



B R T

ENVIRONMENTAL ASSESSMENT

RUSH LINE BUS RAPID TRANSIT PROJECT

MAY 2021



Rush Line Bus Rapid Transit (BRT) Project

Environmental Assessment

Prepared by:

United States Department of Transportation
Federal Transit Administration

and

Ramsey County Regional Railroad Authority

In cooperation with:

United States Department of Transportation
Federal Highway Administration

Pursuant to:

National Environmental Policy Act of 1969, as amended, 42 USC Section § 4321, *et seq.*; Council on Environmental Quality regulations, 40 CFR Part 1500, *et seq.*; Federal Transit Laws, 49 USC Chapter 53; Environmental Impact and Related Procedures, 23 CFR Part 771, a joint regulation of the Federal Highway Administration and Federal Transit Administration implementing National Environmental Policy Act and Council on Environmental Quality regulations; Section 106 of the National Historic Preservation Act of 1966, 16 USC Section § 470(f); Section 4(f) of the Department of Transportation Act of 1966, as amended, 49 USC Section § 303; Section 6(f)(3) of the Land and Water Conservation Fund Act of 1965, 16 USC Section §§ 4601-4, *et seq.*; Clean Water Act, as amended, 33 USC Section § 1251, *et seq.*; Clean Air Act, as amended, 42 USC Section § 7401 *et seq.*; Endangered Species Act of 1973, as amended, 16 USC Section § 1531, *et seq.*; Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 42 USC Section § 4601, *et seq.*; Executive Order No. 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations); Executive Order No. 13166 (Improving Access to Services for Persons with Limited English Proficiency); Executive Order No. 11988 (Floodplain Management); and other applicable federal laws and procedures.

This document also complies with all relevant laws and procedures of the State of Minnesota.

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May 4, 2021

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INTRODUCTION

Ramsey County, on behalf of the Ramsey County Regional Railroad Authority, is the local public agency responsible for completing this Environmental Assessment (EA) and is required to comply with the requirements of the Minnesota Environmental Policy Act (Minnesota Statutes, chapter 116D). Ramsey County has also prepared an Environmental Assessment Worksheet in accordance with state statutes, which is included in Appendix G.

Federal funding from the Federal Transit Administration will be pursued for the Rush Line Bus Rapid Transit (BRT) Project; as a result, the Federal Transit Administration is required to undertake an environmental review in compliance with the National Environmental Policy Act (42 USC Section § 4321, *et seq.*). The Federal Transit Administration, as the federal lead agency, and Ramsey County, as the local lead agency, have prepared this EA to satisfy both the National Environmental Policy Act and the Minnesota Environmental Policy Act (42 USC Section § 4321, *et seq.* and Minnesota Statutes, chapter 116D, respectively). The Metropolitan Council will be the project sponsor and federal grantee and will lead the process for engineering and construction if the project proceeds.

This EA is organized in a manner to be useful to decision-makers and the public. It includes the following chapters:

- **Chapter 1 Purpose and Need:** This chapter explains why the project is being proposed and the issues the project is intended to address.
- **Chapter 2 Alternatives:** This chapter describes the alternatives being evaluated.
- **Chapter 3 Environmental Impact Areas:** This chapter summarizes long-term impacts, construction phase impacts, indirect and cumulative effects, and measures to avoid, minimize and mitigate these impacts.
- **Chapter 4 Section 4(f) Evaluation:** This chapter summarizes the analysis conducted to meet the requirements of Section 4(f) of the US Department of Transportation Act of 1966 (23 USC Section § 138 and 49 USC Section § 303). Section 4(f) is a federal law that protects publicly owned parks, recreation areas and wildlife and/or waterfowl refuges, and publicly or privately owned significant historic sites.
- **Chapter 5 Public Engagement and Agency Coordination:** This chapter summarizes the public engagement activities conducted during the project's environmental analysis phase and how federal, state, regional and local agencies were involved in the environmental process.

The EA also includes appendices to provide detailed information that supports the analysis completed. Appendices to this EA include:

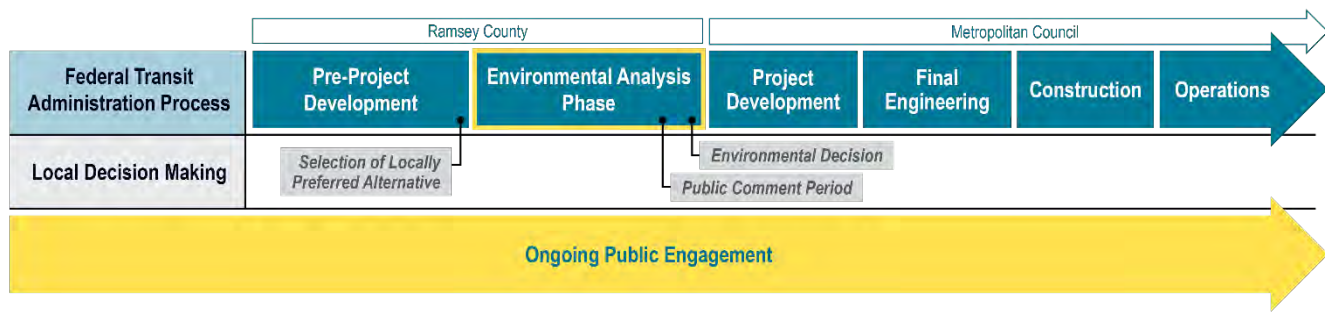
- **Appendix A Concept Plans:** This appendix includes the conceptual plans for the project and shows the dedicated guideway, station platforms, potential area of disturbance and other project-related elements.
- **Appendix B Agency Coordination:** This appendix includes documentation of coordination that occurred with agencies related to the project.
- **Appendix C Section 106 Coordination:** This appendix includes correspondence with tribes, consulting parties and the State Historic Preservation Office related to Section 106 of the National Historic Preservation Act of 1966. The draft Section 106 Memorandum of Agreement is also included in this appendix.

- **Appendix D Section 4(f) Evaluation:** This appendix includes the analysis completed to comply with the provisions of Section 4(f) of the Department of Transportation Act of 1966.
- **Appendix E Technical Reports:** This appendix includes detailed technical reports prepared for the project.
- **Appendix F Other Supporting Technical Information:** This appendix includes memorandums prepared for resource areas not covered by technical reports.
- **Appendix G Environmental Assessment Worksheet:** This appendix includes the Environmental Assessment Worksheet completed to comply with the requirements of the Minnesota Environmental Policy Act.

PROJECT SCHEDULE

In 2018, the Rush Line BRT Project moved into the environmental analysis phase, which includes environmental review, preliminary engineering, preliminary station area planning and public engagement. After completing the environmental analysis phase, the lead agency role for the Rush Line BRT Project will transition from Ramsey County to the Metropolitan Council. The Metropolitan Council, serving as the local project sponsor, will advance design, construct and operate the project. Based on the project’s current schedule, construction is anticipated to begin in 2024 and passenger service would begin in 2026.

Figure 1: Project Development Process



COMMENTS ON THE ENVIRONMENTAL ASSESSMENT

Comments on the EA and the Environmental Assessment Worksheet may be submitted in writing or made orally at public meetings during the 45-day public comment period. A Notice of Availability of the EA and Environmental Assessment Worksheet was published in the Minnesota Environmental Quality Board’s *EQB Monitor* and newspapers of record. Availability of the documents was also noticed through the project website and e-newsletter. The EA and supporting documents are available on the project website at www.rushline.org. Hard copies are available at the following locations and can be made available upon request:

- Ramsey County Law Library, 15 West Kellogg Boulevard, Suite 1815 Courthouse, Saint Paul, MN 55102.
- East Side Enterprise Center, 804 Margaret Street, Saint Paul MN 55106.
- Ramsey County Library – Maplewood, 3025 Southlawn Drive, Maplewood, MN 55109.
- Vadnais Heights City Hall, 800 East County Road E, Vadnais Heights, MN 55127.
- Gem Lake City Office, 4200 Otter Lake Road, Gem Lake, MN 55110.
- Ramsey County Library – White Bear Lake, 2150 2nd Street, White Bear Lake, MN 55110.

Comments must be received by June 25, 2021.

Written comments should be sent to:

Andy Gitzlaff, Senior Transportation Planner
Ramsey County
15 West Kellogg Boulevard, Suite 210
Saint Paul, MN 55102
info@rushline.org

Online public meetings will be held on June 2, 2021 and June 3, 2021. In addition, an in-person public meeting is anticipated to be held on June 17, 2021, dependent on COVID-19 public health guidance. Register for the online open houses and learn about COVID-19 safety measures for the in-person open house at rushline.org.

Following the close of the comment period, the Federal Transit Administration and Ramsey County, in coordination with the Metropolitan Council, will consider the comments submitted. Based on the information contained in the EA and comments received, the Federal Transit Administration will determine whether the project would have a significant impact on the human environment that would warrant preparation of an Environmental Impact Statement. If the Federal Transit Administration decides that there are no significant impacts, it will issue a Finding of No Significant Impact. The determination will be made available to the public and all who submit comments on the EA.

After the Federal Transit Administration's decision on significant impacts, Ramsey County, as the Responsible Governmental Unit, will issue a negative or positive declaration on the need for an Environmental Impact Statement in accordance with the Minnesota Environmental Policy Act.

The following people may be contacted for additional information regarding this project:

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Ramsey County
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Saint Paul, MN 55102
651-266-2772
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1. PURPOSE AND NEED

This chapter explains why the project is being proposed and the issues the project is intended to address. Additional details are provided in the *Purpose and Need Technical Report* (see Appendix E).

1.1. PROJECT LOCATION

The Rush Line BRT Project (the project) is a proposed 15-mile long BRT route connecting Saint Paul, Maplewood, White Bear Township, Vadnais Heights, Gem Lake and White Bear Lake. It would include 21 stations, and the route would generally run along Robert Street, Jackson Street, Phalen Boulevard, Ramsey County rail right-of-way and Highway 61 (see Figure 2).

1.2. PROJECT PURPOSE

The purpose of the project is to provide transit service that satisfies the long-term regional mobility and accessibility needs for businesses and the traveling public and supports sustainable development within the study area.

1.3. PROJECT NEEDS

The study area for the analysis of project needs is defined as the municipalities adjacent to the Rush Line BRT Project, which include Saint Paul, Maplewood, White Bear Township, Vadnais Heights, Gem Lake and White Bear Lake. Four primary factors contribute to the need for the Rush Line BRT Project, as discussed below.

1.3.1. Serving the Needs of People Who Rely on Transit

Transit-dependent populations generally include those with incomes at or below the poverty line, those who live in households without a car and the elderly. In the study area, the number of people who rely on transit is increasing:

- Median household income in the study area has decreased, and the number of people living below the poverty level has increased.¹ In 2018, 16.9 percent of the study area population lived below the poverty level. This is higher than the percent below poverty level in Ramsey County overall at 14.7 percent, and Ramsey County has the highest poverty rate in the seven-county Twin Cities region.²
- There are 38 census tracts in the study area that are identified as Areas of Concentrated Poverty, all located in Saint Paul.³
- About 12 percent of the households in the study area do not have access to a vehicle. Between 2000 and 2018, Maplewood, White Bear Township, Gem Lake and White Bear Lake experienced an increase in zero-vehicle households that ranged from 30 to 50 percent.⁴
- The population in the study area is growing older. From 2000 to 2018, the 45 to 64 and 65 and over age groups increased by 20 and 16 percent, respectively.⁴

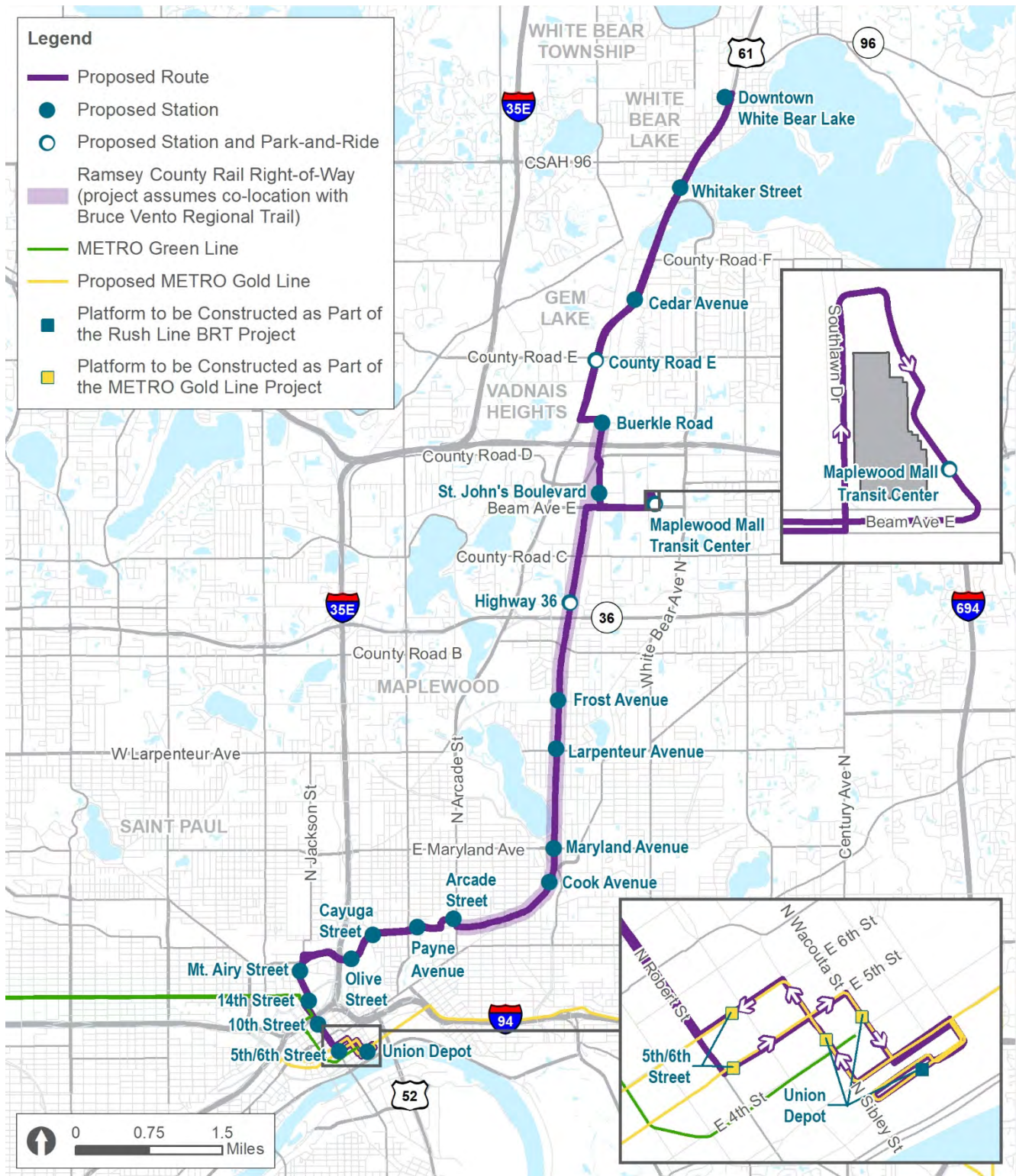
¹ From 1999 to 2018 and 2000 to 2018, respectively.

² US Census Bureau. 2014-2018 American Community Survey 5-Year Estimates.

³ Metropolitan Council. Areas of Concentrated Poverty. Dataset published December 6, 2018 and based on the 2013-2017 American Community Survey 5-Year Estimates. Available at <https://gisdata.mn.gov/dataset/us-mn-state-metc-society-areas-of-concntrtd-pvrty>.

⁴ US Census Bureau. 2000 US Census and 2014-2018 American Community Survey 5-Year Estimates.

Figure 2: Proposed Project Map⁵



⁵ The project includes exploration of connector bus service and other transit improvements (see Section 3.2.2).

1.3.2. Meeting Increasing Demand for Reliable, High-Frequency⁶ Transit

Demand for reliable, high-frequency transit service is increasing, and the existing high-frequency network does not currently serve the study area outside of Saint Paul.

- There are currently 44 bus and light rail transit routes that operate within 1 mile of the proposed route. Only three of these (a portion of the Route 54, a portion of the Route 64 and the METRO Green Line) are part of the high-frequency network, and the only study area community they serve is Saint Paul.⁷
- In recent years, Metro Transit⁸ has seen an increase in ridership on high-frequency routes even as ridership on other routes has declined.

1.3.3. Planning for Sustainable Growth and Development

Population and employment are forecast to grow in the study area. As concentrations of jobs and residents grow in different communities, the need to travel between these communities will increase.

- The Metropolitan Council's *Thrive MSP 2040* forecasts⁹ show population and employment in the study area increasing by 20 and 24 percent, respectively, between 2010 and 2040.
- Employment in Maplewood, White Bear Township, Vadnais Heights and White Bear Lake is anticipated to grow at a faster rate than their respective populations. As concentrations of jobs and residents grow in different communities, the need to travel between these communities will increase.⁹
- The number of people whose commute takes longer than 30 minutes has increased in all study area communities between 2000 and 2018, and commutes of 15 minutes or less decreased in all study area communities.¹⁰

1.3.4. Expanding Multimodal Travel Options

State and regional transportation policies identify the need to provide multimodal transportation options.

- The state of Minnesota and the Twin Cities region are shifting away from investing in a single mode of transportation (automobile) to investing in multiple modes (transit, bicycling, walking and automobile). Two plans that address this are the Minnesota Department of Transportation's *Statewide Multimodal Transportation Plan*.¹¹ and the Metropolitan Council's

⁶ Routes are considered high frequency if they have service every 15 minutes or less on weekdays from 6 a.m. to 7 p.m. and Saturdays from 9 a.m. to 6 p.m.

⁷ Although Route 54 extends into Maplewood, the portion of the route that is considered high-frequency ends on Maryland Avenue in Saint Paul. A portion of Route 21 in Minneapolis is also part of the high-frequency network, but the portion within 1 mile of the proposed route is not.

⁸ The Metropolitan Council is responsible for operating the regional transit system and does so through Metro Transit, which is an operating division of the Metropolitan Council.

⁹ Metropolitan Council. *Thrive MSP 2040* Forecasts as of January 1, 2020. Available at <https://metrocouncil.org/forecasts>.

¹⁰ US Census Bureau. 2000 US Census and 2014-2018 American Community Survey 5-Year Estimates.

¹¹ Minnesota Department of Transportation. *Statewide Multimodal Transportation Plan*. January 2017. Available at <http://www.minnesotago.org/final-plans/smtf-final-plan>.

2040 Transportation Policy Plan.¹² The Rush Line BRT Project would contribute to meeting the *Statewide Multimodal Transportation Plan*'s objective of maintaining and improving multimodal transportation connections essential for Minnesotans' prosperity and quality of life and the *2040 Transportation Policy Plan*'s goal of access to destinations and its associated objectives.

- The *2040 Transportation Policy Plan* includes the Rush Line BRT Project as one of six new or extended METRO lines to be built in the next decade under the current revenue scenario.¹³

1.4. PROJECT GOALS

During the pre-project development study, which began in 2014 and ended in 2017 with the selection of the locally preferred alternative, six project goals were established to evaluate the transit investment alternatives under consideration. These goals were also used to evaluate refinements to the locally preferred alternative that are reflected in the Build Alternative as described in Chapter 2. The Rush Line BRT Project goals include:

- Increase the use of transit and its efficiency and attractiveness for all users.
- Develop and select an implementable and community-supported project.
- Contribute to improving regional equity, sustainability and quality of life.
- Improve sustainable travel options between and within the study area communities.
- Enhance connectivity of the corridor to the regional transportation network.
- Support sustainable growth and development patterns that reflect the vision of local and regional plans and policies.

¹² Metropolitan Council. *2040 Transportation Policy Plan*. October 2018 Update. Available at <https://metro council.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan.aspx>.

¹³ According to the *2040 Transportation Policy Plan* (October 2018 Update, page 6.59), the current revenue scenario includes "projects that have a locally preferred alternative with approved local resolutions of support and an identified reasonable funding plan (based on projections for existing revenues or past experience securing revenues for similar projects). The capital funding for transitway expansion other than arterial bus rapid transit is generally assumed to be 50% or less federal Capital Investment Grants (e.g., New Starts or Small Starts) and 50% or more county sales tax revenues and/or other local revenues."

2. ALTERNATIVES

Two alternatives have been carried forward for evaluation in this EA: the No Build Alternative and the Build Alternative.

2.1. BACKGROUND

Building on the findings and recommendations of the 2001 *Rush Line Transit Study* and the 2009 *Rush Line Corridor Alternatives Analysis*, the Rush Line Corridor Task Force¹⁴ initiated a pre-project development study in 2014. The pre-project development study developed and evaluated bus and rail alternatives within a 30-mile study area between Union Depot in Saint Paul and Forest Lake. Following this alternatives development and evaluation process and extensive public engagement, Ramsey County, in coordination with the project area municipalities, selected the locally preferred alternative in September 2017 as an approximately 15-mile BRT route from Union Depot in downtown Saint Paul to White Bear Lake.¹⁵ The technical analysis and public engagement that were part of this three-year pre-project development study are summarized in the *Rush Line Corridor Pre-Project Development Study Locally Preferred Alternative Selection Report*.¹⁶

Further stakeholder coordination and technical analysis conducted as part of the environmental analysis phase has resulted in various route and station location refinements, which are described in the *Alternatives Refinement Summary Report* (see Appendix E).

2.2. NO BUILD ALTERNATIVE

The No Build Alternative is defined as the existing transportation system with planned and programmed improvements as presented in the Metropolitan Council's *2040 Transportation Policy Plan* but without the Rush Line BRT Project.¹⁷ The No Build Alternative provides a baseline for comparing the effects of implementing the Build Alternative.

2.3. BUILD ALTERNATIVE

The Build Alternative includes the proposed BRT route, stations and park-and-rides (see Figure 2). As described in Section 2.3.3, the Build Alternative includes two proposed park-and-rides.

An option under the Build Alternative that does not include the Highway 36 park-and-ride is also evaluated in this EA (the Build Alternative option without the Highway 36 park-and-ride) to provide Ramsey County, as the local lead agency, and the Metropolitan Council, as the future local project sponsor, flexibility to define required project facilities at this station location. Differences between the

¹⁴ The Rush Line Corridor Task Force consists of city, county and township-elected officials planning transit improvements to enhance mobility, promote economic development and preserve community and environmental assets within the Rush Line Corridor.

¹⁵ The locally preferred alternative is the transit investment alternative that best meets the purpose and need for the project and is competitive for funding through the Federal Transit Administration's Capital Investment Grants program.

¹⁶ Available at <https://www.ramseycounty.us/sites/default/files/Projects%20and%20Initiatives/Rush%20Line%20LPA%20Report%20-%20Final.pdf>.

¹⁷ Metropolitan Council. *2040 Transportation Policy Plan*. October 2018 Update. Available at <https://metrocouncil.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan.aspx>.

Build Alternative and the Build Alternative option without the Highway 36 park-and-ride are noted where applicable throughout the EA.

The concept plans for the Build Alternative are included in Appendix A. The Build Alternative option without the Highway 36 park-and-ride is illustrated on Sheet 17A in Appendix A.

2.3.1. Route

The proposed 15-mile route would operate in a dedicated guideway or in mixed traffic, as illustrated on Figure 3 through Figure 6. Dedicated guideway is defined as the pavement area designed and designated for the exclusive use of transit vehicles and, if needed, emergency vehicles. In some areas, the dedicated guideway is a business access and transit lane, which non-transit vehicles can only use at intersections and driveways to make right turns.

In the northbound direction, 11.8 miles (78 percent) of the route would be in dedicated guideway. In the southbound direction, 11.2 miles (74 percent) of the route would be in dedicated guideway. Much of the route would be on or parallel to existing city, county and state roadways, except approximately 4 miles where a new dedicated guideway would be built adjacent to a reconstructed Bruce Vento Regional Trail in Ramsey County rail right-of-way (from Johnson Parkway to Beam Avenue and from County Road D to Buerkle Road). Ramsey County purchased the rail right-of-way in the early 1990s to reserve it for future transit use. Table 1 summarizes where BRT would operate within existing transportation right-of-way by jurisdiction.

Table 1: Rush Line BRT Operations Within Existing Transportation Right-of-Way

Agency	BRT Operations	Transportation Right-of-Way
City of Saint Paul	Mixed traffic	Kellogg Boulevard, Wacouta Street, Sibley Street, Robert Street, 14 th Street, Jackson Street, Phalen Boulevard, Neid Lane
	Dedicated guideway	5 th Street, 6 th Street, Robert Street, Phalen Boulevard
City of Maplewood	Mixed traffic	Hazelwood Street
	Dedicated guideway	Southlawn Drive
City of Vadnais Heights	Mixed traffic	Buerkle Road
	Dedicated guideway	Buerkle Road
City of White Bear Lake	Mixed traffic	Buerkle Road, 7 th Street, Washington Avenue, 8 th Street
	Dedicated guideway	Buerkle Road
Ramsey County	Mixed traffic	Pennsylvania Avenue, Beam Avenue
	Dedicated guideway	Pennsylvania Avenue, Ramsey County rail right-of-way, Beam Avenue
Minnesota Department of Transportation	Mixed traffic	Robert Street, Arcade Street, Highway 61
	Dedicated guideway	Robert Street, Highway 61

Figure 3: Operating Environment from Union Depot to Arcade Street



Figure 4: Operating Environment from Arcade Street to County Road B



Figure 5: Operating Environment from County Road B to County Road E

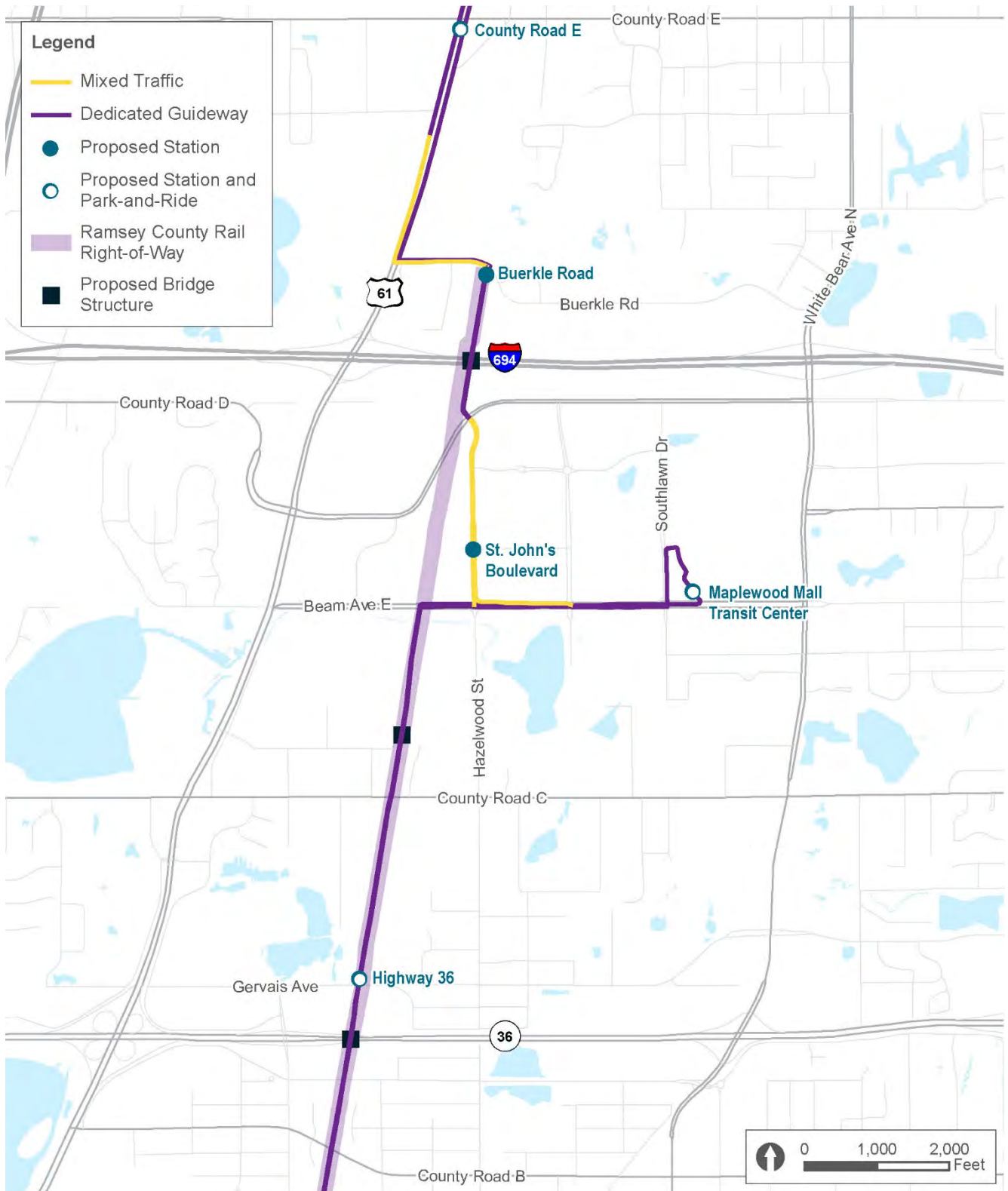
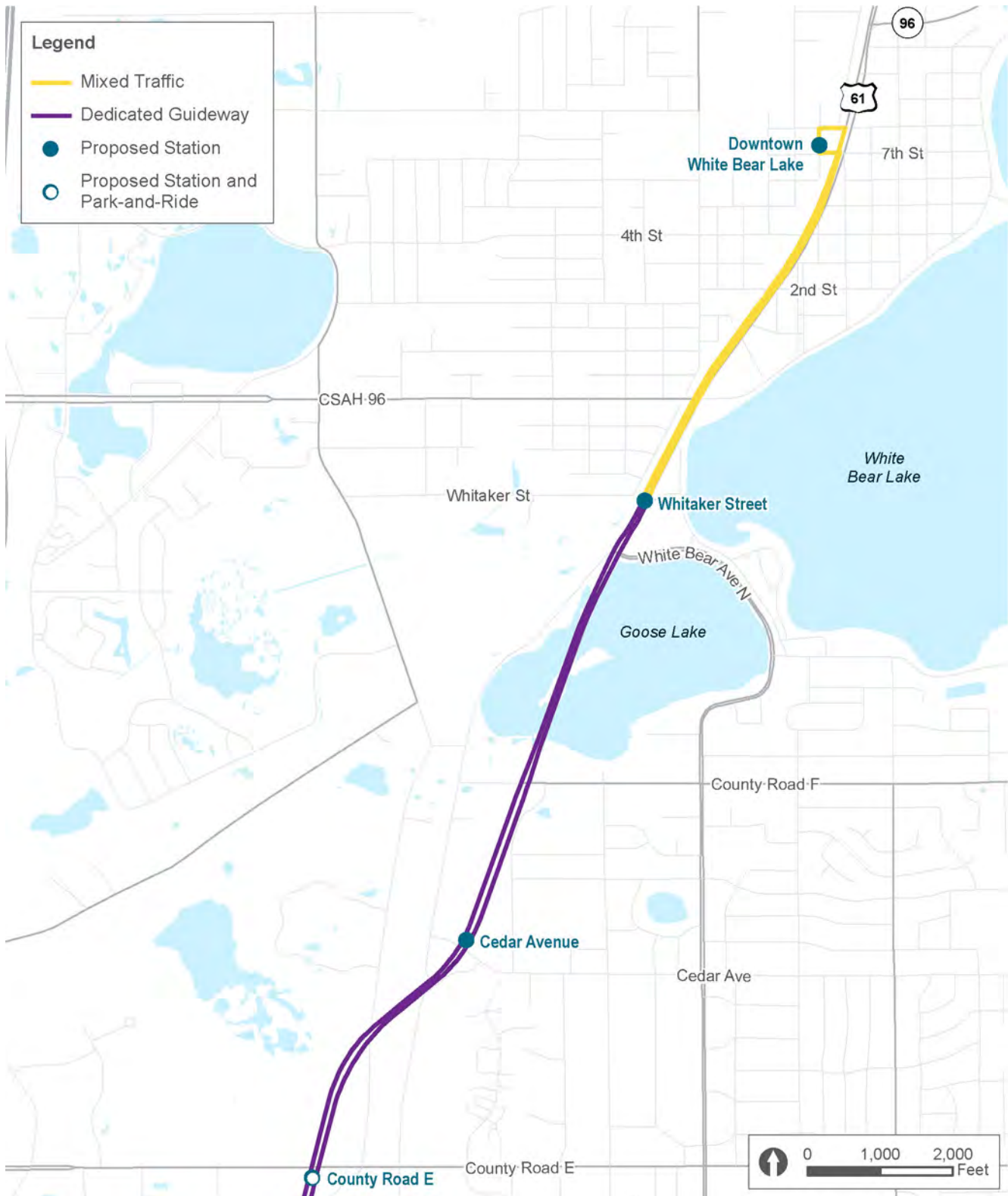


Figure 6: Operating Environment from County Road E to Downtown White Bear Lake



The project includes seven new dedicated guideway bridges along the route to facilitate operations (see locations on Figure 3 through Figure 6):

- From the existing Arcade Street bridge to the Ramsey County rail right-of-way north of Phalen Boulevard.
- Over Johnson Parkway.
- Over the Gateway State Trail.
- Over the trail connection between English Street and Weaver Elementary School.
- Over Highway 36.
- Over the trail connection between Fitch Road and Barclay Street.
- Over Interstate 694 (I-694).¹⁸

2.3.2. Stations

The Build Alternative would include 21 stations (see Figure 3 through Figure 6). Both platforms for the 5th/6th Street station and two of the platforms serving Union Depot (on Sibley and Wacouta Streets) are planned to be constructed as part of the METRO Gold Line Project.¹⁹ Stations would include shelters, ticket machines for off-board fare purchase, real-time bus schedule information, bicycle parking, on-demand heat, trash and recycling bins, emergency telephones, security cameras, energy-efficient LED station lighting, and information about the station, route, transit system and neighborhood.

Station platforms would generally be 10 inches tall. This platform height improves customer experience by reducing the step onto the bus and allows for a level boarding option at the front door if the bus kneels.²⁰ It also allows both BRT and local buses to use the same platforms. Typical platforms would be 60 to 80 feet long. At some stations, including southbound 10th Street, 14th Street, Mt. Airy Street, Maplewood Mall Transit Center and Downtown White Bear Lake, BRT platforms would be combined with local bus stops or extended to accommodate bus layovers, resulting in a total bus platform length of approximately 130 feet.

2.3.3. Park-and-Rides

The Build Alternative would serve one existing park-and-ride (the Maplewood Mall Transit Center) and two proposed park-and-rides (at Highway 36 and County Road E).

