



Gold Line

BUS RAPID TRANSIT PROJECT

ENVIRONMENTAL ASSESSMENT

September 2019

METRO GOLD LINE BUS RAPID TRANSIT ENVIRONMENTAL ASSESSMENT / ENVIRONMENTAL ASSESSMENT WORKSHEET

Prepared by:

**U.S. Department of Transportation (USDOT)
Federal Transit Administration (FTA)
and
Metropolitan Council (Council)**

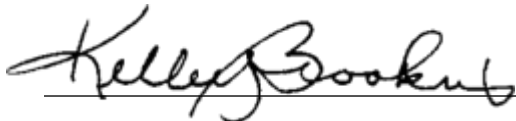
In cooperation with:

**Federal Highway Administration (FHWA)
U.S. Army Corps of Engineers (USACE)
Minnesota Department of Transportation (MnDOT)**

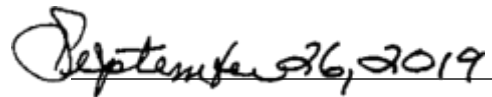
Pursuant to:

National Environmental Policy Act of 1969 (NEPA), as amended, Title 42, U.S. Code (USC), Sec. 4321 et seq.; Council of Environmental Quality (CEQ) regulations, Title 40, Code of Federal Regulations (CFR), Part 1500 et seq. Implementing NEPA; Federal Transit Laws, Title 49, USC, Chap. 53; Environmental Impact and Related Procedures, Title 23, CFR, Part 771, a joint regulation of the FHWA and FTA implementing NEPA and CEQ regulations; Section 106 of the National Historic Preservation Act of 1966, Title 16, USC, Sec. 470(f); Section 4(f) of the Department of Transportation Act of 1966, as amended, Title 49, USC, Sec. 303; Section 6(f)(3) of the Land and Water Conservation Fund Act of 1965, Title 16, USC, Sec. 4601 – 4 et seq.; Clean Air Act, as amended, Title 42, USC, Sec. 7401 et seq.; Clean Water Act, as amended, Title 42, USC, Sec. 1251 et seq.; Endangered Species Act of 1973 (16 USC 1531-1544, 87 Stat. 884); Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, Title 42, USC, Sec. 4601 et seq.; Executive Order 12898 (“Federal Actions to Address Environmental Justice in Minority and Low-Income Populations”); Executive Order 13166 (“Improving Access to Services for Persons with Limited English Proficiency”); Executive Order 11988 (“Floodplain Management”); other applicable federal laws and procedures; and all relevant laws and procedures of the State of Minnesota.

Upon consideration of the comments received on the Environmental Assessment (EA)/Environmental Assessment Worksheet (EAW), the FTA and the Council will determine the adequacy of the environmental document. If further documentation is necessary, preparing an Environmental Impact Statement (EIS), revising the EA/EAW, or providing clarification in the Findings of Fact and Conclusions would accomplish this. If an EIS is not necessary, the Council will prepare a Negative Declaration on the need for an EIS to fulfill Minnesota state environmental requirements. Further, if, upon consideration of comments received on the EA/EAW, the FTA agrees with the Council’s findings, the FTA will issue a Finding of No Significant Impact.



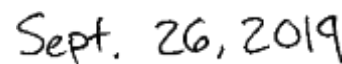
Kelley Brookins
Regional Administrator
Federal Transit Administration, Region V



Date of Approval



Charles Carlson
Director, BRT Projects
Metropolitan Council



Date of Approval



ABSTRACT

This EA/EAW (see **Appendix F** for the EAW) describes the transportation, social, physical and environmental impacts associated with the construction and operation of the METRO Gold Line Bus Rapid Transit Project (Project). The Project is a planned 9- to 10-mile transitway in Ramsey and Washington counties in the eastern part of the Twin Cities Metropolitan Area. The Project generally would operate parallel to Interstate 94 (I-94) and would better connect downtown Saint Paul with the suburban cities of Maplewood, Landfall, Oakdale and Woodbury.

More broadly, the Project would better connect the eastern Twin Cities Metropolitan Area to the regional transit network via the Union Depot multimodal hub in downtown Saint Paul. The Project also intends to serve and draw ridership from other portions of the metropolitan area, including portions of eastern Washington County, Dakota County to the south, and Hennepin County including the City of Minneapolis to the west.

This EA includes the Project's statement of purpose and need, and descriptions of the current and previously considered No-Build and Build Alternatives. The EA and its associated appendices explain the analyses regulations and methodology, long- and short-term impacts, indirect effects and cumulative impacts, and avoidance, minimization and mitigation measures for the following resources:

- **Transportation:** traffic; transit; parking and driveways; pedestrian and bicycle facilities; freight rail; and aviation
- **Community and social:** land use plan compatibility; community facilities, character and cohesion; acquisitions and displacements; cultural resources; visual quality and aesthetics; business and economic resources; safety and security; and environmental justice
- **Physical and environmental:** utilities; floodplains; surface waters; stormwater and water quality; geology, groundwater and soils; hazardous materials and contamination; noise and vibration; biological environment (endangered species and wildlife habitat); air quality; energy; and farmlands
- **Sections 4(f) and 6(f):** publicly owned parks, recreational areas, and wildlife and waterfowl refuges; and publicly or privately-owned historic sites

This EA also describes the Project's alternatives evaluation process, financial analysis, and public involvement and agency coordination activities. The Project's 15% Concept Plans depict the location of the Project's alternatives.

Copies of this document were sent to agencies, local governments, libraries and other interested organizations in accordance with Minnesota Rule 4410.1500, "Publishing and Distributing EAW." The document and reference materials are also available on the Project website at: www.metrotransit.org/gold-line. Hard copies of the document are available at the following locations:

Gold Line Project Office

Metro Square Building
121 7th Place East, Suite 102
Saint Paul, MN 55101

Federal Transit Administration, Region 5

200 West Adams Street
Suite 320
Chicago, IL 60606

Downtown Saint Paul Central Library (George Latimer Central Library)

90 West 4th Street
Saint Paul, MN 55102

Dayton's Bluff Library

645 East 7th Street



Sun Ray Library

2105 Wilson Avenue
Saint Paul, MN 55119

Maplewood Library

3025 Southlawn Drive
Maplewood, MN 55109

Landfall City Hall

One 4th Avenue
Landfall, MN 55128

Oakdale Library

1010 Heron Ave N
Oakdale, MN 55128

Woodbury Library (R.H. Stafford Library)

8595 Central Park Place
Woodbury, MN 55125

The public can comment on this document in writing or orally at public meetings for the Project. The Federal Transit Administration (FTA) and Metropolitan Council (Council) encourage the public to submit comments during the EA/EAW 30-day comment period from October 7, 2019 to November 6, 2019. The Council will conduct two public meetings:

- Tuesday, October 22, 2019: 5-7 PM
East Side Learning Center at Harding Senior High School
1526 E. 6th Street, Saint Paul, MN 55106
- Wednesday, October 23, 2019: 5-7 PM
Landfall Community Center
2 4th Avenue N, Landfall, MN 55128

The Council will also hold drop-in hours:

- Monday, October 28, 2019: 11 AM-1 PM
Gold Line Project Office
121 7th Place East, Suite 102, Saint Paul, MN 55101

Send written comments to:

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APPENDICES

Appendix A: Environmental Assessment Technical Reports

- 1: Purpose and Need Technical Report*
- 2: Alternatives Technical Report*
- 3: Transportation Resources Technical Report*
- 4: Community and Social Resources Technical Report*
- 5: Physical and Environmental Resources Technical Report*
- 6: Cultural Resources Technical Report*
- 7: Indirect Effects and Cumulative Impacts Technical Report*
- 8: Final Section 4(f) and 6(f) Evaluation Technical Report*
- 9: Financial Analysis Technical Report*
- 10: Public and Agency Coordination Technical Report*

Appendix B: 15% Concept Plans

Appendix C: Section 106 Documentation

Appendix D: Coordination and Correspondence

Appendix E: Sources and References Cited

Appendix F: Environmental Assessment Worksheet



ACRONYMS AND ABBREVIATIONS

2040 TPP	<i>2040 Transportation Policy Plan</i>
APE	Area of Potential Effect
BMP	Best Management Practice
BRT	Bus Rapid Transit
BRTOD	Bus Rapid Transit Oriented Development
CBAC	Community and Business Advisory Committee
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
CIG	Capital Investment Grant
CMC	Corridor Management Committee
Council	Metropolitan Council
CPIP	Communications and Public Involvement Plan
CRWD	Capitol Region Watershed District
DNR	Minnesota Department of Natural Resources
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Environmental Site Assessment
EAW	Environmental Assessment Worksheet
FTA	Federal Transit Administration
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
GCC	Gateway Corridor Commission
GSP	Gross State Product
I-	Interstate
iPAC	Information for Planning and Consultation
LOS	Level of Service
LPA	Locally Preferred Alternative
LRT	Light Rail Transit
MnDOT	Minnesota Department of Transportation
MnDOT CRU	MnDOT Cultural Resources Unit
MnSHPO	Minnesota State Historic Preservation Office
MPCA	Minnesota Pollution Control Agency
NEPA	National Environmental Policy Act
NRHP	National Register of Historic Places
OMF	Operations and Maintenance Facility
OSHA	Occupational Safety and Health Administration



PA	Programmatic Agreement
PEP	Public Engagement Program
Project	METRO Gold Line Bus Rapid Transit Project
RWMWD	Ramsey-Washington Metro Watershed District
RAP	Response Action Plan
TH	Trunk Highway
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDOT	U.S. Department of Transportation
USFWS	U.S. Fish and Wildlife Service
VMT	Vehicle Miles Traveled
WCA	Wetland Conservation Act
WCRRRA	Washington County Regional Railroad Authority



INTRODUCTION

The Federal Transit Administration (FTA) and Metropolitan Council (Council) prepared this EA to assess the potential environmental impacts of the proposed Gold Line Bus Rapid Transit (BRT) Project (Project). This EA uses a streamlined approach to prepare a concise and user-friendly document that is organized in a manner that is useful to decision makers and the public.

The EA is organized into the following four chapters:

- **Chapter 1, Purpose and Need:** Provides the rationale and justification for the Project
- **Chapter 2, Alternatives:** Provides a brief Project background and describes the No-Build Alternative and two Build Alternatives
- **Chapter 3, Environmental Consequences:** Summarizes the analysis and impacts of the long-term and short-term direct impacts for the No-Build and Build Alternatives, indirect effects and cumulative impacts, and measures to avoid, minimize and mitigate these impacts for the following resource areas:
 - Transportation
 - Community and social
 - Physical and environmental
 - Section 4(f)
- **Chapter 4, Public and Agency Coordination:** Summarizes the Project's public and agency coordination activities and permitting requirements

The EA also includes several technical reports that provide detailed information to support the analysis completed to fulfill requirements of the National Environmental Policy Act of 1969 (NEPA)^{1, 2} and relevant laws and procedures of the State of Minnesota:

- **Appendix A, Environmental Assessment Technical Reports:** Includes the regulatory context and methodology for the analysis of the resource areas included in the EA. The technical reports also include detailed descriptions of the affected environment for each resource area, analysis of long- and short-term impacts, indirect effects, and cumulative impacts, and avoidance, minimization and mitigation measures for impacts caused by the Project.
- **Appendix B, 15% Concept Plans:** Provides the proposed conceptual plans for the BRT guideway, station platforms, right-of-way, limits of disturbance, traffic signal modifications, property acquisitions, and other Project related elements.

¹ *The National Environmental Policy Act of 1969, as amended. ("The Public Health and Welfare," Title 42, USC, Sec. 4321 et seq.). Available at: <https://www.gpo.gov/fdsys/pkg/USCODE-2011-title42/pdf/USCODE-2011-title42-chap55-sec4321.pdf>. Accessed November 2018.*

² *Council on Environmental Quality. "Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act." 2005 reprint of "Protection of Environment," Title 40, CFR, Parts 1500-1508. Available at: https://www.energy.gov/sites/prod/files/NEPA-40CFR1500_1508.pdf. Accessed October 2018.*



- **Appendix C, Section 106 Documentation:** Includes the Project's draft Section 106 Programmatic Agreement (PA) for agency and public review. This appendix also includes the Project's architecture/history and archaeology area of potential effect, agency correspondence, materials related to the consultation process, technical reports, and supporting documents.
- **Appendix D, Coordination and Correspondence:** Documents the coordination that occurred with local, state and federal agencies for the Project.
- **Appendix E, Sources and References Cited:** Provides a list of sources, and how to access these sources, referenced in the EA and associated appendices.
- **Appendix F, Environmental Assessment Worksheet (EAW):** includes the environmental assessment completed for the State of Minnesota Environmental Quality Board to determine if an Environmental Impact Statement is required for the Project.

After completion of the 30-day comment period for the EA and supporting appendices, FTA and the Council will review and respond to substantive comments received. Comments that raise specific issues regarding the Project or analysis process, suggest new alternatives, or raise concern over new impacts not addressed in the EA are considered substantive comments. If further documentation is needed, the Council could either prepare an EIS or revise the EA and EAW. If further documentation is not needed, the Council will prepare a Negative Declaration on the need for an EIS to fulfill Minnesota environmental requirements, and FTA will issue a Finding of No Significant Impact (FONSI) that presents the reasons why the Project will not have a significant effect on the human environment and for which an EIS will not be prepared. The notice of decision for the Project will be provided to all persons who received a copy of the EA, submitted written comment(s) on the EA or submitted a written request for a copy.

The Project has three cooperating agencies under NEPA: Federal Highway Administration (FHWA), the U.S. Army Corps of Engineers (USACE), and Minnesota Department of Transportation (MnDOT). A cooperating agency is an agency which has jurisdiction by law or special expertise on issues addressed under NEPA. The FTA and the Council coordinated with the cooperating agencies on development of the EA. The cooperating agencies are required to comply with NEPA and other federal and state laws.

As cooperating agencies, FHWA and MnDOT are also responsible for coordinating with FTA on Interstate 94 (I-94) and the state trunk highway system. Upon completion of the EA and comment period, if FHWA determines the Project and environmental impacts have been adequately addressed, it may adopt the Project's EA. If FTA issues a FONSI for the Project based on not having a significant effect on the human environment, FHWA will review FTA's FONSI and issue their own decision document.

As a cooperating agency, USACE is also responsible for implementing Section 404 of the Clean Water Act. USACE coordinated with FTA on development of the EA and will issue its permit decision under 40 CFR Part 230 Section 404(b)(1)³ after FTA completes its environmental review process.

³ *Clean Water Act, Sec. 404(b)(1) Guidelines. Available at: <https://www.epa.gov/cwa-404/clean-water-act-section-404b1-guidelines-40-cfr-230>. Accessed August 2018.*



1. PURPOSE AND NEED

This chapter summarizes the purpose and need for the METRO Gold Line Bus Rapid Transit (BRT) Project (Project). The purpose and need provide the rationale and justification for the Project and are used to develop a range of reasonable alternatives for analysis, and to identify and select a Preferred Alternative. The *Purpose and Need Technical Report* in **Appendix A** provides the full statement of purpose and need for the Project including its description, background, and goals and objectives.

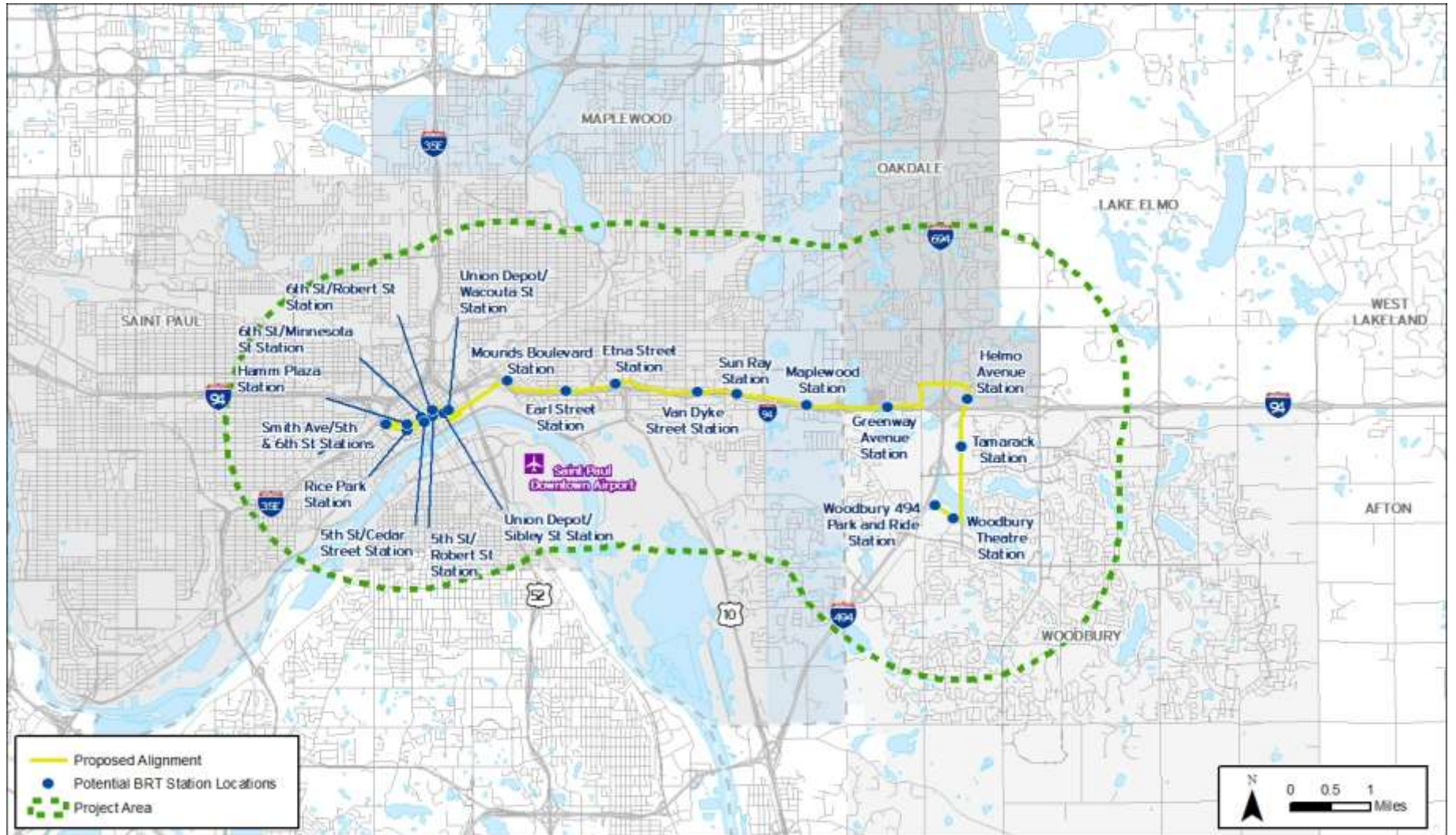
1.1. Project Location

The Project is a planned 9 -- 10 mile transitway in Ramsey and Washington counties in the eastern part of the Twin Cities Metropolitan Area (see **Figure 1.1-1**). The Project generally would operate parallel to Interstate 94 (I-94) and would better connect downtown Saint Paul with the suburban cities of Maplewood, Landfall, Oakdale and Woodbury.

More broadly, the Project would better connect the eastern Twin Cities Metropolitan Area to the regional transit network via the Union Depot multimodal hub in downtown Saint Paul. The Project also intends to serve and draw ridership from other portions of the metropolitan area, including portions of eastern Washington County, Dakota County to the south, and Hennepin County including the City of Minneapolis to the west.

While the intended service area for the Project is larger, the documentation of the Project purpose and need focuses on those communities the Project expects to serve most directly: the communities within 2 miles of the proposed Build Alternatives. These are either communities in which the Project is physically located (Saint Paul, Maplewood, Landfall, Oakdale and Woodbury) or a community within 2 miles of the proposed alignment (Lake Elmo). Together, these communities make up the Project area discussed below.

FIGURE 1.1-1: METRO GOLD LINE BUS RAPID TRANSIT PROJECT





1.2. Project Purpose

The purpose of the Project is to provide transit service to meet the existing and long-term regional mobility and local accessibility needs for businesses and the traveling public within the Project area.

