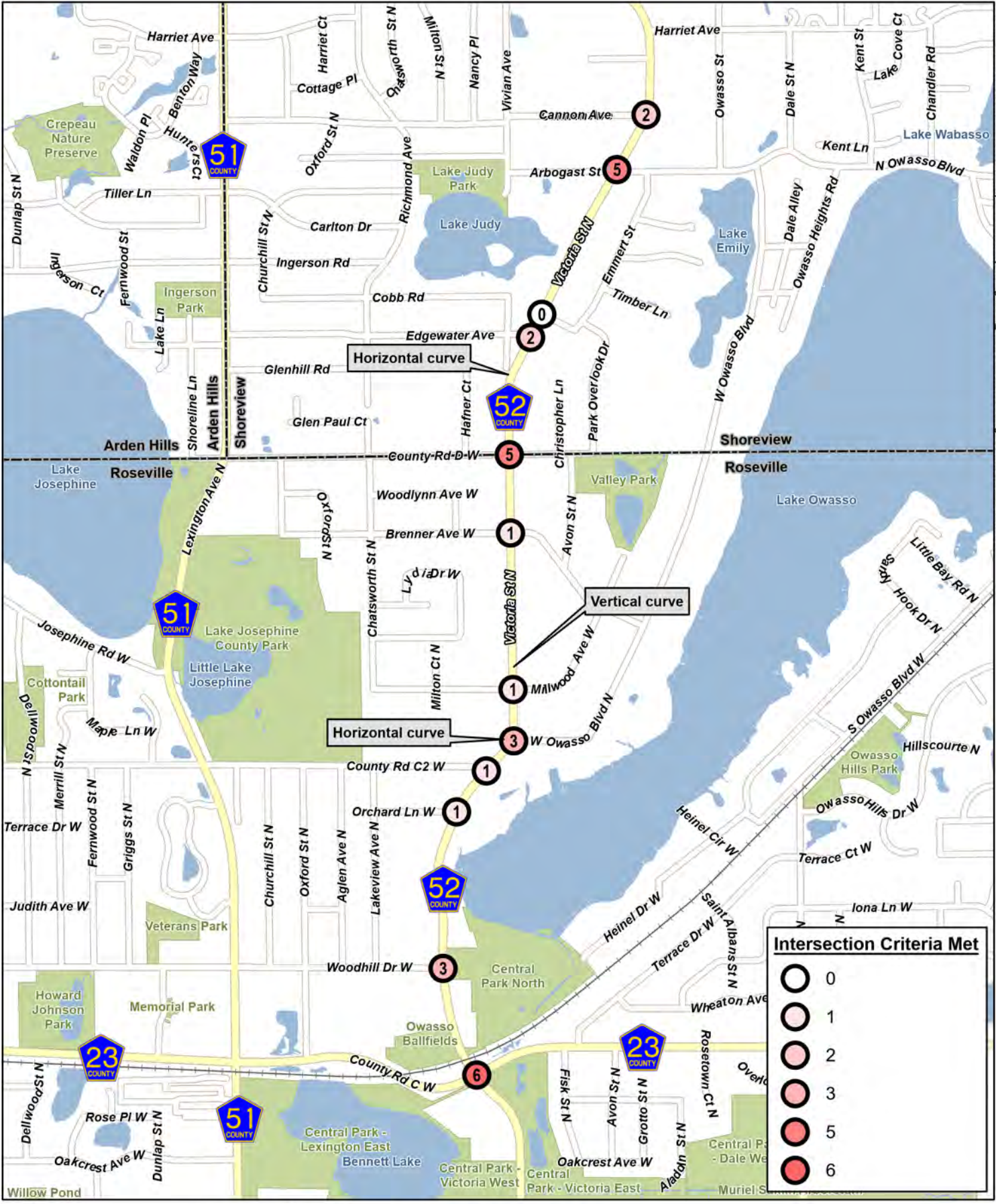
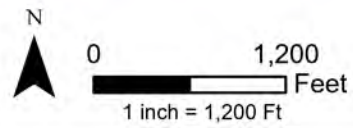


Figure 21 - Intersection Screening Results and Geometric Issues

Victoria Street Roadway and Trail Conceptual Design Study
Ramsey County, MN



Future Geometric Improvements

In the process of documenting existing conditions and developing the preliminary concepts, the project team identified several areas of the corridor where the existing roadway geometry may warrant additional investigation and modification as part of a future corridor reconstruction project. These areas are shown in **Figure 21** and include:

- **W Owasso Boulevard Intersection:** Horizontal curve.
- **Just north of Millwood Avenue:** Vertical curve.
- **Between W County Road D and Edgewater Avenue:** Horizontal curve.

VI. Planning Level Cost Estimates

Planning level cost estimates were developed for both of the ‘full concepts’ presented in Section III of the report – one with a trail on the west side, and one with a trail on the east side. The estimates for the two concepts are very similar. The planning level cost estimate for constructing either a trail on the west side of Victoria Street or the east side of Victoria Street is approximately \$3M in current dollars. For more detailed information on the planning level cost estimates, including line-item costs for various items, see **Attachment G**.

Next Steps

The study described in this report was completed in July 2022. Based on the concepts that emerged from the study process, Ramsey County, in cooperation with the City of Shoreview and the City of Roseville, intend to seek funding opportunities for the engineering and construction of a Phase 1 project that would consist of constructing a trail along with curb and gutter on one side of Victoria Street. As shown in **Figure 22**, numerous steps must be completed between planning and construction, including preliminary engineering and environmental analysis, right of way acquisition (if needed) and refinement of the final design. Ramsey County and both cities will continue to seek input from stakeholders as the process for a future trail project on Victoria Street moves forward.

Figure 22: Anticipated Project Development Process