Through 2019, the existing 1,000-space Maplewood Mall Transit Center operated at about 50 percent capacity.²¹ Improvements would be made to the platforms and customer waiting area, but no new parking would be constructed.

The proposed Highway 36 park-and-ride would be an approximately 300-space structure located in the southwest corner of Harvest Park (north of Gervais Avenue and east of the Ramsey County rail

¹⁸ The proposed crossing of I-694 requires an interstate right-of-way use approval from the Federal Highway Administration. See Section 5.2.2 for more information on coordination with the Federal Highway Administration.

¹⁹ The METRO Gold Line is a proposed BRT project that will connect Saint Paul, Maplewood, Landfall, Oakdale and Woodbury generally along I-94. It is expected to begin service in 2024 (before Rush Line BRT). More information on the METRO Gold Line is available at <https://www.metrotransit.org/gold-line-project>.

²⁰ Kneeling is when the bus operator lowers the front end of the bus to assist passenger boarding.

²¹ Metro Transit. *2019 Annual Regional Park & Ride System Report*. January 2020. Available at <https://metrocouncil.org/Transportation/Publications-And-Resources/Transit/2019-Park-and-Ride-Report.aspx>.

right-of-way) by the Highway 36 station.²² As the project advances, there is the potential that the full build out of the park-and-ride would be phased over time, starting with an approximately 170-space surface lot that would be constructed within the same footprint. The EA evaluates the 300-space parking structure to reflect the proposed full build out at the station and, therefore, the most impactful environmental analysis.

The proposed County Road E park-and-ride would be a surface lot with up to 70 spaces designated for transit use. This park-and-ride would be located on Ramsey County property near the County Road E station in the existing TCO Sports Garden parking lot. A portion of the existing parking lot would be reconfigured to accommodate the park-and-ride.²³

The Build Alternative option without the Highway 36 park-and-ride would serve the existing Maplewood Mall Transit Center and the proposed County Road E park-and-ride. At the Highway 36 station, this option would include station platforms and a passenger drop-off area but no park-and-ride (see Sheet 17A of the concept plans in Appendix A).

2.3.4. Operations

The project would operate from 5 a.m. to midnight on weekdays and Saturdays and from 6 a.m. to 10 p.m. on Sundays. Table 2 provides the assumed operating frequencies during these hours.

Table 2: Hours of Operation and Frequency

Day of Week	Start Time	End Time	Frequency (minutes)
Weekdays	5 a.m.	6 a.m.	15
	6 a.m.	9 a.m.	10
	9 a.m.	3 p.m.	15
	3 p.m.	6:30 p.m.	10
	6:30 p.m.	12 a.m.	15
Saturdays	5 a.m.	12 a.m.	15
Sundays	6 a.m.	10 p.m.	15

The Build Alternative would use 13 new 60-foot articulated electric buses. A charging station²⁴ would be constructed at the Union Depot bus deck where buses would charge for about 10 minutes during layovers.

The project would not construct a new operations and maintenance facility. The buses would be serviced at the East Metro Garage, an existing Metro Transit operations and maintenance facility in Saint Paul (see location on Figure 3). Electric charging stations would be added to the interior of the existing facility, which would not reduce the facility’s current capacity of 214 buses. Some of the

²² The Metropolitan Council is not the planned owner or manager of the proposed Highway 36 park-and-ride, and an alternative ownership commitment has not been made at this time. The decision on if a park-and-ride would be provided at the Highway 36 station will be made based on forecast demand at this location in coordination with Ramsey County, the Metropolitan Council and the city of Maplewood.

²³ A parking study was conducted at the TCO Sports Garden in the spring of 2019, which found that parking demand for the sports center is highest during evenings and weekends. This usage would be complementary to park-and-ride demand, which would primarily occur between about 7 a.m. and 5 p.m.

²⁴ Energy sources for charging stations will be determined during final design and will follow any applicable Metro Transit guidance on incorporating renewable energy.

current buses assigned to this facility would be moved to other operating garages to provide space for Rush Line BRT vehicles.

2.3.5. Capital and Operating Costs

Capital costs are an estimation of the fixed costs needed to build the project and bring it into revenue service. Capital costs include construction of the dedicated guideway, stations and other project elements and factor in expenditures such as environmental mitigation, right-of-way acquisition, vehicle acquisition and professional services. The capital cost estimates include a 35 percent total contingency.

Operations and maintenance costs include estimates of the annual costs to operate, maintain and administer the transit service. These costs include the annual total of employee earnings and fringe benefits, contract services, materials and supplies, utilities and other day-to-day expenses.

Estimated project costs are provided in Table 3 and will be refined as the project advances.

Table 3: Capital and Operating Cost Estimates²⁵

	Capital Cost (Year of Expenditure Dollars) ²⁶	Annual Operations and Maintenance Cost (2026 Dollars) ²⁷
Build Alternative	\$473,670,000	\$15,372,000
Build Alternative option without the Highway 36 park-and-ride	\$456,878,000	\$15,258,000

²⁵ These estimates are based on current design and are subject to change.

²⁶ Adjusted for inflation from 2019 to the expected year of expenditure.

²⁷ Adjusted for inflation from 2019 to 2026.

3. ENVIRONMENTAL IMPACT AREAS

This chapter provides a summary of the anticipated effects of construction and operation of the No Build Alternative and Build Alternative on the transportation, community and social, and physical and environmental resources within the study areas in accordance with current regulations. Analysis of the Build Alternative is based on the concept plans for the project included in Appendix A. The potential area of disturbance is defined as the estimated area where construction would occur and is illustrated on the concept plans in Appendix A.

Additional information can be found in supporting technical reports in Appendix E, including:

- *Ridership and Operations Technical Report.*
- *Traffic Technical Report.*
- *Land Use and Economic Analysis Technical Report.*
- *Phase IA Literature Review, Phase I/II Archaeological Investigations of 21RA82 for the Rush Line BRT Project, Ramsey County, Minnesota.*
- *Phase II Evaluation, Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment.*
- *Phase I Architecture/History Survey and Phase II Evaluation for the Rush Line Bus Rapid Transit Project Ramsey County, Minnesota.*
- *Rush Line Bus Rapid Transit Project Section 106 Assessment of Effects and Determination of Effect for Historic Properties.*
- *Environmental Justice Technical Report.*
- *Natural Resources Technical Report.*
- *Stormwater and Water Quality Technical Report.*
- *Phase I Environmental Site Assessment.*
- *Phase II Environmental Site Assessment.*
- *Noise and Vibration Technical Report.*
- *Air Quality Technical Report.*
- *Indirect and Cumulative Effects Technical Report.*

Other supporting technical memorandums are included in Appendix F.

3.1. NO BUILD ALTERNATIVE EFFECTS

Under the No Build Alternative, the Rush Line BRT Project would not be constructed or operated. The project's purpose and need would not be met, meaning that the No Build Alternative would not contribute to serving the needs of people who rely on transit; meeting increasing demand for reliable, high-frequency transit; planning for sustainable growth and development; or expanding multimodal travel options.

Since the project would not be constructed, there would be no temporary construction-related impacts, such as dust, noise or impacts to pedestrian, bicyclists and vehicular traffic. There would also be no long-term project-related impacts on the transportation, community and social, and physical and environmental resources within the study areas.

3.2. BUILD ALTERNATIVE OPERATING PHASE (LONG-TERM) IMPACTS

Differences in operating phase impacts between the Build Alternative and the Build Alternative option without the Highway 36 park-and-ride are identified in the following sections:

- Section 3.2.2 Transit.
- Section 3.2.5 Parking, Driveways and Loading Zones.
- Section 3.2.6 Neighborhoods and Community Resources.
- Section 3.2.7 Land Acquisitions and Relocations.
- Section 3.2.8 Economics.
- Section 3.2.9 Visual Resources.
- Section 3.2.14 Water Quality and Stormwater.

Construction phase (short-term) impacts that would result from the project are discussed in Section 3.3.

3.2.1. Environmental Resources of No Concern

Based on agency and stakeholder coordination, database searches and site visits, the following resources were not found within the study area and, therefore, are not included in Section 3.2:

- Aviation.
- Farmlands.

In addition, the following resources were determined to have no or negligible adverse operating phase (long-term) effects and, therefore, are not included in Section 3.2:

- Land use plan compatibility (see the *Land Use and Economics Technical Report* in Appendix E).
- Noise and vibration (see the *Noise and Vibration Technical Report* in Appendix E).
- Air quality (see the *Air Quality Technical Report* in Appendix E).
- Freight rail (see *Freight Rail Memorandum* in Appendix F).
- Safety and security (see the *Safety and Security Memorandum* in Appendix F).
- Section 6(f) of the Land and Water Conservation Fund Act of 1965 (see the *Section 6(f) Resources Memorandum* in Appendix F).
- Geology, groundwater and soils (see the *Geology, Groundwater and Soils Memorandum* in Appendix F).
- Energy (see *Energy Memorandum* in Appendix F).

No disproportionately high or adverse effects to environmental justice communities during the operating phase were identified; however, to provide context on the communities in the project area, a discussion of environmental justice is included in this section.

3.2.2. Transit

CONNECTING BUS NETWORK

Existing Connecting Bus Network

The existing (fall 2019) connecting bus network for the Rush Line BRT is shown in Figure 7. In order to focus on the routes most relevant to the Rush Line BRT Project, this figure focuses on the area north of downtown Saint Paul.

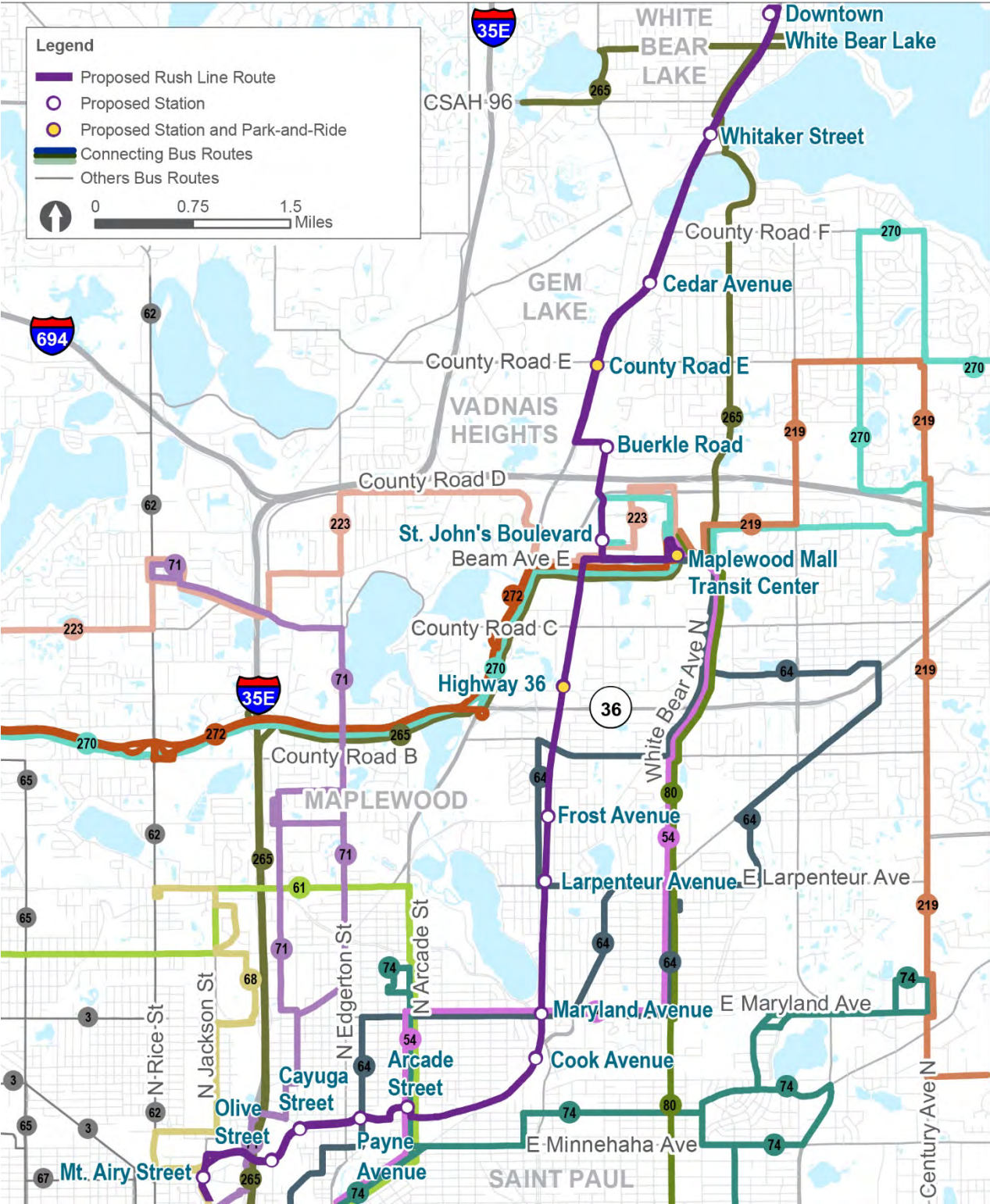
2040 Base Connecting Bus Network

Proposed improvements to the existing bus network would provide additional access to/from destinations beyond the distance people would typically walk from the Rush Line BRT stations (about one-half mile), including residences, jobs, medical offices, food and other retail needs. The 2040 base connecting bus network for the Rush Line BRT would include modest improvements to existing bus routes, as identified in Metro Transit's 2017 Service Improvement Plan.²⁸ Since additional transit funding has not been identified for the region and the productivity of these improvements is unclear, communication to the public and stakeholders about these improvements is important for setting clear expectations. These improvements would only be implemented if additional transit funding is available, and service would be adjusted if it does not meet regional productivity standards.

- Increase the weekday peak and non-peak frequency on Route 61 from 30 minutes to 20 minutes.
 - Route 61 connects to the Arcade Street station and provides an east-west connection on Larpenteur Avenue/Hennepin Avenue, including a connection to downtown Minneapolis.
- Increase the peak and midday weekday frequency on Route 68 from 20 to 30 minutes to 15 minutes.
 - Route 68 connects to the Mt. Airy Street station and provides a north-south connection on Jackson Street to the north and Robert Street to the south.
- Increase the span of Route 80 from 7 a.m. to 7:30 p.m. to 6 a.m. to 8 p.m. and increase the non-peak frequency from 60 minutes to 30 minutes.
 - Route 80 connects to the Maplewood Mall Transit Center and provides a north-south connection on White Bear Avenue to the Sun Ray Transit Center.
- Increase the peak frequency on Route 223 from 90 minutes to 30 minutes and the non-peak frequency from 90 minutes to 60 minutes.
 - Route 223 connects to the Maplewood Mall Transit Center and provides an east-west connection on Beam Avenue, County Road D, Little Canada Road, County Road C and County Road B2, including a connection to Rosedale Center in Roseville.

²⁸ Available at <https://www.metrotransit.org/sip>.

Figure 7: Existing (Fall 2019) Connecting Bus Network



Other Bus Network Improvement Considerations

Other bus network improvements could be considered at a later date. Consideration of these improvements relies on additional transit funding as well as the improvements meeting regional productivity standards. Improvements that might be explored include:

- High frequency service on Route 54 between Union Depot and the Maplewood Mall Transit Center.
- Sunday service on Route 54 between Union Depot and the Maplewood Mall Transit Center.
- An extension of Route 61 east to the Frost Avenue station.
- Service later into the evenings on Route 61.
- Sunday service on Route 61.
- Restructuring Route 64.
- A new route that would provide an east-west connection on Maryland Avenue.
- A new route that would provide a north-south connection on McKnight Avenue.
- An extension of Route 223 further to the east on Lydia Avenue.
- A new route that would provide an east-west connection on County Road E.
- A new route that would provide a north-south connection on White Bear Avenue, north of Maplewood Mall, and an east-west connection on 4th Street in White Bear Lake.

Additional information on the connecting bus network is available in the *Ridership and Operations Technical Report* (see Appendix E).

TRAVEL TIME

In the northbound direction, the Build Alternative travel time from Union Depot to the Downtown White Bear Lake station is anticipated to be approximately 47 minutes. In the southbound direction, the travel time from the Downtown White Bear Lake station to Union Depot is anticipated to be approximately 44 minutes.

Additional information on travel time is available in the *Ridership and Operations Technical Report* (see Appendix E).

RIDERSHIP

Under the Build Alternative, the Rush Line is forecast to carry 7,400 rides per day by 2040. Under the Build Alternative option without the Highway 36 park-and-ride, the Rush Line is forecast to carry 6,700 rides per day by 2040.

Overall, just over half of the Rush Line BRT ridership (54 percent) would be for work trip purposes, demonstrating the utility of the service for non-work travel as well. Reverse commuting, or travel that occurs in the direction opposite the traditional downtown orientation (both work and non-work trips), is forecast to be 26 percent of daily ridership. Roughly half of these reverse commute trips are work trips to employment opportunities outside of downtown Saint Paul.

Table 4 summarizes select ridership characteristics for the Build Alternative and the Build Alternative option without the Highway 36 park-and-ride to illustrate how the BRT service is expected to be used. The project would serve the overall mobility needs of people reliant on transit. Overall, 1,700 daily trips would be made by riders from zero-vehicle households in 2040, or about 23 percent of the total Rush Line ridership under the Build Alternative (25 percent under the Build Alternative option without the Highway 36 park-and-ride). Non-work trips would be 70 percent of the transit-reliant ridership on the Rush Line, compared to 45 percent for all Rush Line passengers.

Table 4: 2040 Rush Line BRT Ridership Characteristics

Characteristic	Build Alternative	Build Alternative Option without the Highway 36 Park-and-Ride
Total daily BRT trips	7,400	6,700
Trips for work	4,000	3,300
Trips by riders from no-car households	1,700	1,700
Access by walking	2,300	2,300
Access by driving	2,100	1,400
Access by drop-off	1,000	1,000
Access by transferring	2,000	2,000

Table 5 provides a regional summary of linked transit trips for existing service (2016) and projected new transit trips that would result from the No Build and Build Alternatives by 2040. A linked trip represents a transit user who makes a trip between point A and point B (an origin and destination), regardless of the number of transfers the user makes. The net regional increase of these linked trips is commonly referred to as new transit trips. Even under the No Build Alternative, significant growth in regional transit ridership is forecast to occur between 2016 and 2040 as a result of planned investment in the regional transit system, including additional light rail transit, BRT and arterial BRT service. For the Build Alternative, new transit trips are attributable only to those improvements associated with the Rush Line BRT Project. Compared to the No Build Alternative, the Build Alternative would attract 3,300 additional new transit trips each weekday. The Build Alternative option without the Highway 36 park-and-ride would attract 2,600 additional new transit trips each weekday.

Table 5: Regional Linked and New Transit Trips

	2016	2040 No Build Alternative	2040 Build Alternative	2040 Build Alternative Option without the Highway 36 Park-and-Ride
Average weekday linked trips	273,100	323,200	326,500	325,800
Difference compared to 2040 No Build Alternative	-	-	3,300	2,600
Percent change compared to 2040 No Build Alternative	-	-	1.0%	0.8%

With an increase in regional transit trips, the Build Alternative is anticipated to reduce the number of auto trips made in the region each weekday. The reduction in automobile trips would result in a decrease in regional automobile vehicle miles traveled, as shown in Table 6.

Table 6: Average Weekday Reduction in Vehicle Miles Traveled (2040)

	Build Alternative	Build Alternative Option without the Highway 36 Park-and-Ride
Change in daily vehicle miles traveled compared to the No Build Alternative	-65,700	-41,300
New transit trips	3,300	2,600
Change in daily vehicle miles traveled per new transit trip	-20	-16

Additional information on ridership is available in the *Ridership and Operations Technical Report* (see Appendix E).

3.2.3. Traffic

A traffic operations model was developed to identify changes in level of service that would result from the 2040 Build Alternative during peak hours. Peak hours reflect the times of day when a facility is typically busiest; therefore, the peak hours indicate the worst-case scenario in terms of impacts. The *Highway Capacity Manual*²⁹ uses six letter grades (from A to F) to describe an intersection's level of service, with A being the best operating conditions and F being the worst. The *Highway Capacity Manual* uses equations to calculate the delay motorists experience due to traffic signals or stop signs and conflicting traffic as the basis for determining an intersection's level of service. Level of service D or better is considered acceptable for intersections during the peak traffic hour in urban and suburban areas according to standard practice in the traffic engineering industry, guidance from the American Association of State Highway and Transportation Officials and the Minnesota Department of Transportation.

The concept plans included in Appendix A show all traffic signal modifications and reconstructions, grade crossings and other infrastructure changes that are proposed as part of the project. With these improvements, all intersections evaluated are anticipated to operate at overall level of service D or better in the 2040 a.m. and p.m. peak hours except for the Highway 61/County Road E intersection in the p.m. peak hour, which would operate at level of service E as it would under the 2040 No Build Alternative. The project would improve 2040 peak hour operations at two intersections: at Phalen Boulevard/Payne Avenue in the a.m. and p.m. peak hours and at Highway 61/Buerkle Road in the p.m. peak hour.

Anticipated queue lengths were also evaluated to determine if intersections would have queueing issues under the 2040 Build Alternative that were not present under the 2040 No Build Alternative. Table 7 summarizes the seven intersections where queueing would be improved, and Table 8 summarizes the 11 intersections where there would be queueing issues. Recommended mitigation measures to alleviate the identified queueing issues are also included in Table 8. As design advances, there will be continued coordination with the appropriate roadway authorities on the recommended mitigation measures.

²⁹ Transportation Research Board. *Highway Capacity Manual, Sixth Edition: A Guide for Multimodal Mobility Analysis*. 2016. Washington, D.C.

Table 7: 2040 Build Alternative Queueing Improvement Locations

Intersection	Movement(s)
Robert Street/9 th Street	Northbound right
Robert Street/11 th Street	Northbound through and right
	Southbound left
Phalen Boulevard/Cayuga Street	Southbound right
Phalen Boulevard/Payne Avenue	Eastbound left, through and right
	Westbound left
	Northbound right
	Southbound right
Highway 61/Buerkle Road	Westbound right
Highway 61/Whitaker Street	Southbound left
Highway 61/4 th Street	Westbound through and right

Table 8: 2040 Build Alternative Queueing Impact Locations and Recommended Mitigation Measures

Intersection	Movement(s)	Queueing Issue ³⁰	Recommended Mitigation Measure
Robert Street/5 th Street	Northbound through and right	Spillback into closely spaced upstream intersection and operates at level of service E	Diversion to alternative routes expected to reduce impact
Robert Street/6 th Street	Northbound through	Spillback into closely spaced upstream intersection and operates at level of service E	Diversion to alternative routes expected to reduce impact
Robert Street/7 th Place	Northbound through	Spillback into closely spaced upstream intersection	Diversion to alternative routes expected to reduce impact
	Southbound left	Spillback into closely spaced upstream intersection	Diversion to alternative routes expected to reduce impact
Robert Street/7 th Street	Northbound left and through	Spillback into closely spaced upstream intersection	Diversion to alternative routes expected to reduce impact
	Southbound left	Spillback into closely spaced upstream intersection and operates at level of service E	Diversion to alternative routes expected to reduce impact
	Southbound through	Spillback into closely spaced upstream intersection	Diversion to alternative routes expected to reduce impact

³⁰ Spillback is when the vehicle queue exceeds the available distance. An upstream intersection is the next intersection opposite the direction of travel.

Intersection	Movement(s)	Queueing Issue ³⁰	Recommended Mitigation Measure
Robert Street/9 th Street	Northbound left	Spillback into closely spaced upstream intersection	Diversion to alternative routes expected
Robert Street/10 th Street	Northbound left	Spillback into closely spaced upstream intersection	Diversion to alternative routes expected to reduce impact
Phalen Boulevard/ Olive Street	Eastbound through	Spillback into upstream intersection	None ³¹
	Westbound left	Operates at level of service E	Extend the westbound left-turn storage lane by 50 feet
Neid Lane/Arcade Street	Southbound through	Spillback into closely spaced upstream intersection	Adjust signal timings
Highway 61/County Road E	Westbound left	Operates at level of service F	Restripe upstream two-way left-turn lane to extend the westbound left-turn storage lane by 60 feet
Highway 61/County Road 96	Eastbound left	Operates at level of service F	Adjust transit signal priority parameters
Highway 61/4 th Street	Eastbound left	Operates at level of service F	Adjust transit signal priority parameters
	Eastbound through	Spillback into closely spaced upstream intersection and operates at level of service F	Adjust transit signal priority parameters

Beyond the location-specific improvements developed for the project that promote safe and efficient traffic and BRT operations, there are several more fundamental improvements to the transportation system that would result from the project. Dedicated guideway BRT operations directly result in an increase in speed and reliability for transit. This increase in speed and reliability can lead to higher transit ridership and overall person throughput.

Additional information on the traffic analysis is available in the *Traffic Technical Report* (see Appendix E).

3.2.4. Pedestrians and Bicycles

No permanent closures of marked crossings, sidewalks, bike lanes or trails would result as part of the Build Alternative. Some areas would require reconstruction of existing sidewalks and trails, but these are not considered long-term impacts because facilities would be restored in kind and to their existing functionality. Pedestrian and bicycle facilities that would be reconstructed include:

³¹ As discussed in the *Traffic Technical Report* included in Appendix E, due to the limitations that the I-35E bridge presents to roadway expansion in this area, additional capacity would not be reasonable to mitigate this queueing issue. Therefore, no mitigation is proposed.

- The Bruce Vento Regional Trail from the intersection of Arcade Street and Phalen Boulevard to Beam Avenue.
- Segments of the Bruce Vento Regional Trail between County Road D and Buerkle Road.

The dedicated guideway would be co-located with a reconstructed Bruce Vento Regional Trail through the portion of the route in Ramsey County rail right-of-way (shown on Figure 3 through Figure 6). The *Ramsey County Rail Right-of-Way Design Guide*³² was created to develop a safe dedicated guideway and shared-use trail within the Ramsey County rail right-of-way that fits in with the surrounding landscape and reflects relevant user, stakeholder and public guidance. As engineering advances, the guiding principles from the *Ramsey County Rail Right-of-Way Design Guide* will be used to inform the design work and ensure input received through the public engagement activities is incorporated.

Four of the proposed dedicated guideway bridges would provide grade separation between trail users and vehicles:

- A trail would cross over Johnson Parkway on a new dedicated guideway bridge.
- A new dedicated guideway bridge would cross over the intersection of the Bruce Vento Regional Trail and Gateway State Trail.
- A new dedicated guideway bridge would cross over the trail connection between English Street and Weaver Elementary School.
- A new dedicated guideway bridge would cross over the trail connection between Fitch Road and Barclay Street.

In addition to the safety benefits provided by the grade separated crossings, the Build Alternative is expected to benefit pedestrians and bicyclists by providing new connections to existing sidewalks and trails (new connections are shown on the concept plans in Appendix A). At intersections, reconstructed sidewalks and trails would include upgraded pedestrian ramps and all reconstructed signals would have accessible pedestrian signals. All BRT station platforms would include new sidewalk connections to adjacent pedestrian facilities. Additionally, bicycle racks would be provided at each station, and bicycles can be brought on the bus.

The Build Alternative would preclude implementation of a planned bike lane on Phalen Boulevard in the project area. The existing off-road Bruce Vento Regional Trail on the north side of Phalen Boulevard would remain available to bicyclists.

Additional information on pedestrian and bicycle analysis is included in the *Pedestrians and Bicycles Memorandum* in Appendix F.

3.2.5. Parking, Driveways and Loading Zones

The Build Alternative would eliminate 184 existing parking spaces and add 351, for a net gain of 167 parking spaces. The Build Alternative option without the Highway 36 park-and-ride would eliminate 179 existing parking spaces and add 51, for a net loss of 128 parking spaces.

The Build Alternative would not impact any loading zones. Parking and driveways would be impacted at the following locations:

³² Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

- **Saint Paul:** net loss of 69 parking spaces.
 - Loss of 57 on-street parking spaces on Robert Street in downtown Saint Paul that are currently not available during peak hours (6-9 a.m. and 4-6:30 p.m.). Twenty-five spaces would be constructed, for a net loss of 32 on-street spaces in this area
 - Loss of 23 off-street parking spaces serving businesses on Forest Street.
 - Loss of 14 off-street parking spaces serving residences near the planned Larpenteur Avenue and Cook Avenue stations. Some off-street parking would be maintained, and there is abundant on-street parking available near these residences. All parking losses in the Larpenteur Avenue station area would occur south of Larpenteur Avenue within Saint Paul.
- **Maplewood:** net gain of 258 parking spaces under the Build Alternative; net loss of 37 parking spaces under the Build Alternative option without the Highway 36 park-and-ride.
 - Loss of 24 off-street parking spaces at the Maplewood Mall Transit Center.
 - Build Alternative:
 - Loss of 18 on-street spaces along Gervais Avenue by Harvest Park.
 - Construction of 300 new public spaces in the Highway 36 park-and-ride.
 - Build Alternative option without the Highway 36 park-and-ride:
 - Loss of 13 on-street spaces along Gervais Avenue by Harvest Park.
- **Vadnais Heights:** net gain of 26 parking spaces.
 - Reconfiguring a portion of the existing TCO Sports Garden parking lot to accommodate the County Road E park-and-ride would increase parking capacity at the commercial complex by 26 spaces. Seventy spaces would be reserved for transit users during business hours (8 a.m. to 5 p.m. Monday through Friday), and the remaining 420 would be available to all visitors to the commercial complex during these times. A parking study conducted in the area found that peak demand at the TCO Sports Garden occurs outside of business hours; during these times, all 490 spaces would be available.
- **White Bear Lake:** net loss of 48 parking spaces and one driveway.
 - Loss of 24 off-street parking spaces adjacent to the White Bear Shopping Center (4422 Highway 61), all of which are located in, or partially in, public right-of-way.
 - Loss of eight off-street parking spaces at Lakeside Shops (1971 Whitaker Street).
 - Loss of one driveway connecting Lakeside Shops to Highway 61. Access to the shopping center would be maintained via Whitaker Street to the south and Lake Avenue.
 - Loss of eight off-street parking spaces located in public right-of-way near 7th Street and Washington Avenue.
 - Loss of eight on-street parking spaces on Washington Avenue.

There would be no long-term impacts to on- or off-street parking spaces, driveways or loading zones in White Bear Township or Gem Lake.

As engineering advances, coordination with project area municipalities and impacted residents and businesses will continue to further minimize parking and access impacts.

Additional information on parking, driveways and loading zones is available in the *Land Use and Economics Technical Report* (see Appendix E).

3.2.6. Neighborhoods and Community Resources

Rush Line BRT vehicles would operate partly in dedicated guideway and partly in mixed traffic in existing public right-of-way (see Figure 3 through Figure 6). The Build Alternative would be co-located with the Bruce Vento Regional Trail in the Ramsey County rail right-of-way along a portion of the route in Saint Paul and Maplewood. Existing designated public access across the rail right-of-way to the trail, surrounding neighborhoods and transit would be maintained; however, the project would use vegetative buffers, fencing and railings to deter crossings and access in locations that pose a safety risk. The Build Alternative would not separate neighborhoods. Fencing may be installed along portions of the Ramsey County rail right-of-way to enhance safety for transit riders and trail users. In these areas, designated crossings would be implemented to maintain access across the right-of-way. Traversable barriers would be used where feasible. Property acquisitions required for the Build Alternative would generally consist of a limited number of partial acquisitions along the edges of properties and would not include any buildings. The project would not fully acquire any properties. Single-family residential areas would remain intact, and the partial acquisitions are not anticipated to affect community cohesion or character. Additional discussion of land acquisition is included in 3.2.7.

The Build Alternative would result in long-term property, access and parking impacts to community facilities within 200 feet of the route, including properties that are recommended as eligible for listing in the National Register of Historic Places. It would not result in long-term noise impacts or indirect impacts to community facilities within 200 feet of the route. The Build Alternative would produce the following long-term impacts to community facilities:

- **Saint Paul:**
 - **Downtown Saint Paul:** The project would improve access to many community facilities located in downtown Saint Paul, including Mears Park, Pedro Park, Minnesota Museum of American Art and Union Depot.
 - **Gillette Children’s Specialty Healthcare, HealthPartners 401 Phalen Clinic and John A. Johnson Elementary School:** The project would require partial acquisitions along the edge of each property. These partial acquisitions would not include any buildings or impede any property’s primary use.
 - **Parking:** The project would result in a net loss of 32 on-street parking spaces in Saint Paul. These 32 spaces on Robert Street are located near historic properties; however, the loss of parking would not adversely affect access to these properties due to available alternative parking options.
 - **Bruce Vento Regional Trail in Ramsey County rail right-of-way:** Rush Line BRT would operate parallel to the Bruce Vento Regional Trail in the Ramsey County rail right-of-way. Construction of the dedicated guideway would require reconstruction of the trail, and landscaping and design features would be incorporated as outlined in the *Ramsey County Rail Right-of-Way Design Guide*.³³
- **Maplewood:**
 - **Weaver Elementary School:** The project would require a partial acquisition for potential stormwater management and for the construction of a grade-separated trail and dedicated guideway crossing to maintain pedestrian access to the school from

³³ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

English Street. The acquisitions would occur along the edges of the property and would not impede the property's primary use. This property has been recommended as eligible for listing in the National Register of Historic Places.

- **Harvest Park:** The Build Alternative would require a partial parcel acquisition for the Highway 36 park-and-ride (see Sheet 35 in Appendix A).³⁴ Visual changes resulting from the project may affect the character of the park, and the changes resulting from the park-and-ride under the Build Alternative may have a greater effect on the character of the park than the Build Alternative option without the Highway 36 park-and-ride.
- **Bruce Vento Regional Trail in Ramsey County rail right-of-way:** Rush Line BRT would operate parallel to the Bruce Vento Regional Trail in the Ramsey County rail right-of-way. Construction of the dedicated guideway would require reconstruction of the trail, and landscaping and design features would be incorporated as outlined in the *Ramsey County Rail Right-of-Way Design Guide*.³⁵
- **Facilities along Beam Avenue:** The project would improve access to a high-density area of medical institutions and Maplewood Heights Park along Beam Avenue.
- **Vadnais Heights:**
 - **TCO Sports Garden and Twin Cities Orthopedics:** The project would improve access to these community facilities, which are not currently served by transit.
- **White Bear Lake:**
 - **White Bear Lake Area High School, White Bear Lake City Hall, Railroad Park and Veterans Park:** The project would improve access via transit to these community facilities.

The Build Alternative would not result in any long-term impacts to community facilities in White Bear Township or Gem Lake.

Additional information on neighborhoods and community resources is available in the *Land Use and Economics Technical Report* (see Appendix E).