1.3. Project Need

Project needs are the issues and problems that the Project intends to address. The following primary factors contribute to the need for the Project:

- **Limited existing transit service throughout the day and demand for more frequent service over a larger portion of the day.** The Project area and the I-94 corridor lack all-day, bidirectional transit service that would operate from 5 a.m. to midnight on weekdays and weekends, particularly east of Saint Paul and Maplewood, limiting the ability of people in the Project area to use transit to meet their transportation needs.
- **Policy shift toward travel choices and multimodal investments.** I-94 and local roadways in the Project area are congested today during peak travel periods.⁴ Modeling forecasts anticipate increased traffic volumes and congestion in the future. Funding for roadway projects will not be adequate to address the congestion problem. State and regional transportation policies identify the need to provide alternatives to traveling in congested conditions.^{5,6,7} The Council anticipates approach volumes north and south of I-94 at County State Aid Highway (CSAH) 13 (Radio Drive/Inwood Avenue), CSAH 19 (Woodbury Drive/Keats Avenue), and CSAH 15/TH 95 S (Manning Avenue) will reach volumes between 24,200 and 50,800 vehicles per day (vpd), representing growth of 9,200 to 18,300 vpd for each approach.⁸
- **Population and employment growth, increasing access needs, and travel demand.** Forecasts anticipate population and employment growth in the Project area, which would increase access needs and travel demand, particularly in the I-94 corridor. The projected growth rate in the Twin Cities metropolitan area is 31 percent between 2010 and 2040, according to the 2010 census and the regional forecasts from the Council's *Thrive MSP 2040* plan.⁹ Population growth within Washington County accounts for approximately 10 percent of the region's 2010 to 2040 projected growth, with approximately 92,064 anticipated new residents. Within the

⁴ Minnesota Department of Transportation. 2017 Congestion Report – Metropolitan Freeway System. January 2017. Available at: <http://www.dot.state.mn.us/rtrmc/reports/congestionreport2017.pdf>. Accessed October 2018.

⁵ Minnesota Department of Transportation. State of Minnesota 2019-2022 State Transportation Improvement Program. September 2018. Available at: http://www.dot.state.mn.us/planning/program/pdf/stip/2019_22%20Final%20STIP.pdf. Accessed December 2018.

⁶ Minnesota Department of Transportation. Minnesota State Highway Investment Plan: 2018-2037. January 2017. Available at: http://minnesotago.org/application/files/7914/8431/7219/MnSHIP_Final_Jan2017_With_Appendices.pdf. Accessed November 2018.

⁷ Minnesota Department of Transportation. Statewide Multimodal Transportation Plan: 2017-2036. January 2017. Available at: http://minnesotago.org/application/files/7414/8642/7717/SMTP_Plan_Final_Jan2017_small.pdf. Accessed November 2018.

⁸ Minnesota Department of Transportation. Rethinking I-94 Phase I Report. August 2018. Available at: <http://www.dot.state.mn.us/i-94minneapolis-stpaul/pdf/vision/phase-1-report.pdf>. Accessed November 2018.

⁹ Metropolitan Council. Thrive MSP 2040: One Vision, One Metropolitan Region. Adopted May 28, 2014. Available at: <https://metro council.org/Planning/Projects/Thrive-2040/Thrive-MSP-2040-Plan.aspx?source=child>. Accessed October 2018.



Project area, forecasts anticipate particularly strong population growth in Woodbury, which only has express bus service.

- **Needs of people who depend on transit.** Deficiencies in transit service limit the ability of people in the Project area, who depend on transit for access to employment and other needs.
- **Local and regional objectives for growth and prosperity.** Without improved transit service, Project area communities have limited abilities to implement local and regional policies that encourage multimodal transportation, transit, compact development and environmental preservation. In addition to Thrive MSP 2040, regional, county and city plans prioritize transit as a component to growth and economic competitiveness:
 - › Metropolitan Council *2030 Regional Development Framework*¹⁰
 - › Ramsey County *2030 Comprehensive Plan*¹¹
 - › Washington County *2030 Comprehensive Plan*¹²
 - › *City of Saint Paul Comprehensive Plan* (adopted February 2010)¹³
 - › *City of Maplewood Comprehensive Plan* (adopted January 2010)¹⁴
 - › *City of Landfall Village 2040 Comprehensive Plan* (September 2017)¹⁵
 - › *2030 Oakdale Comprehensive Plan* (May 2010)¹⁶
 - › *City of Woodbury 2030 Comprehensive Plan* (July 2010)¹⁷

¹⁰ Metropolitan Council. *2030 Regional Development Framework*. Amended December 14, 2006. Available at: <https://metro council.org/Planning/Publications-And-Resources/2030-Regional-Development-Framework.aspx>. Accessed November 2018.

¹¹ Ramsey County. *Ramsey County 2030 Comprehensive Plan*. Adopted 2008. Available at: <https://www.ramseycounty.us/sites/default/files/Open%20Government/Ramsey%20County%202030%20Comprehensive%20Plan%20%28Nov.%202009%29.pdf>. Accessed October 2018.

¹² Washington County. *Washington County 2030 Comprehensive Plan – A Policy Guide to 2030*. Adopted 2010. Available at: <https://www.co.washington.mn.us/DocumentCenter/View/131/CP-Final-Book-02-14-11?bidId=.%20>. Accessed October 2018.

¹³ City of Saint Paul. “*Comprehensive Plan – Adopted February 2010*”. Available at: <https://www.stpaul.gov/departments/planning-economic-development/planning/citywide-plans>. Last modified February 24, 2010. Accessed May 2018.

¹⁴ City of Maplewood. “*2030 Comprehensive Plan*”. Available at: <https://maplewoodmn.gov/DocumentCenter/Index/110>. Adopted January 25, 2010. Accessed May 2018.

¹⁵ City of Landfall Village. *2040 Comprehensive Plan*. Available at: <http://citcms.cityoflandfall.com/FileUpload/2040%20Comp%20Plan%20Update%2009182017.pdf>. Last modified September 18, 2017. Accessed May 2018.

¹⁶ City of Oakdale. *Oakdale 2030 Comprehensive Plan*. Available at: <https://www.ci.oakdale.mn.us/201/Comprehensive-Plan>. Last modified 2008. Accessed May 2018.

¹⁷ City of Woodbury. “*Current 2030 Comprehensive Plan*” Available at: https://www.woodburymn.gov/departments/planning/current_comprehensive_plan.php. Last modified 2008. Accessed May 2018.



2. ALTERNATIVES

This chapter summarizes the Metropolitan Council's (Council) evaluation of the Project alternatives.

Public and agency input identified a range of alternatives, which the Project advisory bodies evaluated based on the alternatives' abilities to meet the Project's purpose and need, minimize environmental impacts, and meet or exceed the qualification ratings needed for the Federal Transit Administration's (FTA) Capital Investment Grant (CIG) Program, through which major transit projects compete for capital funding grants.

The alternatives evaluation informed the Council's adoption of the Project's Locally Preferred Alternative (LPA): Build Alternative 1, which includes Alignments A1, B, C and D3. The *Alternatives Technical Report* in **Appendix A** provides details of the alternatives evaluation and LPA selection process.

2.1. Background

In 2010, the Washington County Regional Railroad Authority (WCRRA) and Ramsey County Regional Railroad Authority initiated the Project, then called the Gateway Corridor. The joint powers Gateway Corridor Commission (GCC), which became the Gold Line Partners in 2016, guided policy decisions during the alternatives analysis study and alternatives development processes. The GCC was comprised of representatives from the cities and counties in which the Project is located, and the WCRRA was the local lead agency. In 2017, the Council, which is the metropolitan planning organization for the Twin Cities Metropolitan Area, became the Project's local lead agency and responsible governmental unit for completing the environmental review and documentation process. The Gold Line Partners continue to engage with the public to inform and build support for the Project. The Council established the Corridor Management Committee (CMC) in early 2018 to advise the Council and counties on Project design and construction activities.

The Project alternatives are rooted in plans and studies dating back to 2008. These include feasibility studies, park-and-ride plans, managed lane studies, and long-range transportation plans, among others.

Table 2.1-1 lists the multiple phases the Project used to develop the alternatives.

TABLE 2.1-1: ALTERNATIVES DEVELOPMENT PROCESS TIMELINE

Activity	Timeframe
Gateway Corridor AA study and final report	2010-2013
Additional analysis and project definition prior to release of the <i>Gateway Corridor Draft Environmental Impact Statement Scoping Booklet</i>	2013-2014
Draft EIS Scoping process	February-August 2014
Selection of LPA and its adoption by the Council into its long-range transportation and funding plan (January 2015 version) ^a	August 2014 to January 2015
Alternatives refinement	Fall 2014 to December 2016
LPA refinement of east-end alignment and terminus	January-December 2016



Activity	Timeframe
Change in NEPA class of action from EIS to EA	March 2017
Alternatives refinement ^b	January 2018 - 2019
Inclusion of revised LPA in the Council's 2040 TPP (2018 Update) ^c	October 2018
Administrative amendment to LPA to extend Project terminus in Woodbury ^d	April 2019

^a Metropolitan Council. 2040 Transportation Policy Plan. Version 1.0. January 14, 2015. Available at: [https://metro council.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan/The-Adopted-2040-TPP-\(1\)/Final-2040-Transportation-Policy-Plan/2040-TPP-Complete.aspx](https://metro council.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan/The-Adopted-2040-TPP-(1)/Final-2040-Transportation-Policy-Plan/2040-TPP-Complete.aspx). Accessed October 2018.

^b Build Alternative 2 identified by the CMC in September 2018.

^c Metropolitan Council. 2040 Transportation Policy Plan (2018 Update). Adopted October 24, 2018. Available at: <https://metro council.org/tpp-update.aspx?source=child>. Accessed October 2018.

^d Metropolitan Council. 2040 Transportation Policy Plan (2018 Update). Adopted April 24, 2019. Available at: <https://metro council.org/tpp-update.aspx?source=child>. Accessed April 2019.

Between 2010 and 2016, multiple activities soliciting public and agency input identified potential Project alternatives for analysis. In February 2013, the GCC published the *Gateway Corridor Alternatives Analysis Final Report*,¹⁸ which identified BRT and light rail transit (LRT) as the alternatives that would best meet the Project's goals. The report concluded that the preferred option would be BRT operating in dedicated guideway, and it recommended advancing the LRT evaluation for comparative purposes. The GCC later eliminated the LRT alternative due to higher capital and operating costs without increased ridership or other benefits compared with BRT.

The GCC identified the following six alternatives for additional study. Figures showing the alternatives are in the *Alternatives Technical Report* in **Appendix A** and noted below. A screening analysis evaluated a range of alternatives against the Project's purpose and need to eliminate or advance alternatives.

- The No-Build Alternative
- A BRT-managed lane alternative the FHWA requested (Figure 2.2-2 in **Appendix A**)
- The following four dedicated BRT alternatives:
 - › ABC-D1-E1 (Figure 2.2-3 in **Appendix A**)
 - › ABC-D2-E1 (Figure 2.2-3 in **Appendix A**)
 - › ABC-D2-E2 (Figure 2.2-3 in **Appendix A**)
 - › ABC-D2-E3 (Figure 2.2-3 in **Appendix A**)

Station accessibility concerns, operational conflicts and higher operating costs resulted in the elimination of the managed lane alternative. The GCC also eliminated Alternative ABC-D2-E1 due to traffic conflicts that would require significant and potentially costly mitigation in Woodbury.

¹⁸ Gateway Corridor Commission. Gateway Corridor Alternatives Analysis Final Report. February 2013. Available at: <http://thegatewaycorridor.com/alternative-analysis>. Accessed October 2018.



The GCC retained the remaining three Build Alternatives for further study and recommended Alternative ABC-D2-E2 as the LPA. The Council adopted this alternative into its *2040 Transportation Policy Plan (2040 TPP)*,¹⁹ and the Cities of Saint Paul, Maplewood, Oakdale, Landfall and Woodbury passed resolutions of support for it. However, due to lack of support from the City of Lake Elmo, the GCC eliminated Alternative ABC-D2-E2 from analysis.

The GCC refined the LPA by identifying potential new alignments for the east end of the Project area. The previous three BRT alternatives were reevaluated. The Cities of Woodbury and Lake Elmo did not support advancement of any of these. Thus, the GCC eliminated them from analysis.

The GCC identified seven new alignments for the east end of the Project area, and it eliminated five based on their inability to meet the Project's purpose and need. The GCC advanced two alignments for detailed evaluation: End at Inwood Avenue Station, and End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station. Based on their estimated ridership, capital costs, cost-effectiveness and access to jobs, the GCC eliminated the End at Inwood Avenue Station alignment from further analysis, and it advanced the End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station alignment (Alternative ABC-D3) for further study.

In 2016, the GCC, the Cities of Oakdale, Maplewood and Woodbury, the WCRRA and the Ramsey County Regional Railroad Authority adopted Alternative ABC-D3 as the refined LPA. The Council required that only the cities where the change occurred needed to submit resolutions of support; however, Maplewood opted to express formal support as well. The Cities of Saint Paul and Landfall did not need to act. The Council amended its 2040 TPP²⁰ in October 2018 to include the refined LPA.

In April 2019, the Council adopted an administrative amendment to the 2040 TPP that extended the Project terminus in Woodbury from the Woodbury Theatre Station to the Woodbury 494 Park and Ride Station.

2.2. Alternatives Advanced for Further Study in Environmental Assessment

In January 2018, the FTA granted the Project entry into the Project Development Phase of the CIG Program's New Starts process. At that point, the Council became the lead agency for building and maintaining the Project, after more than eight years of work by a coalition made up of Washington County and Ramsey County officials, business leaders and representatives of Project area cities.²¹

The Council advanced the design and environmental evaluation for the LPA for development of this EA/EAW. In accordance with federal and state environmental laws, the Council also advanced the No-Build Alternative. In 2018, following the 2016 adoption of the LPA, the CMC requested a second Build Alternative for study that modified Alignment A of the LPA, and the FTA and Council agreed to its full evaluation in the EA/EAW. Therefore, the LPA is Build Alternative 1, which includes Alignments A1, B, C and D3, and Build Alternative 2 includes Alignments A2, B, C and D3. The difference between the two Build Alternatives is Alignment A in downtown Saint Paul. Alignment A2 of Build Alternative 2 would terminate at Union Depot, and Alignment A1 of Build Alternative 1 would terminate approximately 1 mile to the west at the Smith Avenue Transit Center.

¹⁹ Metropolitan Council. 2040 Transportation Policy Plan. Adopted January 2015. Available at: [https://metro council.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan-\(1\)/The-Adopted-2040-TPP-\(1\).aspx](https://metro council.org/Transportation/Planning-2/Key-Transportation-Planning-Documents/Transportation-Policy-Plan-(1)/The-Adopted-2040-TPP-(1).aspx). Accessed November 2018.

²⁰ Metropolitan Council. 2040 Transportation Policy Plan (2018 Update). Adopted October 24, 2018. Available at: <https://metro council.org/tpp-update.aspx?source=child>. Accessed October 2018.

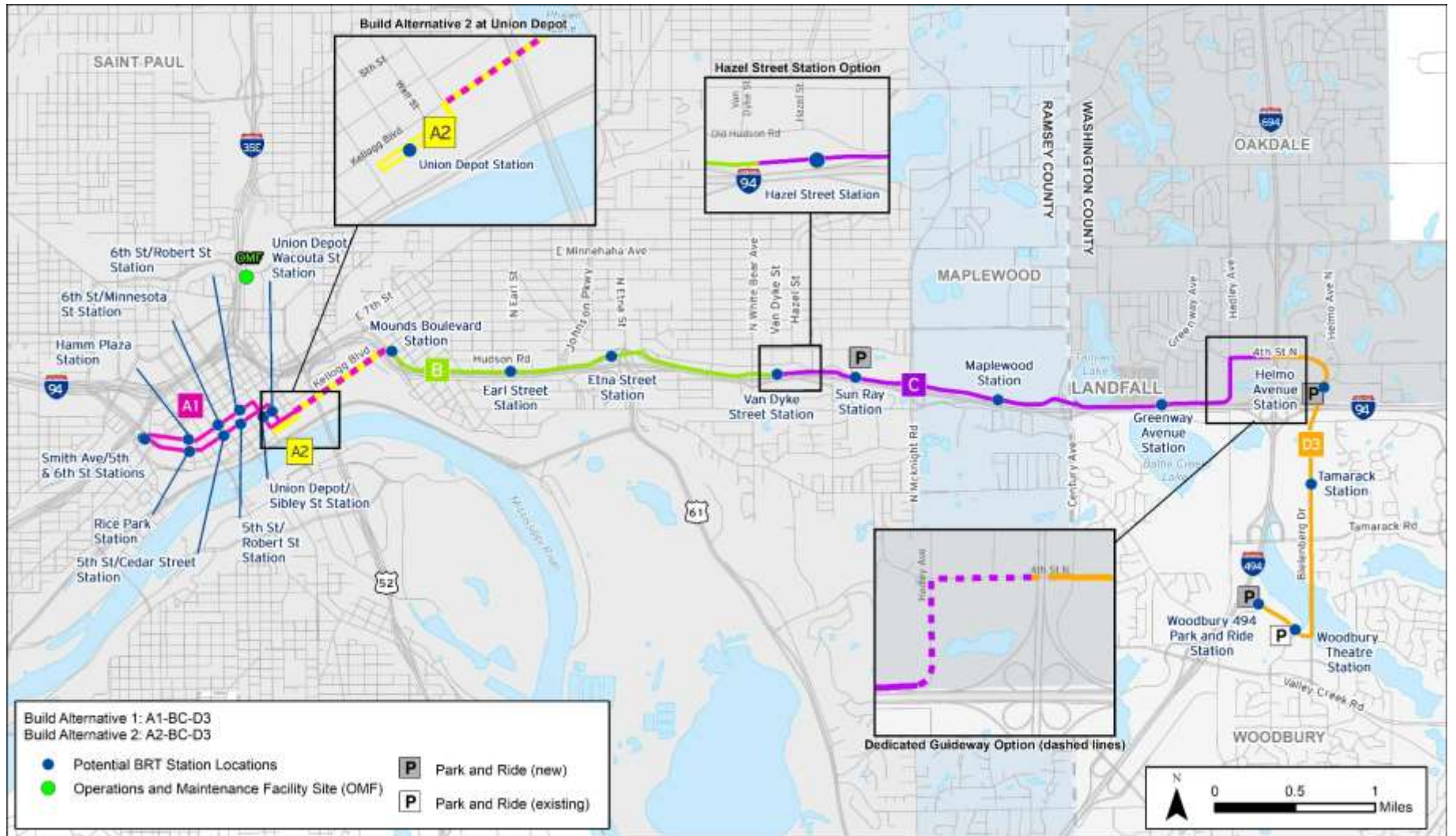
²¹ Gateway Corridor Commission. Gateway Corridor Alternatives Analysis Final Report. February 2013. Available at: <http://thegatewaycorridor.com/alternative-analysis>. Accessed October 2018.



In summary, this EA/EAW evaluates the three alternatives: the No-Build Alternative, Build Alternative 1 (A1-BC-D3), and Build Alternative 2 (A2-BC-D3). The Build Alternatives are shown in **Figure 2.2-1**.



FIGURE 2.2-1: PROJECT BUILD ALTERNATIVES EVALUATED IN THE ENVIRONMENTAL ASSESSMENT





2.2.1. No-Build Alternative

NEPA requires analysis of a No-Build Alternative to provide a baseline from which to evaluate the potential impacts, benefits and costs of the Build Alternatives. The No-Build Alternative represents the existing transportation system as the 2040 TPP presents it – with only planned and programmed improvements, and without the Project.

2.2.2. Build Alternative 1 (A1-BC-D3) (Locally Preferred Alternative)

Build Alternative 1 would include all-day service that would operate from 5 a.m. to midnight on weekdays and weekends between the existing Smith Avenue Transit Center in downtown Saint Paul and a new station near the Woodbury Theatre and I-494 in Woodbury. Build Alternative 1 includes 10 stations in downtown Saint Paul, including two new stations at Union Depot, and 11 stations along the remainder of the alignment.

Table 2.2-1 provides the percentage of dedicated guideway and mixed traffic that the Project would operate in for the Build Alternatives. Dedicated guideway would be new roadway constructed for the Project, with the exception of using existing dedicated guideway in downtown Saint Paul.

TABLE 2.2-1: DEDICATED GUIDEWAY VERSUS MIXED TRAFFIC

Build Alternative	Dedicated Guideway	Mixed Traffic
Build Alternative 1 (A1-BC-D3)	66 percent	34 percent
<i>With Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	68 percent	32 percent
Build Alternative 2 (A2-BC-D3)^a	70 percent	30 percent
<i>With Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	72 percent	28 percent

^a See **Section 2.2.3** for a description of Build Alternative 2.

Under Alignment A1, BRT would operate primarily in dedicated bus lanes along 5th and 6th streets in downtown Saint Paul, transitioning to mixed traffic across the Kellogg Boulevard Bridge to a new station on Mounds Boulevard in Dayton’s Bluff.

Alignment B would begin at the Mounds Boulevard Station and extend to the new Van Dyke Street Station, with BRT mostly operating in a dedicated guideway. At the Old Hudson Road/Hudson Road intersection, BRT would transition to mixed traffic operations before continuing in a dedicated guideway east of Kennard Street.

Alignment C would begin just east of White Bear Avenue with BRT operating primarily in a dedicated guideway, and it would end on the west side of the 4th Street Bridge over I-694. Near Tanners Lake, BRT would operate in mixed traffic until just east of Greenway Avenue, where it would enter a dedicated guideway split along the north and south sides of Hudson Boulevard. The split guideway would turn north and follow Hadley Avenue to 4th Street, where BRT would transition into mixed traffic operations across the 4th Street bridge.

Build Alternative 1 includes the following two design options in Alignment C:



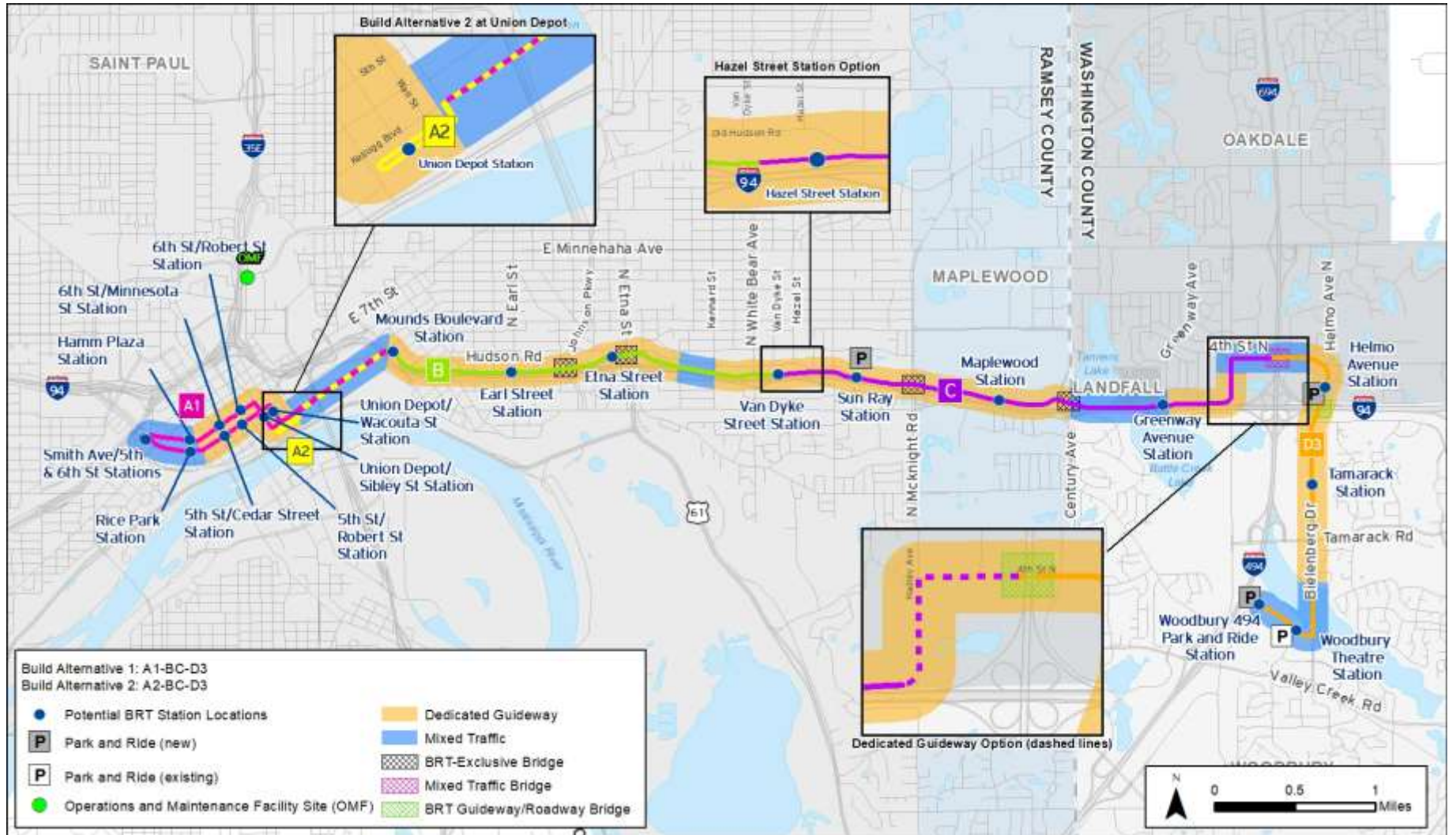
- **Hazel Street Station Option:** From White Bear Avenue, BRT would continue east in a dedicated guideway, stopping at the Hazel Street Station instead of the Van Dyke Street Station, approximately 700 feet east of Van Dyke Street Station.²²
- **Dedicated Guideway Option at Hadley Avenue and 4th Street:** On Hadley Avenue and 4th Street, BRT would operate in a center running dedicated guideway across a reconstructed bridge over I-694 before turning south near Helmo Avenue instead of operating in mixed traffic and crossing I-694 on the existing bridge. The Project would reconstruct the bridge and would include dedicated lanes for BRT guideway and roadway, as well as a pedestrian facility.

Alignment D3 would begin in mixed traffic, follow 4th Street east of I-694 in a center running guideway, and continue south across I-94 across a new multi-modal bridge connecting to Bielenberg Drive. The alignment would continue south on Bielenberg Drive in a center running guideway to Nature Path, where BRT would transition into mixed traffic operations continuing to the new Woodbury 494 Park and Ride Station.

Figure 2.2-2 shows the operating environment for the Build Alternatives including the locations where the Project would operate in the dedicated guideway and in mixed traffic.

²² In February 2019, the City of Saint Paul amended its Gold Line Station Area Plan to change the recommended station location from Van Dyke Street to Hazel Street based on public input received during the Project's design advancement. Prior to the amended plan, Van Dyke Street was the recommended station location, therefore this EA evaluates a station at both locations.

FIGURE 2.2-2: PROJECT BUILD ALTERNATIVES OPERATING ENVIRONMENT





2.2.3. Build Alternative 2 (A2-BC-D3)

Build Alternative 2 would include all-day service that would operate from 5 a.m. to midnight on weekdays and weekends between a new station at the Union Depot in downtown Saint Paul and a new station near the Woodbury Theatre and I-494 in Woodbury. Build Alternative 2 includes 1 station in downtown Saint Paul at the Union Depot bus deck and 11 stations along the remainder of the alignment. Build Alternative 2 would operate in a guideway dedicated only to transit buses for 70 percent of its route and in mixed traffic for 30 percent. The dedicated guideway is new roadway being constructed for the Project. Table 2.2-1 provides the percentage of dedicated guideway and mixed traffic that the Project would operate in for Build Alternative 2. **Figure 2.2-2** shows the locations where the Project would operate in a dedicated guideway and mixed traffic. Under Alignment A2, BRT would operate in mixed traffic from Union Depot along the Kellogg Boulevard Bridge to a new station on Mounds Boulevard in Dayton's Bluff. Alignments B, C and D3 (including the two Alignment C design options) are the same for Build Alternative 2.

2.2.4. Stations

The Project proposes the following two station types:

- **Walk-up** stations that do not include designated parking for transit riders
- **Park-and-ride** stations that include a new or existing parking facility designated for transit riders

Build Alternative 1 would include a total of 21 stations and Build Alternative 2 would include a total of 12 stations. All proposed stations would have easy and accessible boarding onto the BRT vehicle, expedited boardings and reduced wait times, and would be designed to integrate with existing sidewalks, roadway lanes and bus-only lanes, where applicable. **Figure 2.2-1** provides the locations of the proposed stations included under both Build Alternatives. All of the following stations are walk-up stations, except those noted as park-and-ride stations:

- Proposed stations included under Alignment A1 of Build Alternative 1 only
 - › Union Depot/Sibley Street
 - › 6th Street/Robert Street
 - › 6th Street/Minnesota Street
 - › Hamm Plaza
 - › Smith Avenue/5th Street
 - › Smith Avenue/6th Street
 - › Rice Park
 - › 5th Street/Cedar Street
 - › 5th Street/Robert Street
 - › Union Depot/Wacouta Street
- Proposed stations included under Alignment A2 of Build Alternative 2 only
 - › Union Depot Station (at bus deck)
- Proposed stations included under both Build Alternative 1 and Build Alternative 2
 - › Mounds Boulevard



- › Earl Street
- › Etna Street
- › Van Dyke Street
- › Sun Ray (new 150-space surface park-and-ride lot)
- › Maplewood
- › Greenway Avenue
- › Helmo Avenue (new 100-space surface park-and-ride lot)
- › Tamarack Road
- › Woodbury Theatre (existing surface park-and-ride lot, utilizing 150 spaces)
- › Woodbury 494 Park and Ride (new 200-space surface park-and-ride lot)

Locations that would share a platform with existing non-BRT service would be designed to incorporate the existing service. These stations are located at:

- Hamm Plaza
- Smith Avenue/6th Street²³
- Smith Avenue/5th Street
- Rice Park

Locations that would be located on the same block as BRT stations, but not share a station, would be located at:

- 6th Street/Minnesota Street
- 5th Street/Cedar Street

Coordination with the CMC on the design of BRT stations shared with, or located on the same block as, existing non-BRT service will continue as the Project advances through the Project Development and Engineering phases. Except for those located in downtown Saint Paul, most stations would have a pair of platforms. Stations would be approximately ½- to 1 mile apart outside of downtown, downtown stations would be 2 to 3 blocks (approximately 0.15 to 0.3 miles) apart due to infrastructure constraints. In general, the Council would design the stations to include essential components for traveler safety and security, and amenities for passenger comfort and convenience. Station designs would comply with federal Americans with Disabilities Act²⁴ requirements. Primary station elements would include platforms, off-board fare collection systems, shelters, wheelchair ramps and structural features such as heat, lighting, benches, bike racks, trash receptacles, security systems, functional landscaping and information displays. Landscape features may include trees and other vegetation that would be introduced as part of the Project.

The 15% Concept Plans (see **Appendix B**) accommodate the potential inclusion of bus-charging infrastructure at the Smith Avenue Transit Center and the Woodbury 494 Park and Ride Station (for Build Alternative 1) and Union

²³ The Smith Avenue/6th Street location would be a drop off location shared with existing non-BRT service. It would not include a full BRT station.

²⁴ Americans With Disabilities Act of 1990, Pub. L. No. 101-336, 104 Stat. 328 (1990). Available at: http://library.clerk.house.gov/reference-files/PPL_101_336_AmericansWithDisabilities.pdf. Accessed October 2018.



Depot bus deck and the Woodbury 494 Park and Ride Station (Build Alternative 2), if the Project were to use electric BRT vehicles.

2.2.5. Pedestrian and Bicycle Facilities

The Project is expected to benefit pedestrians and bicyclists by providing new pedestrian and bike facilities. The pedestrian and bike connections would be ADA-compliant, and all station platforms would be aligned with crosswalks for pedestrian safety. Other examples of improvements to pedestrian and bicycle facilities constructed with the Project include:

- Sidewalk bump-outs in downtown Saint Paul at the 5th Street/Robert Street Station, Union Depot/Sibley Street Station and Union Depot/Wacouta Street Station provide more space for pedestrians
- Connections for easy access to stations
- Adding facilities to fill gaps between existing facilities and station areas

Section 3.5 of the *Transportation Resources Technical Report* in **Appendix A** includes details of the pedestrian and bicycle facilities evaluation. The 15% Concept Plans in **Appendix B** show the locations of the proposed new facilities.

2.2.6. Project Vehicle Characteristics

The Project would procure 12 articulated BRT vehicles for Build Alternative 1 and 11 for Build Alternative 2 with the following characteristics:

- **Length:** 60 feet
- **Fuel type:** Diesel, hybrid or electric
- **Capacity:** 48 passengers
- **Door location:** Right side
- **Fare collection:** At stations only; none on BRT vehicles

The EA evaluates diesel buses for the Project; however, Metro Transit may decide later that the Project will use electric buses. If this is determined, Metro Transit would then consider installing charging stations for the buses at the following locations:²⁵

- Build Alternative 1 would include an electric charging station at the Smith Avenue Transit Center and Woodbury 494 Park and Ride Station; the buses would charge for about 10 minutes during layovers and would gain approximately 10 miles of energy, so the vehicles could complete scheduled routes for the day.
- Build Alternative 2 would include a charging station at the Union Depot bus deck and the Woodbury 494 Park and Ride Station; the buses would charge for about 10 minutes during layovers and would gain approximately 10 miles of energy, so the vehicles could complete scheduled routes for the day.
- Both Build Alternatives would include charging stations at the OMF.

²⁵ The EA evaluates impacts based on diesel bus operations. If electric buses are determined for use in a later phase of Project advancement, FTA and the Council will determine if additional analysis is required to assess new significant impacts.



Overhead charging stations would have a mastlike appearance and connect to the bus through a pantograph on the vehicle's roof. In addition to the mast, each charging station would require a utility transformer and connection cabinet, and a power converter cabinet.

2.2.7. Operations and Maintenance Facility

Under both Build Alternatives, the Project would not construct a new operations and maintenance facility (OMF); Project vehicles would use the existing East Metro Transit Facility located east of I-35E just north of downtown Saint Paul (see **Figure 2.2-1**). This facility has the capacity to house 214 buses and currently maintains 214 buses. Some of the current buses assigned to the OMF will be moved to another OMF with capacity to provide space for the 12 60-foot-long vehicles the Project would procure. Metro Transit employees would inspect, maintain, clean and store the Project vehicles at the OMF, which already includes administrative offices, employee facilities and an employee parking lot. The OMF could also add electric charging stations for the Project's vehicles, if the Project uses electric BRT vehicles. These charging stations would be added to the interior of the OMF. There would be space for charging infrastructure for the Gold Line fleet without needing to reduce the OMF's current bus capacity of 214 buses. A minimum of 32 60' buses could be parked adjacent to a structural support column line that has space for the charging equipment and dispensers.

2.2.8. Other Project Elements

The EA evaluates construction of four new BRT-exclusive bridges. **Figure 2.2-2** shows the locations of these BRT-exclusive bridges. These new bridges would cross the following roadways:

- Trunk Highway (TH) 61/Etna Street
- Johnson Parkway
- McKnight Road
- TH 120/Century Avenue

The McKnight Road and Century Avenue bridges would also feature a multi-use trail to provide grade-separated crossings at these intersections, which have high traffic volumes.²⁶

The Project would build a new mixed traffic bridge at the crossing of I-94 connecting Helmo Avenue and Bielenberg Drive. This bridge would include a center running guideway, a multi-use trail and roadway lanes for local traffic. The Dedicated Guideway Option at Hadley Avenue and 4th Street, which is included under Alignment C of both Build Alternatives, would reconstruct a bridge at the crossing of I-694 at 4th Street to accommodate a dedicated guideway along 4th Street. The Project would reconstruct the existing roadway bridge to include a center running guideway and multi-use trail. The Council coordinated with FHWA and MnDOT on the design of these bridges. The agencies will continue to coordinate as the design advances through the Project Development and Engineering phases. **Figure 2.2-2** shows the locations of these mixed traffic bridges.

The Project would also include transit-related improvements such as roadway modifications and pedestrian connections within the Project area. In general, most BRT stations would include direct pedestrian connections, both new and reconstructed, that would improve BRT operations, public safety and access to stations. Other potential improvements constructed with the Project include a pedestrian overpass at Maple Street, redecking of

²⁶ The multi-use trail components of the bridges over McKnight Road and TH120/Century Avenue are potential work that may be constructed with the Project, pending further review by the Council and Project funding partners. See the Financial Analysis Technical Report in **Appendix A** for additional information on potential work items.



the Earl Street bridge in Saint Paul and underpasses for the dedicated guideway at White Bear Avenue and Ruth Street, which would optimize BRT operations and minimize impacts to traffic at these intersections. The Project would also relocate existing noise barriers along I-94 to accommodate the BRT dedicated guideway. The addition of retaining walls and implementation of stormwater best management practices (BMPs) would also be required for the Project.

See Table 2.6-2 in Section 2.6.6 of the *Alternatives Technical Report* in **Appendix A** for a full summary of these improvements and the Project's 15% Concept Plans in **Appendix B** for the location of the proposed improvements.

2.2.9. Operating Assumptions

The Council anticipates that the Project would operate from 5 a.m. to midnight on weekdays and weekends. **Table 2.2-2** provides the assumed operating frequencies for the Build Alternatives.

TABLE 2.2-2: BUILD ALTERNATIVE OPERATING FREQUENCIES

Day	Period	Operating Frequency
Weekday	Early morning (5-6 a.m.)	30 minutes
Weekday	Peak (6-9 a.m. and 3-6 p.m.)	10 minutes
Weekday	Midday (9 a.m.-3 p.m.) and evening (6-8 p.m.)	15 minutes
Weekday	Late (8 p.m.-midnight)	30 minutes
Saturday and Sunday	Daytime (5 a.m.-7 p.m.)	15 minutes
Saturday and Sunday	Evening (7 p.m.-12 a.m.)	30 minutes

2.3. Identification of the Preferred Alternative

The FTA and Council identified Build Alternative 1 (A1-BC-D3) as the preferred alternative for the Project;²⁷ however, at the request of the CMC, the 15% Concept Plans (see **Appendix B**) developed both Build Alternatives in equivalent detail, and this EA evaluates anticipated impacts of both.

The two Build Alternatives differ primarily in their downtown Saint Paul termini and in the stations within Alignments A1 and A2 that would serve downtown and Union Depot. The Project sought public feedback on Alignments A1 and A2 through outreach events in the fall of 2018, and of the people who responded, more than 75 percent preferred Alignment A1. Two open houses on Oct. 9, 2018, provided information about the two alignments in downtown Saint Paul. Attendees could view the proposed downtown routing alternatives and learn more about the Project. At the two events, staff conversed with a combined total of 65 individuals, with 21 expressing a preference for Alignment A1 and six for Alignment A2.

The FTA and the Council identified Build Alternative 1 as the Preferred Alternative that meets the Project's purpose and need of providing a transit service that meets long-term regional mobility and local accessibility

²⁷ *Build Alternative 1 (A1-BC-D3) is also the Locally Preferred Alternative included in the 2040 Transportation Policy Plan in October 2018.*



needs for businesses and the public when compared to the No-Build Alternative. Alignment A1 under Build Alternative 1 offers the following benefits in downtown Saint Paul not provided by Alignment A2 under Build Alternative 2:

- Provides the most direct access throughout downtown Saint Paul where people live, work and recreate
- Serves the mixed-use core of Saint Paul that provides the greatest employment and housing density in the city and has a high projected population and employment growth
- Includes areas with high concentrations of zero-vehicle households
- Provides more direct access to transit for minority and low-income populations living in the downtown area
- Consistent with the Project's goal to maximize travel time savings, Alignment A1 provides a one-seat ride to and from downtown Saint Paul and to Union Depot, meaning riders who need to access western areas of downtown would not have to transfer to other modes or walk long distances to reach their destinations

Alignment A1 also provides a direct connection to Union Depot.²⁸ In addition, Build Alternative 1 is consistent with the Project goal to maximize ridership since Build Alternative 1 is projected to have higher ridership than Build Alternative 2, and analyses anticipate it would attract the newest transit riders.