3.2.7. Land Acquisitions and Relocations

The Rush Line BRT Project, as currently defined, would require additional land beyond that already dedicated to transportation purposes and would result in the permanent acquisition of approximately 18 to 20 acres of publicly- and privately-held residential, commercial, industrial and transportation properties (not including existing right-of-way). All acquisitions would be partial acquisitions; no full acquisitions resulting in the displacement of businesses or residents would be needed. Impacted institutional properties include vacant land owned by government entities as well as existing parkland. The Metropolitan Council would acquire property in accordance with Minnesota Statutes, chapter 117, and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Public Law 91-646; 49 CFR Part 24).

³⁴ The Section 4(f) evaluation for Harvest Park is included in Section 4.2.3.

³⁵ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

The Build Alternative option without the Highway 36 park-and-ride would require 1.81 acres less acquisition at Harvest Park (from two parcels) than the Build Alternative.

The estimated magnitude and number of acquisitions in each municipality are shown in Table 9. Proposed permanent acquisitions are shown on the concept plans in Appendix A.

Table 9: Type and Acreage of Property That May Be Impacted During the Operating Phase

Municipality	Residential Properties	Commercial Properties	Institutional Properties	Park Properties	Total Properties	Acres
Saint Paul	3	8	9	2	22	6.53
Maplewood	1	1	4	2	8	11.24
<i>Option without the Highway 36 park-and-ride</i>	1	1	4	0	6	9.43
White Bear Township	0	2	0	0	2	0.03
Vadnais Heights	0	1	0	0	1	0.01
Gem Lake	0	2	0	0	2	0.02
White Bear Lake	1	10	1	0	12	2.33
Total	5	24	14	4	47	20.16
<i>Option without the Highway 36 park-and-ride</i>	5	24	14	2	45	18.35

Additional information on land acquisitions and relocations is available in the *Land Use and Economics Technical Report* (see Appendix E).

3.2.8. Economics

The potential long-term direct impacts of the Build Alternative on businesses, including displacement of commercial uses, loss of on- and off-street parking and changes to commercial property access, were evaluated. The project would not require any full commercial property acquisitions or displacement of any businesses. The following summarizes impacts to commercial uses throughout each municipality:

- **Saint Paul:**
 - Loss of 32 on-street parking spaces.³⁶
 - Loss of 23 off-street parking spaces.
 - Partial parcel acquisitions affecting eight commercial properties.
- **Maplewood:**
 - Loss of 18 on-street parking spaces under the Build Alternative or 13 on-street parking spaces under the Build Alternative option without the Highway 36 park-and-ride.
 - A partial parcel acquisition affecting one commercial property.

³⁶ The 32 spaces that would be removed on Robert Street are time-limited and unavailable for several hours on weekdays.

- **White Bear Township:**
 - Two permanent partial parcel acquisitions affecting commercial properties.
- **Vadnais Heights:**
 - Partial parcel acquisition affecting one commercial property.
- **Gem Lake:**
 - Two partial parcel acquisitions affecting commercial properties.
- **White Bear Lake:**
 - Loss of eight on-street parking spaces.
 - Loss of 40 off-street parking spaces.
 - Loss of one driveway.
 - Partial parcel acquisitions affecting 10 commercial properties.

These changes are not anticipated to have adverse impacts on commercial properties because the partial acquisitions do not impede the primary use of any affected parcels and parking space and driveway losses occur in areas where alternative parking and access options are available. On-street parking in Saint Paul is time-restricted, and meters are enforced on select high-demand days. These standards apply to the on-street parking spaces that would be removed as well as the on-street parking options that would remain following implementation of the project. Typically, there is a charge for off-street parking ramps and lots regardless of the day or time.

Economic impacts at the regional and statewide level were estimated using the Metropolitan Council’s REMI-PI model, which is an economic forecasting and policy analysis tool employed to project future economic impacts. The model estimates the impact of the Rush Line BRT Project on the gross state product, which represents the size of Minnesota’s economy, and on employment compared to the No Build Alternative. The project would add \$96 million³⁷ to the gross state product during its operating phase through 2040. In 2040, employment in Minnesota would be 124 jobs higher than under the No Build Alternative. Of these, 50 jobs would be directly created by the transit industry and 74 would be jobs in other industries. A public sector project is said to “pay for itself” in economic terms at the point that the cumulative economic activity impact surpasses the public project cost (from all local, state and federal sources). The Rush Line BRT Project would “pay for itself” by 2033.

Additional information on economics is available in the *Land Use and Economics Technical Report* (see Appendix E).

3.2.9. Visual Resources

New project infrastructure and buses would create visual impacts, with most impacts occurring near the dedicated guideway and stations. Operating phase impacts related to specific project elements are listed by municipality in Table 10 through Table 15.

³⁷ Expressed in 2018 dollars per the REMI-PI model outputs.

Table 10: Operating Phase Visual Impacts in Saint Paul³⁸

Project Element	Impacted Area/Resource	Visual Contrast
Union Depot bus deck and charging facility	Union Depot	Low: Consistent with current visual context (core urban area; train and bus station)
10 th Street station	Nearby commercial properties	Low: Consistent with current visual context (core urban area; existing bus stops)
14 th Street station	Nearby institutional properties	Low: Consistent with current visual context (core urban area; existing bus stops, light rail station and bicycle infrastructure)
Mt. Airy Street station	Nearby residential properties	Low: Consistent with current visual context (existing bus stops)
Olive Street station	HealthPartners Neuroscience Center; nearby commercial properties	Low: Consistent with current visual context (multi-lane roadway corridor; existing bicycle infrastructure)
Cayuga Street station, dedicated guideway, retaining wall, stormwater treatment	Westminster Junction ³⁹	Moderate: Some change from existing visual context (railroad tracks, tunnels, retaining walls, culverts and a switching tower)
Cayuga Street station	HealthPartners Specialty Center; nearby commercial properties	Low: Consistent with current visual context (multi-lane roadway corridor; existing bicycle infrastructure)
Cayuga Street station, Payne Street station, Arcade Street station, dedicated guideway, retaining walls, stormwater treatment located along Payne Avenue between existing railroad right-of-way and Phalen Boulevard	Saint Paul, Stillwater & Taylors Falls/Chicago, Saint Paul, Minneapolis & Omaha Railroad Corridor Historic District ⁴⁰	Moderate: Some change from existing visual context (railroad corridor)
Payne Avenue station	Phalen Senior Apartments; nearby commercial and residential properties	Low: Consistent with current visual context (multi-lane roadway corridor; existing bicycle infrastructure)

³⁸ Both platforms for the 5th/6th Street station and two of the platforms serving Union Depot (on Sibley and Wacouta Streets) are planned to be constructed as part of the METRO Gold Line Project; therefore, they are considered part of the existing conditions and were not evaluated for visual impacts.

³⁹ State Historic Preservation Office inventory number RA-SPC-5618

⁴⁰ State Historic Preservation Office inventory number XX-RRD-CNW001

Project Element	Impacted Area/Resource	Visual Contrast
Payne Avenue station, Arcade Street station, dedicated guideway	Theodore Hamm Brewing Company Complex ⁴¹	Low: Consistent with current visual context (multi-lane roadway corridor)
Arcade Street station	Saint Paul Eastside YMCA; nearby commercial properties	Low: Consistent with current visual context (multi-lane roadway corridor)
Dedicated guideway structure at Phalen Boulevard/Arcade Street	3M Administration Building ⁴²	Low: Consistent with current visual context (multi-lane roadway corridor)
	Ramsey County rail right-of-way; nearby commercial properties	Moderate: Some change from existing visual context (multi-lane roadway corridor)
Dedicated guideway east of Phalen Boulevard/Arcade Street	Ramsey County rail right-of-way; nearby commercial and residential properties	Low: Consistent with current visual context (multi-lane roadway corridor)
Cook Avenue station	Hmong Village; nearby residential properties	Low: Consistent with current visual context (multi-lane roadway corridor)
	Johnson Parkway ⁴³	Low: Consistent with current visual context (multi-lane roadway corridor)
Dedicated guideway bridge at Johnson Parkway	Johnson Parkway; Phalen Village Apartments; nearby commercial properties	High: Considerable change from existing visual context (existing at-grade intersection, adjacent parkway and open space).
	Phalen Park ⁴⁴	Moderate: Some change from existing visual context (undeveloped right-of-way)
Maryland Avenue station	Phalen Regional Park; nearby residential and commercial properties	Moderate: Some change from existing visual context (undeveloped right-of-way)
	Phalen Park ⁴⁵	Moderate: Some change from existing visual context (multi-lane roadway corridor)

⁴¹ State Historic Preservation Office inventory number RA-SPC-2926

⁴² State Historic Preservation Office inventory number RA-SPC-0455

⁴³ State Historic Preservation Office inventory number RA-SPC-8497 and RA-SPC-5685

⁴⁴ State Historic Preservation Office inventory number RA-SPC-10850

⁴⁵ State Historic Preservation Office inventory number RA-SPC-10850

Project Element	Impacted Area/Resource	Visual Contrast
Dedicated guideway in Ramsey County rail right-of-way (Johnson Parkway to Larpenteur Avenue)	Phalen Regional Park; Bruce Vento Regional Trail	High: Considerable change from existing visual context. As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁴⁶ the dedicated guideway and reconstructed Bruce Vento Regional Trail will be designed to provide separation between the shared-use path and dedicated guideway, avoid disturbing existing vegetation where feasible and use native plants to reestablish the natural character of the right-of-way.
Dedicated guideway in Ramsey County rail right-of-way (Johnson Parkway to Larpenteur Avenue), Arcade Street station, stormwater treatment between Payne Avenue and Maryland Avenue	Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment ⁴⁷	High: Considerable change from existing visual context. Elements of the <i>Ramsey County Rail Right-of-Way Design Guide</i> ⁴⁶ will be used to preserve historic sense of linearity. Other specific mitigation is being coordinated with consulting parties as design advances and may include design reviews; minimizing the mass, scale and visibility of project elements from the historic property's viewshed; and reestablishing appropriate vegetative screening.

⁴⁶ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

⁴⁷ State Historic Preservation Office inventory number XX-RRD-NPR001

Table 11: Operating Phase Visual Impacts in Maplewood

Project Element	Impacted Area/Resource	Visual Contrast
Larpenteur Avenue station	Bruce Vento Regional Trail; nearby residential properties	Moderate: Some change from existing visual context. As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁴⁸ station design, landscaping, screening and lighting will be implemented with consideration of the surrounding context.
Dedicated guideway in Ramsey County rail right-of-way (Larpenteur Avenue to Beam Avenue)	Phalen Regional Park; Bruce Vento Regional Trail	High: Considerable change from existing visual context. As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁴⁸ the dedicated guideway and reconstructed Bruce Vento Regional Trail will be designed to provide separation between the shared-use path and dedicated guideway, avoid disturbing existing vegetation where feasible and use native plants to reestablish the natural character of the right-of-way.
Dedicated guideway in Ramsey County rail right-of-way (Larpenteur Avenue to Beam Avenue); bridge over I-694; stormwater treatment between Frost Avenue and I-694	Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment. ⁴⁹	High: Considerable change from existing visual context. Elements of the <i>Ramsey County Rail Right-of-Way Design Guide</i> ⁴⁸ will be used to preserve historic sense of linearity. Other specific mitigation is being coordinated with consulting parties as design advances and may include design reviews; minimizing the mass, scale and visibility of project elements from the historic property's viewshed; and reestablishing appropriate vegetative screening.
Frost Avenue station	Bruce Vento Regional Trail; nearby commercial properties	Moderate: Some change from existing visual context. As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁴⁸ station design, landscaping, screening and lighting will be implemented with consideration of the surrounding context.

⁴⁸ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

⁴⁹ State Historic Preservation Office inventory number XX-RRD-NPR001

Project Element	Impacted Area/Resource	Visual Contrast
Grade-separated crossing at Gateway State Trail	Bruce Vento Regional Trail; Gateway State Trail	Moderate: Some change from existing visual context. As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁵⁰ landscaping at grade-separated crossings will be designed to allow for visibility and access. The design of grade-separated crossings will be established through a visual quality inventory and design process.
Grade-separated trail crossing at Weaver Elementary School	Bruce Vento Regional Trail; existing trail access to Weaver Elementary School	Moderate: Some change from existing visual context. As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁵⁰ landscaping at grade-separated crossings will be designed to allow for visibility and access. The design of grade-separated crossings will be established through a visual quality inventory and design process.
Grade-separated trail crossing at Weaver Elementary School, dedicated guideway, trail reconstruction, retaining walls, stormwater treatment	Madeline L. Weaver Elementary School. ⁵¹	Moderate: Some change from existing visual context. As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁵⁰ landscaping at grade-separated crossings will be designed to allow for visibility and access. The design of grade-separated crossings will be established through a visual quality inventory and design process.
Dedicated guideway bridge over Highway 36	Bruce Vento Regional Trail; Highway 36	Low: Consistent with current visual context (freeway with other existing crossings)
Highway 36 station with park-and-ride (part of the Build Alternative)	Bruce Vento Regional Trail; Harvest Park; Minnesota Department of Transportation and nearby commercial properties	Moderate: Some change from existing visual context (open park field). The new park-and-ride would be a structure with approximately 300 spaces. As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁵⁰ station design, landscaping, screening and lighting will be implemented with consideration of the surrounding context.

⁵⁰ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

⁵¹ State Historic Preservation Office inventory number RA-MWC-0106

Project Element	Impacted Area/Resource	Visual Contrast
Highway 36 station without park-and-ride (part of the Build Alternative option without the Highway 36 park-and-ride)	Bruce Vento Regional Trail; Harvest Park; Minnesota Department of Transportation and nearby commercial properties	Low: Some change from existing visual context (open park field). Station platforms and a passenger pick-up and drop-off area would be constructed within existing right-of-way, with minimal visual changes to Harvest Park. Visual impacts to Harvest Park would be mitigated by station area landscaping as specified in the <i>Ramsey County Rail Right-of-Way Design Guide</i> . ⁵²
Grade-separated trail crossing between Fitch Road and Barclay Street	Bruce Vento Regional Trail; existing trail access between Fitch Road and Barclay Street (north of County Road C)	Moderate: Some change from existing visual context. As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁵² landscaping at grade-separated crossings will be designed to allow for visibility and access. The design of grade-separated crossings will be established through a visual quality inventory and design process.
Dedicated guideway along Beam Avenue	Nearby commercial properties	Low: Consistent with current visual context (multi-lane roadway; existing transit service)
Maplewood Mall Transit Center	Maplewood Mall Transit Center; Maplewood Mall	Low: Consistent with current visual context (transit station)
St. John's Boulevard station	St. John's Hospital	Low: Consistent with current visual context (multi-lane roadway)

Table 12: Operating Phase Visual Impacts in White Bear Township

Project Element	Impacted Area/Resource	Visual Contrast
Buerkle Road station (southbound platform)	Bruce Vento Regional Trail; nearby commercial properties	Low: Minimal change from existing visual context (open space and commercial/ industrial area). As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁵² station design, landscaping, screening and lighting will be implemented with consideration of the surrounding context.

⁵² Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

Table 13: Operating Phase Visual Impacts in Vadnais Heights

Project Element	Impacted Area/Resource	Visual Contrast
Dedicated guideway bridge over I-694 adjacent to the Bruce Vento Regional Trail	Bruce Vento Regional Trail; I-694	Low: Consistent with existing visual context (freeway with other existing crossings)
Buerkle Road station (northbound platform)	Bruce Vento Regional Trail; nearby commercial properties	Low: Minimal change from existing visual context (open space and commercial/ industrial area). As noted in the <i>Ramsey County Rail Right-of-Way Design Guide</i> , ⁵³ station design, landscaping, screening and lighting will be implemented with consideration of the surrounding context.
Dedicated guideway along Buerkle Road	Buerkle Hyundai; nearby commercial properties	Low: Consistent with existing visual context (multi-lane roadway)
Dedicated guideway along Highway 61	TCO Sports Garden; nearby commercial properties	Low: Consistent with existing visual context (multi-lane roadway)
County Road E station	TCO Sports Garden; nearby commercial properties	Low: Consistent with existing visual context (multi-lane roadway)

Table 14: Operating Phase Visual Impacts in Gem Lake

Project Element	Impacted Area/Resource	Visual Contrast
Dedicated guideway along Highway 61	Nearby commercial properties	Low: Consistent with existing visual context (multi-lane roadway)

Table 15: Operating Phase Visual Impacts in White Bear Lake

Project Element	Impacted Area/Resource	Visual Contrast
Buerkle Road station; Whitaker Street station; stormwater treatment south of Buerkle Avenue, near Highway 61 bridge, and north of Goose Lake	Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment ⁵⁴	Moderate: Some change from existing visual context (multi-lane roadway right-of-way)
Dedicated guideway along Highway 61	Nearby commercial properties	Low: Consistent with existing visual context (multi-lane roadway)
Cedar Avenue station	Nearby commercial properties	Low: Consistent with existing visual context (multi-lane roadway)

⁵³ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

⁵⁴ State Historic Preservation Office inventory number XX-RRD-NPR001

Project Element	Impacted Area/Resource	Visual Contrast
Whitaker Street station	Nearby commercial properties; existing rail corridor	Low: Consistent with existing visual context (multi-lane roadway)
Downtown White Bear Lake station	Nearby commercial and residential properties	Low: Consistent with existing visual context (off-street parking for businesses); nearby residential properties are well-screened by vegetation on private property

Design and construction best practices will be used to avoid, minimize and mitigate impacts of the project on neighboring properties and communities, including visual impacts. Table 16 includes a list of key project elements for which visual impacts have already been considered as part of the project definition or concept design phases, as well as project elements that will be included in future master planning projects for further public engagement and refinement.

Table 16: Specific Project Elements Where Visual Mitigation Has Been Incorporated Into Design

Project Element	Impacted Area/Resource	Mitigation Incorporated Into Design
10 th Street station	Nearby commercial properties; Pedro Park	Based on public engagement feedback from nearby residents, businesses and community organizations, an alternative location was selected for the southbound platform at 10 th Street. The proposed platform location would avoid visual impacts to Pedro Park.
Dedicated guideway bridge at Johnson Parkway	Realife Cooperative of Phalen Village	Public engagement was conducted with residents regarding the bridge dimensions, placement and materials. Based on feedback, the bridge was changed from a single span to a more visually open three-span design. Because Johnson Parkway is a historic property, ⁵⁵ design considerations will also be discussed in continuing consulting party meetings. Design of the bridge will be reviewed in accordance with Secretary of Interior Standards.

⁵⁵ State Historic Preservation Office inventory number RA-SPC-8497 and RA-SPC-5685

Project Element	Impacted Area/Resource	Mitigation Incorporated Into Design
Dedicated guideway in Ramsey County rail right-of-way (Saint Paul, Maplewood and Vadnais Heights)	Bruce Vento Regional Trail; Phalen Regional Park; nearby residential properties	Specific outreach to users of the Bruce Vento Regional Trail and residents of adjacent neighborhoods was conducted as part of the <i>Ramsey County Rail Right-of-Way Design Guide</i> process. As noted in the design guide, ⁵⁶ the Bruce Vento Regional Trail would be reconstructed as a 12-foot multi-use path. To the extent feasible, design and construction of the Rush Line BRT Project will seek to preserve existing vegetation and character, with specific attention given to specimen trees and areas of dense understory. Following construction, the disturbed right-of-way would be re-planted to reduce runoff, control erosion and reestablish wildlife habitat. At significant trail crossings, including at Weaver Elementary School and the Gateway State Trail, the dedicated guideway would be grade-separated to enhance safety and comfort in crossing the guideway.
Downtown White Bear Lake station	Nearby commercial and residential properties	Additional public engagement and design work was conducted to refine station location and configuration to minimize property impacts. ⁵⁷

Additional information on the analysis completed related to visual resources is included in the *Visual Resources Memorandum* in Appendix F.

3.2.10. Cultural Resources

Because federal funding from the Federal Transit Administration will be pursued for the Rush Line BRT Project, the project is considered a federal undertaking and must comply with Section 106 of the National Historic Preservation Act of 1966 (Section 106) (54 USC Section § 306108) and its implementing regulations (36 CFR Part 800).

Pursuant to 36 CFR Part 800, the Federal Transit Administration, as the lead federal agency for the proposed project, has authority to initiate the Section 106 process, designate consulting parties and make associated determinations regarding the area of potential effect, National Register of Historic Places eligibility and effects to historic resources within the area of potential effect. The Federal Transit Administration also has authority to negotiate terms and conditions of any Memorandum of Agreement resulting from the identification of adverse effects through Section 106 consultation.

⁵⁶ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

⁵⁷ A summary of input received on the Downtown White Bear Lake station location is available at <https://www.ramseycounty.us/sites/default/files/Projects%20and%20Initiatives/2019%2002%2021%20White%20Bear%20Lake%20Station%20Input%20Summary.pdf>.

Pursuant to 36 CFR § 800.2(a)(3), Ramsey County and the Minnesota Department of Transportation Cultural Resources Unit have been authorized to prepare Section 106 documentation, analyses and recommendations to inform the Federal Transit Administration determinations. Ramsey County and the Minnesota Department of Transportation Cultural Resources Unit are also authorized to consult directly with the State Historic Preservation Office on technical matters related to Section 106 documentation and analysis as well as to disseminate information to, and coordinate and schedule meetings with, consulting parties in coordination with the Federal Transit Administration.

The Federal Transit Administration, in consultation with the State Historic Preservation Office, defined two areas of potential effect in 2019: one for architecture/history properties and one for archaeological properties. Resources within the areas of potential effect were surveyed to identify and evaluate historic properties to determine their eligibility for the National Register of Historic Places.

The Phase I Survey, completed between June 2018 and December 2019, identified 784 architectural properties constructed prior to 1979 in the area of potential effect, 75 of which were previously surveyed and resurveyed as a result of this project. A total of 25 properties and six districts were identified for Phase II evaluation. Six of the Phase II properties were previously listed or identified as eligible for the National Register of Historic Places, and updated Phase II evaluations were prepared to confirm the previous status.

As a result of the Phase II evaluations, 9 properties were recommended as eligible for listing in the National Register of Historic Places:

- Produce Exchange Building.
- Westminster Junction.
- Phalen Park.
- Madeline L. Weaver Elementary School.
- Moose Lodge 963.
- Polar Chevrolet Bear.
- Saint Paul, Stillwater & Taylors Falls/Chicago, Saint Paul, Minneapolis & Omaha Railroad Corridor Historic District.
- Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment.
- Lake Superior & Mississippi Railroad Corridor Historic District: White Bear Lake to Hugo Segment.

In addition, the Theodore Hamm Brewing Company Complex remains eligible for the National Register of Historic Places with no proposed boundary changes. Information for the 3M Main Plant Historic District was updated due to demolition of several contributing resources but remains eligible for the National Register of Historic Places.

Archaeology resources recommended as eligible in the area of potential effect include three remnants of the 1868 Alignment of the Lake Superior & Mississippi Railroad,⁵⁸ which are contributing elements to the overall Lake Superior & Mississippi Railroad Corridor Historic District. Another archaeology resource, Gladstone Shops, is being treated as eligible.⁵⁹ No additional archaeological work is recommended for the rest of the project as designed to date. However, any future changes to the

⁵⁸ State Historic Preservation Office inventory number XX-RRD-NPR002, XX-RRDNPR003 and XX-RRD-NPR004

⁵⁹ State Historic Preservation Office inventory number Site 21RA70

project should be reviewed against survey recommendations to determine if additional survey may be warranted.

The Federal Transit Administration has determined that the project would have an adverse effect on five historic properties: the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment,⁶⁰ the Lake Superior & Mississippi Railroad Corridor Historic District: White Bear Lake to Hugo Segment,⁶¹ and the three remnants of the 1868 Alignment of the Lake Superior & Mississippi Railroad.

The proposed construction of the dedicated guideway, BRT stations, bridges, park-and-rides, stormwater management facilities and other project elements would have a permanent physical effect on the integrity of location (horizontal and vertical alignment), design and materials of the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment and, therefore, would also impact the segment's integrity of feeling and association.

It might be possible to design the project to avoid physical effects to two segments of the 1868 Alignment of the Lake Superior & Mississippi Railroad (between County Road C and Gervais Avenue and between Kohlman and Beam Avenues). However, construction of the grade-separated crossing of the dedicated guideway and trail access between English Street and Weaver Elementary School would likely physically impact the third segment between Eldridge Avenue East and County Road B East.

Construction of the project would not physically affect the White Bear Lake to Hugo Segment or diminish the segment's integrity of location, design, materials or workmanship. However, the substantial physical effects to the Saint Paul to White Bear Lake Segment (i.e., the terminal segment of the Lake Superior & Mississippi Railroad Corridor Historic District) could render the historic district no longer eligible for inclusion in the National Register of Historic Places and, therefore, also diminish integrity of association for the White Bear Lake to Hugo Segment.

Resolution of the adverse effects to the resources associated with the Lake Superior & Mississippi Railroad will be most effectively accomplished through continued consultation under Section 106 of the National Historic Preservation Act. Specific actions to address adverse effects are in the draft Memorandum of Agreement included in Appendix C. The Memorandum of Agreement will be finalized following public comment and the results of coordination with the State Historic Preservation Office and other Section 106 consulting parties.

Additional information on the cultural resources evaluation is included in the following reports in Appendix E:

- *Phase IA Literature Review, Phase I/II Archaeological Investigations of 21RA82 for the Rush Line BRT Project, Ramsey County, Minnesota.*
- *Phase II Evaluation, Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment.*
- *Phase I Architecture/History Survey and Phase II Evaluation for the Rush Line Bus Rapid Transit Project Ramsey County, Minnesota.*
- *Rush Line Bus Rapid Transit Project Section 106 Assessment of Effects and Determination of Effect for Historic Properties.*

⁶⁰ State Historic Preservation Office inventory number XX-RRD-NPR001

⁶¹ State Historic Preservation Office inventory number XX-RRD-NPR005

3.2.11. Environmental Justice

Executive Order 12898: *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (1994) serves as the basis for the implementation of environmental justice strategies in all federal agencies within the executive branch. Each agency is required to identify and address “disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations⁶² and low-income populations,”⁶³ and to include environmental justice analysis in the National Environmental Policy Act process. The study area for this environmental justice analysis includes all census block groups that intersect or lie completely within one-half mile of the proposed Rush Line BRT Project route.

With minority populations making up 51.5 percent of the total population of the study area, the study area has a higher percentage of minority residents than any municipality in the project area, in addition to Ramsey County (37.6 percent), the Twin Cities metropolitan area (23.9 percent) and the state of Minnesota (19.7 percent). The portions of the study area with the highest percentage of minority residents are primarily located in Saint Paul within downtown and along the Phalen Boulevard section of the proposed route.

With 19.8 percent of residents in the study area identified as low-income individuals, the study area has a higher percentage of low-income individuals than any municipality served except Saint Paul (19.9 percent), as well as a higher percentage than Ramsey County (14.7 percent), the Twin Cities metropolitan area (9.0 percent) and the state of Minnesota (10.1 percent). The downtown and north central neighborhoods of Saint Paul have the highest proportion of low-income individuals in the study area, with the poverty rate in certain block groups exceeding 50 percent.

The Rush Line BRT Project would benefit minority and low-income populations by improving the availability of safe, reliable and efficient transportation options. The proposed project would provide better access to employment, healthcare, shopping, parks and recreational amenities and better connections to other elements of the regional transit network, including local bus routes, the METRO Green Line, the proposed METRO Gold Line and other proposed transitways.

During the operating phase, Rush Line BRT would create jobs and additional earnings as a result of operations and maintenance expenditures. The improved transit accessibility and travel times would enable residents to travel more quickly and easily without a car. Reducing the amount that local residents need to spend solely on owning and maintaining a vehicle can encourage household spending on other items, improve the ability of older residents to age in place, and enhance the long-term economic resilience of the community. Improved transit access would also allow some individuals to access employment opportunities (and for businesses to access potential employees) that were previously inaccessible, delivering sustained economic benefits as these workers play a role in the regional economy.

Station area planning conducted by Ramsey County has identified sites that could potentially be used for transit-oriented development. Station area planning will be further advanced through the project’s recently awarded Federal Transit Administration Transit-Oriented Development Planning Grant, which will support, among other activities, the development of policies that support the creation and preservation of affordable housing within the Rush Line BRT study area. Additionally, the Rush Line

⁶² Minority populations are identified in census block groups based on the percentage of the population that self-identifies as a racial or ethnic minority (American Indian/Alaska Native, Asian, Black or African American, Hispanic or Latino, and/or Native Hawaiian/Pacific Islander).

⁶³ Low-income populations are identified in census block groups based on the percentage of the population below the US Census Bureau’s 2018 poverty thresholds, which vary by household size, number of children and age of householder.

BRT Project includes improvements to nearby bicycle and pedestrian networks that would enhance residents' ability to safely navigate their neighborhoods, potentially improving the viability of local retail activity and improving property values.

A multi-step process was used to identify the potential for disproportionately high and adverse effects on minority and low-income populations. First, technical reports (included in Appendix E and Appendix F) were reviewed to identify the categories where the project would have impacts. Impact categories with the potential for localized impacts, rather than impacts that would be experienced by everyone living in the study area, were then identified (e.g., traffic, parking, land acquisitions and relocations). The categories with potential localized effects were then analyzed to determine whether the impacts were disproportionately high and adverse on minority or low-income populations. The following categories with potential operating phase effects were analyzed for potential environmental justice impacts (the EA section where the potential operating phase effects are described is noted in parentheses):

- Parking, driveways and loading zones (see Section 3.2.5).
- Neighborhoods and community resources (see Section 3.2.6).
- Land acquisitions and relocations (see Section 3.2.7).
- Economics (see Section 3.2.8).
- Visual resources (see Section 3.2.9).
- Cultural resources (see Section 3.2.10).

No disproportionately high and adverse effects on minority and low-income populations in any municipality in the study area were identified. A summary of the findings from the environmental justice analysis is included below for each of the resource areas listed above. Additional information is available in the *Environmental Justice Technical Report* (see Appendix E).

PARKING, DRIVEWAYS AND LOADING ZONES

Parking impacts in downtown Saint Paul occur in census block groups with low-income and/or minority populations higher than average for the study area. These impacts are not expected to result in adverse effects for area residents or businesses. Nearby on-street and off-street parking is available, and the moderate net loss of parking along Robert Street is not expected to negatively impact minority and low-income populations or the general public.

During the project's environmental analysis phase, project staff arranged stakeholder meetings and drop-in discussions with businesses along the route and near proposed station locations. In downtown Saint Paul, staff conducted stakeholder meetings with the businesses and residential properties located proximate to proposed stations, as well as drop-in discussions with businesses along the affected sections of Robert Street. Particular care was taken to meet with stakeholders at properties that are minority-owned or that serve primarily minority or low-income populations. Additionally, project staff met with businesses throughout the corridor that would experience a reduction in parking.

Based on these factors, no disproportionately high and adverse effects on minority and low-income populations are anticipated for the project's effects on parking, driveways and loading zones.

NEIGHBORHOODS AND COMMUNITY RESOURCES

Impacts to the Bruce Vento Regional Trail in Saint Paul and Maplewood are located in census block groups with minority populations of 15 to 76 percent and low-income populations of 3 percent to 21 percent. Since trail impacts would not be localized and would be mitigated by landscaping and design

improvements as specified in the *Ramsey County Rail Right-of-Way Design Guide*,⁶⁴ no disproportionately high and adverse effects on minority and low-income populations are expected.

LAND ACQUISITIONS AND RELOCATIONS

The partial acquisitions required for the project are distributed throughout the study area. Despite the fact that the largest number of parcels to be acquired are located in the city of Saint Paul, the majority of acquisitions in the study area are located in census block groups with lower proportions of minority and low-income populations than average for the study area.

During the project's environmental analysis phase, project staff contacted all businesses that would be impacted by partial land acquisitions. Project staff met with businesses that were interested in talking with project staff, which was the majority of these businesses and included all of the businesses along Phalen Boulevard and in downtown White Bear Lake that would be impacted by a reduction in parking. The Metropolitan Center for Independent Living, which is located adjacent to the 10th Street station in Saint Paul and serves individuals with disabilities, was engaged during the environmental assessment phase to discuss potential impacts to its property and associated mitigation. While initial plans would have resulted in a reduction in vehicular access points and in the number of parking spaces at the Metropolitan Center for Independent Living site, the proposed project design has been refined to avoid these impacts. Moreover, Metropolitan Center for Independent Living staff recognize that the Rush Line BRT Project would provide increased transit access to its location, which could benefit the populations that the organization serves.

Owners would be paid just compensation for property acquired for the project consistent with Minnesota Statutes, chapter 117, and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Public Law 91-646; 49 CFR Part 24).

After consideration of mitigation, as well as the distribution of parcel acquisitions throughout the study area, the Rush Line BRT Project would not result in a disproportionately high and adverse effect on minority and low-income populations.

ECONOMICS

As noted in the Parking, Driveways and Loading Zones section, the loss of parking along Robert Street due to the Rush Line BRT is not expected to result in negative impacts on nearby businesses due to the availability of parking on nearby streets and in nearby off-street parking structures. Additionally, improved transit access and increases in ridership compared to current conditions could bring additional customers to businesses in downtown Saint Paul.

While partial acquisitions of commercial properties would be required, it is not anticipated that the acquisitions would result in the displacement of a business. Owners would be paid just compensation for property acquired for the project consistent with Minnesota Statutes, chapter 117, and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Public Law 91-646; 49 CFR Part 24).

Based on the availability of parking and access alternatives for affected commercial properties, as well as the just compensation of all commercial property owners in the event of partial acquisitions, no long-term adverse effects on commercial businesses are anticipated as part of the Rush Line BRT Project, and therefore no disproportionately high and adverse impacts on minority and low-income populations are expected to occur.

⁶⁴ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

VISUAL RESOURCES

Three project elements would create a high visual contrast with the existing surroundings: the dedicated guideway bridge over Johnson Parkway in Saint Paul, the portion of the Ramsey County rail right-of-way north of Johnson Parkway in Saint Paul and the portion of the Ramsey County Rail right-of-way between Larpenteur Avenue and Beam Avenue in Maplewood. These project elements are located in census block groups with low-income and/or minority populations higher than average for the study area. Mitigation for these elements has been explored and incorporated into the project design.

Project elements (guideway, stations and adjacent pedestrian and bicycle facilities), as well as proposed mitigation for elements of high visual contrast, are similar across areas with both high and low proportions of minority and low-income populations. No disproportionately high and adverse effects on minority or low-income populations are anticipated.

CULTURAL RESOURCES

The project would have an adverse effect on the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment, the Lake Superior & Mississippi Railroad Corridor Historic District: White Bear Lake to Hugo Segment and three segments of the 1868 Alignment of the Lake Superior & Mississippi Railroad. The project would physically affect the Saint Paul to White Bear Lake Segment and the 1868 Alignment of the Lake Superior & Mississippi Railroad.