Within Alignment C, the preferred alternative includes the Hazel Street Station Option and does not include a station at Van Dyke Street. In coordination with the City of Saint Paul, the Council included the Hazel Street Station Option over the Van Dyke Street Station based on public input received during outreach efforts completed during development of the EA and the city's action to amend its Gold Line Station Area Plan to include the station at Hazel Street. The station location at Hazel Street meets the Project's need to support local and regional objectives for growth and prosperity by locating the station where it provides development opportunities coupled with increased visibility from Old Hudson Road. The Council will identify if mixed traffic operations across the 4th Street Bridge, or the Dedicated Guideway Option at Hadley Avenue and 4th Street, will advance as part of the Project in the environmental decision document.

²⁸ *The connection to Union Depot under Alignment A1 is further apart than Alignment A2; however, both alignments link to this multimodal hub and provide other convenient transportation connections to local bus routes, the METRO Green Line and bike-sharing facilities*



3. ENVIRONMENTAL CONSEQUENCES

This chapter discusses the analyses and impacts of the No-Build Alternative, Build Alternative 1 (A1-BC-D3) and Build Alternative 2 (A2-BC-D3) for the Project. The difference between the two Build Alternatives is Alignment A in downtown Saint Paul. Alignment A2 of Build Alternative 2 would terminate at Union Depot, and Alignment A1 of Build Alternative 1 would terminate approximately 1 mile to the west at the Smith Avenue Transit Center.

Chapter 2. Alternatives also include descriptions of the Build Alternatives and **Figure 2.2-1** shows the Build Alternatives and alignments.

This chapter summarizes Project-related long-term and short-term direct impacts, indirect effects and cumulative impacts, and measures to avoid, minimize and mitigate these impacts for transportation, community and social and physical and environmental resource areas based on the 15% Concept Plans in **Appendix B**.

The analysis addresses the following Project-related impacts and measures:

- **Long-term impacts** are associated with operational activities and would continue after construction is complete
- **Short-term impacts** are associated with construction activities and would be temporary
- **Direct impacts** would occur at the same time and place
- **Indirect effects** would occur later or farther away, but they are still reasonably foreseeable
- **Cumulative impacts** would result from incremental Project impacts when added to impacts from past, present and reasonably foreseeable future actions
- **Avoidance measures** would avoid Project-related impacts to the resource
- **Minimization measures** would reduce the severity of the Project-related impacts
- **Mitigation measures** would alleviate adverse Project-related impacts that remain after the Council applies avoidance or minimization measures

This chapter includes the following sections:

- **3.1. Environmental Resources of No Concern**
- **3.2. No-Build Alternative Effects**
- **3.3. Transportation Resources Operating Phase (Long-Term) Impacts**
- **3.4. Community and Social Resources Operating Phase (Long-Term) Impacts**
- **3.5. Physical and Environmental Resources Operating Phase (Long-Term) Impacts**
- **3.6. Construction Phase (Short-Term) Impacts**
- **3.7. Indirect Effects and Cumulative Impacts**
- **3.8. Section 4(f) Resources**
- **3.9 Avoidance, Minimization and Mitigation Measures**



3.1. Environmental Resources of No Concern

3.1.1. Operating Phase (Long-Term) Impacts

In accordance with NEPA and state requirements,²⁹ the analyses documented in **Appendix A, Environmental Assessment Technical Reports**, found the Project operations would not produce (or would produce negligible) long-term impacts to the following resources:³⁰

- **Transportation:** traffic; pedestrian and bicycle facilities; freight rail; and aviation
- **Community and social:** land use plan compatibility; safety and security;³¹ and environmental justice³²
- **Physical and environmental:** geology, groundwater and soils; noise and vibration; air quality;³³ energy; and farmlands³⁴
- **Section 6(f)**³⁵

3.1.2. Construction Phase (Short-Term) Impacts

In accordance with NEPA and state requirements, the analyses documented in **Appendix A, Environmental Analysis Technical Reports**, found the Project construction would not produce (or would produce negligible) short-term impacts to the following resources:

- **Transportation:** freight rail and aviation
- **Community and social:** land use plan compatibility

²⁹ "Environmental Policy," Chap. 116D, Minnesota Statutes, 2018. Available at: <https://www.revisor.mn.gov/statutes/cite/116D>. Accessed May 2018.

³⁰ The Project is not within a coastal zone; therefore, it does not have resources that the Coastal Zone Management Act of 1972 would regulate.

³¹ Although the Project would not produce long-term impacts to safety and security, **Table 3.9-1** includes avoidance and minimization measures for this resource area.

³² Although the Project would not produce long-term impacts to environmental justice populations, **Section 3.4.6** summarizes the Project's evaluation of impacts to this resource and the Federal Transit Administration's finding.

³³ Clean Air Act, Sec. 176(c). ("Limitations on certain Federal assistance," Title 42, USC, Sec. 7506(c). Available at: <https://www.govinfo.gov/content/pkg/USCODE-2010-title42/html/USCODE-2010-title42-chap85.htm>. Accessed November 2018); conformity process, "Determining conformity of general Federal actions to State or Federal implementation plans," Title 40, CFR, Part 93. Available at: <https://www.govinfo.gov/content/pkg/CFR-2017-title40-vol22/xml/CFR-2017-title40-vol22-part93.xml>. Accessed November 2018.

³⁴ "General Provisions," Title 7, USC, Sec. 4201 et seq., December 1981. Available at: <https://www.govinfo.gov/content/pkg/USCODE-2010-title7/pdf/USCODE-2010-title7.pdf>. **Error! Hyperlink reference not valid..** Accessed November 2018.

³⁵ Section 6(f)(3) of the Land and Water Conservation Fund Act of 1965. "Conservation," Title 16, USC, Sec. 4601a – 4 et seq. 2006 ed. Supplement 4. Available at: <https://www.gpo.gov/fdsys/pkg/USCODE-2010-title16/html/USCODE-2010-title16-chap1-subchapLXIX-partB.htm> Accessed November 2018.



- **Physical and environmental:** floodplains,³⁶ surface waters,³⁷ air quality,³⁸ energy and farmlands³⁹
- **Section 6(f)**⁴⁰

3.2. No-Build Alternative Effects

The No-Build Alternative represents the existing transportation system as the Council's fiscally constrained 2040 TPP presents it – without the Project. The NEPA⁴¹, ⁴² process requires that Project analyses include the No-Build Alternative to provide a base point from which to evaluate the potential impacts, benefits and costs of the Build Alternatives, as well as a potential outcome of the EA process.

The 2040 TPP describes the funded highway and transit projects, including travel-demand forecasting, that the No-Build Alternative and the analyses in this EA also include. The following projects are examples of these projects from the 2040 TPP:

- Highways
 - I-694 auxiliary lanes in Oakdale
 - I-35W Rebuild and Replace Highway Assets
- Transit
 - METRO Red Line
 - METRO Orange Line
 - METRO Green Line Extension

³⁶ Clean Water Act, Sec. 404. Available at: <https://www.epa.gov/cwa-404/clean-water-act-section-404>. Accessed August 2018 and “Executive Order 11988, Floodplain Management”. Vol. 42, Federal Register, 26951, May 24, 1977. Available at: <https://www.epa.gov/cwa-404/floodplain-management>. Accessed August 2018.

³⁷ Clean Water Act, Sec. 404. Available at: <https://www.epa.gov/cwa-404/clean-water-act-section-404>. Accessed August 2018 and “Executive Order 11990, Protection of Wetlands”. Vol. 42, Federal Register, 26961, May 24, 1977. Available at: <https://www.archives.gov/federal-register/codification/executive-order/11990.html>. Accessed August 2018.

³⁸ Clean Air Act, Sec. 176(c). (“Limitations on certain Federal assistance,” Title 42, USC, Sec. 7506(c). Available at: <https://www.law.cornell.edu/uscode/text/42/7506>. Accessed November 2018); conformity process, “Determining conformity of general Federal actions to State or Federal implementation plans,” Title 40, CFR, Part 93. Available at: <https://www.law.cornell.edu/cfr/text/40/part-93>. Accessed November 2018.

³⁹ “General Provisions,” Title 7, USC, Sec. 4201 et seq., implementing “Farmland Protection Policy Act,” Title 7, CFR Part 658, of the Agriculture and Food Act of 1981, as amended. July 1984. Available at: <https://www.law.cornell.edu/uscode/text/7/4201>. Accessed November 2018.

⁴⁰ Section 6(f)(3) of the Land and Water Conservation Fund Act of 1965. “Conservation,” Title 16, USC, Sec. 4601a – 4 et seq. 2006 ed. Supplement 4. Available at: <https://www.gpo.gov/fdsys/pkg/USCODE-2010-title16/html/USCODE-2010-title16-chap1-subchapLXIX-partB.htm>. Accessed November 2018.

⁴¹ The National Environmental Policy Act of 1969, as amended. (“The Public Health and Welfare,” Title 42, U.S. Code (USC), Sec. 4321 et seq. (1969)). Available at: <https://www.gpo.gov/fdsys/pkg/USCODE-2011-title42/pdf/USCODE-2011-title42-chap55-sec4321.pdf>. Accessed November 2018.

⁴² Council on Environmental Quality. “Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act.” 2005 reprint of “Protection of Environment,” Title 40, Code of Federal Regulations (CFR), Parts 1500-1508. Available at: https://www.energy.gov/sites/prod/files/NEPA-40CFR1500_1508.pdf. Accessed October 2018.



- METRO Blue Line Extension
- Rush Line Dedicated BRT
- C Line (Penn Avenue Arterial BRT)
- Riverview Modern Streetcar

Under the No-Build Alternative, the Council would not construct the Project; therefore, the No-Build Alternative would not impact resources within the Build Alternatives' potential limits of disturbance or impact the analyzed resources compared with the Project because the Project would not be built. For example, the No-Build Alternative would not directly acquire land or displace residents or businesses as a result of the Project, however ongoing development and other transportation projects that would occur by 2040 could change land use and transportation patterns and lead to residential or business displacements, impacts to community and social resources and impacts to physical and environmental resources.

The No-Build Alternative would not create impacts from Project construction such as temporary increases in noise and vibration or impacts from construction closures and detours. However, other ongoing development and transportation projects that would occur by 2040 could produce similar temporary impacts. The No-Build Alternative is also not consistent with local and regional land use and transportation plans that anticipate a high-quality transit line to increase travel options and support the economic development related to station areas planned by communities within the Project area. It would not expand multimodal connections nor reduce automobile travel in the Project area. The No-Build Alternative would not produce transit service improvements anticipated by local and regional plans for people who depend on transit for transportation to jobs, educational facilities, health services and recreational activities.

The No-Build Alternative would also not address the Project's purpose and need statement, which **Chapter 1. Purpose and Need** describes.

3.3. Transportation Resources Operating Phase (Long-Term) Impacts

This section summarizes the Project's anticipated long-term impacts to transportation resources. Long-term impacts would continue to occur due to Project operation. This section describes Project impacts for Build Alternatives 1 and 2, including the Hazel Street Option and the Dedicated Guideway Option at Hadley Avenue and 4th Street. **Chapter 2. Alternatives** describes the Project Build Alternatives and options. The *Transportation Resources Technical Report* in **Appendix A** provides the regulatory context and methodology the Council used to evaluate each resource, and it includes descriptions of the areas the Build Alternatives would affect in the resource study areas. The first table in the technical report summarizes the study area for each resource. This technical report also gives details about the Council's analysis of transportation resources.

This section addresses Project-related long-term impacts to the following transportation resources:

- Transit
- Parking and driveways

Section 3.6. Construction Phase (Short-Term) Impacts summarizes the short-term impacts related to Project construction, and **Section 3.7. Indirect Effects and Cumulative Impacts** summarizes the evaluation of reasonably foreseeable future actions that could occur later, called indirect effects, and incremental impacts from



other projects and actions, called cumulative impacts. **Section 3.9 Avoidance, Minimization and Mitigation Measures** summarizes the measures the Project would utilize to avoid, minimize or mitigate adverse impacts.

3.3.1. Transit

This section summarizes the Project’s anticipated long-term impacts to transit. Section 3.3 of the *Transportation Resources Technical Report* in **Appendix A** includes details of the transit evaluation.

The Council used a travel-demand model to analyze the Build Alternatives in the context of the regional transit system. The analysis modeled existing, modified and new transit service, and it reflected changes in routes, frequencies and travel times.

The model modified existing bus service to connect transit riders with the Project. The model assumed six new local bus routes would provide connections to BRT service at stations, and it assumed modifications to the existing, privately operated 3M Campus Circulator route, in coordination with 3M.

Table 3.3-1 lists the planned and potential modifications to existing bus service the travel-demand model utilized.

TABLE 3.3-1: PLANNED AND POTENTIAL MODIFICATIONS TO EXISTING BUS SERVICE

Existing Route	Proposed Modification
Route 63	Connections at proposed Mounds Boulevard and Sun Ray stations would increase weekday and weekend frequency to every 15 minutes during rush hours and midday, and every 20 minutes in late evenings; these planned Route 63 improvements are independent of the Project
Route 70	Connections at proposed Earl Street and Sun Ray stations
Route 74	Connection at proposed Sun Ray Station
Route 80	Connection at proposed Sun Ray Station
Route 219	Connections at proposed Maplewood and Woodbury 494 Park and Ride stations
Route 294	Eliminates connections routing through Lake Elmo, Oakdale, Maplewood (3M) and along I-94 and re-route via Highway 36 and I-35E to downtown Saint Paul
Route 351 ^a	Connections at proposed Woodbury Theatre and Woodbury 494 Park and Ride stations
Route 353 ^a	Connections at proposed Woodbury Theatre and Woodbury 494 Park and Ride stations
Route 355 ^a	Connections at proposed Woodbury Theatre and Woodbury 494 Park and Ride stations
Route 381	Future express route from Manning Park and Ride to downtown Saint Paul
Route 385	Future express route from Manning Park and Ride to downtown Minneapolis

^a As part of the Connecting Bus Network, Routes 351, 353 and 355 are express buses that would only share platforms at the Woodbury Theatre and Woodbury 494 Park and Ride stations with BRT service.

Table 3.3-2 lists the new connecting bus routes.



TABLE 3.3-2: NEW CONNECTING BUS SERVICE

Proposed New Route	New Connection
Route 72	Connection at proposed Etna Street Station is a new all-day crosstown between the Etna Street Station and the Maplewood Mall Transit Center
Route 215	Connection at proposed Sun Ray Station
Route 221	Connection at proposed Greenway Avenue Station
Route 300	Connection at proposed Tamarack Road Station
Route 301	Connection at proposed Woodbury Theatre and Woodbury 494 Park and Ride stations
Route 302	Connection at proposed Helmo Avenue Station
3M campus circulator	Connection at proposed Maplewood Station

3.3.1.1. Build Alternative 1 (A1-BC-D3)

For Build Alternative 1 the Council anticipates the Project would carry 7,100 riders per day in 2040. Including local bus, limited-stops/express bus lines that would connect to the Project, the Council anticipates that Build Alternative 1 would serve 13,400 riders per day. Overall, ridership in the Project area in 2040 would more than double from 2016 existing ridership, and ridership for Build Alternative 1 would increase by approximately 28 percent from the forecasted 2040 No-Build Alternative ridership.

Table 3.3-3 shows the total ridership for the No-Build and Build Alternatives in the horizon year 2040.

TABLE 3.3-3: TRANSIT RIDERSHIP SUMMARY BY ALTERNATIVE (2040)

Mode	2016 (Riders)	2040 No-Build Alternative (Riders)	2040 Build Alternative 1 (Riders)	2040 Build Alternative 2 ^a (Riders)
Local Bus ^b	5,500	9,100	6,100	6,450
Limited-Stop/Express Bus ^c	800	1,350	200	250
METRO Gold Line BRT	—	—	7,100	6,350
Total Corridor Rides	6,300	10,450	13,400	13,050

^a See Section 3.3.1.2 for a summary of impacts for Build Alternative 2.

^b Includes existing Routes 63 and 70, and future Routes 300, 301 and 302 (feeder routes).

^c Includes existing Routes 294, 350 and 351, and future Route 381 (Manning Avenue Park-and-Ride Express bus to downtown Saint Paul)

The Council anticipates that 67 percent of BRT rides would be for work trips, approximately 67 percent of which are to or from employment opportunities in downtown Saint Paul and 33 percent are to or from other locations in the Project area. Riders from no-vehicle households would constitute approximately 26 percent of the trips. Almost 60 percent of the BRT riders would access the system by walking to the stations, and the remaining 40 percent either would drive to access the system or transfer from another transit route. Of that 40 percent, 10 percent would access the system by utilizing the park-and-rides and an additional 6 percent would access the system by drop-off at a park-and-ride.



Table 3.3-4 summarizes select Project ridership characteristics including access mode, no-vehicle household trips and work trips by Build Alternative. These characteristics help explain how and via what types of transit users might utilize the Project service. Build Alternatives 1 and 2 have similar ridership characteristics.

TABLE 3.3-4: PROJECT RIDERSHIP CHARACTERISTICS (2040)

Characteristic	2040 Build Alternative 1	2040 Build Alternative 2 ^a
Total Daily BRT Trips	7,100	6,350
Trips for Work	67%	67%
Trips by Riders from No-Car-Households	26%	23%
Access by Walking	58%	45%
Access by Driving	10%	12%
Access by Drop-Off	6%	4%
Access by Transferring	26%	39%

^a See **Section 3.3.1.2** for a summary of impacts for Build Alternative 2.

Compared with the No-Build Alternative, Build Alternative 1 would attract 3,300 new transit trips each weekday or approximately a 1.0 percent increase in linked trips. A “linked” trip is one a transit-rider makes between an origin and a destination regardless of the number of transfers. The term “new transit trips” represents the collective net, regional increase of linked trips; thus, only those improvements associated with Project implementation can produce new transit trips. Each new transit trip reduces one or more vehicular trips on the roadway network; thus, the criterion is essential to alternatives evaluation.

Table 3.3-5 summarizes use of the regional transit system by Build Alternative.

TABLE 3.3-5: REGIONAL LINKED AND NEW TRANSIT TRIPS

	2016	2040 No-Build Alternative	2040 Build Alternative 1	2040 Build Alternative 2 ^a
Average Weekday Linked Trips in September/October	272,150	335,900	339,200	338,850
Difference Compared with 2040 No-Build Alternative	–	–	+3,300	+2,950
Percent Change Compared with 2040 No-Build Alternative	–	–	+1.0%	+0.9%

^a See **Section 3.3.1.2** for a summary of impacts for Build Alternative 2.

With an increase in regional transit trips, the Council anticipates that Build Alternative 1 would reduce the number of auto trips made in the region each weekday. Build Alternative 1 would impact the region’s daily VMT by decreasing the amount of VMT by 17,600 miles per day compared with the No-Build Alternative. Each new transit trip the Project generates would decrease the daily VMT by 5.3 miles.

Table 3.3-6 shows that reduced automobile trips would decrease the amount of regional automobile VMT by Build Alternative.



TABLE 3.3-6: IMPACTS TO VEHICLE MILES TRAVELED BY BUILD ALTERNATIVE (2040)

	Build Alternative 1 (A1-BC-D3)	Build Alternative 2 ^a (A2-BC-D3)
Daily VMT Change Compared with No-Build Alternative	-17,600	-15,750
New Linked Trips	3,300	2,950
Daily VMT Change per New Linked Trip	-5.3	-5.3

^a See **Section 3.3.1.2** for a summary of impacts for Build Alternative 2.

Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce additional impacts to transit.

3.3.1.2. Build Alternative 2 (A2-BC-D3)

For Build Alternative 2, the Council anticipates the Project would carry 6,350 riders per day in 2040. Including local bus, limited-stops/express bus lines that would connect to the Project, the Council anticipates that Build Alternative 2 would serve 13,050 riders per day. Compared with Build Alternative 1, Build Alternative 2 would see 350 fewer rides in the corridor across all transit modes. Overall, ridership in the Project area in 2040 would more than double 2016 ridership, and Build Alternative 2 would increase by approximately 25 percent from the forecasted 2040 No-Build Alternative ridership.

The 750 fewer riders on Gold Line BRT per day under Build Alternative 2 compared with Build Alternative 1 is a result of riders having to transfer in Alignment A2 at Union Depot to complete the trip to downtown Saint Paul, which is available as a one-seat BRT ride under Alignment A1. Also, riders making short trips between downtown stations under Alignment A1 would have to look for other options in Alignment A2. Some of these riders would move to local and limited stop/express buses within the Project area, as seen by an increase in the ridership on these buses (6,100 vs. 6,450 on local buses and 200 vs. 250 on limited stop/express buses). Therefore, the loss of 750 riders under Build Alternative 2 is partially offset by an increase of 400 trips on the local and limited stop/express buses. The resulting change in the corridor ridership (BRT + local + limited stop/express buses) is a net loss of 350 riders. **Table 3.3-3** shows the total ridership for Build Alternative 2 in the horizon year 2040.

For Build Alternative 2 in 2040, the Council anticipates that ridership characteristics will be similar to Build Alternative 1. Sixty-seven percent of BRT rides would be for work trips, approximately 67 percent of which are to or from employment opportunities in downtown Saint Paul and 33 percent are to or from other locations in the corridor. Riders from no-vehicle households would take approximately 23 percent of the trips. Almost 45 percent of the Project-users would access the system by walking to the stations, and the remaining 55 percent either would drive to access the system or transfer from another transit route. Of that 55 percent, 12 percent would access the system by utilizing the park-and-rides and an additional 4 percent would access the system by drop-off at a park-and-ride. The transfer trips are higher than in Build Alternative 1 (39% versus 26%) because this alternative does not serve all of the downtown Saint Paul stations, and riders will have to transfer to other routes to complete their trip. **Table 3.3-4** summarizes select Project ridership characteristics including access mode, no-vehicle household trips and work trips for Build Alternative 2.

The Council anticipates Build Alternative 2 in 2040 would attract approximately 350 fewer new transit trips each weekday compared with Build Alternative 1. This is due to Build Alternative 2 terminating at Union Depot as compared to serving all of the downtown Saint Paul stations within Build Alternative 1. **Table 3.3-5** summarizes use of the regional transit system for Build Alternative 2.



In 2040, the Council anticipates that Build Alternative 2 would decrease the region’s average weekday VMT by 15,750 vehicle miles per day compared with the No-Build Alternative. Build Alternative 2 would produce a difference of 1,850 less vehicle miles per day than Build Alternative 1. Each new transit trip under Build Alternative 2 would produce the same decrease in daily VMT as Build Alternative 1. **Table 3.3-6** shows that reduced automobile trips would decrease the amount of regional automobile VMT for Build Alternative 2.

Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce additional impacts to transit.

3.3.2. Parking and Driveways

This section summarizes the Project’s anticipated long-term impacts to on- and off-street parking and driveways. Off-street parking numbers include those within three proposed park-and-ride facilities the Project would construct. Section 3.4 of the *Transportation Resources Technical Report* in **Appendix A** includes details of the parking and driveways evaluation. The following categories comprise the total of 3,009 existing spaces along Build Alternative 1, and 2,815 existing spaces along Build Alternative 2 for each alignment:

- **On-street spaces:** 630 (Build Alternative 1), 436 (Build Alternative 2)
- **Off-street spaces in eight private facilities:** 1,727
- **Off-street spaces in one public facility:** 652

3.3.2.1. Build Alternative 1 (A1-BC-D3)

Build Alternative 1 would eliminate 603 parking spaces and add 450 parking spaces, with a net loss of 153 parking spaces or five percent. All of the added parking proposed as part of the Project would occur in park-and-ride lots. Alignment A1 has sufficient parking available in the peak and off-peak period. Alignment B and C parking loss is associated with underutilized parking or replacement parking would be provided, per city parking code; therefore, sufficient parking will be available. The majority of Alignment D3 private parking loss is related to the acquisition of Crossroads Properties, Inc. to accommodate a park-and-ride at Helmo Avenue Station.

The Council held meetings to discuss the Project’s 15% concept plans with businesses and property owners with impacts to parking and driveways within each alignment, including St. Paul Youth Services, Sun Ray Shopping Center, 3M, Harley-Davidson, Apostolic Bible Institute, Crossroads Properties Inc., and HOM Furniture.

The Council will continue to coordinate with Ramsey and Washington counties, the cities of Saint Paul, Maplewood, Landfall, Oakdale, and Woodbury, and impacted residents and businesses to further minimize parking impacts as the Project advances through the Project Development and Engineering phases. The Project would acquire property and relocate all eligible businesses in accordance with Minnesota Statutes Chapter 117 and the Uniform Relocation Act.

Table 3.3-7 shows the Project-related long-term impacts to parking by Build Alternative.

TABLE 3.3-7: LONG-TERM PARKING IMPACTS BY ALTERNATIVE

Alternative	Existing Spaces	Spaces Eliminated	Spaces Added	Net Parking Impact	Percent Change (%)
Build Alternative 1 (A1-BC-D3)	3,009	603	450	-153	-5%
<i>With Hazel Street Station Option</i>	<i>3,009</i>	<i>603</i>	<i>450</i>	<i>-153</i>	<i>-5%</i>



Alternative	Existing Spaces	Spaces Eliminated	Spaces Added	Net Parking Impact	Percent Change (%)
<i>With Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	3,009	603	450	-153	-5%
Build Alternative 2 (A2-BC-D3)^a	2,815	576	450	-126	-4.4%
<i>With Hazel Street Station Option</i>	2,815	576	450	-126	-4.4%
<i>With Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	2,815	576	450	-126	-4.4%

^a See **Section 3.3.2.2** for a summary of impacts for Build Alternative 2.

Table 3.3-8 summarizes all Project-related on- and off-street parking impacts associated with Alignments A1, B, C and D3.

TABLE 3.3-8: BUILD ALTERNATIVE 1 LONG-TERM PARKING IMPACTS BY ALIGNMENT

Alignment	Existing Spaces	Parking Spaces Eliminated	Parking Spaces Added	Net Parking Impact	Percent Change (%)
Alignment A1	206	27	0	-27	-13%
Alignment B	425	145	0	-145	-34%
Alignment C ^a	1,342	218	150	-68	-5%
<i>With Hazel Street Station Option</i>	1,342	218	150	-68	-5%
<i>With Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	1,342	218	150	-68	-5%
Alignment D3 ^b	1,036	213	300	+87	+8%

^a The Project would fully acquire and relocate the commercial property that includes 27 of the 218 spaces eliminated.

^b The Project would fully acquire and relocate the commercial property that includes 156 of the 213 spaces eliminated.

ALIGNMENT A1

The existing parking for Alignment A1 is 206 on-street parking spaces, consisting of 193 metered and 13 unmetered parking spaces. The Project would have a net parking loss of 27 spaces, consisting of 14 on-street metered and 13 on-street unmetered parking spaces to accommodate the dedicated guideway. This is equivalent to a loss of 13 percent of parking within the alignment. The Project would impact parking at the following locations:

- Remove four on-street spaces on the east side of Sibley Street between 4th and 5th streets
- Remove three on-street spaces on the south side of 6th Street between Washington and 7th streets
- Remove 13 on-street spaces on the south side of 5th Street between Robert and Jackson streets
- Remove four on-street spaces on the east side and three on-street spaces on the west side of Wacouta Street between 5th and 4th streets



The Project impacts would result from the configuration of the BRT guideway and station platforms with bump-outs to allow for in-lane stopping. Surface lots and structured parking exist throughout the downtown corridor, therefore, there are sufficient parking spaces to accommodate parking needs and the parking loss due to the Project is not anticipated to impact overall parking needs.

Alignment A1 would not produce impacts to driveways.

ALIGNMENT B

The existing parking for Alignment B is 425 on- and off-street parking spaces. The Project would have a net parking loss of 145 spaces, or a 34 percent decrease. The Project would impact parking at the following locations:

- Remove 29 on-street unmetered parking spaces on the north side of Hudson Road between Maria Avenue and Maple Street.
- Remove 116 existing on-street parking spaces on the south side of Hudson Road between Old Hudson Road and the dead-end past Kennard Street
 - This segment of road has low volume traffic with residential homes and parking is allowed on both sides of Hudson Road.
 - Since the Project would operate in mixed traffic, on-street parking would only be removed on the south side, where the parking runs parallel to the noise barrier along I-94
 - Based on site visits, parking on the south side has low parking utilization because the majority of cars are parked in a driveway; for some homes, additional access is available along Old Hudson Road that runs parallel to Hudson Road
 - No impacts to on-street parking would occur along the north side of Hudson Road between Old Hudson Road and the dead-end past Kennard Street

Therefore, there are sufficient parking spaces to accommodate parking need and the parking loss due to the Project is not anticipated to impact overall parking needs along Alignment B.

Alignment B would impact one driveway for Leo's Chow Mein at the northeast corner of Earl Street and Hudson Road. Leo's Chow Mein has two existing access points: one driveway on Earl Street and one driveway on Hudson Road. The Project would maintain the driveway that is located mid-block on Earl Street and would remove the driveway on Hudson Road. The removal of the driveway on Hudson Road is due to the construction of the dedicated guideway and new signalized intersection with pedestrian accommodations at Earl Street and Hudson Road. The construction of the pedestrian accommodations includes a pedestrian refuge and bump-outs at the northwest and northeast corners. The Project has no feasible way to replace the driveway it would permanently remove; however, the Project would not impact the remaining driveway on Earl Street.

ALIGNMENT C

The existing parking for Alignment C is 1,342 on- and off-street parking spaces. The Project would have a net parking loss of 68 parking spaces, or a five percent decrease. The Project would impact parking at the following locations:

- Remove 27 off-street spaces at St. Paul Youth Services, 2100 Wilson Ave. in Saint Paul
 - The new surface park-and-ride at Sun Ray Station would provide a total of 150 spaces for Project-users. The Council will coordinate with St. Paul Youth Service in the acquisition of property for the park-and-ride
- Remove 132 off-street spaces at Sun Ray Shopping Center
 - The existing parking supply is greater than the city parking code requires



- These spaces are located near the guideway along Old Hudson Road, which is the farthest walking distance to the entrances to the shopping center
- Remove 27 off-street spaces at the Crossroads Properties Inc. property near Tanners Lake
- Remove eight off-street spaces near Harley-Davidson located in the public right-of-way
- Remove 16 on-street spaces on Hudson Boulevard in front of Harley-Davidson
- Remove eight off-street spaces at Apostolic Bible Institute

The remainder of Alignment C parking loss is associated with underutilized parking; therefore, there are sufficient parking spaces to accommodate parking need.

Alignment C would impact three driveways for construction of the dedicated guideway and associated infrastructure. Two driveways would be removed at St. Paul Youth Services in Saint Paul for construction of the Sun Ray park-and-ride lot and one driveway would be relocated at Apostolic Bible Institute in Oakdale for construction of guideway. St. Paul Youth Services has three existing access points on Pedersen Street and one on Wilson Avenue. Construction of the new surface park-and-ride lot would require the removal of two existing driveways to optimize parking and circulation within the new surface park-and-ride. Additional access for St. Paul Youth Services would be provided within the new park-and-ride. Apostolic Bible Institute has three existing access points and all access points will be maintained. The Project would relocate one of the driveways at the corner of Hudson Road and Hadley Avenue due to its location in relation to the addition of new bus traffic. This driveway would be replaced with a new driveway about 180 feet to the north.

Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce impacts to parking and driveways beyond those the Council anticipates for Alignment C.

ALIGNMENT D3

The existing parking for Alignment D3 is 1,036 parking spaces. The Project would have a net parking gain of 87 spaces or an eight percent increase. The Project would impact parking at the following locations:

- Remove 156 off-street spaces in the Crossroads Properties Inc. property at the planned Helmo Avenue Station location; the Project would fully acquire and relocate the Crossroads Properties Inc. property, where it would then construct the station and 100-space park-and-ride
- Remove 57 spaces within the back of the parking lot at HOM Furniture, all of which are located within the public right-of-way
- Use 150 spaces at the existing surface Woodbury Theatre Park-and-Ride
- Construct 200-spaces for the new surface park-and-ride lot at the Woodbury 494 Park and Ride Station at the intersection of Woodlane and Guider drives
- The majority of Alignment D3 parking loss is related to the acquisition of Crossroads Properties, Inc. to accommodate the park-and-ride at Helmo Avenue Station. Therefore, there are sufficient parking spaces to accommodate parking need and the parking loss due to the Project is not anticipated to impact overall parking needs along Alignment D3.
- Alignment D3 would not produce impacts to driveways.

3.3.2.2. Build Alternative 2 (A2-BC-D3)

Alignment A2 would not operate in downtown Saint Paul other than at the Union Depot Station; therefore, when compared to the parking impacts in Alignment A1 under Build Alternative 1, Build Alternative 2 would produce



fewer long-term impacts to parking than Build Alternative 1. Build Alternative 2 would eliminate 576 existing parking spaces and add 450 parking spaces, with a net loss of 126 spaces or 4.4 percent.

Table 3.3-9 summarizes all Project-related on- and off-street parking impacts associated with Alignments A2, B, C and D3. Build Alternative 2 would have the same long-term impacts to driveways as Build Alternative 1.

TABLE 3.3-9: BUILD ALTERNATIVE 2 LONG-TERM PARKING IMPACTS BY ALIGNMENT

Alignment	Existing Spaces	Parking Spaces Eliminated	Parking Spaces Added	Net Parking Impact	Percent Change (%)
Alignment A2 ^a	12	0	0	0	0%
Alignment B	425	145	0	-145	-34%
Alignment C ^b	1,342	218	150	-68	-5%
<i>With Hazel Street Station Option</i>	1,342	218	150	-68	-5%
<i>With Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	1,342	218	150	-68	-5%
Alignment D3 ^c	1,036	213	300	+87	+8%

^a Number of on-street, metered spaces from Union Depot to Mounds Boulevard.

^b The Project would fully acquire and relocate the business that includes 27 of the 218 spaces eliminated.

^c The Project would fully acquire and relocate the business that includes 156 of the 213 spaces eliminated.

3.4. Community and Social Resources Operating Phase (Long-Term) Impacts

This section summarizes the Project’s anticipated long-term impacts to community and social resources. Long-term impacts would continue to occur after the Council constructs the Project. This section describes Project impacts for Build Alternatives 1 and 2, including the Hazel Street Option and the Dedicated Guideway Option at Hadley Avenue and 4th Street. **Chapter 2. Alternatives** describes the Project Build Alternatives and options.

The *Community and Social Resources Technical Report* in **Appendix A** provides the regulatory context and methodology the Council used to evaluate each resource and descriptions of the areas the Build Alternatives would affect. The first table in the technical report summarizes the study area extents for each resource. This technical report also gives details about the Council’s analysis of community and social resources.

This section addresses Project-related long-term impacts to the following community and social resources:

- Community facilities, character and cohesion
- Acquisitions, displacements and relocations
- Cultural resources
- Visual quality and aesthetics
- Business and economic resources



- Environmental justice⁴³

Section 3.6. Construction Phase (Short-Term) Impacts summarizes the short-term impacts related to Project construction, and **Section 3.7. Indirect Effects and Cumulative Impacts** summarizes the evaluation of reasonably foreseeable future actions that would occur later, called indirect effects, and incremental impacts from other projects and actions, called cumulative impacts. **Section 3.9. Avoidance, Minimization and Mitigation Measures** summarizes the measures the Project would utilize to avoid, minimize or mitigate adverse impacts.

3.4.1. Community Facilities, Character and Cohesion

This section summarizes the Project's anticipated long-term impacts to community facilities, character and cohesion. Section 4.3 of the *Community and Social Resources Technical Report* in **Appendix A** includes details of the community facilities, character and cohesion evaluation.

3.4.1.1. Build Alternative 1 (A1-BC-D3)

COMMUNITY FACILITIES

Build Alternative 1 would produce Project-related long-term property, access and parking impacts to community facilities within 200 feet of the alignments. Build Alternative 1 would not produce direct noise, visual impacts or indirect impacts to community facilities within 200 feet of the Project alignment. **Figure 2.2-2** shows the locations where the Project would operate in a dedicated guideway and in mixed traffic, as describe in this section.

The Council does not anticipate adverse Project-related impacts to community facilities along Alignment A1 from nearby partial acquisitions and access changes. Alignment A1 would include BRT operations partly in a dedicated guideway and partly in mixed traffic, and it would produce the following impacts related to community facilities:

- Operate adjacent to a high-density area of community facilities located in downtown Saint Paul
- Not modify existing community facility access points or acquire community facility properties
- Remove a total of 27 on-street parking spaces at proposed station platform locations; however, the Council does not anticipate Project-related long-term impacts to community facilities within 200 feet of the alignment because the eliminated parking spaces are in an area that has many other on- and off-street parking facilities (see Figure 4.3-1 in the *Community and Social Resources Technical Report* in **Appendix A**)

The Council does not anticipate adverse Project-related impacts to community facilities along Alignment B from nearby partial acquisitions and access changes. Alignment B would include BRT operations primarily in a dedicated guideway, and it would produce the following impacts related to community facilities:

- Guideway construction would require converting Hudson Road to a one-way street between Maria Avenue and Wilson Avenue (see the Project's 15% Concept Plans in **Appendix B**). This conversion would occur next to Reach Together, 1075 Hudson Road in Saint Paul, an organization that provides assistance to refugees and immigrants. The Council does not anticipate the conversion would impact access to this community facility. The alignment would not affect nearby on-street parking spaces, the property's sidewalks or alley, and the property does not have driveway access from Hudson Road.

⁴³ Although the Project would not produce long-term impacts to environmental justice populations, **Section** □ summarizes the Project's overall evaluation of impacts to this resource, and the Federal Transit Administration's finding.



- Guideway and other Project-related infrastructure constructed within the limits of Johnson Parkway. The Project elements would not impact the function of the parkway of connecting all parts of Saint Paul with boulevards and greenery that serves motorists, cyclists and pedestrians.
- Partial acquisition of property from Grace Lutheran Church, 1730 Old Hudson Road in Saint Paul, just west of White Bear Avenue, of an approximately 5,000-square-foot piece of land for a stormwater facility. The stormwater facility would occupy existing open land and would not impact existing church operations.
- Eliminate 29 on-street spaces on the north side of Hudson Road to its dead-end past Kennard Street and 116 on-street parking spaces along Hudson Road between Old Hudson Road and the Hudson Road dead-end past Kennard Street for the dedicated guideway. These spaces are about 250 feet from the nearest entrance to Grace Lutheran Church, which has its entrance on Old Hudson Road; however, the Council does not expect this parking loss to impact Grace Lutheran Church because patrons would use the facility's parking lot or other on-street spaces along Old Hudson Road in front of the church.

Alignment C would include BRT operations partly in a dedicated guideway and partly in mixed traffic, and it would produce potentially adverse impacts to the following community facilities:

- Partial acquisition of property from St. Paul Youth Services, 2100 Wilson Ave. in Saint Paul, to construct a 150-space surface park-and-ride facility at the proposed Sun Ray Station, permanently removing 27 of the 68 existing off-street parking spaces from St. Paul Youth Services. Construction of the new surface park-and-ride lot would require the removal of two existing driveways from St. Paul Youth Services to optimize parking and circulation within the new surface park-and-ride. Additional access for St. Paul Youth Services would be provided within the new park-and-ride.
- Partial acquisition of property from the Sun Ray Shopping Center, 2197 Hudson Road in Saint Paul, to accommodate a park-and-ride facility at the proposed Sun Ray Station and a stormwater facility impacting the parking lot off Hudson Road. The Battle Creek Police storefront (2107 Old Hudson Road) and the District 1 Community Council offices (2105 Old Hudson Road) are both located in the Sun Ray Shopping Center. The entirety of the shopping center building would remain intact, including the police storefront and District 1 Community Council offices. The partial acquisition would eliminate 132 of the 973 off-street parking spaces at the shopping center, or 13.5 percent of its lot. The existing parking supply exceeds the City of Saint Paul's parking code requirements. Further, these spaces are located near the guideway along Old Hudson Road, which is the farthest walking distance to the entrances to the shopping center.
- Partial acquisition of property for the dedicated guideway and a pedestrian trail along the edge of the Apostolic Bible Institute property, 6944 Hudson Blvd. in Oakdale, eliminating approximately eight surface-lot parking spaces, or about 7 percent of the property's 118 off-street spaces. The Project would also relocate Apostolic Bible Institute's Hadley Avenue driveway 180 feet north of the existing driveway due to its location in relation to the addition of new bus traffic.

The Council will continue to coordinate with the affected community facilities to further minimize parking impacts as the Project advances through the Project Development and Engineering phases.

Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce impacts to community facilities beyond those the Council anticipates for Alignment C.

Alignment D3 would include BRT operations partly in a dedicated guideway and partly in mixed traffic. This alignment would not produce impacts to community facilities within 200 feet of the Project area.