In addition to the *Ramsey County Rail Right-of-Way Design Guide*,⁶⁵ additional measures to minimize and/or mitigate effects to the Lake Superior & Mississippi Railroad Corridor Historic District are being developed through coordination with Section 106 consulting parties. These measures are documented in a draft Memorandum of Agreement found in Appendix C.

Project elements (dedicated guideway, stations and adjacent pedestrian and bicycle facilities) and proposed minimization or mitigation of potential adverse effects to the historic district segments are similar across areas with both high and low proportions of minority and low-income populations. No disproportionately high and adverse effects on minority or low-income populations are anticipated.

3.2.12. Utilities

The Build Alternative is anticipated to result in long-term impacts to existing underground and overhead utilities throughout the potential area of disturbance. As engineering advances, utilities will be evaluated on a case-by-case basis to determine if they must be adjusted to accommodate construction of the project. If elements of the project conflict with existing utility lines, utility owners may need to modify, relocate or reconstruct the utilities. Coordination would occur with each utility owner regarding impacts to existing facilities as engineering advances.

The project would avoid and/or minimize potential long-term impacts on the maintenance of buried oil pipelines near Hazelwood Street and County Road D and to gas pipelines near the Bruce Vento Regional Trail and Belmont Lane through coordination with pipeline owners and advancement of design. Project improvements in these areas include dedicated guideway and other project-related infrastructure. Where impacts cannot be avoided, coordination would continue with the utility owner to mitigate these impacts.

⁶⁵ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

The project could impact active Metropolitan Council Environmental Services interceptor sewer lines near Phalen Boulevard and Johnson Parkway; McAfee Street at Larpenteur Avenue; near Bruce Vento Regional Trail at Buerkle Road; along portions of Highway 61 between Buerkle Road and County Road E; and near the Whitaker Street station along Highway 61 north of White Bear Avenue. Moreover, the project could impact an active city of Maplewood sanitary sewer force main located parallel to the Bruce Vento Regional Trail south of Beam Avenue. The project would avoid and/or minimize any potential impacts as engineering advances.

Electrical lines by the proposed dedicated guideway bridges over Highway 36 and I-694 would need to be relocated. The retaining walls for the proposed bridge over I-694 may require relocation of the Minnesota Department of Transportation's Regional Transportation Management Center Network. Impacts to the high voltage electrical line running between the proposed bridge over I-694 and the existing Bruce Vento Regional Trail bridge are not anticipated.

Proposed station platforms would require connections to electrical power and a communication network to provide lighting, real-time messaging systems, security cameras and fare collection.

The locations of existing utilities in the project area will be confirmed as engineering advances so that the design can be refined to best avoid utilities, where practicable. Where conflict is unavoidable, coordination with utility owners would identify project-related impacts and potential mitigation measures such as utility modification, relocation or replacement.

Additional information on the analysis completed related to utilities is included in the *Utilities Memorandum* in Appendix F.

3.2.13. Surface Waters

This section summarizes long-term impacts to floodplains and aquatic resources, including impacts that would occur during the construction phase but would be permanent. A floodplain impact is an encroachment⁶⁶ within a Federal Emergency Management Agency 100-year floodplain boundary, resulting in a compensatory floodplain storage loss. Aquatic resources are defined as wetlands, waterbodies (lakes and ponds) and waterways (streams, rivers, public ditches and drainage ways). The study area for evaluating surface water impacts was defined as the area within one-fourth mile of the potential area of disturbance for the Build Alternative, which captures surface waters that could potentially be affected by the project. Surface waters within the study area are shown on Figure 8 through Figure 11.

⁶⁶ Significant encroachment is defined per US Department of Transportation Order 5650.2: Floodplain Management and Protection (April 23, 1979) as an encroachment resulting in one or more of the following construction or flood-related impacts: a considerable probability of loss of human life; likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service on or loss of a vital transportation facility; or a notable adverse impact on "natural and beneficial floodplain values."

Figure 8: Surface Waters Within the Study Area from Union Depot to Arcade Street

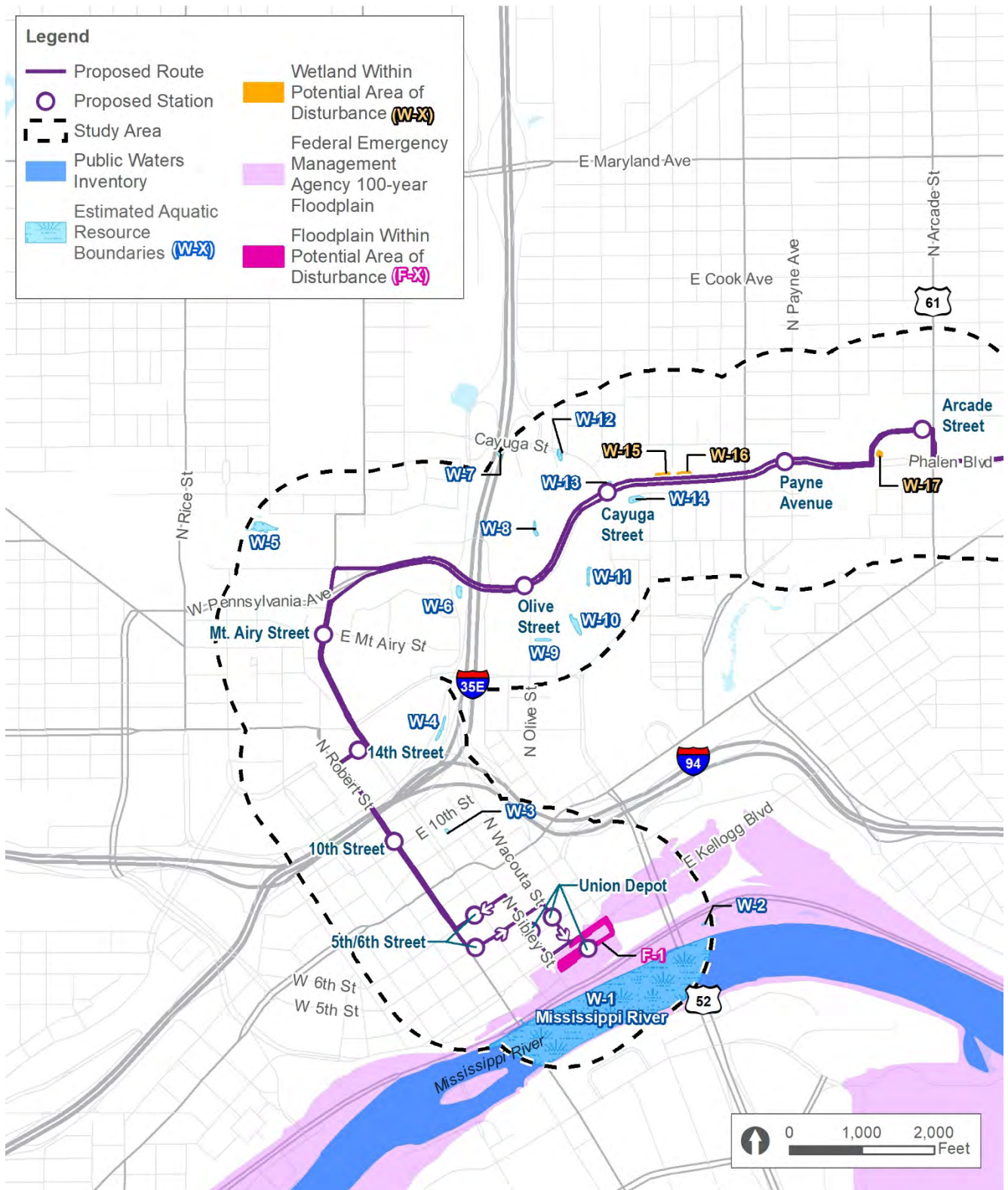


Figure 9: Surface Waters Within the Study Area from Arcade Street to County Road B

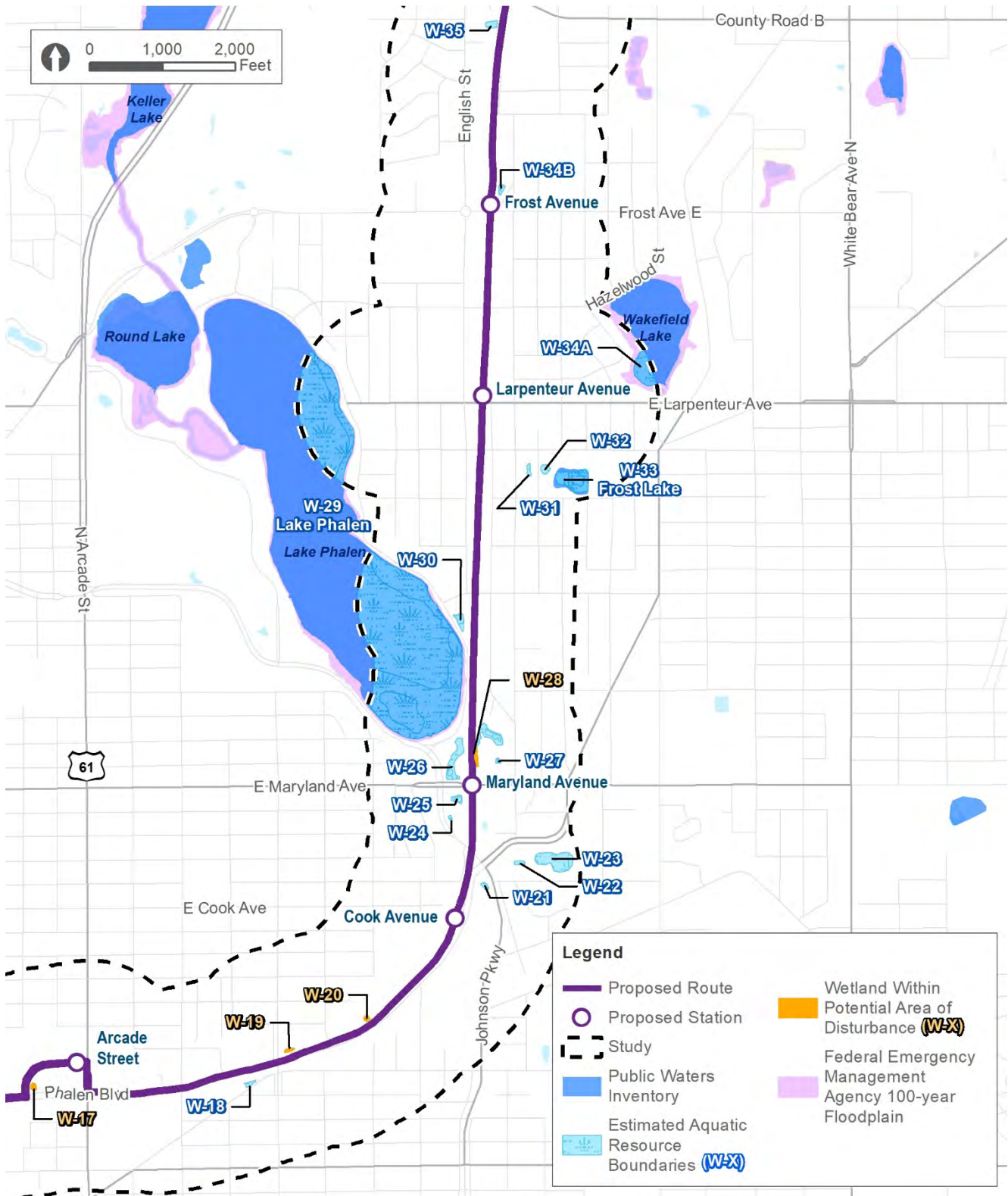


Figure 10: Surface Waters Within the Study Area from County Road B to County Road E

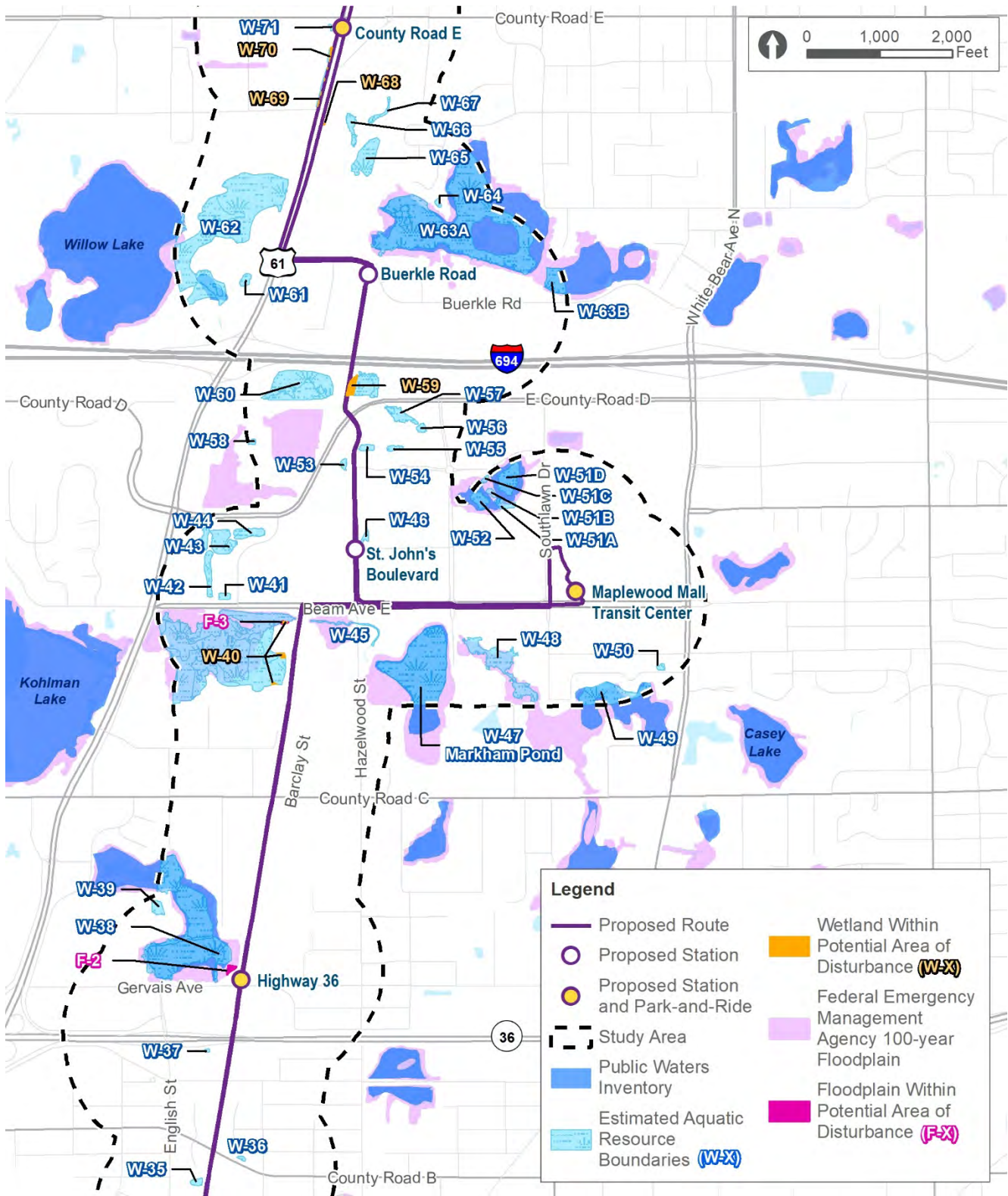
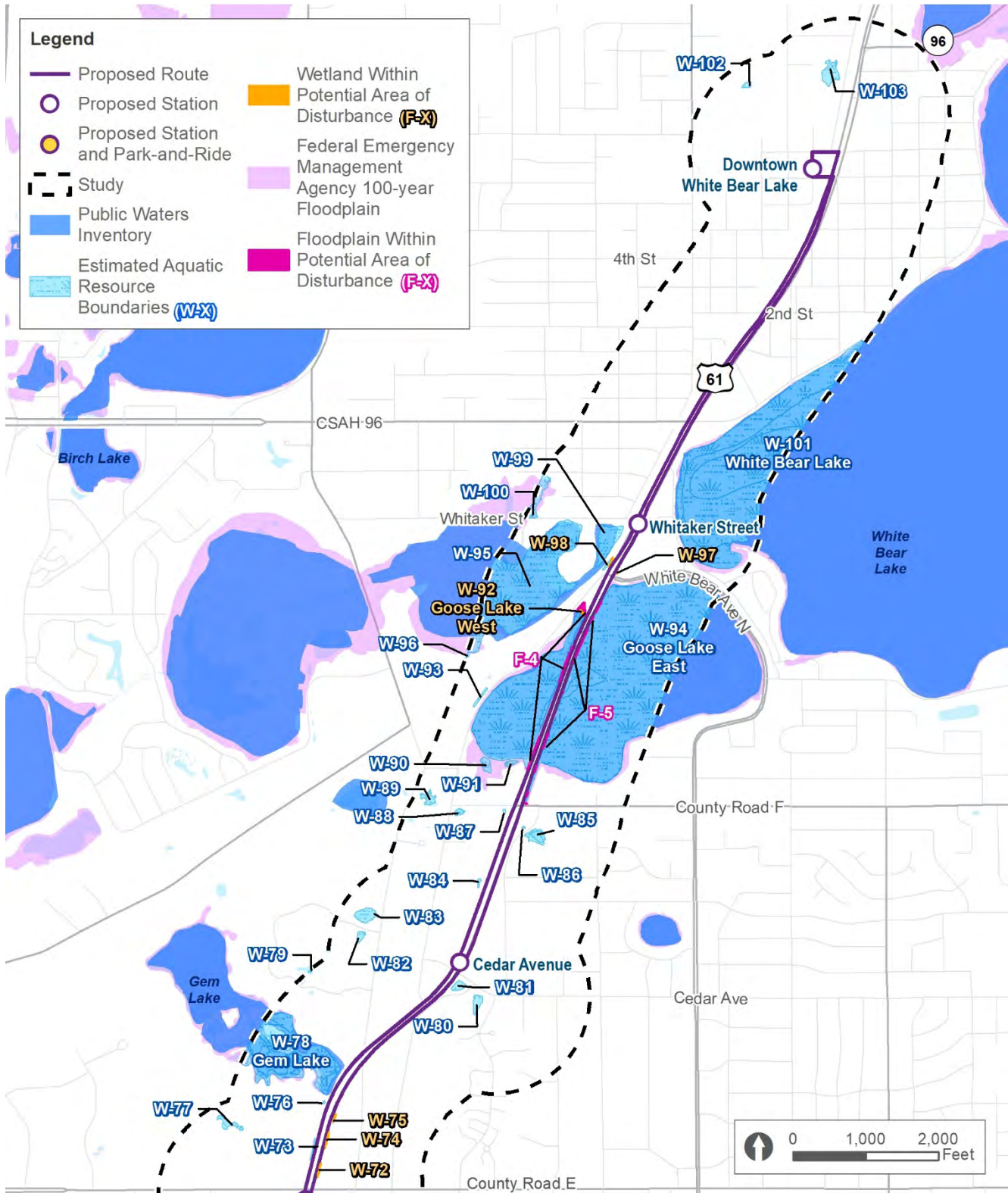


Figure 11: Surface Waters Within the Study Area from County Road E to Downtown White Bear Lake



The potential area of disturbance includes five floodplains, which are associated with the Mississippi River, Goose Lake (east and west), and unnamed wetlands W-38 and W-40 (see Figure 8 through Figure 11). No impacts are anticipated to the Mississippi River because this portion of the potential area of disturbance follows existing roadways in mixed traffic. All other floodplain impacts would be due to the potential location of stormwater management features or modifications to existing roadway. As engineering advances, efforts to avoid floodplain impacts will be incorporated, which will involve modeling the project to determine established flood elevations and refinement of project elements like stormwater management features. If, after final design is completed, the project results in fill within identified floodplains, an analysis of the corresponding change in base flood elevation would be completed to determine if the fill results in adverse impacts that require additional mitigation. If mitigation is required, compensatory storage at a 1:1 replacement ratio within the same floodplain reach would be provided. Any unavoidable impacts would be coordinated with cities and watershed districts.

There are 17 aquatic resources within the potential area of disturbance (see Figure 8 through Figure 11). The US Army Corps of Engineers reviewed the aquatic resources within the potential area of disturbance for jurisdiction under Section 404 of the Clean Water Act (33 USC Section § 1251, *et seq.*). In a letter dated February 11, 2021, the US Army Corps of Engineers determined that three of the 17 aquatic resources (W-40, W-92 and W-98) are jurisdictional (see correspondence in Appendix B). The project would impact 0.25 acres of jurisdictional wetlands⁶⁷ as summarized in Table 17.

Table 17: Impacts to Jurisdictional Wetlands Within the Potential Area of Disturbance

Aquatic Resource ID	Resource Type	Acres within the Potential Area of Disturbance
W-40	Wetland	0.16
W-92 (Goose Lake West)	Wetland	0.05
W-98	Wetland	0.04
TOTAL		0.25

The project is anticipated to qualify for a Section 404 Transportation Regional General Permit. In total, there are 0.04 acres of wetland within the potential area of disturbance that could be authorized under Category 3 of the permit, and 0.21 acres of wetland within the potential area of disturbance that could be authorized by Category 4 of the permit⁶⁸ (see Section 3.3.2 of the *Natural Resources Technical Report* in Appendix E for additional information).

The Minnesota Wetland Conservation Act (Minnesota Rules, chapter 8420) differs from federal wetland regulations (33 USC Section § 1251, *et seq.*). Of the 17 aquatic resources within the potential area of disturbance, 12 are constructed features (either roadside ditches or stormwater features) that are not anticipated to be regulated under the Minnesota Wetland Conservation Act. The project would impact 1.02 acres of five wetlands that are anticipated to be regulated (W-28, W-40, W-59, W-92 and W-98). Impacts to these wetlands are summarized in Table 18.

⁶⁷ Jurisdictional wetlands are those that are under the jurisdiction of the US Army Corps of Engineers under Section 404 of the Clean Water Act.

⁶⁸ New construction falls under Category 3 of the permit, which generally only authorizes the linear components of projects (i.e., new roads, trails or associated linear infrastructure). Non-linear impacts (e.g., stormwater best management practices) are authorized under Category 4.

Table 18: Impacts to Wetlands Within the Potential Area of Disturbance Anticipated to be Regulated Under the Minnesota Wetland Conservation Act

Aquatic Resource ID	Resource Type	Acres within the Potential Area of Disturbance
W-28	Wetland	0.22
W-40	Wetland	0.16
W-59	Wetland	0.55
W-92 (Goose Lake West)	Wetland	0.05
W-98	Wetland	0.04
TOTAL		1.02

In accordance with the Minnesota Wetland Conservation Act, approvals would be required for any impacts to wetlands within the regulatory boundaries of the city of Saint Paul, Ramsey-Washington Metro Watershed District, Minnesota Department of Transportation and Vadnais Lake Area Watershed Management Organization. Any impacts to aquatic resources on the Public Waters Inventory would require a public waters work permit from the Minnesota Department of Natural Resources. Other permits related to stormwater management, erosion control or stream crossings may be required (see Section 3.2.14 for information on water quality and stormwater).

Mitigation would vary based on the regulatory nature of the individual wetlands impacted. The Capitol Region Watershed District and Ramsey-Washington Metro Watershed District require all impacts to be replaced at a minimum of a 1:1 replacement ratio within the same sub-watershed. Any remaining mitigation could be provided through the purchase of wetland mitigation bank credits based on Minnesota Wetland Conservation Act Replacement Standards. The Wetland Conservation Act and the US Army Corps of Engineers' current replacement ratio for wetland credits in the project area is 2.5:1; however, under certain conditions, including providing replacement within the same watershed or in advance of construction, the ratio may be reduced to 2:1.⁶⁹ The final amount, type and location of wetland replacement or bank credits would be determined during the permit review process, which would occur during final design.

As noted above, all anticipated aquatic resource impacts are considered permanent at this stage of design. If construction activities require temporary aquatic resource impacts, the areas would be restored in accordance with the Section 404 Transportation Regional General Permit.

Additional information on surface waters is included in the *Natural Resources Technical Report* (see Appendix E).

3.2.14. Water Quality and Stormwater

The Build Alternative would include approximately 27 acres of new impervious surface and approximately 26 acres of reconstructed impervious surfaces including roadways, sidewalks, trails, parking facilities and station platforms and structures. The Build Alternative option without the Highway 36 park-and-ride would result in approximately 2 acres less of new impervious surface, for a total of 25 acres.

⁶⁹ More information regarding the US Army Corps of Engineers' wetland compensation policy can be found at <https://www.mvp.usace.army.mil/Portals/57/docs/regulatory/MN-Special/Final%20St.%20Paul%20District%20Policy%20for%20Wetland%20Compensatory%20Mitigation%20in%20MNs.pdf>.

To mitigate impacts that would result from the proposed new and reconstructed impervious surface, the project must meet the standards and requirements of and receive applicable approvals from the Capitol Region Watershed District, Ramsey-Washington Metro Watershed District, Vadnais Lake Area Water Management Organization and Rice Creek Watershed District (the requirements of each agency are discussed in the *Stormwater and Water Quality Technical Report* in Appendix E). The project would also be required to receive a National Pollutant Discharge Elimination System permit from the Minnesota Pollution Control Agency in accordance with the Clean Water Act (33 USC Section § 1251, *et seq.*), which would include measures to mitigate potential impacts to impaired waters (impaired waters are identified in Table 1 of the *Stormwater and Water Quality Technical Report* in Appendix E). However, the requirements of the local regulatory entities are more restrictive than the federal requirements, and the project would adhere to these more restrictive requirements. Generally, the project would be required to meet water quality volume requirements within each watershed.

Potential locations for stormwater management features were identified on a range of public and private parcels based on the following considerations:

- Locations within the Ramsey County rail right-of-way are preferred over locations outside the Ramsey County rail right-of-way. Stormwater management features along this portion of the route may consist of small scale or linear features in narrow portions of the right-of-way that remain outside the dedicated guideway or larger site type features where larger sections of right-of-way are available.
- Locations within other public right-of-way adjacent to the project are preferred over locations on privately owned parcels.
- For locations within Minnesota Department of Transportation right-of-way, the approach would be to use surface practices and to avoid the use of underground systems or tree trenches. Any proposed locations within Minnesota Department of Transportation right-of-way will be further discussed with the Minnesota Department of Transportation as engineering advances.
- Where construction impacts are limited to new stations in areas isolated from other new or reconstructed pavement areas, the use of small-scale stormwater management features specific to station needs is preferred.
- Surface stormwater management features such as infiltration, filtration, iron-enhanced filtration, vegetative swales and others are preferred over underground systems, in part because surface stormwater management features are generally easier to inspect and maintain.
- Lower Phalen Creek Project, a community organization based in East Saint Paul, completed a feasibility study to explore the potential to daylight portions of Phalen Creek from the outlet at Lake Phalen to the Mississippi River. Where runoff and stormwater management features from the Rush Line BRT Project may contribute flow to the proposed Phalen Creek daylighting system and/or where there is potential for a combined conveyance system, consideration of options will be coordinated with representatives of the Capitol Region Watershed District and Lower Phalen Creek Project. In late 2019, the Capitol Region Watershed District initiated a study intended to develop design recommendations for the areas of the creek daylighting project that are adjacent to the Rush Line BRT Project. Project staff have been, and will continue to be, involved in this study in a technical advisory capacity to ensure compatibility with the Rush Line BRT Project.

Ramsey County coordinated with each watershed district and other partner agencies to identify stormwater management feature opportunity sites outside the Ramsey County rail right-of-way. These locations were sorted into primary (highest priority) and secondary locations based on several factors ranging from physical challenges with elevations to properties that are no longer available due to recent development. Secondary locations are considered feasible locations that could be used if the primary location is ultimately not available or does not provide sufficient treatment capacity to meet the requirements for that portion of the project. Primary and secondary locations have been incorporated into the potential area of disturbance and are shown in Appendix A of the *Stormwater and Water Quality Technical Report* (see Appendix E).

At this preliminary phase, sizes and types of location-specific stormwater management features have not been quantified. The types, sizes and water quality volume credits associated with specific stormwater management feature types will be determined as engineering advances. Possible stormwater management features include, but are not limited to, the following:

- Bioretention basins/vegetated swales.
- Filtration/infiltration basins.
- Wet stormwater detention ponds.
- Dry stormwater detention basin.
- Pond retrofits.
- Enhanced filtration practices.
- Underground storage or filtration/infiltration.
- Tree trenches.
- Permeable pavements.
- Stormwater pollution-control devices.
- Stormwater harvesting and reuse.
- Creek channel creation.

As engineering advances, hydrologic modeling of the current and proposed conditions will assess the extent of rate control mitigation that the planned stormwater management features would provide and what measures, if any, would be needed beyond the rate attenuation that would be achieved.

Additional information on stormwater and water quality is included in the *Stormwater and Water Quality Technical Report* (see Appendix E).

3.2.15. Hazardous Materials

A Phase I Environmental Site Assessment was completed in 2019.⁷⁰ The purpose of the Phase I Environmental Site Assessment was to serve as a screening tool to identify, to the extent possible, existing sources of contamination (based on present or former uses) and contamination at locations that could impact construction of the project. Sites identified by the Phase I Environmental Site Assessment were classified into low, medium and high environmental risk levels (170 low potential, 161 medium potential and 144 high potential for contamination sites were identified within the study area).

⁷⁰ The Phase I Environmental Site Assessment was conducted in conformance with the United States Environmental Protection Agency's All Appropriate Inquiries Rule and American Society of Testing and Materials methodology 1527-13, as modified by the Minnesota Department of Transportation for transportation projects.

Table 19 summarizes the proposed acquisition of land that is contaminated or contains hazardous or regulated material based on the Phase I Environmental Site Assessment.

Table 19: Potential Acquisition of Sites with Contamination Risk

Site Ranking	Sites with Permanent Acquisition Only	Sites with Temporary Easements Only	Sites with Permanent Acquisition and Temporary Easements	Total
Low ⁷¹	2	5	5	12
Medium ⁷²	4	5	8	17
High ⁷³	2	5	12	19
Total	8	15	25	48

A Phase II Environmental Site Assessment was completed in 2020 to further identify potential for contamination in the study area. Debris, soil contamination or groundwater contamination was identified within 50 feet of 16 parcels with proposed permanent acquisitions or temporary easements.

The locations of soil borings where contamination has been identified are included in the Phase II Environmental Site Assessment in Appendix E and the *Hazardous Materials Memorandum* in Appendix F.

The Metropolitan Council, as the future lead agency, will be responsible for performing site mitigation to achieve acceptable environmental conditions. If necessary, the Metropolitan Council would enroll in the Minnesota Pollution Control Agency’s Brownfield Program, which includes the Voluntary Investigation and Cleanup Program and Petroleum Brownfields Program, to obtain assurances that contaminated site cleanup work and/or contaminated site acquisition would not associate the agency with long-term environmental liability for contamination and to obtain approvals for any contamination management and cleanup plans.

The project would not produce any hazardous or regulated materials during its operation, and as a result, no permanent storage tanks would be installed. The collection and disposal of oils, grease and other waste materials generated during vehicle maintenance and repair activities would be performed in accordance with recognized industry best management practices for bus maintenance facilities.

⁷¹ Low risk sites include sites that are hazardous waste generators, railroad lines, current lumber yards, golf courses, commercial properties and possibly some farmsteads or residences where the site reconnaissance showed poor housekeeping.

⁷² Medium risk sites include sites with closed leaking underground or aboveground storage tanks, closed spill sites, all sites with underground or aboveground storage tanks, machine shops, all sites with historic or current vehicle and/or auto body repair activities and petroleum use or storage, all bulk grain/feed storage sites, all historical lumber yards, all closed agricultural release sites and graveyards.

⁷³ High risk sites include all active and inactive Voluntary Investigation and Cleanup Program sites, all active and inactive Minnesota Environmental Response and Liability Act/Superfund sites, all Resource Conservation and Recovery Act sites, all active and inactive dumpsites, all active leaking underground or aboveground storage tank sites, all dry cleaners (with on-site or unknown chemical processing), all bulk chemical/petroleum facilities, all active agricultural release sites, railroad facilities (fueling, yards or maintenance), clandestine chemical/drug laboratories and all historic industrial sites with likely chemical use on the premises.

Additional information on the analysis completed related to hazardous materials is included in the *Hazardous Materials Memorandum* in Appendix F. The Phase I and Phase II Environmental Site Assessments are included in Appendix E.

3.2.16. Protected Species and Wildlife Habitat

Section 7 of the Endangered Species Act of 1973 (16 USC Section § 1531-1544)⁷⁴ requires that all federal agencies consider and avoid, if possible, adverse impacts to federally-listed threatened or endangered species or their critical habitats that may result from their direct, regulatory or funding actions. Federally-listed species in Ramsey County are identified in Table 20.

Table 20: Federally-Listed Species in Ramsey County

Group	Scientific Name	Common Name	Status	Habitat
Mammals	<i>Myotis septentrionalis</i>	Northern long-eared bat	Threatened	<ul style="list-style-type: none"> • Hibernates in caves and mines, swarming in surrounding wooded areas in autumn. • Roosts and forages in upland forests during spring and summer.
Insects	<i>Bombus affinis</i>	Rusty patched bumble bee	Endangered	<ul style="list-style-type: none"> • Grasslands with flowering plants from April through October. • Underground and abandoned rodent cavities or clumps of grasses aboveground as nesting sites. • Undisturbed soil for hibernating queens to overwinter.
Clams	<i>Epioblasma triquetra</i>	Snuffbox	Endangered	Mississippi River
Clams	<i>Lampsilis higginsii</i>	Higgins eye pearlymussel	Endangered	Mississippi River
Clams	<i>Quadrula fragosa</i>	Winged mapleleaf	Endangered	St. Croix River. ⁷⁵

⁷⁴ Available at <http://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title16-section1531&num=0&edition=prelim>.

⁷⁵ The winged mapleleaf is included on the list of federally-listed species in Ramsey County; however, the St. Croix River is not located within Ramsey County.