COMMUNITY CHARACTER AND COHESION

In summary, Build Alternative 1 would not impact community character and cohesion because it would not separate neighborhoods or cause any physical barriers or visual divides between neighborhoods and other cohesive areas.

Alignment A1 would have BRT vehicles operate partly in dedicated guideway and partly in mixed traffic in downtown Saint Paul, within the public right-of-way, similar to existing buses operating downtown. Alignments B and C are located at the edges of neighborhoods along I-94, which already creates a physical barrier between neighborhoods, and Alignment D3 would be within existing right-of-way through a predominately commercial area.

The dedicated guideway portions of Alignments B, C and D3 would not prevent vehicles, pedestrians or bicyclist from crossing the guideway because the design would use painted striping/markings rather than physical barriers to delineate the guideway from regular traffic and parking lanes. The guideway design would also use mountable curbs and median breaks at cross-streets for emergency vehicles.

Partial property acquisitions for Alignments A1, B, C and D3 generally would consist of strip acquisitions along the edges of the property for the Project's guideway; the front yards of single-family residential areas would remain intact. Additional partial property acquisitions would occur for the park-and-ride at the Sun Ray and Woodbury 494 Park and Ride stations and for stormwater facility locations.

The Project would not fully acquire any residential property, but it would fully acquire two commercial properties – one along Alignment C for guideway construction and one along Alignment D3 for use for a proposed park-and-ride at the Helmo Avenue Station.

Alignment C would fully acquire from Crossroads Properties Inc. a 2.9-acre commercial parcel, which could result in approximately three business displacements and relocations. The existing commercial property includes an auto service related business and is located on a small strip of land between Tanner's Lake and Hudson Boulevard just south of a cluster of three other commercial businesses. The commercial property to be acquired is not an anchor development and its removal would not affect the functionality of the other nearby commercial businesses. The Project would benefit connectivity and cohesion in the area by adding new pedestrian connections that will allow east-west connectivity over Century Avenue and north-south connectivity across the freeway.

Alignment D3 would fully acquire from Crossroads Properties Inc. a 8.2-acre commercial parcel, which could result in approximately 18 business displacements and relocations for construction of the proposed park-and-ride near Helmo Avenue Station. The commercial property primarily contains a mixture of auto and truck-related uses. The full acquisition of Crossroads Properties Inc. for the Park-and-Ride is not expected to affect community character and cohesion because the City of Oakdale is planning to redevelop the land around the Park-and-Ride into a mixed-use TOD district in accordance with the Helmo Station BRTOD Plan. These partial and full acquisitions would not impact community cohesion. The Helmo Avenue Station and park-and-ride are consistent with the City of Oakdale's Helmo Station Bus Rapid Transit Oriented Plan that includes these facilities in conjunction with transit-oriented development.⁴⁴ Coordination with the City of Oakdale on development at the park-and-ride is ongoing.

⁴⁴ City of Oakdale. Helmo Station Bus Rapid Transit Oriented Plan. April 2018. Available at: <https://www.ci.oakdale.mn.us/DocumentCenter/View/3644/Helmo-Station-BRTOD-Plan-PDF>. Last modified May 2018 (Reformatted April 2019). Accessed June 2019.



3.4.1.2. Build Alternative 2 (A2-BC-D3)

COMMUNITY FACILITIES

Alignment A2, which would terminate at the Union Depot Station and would not extend through downtown Saint Paul, would not directly impact community facilities in downtown Saint Paul, nor would it produce indirect impacts to community facilities from access or visual changes beyond 200 feet but within ½-mile of the Project alignment. The remainder of Build Alternative 2 would produce the same Project-related long-term impacts to community facilities as Build Alternative 1.

COMMUNITY CHARACTER AND COHESION

Alignment A2 would have BRT vehicles operate in dedicated guideway throughout the Union Depot Station property and in mixed traffic to the east of Union Depot Station along Kellogg Boulevard, within the public right-of-way, similar to existing buses operating downtown. Alignment A2 would not impact community character and cohesion because it would not separate neighborhoods or cause any physical barriers or visual divides between neighborhoods and other cohesive areas.

The remainder of Build Alternative 2 (Alignments B, C and D3) has the same proposed actions and impacts as Build Alternative 1 and would not impact community character and cohesion as discussed in Section 3.4.1.1.

3.4.2. Acquisitions, Displacements and Relocations

This section summarizes the Project’s anticipated long-term impacts to public and private property acquisition, and related displacements or relocations. Section 4.4 of the *Community and Social Resources Technical Report* in **Appendix A** includes the full evaluation of the Project. The 15% Concept Plans found in **Appendix B** illustrate the locations of the Project’s proposed partial and full acquisitions. The acquisitions, displacements and relocations anticipated for the Project are estimated based on the 15% Concept Plans and will be further refined as the Project design advances during the Project Development and Engineering phases. The Council would acquire property and relocate all eligible businesses in accordance with the Uniform Relocation Act and Minnesota Statutes Chapter 117.

Table 3.4-1 lists the Project-related partial and full parcel acquisitions by Build Alternative.

TABLE 3.4-1: ACQUISITIONS BY BUILD ALTERNATIVE

Alternative	Partial (Parcels)	Partial (Acres)	Full (Parcels)	Full (Acres)
Build Alternative 1 (A1-BC-D3)	35	27.9	2	11.1
<i>With Hazel Street Station Option^a</i>	34	27.8	2	11.1
<i>With Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	35	28.5	2	11.1
Build Alternative 2 (A2-BC-D3)	33	27.8	2	11.1
<i>With Hazel Street Station Option^b</i>	32	27.7	2	11.1
<i>With Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	33	28.4	2	11.1

^a No permanent acquisition would be required for the Hazel Street Station Option. The partial acquisition of 0.09 acres at Summit Senior Living is eliminated with this option. Partial acquisition for Alignment B drops to 34 parcels at 27.8 acres.



^b No permanent acquisition would be required for the Hazel Street Station Option. The partial acquisition of 0.09 acres at Summit Senior Living is eliminated with this option. Partial acquisition for Alignment B drops to 32 parcels at 27.7 acres.

3.4.2.1. Build Alternative 1 (A1-BC-D3)

The Project would permanently acquire right-of-way from residential, commercial, industrial and institutional properties displacing several businesses for Project operations, depending on the Project design and occupancy of parcels at the time of acquisition.

Alignment A1 would not fully acquire any properties nor displace or relocate businesses or residents, but it would partially acquire two properties.

Alignment B would not fully acquire any properties nor displace or relocate businesses or residents, but it would partially acquire seven properties. Of the seven properties, the Project would require a partial acquisition of Grace Lutheran Church that is identified as a community facility for a stormwater pond.

Alignment C would fully acquire from Crossroads Properties Inc. a 2.9-acre commercial parcel, which could result in approximately three business displacements and relocations. Alignment C would also partially acquire 13 parcels. Three of these partial acquisitions are businesses that are identified as community facilities: St. Paul Youth Services, Sun Ray Shopping Center and Apostolic Bible Institute. These acquisitions are for a park-and-ride lot at the Sun Ray Station and a stormwater facility and guideway at Apostolic Bible Institute.

The Hazel Street Station Option would reduce the Project-related impacts to acquisitions and displacements because it would not require the one partial acquisition that the Van Dyke Street Station would need. The partial acquisition of 0.09 acres at Summit Senior Living would not be required for this option.

The Dedicated Guideway Option at Hadley Avenue and 4th Street would require an increase in the acreage of partial acquisition for the BRT guideway construction. The number of permanent acquisitions would not change under this option. The total acreage for partial acquisition at Apostolic Bible Institute would increase by 0.11 acres and the industrial property along Hadley Avenue would increase by 0.57 acres.

Alignment D3 would fully acquire from Crossroads Properties Inc. a 8.2-acre commercial parcel, which could result in approximately 18 business displacements and relocations for construction of the proposed park-and-ride near Helmo Avenue Station. Alignment D3 would also partially acquire 13 parcels.

The total anticipated acquisitions for Build Alternative 1 would require an estimated 35 partial parcel acquisitions with a combined area of 27.9 acres. Build Alternative 1 with the Hazel Street Station Option would require an estimated 34 partial parcel acquisitions with a combined area of 27.8 acres and 28.5 acres with the Dedicated Guideway Option. Properties that Build Alternative 1 would fully acquire would result in up to 21 parcels with a combined area of 11.1 acres.

3.4.2.2. Build Alternative 2 (A2-BC-D3)

Alignment A2 would not require partial or full acquisitions, and it would not displace or relocate businesses or residents. The remainder of Build Alternative 2 would produce the same long-term impacts to acquisitions, displacements and relocations as Build Alternative 1.

3.4.3. Cultural Resources

This section summarizes the Project's anticipated long-term impacts to Cultural Resources. The *Cultural Resources Technical Report* in **Appendix A** includes details of the cultural resources evaluation.



The Project is advancing under the FTA's CIG Program as a New Starts project and may receive federal funding under this program; therefore, it is a federal undertaking and must comply with NEPA and Section 306108 of the National Historic Preservation Act (Section 106)⁴⁵ and other applicable federal mandates.

FTA designated the MnDOT Cultural Resources Unit (CRU) to work directly with MnSHPO on FTA's behalf, with FTA remaining responsible for designating consulting parties and making all findings and determinations pursuant to 36 CFR Part 800.⁴⁶ FTA and MnDOT CRU, in consultation with the Minnesota State Historic Preservation Office (MnSHPO), defined and documented two Areas of Potential Effects (APEs) for the Project in 2015: one for architecture/history properties and one for archaeological properties. In November 2018, FTA, with assistance from MnDOT CRU and in consultation with MnSHPO, revised the APEs to account for the refined Locally Preferred Alternative alignment and other Project-related changes included in the 15% Concept Plans (see **Appendix B**). The Project APEs, as revised in November 2018, account for both Build Alternative 1 and Build Alternative 2. The *Alternatives Technical Report* in **Appendix A** details the LPA refinement process. The FTA and MnDOT CRU, in consultation with MnSHPO, are in the process of conducting surveys of the APEs to identify and evaluate historic properties to determine their eligibility for the National Register of Historic Places (NRHP). Historic properties are buildings, structures, districts, objects and sites that the NRHP lists or that are eligible for listing in the NRHP.

The FTA, Council, MnDOT CRU and the MnSHPO consulted with other consulting parties to prepare a Section 106 Programmatic Agreement (PA) for the Project. **Appendix C** includes the draft PA and consultation materials related to its development for agency and public review. The draft PA establishes roles and responsibilities for implementation and includes processes for identifying and evaluating properties for the NRHP, assessing effects on historic properties, and resolving any adverse effects. The draft PA also spells out design development and review processes and requirements for protecting historic properties during Project construction. FTA will seek input from the public on the draft PA through the NEPA public comment process. The FTA, Council and MnSHPO will execute the PA after completion of the public comment period on the EA and draft PA, and the executed PA will be included in FTA's environmental decision document for the Project. FTA, with assistance from MnDOT CRU, will then assess effects of the Project on historic properties that are listed in or are eligible for inclusion in the NRHP and implement the remaining terms of the executed PA.

3.4.3.1. Build Alternative 1 (A1-BC-D3)

The FTA and MnDOT CRU identified to date a total of 29 properties within the Project's architecture/history and archaeological APEs. All identified sites are architecture/history properties. No NRHP-listed or -eligible archaeological properties have been identified within the Project's archaeological APE. The 29 architecture/history properties identified within the Project's APE include four historic districts, 19 properties that are individually eligible for or listed in the NRHP, and six properties that are both individually listed or eligible for the NRHP and listed or eligible as a contributing element to a historic district.⁴⁷ Per the terms of the executed PA, the FTA and MnDOT CRU will continue to conduct surveys to identify architecture/history properties in areas added to the architecture/history APE, as well as in previously surveyed areas that will be 50 years of age or older at the

⁴⁵ "Effect of Undertaking on Historic Property", Title 54, USC, Sec. 306108. 2014. Available at: https://www.ecfr.gov/cgi-bin/text-idx?SID=4908d84d9d15501f57c7d9bbb46147f1&mc=true&node=se36.3.800_116&rqn=div8. **Error! Hyperlink reference not valid.** Accessed November 2018.

⁴⁶ "Participants in the Section 106 Process", Title 36, CFR, Sec. 800.2. 2004. Available at: https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=0729a2beb9368a20c60d354433ceb95e&mc=true&n=pt36.3.800&r=PART&ty=HTML#se36.3.800_12. Accessed March 2019.

⁴⁷ The 19 properties identified as individually eligible for or listed in the NRHP includes four properties being treated as eligible for the NRHP for the purposed of completing the Section 106 process for the Project.



initiation of Project construction, that may be affected by the Project. Per the terms of the executed PA, the Project will also continue to survey the areas added to the archaeological APE to identify potential archaeological sites that may be affected by the Project. If FTA determines the Project would have an adverse effect on a historic property, FTA will consult with MnSHPO and other consulting parties per the terms of the executed PA to consider avoidance, minimization and/or mitigation measures to resolve the adverse effect.

The FTA and MnDOT CRU have not identified any historic properties in the Project’s architecture/history and archaeological APEs that the Hazel Street Station Option or the Dedicated Guideway Option at Hadley Avenue and 4th Street would affect. As the executed PA is implemented, if these options would affect an identified historic property, FTA will consult with MnSHPO and other Section 106 consulting parties per the terms of the executed PA to consider the effects and avoidance, minimization and/or mitigation measures to resolve adverse effects.

3.4.3.2. Build Alternative 2 (A2-BC-D3)

Of the architecture/history properties identified to date within the Project’s architecture/history APE, 12 properties are within areas that would be affected by Build Alternative 2. Because Alignment A2 would end at the Union Depot Station, this Build Alternative would not affect historic properties west of this terminus. Build Alternative 2 would produce the same long-term potential effects on historic properties as Build Alternative 1 within Alignments B, C and D3

The effects of the Project will be identified consistent with the terms of the executed PA as the Project advances through the Project Development and Engineering phases.

3.4.4. Visual Quality and Aesthetics

This section summarizes the Project’s anticipated long-term impacts to visual quality and aesthetics. Section 4.5 of the *Community and Social Resources Technical Report* in **Appendix A** includes details of the visual quality and aesthetics evaluation.

3.4.4.1. Build Alternative 1 (A1-BC-D3)

Visual resources along the route include downtown Saint Paul and the Mississippi River from the east end of the Kellogg Boulevard Bridge and Dayton’s Bluff, Johnson Parkway, 3M campus, Tanners Lake, and Battle Creek Lake. Project elements introduced into this environment include new stations, shared and dedicated guideways, bridges with associated ancillary structures, and park-and-ride lots. **Table 3.4-2** summarizes the visual impacts related to visual quality and aesthetics.

TABLE 3.4-2: LONG-TERM VISUAL AND AESTHETIC IMPACTS BY ALTERNATIVE

Alternative/Resource	Project Element/Impact	Visual Contrast
Build Alternative 1 (A1-BC-D3)		
Rice Park Historic District	<ul style="list-style-type: none"> Buses currently operate within district and stop at existing bus stops 	Low
Rice Park	<ul style="list-style-type: none"> New station would be smaller than other stations proposed in downtown to minimize visual impacts Proposed shelter would be similar in form, scale, color and materials as existing shelter 	Low



Alternative/Resource	Project Element/Impact	Visual Contrast
Hamm Plaza Station	<ul style="list-style-type: none"> Proposed station footprint would be larger than the existing bus shelter and may partially obstruct views of Hamm Plaza and adjacent historic properties 	Moderate
Saint Paul Urban Renewal Historic District	<ul style="list-style-type: none"> Buses and LRT currently operate within and adjacent to district Proposed station at 5th and Cedar streets has an existing shelter and other site furnishings at this station 	Low-Moderate
Lowertown Historic District	<ul style="list-style-type: none"> Buses and LRT currently operate within district Proposed stations near Union Depot would introduce new shelter and associated site furnishings at locations without existing bus shelter facilities; however, Project would be viewed in context of METRO Green Line LRT station in front of Union Depot 	Low-Moderate
Union Depot	<ul style="list-style-type: none"> Local and express buses currently operate on Kellogg Boulevard Project would not obstruct views of Union Depot Project would introduce new shelter and site furnishings, such as benches and waste receptacles, at stations at Sibley and Wacouta streets 	Low-Moderate
Saint Paul skyline and Mississippi River	<ul style="list-style-type: none"> Passing Project buses operating on Mounds Boulevard and Hudson Road would periodically obstruct views of downtown Saint Paul skyline and Mississippi River; however, Mounds Boulevard carries 16,800 vehicles per day including freight-hauling trucks and about 120 buses carrying local and express bus passengers 	Low
Dayton's Bluff Heritage Preservation District and residences adjoining Mounds Boulevard stations	<ul style="list-style-type: none"> Project station would introduce new platform, shelter, site furnishings, guideway and associated noise barriers 	Moderate
Residences on Hudson Road from Maria Avenue to Johnson Parkway	<ul style="list-style-type: none"> Project would introduce first bus traffic in this residential neighborhood 	Moderate
Johnson Parkway	<ul style="list-style-type: none"> New BRT-exclusive bridge and associated retaining walls would require vegetation-clearing and grading Residence west of bridge would have direct, unobstructed views of new BRT-exclusive bridge 	Moderate
Residences on Hudson Road from Johnson Parkway to Etna Street	<ul style="list-style-type: none"> Unobstructed views of proposed station, widened guideway, stormwater facilities and retaining walls required for new guideway bridge over TH 61/Etna Street 	Moderate
Residences on Hudson Road from Etna Street to Grace Lutheran Church	<ul style="list-style-type: none"> Introduction of daily BRT service on low-traffic-volume roadway would cause noticeable increase in traffic Project would remove vegetation blocking portion of I-94 noise barrier 	Moderate



Alternative/Resource	Project Element/Impact	Visual Contrast
Apartments north of proposed Van Dyke Street Station and Heritage Estates	<ul style="list-style-type: none"> Direct, unobstructed views of Project, but in context of I-94 	Low-Moderate
3M campus	<ul style="list-style-type: none"> Guideway would remove narrow segment of lawn in front of building, which would alter physical setting Introduction of the dedicated guideway, trails, station and BRT-exclusive bridge 	Moderate
Tanners Lake	<ul style="list-style-type: none"> Presence of I-94 dominate views from Tanners Lake 	Low-Moderate
Residences near Greenway Avenue Station	<ul style="list-style-type: none"> South side Greenway Avenue Station will be in the foreground of adjacent residences; presence of I-94 dominates view 	Low-Moderate
Battle Creek Lake	<ul style="list-style-type: none"> Presence of I-94 dominate views from Battle Creek Lake 	Low
Future residences adjoining proposed Helmo Avenue Station	<ul style="list-style-type: none"> Future residences facing Helmo Drive to the west would overlook dedicated guideway, Helmo Avenue Station and park-and-ride surface lot 	Low
Residences along Bielenberg and Guider drives	<ul style="list-style-type: none"> Residences along Bielenberg Drive and Guider Drive would have views of the dedicated guideway and existing Woodbury Theatre Park-and-Ride Residents along Guider Drive would face new park-and-ride surface lot to the west 	Low-Moderate
<i>Hazel Street Station Option</i>		
Apartment building on Hudson Road	<ul style="list-style-type: none"> Direct, unobstructed views of Project in context of I-94 	Low-Moderate
<i>Dedicated Guideway Option at Hadley Avenue and 4th Street</i>		
Apostolic Bible Institute and residences adjoining Hadley Avenue	<ul style="list-style-type: none"> Project would reconfigure parking lot and relocate driveway to accommodate dedicated guideway 	Low

3.4.4.2. Build Alternative 2 (A2-BC-D3)

Alignment A2 would pass along the southern edge of the Lowertown Historic District on Kellogg Boulevard, as would Alignment A1. Buses and LRT currently operate within the historic district. Low visual impacts are expected to the Lowertown Historic District. The proposed terminus station at Union Depot uses an existing bus turnaround, and there are existing bus station furnishings at this location. Alignment A2 would utilize the existing station facilities with the addition of charging infrastructure and Project station elements at Union Depot (south of Kellogg Boulevard); therefore, a low-moderate level of visual change for Build Alternative 2 is anticipated due to the introduction of new charging infrastructure and site furnishings for the station.

The remainder of Build Alternative 2 would produce the same long-term visual impacts as Build Alternative 1.



3.4.5. Business and Economic Resources

This section summarizes the Project’s anticipated long-term impacts to business and economic resources. Section 4.6 of the *Community and Social Resources Technical Report* in **Appendix A** includes details of the business and economic resources evaluation.

The Council analyzed direct impacts including displacement of commercial uses, loss of on-street and off-street parking, changes to commercial property access, reduced property tax collection due to full property acquisitions, and reduced parking revenue due to the removal of paid on-street parking spaces. The Council’s REMI-PI model was used to analyze induced economic impacts on the regional and statewide level. The REMI-PI model is an economic forecasting and policy analysis tool employed to project future economic impacts.

In summary, Build Alternative 1 and Build Alternative 2 would have similar direct impacts on businesses in the study areas although Build Alternative 1 would have a more positive long-term impact on the regional and state economy. Both would displace up to 21 businesses and result in the full acquisition of two commercial parcels, depending on business operations at the time of acquisition. The two alternatives vary in the number of parking spaces removed. Build Alternative 1 would result in the removal of 27 more parking spaces than Build Alternative 2. These additional spaces to be removed consist of both metered and unmetered spaces within the downtown Saint Paul station areas. The removal of these spaces would result in approximately \$90,000 in lost parking revenue per year in 2018 dollars. While Build Alternative 1 impacts more parking spaces and reduces annual parking revenue, it also provides a greater long-term economic benefit to the metropolitan region and state as it creates four jobs more than Build Alternative 2 over the No-Build Alternative and results in an additional \$17 million in Gross State Product (GSP) by 2040 based on the results of the regional economic model analysis. By 2045, it also results in a \$17 million increase in personal income. These operating phase impacts are itemized in **Table 3.4-3** and detailed in Section 4.6 of the *Community and Social Resources Technical Report* in **Appendix A**.

TABLE 3.4-3: DIRECT IMPACTS TO USES BY ALTERNATIVE

Build Alternative 1 (A1-BC-D3)	Build Alternative 2 (A2-BC-D3)
<ul style="list-style-type: none"> • Approximately 21 businesses displaced^a • 2 full commercial parcel acquisitions • 153 net parking spaces removed^b • \$3,486,900 estimated market value of property no longer taxable • 146 more jobs over the No Build, 2040^c • \$359 million Gross State Product, 2040^c • \$427 million Gross State Product, 2045^c • \$179 million increase in personal income, 2045^c 	<ul style="list-style-type: none"> • Approximately 21 businesses displaced^a • 2 full commercial parcel acquisitions • 126 net parking spaces removed^b • \$3,486,900 estimated market value of property no longer taxable • 142 more jobs over the No Build, 2040^c • \$342 million in Gross State Product, 2040^c • \$410 million in Gross State Product, 2045^c • \$162 million increase in personal income, 2045^c
With Hazel Street Station Option	
<ul style="list-style-type: none"> • No additional long-term impacts 	<ul style="list-style-type: none"> • No additional long-term impacts
With Dedicated Guideway Option at Hadley Avenue and 4th Street	
<ul style="list-style-type: none"> • No additional long-term impacts 	<ul style="list-style-type: none"> • No additional long-term impacts

^a The number of displacements is based on the 15% Concept Plans. The Council will further refine the acquisition, displacement and relocation requirements as the Project design advances during the Project Development and Engineering phases.

^b Net change in parking spaces, including proposed off-street spaces.



^c Metropolitan Council REMI-PI model results from Dec. 10, 2018.

3.4.5.1. Build Alternative 1 (A1-BC-D3)

The analysis found that Build Alternative 1 would positively impact the economic environment in the Project area by \$3.0 million per year by 2040, of which 78 percent is realized in 2024. The impact is mainly due to financial savings associated with the shift from personal automobiles to public transit.

The Council anticipates that Build Alternative 1 would produce the following statewide economic impacts:

- Minnesota employment would increase by 146 jobs in 2040 compared with the No-Build Alternative⁴⁸
- For the first 10 years of operation, GSP for the state would be lower compared with the No-Build Alternative⁴⁹
- The GSP would increase after travelers and economic activity fully adjust to the Project⁵⁰
 - › After 2034, employment and economic activity rebound and grow relative to the No-Build Alternative
 - › The Project's economic impact surpasses the public Project cost in 2045
 - › From 2041 to 2045, the GSP would increase by \$69 million
 - › In 2045 the cumulative additional GSP would be \$427 million over the No-Build Alternative
- The Council anticipates the Project would create 55 permanent jobs for BRT operations and maintenance⁵¹
- The Project would create an additional 91 permanent jobs in other industries⁵²

As shown in **Table 3.4-3**, Build Alternative 1 would fully acquire two commercial properties and potentially displace up to 21 businesses. The estimated market value of these properties is \$3,486,900; these properties would no longer be taxable after the Project acquires them. In 2018, these properties produced \$115,738 in tax revenue. While this will be a reduction in the property tax base, other proximate land could appreciate, reflecting the value created by the new transitway. As the amounts of tax base loss and gain have not been quantified, the present analysis assumes that the net impact to tax revenue is zero.⁵³

The parking impact produced by Build Alternative 1 is a net loss of 153 parking spaces (see the *Transportation Resources Technical Report* in **Appendix A**). The loss of 14 metered on-street parking spaces near the Project stations at 5th and 6th streets would produce a loss of approximately \$90,000 per year in parking revenue (in 2018 dollars).⁵⁴ Additionally, one of two site-access points would be permanently closed at Leo's Chow Mein; however, the Project would not impact the driveway on Earl Street.

⁴⁸ Metropolitan Council REMI-PI model results, December 10, 2018.

⁴⁹ Metropolitan Council REMI-PI model results, December 10, 2018.

⁵⁰ Metropolitan Council REMI-PI model results, December 10, 2018.

⁵¹ Metro Transit, 2017.

⁵² Metropolitan Council REMI-PI model results, December 10, 2018.

⁵³ Washington County Department of Property Records and Taxpayer Services, 2018 estimated market values of commercial parcel(s) to be fully acquired by the Project.

⁵⁴ The analysis calculated the approximate annual cost based on the locations of the removed metered spaces, parking rates at these locations, and the hours and days of parking enforcement and information. As parking rates increase during event days, the Council conservatively assumes the rate would apply to 10 percent of the parking-enforcement hours.



Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce additional impacts to business or economic resources.

Build Alternative 1 would have an overall positive impact on the economy of the region and state. These positive impacts include increased GSP attributable to increased access to transit and reductions in automobile use as well as increased employment, including the direct effect of new employment in the operation of the Project.

3.4.5.2. Build Alternative 2 (A2-BC-D3)

Alignment A2 would not go through downtown Saint Paul, and Build Alternative 2 would not eliminate 14 metered on-street parking spaces associated with Alignment A1 stations, thus preserving the parking revenue of approximately \$90,000 per year for these spaces.

Build Alternative 2 would positively impact the economic environment by \$2.6 million per year in the Project area by 2040 of which 78 percent is realized in 2024. The impact is mainly due to financial savings associated with the shift from personal automobiles to public transit.

The Council anticipates Build Alternative 2 would produce the same statewide economic impacts as Build Alternative 1, with the following exceptions:

- Minnesota employment would increase by 142 jobs in 2040 compared with the No-Build Alternative, which is four less than the increase for Build Alternative 1⁵⁵
 - As with Build Alternative 1, the Council anticipates Build Alternative 2 would create 55 permanent jobs for BRT operations and maintenance, however the Project would only create 87 permanent jobs in other industries compared to the 91 additional permanent jobs created under Build Alternative 1⁵⁶
- In 2045, the cumulative additional GSP would be \$410 million over the No-Build Alternative, \$17 million less than the \$427 million GSP increase for Build Alternative 1
- The remainder of Build Alternative 2 would produce the same Project-related long-term impacts to business and economic resources as Build Alternative 1.

3.4.6. Environmental Justice

This section summarizes the Project's anticipated long-term impacts to environmental justice populations within the Project area in compliance with federal requirements.⁵⁷ Section 4.8 of the *Community and Social Resources Technical Report* in **Appendix A** provides the full environmental justice analysis. **Section 3.6.1.11** addresses short-term impacts to environmental justice populations.

The Council used a multistep process to identify the potential for disproportionately high and adverse effects to environmental justice populations. Whether an adverse effect is disproportionately high on minority and low-income populations depends on whether that effect is predominantly borne by an environmental justice population, or will be suffered by the environmental justice population and is appreciably more severe or greater in

⁵⁵ Metropolitan Council REMI-PI model results, December 10, 2018.

⁵⁶ Metropolitan Council REMI-PI model results, December 10, 2018.

⁵⁷ "Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." Vol. 59, Federal Register, No. 32, February 11, 1994. Available at: <https://www.transit.dot.gov/sites/fta.dot.gov/files/Executive%20Order%2012898.pdf>. Accessed November 2018.



magnitude than the adverse effect that will be suffered by the non-environmental justice population.⁵⁸ The analysis evaluated the following resources because impacts to them tend to be localized and have the potential for disproportionately high and adverse effects for environmental justice populations:

- Transit
- Traffic
- Pedestrian and bicycle facilities
- Parking and driveways
- Land use
- Community facilities, character and cohesion
- Acquisitions and displacements
- Cultural resources
- Visual quality and aesthetics
- Business and economic resources
- Safety and security
- Noise and vibration
- Air quality

The Council did not assess the other resources in the context of environmental justice because either the Project would not impact those resources or there would be no long-term or short-term adverse impacts with mitigation (see **Section 3.9** for avoidance, minimization and mitigation measures).

The FTA Circular 4703.⁵⁹ defines the term minority populations and low-income populations as they relate to environmental justice analyses. These definitions can be found in Section 4.8 of the *Community and Social Resources Technical Report* in **Appendix A**.

The resource study area is defined as the area within ½-mile of the Build Alternatives. For the analyses of minority and low-income populations, the resource study area includes each census block or block group that intersects the ½-mile area or is completely within the ½-mile area. Figures 4.8-1 through 4.8-4 in the *Community and Social Resources Technical Report* in **Appendix A** show the percentages of minority and low-income populations living within the resource study area.

Table 3.4-4 summarizes the minority populations within the resource study area for the Project.

⁵⁸ Federal Transit Administration. "Environmental Justice Policy Guidance for Federal Transit Administration Recipients". Circular C4703.1. August 15, 2012. Available at: <https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/environmental-justice-policy-guidance-federal-transit>. Accessed April 2019.

⁵⁹ Federal Transit Administration. "Environmental Justice Policy Guidance for Federal Transit Administration Recipients". Circular C4703.1. August 15, 2012. Available at: <https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/environmental-justice-policy-guidance-federal-transit>. Accessed May 2018.

**TABLE 3.4-4: MINORITY POPULATIONS WITHIN THE RESOURCE STUDY AREA**

	Total Population	Non-Minority Population	Minority Population	Percent Minority
Minnesota	5,303,925	4,405,142	898,783	16.9%
Twin Cities Metropolitan Area	2,849,567	2,173,218	676,349	23.7%
Ramsey County	508,640	340,194	168,446	33.1%
Washington County	238,136	204,111	34,025	14.3%
City of Saint Paul	285,068	159,437	125,631	44.1%
City of Maplewood	38,018	27,598	10,420	27.4%
City of Landfall	686	428	258	37.6%
City of Oakdale	27,378	21,658	5,720	20.9%
City of Woodbury	61,961	49,016	12,945	20.9%
Study Area	49,750	27,798	21,952	44.1%

Source: U.S. Census Bureau, 2010 Decennial Census, Table P5: Hispanic or Latino Origin by Race

As shown in **Table 3.4-5**, the percentage of low-income individuals in the resource study area is higher than that of Ramsey and Washington counties and the seven-county metropolitan area. One city, Landfall (34.8 percent), has a higher low-income rate than the study area (22.1 percent).

TABLE 3.4-5: LOW-INCOME POPULATIONS BY STATE, COUNTY, CITY AND CORRIDOR

	Population for Low-Income Determination	Non-Low-Income	Low-Income	Percent Low-Income
Minnesota	5,327,019	4,749,823	577,196	10.8%
Seven-County Twin Cities Metropolitan Area	2,930,188	2,627,996	302,192	10.3%
Ramsey County	517,710	435,458	82,252	15.9%
Washington County	244,976	232,480	12,496	5.1%
City of Saint Paul	289,516	227,111	62,405	21.6%
City of Maplewood	38,780	35,206	3,574	9.2%
City of Landfall	782	510	272	34.8%
City of Oakdale	27,779	26,026	1,753	6.3%
City of Woodbury	66,411	64,219	2,192	3.3%
Study Area	79,201	61,677	17,524	22.1%



Source: U.S. Census Bureau, 2012-2016 American Community Survey 5-Year Estimates, Table C17002: Ratio of Income to Poverty Level in the Past 12 Months⁶⁰

3.4.6.1. Environmental Justice-Related Outreach Efforts

A concerted effort to engage low-income and minority residents in the Project planning began in 2011 when, as part of the Corridors of Opportunity initiative,⁶¹ a group called East Side Prosperity Campaign received a grant for \$40,000 to specifically engage residents living on the east side of Saint Paul in participation, decision-making, and leadership roles related to Project planning and implementation. The East Side Prosperity Campaign was a partnership among the American Indian Family Center, the Hmong American Partnership, the Culture Wellness Center, Casa de Esperanza, and District Councils 4 and 5, and each reached out to their constituencies regarding the Gold Line BRT Project.

The Corridors of Opportunity initiative and its associated funding ended in 2013. However, in the spring of 2013, Saint Paul District Councils 1, 2, 4, and 5, the East Side Prosperity Campaign, and the East Side Area Business Association came together to develop and implement a project to continue engaging the community in transit planning called Fostering an East Side Transit Equity Conversation (FESTEC). An organizing apprenticeship was created to provide training and engagement strategies to a team of 10 ethnically diverse community organizers who represent the demographic characteristics of Saint Paul's east side neighborhoods. In 2014 FESTEC evolved to its current organization, East Side Transit Equity, which builds on the Transit Equity Covenant established in 2013 through community engagement and organizing.⁶² Project staff continues to be invited to represent the Project at events and meetings held by the partner organizations, and the organizations continue to promote Gold Line BRT Project events to their members. The East Side Prosperity Campaign, FESTEC, neighborhood organizations, and advocacy groups have facilitated participation in the Project by many members of environmental justice communities, some of whom would not have learned about or participated in the Project through more conventional approaches.

While Project staff was able to connect with low-income and minority residents through established organizations in Saint Paul, place-based and neighborhood organizations are scarce in the suburban communities, and staff used other techniques to reach out to residents in Maplewood, Landfall, Oakdale, Woodbury and Lake Elmo. These efforts included Project-specific open houses; presentations to business associations, city councils, planning commissions, religious and civic groups, and student groups; high-profile, well-advertised lunch events with notable speakers; and Project tables at dozens of community events.

Input received and information disseminated at individual and committee meetings, open houses, tours, and public hearings have affected the design of the Project in a number of significant ways:

⁶⁰ Thresholds of 10, 20, and 30 percent were used to visually differentiate among high- and low-percentage low-income block groups, with consideration of natural breaks in the data and of values presented in **Table 3.4-5**, and to maintain consistent thresholds throughout the study area.

⁶¹ Corridors of Opportunity is an initiative funded by a three year (2011-2013) \$5 million Sustainable Communities grant from the Federal Department of Housing and Urban Development, in partnership with the Department of Transportation and the Environmental Protection Agency. Opportunity funds were used to accelerate the build out of a regional transit system for the Twin Cities while advancing economic development and ensuring that people of all incomes and backgrounds share in resulting opportunities.

⁶² Dayton's Bluff Community Council. East Side Transit Equity (formerly Fostering East Side Transit Equity Conversations). Available at: <http://www.daytonsbuff.org/our-community/festec/>. Accessed September 2016.



- Community members aided in defining the scope of the environmental review through robust participation in the environmental Scoping process⁶³
- In response to concerns raised, changes were made to the design of the Project to avoid parking loss near Earl Street businesses, avoid acquisition of an apartment building west of Etna Street in St. Paul, and minimize business impacts in Landfall

3.4.6.2. Build Alternative 1 (A1-BC-D3)

Build Alternative 1 would not produce environmental justice-related impacts to the following resources: transit; traffic; pedestrian and bicycle facilities; land use; safety and security; noise and vibration; or air quality.

Table 3.4-6 summarizes the long-term anticipated impacts for the selected resources. Resources with no impacts were not carried forward to the next step of analysis. Resources with impacts were considered for their potential for disproportionately high and adverse effects on environmental justice populations.

TABLE 3.4-6: BUILD ALTERNATIVE 1 POTENTIAL FOR LONG-TERM DISPROPORTIONATELY HIGH AND ADVERSE EFFECTS BY RESOURCE

Resource	Potential for Impacts	To Be Evaluated for Potential for Disproportionately High and Adverse Effect on Environmental Justice Populations
Transit	No	No
Traffic	No	No
Pedestrian and Bicycle Facilities	No	No
Parking and Driveways	Yes	Yes
Land Use	No	No
Community Facilities, Character and Cohesion	Yes	Yes
Acquisitions and Displacements	Yes	Yes
Cultural Resources	a	a
Visual and Aesthetic	Yes	Yes
Business and Economic Resources	Yes	Yes
Safety and Security	No	No
Noise and Vibration	No	No
Air Quality	No	No

⁶³ Washington County Regional Railroad Authority, Ramsey County Regional Railroad Authority, Metropolitan Council. Gateway Corridor Scoping Decision Document. October 2014. Available at: <https://www.metrotransit.org/Data/Sites/1/media/about/improvements/gold-line/scoping-decision-document.pdf>. Accessed November 2018.