The US Fish and Wildlife Service concurred with the Federal Transit Administration's determination of the following (see correspondence with the US Fish and Wildlife Service in Appendix B):

- The project would have no adverse impacts to the northern long-eared bat. The project is not located within one-fourth mile of known hibernacula⁷⁶ and tree clearing would only occur during the winter (defined as November 1 to March 31).
- The project may affect, but is not likely to adversely affect, the rusty-patched bumble bee.
 - A total of 7.3 acres of grassland habitat within the potential area of disturbance intersect high potential zones for the rusty patched bumble bee, specifically from Cayuga Street in Saint Paul to County Road B in Maplewood and from Cedar Avenue to Goose Lake in White Bear Lake. Since the project falls within the high potential zone for the rusty patched bumble bee, there is potential for the species to be present within the project vicinity; however, according to the US Fish and Wildlife Service, the project area is unlikely to contain high value floral resources and would be considered sub-optimal habitat (see correspondence with the US Fish and Wildlife Service in Appendix B).
 - The initial disturbance of potential habitat areas within the high potential zones would be limited to timeframes outside of the active season for the rusty patched bumble bee (April to October) and disturbed areas would be reseeded with pollinator-friendly native seed mixes that would benefit the species.
- The project would have no adverse impacts to the snuffbox mussel, the Higgins eye pearlymussel or the winged mapleleaf mussel since the project would not disturb the Mississippi River or its tributaries.

In December 2020, the US Fish and Wildlife Service determined that the monarch butterfly is a candidate species for listing as endangered or threatened under the Endangered Species Act. The US Fish and Wildlife Service will continue reviewing its status each year until a listing decision is made. Monarch butterfly prefer grassland habitats where milkweed and flowers are present. The project may affect suitable monarch habitat, but disturbances are anticipated to be temporary in nature and/or insignificant given available foraging and breeding habitat in the surrounding landscape. Disturbed areas within the high potential zone for the rusty patched bumble bee would be reseeded with pollinator friendly native seed mixes that would benefit species in the area, including the monarch butterfly.

Minnesota's endangered species law⁷⁷ and associated rules⁷⁸ regulate the taking, importation, transportation and sale of state endangered or threatened species. Within 1 mile of the Build Alternative's potential area of disturbance, 18 state-listed species were identified. Of these, 11 have a completely aquatic life cycle and are associated with the Mississippi River or its tributaries; these 11 species would not be affected by the project and were excluded from further evaluation. The remaining seven species, identified in Table 21, were evaluated for potential impacts.

⁷⁶ Known hibernacula are defined as locations where one or more northern long-eared bats have been observed during hibernation or at the entrance during fall swarming or spring emergence.

⁷⁷ Minnesota Statutes, section 84.0895

⁷⁸ Minnesota Rules, parts 6212.1800-6212.2300

Table 21: State-Listed Species Evaluated for Potential Impacts

Group	Scientific Name	Common Name	Status	Habitat
Plants	<i>Juncus articulatus</i>	Jointed Rush	Endangered	Prefer wet sandy or calcareous soil in locations with both shade and sun; found along shores, banks, ditches and wet meadows
Reptiles	<i>Emydoidea blandingii</i>	Blanding's Turtle	Threatened	Wetland complexes and adjacent sandy uplands in calm, shallow waters, including wetlands associated with rivers and streams, with rich, aquatic vegetation
Plants	<i>Baptisia lactea</i> var. <i>lactea</i>	White Wild Indigo	Special concern	Dry to average moisture, prairies, savannas, open woods in sunny conditions
Plants	<i>Eleocharis quinqueflora</i>	Few-flowered Spikerush	Special concern	Wet sandy, marly or peaty soil in sunny conditions; located in calcareous fens, seeps, floating mats, sedge meadows, shores
Fish	<i>Etheostoma microperca</i>	Least Darter	Special concern	Weedy portions of vegetated lakes and clear streams with sluggish flow
Bird	<i>Falco peregrinus</i>	Peregrine Falcon	Special concern	Previously nested on cliff ledges along rivers or lakes; presently nesting primarily on buildings and bridges in urban settings and use historic eyries on cliffs
Fish	<i>Lepomis peltastes</i>	Northern Sunfish	Special concern	Clear lakes with emergent vegetation and extensive shallows

The habitat within the potential area of disturbance is generally located in existing right-of-way or within roadway medians. Furthermore, there are no Minnesota Department of Natural Resources regionally significant ecological areas or Minnesota County Biological Survey sites of biodiversity significance within the potential area of disturbance. Considering the preferred habitat of the evaluated species, the Blanding's turtle is the only state-listed species that could be present within the potential area of disturbance. Therefore, mitigation measures required by the Minnesota Department of Natural Resources would be implemented during construction to avoid incidental impacts (discussion of these mitigation measures is included in Section 3.3.20). Correspondence with the Minnesota Department of Natural Resources is included in Appendix B. Based on the minimal extent of higher quality habitat within the potential limits of disturbance, significant adverse impacts to wildlife habitat are not anticipated.

Although existing habitat does not formally require replacement, Ramsey County acknowledges the importance that citizens place on existing vegetation, particularly along the Ramsey County rail right-of-way and existing Bruce Vento Regional Trail corridor. The *Ramsey County Rail Right-of-Way Design Guide* includes provisions to preserve existing quality landscapes and enhance the corridor with ecologically beneficial, resilient and low-maintenance habitat.

Additional information on protected species and habitats is included in the *Natural Resources Technical Report* (see Appendix E).

3.3. BUILD ALTERNATIVE CONSTRUCTION PHASE (SHORT-TERM) IMPACTS

Differences in construction phase impacts between the Build Alternative and the Build Alternative option without the Highway 36 park-and-ride are identified in the following section:

- Section 3.3.8 Land Acquisitions and Relocations.

Operating phase (long-term) impacts that would result from the project are discussed in Section 3.2.

3.3.1. Environmental Resources of No Concern

Based on agency and stakeholder coordination, database searches and site visits, the following resources were not found within the study area and, therefore, are not included in Section 3.3:

- Aviation.
- Farmlands.

In addition, the following resources were determined to have no or negligible adverse construction phase (short-term) effects and, therefore, are not included in Section 3.3:

- Land use plan compatibility (see the *Land Use and Economics Technical Report* in Appendix E).
- Surface waters (see the *Natural Resources Technical Report* in Appendix E).
- Section 6(f) of the Land and Water Conservation Fund Act of 1965 (see the *Section 6(f) Resources Memorandum* in Appendix F).
- Energy (see *Energy Memorandum* in Appendix F).

No disproportionately high or adverse effects to environmental justice communities during the construction phase were identified; however, to provide context on the communities in the project area, a discussion of environmental justice is included in this section.

3.3.2. Freight Rail

Construction of the Build Alternative would require temporary impacts to railroad property. A temporary construction license would be required for the following areas:

- Approximately 330 square feet on the north side of Buerkle Road to construct sidewalk.
- Approximately 0.57 acres on the west side of Highway 61 near Whitaker Street for grading and construction of pedestrian improvements.
- Approximately 80 square feet on the south side of 8th Street to construct sidewalk.

In these locations, the project would construct new concrete pedestrian crossing panels, which would temporarily impact freight operations. Construction activities would be coordinated with affected

railroad companies, and property impacted during construction would be restored to a condition that is comparable to its pre-construction use.

3.3.3. Transit

Transit-users may experience intermittent project-related impacts to bus operations on routes within the project area. These may include temporary stop relocations, closures or route detours. To minimize the short-term impacts to bus operations during construction, before temporary stop closures and detours go into effect, riders would be informed of temporary service changes by posting information at bus stops and publishing details on the service provider's website.

3.3.4. Traffic

Project construction would produce short-term impacts to traffic operations including lane, intersection and roadway closures and detours that would cause localized increases in congestion. Temporary lane closures and short-term/overnight closures on Highway 36 and I-94 are anticipated during construction of the proposed dedicated guideway bridges over these roadways. As engineering advances, a detailed construction staging plan will be developed. Maintenance of traffic plans will be developed during the final engineering or construction phase to address construction phasing, traffic signal operations, access through the work zone, road closures and motorized and non-motorized traffic detours.

3.3.5. Pedestrians and Bicycles

Where temporary closures of bicycle and pedestrian facilities are required, detours would be defined in construction phasing plans. Special facilities, such as handrails, fences, barriers, ramps and walkways, may be required at some locations to maintain bicyclist and pedestrian safety. The project is anticipated to impact 29 intersections during construction due to construction of dedicated guideway, stations, traffic signals, medians, sidewalks or trails.

If crosswalks are temporarily closed, pedestrians would be directed to use alternate crossings nearby. The closure of adjacent crosswalks would be avoided to allow for continued pedestrian movement across streets. All sidewalks and crosswalks would be required to meet minimum standards for accessibility and be free of slipping and tripping hazards. Additional information on the analysis completed related to pedestrians and bicycles is included in the *Pedestrians and Bicycles Memorandum* in Appendix F.

3.3.6. Parking, Driveways and Loading Zones

The long-term operating phase parking impacts and access changes would take place starting during the construction phase. Construction of the project would result in the temporary loss of parking spaces to accommodate staging and laydown areas in two additional locations: on 10th Street in downtown Saint Paul (25 on-street spaces temporarily unavailable)⁷⁹ and at 1600 Buerkle Road in White Bear Lake (28 off-street spaces temporarily unavailable). Temporary disruptions to some driveway access points may also occur. A construction staging plan would be developed to minimize impacts to parking and driveways, signage would be provided to direct business patrons to streets where parking is available and ongoing public outreach would be conducted to communicate temporary closures. Additional information on parking, driveways and loading zones is available in the *Land Use and Economics Technical Report* (see Appendix E).

⁷⁹ Note that the city of Saint Paul and Minnesota Department of Transportation are planning to reconstruct Robert Street, which will also temporarily affect on-street parking availability in the project area.

3.3.7. Neighborhoods and Community Resources

Traffic detours from project construction could increase traffic through residential neighborhoods or change access to community facilities. Sidewalk closures and detours could affect pedestrian traffic patterns. Construction impacts such as increased levels of noise and dust may temporarily affect neighborhood character, primarily in areas that are relatively quiet. People could perceive the presence of large construction equipment as visually disruptive, temporarily affecting community character, particularly in residential settings.

Measures to mitigate these temporary impacts would include installing signage and signal controls, providing alternate access when needed and providing adequate public notice about detours and closures. A communications plan for the project’s construction phase would be developed as the project advances. A noise and vibration control plan would be prepared to mitigate short-term noise and vibration resulting from construction activities (see Section 3.3.18 for more information). Additional information on neighborhoods and community resources is available in the *Land Use and Economics Technical Report* (see Appendix E).

3.3.8. Land Acquisitions and Relocations

Construction activities would require temporary easements for construction-related activities such as storing materials and equipment, providing access to construction areas or site grading. The property would be restored to a condition that is comparable to its pre-construction use. The Build Alternative would require temporary easements from 80 parcels, totaling a combined area of 6.41 acres. The Build Alternative option without the Highway 36 park-and-ride would require temporary easements from 80 parcels, totaling a combined area of 5.93 acres. The estimated number and magnitude of temporary easements that would be required in each municipality during the construction phase are shown in Table 22.

Table 22: Parcels Temporarily Impacted During the Construction Phase by Municipality and Type

Municipality	Residential Properties	Commercial Properties	Institutional Properties	Park Properties	Total Properties	Acres
Saint Paul	9	10	10	2	31	1.31
Maplewood	10	4	4	3	21	3.19
<i>Option without the Highway 36 park-and-ride</i>	<i>10</i>	<i>4</i>	<i>4</i>	<i>3</i>	<i>21</i>	<i>2.72</i>
White Bear Township	0	2	0	0	2	0.02
Vadnais Heights	0	3	0	0	3	0.40
Gem Lake	0	0	0	0	0	0
White Bear Lake	3	20	0	0	23	1.50
Total	22	39	14	5	80	6.41
<i>Option without the Highway 36 park-and-ride</i>	<i>22</i>	<i>39</i>	<i>14</i>	<i>5</i>	<i>80</i>	<i>5.93</i>

Additional information on land acquisitions and relocations is available in the *Land Use and Economics Technical Report* (see Appendix E).

3.3.9. Economics

Construction-related changes to customer and service access, on-street parking, traffic flow and congestion could impact businesses. Depending on the intensity and duration of construction activities, businesses that depend on customers' ease of access may lose revenue during this time. Noise, dust or other nuisances from nearby construction activities could also negatively impact businesses that have features such as outdoor dining or outdoor storage for products or materials. Businesses could experience short-term disruptions in utility service during construction if the project needs to move or replace utilities. Mitigation measures for these construction-phase impacts would include outreach to businesses; maintaining access for pedestrians, bicycles and motorists; and providing business signage and advance communication regarding construction activities.

According to the Metropolitan Council's economic forecasting model, the Rush Line BRT Project would result in an overall employment expansion of 4,140 job-years during the project's construction phase (3,768 job-years in the metro region and 372 job-years in Greater Minnesota).⁸⁰ Over half of these jobs would be from indirect or induced activity, not direct employment with the project itself. During the construction phase, personal income in Minnesota would be \$260 million⁸¹ higher than under the No Build Alternative. The gross state project would be \$418 million⁸¹ higher (\$384 million in the metro region and \$34 million in Greater Minnesota).

Additional information on economics is available in the *Land Use and Economics Technical Report* (see Appendix E).

3.3.10. Visual Resources

During the construction phase, visual impacts would occur along the project route, except in limited sections where no dedicated guideway or stations would be constructed. Visual impacts of construction, such as the presence of heavy machinery, ground disturbance and artificial lighting, would be temporary in nature, though they may be greater in magnitude than operating-phase visual impacts. Additional information on the analysis completed related to visual resources is included in the *Visual Resources Memorandum* in Appendix F.

3.3.11. Cultural Resources

Construction activities would produce noise, vibration and visual impacts near historic properties. Based on the project's concept plans, four historic properties may be temporarily affected by construction of the project (Phalen Park; Westminster Junction, Madeline L. Weaver Elementary School and Saint Paul, Stillwater & Taylors Falls/Chicago, Saint Paul, Minneapolis & Omaha Railroad Corridor Historic District). A Construction Protection Plan for Historic Properties will be prepared for Phalen Park that will include measures recommended to minimize or avoid unintended damage to the historic resource during construction. A consultation meeting will be held before the 60 percent plans are finalized to determine whether a Construction Protection Plan for Historic Properties is necessary for the other three historic properties. These measures are included in the Section 106 Memorandum of Agreement (see the draft Memorandum of Agreement in Appendix C).

3.3.12. Environmental Justice

During the construction phase, Rush Line BRT would create direct economic benefits by employing construction workers, surveyors and ancillary staff, as well as indirect economic benefits resulting from materials purchases and spending by construction employees. These additional earnings would

⁸⁰ A job-year is one job for one year. For example, 100 construction jobs for two years equals 200 job-years.

⁸¹ In 2018 dollars.

benefit the broader Twin Cities metropolitan area and would not occur but for the construction of the Rush Line BRT Project. Federal grant funding for capital expenditures would bring new transit dollars to the region, generating a greater overall economic impact than could be achieved with local funds alone.

As described in Section 3.2.11, a multi-step process was used to identify the potential for disproportionately high and adverse effects on minority and low-income populations. The following categories with potential construction phase effects were analyzed for potential environmental justice impacts (the EA section where the potential construction phase effects are described is noted in parentheses):

- Parking, driveways and loading zones (see Section 3.3.6).
- Neighborhoods and community resources (see Section 3.3.7).
- Land acquisitions and relocations (see Section 3.3.8).
- Economics (see Section 3.3.9).
- Visual resources (see Section 3.3.10).
- Cultural resources (see Section 3.3.11).
- Noise and vibration (see Section 3.3.18).

No disproportionately high and adverse effects on minority and low-income populations in any municipality in the study area were identified. A summary of the findings from the environmental justice analysis is included below for each of the resource areas listed above. Additional information is available in the *Environmental Justice Technical Report* (see Appendix E).

PARKING, DRIVEWAYS AND LOADING ZONES

As in the operating phase, parking impacts in downtown Saint Paul are not expected to result in an adverse effect for area residents or businesses during construction. On all affected segments, nearby on-street and off-street parking is available, and therefore the loss of parking during construction would not negatively impact minority and low-income populations or the general public.

Based on these factors, project-related impacts on parking, driveways and loading zones are not anticipated to have disproportionately high and adverse effects on minority and low-income populations.

NEIGHBORHOODS AND COMMUNITY RESOURCES

With planned mitigation measures, there is no adverse impact on community facilities or neighborhood cohesion expected and, therefore, no potential disproportionately high and adverse impact on minority and low-income populations.

LAND ACQUISITIONS AND RELOCATIONS

While temporary easements from residential, commercial and institutional properties would be required, no residents or businesses would be displaced during the construction phase. Temporary access modifications or closures that impact residents, businesses or institutional properties would be mitigated by the development of the project's Maintenance of Traffic Plan, as well as restoration of any areas disturbed by construction. After mitigation, there is no adverse impact expected due to temporary construction easements, and, therefore, there is no potential for disproportionately high and adverse effects on minority and low-income populations during the construction phase.

ECONOMICS

Since no negatively impacted businesses are known to be owned or patronized by minority or low-income populations, no disproportionately high and adverse impacts on minority and low-income populations are anticipated.

VISUAL RESOURCES

Due to the consistent level of visual impact associated with construction across areas with high and low proportions of minority and low-income populations, no disproportionately high and adverse visual impacts are expected during the construction phase.

CULTURAL RESOURCES

Due to the consistent level of visual impact, lack of exceedance of federal noise thresholds and limited traffic impacts associated with construction across areas with high and low proportions of minority and low-income populations, no disproportionately high and adverse cultural resource impacts are expected during the construction phase.

NOISE AND VIBRATION

After consideration of mitigation for construction phase noise and vibration impacts, the Rush Line BRT Project would result in temporary impacts that are spread relatively evenly across the study area and include impacts in both minority and low-income areas as well as non-minority and non-low-income areas. To the extent authorized or required by law, construction activities would comply with all applicable local regulations and would not result in a disproportionately high and adverse effect on minority and low-income populations.

3.3.13. Safety and Security

Construction activity may pose a safety risk to workers and the public. Short-term impacts to workers include potential personal-safety hazards such as worker-vehicle conflict in restricted spaces near traffic, working in deep and confined spaces during utility relocations and construction, exposure to hazardous utility pipe coatings or materials, and exposure to contaminants during soil excavation and drilling work.

Safety programs, public information efforts and other protective measures would be created and implemented to address hazards created by open excavation sites and other construction activity. Construction equipment operation, materials delivery and other construction site activity may negatively impact safety on adjacent roadways and pedestrian areas on a temporary basis. Coordination with local law enforcement and emergency response personnel would occur to develop a Safety and Security Management Plan and a Safety and Security Certification Plan, which would specify applicable safety and security precautions for the project.

Construction may require the temporary closure and detour of portions of the Bruce Vento Regional Trail as well as lane closures and intersection closures of local streets. Short-term (weekend) closures of Highway 36 and I-694 would be required to facilitate bridge construction. In these locations, detour route(s) would be identified for pedestrian, bicycle and vehicular traffic as necessary to safely reroute users around the construction zone. Additional information on the analysis completed related to safety and security is included in the *Safety and Security Memorandum* in Appendix F.

3.3.14. Utilities

The project would produce short-term impacts to utilities during construction activities such as excavation and grading, placing structural foundations and using large-scale equipment. Utility

relocations would result in service disruptions for limited durations throughout construction. These disruptions are anticipated to be minimal, and providers would establish temporary connections for customers before permanently relocating utilities facilities. Utility owners would decide whether and when to allow disruptions to service. Access to sanitary sewer lift stations located within the study area would be maintained during construction activities. Additional information on the analysis completed related to utilities is included in the *Utilities Memorandum* in Appendix F.

3.3.15. Water Quality and Stormwater

Construction activities associated with the project would disturb existing paved and vegetated areas and expose underlying soils to precipitation and runoff. Runoff from these disturbed soils could potentially leave the construction site and create sediment deposits in adjacent waterways and waterbodies. Without temporary stormwater management (required through the permitting process), these activities could also result in an increase in runoff volume and discharge rates from the construction site that could erode or destabilize slopes and deliver additional sediment to receiving waters.

Construction impacts would also occur in small, isolated areas in which temporary retaining walls or soil berms would be located to minimize wetland fill, for example. Some construction staging areas would be located on temporary impervious pavement, which may increase stormwater runoff in some locations. Short-term impacts to specific locations would be further evaluated as engineering advances. Construction activities may require temporary dewatering to install bridge abutments and walls and complete grading activities in select areas. In accordance with the National Pollutant Discharge Elimination System construction stormwater permit⁸² and, to the extent authorized or required by law, watershed district and municipality requirements, a Stormwater Pollution Prevention Plan would be developed for the construction phase of the project, which would outline additional protection measures. Additional information on stormwater and water quality is included in the *Stormwater and Water Quality Technical Report* (see Appendix E).

3.3.16. Geology, Groundwater and Soils

If dewatering is needed during construction, a water appropriation permit would be required from the Minnesota Department of Natural Resources to dewater in excess of 10,000 gallons a day.⁸³

Soils with slight and moderate erosion hazard ratings are found within the potential area of disturbance for the Build Alternative. In areas with a slight erosion hazard rating, erosion is unlikely under ordinary climatic conditions. In areas with a moderate erosion hazard rating, some erosion is likely and erosion control measures, such as double rows of sediment controls or specifying shorter allowable timeframes for exposed soils, may be needed.

Poorly drained soils exist within the potential area of disturbance for the Build Alternative, which may require soil correction (i.e., removal or replacement with stable soils or treatment in-place) for construction of the guideway, pavement or other structures. If these soils are removed, the excavated soils would need to be disposed of off-site in accordance with local ordinances or reused in areas that do not require consolidated soils.

Since the majority of the project would follow either the existing roadway or trail network, substantial grading in areas with steep slopes or other constraints is not anticipated. Grading would be needed in

⁸² As noted in Section 3.2.14, the project would be required to obtain a National Pollutant Discharge Elimination System permit from the Minnesota Pollution Control Agency in accordance with the Clean Water Act (33 USC Section § 1251, *et seq.*).

⁸³ Minnesota Statutes, section 103G.265

the Ramsey County rail right-of-way between Maryland and Beam Avenues. If needed, soil stabilization treatments would be utilized at these locations to mitigate the potential for erosion.

All project-related construction activities would, to the extent authorized or required by law, adhere to appropriate standards for grading and erosion control and applicable permitting requirements of the Minnesota Pollution Control Agency, Minnesota Department of Transportation, watershed districts and the project area cities. Additional information on the analysis completed related to geology, groundwater and soils is included in the *Geology, Groundwater and Soils Memorandum* in Appendix F.

3.3.17. Hazardous Materials

Based on the Phase I Environmental Site Assessment, 20 low risk, 21 medium risk and 33 high risk sites were identified within the potential area of disturbance for the Build Alternative. Of the 137 soil borings completed as part of the Phase II Environmental Site Assessment, 49 within the potential area of disturbance identified debris, soil contamination or groundwater contamination. The potential for impacts during construction based on these soil borings is summarized below:

- In downtown Saint Paul, it is likely that shallow fill containing debris will be encountered during construction. Based on depth, it is unlikely that contaminated groundwater will be encountered.
- Along Phalen Boulevard, restrictive covenants⁸⁴ have been filed with Ramsey County in areas where contaminated soil was placed, so it is assumed that construction in these areas will encounter contaminated materials.
- Between Johnson Parkway and Buerkle Road, fill containing trace debris and/or other contaminants will be encountered within discreet areas. Based on the varying depth of groundwater in this portion of the corridor, it is likely that contaminated groundwater will be encountered during construction.
- Contaminated soil will be encountered during the construction of the Highway 36 park-and-ride. Based on the groundwater level observed in this area, it is likely that the discharge of contaminated groundwater will be required.
- Along Highway 61, fill containing debris and other contaminants will likely be encountered in discreet areas. Based on depth, it is unlikely that contaminated groundwater will be encountered during construction.

Unknown materials that were not identified during the initial site investigations or Phase II Environmental Site Assessment may also be encountered during construction. A Response Action Plan and Construction Contingency Plan will be developed to outline the methods for identifying, segregating and handling contaminated soil and/or groundwater that may be encountered during construction. Such methods may include on-site hazard evaluation and sampling by a qualified field technician, implementation of exclusion zones and notification to applicable regulatory agencies. These plans will be submitted to the Minnesota Pollution Control Agency for review and approval prior to construction.

The Metropolitan Council will hire an environmental construction oversight contractor, if necessary, to help manage known and unknown contaminated and regulated materials and to make sure that these materials are handled in accordance with all appropriate federal, state and local regulations. Prior to the demolition of any structures, assessments for asbestos-containing materials, lead-based paint and

⁸⁴ A restrictive covenant regulates the use of contaminated property when real estate is transferred from one owner to another.

other regulated materials/wastes would be performed. A demolition and disposal plan would be prepared for any identified contaminants that may be encountered during construction.

Additional information on the analysis completed related to hazardous materials is included in the Phase I and Phase II Environmental Site Assessments in Appendix E and the *Hazardous Materials Memorandum* in Appendix F.

3.3.18. Noise and Vibration

Temporary noise impacts could result from activities associated with the construction of new stations, new dedicated guideway and bridges; utility relocation; grading; excavation; demolition and installation of systems components. Such impacts may occur in residential areas and at other noise-sensitive land uses located within several hundred feet of the proposed route (see Table 23).

Table 23: Noise-Sensitive Land Uses Within 200 Feet of the Proposed BRT Route

Section of Proposed BRT Route	Noise-Sensitive Land Uses
Union Depot to I-94	Twin Cities PBS, St. Paul Preparatory School, New Horizons Academy childcare center, Union Gospel Mission Child Development Center, Hyatt Place and various apartment and condominium buildings
I-94 to I-35E	Minnesota Transportation Museum and single- and multi-family residences
Along Phalen Boulevard	HealthPartners Neurosciences Center, Christian Mission Elim Minnesota and apartment buildings
Johnson Parkway to Highway 36	Single- and multi-family residences and the Kingdom Hall of Jehovah’s Witnesses
Highway 36 to I-694	Single- and multi-family residences and St. John’s Hospital
I-694 to Highway 96E	Single- and multi-family residences
White Bear Lake	Single- and multi-family residences and the First Church of Christ – Scientist

The potential for noise impacts would be greatest at locations near pavement breaking and at locations close to any nighttime construction work. Pavement breaking is anticipated in proposed station areas, along Phalen Boulevard, where the dedicated guideway crosses existing streets, along Buerkle Road and along Highway 61.

For most construction equipment, diesel engines are typically the dominant noise source. For other activities, such as impact pile driving and jackhammering, noise generated by the actual process dominates. Short-term noise during construction of the project can be intrusive to residents near the construction sites. Most of the construction would consist of site preparation and paving. At some locations, more extensive work may occur, such as pile driving for elevated structures and retaining walls, including at the proposed bridges at Arcade Street, Johnson Parkway, Highway 36 and I-694.

For residential land use, short-term roadway construction noise impact can extend to approximately 120 feet from the construction site. However, if nighttime construction is conducted, short-term noise impact from roadway construction can extend to approximately 380 feet from the construction site. For elevated structure construction, the distance for noise impact during the daytime could be up to 250 feet for impact pile driving, assuming a usage factor of 20 percent during the day. If alternative methods of piling are used, the distance to impact could be less. When a specific piling method is determined, a screening distance will be calculated.

There is the potential for damage to nearby structures at close distances due to vibration from construction activities, such as pile driving, hoe rams, vibratory compaction and loaded trucks. Most limits on construction vibration are based on reducing the potential for damage to nearby structures. With the exception of impact pile driving, the potential for damage is limited to within 25 feet of construction activities. For impact pile driving, the distance for the potential for damage is 40 to 55 feet. There are no sensitive receivers within 25 feet of the project corridor in areas where construction would occur, and there are no receivers within 55 feet of locations where pile driving would occur.

A detailed noise and vibration control plan would be prepared to mitigate short-term noise and vibration resulting from construction activities. A noise control engineer or acoustician would work with the contractor to prepare the noise and vibration control plan in conjunction with the contractor's specific equipment and methods of construction. Key elements of a plan include:

- The contractor's specific equipment types.
- Schedule and methods of construction.
- Maximum noise and vibration limits and certification testing for each piece of equipment.
- Prohibitions on certain types of equipment and processes during nighttime hours without variances.
- Identification of specific sensitive sites near construction sites.
- Methods for projecting construction noise and vibration levels.
- Implementation of noise and vibration control measures where appropriate.
- Acoustic shielding requirements for jackhammers, chainsaws and pavement breakers.
- Methods for responding to community complaints.

Additional information on noise and vibration quality is included in the *Noise and Vibration Technical Report* (see Appendix E).

3.3.19. Air Quality

Construction of the project could temporarily close or reduce the operational capacity of some intersections, potentially detouring traffic to parallel roadways. This increased traffic on parallel roadways may temporarily produce increased emissions and higher concentrations of air pollutants near homes and businesses; however, these emissions levels are not anticipated to generate localized concentrations that would exceed state or federal air quality standards. Traffic mitigation measures would be developed before construction begins to establish detour routes and maintain traffic flow.

In addition to traffic-related emissions increases, construction activities could also temporarily increase concentrations of air pollutants. Construction equipment powered by fossil fuels emits the same air pollutants as highway vehicles. Exposed soils can also produce increased particulate matter when moved by construction equipment or disturbed by wind. Concentrations of these air pollutants are not anticipated to exceed state or federal air quality standards.

Where applicable and prudent, measures recommended by the US Environmental Protection Agency to reduce short-term construction impacts to air quality would be implemented, and construction best management practices would be implemented to control dust. Best management practices and US Environmental Protection Agency-recommended measures may include the following:

- Minimization of land disturbance during site preparation.
- Use of watering trucks to minimize dust.
- Covering of trucks while hauling soil/debris off-site or transferring materials.

- Stabilization of dirt piles that are not removed immediately.
- Use of dust suppressants on unpaved areas.
- Minimization of unnecessary vehicle and machinery idling.
- Re-vegetation of any disturbed land after construction.

Additional information on air quality is included in the *Air Quality Technical Report* (see Appendix E).

3.3.20. Protected Species and Wildlife Habitat

Short-term impacts to wildlife would occur due to construction activities, including use of heavy equipment and silt fence/construction barriers. Wildlife-friendly erosion control methods, such as using bio-netting or natural netting (products that do not contain plastic mesh netting or other plastic components), would be used to minimize adverse impacts to wildlife, and disruptions would be temporary and limited to active construction areas. Additionally, areas disturbed by construction would be stabilized with interim and final erosion and sediment control measures, including the utilization of construction activity best management practices (e.g., cleaning all equipment before moving to another site) as well as seeding plans that would inhibit the spread of invasive species or noxious weeds. The number of active construction areas would be limited to the minimum number needed to construct the project, and inactive disturbed areas would be stabilized with seeding and other forms of erosion control best management practices.

As discussed in Section 3.2.16, the Blanding's turtle is the only state-listed species that could be present within the potential area of disturbance. Although impacts to the Blanding's turtle are not anticipated, the Minnesota Department of Natural Resources has established standard best management practices for construction that would be required for this project (see correspondence in Appendix B), including:

- Avoiding filling or dewatering wetlands from October 15 to April 15 when turtles may be hibernating.
- Implementing stringent erosion control methods such as using bio-netting or natural netting types.
- Providing identification information to the contractor to facilitate avoidance of turtles if observed in the construction zone.
- Monitoring for turtles during construction and report any sightings to the Minnesota Department of Natural Resources.

Additional best management practices related to the Blanding's turtle would be considered but are not required. These include measures such as using overlapping silt fence that allows turtles to bypass the fencing while still capturing the sediment and removing silt fence after stabilization of the site to remove barriers to turtle movements.

Additionally, the timing of certain construction activities (e.g., initial ground disturbance, tree clearing) can have a disproportionate effect on wildlife. To minimize and mitigate potential impacts to the northern long-eared bat, the project would minimize mature tree impact in densely forested areas and only clear trees during winter months (defined as November 1 to March 31). To mitigate potential impacts to the rusty-patched bumble bee, initial disturbance of potential habitat areas (e.g., flowering grassland within high potential zone for the species) would be minimized to timeframes outside the active season (generally April to October). Additional information on protected species is included in the *Natural Resources Technical Report* (see Appendix E).

3.4. CUMULATIVE AND INDIRECT EFFECTS

3.4.1. Definitions

CUMULATIVE EFFECTS

Cumulative effects are effects on the environment that result from the incremental impact of the project when added to other past, present and reasonably foreseeable future actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.⁸⁵ The study area for the analysis of cumulative effects is the area within 1 mile of the Build Alternative route. This area was selected based on federal guidance and other study areas used within the EA.

Reasonably foreseeable future actions are those that have received some local, state or federal government approval (including private development approvals) and thus could be under construction anytime between the present through the year 2040, which is a reasonable planning horizon to identify foreseeable future actions. These actions are reasonably foreseeable because they are likely to be funded, approved or part of an officially adopted planning document. Future projects within the cumulative effects study area were identified through coordination with jurisdictions and agencies in the study area. They include approximately 40 state, local and private roadway, transit, recreation, facilities and development projects, which are listed in Table 1 in the *Indirect and Cumulative Effects Technical Report* (see Appendix E).

INDIRECT EFFECTS

Indirect effects associated with the project occur later in time or at locations that are farther removed from the project area but are reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to changes in the pattern of land use, population density or growth rate, and related effects on air, water and other natural systems.⁸⁶ The study area for indirect effects is the area within one-half mile of the proposed stations because this is where development effects are most often found.⁸⁷

Anticipated new development near stations makes up most of the project's indirect effects (reasonably foreseeable future actions within 1 mile of the Build Alternative route are identified in Table 1 in the *Indirect and Cumulative Effects Technical Report* (see Appendix E)).

3.4.2. Potential Cumulative and Indirect Effects

This section describes the cumulative impacts associated with the project by resource and how the project, in tandem with other infrastructure or development projects planned in the study area, would affect the transportation system, land use and natural environment. The cumulative impacts described focus on long-term, rather than short-term, impacts because cumulative impacts are not just the result of the proposed project but also other projects that occur in the study area over time. Resources that were not found within the study area or were determined to have no or negligible operating phase or construction phase effects were not evaluated for potential cumulative effects.

⁸⁵ 40 CFR § 1508.7 (1978)

⁸⁶ 40 CFR § 1508.8(b) (1978)

⁸⁷ *Desk Reference for Estimating Indirect Effects of Proposed Transportation Projects* (National Cooperative Highway Research Program Report 466). Available at https://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_466.pdf.

This section also describes the potential indirect effects of the project and other reasonably foreseeable actions. New developments can change the transportation system, land use in the corridor cities and the surrounding environment. The indirect effects described focus on long-term, rather than short-term, issues because indirect effects tend to occur later, but they can still be reasonably foreseen.

TRANSPORTATION

Cumulative Effects

It is anticipated that future development would increase the demand on the transportation network in the study area. The project is expected to cause shifts from single-occupant vehicles to transit use, which would reduce the cumulative demand on the roadway system while increasing the demand on transit, bicycle and pedestrian facilities. The project would share four platforms in downtown Saint Paul with the METRO Gold Line (on 5th, 6th, Sibley and Wacouta Streets) and would introduce additional buses in that area.⁸⁸ The METRO Gold Line is included in the definition of the No Build Alternative and, therefore, is part of the baseline for considering the effects of the project.

The project would incorporate improvements on nearby roadways and intersections to provide acceptable operations (defined as a level of service D or better) at all evaluated intersections. This would allow for safe and efficient traffic and BRT operations and reduce the project's cumulative effects. Future station area planning activities would address needs for pedestrian and bicycle connections in relation to future land use plans beyond what the project is proposing for pedestrian and bicycle facilities.

The project would require temporary easements from railroad property to construct pedestrian improvements. Construction activities may impact freight operations, but the impacts would be temporary and would not result in cumulative impacts to freight rail.

Indirect Effects

Potential indirect effects of the project include higher demands on traffic, transit, parking and pedestrian/bicycle facilities related to mode shifts, increased ridership and changes to access. The project would provide more opportunities for transit use, which could minimize the number of vehicle trips in the area. The potential mode shifts to transit could also increase bicycle and pedestrian facility use to and from the stations. Additionally, project-induced development could increase the demand for on- and off-street parking spaces, driveways and new access points in the study area.

The proposed crossings over Highway 36 and I-694 have been designed to not preclude reasonably foreseeable future highway expansion and therefore, would not have an indirect effect on those roadways.

Mitigation

The indirect and cumulative effects on transportation facilities would be incorporated into station area planning, as well as local and regional comprehensive plans, which include improvements to accommodate future transportation demands. For example, comprehensive plans are intended to direct the growth and physical development of a community while taking into account other agency led projects to better plan for community and transportation facilities needed to accommodate anticipated growth. Therefore, the project would not require additional mitigation measures.

⁸⁸ The METRO Gold Line is anticipated to operate from 5 a.m. to midnight on weekdays and weekends with frequencies of 10, 15 or 30 minutes depending on the time of day.

LAND ACQUISITIONS AND RELOCATIONS

Cumulative Effects

The project is not expected to require the displacement of residents or commercial properties; however, project-induced development and redevelopment over time could cumulatively result in voluntary displacements of residents and/or businesses in the study area.

Indirect Effects

Changes to property access resulting from the project (i.e., loss of nearby parking spaces), combined with new development (especially in station areas), could indirectly result in the displacement of existing residents and/or businesses.

Mitigation

New development would likely generate more jobs and create a net increase in housing opportunities. The project area municipalities' comprehensive plans are required to address local housing needs and policies that include affordable housing for renters and owners. Therefore, no additional mitigation is needed.

VISUAL RESOURCES

Cumulative Effects

Continued development of transit and transportation facilities in the study area would cumulatively change or affect the visual resources in the study area over time. The visual resources could become more built out and views could change to be more obstructed.

Indirect Effects

New development induced by the project may impact nearby visual and aesthetic resources. The type and degree of impact would depend on the location, size and context of any new development.

Mitigation

The continued development of transit and transportation facilities and the design of new development would be regulated through applicable municipal codes and land use plans. The project would not require additional mitigation measures.

CULTURAL RESOURCES

Cumulative Effects

Continued development of transit and transportation facilities in the project area and new development induced by the project could result in changes that diminish the integrity of a historic property's setting, feeling or association.

Indirect Effects

Development and redevelopment associated with the proposed transit stations could change the setting, context and land use in the station areas (typically within one-half mile of the station). Such changes could have indirect effects on existing historic properties, such as altering the integrity of the visual setting by adding new buildings, adding a transportation facility or increasing the density of the area. It is also possible the development induced by the project could directly affect historic properties through demolition or other impacts.

Mitigation

Identified adverse effects to historic properties from the Rush Line BRT Project will be minimized through the consultation process under Section 106 of the National Historic Preservation Act of 1966, as applicable. Pursuant to 36 CFR Part 800, the Federal Transit Administration, with assistance from the Minnesota Department of Transportation Cultural Resources Unit, State Historic Preservation Office and other consulting parties, will resolve adverse effects in accordance with the terms of a Section 106 Memorandum of Agreement.

Further, local communities along the Rush Line BRT route are also actively engaged in historic preservation, helping to minimize impacts to historic properties from private actions that do not have to adhere to Section 106. The city of Saint Paul's Heritage Preservation Commission and Heritage Preservation Ordinance protect historically designated properties from inappropriate changes or destruction. The city of Maplewood has a Heritage Preservation Commission to help the city achieve its historic preservation goals. This is accomplished through an ordinance that requires applicants for new development to submit a land use permit that may result in alterations to historic landmarks, sites or districts.

SAFETY AND SECURITY

Cumulative Effects

The development of transit and transportation facilities in the project area, combined population growth and private development, may cumulatively add to the demands on law enforcement and security providers, potentially affecting municipal and county staffing levels and budgets over the long term.

Indirect Effects

Continued development in station areas could affect the demand on law enforcement and security providers. The project would create more transit riders, pedestrians and bicyclists in proximity to vehicles and roadway crossings, potentially creating safety conflicts.

Mitigation

While no long-term impacts are identified for the project, the Metropolitan Council would implement measures to avoid impacts to safety and security within the project area, including patrols by the Metro Transit Police Department authorized by Minnesota Statutes, section 473.407, and would coordinate with local communities on future development that interacts with transit facilities and operations.

UTILITIES

Cumulative Effects

The continued development of transit and transportation facilities in the project area over time, combined with population growth and private development, may cumulatively add to the demands on utilities in the study area. However, compact development patterns anticipated in station areas could create operating efficiencies for utility providers over the long term.

Indirect Effects

New development induced by the project could result in increased private and public utility demand that may affect utility providers and municipalities.

Mitigation

The project area municipalities have plans to expand and enhance utility infrastructure to meet the demand of population growth over time. Private utility providers would plan appropriately through their regular planning processes to address population growth and increased service demand.

SURFACE WATERS

Cumulative Effects

New development of transit and transportation facilities in the project area could cumulatively affect surface waters. However, future actions are subject to regulations protecting surface waters and would use best management practices to avoid, minimize and/or mitigate potential impacts.

Indirect Effects

New development induced by the project may impact or fill nearby wetlands and other surface waters. These impacts are less likely to occur if actions include typical best management practices.

Mitigation

New development would be required to avoid and minimize impacts to surface waters and provide mitigation in accordance with local, state and federal regulations, including the Wetland Conservation Act⁸⁹ and Section 401⁹⁰ and Section 404⁹¹ of the Clean Water Act.

WATER QUALITY AND STORMWATER

Cumulative Effects

Future actions in the study area could cumulatively increase sediment and pollutant loads to a level that may affect water resources. However, future actions are subject to the same water quality regulations as the project and would use similar best management practices during construction and operation.

Indirect Effects

New development induced by the project would likely add impervious surface areas and involve temporary soil disturbance, leading to additional stormwater runoff that could indirectly affect water resources. These future activities would be subject to current water quality regulations and best management practice requirements.

Mitigation

New development must meet the standards and requirements of regulatory bodies, such as municipalities, counties, watershed organizations, and state agencies including the Minnesota Pollution Control Agency and Minnesota Department of Transportation, to minimize potential impacts to protected water resources.

⁸⁹ Minnesota Rules, part 8420

⁹⁰ 33 USC Section § 1341

⁹¹ 33 USC Section § 1344

HAZARDOUS MATERIALS

Cumulative Effects

Continued development of transit and transportation facilities in the project area over time would contribute to the remediation of hazardous materials sites, as any contaminated sites would require cleanup as a condition of development or redevelopment.

Indirect Effects

New development and redevelopment induced by the project could affect hazardous materials sites if the proper and legally required best management practices are not implemented. Contaminated sites require cleanup as future development occurs.

Mitigation

Developers and agencies involved in future development must follow all applicable state and federal laws concerning hazardous materials in accordance with Minnesota Pollution Control Agency and Minnesota Department of Health regulations.

3.4.3. Summary

The potential resource impacts of other past, present and reasonably foreseeable future actions in the project area may contribute to cumulative effects on the transportation system, land use and the natural environment. However, based on the cumulative impact assessment, the combined project-related impacts are not anticipated to require avoidance, minimization or mitigation measures other than those identified in the EA.

Anticipated new development near stations makes up most of the project's indirect effects. Project-induced development that occurs in accordance with local plans would generally benefit the project area municipalities by helping them achieve their long-range land use and transportation goals for the station areas. Local, state and federal regulations and policies that manage growth and protect resources can minimize indirect effects. Local jurisdictions along the route have the authority to regulate the use and development of land, and they promote orderly development of their communities with a range of growth-management tools including comprehensive plans; zoning, subdivision and floodplain ordinances; capital improvement plans; access management plans; historic preservation commissions; affordable housing policies; and surface water and stormwater management plans.

Additional information on indirect effects is available in the *Indirect and Cumulative Effects Technical Report* (see Appendix E).

3.5. ENVIRONMENTAL PERMITS, COMMITMENTS AND MITIGATION MEASURES

Table 24 summarizes the operating phase and construction phase commitments and mitigation measures proposed as part of the Rush Line BRT Project. Additional ways to avoid and minimize impacts will continue to be evaluated as engineering advances and in continued coordination with partner agencies. After completing the environmental analysis phase, the local lead agency for the Rush Line BRT Project will transition from Ramsey County to the Metropolitan Council. Specific responsibilities for mitigation measures will be confirmed through an agreement between Ramsey County and the Metropolitan Council.

Table 24: Summary of Commitments and Mitigation Measures for the Build Alternative

Resource Area	Phase	Commitments and Mitigation Measures
Freight rail	Operating	None
	Construction	Construction activities that would temporarily impact freight operations would be coordinated with affected railroad companies, and property impacted during construction would be restored to a condition that is comparable to its pre-construction use.
Transit	Operating	None
	Construction	Before temporary stop closures and detours go into effect, riders would be informed about the temporary service changes by posting information at bus stops and publishing details on the service provider’s website.
Traffic	Operating	Recommended mitigation measures to alleviate identified queueing issues are included in Table 8. These recommended mitigation measures will be incorporated into the final design of the project if they are approved by the appropriate roadway authority.
	Construction	Maintenance of traffic plans will be developed during the final engineering or construction phase to address construction phasing, traffic signal operations, access through the work zone, road closures and motorized and non-motorized traffic detours.
Pedestrians and bicycles	Operating	The <i>Ramsey County Rail Right-of-Way Design Guide</i> ⁹² was created to develop a safe dedicated guideway and shared-use trail within the Ramsey County rail right-of-way that fits in with the surrounding landscape and reflects relevant user, stakeholder and public guidance. As engineering advances, the guiding principles from the <i>Ramsey County Rail Right-of-Way Design Guide</i> will be used to inform the design work and ensure the collective input received through public engagement activities is incorporated.
	Construction	Where temporary closures of bicycle and pedestrian facilities are required, detours would be defined in construction phasing plans. Special facilities, such as handrails, fences, barriers, ramps and walkways, may be required at some locations to maintain bicyclist and pedestrian safety. If crosswalks are temporarily closed, pedestrians would be directed to use alternate crossings nearby. The closure of adjacent crosswalks would be avoided to allow for continued pedestrian movement across streets. All sidewalks and crosswalks would be required to meet minimum standards for accessibility and be free of slipping and tripping hazards.

⁹² Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

Resource Area	Phase	Commitments and Mitigation Measures
Parking, driveways and loading zones	Operating	As engineering advances, coordination with project area municipalities and impacted residents and businesses will continue to further minimize parking impacts.
	Construction	A construction staging plan would be developed to minimize impacts to parking and driveways, signage would be provided to direct business patrons to streets where parking is available and ongoing public outreach would be conducted to communicate temporary closures.
Neighborhoods and community resources	Operating	None
	Construction	Measures to mitigate temporary impacts would include installing signage and signal controls, providing alternate access when needed and providing adequate public notice about detours and closures. A communications plan for the project's construction phase would be developed as the project advances.
Land acquisitions and relocations	Operating	The Metropolitan Council would acquire property in accordance with Minnesota Statutes, chapter 117, and the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Public Law 91-646; 49 CFR Part 24). All acquisitions would be partial acquisitions; no full acquisitions resulting in the displacement of businesses or residents would be needed.
	Construction	Property impacted by temporary easements would be restored to a condition that is comparable to its pre-construction use.
Economics	Operating	None
	Construction	Mitigation measures for construction-phase impacts would include outreach to businesses and providing maintenance of traffic; maintaining access for pedestrians, bicycles and motorists; providing business signage; and providing advance communication regarding construction activities.
Visual resources	Operating	Design and construction best practices will be used to avoid, minimize and mitigate impacts of the project on neighboring properties and communities. As engineering advances, the guiding principles from the <i>Ramsey County Rail Right-of-Way Design Guide</i> ⁹³ will be used to inform the design work and ensure input received through the public engagement activities is incorporated. In addition, visual impacts have already been considered as part of the project definition as noted in Table 16.
	Construction	None

⁹³ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

Resource Area	Phase	Commitments and Mitigation Measures
Cultural resources	Operating	Resolution of the adverse effects to the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment, the Lake Superior & Mississippi Railroad Corridor Historic District: White Bear Lake to Hugo Segment and the three remnants of the 1868 Alignment of the Lake Superior & Mississippi Railroad are being coordinated with Section 106 consulting parties and are documented in a Memorandum of Agreement (see draft Memorandum of Agreement in Appendix C).
	Construction	A Construction Protection Plan for Historic Properties will be prepared for Phalen Park that will include measures recommended to minimize or avoid unintended damage to the historic resource during construction. A consultation meeting will be held before the 60 percent plans are finalized to determine whether a Construction Protection Plan for Historic Properties is necessary for the other three historic properties that may be temporarily affected by construction (Westminster Junction, Madeline L. Weaver Elementary School and Saint Paul, Stillwater & Taylors Falls/Chicago, Saint Paul, Minneapolis & Omaha Railroad Corridor Historic District). These measures are included in the Section 106 Memorandum of Agreement (see the draft Memorandum of Agreement in Appendix C).
Environmental justice	Operating	The project is committed to minimizing or avoiding impacts to environmental justice populations. See mitigation measures identified for parking, driveways and loading zones; neighborhoods and community resources; land acquisitions and relocations; economics; visual resources; and cultural resources.
	Construction	The project is committed to minimizing or avoiding impacts to environmental justice populations. See mitigation measures identified for parking, driveways and loading zones; neighborhoods and community resources; land acquisitions and relocations; economics; visual resources; cultural resources; and noise and vibration.
Safety and security	Operating	The Metro Transit Police Department and local law enforcement authorities would be jointly responsible for the safety and security of the project's facilities and environs. These agencies already have in place policies to protect and secure transit-users and the public. Metro Transit's licensed police force enforces public safety on the transit system, and it would routinely patrol and secure the project's stations, dedicated guideway and BRT vehicles, as well as bus routes and stops.
	Construction	Coordination with local law enforcement and emergency response personnel would occur to develop a Safety and Security Management Plan and a Safety and Security Certification Plan, which would specify applicable safety and security precautions for the project. Detour routes would be identified for pedestrian, bicycle and vehicular traffic as necessary to safely reroute users around the construction zone.

Resource Area	Phase	Commitments and Mitigation Measures
Utilities	Operating	The locations of existing utilities in the project area will be confirmed as engineering advances so that the design can be refined to best avoid utilities, where practicable. Where conflict is unavoidable, coordination with utility owners will identify project-related impacts and potential mitigation measures such as utility modification, relocation or replacement.
	Construction	Service disruptions due to utility relocations are anticipated to be minimal, and providers would establish temporary connections for customers before permanently relocating utilities facilities. Utility owners would decide whether and when to allow disruptions to service.
Surface waters	Operating	<p>If, after final design is completed, the project results in fill within identified floodplains, an analysis of the corresponding change in base flood elevation would be completed to determine if the fill results in adverse impacts that require additional mitigation. If mitigation is required, compensatory storage at a 1:1 replacement ratio within the same floodplain reach would be provided. Any unavoidable impacts would be coordinated with cities and watershed districts.</p> <p>It is anticipated that impacts to jurisdictional wetlands could be authorized by the Section 404 Transportation Regional General Permit. Additionally, Wetland Conservation Act approvals would be required for any impacts to wetlands within the regulatory boundaries of the city of Saint Paul, Ramsey-Washington Metro Watershed District, Vadnais Lake Area Watershed Management Organization and Minnesota Department of Transportation. Any impacts to aquatic resources on the Public Waters Inventory would require a public waters work permit from the Minnesota Department of Natural Resources.</p> <p>Mitigation would vary based on the regulatory nature of the individual wetlands impacted. The Capitol Region Watershed District and Ramsey-Washington Metro Watershed District require all impacts to be replaced at a minimum of a 1:1 replacement ratio within the same sub-watershed. Any remaining mitigation could be provided through the purchase of wetland mitigation bank credits based on Minnesota Wetland Conservation Act Replacement Standards. The US Army Corps of Engineers' current replacement ratio for wetland credits in the project area is 2.5:1; however, under certain conditions, including providing replacement within the same watershed or in advance of construction, the ratio may be reduced to 2:1. The final amount, type and location of wetland replacement or bank credits would be determined during the permit review process, which would occur during final design.</p> <p>Other permits related to stormwater management, erosion control or stream crossings may be required.</p>

Resource Area	Phase	Commitments and Mitigation Measures
	Construction	See operating phase mitigation measures. All anticipated aquatic resource impacts are considered permanent at this stage of design. If construction activities require temporary aquatic resource impacts, the areas would be restored in accordance with the Section 404 Transportation Regional General Permit.
Water quality and stormwater	Operating	<p>The project must meet the standards and requirements of and receive applicable approvals from the Capitol Region Watershed District, Ramsey-Washington Metro Watershed District, Vadnais Lake Area Water Management Organization and Rice Creek Watershed District. The project would also be required to receive a National Pollutant Discharge Elimination System permit from the Minnesota Pollution Control Agency.</p> <p>For potential stormwater management features within Minnesota Department of Transportation right-of-way, the approach would be to use surface practices and to avoid the use of underground systems or tree trenches. Any proposed locations within Minnesota Department of Transportation right-of-way will be further discussed with the Minnesota Department of Transportation as engineering advances.</p>
	Construction	In accordance with the National Pollutant Discharge Elimination System construction stormwater permit and, to the extent authorized or required by law, watershed district and municipality requirements, a Stormwater Pollution Prevention Plan would be developed for the construction phase of the project.
Geology, groundwater and soils	Operating	None
	Construction	If dewatering is needed during construction, a water appropriation permit would be required from the Minnesota Department of Natural Resources to dewater in excess of 10,000 gallons a day. If poorly drained soils are removed, the excavated soils would need to be disposed of off-site or reused in areas that do not require consolidated soils. If needed, retaining walls and soil stabilization treatments would be utilized to mitigate the potential for erosion. All project-related construction activities would, to the extent authorized or required by law, adhere to appropriate standards for grading and erosion control and applicable permitting requirements of the Minnesota Pollution Control Agency, Minnesota Department of Transportation, watershed districts and the project area cities.

Resource Area	Phase	Commitments and Mitigation Measures
Hazardous materials	Operating	The Metropolitan Council, as the future lead agency, will be responsible for performing site mitigation to achieve acceptable environmental conditions. If necessary, the Metropolitan Council would enroll in the Minnesota Pollution Control Agency's Brownfield Program to obtain assurances that contaminated site cleanup work and/or contaminated site acquisition would not associate the agency with long-term environmental liability for contamination and to obtain approvals for any contamination management and cleanup plans.
	Construction	<p>A Response Action Plan and Construction Contingency Plan will be developed to outline the methods for identifying, segregating and handling contaminated soil and/or groundwater that may be encountered during construction. These plans will be submitted to the Minnesota Pollution Control Agency for review and approval prior to construction.</p> <p>The Metropolitan Council will hire an environmental construction oversight contractor, if necessary, to help manage known and unknown contaminated and regulated materials and to make sure that these materials are handled in accordance with all appropriate federal, state and local regulations. Prior to the demolition of any structures, assessments for asbestos-containing materials, lead-based paint and other regulated materials/wastes would be performed. A demolition and disposal plan would be prepared for any identified contaminants that may be encountered during construction.</p>
Noise and vibration	Operating	None
	Construction	A detailed noise and vibration control plan would be prepared to mitigate short-term noise and vibration resulting from construction activities. A noise control engineer or acoustician would work with the contractor to prepare a noise and vibration control plan in conjunction with the contractor's specific equipment and methods of construction.
Air quality	Operating	None
	Construction	Traffic mitigation measures would be developed before construction begins to establish detour routes and maintain traffic flow. Where applicable and prudent, measures recommended by the US Environmental Protection Agency to reduce short-term construction impacts to air quality would be implemented, and construction best management practices would be implemented to control dust.

Resource Area	Phase	Commitments and Mitigation Measures
Protected species and wildlife habitat	Operating	The <i>Ramsey County Rail Right-of-Way Design Guide</i> . ⁹⁴ includes provisions to preserve existing quality landscapes and enhance the corridor with ecologically beneficial, resilient and low-maintenance habitat.
	Construction	<p>Wildlife-friendly erosion control methods would minimize adverse impacts to wildlife. Areas disturbed by construction would be stabilized with interim and final erosion and sediment control measures, including the utilization of construction activity best management practices (e.g., cleaning all equipment before moving to another site) as well as seeding plans that would inhibit the spread of invasive species or noxious weeds. The number of active construction areas would be limited to the minimum number needed to construct the project as required by construction permits, and inactive disturbed areas would be stabilized with seeding and other forms of erosion control best management practices.</p> <p>To avoid incidental impacts to the Blanding’s turtle, standard best management practices for construction established by the Minnesota Department of Natural Resources would be followed.</p> <p>To minimize and mitigate potential impacts to the northern long-eared bat, the project would minimize mature tree impact in densely forested areas and clear trees during winter months (defined as November 1 to March 31).</p> <p>To mitigate potential impacts to the rusty-patched bumble bee, initial disturbance of potential habitat areas would be limited to timeframes outside of the active season (April to October) and disturbed areas within the high potential zone would be reseeded with pollinator-friendly native seed mixes that would benefit the species.</p>

⁹⁴ Available in the project library at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

Anticipated permits and approvals required for the project are listed in Table 25.

Table 25: Permits and Approvals Required

Agency	Permit/Approval
Federal Approvals	
Federal Transit Administration	Environmental decision document
	Section 4(f) determination
	Section 106 Memorandum of Agreement
Federal Highway Administration	Right-of-way use approval
	Environmental decision document
US Army Corps of Engineers	Section 404 permit
United States Fish and Wildlife Service	Section 7 concurrence
State Approvals	
Minnesota Department of Natural Resources	Water appropriation permit (if needed)
	Public waters work permit
State Historic Preservation Office	Section 106 Memorandum of Agreement
Minnesota Department of Transportation	Right-of-way permit
	Limited use permit (if needed)
	Application for drainage permit
	Application for utility accommodation on trunk highway right-of-way
	Application for miscellaneous work on trunk highway right-of-way
	Wetland Conservation Act Replacement Plan approval
Minnesota Pollution Control Agency	National Pollutant Discharge Elimination System permit
	Section 401 Water Quality Certification (anticipated to be authorized by a certification for the Section 404 permit)
	Industrial groundwater pump-out general permit (if needed)
Local Approvals (to the extent authorized or required by law)	
Ramsey County	Environmental decision document for the state environmental process
	Excavation and obstruction permit
City of Saint Paul	Road crossing/right-of-way permits
	Grading/building permits
	Wetland Conservation Act Replacement Plan approval
	Local parkland diversion review
	Heritage Preservation design review

Agency	Permit/Approval
City of Maplewood	Road crossing/right-of-way permits
	Grading/building permits
City of Vadnais Heights	Road crossing/right-of-way permits
	Grading/building permits
	Erosion/sediment control/stormwater permit
City of Gem Lake	Grading permit
	Tree alteration permit (if necessary)
	Erosion/sediment control/stormwater permit
City of White Bear Lake	Road crossing/right-of-way permits
	Grading/building permits
	Erosion/sediment control/stormwater permit
	Municipal consent ⁹⁵
Capitol Region Watershed District	Erosion/sediment control/stormwater permit
Ramsey-Washington Metro Watershed District	Erosion/sediment control/stormwater/flood control permit
	Wetland Conservation Act Replacement Plan approval
Vadnais Lake Area Water Management Organization	Wetland Conservation Act Replacement Plan approval
Rice Creek Watershed District	Erosion/sediment control/stormwater permit
Metropolitan Council Environmental Services	Sanitary sewer discharge permit (if needed)

⁹⁵ Per Minnesota Statutes, sections 161.162 through 161.167, municipal approval is required for any Minnesota Department of Transportation trunk highway projects that alter access, increase or reduce highway traffic capacity, or require acquisition of permanent right-of-way. Acquisition of right-of-way for the Minnesota Department of Transportation will be required at the intersection of Highway 61 and White Bear Avenue and the intersection of Highway 61 and Whitaker Street. Additionally, a driveway off of Highway 61 north of Whitaker Street is proposed to be closed as part of the Rush Line BRT Project. Therefore, municipal consent will be needed from the city of White Bear Lake.

4. SECTION 4(F) EVALUATION

This chapter summarizes the analysis completed to comply with the provisions of Section 4(f) of the Department of Transportation Act of 1966, as amended. This law, commonly known as Section 4(f), is now codified in 23 USC Section § 138 and 49 USC Section § 303 and is implemented by the Federal Transit Administration through the regulation in 23 CFR Part 774. The complete Section 4(f) evaluation is included as Appendix D.

Section 4(f) requires consideration of:

- Parks and recreational areas of national, state or local significance that are both publicly owned and open to the public.
- Publicly owned wildlife and waterfowl refuges of national, state or local significance that are open to the public to the extent that public access does not interfere with the primary purpose of the refuge.
- Historic sites of national, state or local significance in public or private ownership, regardless of whether they are open to the public.

4.1. IDENTIFICATION OF SECTION 4(F) RESOURCES

The study area for parks, recreational areas and wildlife and waterfowl refuges includes those properties within, or directly adjacent to, the potential area of disturbance. The study area for historic sites is the area of potential effect as determined under Section 106 of the National Historic Preservation Act of 1966.⁹⁶

There are no wildlife or waterfowl refuges located within the study area. There are 18 parks, recreation areas and trails subject to Section 4(f) in the study area, which are illustrated in Figure 12 through Figure 15.⁹⁷

As identified through architecture/history and archaeology surveys, there are 28 historic properties that are listed in or eligible for listing in the National Register of Historic Places within the study area. These 28 historic properties evaluated as Section 4(f) historic sites are illustrated in Figure 16 through Figure 19.

⁹⁶ 54 USC Section § 306108 and 36 CFR Part 800

⁹⁷ Trail facilities within transportation right-of-way were not considered to be designated recreation areas in accordance with 23 CFR § 774.13 and the Federal Highway Administration's *Section 4(f) Policy Paper*.

Figure 12: Section 4(f) Parks and Recreation Areas from Union Depot to Arcade Street



Figure 13: Section 4(f) Parks and Recreation Areas from Arcade Street to County Road B

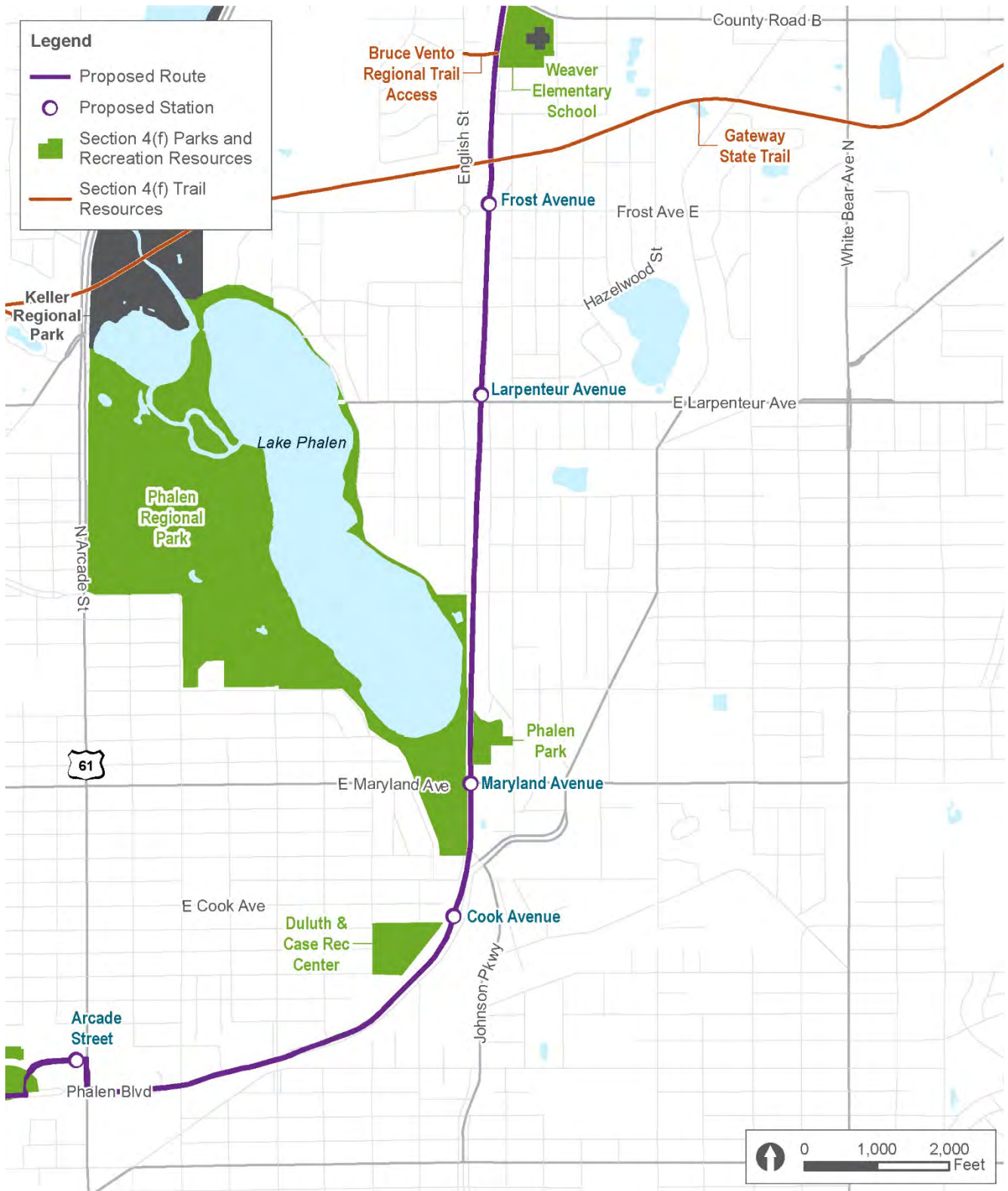


Figure 14: Section 4(f) Parks and Recreation Areas from County Road B to County Road E

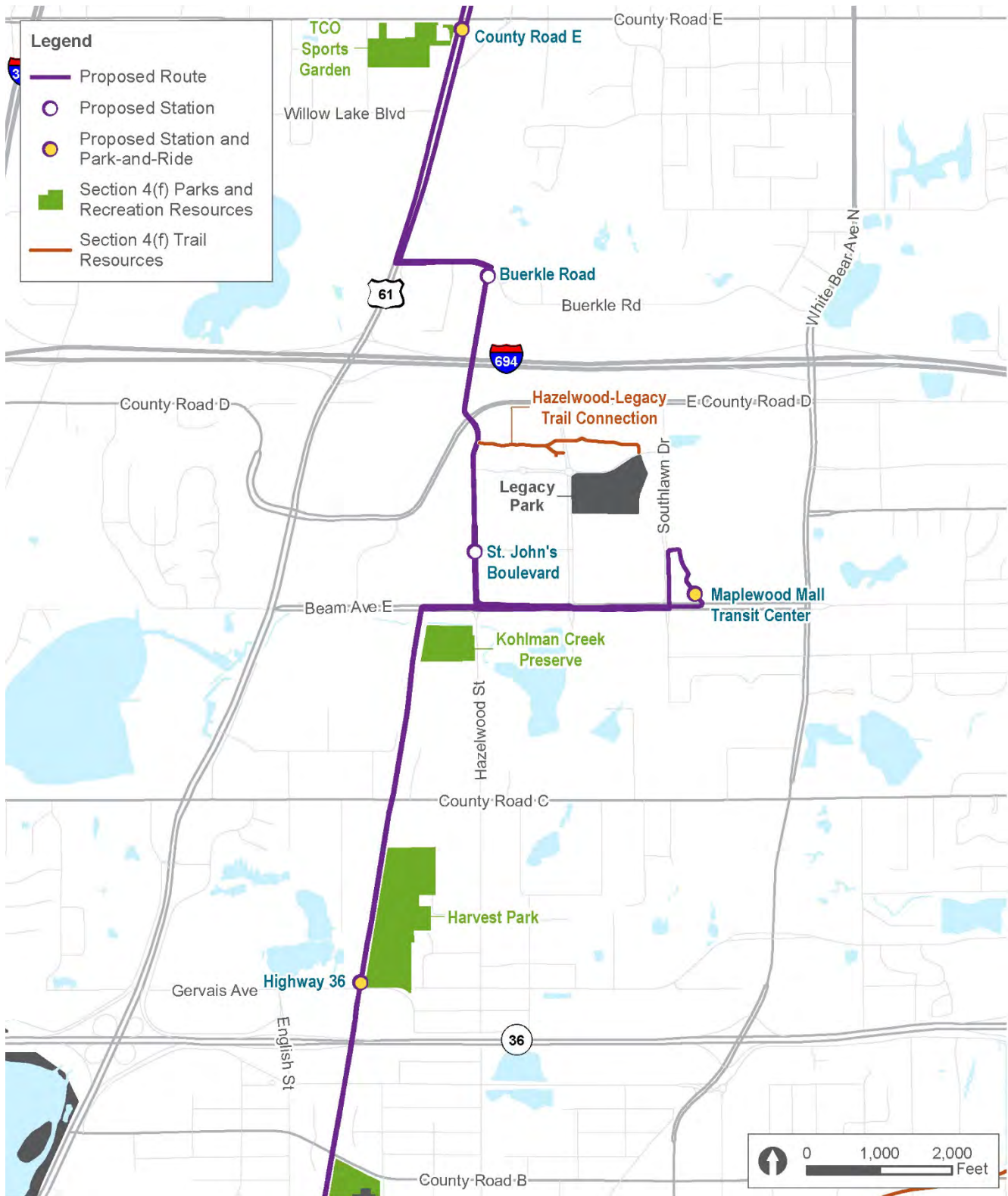


Figure 15: Section 4(f) Parks and Recreation Areas from County Road E to Downtown White Bear Lake

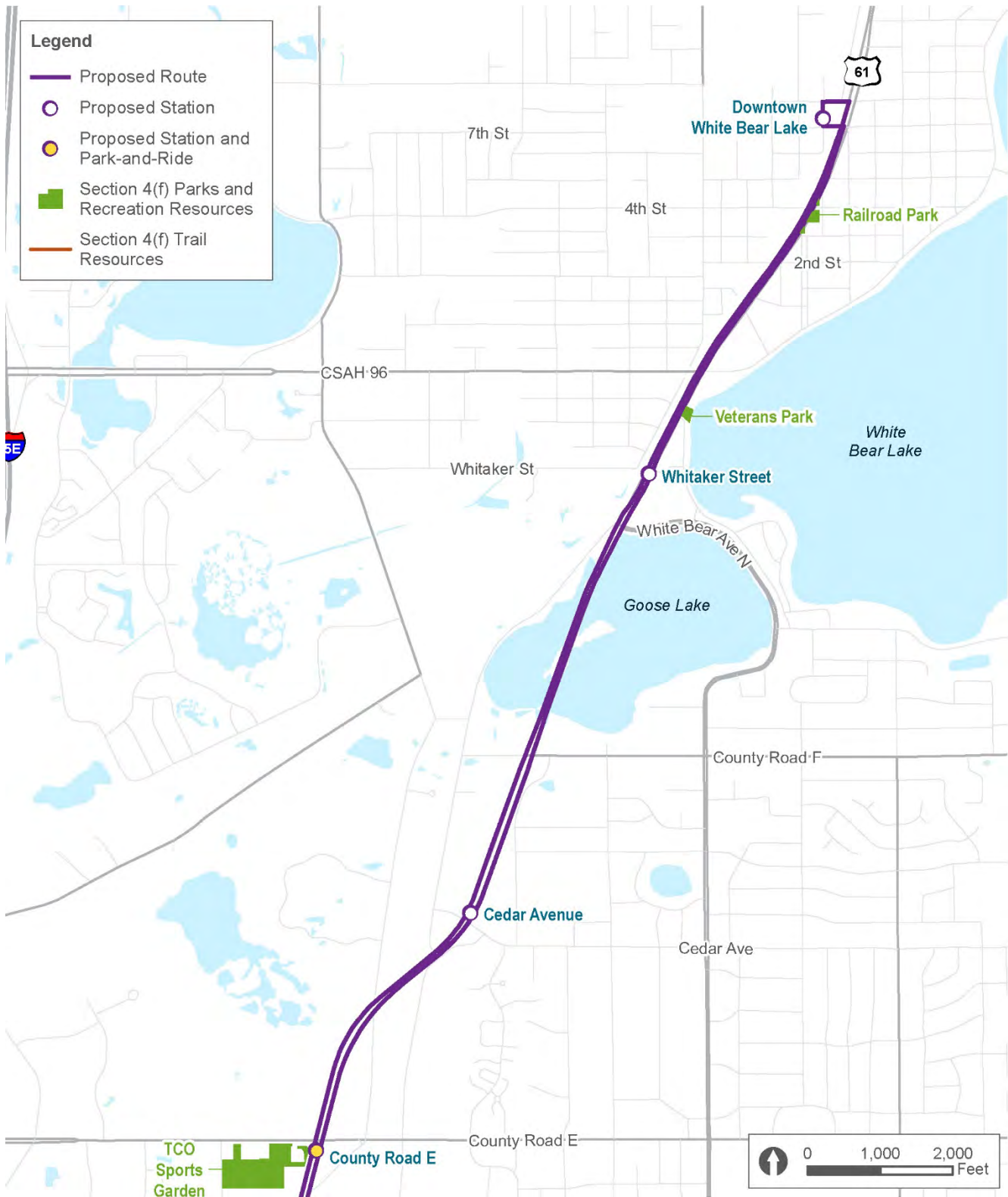


Figure 17: Section 4(f) Historic Sites from Arcade Street to County Road B

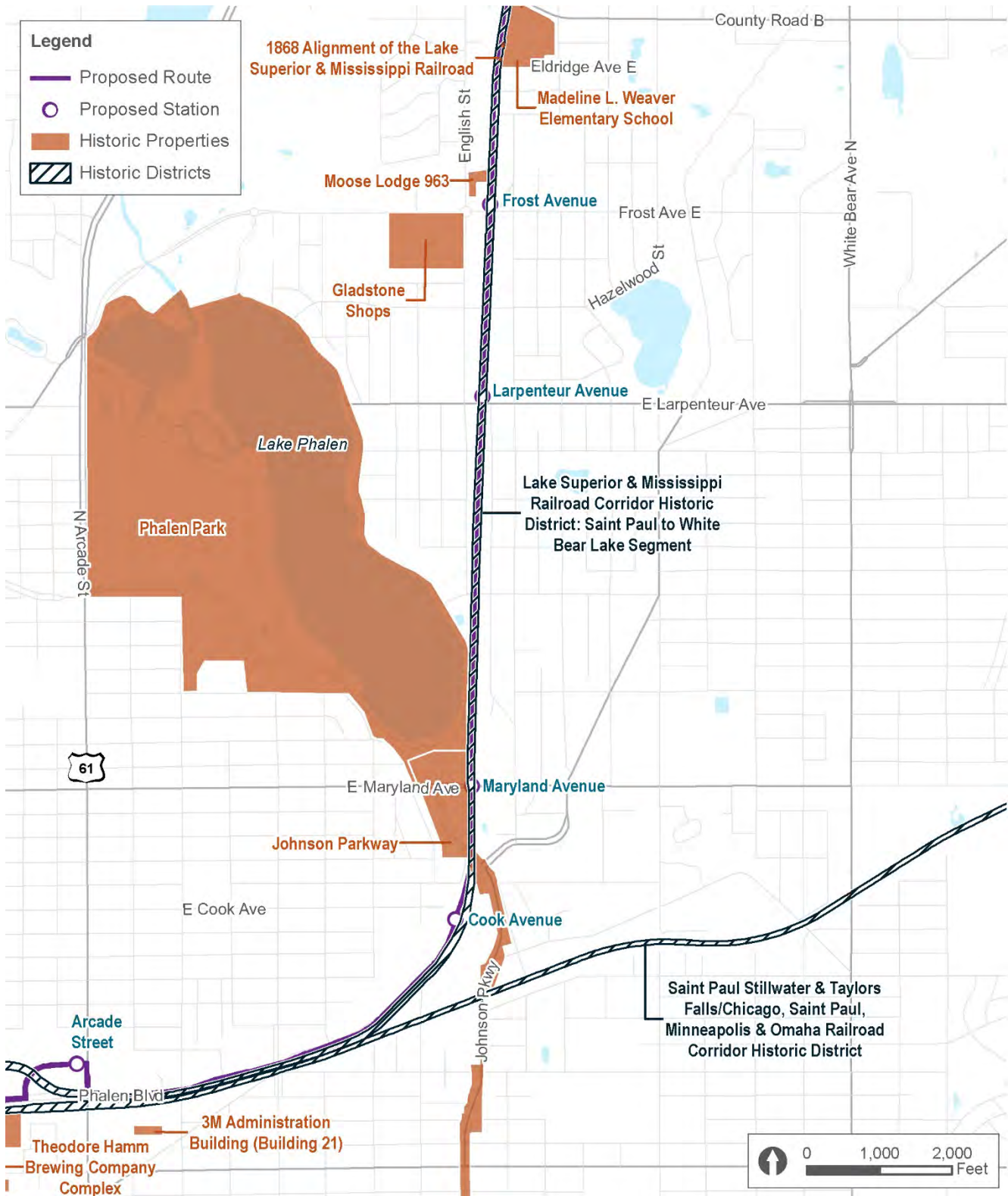


Figure 18: Section 4(f) Historic Sites from County Road B to County Road E

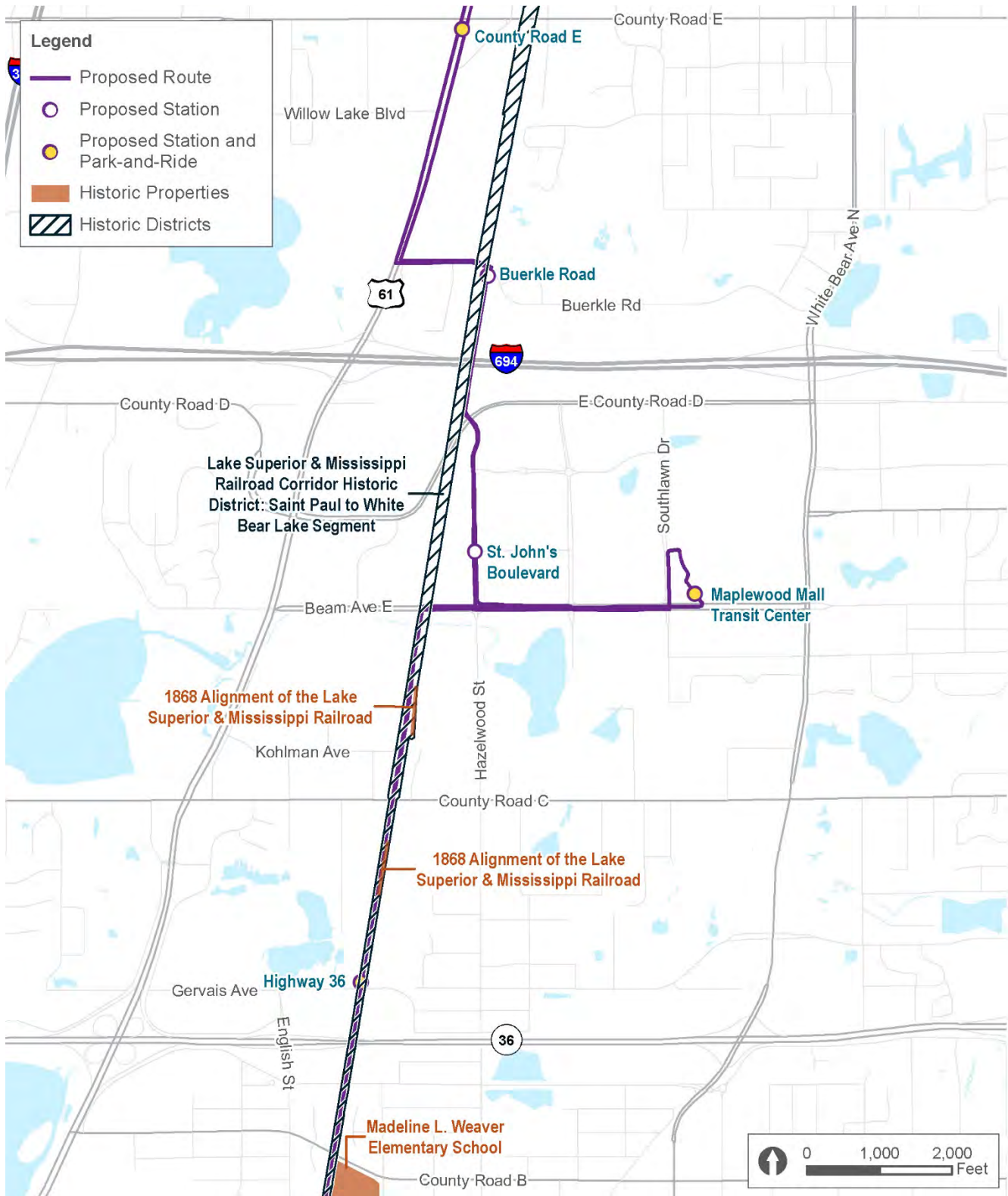
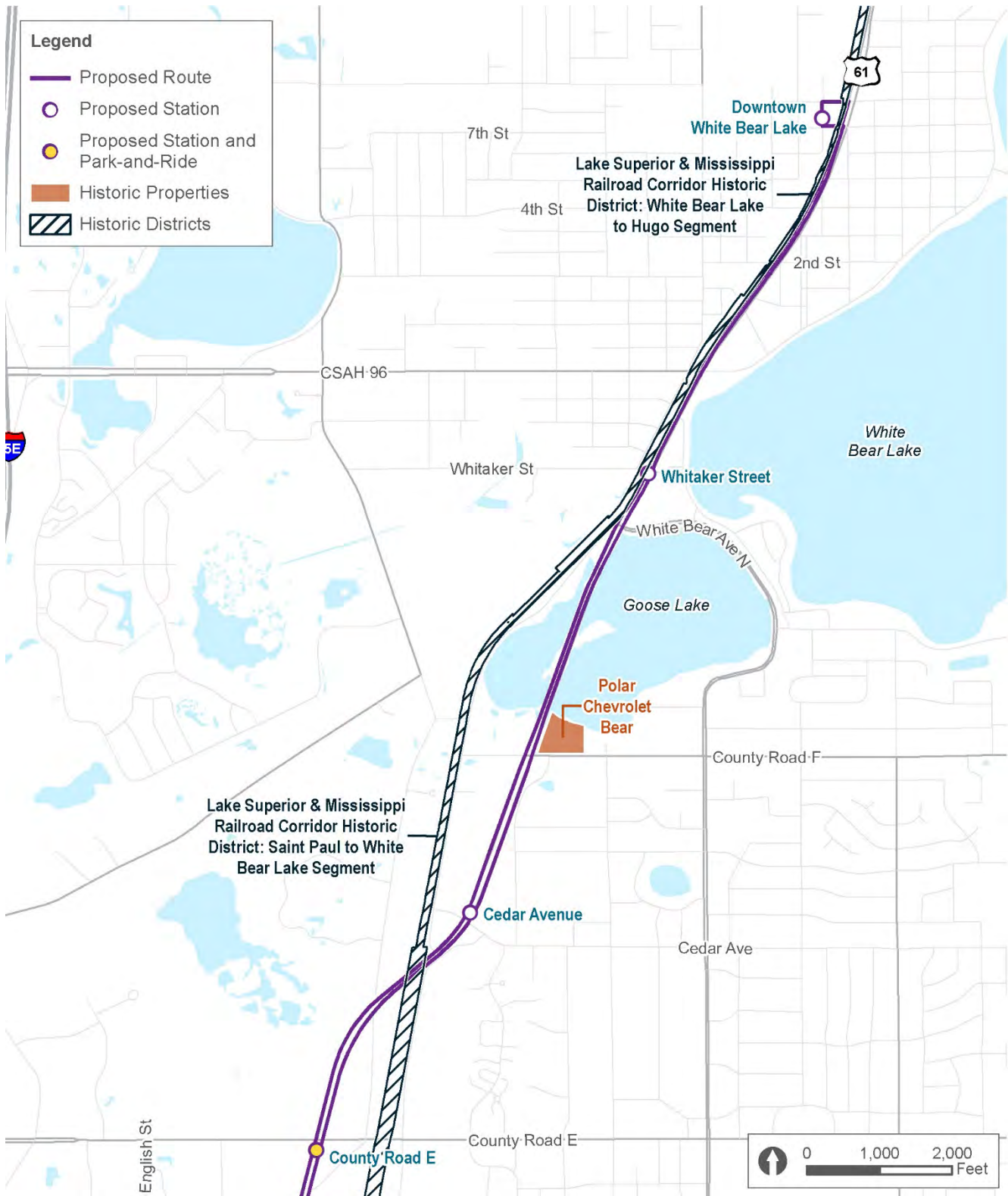


Figure 19: Section 4(f) Historic Sites from County Road E to Downtown White Bear Lake



4.2. ASSESSMENT OF USE

Any properties within the study area protected by Section 4(f) were evaluated to determine if there would be a use of the property, as defined in 23 CFR § 774.17. There are three types of Section 4(f) uses: permanent incorporation, temporary occupancy and constructive use (see definitions in the *Section 4(f) Evaluation* in Appendix D).

4.2.1. De Minimis Impact Determinations

Before approving the use of a Section 4(f) resource, the Federal Transit Administration must determine that the project would have a *de minimis* impact on the property or undertake an individual Section 4(f) evaluation to determine that there is no feasible and prudent avoidance alternative to the use and that all measures to minimize harm to the resource have been undertaken (23 CFR § 774.3).

For parks, recreation areas and wildlife and waterfowl refuges, a *de minimis* impact is one that will not adversely affect the features, attributes or activities qualifying the property for protection under Section 4(f). For historic sites, a *de minimis* impact means that the Federal Transit Administration has determined (in accordance with 36 CFR Part 800) that either no historic property would be affected by the project or that the project would have "no adverse effect" on the historic property.

4.2.2. Individual Section 4(f) Evaluations

ANALYZE AVOIDANCE ALTERNATIVES

If the impact is greater than *de minimis*, the Federal Transit Administration must consider alternatives that completely avoid the use of a Section 4(f) resource and evaluate if the avoidance alternatives are feasible and prudent, as defined in 23 CFR § 774.17. An alternative is not feasible if it cannot be built as a matter of sound engineering judgement. An alternative is not prudent if:

- It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;
- It results in unacceptable safety or operational problems;
- After reasonable mitigation, it still causes:
 - Severe social, economic or environmental impacts;
 - Severe disruption to established communities;
 - Severe disproportionate impacts to minority or low-income populations; or
 - Severe impacts to environmental resources protected under other federal statutes;
- It results in additional construction, maintenance or operational costs of an extraordinary magnitude;
- It causes other unique problems or unusual factors; or
- It involves multiple factors listed above, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

CONSIDER ALL POSSIBLE PLANNING TO MINIMIZE HARM

If the Federal Transit Administration determines that there is no feasible and prudent alternative to avoid the use of a Section 4(f) resource, Section 4(f) requires the consideration and documentation of all possible planning to minimize harm to the Section 4(f) resource. As defined in 23 CFR § 774.17, this means that all reasonable measures identified in the Section 4(f) evaluation to minimize harm or mitigate for adverse effects must be included in the project. For parks recreation areas and wildlife and waterfowl refuges, measures may include design modifications, replacement of land or facilities of

comparable value and function, or monetary compensation to enhance the remaining property or to mitigate the adverse impact in other ways. For historic sites, the measures normally serve to preserve the historic activities, features or attributes of the site as agreed to by the Federal Transit Administration and the official(s) with jurisdiction over the Section 4(f) resource in accordance with the consultation process under 36 CFR Part 800. In evaluating the reasonableness of measures to minimize harm, the Federal Transit Administration will consider the purpose of the statute and the views of the official(s) with jurisdiction, whether the cost is a reasonable public expenditure in light of the adverse impacts on and benefits to the Section 4(f) resource, and any impacts or benefits to communities or environmental resources outside of the Section 4(f) resource.

DETERMINE THE ALTERNATIVE WITH LEAST OVERALL HARM

If no feasible and prudent avoidance alternatives are identified and all remaining alternatives would result in the use of a Section 4(f) resource, the Federal Transit Administration must compare the alternatives to determine which causes the least overall harm in light of the preservationist purpose of the statute. As defined in 23 CFR § 774.3, the least overall harm is determined by balancing the following factors:

- The ability to mitigate adverse impacts on each Section 4(f) resource (including any measures that result in benefits to the property).
- The relative severity of the remaining harm, after mitigation, to the protected activities, attributes or features that qualify each Section 4(f) resource for protection.
- The relative significance of each Section 4(f) resource.
- The views of the official(s) with jurisdiction over each Section 4(f) resource.
- The degree to which each alternative meets the purpose and need for the project.
- After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f).
- Substantial differences in costs among the alternatives.

4.2.3. Parks and Recreation Areas

Parks and recreation areas that are anticipated to have a Section 4(f) use are discussed in the following sections and are organized by the official with jurisdiction. Resources that are not anticipated to have a Section 4(f) use are discussed in the Section 4(f) evaluation in Appendix D. Of the 18 parks and recreation areas evaluated, nine would not be impacted by the proposed project, five would have temporary occupancies that would not constitute a use and four would have a Section 4(f) use with a *de minimis* impact.

OFFICIAL WITH JURISDICTION: SAINT PAUL PARKS AND RECREATION

Eastside Heritage Park

Eastside Heritage Park is a 9-acre open space park and picnic area located at Phalen Boulevard and Neid Lane. BRT would operate in mixed traffic on both Phalen Boulevard and Neid Lane, adjacent to the park. The Rush Line BRT Project would require 0.84 acres of permanent acquisition for potential stormwater management. The acquisition area is on passive green space that is separated from the rest of the park by Phalen Boulevard (see Figure 20). A potential stormwater facility in that location is not anticipated to adversely affect the features, attributes or activities of the park.

Project staff met with Saint Paul Parks and Recreation and Public Works staff on April 2, 2020 to review project impacts and receive input on the preliminary assessment that the project would have a

de minimis impact on Eastside Heritage Park. City staff indicated that there is not active programming on the portion of the park south of Phalen Boulevard. Project staff also presented to the Parks and Recreation Commission on May 14, 2020 to review proposed impacts, and the commission provided a resolution of support for the project's concept plans. Project impacts will continue to be coordinated with the city, and the project would comply with city charter section 13.01.1, which requires that additional parkland be acquired to replace parkland diverted for other uses. The city's local parkland diversion requirements apply to areas of permanent acquisition within city parks, and the process, including identification of replacement parkland, occurs closer to project construction. Responsibility for acquiring the replacement parkland will be confirmed through an agreement between Ramsey County and the Metropolitan Council.

Finding

The Federal Transit Administration intends to make a *de minimis* determination for the permanent incorporation of Eastside Heritage Park. Prior to the Federal Transit Administration's final determination, Saint Paul Parks and Recreation must concur in writing with the *de minimis* determination after considering any comments received from the public during the 45-day comment period on the EA.

Figure 20: Eastside Heritage Park Impacts



Phalen Park

Phalen Park is a 5-acre city park located east of the Ramsey County rail right-of-way and north of Maryland Avenue. This parkland is passive green space with no programmed activities. BRT would operate in a dedicated guideway in the Ramsey County rail right-of-way adjacent to Phalen Park.

The Rush Line BRT Project would require 0.83 acres of permanent acquisition for potential stormwater management (see Figure 21). A potential stormwater facility is not anticipated to adversely affect the features, attributes or activities of the park.

Project staff met with Saint Paul Parks and Recreation and Public Works staff on April 2, 2020 to review project impacts and receive input on the preliminary assessment that the project would have a *de minimis* impact on Phalen Park. City staff indicated this parkland was purchased as a result of the city's parkland diversion procedures for another project. Project staff also presented to the Parks and Recreation Commission on May 14, 2020 to review proposed impacts, and the commission provided a resolution of support for the project's concept plans. Project impacts will continue to be coordinated with the city, and the project would comply with city charter section 13.01.1, which requires that additional parkland be acquired to replace parkland diverted for other uses. The city's local parkland diversion requirements apply to areas of permanent acquisition within city parks, and the process, including identification of replacement parkland, occurs closer to project construction. Responsibility for acquiring the replacement parkland will be confirmed through an agreement between Ramsey County and the Metropolitan Council.

Finding

The Federal Transit Administration intends to make a *de minimis* determination for the permanent incorporation of Phalen Park. Prior to the Federal Transit Administration's final determination, Saint Paul Parks and Recreation must concur in writing with the *de minimis* determination after considering any comments received from the public during the 45-day comment period on the EA.

Figure 21: Phalen Park Impacts



OFFICIAL WITH JURISDICTION: CITY OF MAPLEWOOD

Harvest Park

Harvest Park is a 25-acre city park located in the northeast quadrant of Gervais Avenue and the Ramsey County rail right-of-way. Park amenities currently include a basketball court, children's play area, soccer field, youth ball field, tennis courts and passive green space. BRT would operate in a dedicated guideway adjacent to the park, and the Highway 36 station platforms would be located north of Gervais Avenue in the Ramsey County rail right-of-way.

Build Alternative

The Build Alternative includes an approximately 300-space park-and-ride structure in the southwest corner of the park (see Figure 22).⁹⁸ Construction of the park-and-ride would require a 1.81-acre permanent acquisition from the park. This area is currently a sloped, passive green space. Temporary easements totaling 0.78 acres would also be needed during construction, with 0.05 acres needed to reconstruct existing sidewalks on the north side of Gervais Avenue and 0.73 acres needed to construct a trail connection north of the park-and-ride.

In 2020, the city prepared a master plan for the park that includes the proposed park-and-ride. Existing programmed areas adjacent to the proposed park-and-ride, including basketball and tennis courts and a soccer field, are planned to remain and would not be impacted by the proposed parking structure.

Build Alternative Option Without the Highway 36 Park-and-Ride

The Build Alternative option without the Highway 36 park-and-ride would require two areas of temporary easement, totaling 0.30 acres, to reconstruct an existing sidewalk along Gervais Avenue and an existing trail on the west side of the park that connects to the Bruce Vento Regional Trail (see Figure 23).

Coordination

The city of Maplewood does not anticipate that either the Build Alternative or the Build Alternative option without the Highway 36 park-and-ride would adversely affect the features, attributes or activities of Harvest Park. The city of Maplewood has representatives on the project's advisory committees and has provided input on the design of the proposed Highway 36 station and park-and-ride throughout the planning process. In addition, project staff met with Maplewood Parks and Recreation and Public Works staff on March 9, 2020 to review project impacts and receive input on the preliminary assessment that the project would have a *de minimis* impact on Harvest Park. City staff agreed with the preliminary determination and requested that project staff continue to coordinate with the city as the project advances.

Finding

The Federal Transit Administration intends to make a *de minimis* determination for the use of Harvest Park under the Build Alternative and the Build Alternative option without the Highway 36 park-and-ride. Prior to the Federal Transit Administration's final determination, the city must concur in writing with the *de minimis* determination after considering any comments received from the public during the 45-day comment period on the EA.

⁹⁸ As the project advances, there is the potential that the full build out of park-and-ride would be phased over time, starting with an approximately 170-space surface lot that would be constructed within the same footprint.

Figure 22: Impacts to Harvest Park Under the Build Alternative



Figure 23: Impacts to Harvest Park Under the Build Alternative Option Without the Highway 36 Park-and-Ride



OFFICIAL WITH JURISDICTION: INDEPENDENT SCHOOL DISTRICT 622

Weaver Elementary School

Weaver Elementary School is located in Maplewood on Birmingham Street, south of County Road B. The school property is approximately 12.4 acres and includes two ball fields, a playground and open space. The Ramsey County rail right-of-way borders the school property to the west, and a path crosses the Bruce Vento Regional Trail and connects Weaver Elementary School to the surrounding residential neighborhood.

BRT would operate in the Ramsey County rail right-of-way on the west side of the school, and the guideway would cross over the access from Weaver Elementary School on a new grade-separated crossing. Construction of the grade-separated crossing would require 0.11 acres of permanent acquisition and 0.45 acres of temporary easement from Weaver Elementary School (see Figure 24). The permanent acquisition and temporary easement would be adjacent to the western edge of one of the ball fields and would include a portion of the path that connects to the Bruce Vento Regional Trail. The path would be reconstructed as part of the Rush Line BRT Project, and the ball field would not be impacted. Because the path would be reconstructed and connectivity to the Bruce Vento Regional Trail would be maintained, these impacts are not anticipated to adversely affect the features, attributes or activities of Weaver Elementary School.

In addition to the permanent acquisition and temporary easement needed to construct the grade-separated crossing, the project would include a 1.45-acre permanent acquisition on the northern edge of the property for potential stormwater management (see Figure 24). Of this area, approximately 0.25 acres are maintained green space and the remaining 1.20 acres are wooded. Because this area is not generally used for recreation, this permanent acquisition is not anticipated to adversely affect the features, attributes or activities of Weaver Elementary School.

Project staff met with school district staff on July 20, 2020 to review project impacts and receive input on the preliminary assessment that the project would have a *de minimis* impact on Weaver Elementary School. School district staff indicated they had no concerns with the proposed impacts and look forward to working with the project on stormwater solutions.

Finding

The Federal Transit Administration intends to make a *de minimis* determination for the use of Weaver Elementary School. Prior to the Federal Transit Administration's final determination, the school district must concur in writing with the *de minimis* determination after considering any comments received from the public during the 45-day comment period on the EA.

Figure 24: Impacts to Weaver Elementary School



4.2.4. Historic Sites

Historic sites that are anticipated to have a Section 4(f) use are discussed in the following sections. Resources that are not anticipated to have a Section 4(f) use are discussed in the Section 4(f) evaluation in Appendix D. Of the 28 historic sites evaluated, 14 would not be impacted by the proposed project, nine would have temporary occupancies that would not constitute a use and five would have a Section 4(f) use (one of which would be a *de minimis* impact).

The official with jurisdiction for all Section 4(f) historic sites in the study area is the State Historic Preservation Office. The assessment of effects to these resources under Section 106 of the National Historic Preservation Act of 1966⁹⁹ is included in Appendix E.

OFFICIAL WITH JURISDICTION: STATE HISTORIC PRESERVATION OFFICE

Madeline L. Weaver Elementary School

Madeline L. Weaver Elementary School is a one-story, brick, Midcentury Modern style building in Maplewood, and the original building was constructed in 1966. It is eligible for the National Register of Historic Places. The Ramsey County rail right-of-way borders the school property to the west, and a path crosses the Bruce Vento Trail and connects Weaver Elementary School to the surrounding residential neighborhood.

BRT would operate in the Ramsey County rail right-of-way on the west side of the school property, and the dedicated guideway would cross over the access from Weaver Elementary School on a new grade-separated crossing. Construction of the grade-separated crossing would require 0.11 acres of permanent acquisition and 0.45 acres of temporary easement from Weaver Elementary School (see Figure 25). In addition to the permanent acquisition and temporary easement needed to construct the grade-separated crossing, the project would include a 1.45-acre permanent acquisition on the northern edge of the property for potential stormwater management (see Figure 25).

The Section 106 assessment of effects determined that the project would have no adverse effect to this historic property if certain conditions are met, including reestablishing vegetative screening between the school and project elements and completing a design review process (see the *Rush Line Bus Rapid Transit Project Section 106 Assessment of Effects and Determination of Effect for Historic Properties* in Appendix E). The State Historic Preservation Office concurred with this determination on January 8, 2021. The conditions are included in the Memorandum of Agreement (see the draft Memorandum of Agreement in Appendix C).

The State Historic Preservation Office was notified of the intent to make a *de minimis* determination for Madeline L. Weaver Elementary School at a Section 106 consulting party meeting on December 18, 2020 and a Section 4(f) coordination meeting on January 27, 2021.

Finding

The Federal Transit Administration intends to make a *de minimis* determination for the use of Madeline L. Weaver Elementary School.

⁹⁹ 54 USC Section § 306108 and 36 CFR Part 800

Figure 25: Madeline L. Weaver Elementary School Impacts



Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment and 1868 Alignment of the Lake Superior & Mississippi Railroad

Description of Section 4(f) Resources

The Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment extends from a wye junction just east of Union Depot in downtown Saint Paul to the 1935 White Bear Lake Depot in downtown White Bear Lake. The historic property, originally built by the Lake Superior & Mississippi Railroad in 1868, is an approximately 11-mile segment of a 155-mile long railroad corridor that ran from Saint Paul to Duluth's port on Lake Superior in 1870 (see Figure 26 through Figure 29). In 1992, Ramsey County purchased the rail right-of-way from Kellogg Boulevard to Beam Avenue from the BNSF Railway Company for future transit and trail use. In 1993, Ramsey County, in coordination with the city of Saint Paul, prepared the *Master Plan for Burlington Northern Regional Trail Corridor*.

The Saint Paul to White Bear Lake Segment of the Lake Superior & Mississippi Railroad Corridor Historic District is eligible for the National Register of Historic Places. Documentation of this determination of eligibility dates to 1996. There are nine contributing resources to this historic district within the study area. Of the nine contributing resources, three are individually eligible for the National Register of Historic Places: the 1868 Alignment of the Lake Superior & Mississippi Railroad between Eldridge Avenue East and County Road B East, between Gervais Avenue and County Road C and between Kohlman Avenue and Beam Avenue (see Figure 27 and Figure 28). The historic district and three individually eligible historic properties are considered together for the purposes of this individual Section 4(f) evaluation. This evaluation follows the steps outlined in Section 4.2.2.

Section 4(f) Use

The dedicated guideway would be constructed within the boundary of the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment beginning at Arcade Street in Saint Paul and continuing until Beam Avenue in Maplewood; it would also be within the historic district between County Road D and Buerkle Road in Maplewood (see Figure 26 through Figure 29).

The project would result in permanent incorporation of property within the historic district, with a total of 0.05 acres of permanent acquisition and 0.62 acres of temporary easement. These permanent acquisitions and temporary easements are located in four different areas:

- Approximately 0.02 acres of permanent acquisition and 0.03 acres of temporary easement within the historic district are required for construction of the grade-separated crossing in Ramsey County rail right-of-way by Weaver Elementary School. The acquisition area is adjacent to the 1868 Alignment of the Lake Superior & Mississippi Railroad between Eldridge Avenue East and County Road B East (see Figure 27).
- Approximately 156 square feet of temporary easement within the historic district is required for reconstruction of a Bruce Vento Regional Trail access from Barclay Street. This temporary easement is approximately 50 feet south of the 1868 Alignment of the Lake Superior & Mississippi Railroad between Kohlman Avenue and Beam Avenue (see Figure 28).
- Approximately 0.03 acres of permanent acquisition and 0.02 acres of temporary easement within the historic district are required for sidewalk construction on Buerkle Road (see Figure 28).

- Approximately 0.57 acres of temporary easement within the historic district are required on the west side of Highway 61 for grading and construction of pedestrian improvements (see Figure 29).

In addition, the project would require construction within the historic district on property owned by Ramsey County (within the Ramsey County rail right-of-way) between Arcade Street and Beam Avenue and between County Road D and Buerkle Road, which would not require permanent acquisitions or temporary easements. This includes construction of the dedicated guideway, stations, grade-separated crossings and stormwater management features and reconstruction of the Bruce Vento Regional Trail.

Construction of the project would directly and physically alter the characteristics that qualify this segment of the historic district for inclusion in the National Register of Historic Places by diminishing its integrity of design and materials. The Section 106 assessment of effects determined that the project would have an adverse effect on the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment and the three individually eligible segments of the 1868 Alignment of the Lake Superior & Mississippi Railroad. Because of this adverse effect determination, the Section 4(f) use of these resources cannot be considered *de minimis*.¹⁰⁰

Resolution of all adverse effects to resources associated with the Lake Superior & Mississippi Railroad will be accomplished through continued consultation under Section 106 of the National Historic Preservation Act (see the *Rush Line Bus Rapid Transit Project Section 106 Assessment of Effects and Determination of Effect for Historic Properties* in Appendix E).

¹⁰⁰ As defined in 23 CFR § 774.17, “For historic sites, a *de minimis* impact means that the Administration has determined, in accordance with 36 CFR Part 800 that no historic property is affected by the project or that the project will have “no adverse effect” on the historic property in question.”

Figure 26: Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment from Union Depot to Arcade Street



Figure 27: Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment from Arcade Street to County Road B

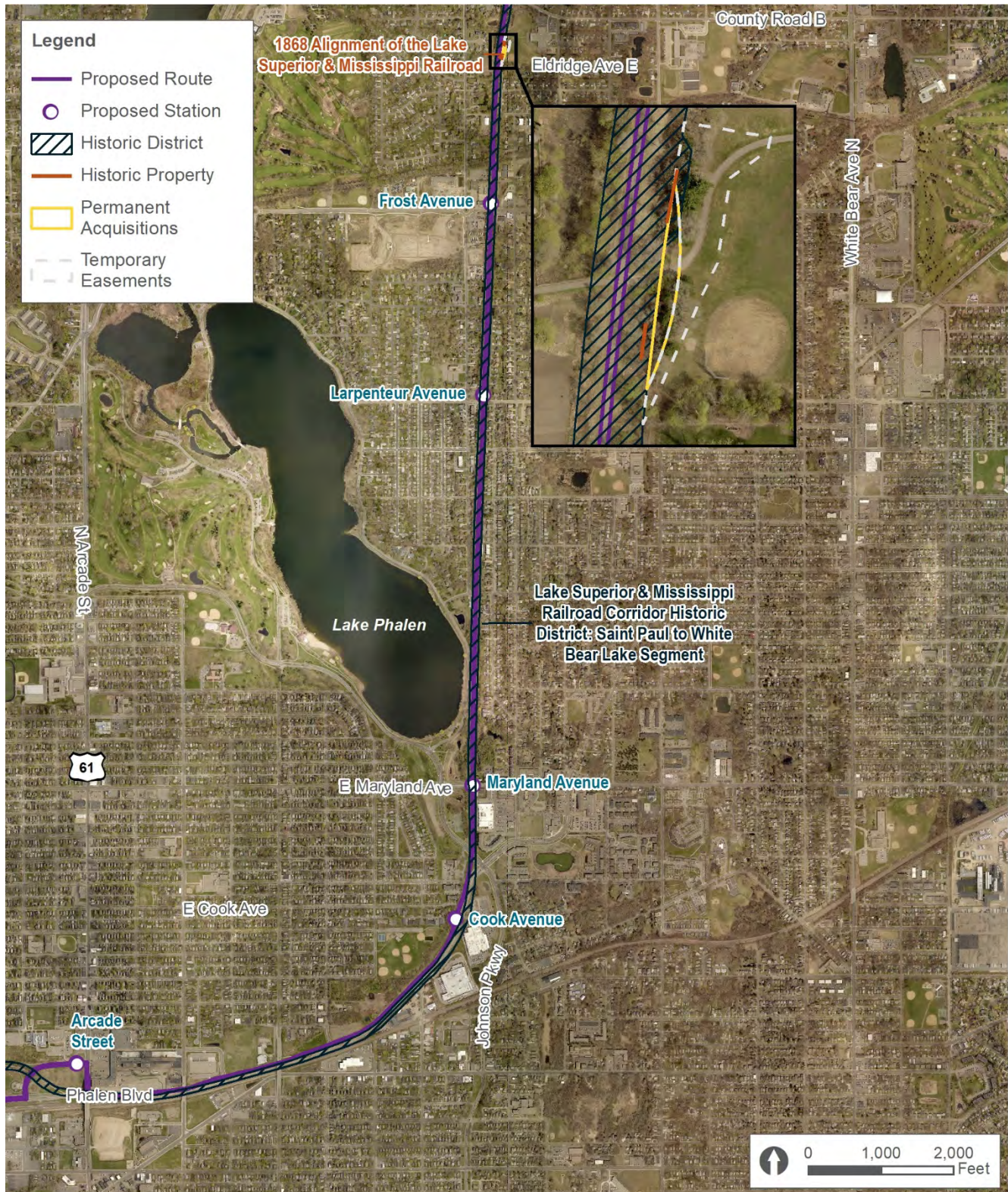


Figure 28: Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment from County Road B to County Road E

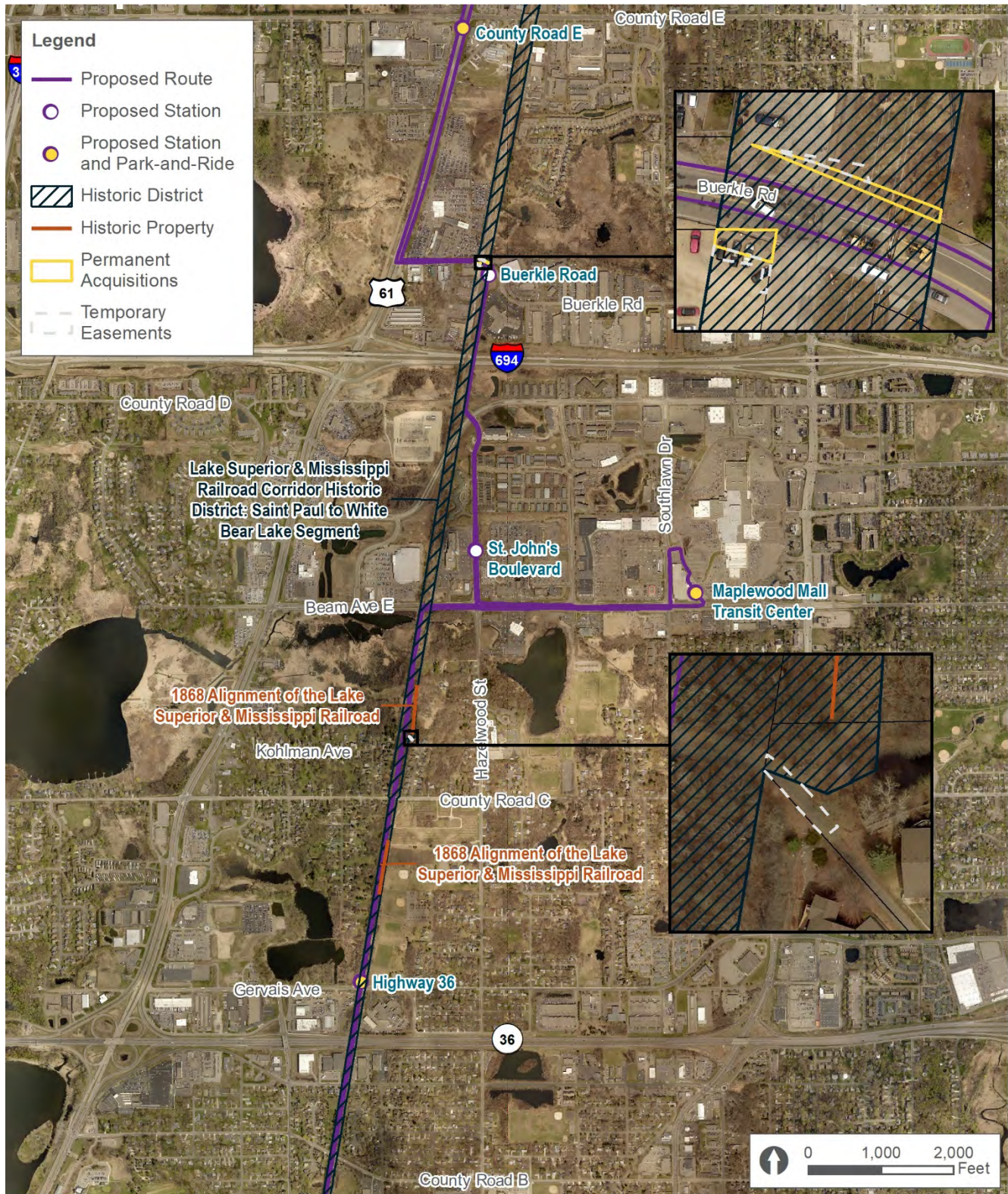


Figure 29: Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment from County Road E to Downtown White Bear Lake



Avoidance Alternatives

Once preliminary Section 4(f) uses have been determined, it is necessary to consider avoidance alternatives that would eliminate individual use of Section 4(f) resources. As defined in 23 CFR § 774.17, feasible and prudent avoidance alternatives are those that would avoid using any Section 4(f) resource and would not cause other problems of a magnitude that would substantially outweigh the importance of protecting the Section 4(f) resource.

Purpose and Need

The purpose of the Rush Line BRT Project is to provide transit service that satisfies the long-term regional mobility and accessibility needs for businesses and the traveling public and supports sustainable development within the municipalities adjacent to the Rush Line BRT Project, which include Saint Paul, Maplewood, White Bear Township, Vadnais Heights, Gem Lake and White Bear Lake. Four primary factors contribute to the need for the Rush Line BRT Project:

- Serving the needs of people who rely on transit.
- Meeting increasing demand for reliable, high-frequency transit.
- Planning for sustainable growth and development.
- Expanding multimodal travel options.

More information on the purpose and need for the project is included in Chapter 1 and in the *Purpose and Need Technical Report* (included in Appendix E).

No Build Alternative

The No Build Alternative is defined as the existing transportation system with planned and programmed improvements as presented in the Metropolitan Council's *2040 Transportation Policy Plan* but without the Rush Line BRT Project.¹⁰¹ The No Build Alternative would completely avoid the use of Section 4(f) resources.

The No Build Alternative is considered feasible from an engineering perspective because no construction would be required to implement the alternative.

When considering the prudence of the No Build Alternative, the most relevant criterion from 23 CFR § 774.17 is, "it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need." The No Build Alternative would not contribute to serving the needs of people who rely on transit; meeting increasing demand for reliable, high-frequency transit; planning for sustainable growth and development; or expanding multimodal travel options. Because the No Build Alternative would not meet the project's purpose and need, it is not considered a prudent alternative to avoid the use of the Section 4(f) resources.

Arterial BRT on White Bear Avenue

As part of the Rush Line BRT Project's pre-project development study conducted from 2014 to 2017, bus and rail alternatives within a 30-mile study area between Union Depot in Saint Paul and Forest Lake were evaluated using a three-step process. The first step (Tier 1 Evaluation) assessed eight transit modes, seven north/south alignments and 19 downtown Saint Paul alignments relative to overall implementation viability. The second step (Tier 2 Evaluation) assessed the four transit mode/alignment pairings that passed the Tier 1 Evaluation and compared the benefits and impacts of

¹⁰¹ Metropolitan Council. 2040 Transportation Policy Plan. October 2018 Update. Available at <https://metrocouncil.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan.aspx>.

each, including the number of cultural or historic sites within 400 feet of each alignment. The alternative that fared best against the detailed criteria in this second step was further refined in the third step (Tier 2 Refinement). The locally preferred alternative was identified at the conclusion of the Tier 2 Refinement in 2017 and was adopted into the *2040 Transportation Policy Plan* in 2018. For more information on this process, see the *Rush Line Corridor Pre-Project Development Study Locally Preferred Alternative Selection Report*.¹⁰²

Of the four alternatives that advanced to the Tier 2 Evaluation, three would operate in Ramsey County rail right-of-way and, therefore, are assumed to have similar Section 4(f) impacts as the Build Alternative evaluated in this EA. The fourth alternative, arterial BRT on White Bear Avenue, would operate in mixed traffic within existing roadways (see Figure 30). This arterial BRT alternative would avoid the Section 4(f) use of the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment and the three segments of the 1868 Alignment of the Lake Superior & Mississippi Railroad and would be designed to avoid impacts to other historic properties and recreational resources protected by Section 4(f) and Section 106.

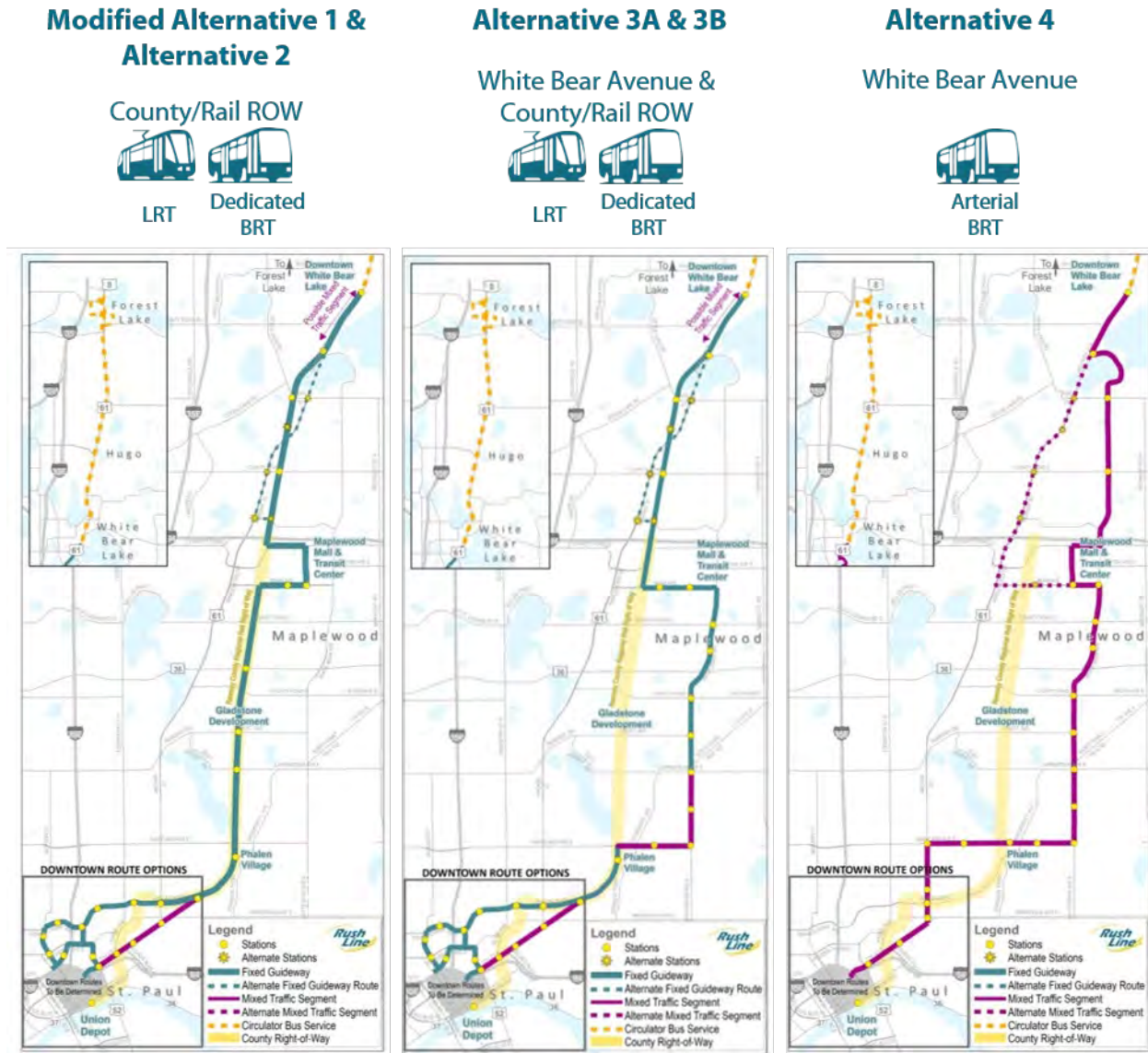
Arterial BRT on White Bear Avenue is considered feasible because it could be built as a matter of sound engineering judgement.

When considering the prudence of arterial BRT on White Bear Avenue, the most relevant criterion from 23 CFR § 774.17 is, “it compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need.” The Tier 2 Evaluation found that this alternative had the lowest number of new riders and the lowest total corridor ridership. It also had the lowest potential to generate economic development and would provide service similar to a planned extension of the Route 54.¹⁰³ For these reasons, arterial BRT on White Bear Avenue would not meet the project’s purpose and need, it is not considered a prudent alternative to avoid the use of the Section 4(f) resources.

¹⁰² Available at <https://www.ramseycounty.us/sites/default/files/Projects%20and%20Initiatives/Rush%20Line%20LPA%20Report%20-%20Final.pdf>.

¹⁰³ The extension of Route 54 was implemented in June 2018.

Figure 30: Alternatives Advanced to the Tier 2 Evaluation in the Pre-Project Development Study



Measures to Minimize Harm

In addition to a determination that there is no feasible and prudent alternative that avoids the use of a Section 4(f) resource, the Section 4(f) regulations also state that the Federal Transit Administration may not approve the use of a Section 4(f) resource unless it determines that the proposed project includes all possible planning, as defined in 23 CFR § 774.17, to minimize harm to the property resulting from such use.

The adverse effect to the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment and the three segments of the 1868 Alignment of the Lake Superior & Mississippi Railroad will be minimized through the consultation process under Section 106 of the

National Historic Preservation Act of 1966.¹⁰⁴ It might be possible to design the project to avoid physical effects to two segments of the 1868 Alignment of the Lake Superior & Mississippi Railroad (between County Road C and Gervais Avenue and between Kohlman and Beam Avenues). However, construction of the grade-separated crossing of the dedicated guideway and trail access between English Street and Weaver Elementary School would likely physically impact the segment between Eldridge Avenue East and County Road B East (see Figure 27).

The Federal Transit Administration, with assistance from the Minnesota Department of Transportation Cultural Resources Unit, the State Historic Preservation Office and other consulting parties,¹⁰⁵ will resolve adverse effects in accordance with the terms of a Section 106 Memorandum of Agreement. The draft Memorandum of Agreement is included in Appendix C of the EA and will be finalized following public comment and the results of coordination with the State Historic Preservation Office and other Section 106 consulting parties.

Assessment of Least Overall Harm

Per 23 CFR § 774.3(c)(1), the Section 4(f) regulations require a balancing of the following seven factors when determining which alternative would cause the least overall harm:

- The ability to mitigate adverse impacts on each Section 4(f) resource (including any measures that result in benefits to the property).
- The relative severity of the remaining harm, after mitigation, to the protected activities, attributes or features that qualify each Section 4(f) resource for protection.
- The relative significance of each Section 4(f) resource.
- The views of the official(s) with jurisdiction over each Section 4(f) resource.
- The degree to which each alternative meets the purpose and need for the project.
- After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f).
- Substantial differences in costs among the alternatives.

Avoidance alternatives were not found to be prudent in light of the project's stated purpose and need. The only remaining alternative would result in the use of a Section 4(f) resource. Measures to minimize harm to the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment and the three segments of the 1868 Alignment of the Lake Superior & Mississippi Railroad are discussed in the previous section.

Coordination with the Official with Jurisdiction

In September 2018, the Federal Transit Administration sent a letter to the State Historic Preservation Office to initiate Section 106 consultation for the Rush Line BRT Project. The architecture/history and archaeological investigations prepared for the project were submitted to the State Historic Preservation Office for review, including the Phase II evaluation of the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment. Consultation with the State Historic Preservation Office and other Section 106 consulting parties will continue to resolve the

¹⁰⁴ 54 USC Section § 306108 and 36 CFR Part 800

¹⁰⁵ In addition to the State Historic Preservation Office, Section 106 consulting parties include the city of Saint Paul, Saint Paul Heritage Preservation Commission, city of Maplewood, Maplewood Heritage Preservation Commission, Maplewood Area Historical Society, city of Vadnais Heights, city of White Bear Lake, White Bear Lake Area Historical Society, city of Gem Lake, White Bear Township, Ramsey County, Metropolitan Council, US Army Corps of Engineers and Federal Highway Administration.

adverse effects to the resources associated with the Lake Superior & Mississippi Railroad. Section 4(f) coordination with the State Historic Preservation Office will also occur as the Section 106 consultation process continues.

In addition to coordination with the State Historic Preservation Office as the official with jurisdiction and other Section 106 consulting parties, there have been extensive public engagement efforts to inform and collect input from the public to shape the project. Public engagement efforts during the project's environmental analysis phase are summarized in Section 5.1 of the EA. Public engagement highlighting historic resources and the Section 106 process included the following:

- A flyer on the Section 106 process that highlighted the Lake Superior & Mississippi Railroad Corridor Historic District.
- Pop-up meetings on the Bruce Vento Regional Trail.
- Stakeholder workshops and development of the *Ramsey County Rail Right-of-Way Design Guide* acknowledging National Register eligibility and the historic character of the Lake Superior & Mississippi Railroad corridor.
- Section 106 presentations to the project's Policy Advisory Committee and Community Advisory Committee.

Members of the public will be able to comment on the Section 4(f) evaluation during the 45-day public comment period after the EA is published. Information on how to submit comments is included in the introduction to the EA.

Conclusion

Based on the analysis above, the Federal Transit Administration finds that there is no feasible and prudent avoidance alternative (as defined in 23 CFR § 774.17) to the use of the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment and the three individually eligible segments of the 1868 Alignment of the Lake Superior & Mississippi Railroad, which are properties afforded protection under Section 4(f). The Build Alternative represents the alternative of least overall harm and includes all possible planning to minimize harm to the Section 4(f) resources resulting from use, as described above.

4.3. SUMMARY

4.3.1. Parks and Recreation Areas

Table 26 summarizes the anticipated Section 4(f) use of parks and recreation areas by the Rush Line BRT Project. The project is anticipated to have a *de minimis* impact on four parks and recreation areas. Pursuant to 23 CFR § 774.5, the officials with jurisdiction over these resources have been notified that the Federal Transit Administration intends to make a *de minimis* determination. After considering any comments submitted by the public during the 45-day comment period on the EA, which includes public meetings, the Federal Transit Administration may finalize the *de minimis* impact determinations if the officials with jurisdiction concur in writing that the project would not adversely affect the activities, features or attributes that make the properties eligible for Section 4(f) protection.

Table 26: Summary of Anticipated Section 4(f) Uses of Parks and Recreation Areas

Resource Name	Official with Jurisdiction	Anticipated Section 4(f) Use
Eastside Heritage Park	Saint Paul Parks and Recreation	Yes, <i>de minimis</i> impact
Phalen Park	Saint Paul Parks and Recreation	Yes, <i>de minimis</i> impact
Harvest Park	City of Maplewood	Yes, <i>de minimis</i> impact ¹⁰⁶
Weaver Elementary School	Independent School District 622	Yes, <i>de minimis</i> impact

4.3.2. Historic Sites

Table 27 summarizes the anticipated Section 4(f) use of historic sites by the Rush Line BRT Project. The official with jurisdiction for all historic sites in the study area is the State Historic Preservation Office. The project is anticipated to have a Section 4(f) use of five historic sites, one of which would be a *de minimis* impact.

Pursuant to 23 CFR § 774.5, the consulting parties identified in accordance with 36 CFR Part 800 were consulted, and the State Historic Preservation Office was informed of the intent to make a *de minimis* impact determination for Madeline L. Weaver Elementary School. The State Historic Preservation Office concurred with the finding of no adverse effect in accordance with 36 CFR Part 800.

The project would result in a Section 4(f) use of the Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment and the three segments of the 1868 Alignment of the Lake Superior & Mississippi Railroad. Resolution of all adverse effects to resources associated with the Lake Superior & Mississippi Railroad will be accomplished through continued consultation under Section 106 of the National Historic Preservation Act.¹⁰⁷ Section 4(f) coordination with the State Historic Preservation Office regarding these resources will also occur as the Section 106 consultation process continues.

Table 27: Summary of Anticipated Section 4(f) Uses of Historic Sites

Resource Name	Official with Jurisdiction	Anticipated Section 4(f) Use
Madeline L. Weaver Elementary School	State Historic Preservation Office	Yes, <i>de minimis</i> impact
Lake Superior & Mississippi Railroad Corridor Historic District: Saint Paul to White Bear Lake Segment	State Historic Preservation Office	Yes
1868 Alignment of the Lake Superior & Mississippi Railroad between Eldridge Avenue East and County Road B East	State Historic Preservation Office	Yes
1868 Alignment of the Lake Superior & Mississippi Railroad between Gervais Avenue and County Road C	State Historic Preservation Office	Yes
1868 Alignment of the Lake Superior & Mississippi Railroad between Kohlman Avenue and Beam Avenue	State Historic Preservation Office	Yes

¹⁰⁶ Both the Build Alternative and the Build Alternative option without the Highway 36 park-and-ride would result in an anticipated *de minimis* impact to Harvest Park.

¹⁰⁷ 54 USC Section § 306108 and 36 CFR Part 800

5. PUBLIC ENGAGEMENT AND AGENCY COORDINATION

5.1. PUBLIC ENGAGEMENT

Public engagement efforts in the environmental analysis phase of the Rush Line BRT Project have built on the public engagement work conducted throughout the pre-project development study, which involved extensive public engagement that led to the adoption of the locally preferred alternative in 2017.¹⁰⁸ At the beginning of the environmental analysis phase in 2018, project staff created a Communications and Public Engagement Plan to guide public engagement throughout this phase.¹⁰⁹ The plan established the following goals of public engagement:

- Inform a diverse public.
- Collect input from a diverse public.
- Use public input to shape the project.

This plan described and examined the demographic characteristics of study area communities and identified strategies to effectively engage with these populations. As described in the *Environmental Justice Technical Report* (see Appendix E), people of color make up over half (51.5 percent) of the population within one-half mile of the route.¹¹⁰ Communities of color are most dense in Saint Paul and between the Frost Avenue and Highway 36 stations in Maplewood. Low-income populations (individuals in households with total household income below the 2018 US Census poverty threshold) make up 19.8 percent of the population within one-half mile of the route. The proportion of residents with low incomes is highest in the Saint Paul portion of the study area, particularly around the Mt. Airy Street, Olive Street, Cayuga Street, Payne Avenue, Arcade Street and Cook Avenue stations.

The plan also established four criteria for prioritizing attendance at events: equity, inclusivity, geographic representation and maximization of voices heard. Project staff used these criteria to focus public engagement efforts in areas with significant communities of color and/or low-income populations, hosting and attending events at locations including the Mt. Airy public housing complex, which is adjacent to the Mt. Airy Street station; Hmong Village, a shopping center with over 250 Hmong vendors that is located near the Cook Avenue station; and Comunidades Latinas Unidas en Servicio, an organization on Saint Paul's East Side that serves Latino residents. Throughout the environmental analysis phase, supplemental public engagement plans were created to define strategies for public engagement related to specific project decisions and to bolster efforts with communities of color in the project area, namely the Hmong population in Saint Paul and Maplewood. Targeted engagement efforts sought out diverse input on transit needs and project details by focusing outreach with other relevant populations within the project area, including:

¹⁰⁸ Reports from the pre-project development study, including the public engagement summary, are available at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

¹⁰⁹ The Communications and Public Engagement Plan is available at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

¹¹⁰ For the purpose of this document, people of color is defined consistent with the definition of minorities in Federal Transit Administration Circular 4703.1, which defines minorities as those that self-identify as a racial or ethnic minority (American Indian/Alaska Native, Asian, Black or African American, Hispanic or Latino, and/or Native Hawaiian/Pacific Islander).

- Latino people living in Saint Paul.
- Karen people.
- People of color.
- Public housing residents.
- Transit users.
- People with disabilities.
- Seniors.
- Residents of each community along the route.
- Employees in each community along the route.

From March 2018 to March 2021, project staff hosted or attended 197 events and spoke to approximately 3,400 people. Public engagement events included the following:

- Attendance at community events, such as festivals and community-hosted family-oriented events.
- Targeted gatherings including listening sessions and drop-in discussions hosted by project staff.
- Presentations to city councils, district councils and public housing resident councils.
- Pop-up meetings at community facilities and destinations including city parks, hospitals, transit stations, shopping centers and farmers markets.
- One-on-one meetings with business and property owners whose properties would be temporarily or permanently impacted by the project.

In addition to these in-person efforts, project staff also employed the following online engagement tools:

- **Rush Line BRT Project website.** The Rush Line BRT Project website served as an online resource throughout the environmental analysis phase. The website included a project library with the pre-project development study and information including project advisory committee meeting notes, public engagement summaries, the Health Impact Assessment and upcoming public engagement opportunities.
- **Rush Line BRT contact form.** The Rush Line BRT Project website included a contact form for community members and other stakeholders to submit comments and questions to project staff and request a response if desired.
- **Online interactive maps.** Project staff used online mapping tools to share information and gather input about various aspects of the project including the overall route, the *Ramsey County Rail Right-of-Way Design Guide*, station design and the Downtown White Bear Lake station. More than 1,300 comments were submitted via these online mapping tools, and the input gathered was used to inform the decision-making process for these aspects of the project.

Through these public engagement activities, project staff recorded more than 2,600 comments from residents and other stakeholders throughout the project area. Comments predominantly addressed the following topics:

- **General support or opposition.** Comments were submitted that expressed general support for or opposition to the Rush Line BRT Project.

- **Safety.** Comments focused on concerns about transit leading to an increase in crime or affecting pedestrian safety around buses.
- **Ramsey County rail right-of-way.** Comments addressed concern about changes to the Ramsey County rail right-of-way as a result of the project.
- **Station locations.** Comments expressed concern about and preferences for station locations, notably the 10th Street and Downtown White Bear Lake stations.
- **Environmental impact.** Comments expressed a concern that implementation of the Rush Line BRT Project would increase traffic congestion, increase emissions, harm natural habitat or be detrimental to local businesses.

Most recorded comments were made during in-person conversations at public engagement events. Project staff responded to these comments in the moment and collected information to follow up with interested stakeholders as needed. Project staff typically replied to comments submitted via the Rush Line BRT Project website or via email within five business days and answered subsequent questions as they arose. The Rush Line WikiMap and story maps included disclaimers that project staff would not directly respond to comments submitted through these tools.

Throughout the environmental analysis phase, project staff sought and gathered input to inform project decisions that could be shaped by public feedback. Project staff documented this input and shared it with the Technical Advisory Committee and Policy Advisory Committee (described in Section 5.2), which considered this input when making decisions regarding station locations, design of the Ramsey County rail right-of-way, guideway design and other project elements.¹¹¹ Input received has influenced decision-making on the following:

- Refining the location of the 10th Street, Arcade Street and Downtown White Bear Lake stations.
- Refining the proposed design to preserve on-street parking spaces on 10th Street.
- Adding stations at Cook Avenue and Buerkle Road to provide better access to neighborhood and employment destinations.
- Refining the route to provide better access to the Maplewood Mall Transit Center and St. John's Hospital and to make use of existing bus-only lanes on 5th and 6th Streets in downtown Saint Paul.
- Refining the design of the grade-separated dedicated guideway and trail crossing near Weaver Elementary School.
- Developing the guiding principles and recommendations of the *Ramsey County Rail Right-of-Way Design Guide*.
- Refining the Highway 36 park-and-ride concept.
- Refining project design to minimize impacts to businesses and property owners where possible.

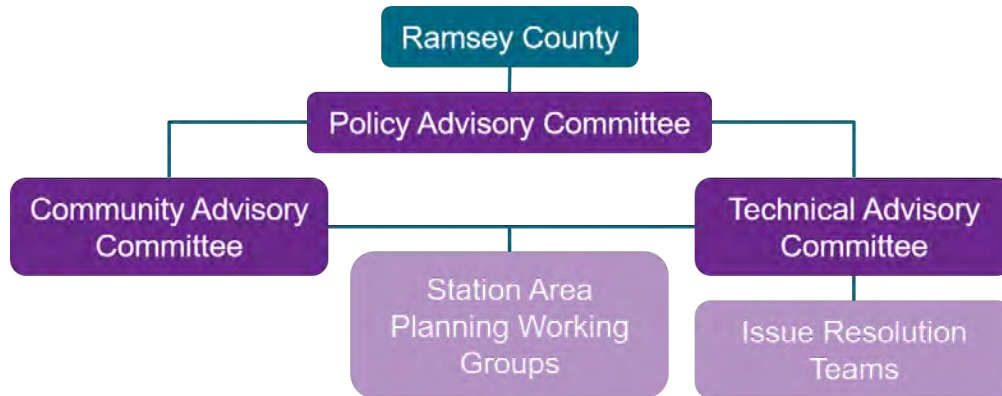
¹¹¹ A summary of public engagement conducted during the Rush Line BRT Project environmental analysis phase is available on the project website at <https://www.ramseycounty.us/residents/roads-transit/transit-corridors-studies/rush-line-brt-project/project-library>.

5.2. AGENCY COORDINATION

5.2.1. Project Decision-Making and Advisory Bodies

The decision-making process for the Rush Line BRT Project is led by Ramsey County and is informed by input from the groups shown in Figure 31. These groups are informed by input gathered from public engagement efforts (described in Section 5.1).

Figure 31: Environmental Analysis Phase Advisory Committees and Working Groups



The Policy Advisory Committee consists of elected and appointed officials from communities in the Rush Line BRT Project area and key partner agencies. The Policy Advisory Committee provides the overall direction and guidance for the project.

The Technical Advisory Committee, comprised of planning and public works staff from Rush Line BRT Project area communities and partner agencies, provides technical input on issues including design, environmental, engineering, construction and operation of the Rush Line BRT Project. Technical Advisory Committee members review technical documents and make recommendations to the Policy Advisory Committee.

The Community Advisory Committee provides business and community perspectives to Rush Line BRT Project staff, the Technical Advisory Committee and the Policy Advisory Committee on project design, station area planning, environmental analysis and operational plan decisions. The Community Advisory Committee consists of community members who advise on public engagement techniques and assist with ensuring that information regarding engagement opportunities is effectively communicated.

Based on geographic location and proximity to stations, four regional station area planning working groups were formed to discuss station area issues, including placement of station platforms, access to stations, circulation within the station areas and land use and development patterns. These working groups included residents, elected officials, interested Community Advisory Committee members, hospital and business representatives and planning commission members. Findings from the station area planning working groups were shared with the Technical and Policy Advisory Committees.

Issue resolution teams were formed during the environmental analysis phase to address specific technical and engineering issues related to the Rush Line BRT Project. Participants in the issue resolution teams include public agency staff (including members of the Technical Advisory Committee) and Rush Line BRT Project staff. Recommendations and findings from the issue resolution teams are given to the Technical Advisory Committee.

5.2.2. Cooperating Agencies

The proposed crossing of I-694 requires an interstate right-of-way use approval from the Federal Highway Administration, and the Federal Highway Administration must issue a National Environmental Policy Act determination prior to approving any right-of-way agreement. The Federal Transit Administration invited the Federal Highway Administration to become a cooperating agency in the project's environmental review process pursuant to 40 CFR § 1501.8, and the Federal Highway Administration accepted the invitation on September 16, 2020 (see correspondence in Appendix B). The Federal Transit Administration agreed to be the lead federal agency for the Section 106 process per the Federal Highway Administration's request pursuant to 36 CFR § 800.2(a)(2) (see correspondence in Appendix B). As a cooperating agency, the Federal Highway Administration reviewed and provided comment on the EA prior to publication. If the Federal Highway Administration concludes that its comments were adequately addressed, it may adopt the EA without recirculating it for public review.

Other resource-specific agency coordination is discussed in Chapter 3, and agency correspondence is included in Appendix B.