- ^a *To comply with Section 106, a Programmatic Agreement (PA) was established because the effects of the undertaking are not fully known at this stage of design for the Project. The PA establishes and describes how the remaining Section 106 activities will be conducted, including making findings and determinations of National Register eligibility and Project effects. If any adverse effects are identified, FTA will consult with MnSHPO and other consulting parties per the terms of the PA to consider avoidance, minimization, and/or mitigation measures to resolve the adverse effect.*



The analysis for the remaining resources evaluated for disproportionately high and adverse effects to environmental justice populations is summarized below:

ALIGNMENT A1

- Would permanently eliminate 27 on-street spaces in Saint Paul on 5th, 6th, Sibley and Wacouta streets (see Section 3.3.2 of the EA and Section 3.4.3 of the *Transportation Resources Technical Report* in **Appendix A**)
 - Parking loss would be in an area in which up to 61 percent of residents are minorities, and up to 57 percent of residents within the block groups are low-income; parking loss would not adversely affect area residents, including environmental justice populations, or businesses because parking is available on nearby streets, in surface lots and in parking structures
- Would not produce environmental justice-related impacts to the following resource areas because no impacts were identified:
 - Property acquisitions or displacements: would not fully acquire any properties nor displace or relocate businesses or residents (see Section 3.4.2 of the EA and Section 4.4.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Community facilities: would not modify existing community facility access points or acquire community facility properties (see Section 3.4.1 of the EA and Section 4.3.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Character and cohesion: would not separate neighborhoods or cause any physical barriers or visual divides between neighborhoods and other cohesive areas (see Section 3.4.1 of the EA and Section 4.3.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Visual quality and aesthetics: would not result in major changes to visual resources (see Section 3.4.4 of the EA and Section 4.5.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Business and economic resources: it is anticipated that the loss of the metered on-street parking spaces would not have a measurable impact on commercial uses along Alignment A1 (see Section 4.6.3 of the *Community and Social Resources Technical Report* in **Appendix A**)

ALIGNMENT B

- Would permanently eliminate approximately 145 on-street parking spaces, 29 of which are on the north side of Hudson Road, where single-family residences are located, between Maria Avenue and Maple Street (see Section 3.3.2 of the EA and Section 3.4.3 of the *Transportation Resources Technical Report* in **Appendix A**)
 - Parking loss would be in an area in which up to 88 percent of the residents are minorities, and 38 percent of residents within the block groups are low-income
 - The Council does not anticipate that this parking loss would adversely affect area residents, including environmental justice populations, or businesses because parking is available nearby in off-street facilities; however, the Project would retain parking in this area on Hudson Road between Forest and Frank streets in response to community input about the importance of on-street parking for local businesses and residents who live in apartment buildings that do not provide off-street parking
- Would require permanent removal of one driveway for a restaurant: Leo's Chow Mein located on the northeast corner of Earl Street and Hudson Road (see Section 3.3.2 of the EA and Section 3.4.3. of the *Transportation Resources Technical Report* in **Appendix A**)
 - Leo's Chow Mein has two existing access points: one driveway on Earl Street and one driveway on Hudson Road



- The Project would remove the driveway on Hudson Road; removal is due to the construction of the dedicated guideway and new signalized intersection with pedestrian accommodations at Earl Street and Hudson Road
- Since the project would not impact the existing driveway on Earl Street, the driveway removal on Hudson Road would not have an adverse impact to environmental justice populations
- Would require conversion from a two-way traffic to one-way westbound traffic between Frank Street and Wilson Avenue occurring next to one community facility, Reach Together, an organization that provides assistance and services to refugees and immigrants (see Section 3.4.1 of the EA and Section 4.3.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Conversion is not expected to impact access to Reach Together because the property does not currently have driveway access from Hudson Road and the facility would retain existing alley and sidewalk access
 - One-way configuration was advanced as part of the Project's design after discussion with neighborhood residents and business owners as a way of not removing on-street parking in the area around the Earl Street Station
 - Since access to Reach Together is not changing, these access changes would not have an adverse impact to this community facility or environmental justice populations
- Would permanently eliminate 116 parking spaces on the south side of Hudson Road from Old Hudson Road to the dead-end past Kennard Street (see Section 3.3.2 of the EA and Section 3.4.3 of the *Transportation Resources Technical Report* in **Appendix A**)
 - Single-family residences are located on the north side Hudson Road, an area in which up to 82 percent of residents are minorities, and up to 30 percent of residents within the census block groups are low-income
 - The Council does not anticipate that the parking loss on the south side of Hudson Road in this segment would adversely affect area residents, including environmental justice populations, because each residence includes parking and parking would be maintained on the north side of Hudson Road
- Would produce environmental justice-related impacts to visual quality and aesthetics due to increased traffic volumes and loss of roadside vegetation; however, based on a review of the distribution of Project-related visual quality impacts throughout the study area, the Council does not anticipate these impacts would be disproportionately high or adverse (see Section 3.4.4 of the EA and Section 4.5.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
- Would not displace residents, but it would partially acquire approximately 5,000 square feet of a property from one community facility, Grace Lutheran Church for a stormwater facility that would occupy existing open land but would not impact existing church operations; therefore, the acquisition would not adversely impact area residents, including environmental justice populations, (see Section 3.4.1 of the EA and Section 4.3.3 and 4.4.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
- Would not produce environmental justice-related impacts to the following resource areas based on no impacts identified:
 - Character and cohesion: would not separate neighborhoods or cause any physical barriers or visual divides between neighborhoods and other cohesive areas (see Section 3.4.1 of the EA and Section 4.3.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Business and economic resources: would not impact commercial properties from the loss of parking spaces; no changes in access to commercial properties are expected along Alignment B (see Section 4.6.3 of the *Community and Social Resources Technical Report* in **Appendix A**)



ALIGNMENT C

- Would build a new surface park-and-ride at the Sun Ray Station, which would eliminate approximately 68 off-street parking spaces for St. Paul Youth Services; require removal of two of four existing driveways; and require the Project to partially acquire the property (see Section 3.3.2 of the EA and Section 3.4.3 of the *Transportation Resources Technical Report* in **Appendix A**)
 - The Project would permanently remove 27 of the 68 existing parking spaces. The new surface park-and-ride lot at Sun Ray Station would provide a total of 150 for Project use, which is in an area where 70 percent of residents are minorities, and 9 percent of residents within census block groups are low-income
 - Parking impacts at St. Paul Youth Services would not adversely impact area residents because the remaining parking would meet the needs of St. Paul Youth Services and they would be compensated in accordance with the Uniform Relocation Act and Minnesota Statutes Chapter 117
 - The removal of two of four existing driveways at St. Paul Youth Services would not result in disproportionately high and adverse effects on environmental justice populations since the Project would provide additional access for St. Paul Youth Services within the new park-and-ride
 - The Council will continue to coordinate with the City of Saint Paul and St. Paul Youth Services to further minimize parking impacts as the Project advances through the Project Development and Engineering phases
- Would not displace residents, but would fully acquire one commercial parcel, owned by a single party, for construction of the guideway; could result in displacement of approximately three businesses; the Council does not anticipate the acquisition would have disproportionately high or adverse effects on environmental justice populations (see Section 3.4.5 of the EA and Section 4.6.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Parcel is in a census block with 5 percent minority residents, and in a block group where 13 percent of residents are low-income
 - Property owners would be compensated in accordance with the Uniform Relocation Act and Minnesota Statutes Chapter 117
- Would not produce environmental justice-related impacts to the following resource areas based on no impacts identified:
 - Visual quality or aesthetics: would not result in major changes to visual resources (see Section 3.4.4 of the EA and Section 4.5.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Community facilities, character and cohesion: would not separate neighborhoods or cause any physical barriers or visual divides between neighborhoods and other cohesive areas (see Section 3.4.1 of the EA and Section 4.3.3 of the *Community and Social Resources Technical Report* in **Appendix A**)

Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce additional environmental justice-related impacts to parking and driveways; community facilities, character and cohesion; acquisitions and displacements; visual quality and aesthetics; or business and economic resources.

ALIGNMENT D3

- Would not displace residents; in this area, up to 16 percent of residents are minorities and 4 percent of residents within the block groups are low-income (see Section 3.4.2 of the EA and Section 4.4.3 of the *Community and Social Resources Technical Report* in **Appendix A**)



- Would fully acquire one multitenant commercial parcel, owned by a single party, for construction of a park-and-ride facility near the Helmo Avenue Station; could result in displacement of approximately 18 businesses; the Council does not anticipate the acquisition would not have disproportionately high or adverse effects on environmental justice populations (see Section 3.4.5 of the EA and Section 4.6.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Parcel is in a census block with 17 percent minority residents, and in a block group where 4 percent of residents are low-income
 - Property owners would be compensated in accordance with the Uniform Relocation Act and Minnesota Statute Chapter 117
- Could negatively affect the HOM Furniture store, 7600 Hudson Road in Woodbury, where the Project would eliminate parking (see Section 3.4.5 of the EA and Section 4.6.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - HOM Furniture store, which owns the building and land, is in a census block that has no residential population, therefore, no environmental justice populations
 - Project-related impacts to HOM Furniture would not produce disproportionately high or adverse impacts to environmental justice populations
 - Would not produce environmental justice-related impacts to the following resource areas based on no impacts identified: Community facilities, character and cohesion: would not require any driveway closure or access changes; would not separate neighborhoods or cause any physical barriers or visual divides between neighborhoods and other cohesive areas (see Section 3.4.1 of the EA and Section 4.3.3 of the *Community and Social Resources Technical Report* in **Appendix A**)
 - Visual quality and aesthetics: would not result in major changes to visual resources (see Section 3.4.4 of the EA and Section 4.5.3 of the *Community and Social Resources Technical Report* in **Appendix A**)

3.4.6.3. Build Alternative 2 (A2-BC-D3)

Alignment A2 would not affect environmental justice populations in downtown Saint Paul because Alignment A2 would end at the Union Depot Station. Conversely, because Alignment A2 would not extend BRT service into downtown Saint Paul, there would be a loss in benefit to environmental justice populations between Union Depot and Smith Avenue. The remainder of Build Alternative 2 would produce the same long-term, environmental justice-related impacts to the resources evaluated for this analysis as Build Alternative 1.

3.4.6.4. Environmental Justice Finding

The Project would not produce environmental justice-related impacts to transit; traffic; pedestrian and bicycle facilities; land use; safety and security; noise and vibration; or air quality based on Project operations, with implementation of mitigation and enhancement measures incorporated into the Project. Therefore, the Project would not impact environmental justice populations with disproportionately high or adverse effects related to these resources. The following resource-specific conclusions summarize the Project's potential for disproportionately high and adverse effect on environmental justice populations from operation and construction of the Project:

- Parking and driveways: no disproportionately high or adverse effects
- Community facilities, cohesion and character: no disproportionately high or adverse effects
- Acquisitions and displacements: no disproportionately high or adverse effects
- Business and economic resources: no disproportionately high or adverse effects



Disproportionately high and adverse effects on environmental justice populations are anticipated to result from the construction phase of the Project along Alignments B and C related to noise and vibration impacts and visual impacts along Alignment B (see **Section 3.6.1.11** of the EA). The Project will implement the following mitigation measures (see **Section 3.9** of the EA):

- Prepare detailed noise and vibration control plan to mitigate short-term construction noise and vibration
- Provide signage directing business patrons to streets where parking is available
- Provide ongoing and transparent outreach program to inform business owners and residents of construction activities
- Phase construction activity to minimize duration
- Restore disturbed areas
- Remove debris and equipment on a regular basis

Some of the specific Project-related impacts would adversely affect all populations regardless of race or socioeconomic status. Thus, as the Project advances, the Council will continue outreach and coordination with community organizations to continue to engage with environmental justice populations. The Council is also committed to continued engagement with the Community and Business Advisory Committee, whose input is integral to Project decision-making.

All populations in the resource study area would experience the following benefits from the Project:

- Improved connectivity and access to transit
- Reliable and time-competitive service for transit-users
- High-frequency, all-day service
- Improved pedestrian and bicycle connections and access near stations
- Improved access to employment, educational, recreational, shopping and cultural opportunities
- Improved overall health due to Project-related security and safety elements, and access to health-care providers
- Positive direct and indirect impacts to the local economy as workers are hired for transit-related jobs and spend locally their earnings from those jobs

After examining the Project in totality, accounting for adverse effects on environmental justice populations during the construction phase (see **Section 3.6.1.11** of the EA) and mitigation measures the Council will implement (see **Section 3.9** of the EA), the FTA and Council concluded that the Project would not produce disproportionately high or adverse effects on environmental justice populations.



3.5. Physical and Environmental Resources Operating Phase (Long-Term) Impacts

This section summarizes the Project's anticipated long-term impacts to physical and environmental resources. Long-term impacts would continue to occur after the Council constructs the Project. This section describes Project impacts for Build Alternatives 1 and 2, the Hazel Street Station Option and the Dedicated Guideway Option at Hadley Avenue and 4th Street. **Chapter 2. Alternatives** describes the Project Build Alternatives and options.

The *Physical and Environmental Resources Technical Report* in **Appendix A** provides the regulatory context and, methodology the Council used to evaluate each resource and descriptions of the areas the Build Alternatives would affect in the resource study areas. The first table in the technical report summarizes the study area extents for each resource. The technical report also gives details about the Council's analysis of physical and environmental resources.

This section addresses Project-related long-term impacts to the following physical and environmental resources:

- Utilities
- Water Resources (Floodplains, Surface Waters, Stormwater and Water Quality)
- Hazardous Materials and Contamination
- Biological Environment (Endangered Species and Wildlife Habitat)

Section 3.6. Construction Phase (Short-Term) Impacts summarizes the short-term impacts related to Project construction, and **Section 3.7. Indirect Effects and Cumulative Impacts** summarized the evaluation of reasonably foreseeable future actions that would occur later, called indirect effects, and incremental impacts from other projects and actions, called cumulative impacts. **Section 3.9. Avoidance, Minimization and Mitigation Measures** summarizes the measures the Project would utilize to avoid, minimize or mitigate adverse impacts.

3.5.1. Utilities

This section summarizes the Project's anticipated long-term impacts to utilities. Section 5.2 of the *Physical and Environmental Resources Technical Report* in **Appendix A** includes details of the utilities evaluation.

3.5.1.1. Build Alternative 1 (A1-BC-D3)

The Council anticipates several long-term impacts from Build Alternative 1 to existing underground and overhead utilities throughout the limits of disturbance. As the Project design advances, the Council will evaluate utilities on a case-by-case basis to determine impacts due to Project construction and operations. If elements of the Project conflict with existing utilities, owners may need to modify, relocate or reconstruct the utilities. The Council will coordinate with each utility owner regarding impacts to existing facilities as the Project advances through Project Development and Engineering Phases.

The Project could require relocating the buried fiber optic cables and associated system infrastructure from White Bear Avenue to McKnight Road in Saint Paul; and between Century Avenue and Hadley Avenue in Oakdale due to guideway and other Project infrastructure.

Construction of the guideway could impact MnDOT's traffic-management system along the I-94 corridor requiring the Council to relocate or modify the changeable message sign and associated equipment between Frank Street and Johnson Parkway in Saint Paul to accommodate the guideway between I-94 and Hudson Road.



The Project will avoid and/or minimize potential maintenance impacts to buried oil pipelines through advancement of design near the proposed Helmo Avenue Station and along Bielenberg Drive. The Council will coordinate with pipeline owners to advance design that will minimize impacts to pipeline maintenance activities. Project improvements in these areas include a new station, guideway, roadway widening, bridge abutments, and other Project-related infrastructure. Where impacts cannot be avoided, the Council will work with the utility owner to mitigate these impacts. The Council recognizes routine maintenance or extraordinary repairs may be necessary for these pipelines. The design advancement will coordinate the placement of the guideway, structures, and traffic systems to limit the future disruption of BRT operations and allow construction access to the pipelines. Advancement of design will evaluate where 1) the footprint of disturbance on the pipeline can be reduced through perpendicular crossings of the guideway, 2) offsetting the guideway to allow pipeline maintenance access when parallel to the pipeline, 3) adjusting proposed grading where feasible to limit additional fill on top of the pipeline, and 4) placement of permanent structures (i.e., stations and bridges) and stormwater facilities would minimize impacts to pipeline maintenance activities.

The Project will not impact Metropolitan Council Environmental Services interceptor sewer lines for Alignment A1, C, and D3. Within Alignment B a valve box for the interceptor sewer line is located near the guideway. The Project will avoid and/or minimize any potential impacts through design advancement during the Project Development and Engineering phases.

In most areas utility vaults would not result in a conflict with the station platform. However, the Project could impact the accessibility of utility vaults located in downtown Saint Paul within Alignment A1 due to bump outs at the station areas. The 5th Street/Robert Street Station, Union Depot/Sibley Street Station and Union Depot/Wacouta Street Station will have bump-outs to accommodate in-lane stopping. The Council will continue to evaluate the extent of impacts from station construction and will coordinate with utility owners as the Project design advances through the Project Development and Engineering phases.

Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce impacts to utilities beyond those the Council anticipates for Alignment C.

As the Project advances through Project Development and into the Engineering phase, the Council will continue to evaluate private and public utilities. Where it cannot avoid Project-related impacts, the Council will work with utility owners to mitigate these impacts.

3.5.1.2. Build Alternative 2 (A2-BC-D3)

Alignment A2 would not go through downtown Saint Paul, thus avoiding potential impacts to utility vaults located in this area. The remainder of Build Alternative 2 would produce the same Project-related long-term impacts to utilities as Build Alternative 1.

3.5.2. Water Resources

This section summarizes the Project's anticipated long-term impacts to water resources including floodplains, surface waters (wetlands, waterbodies and waterways), stormwater and water quality. The following sections of the of the *Physical and Environmental Resources Technical Report* in **Appendix A** provide details of the water resources analyses:

- Section 5.3. Floodplains
- Section 5.4. Surface Waters
- Section 5.5. Stormwater and Water Quality



3.5.2.1. Floodplains

BUILD ALTERNATIVE 1 (A1-BC-D3)

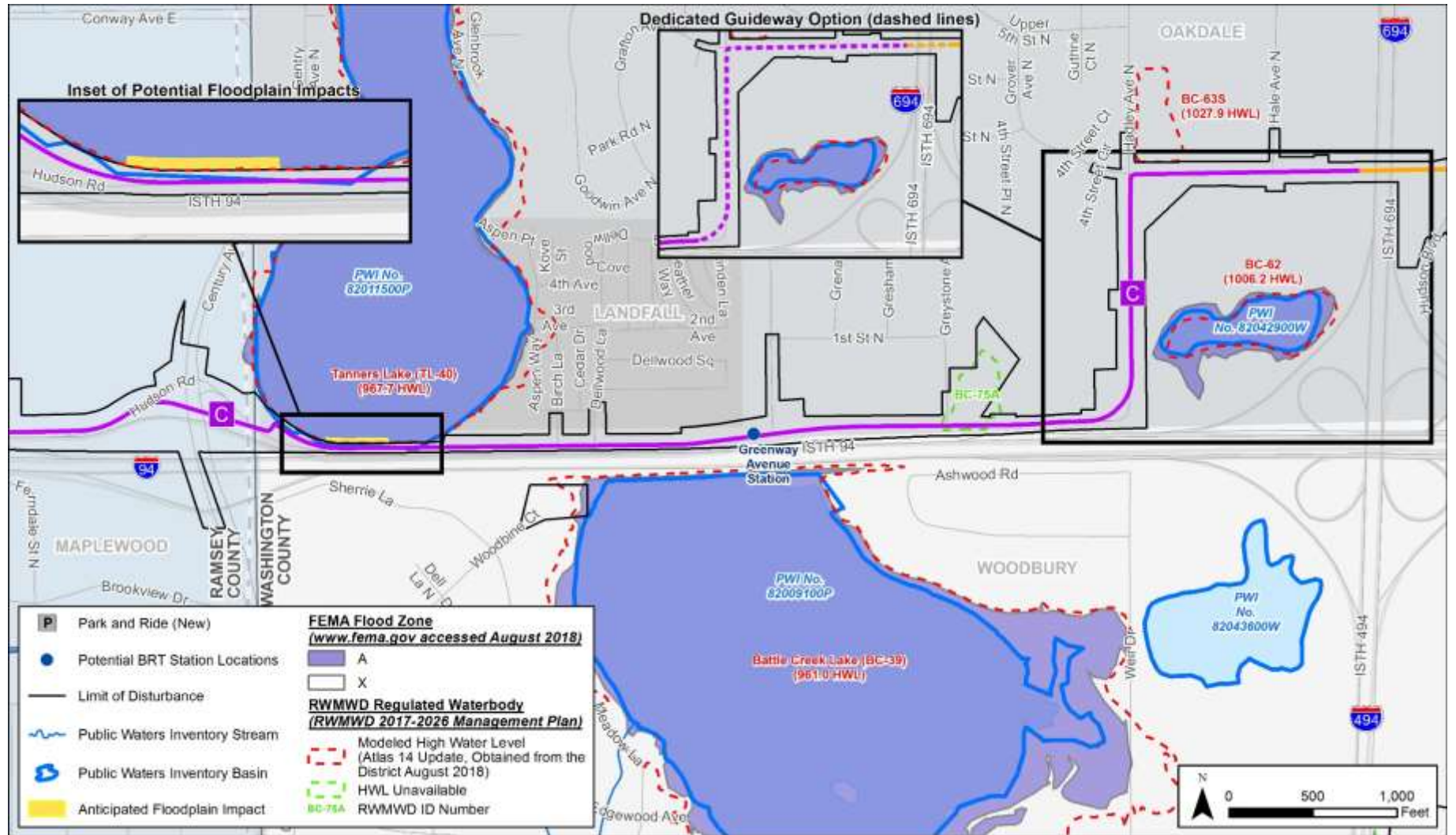
The Council does not anticipate that Alignments A1 or B would impact floodplains.

The potential limits of disturbance for Alignment C (see **Figure 3.5-1**) includes five floodplains. The Tanners Lake floodplain has approximately 400 cubic yards of proposed fill. The Council does not anticipate Project-related impacts to floodplains based on the proposed guideway location for Alignment C in relation to the floodplain elevations of the following waterbodies: Battle Creek Lake, BC-63S, BC-62 and BC-75A.⁶⁴

⁶⁴ "BC-XXX" is an identification number the Ramsey-Washington Metro Watershed District assigned. The district regulates these waterbodies.



FIGURE 3.5-1: ALIGNMENT C FLOODPLAIN RESOURCES AND IMPACTS





Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce impacts to floodplains beyond those the Council anticipates for Alignment C.

The potential limits of disturbance for Alignment D3 (see **Figure 3.5-2** and **Figure 3.5-3**) has 13 floodplains. The Council does not anticipate Project-related impacts to floodplains based on the Project's 15% Concept Plans in relation to the floodplain elevations of the following waterbodies: BC-52, BC-31, BC-29, BC-26, BC-17X, BC-17, BC-21, BC-22 and BC-23.

The Council anticipates fill at the following waterbodies:

- BC-57X: approximately 622 cubic yards of fill for guideway construction
- BC-53: approximately 3,820 cubic yards of fill for guideway construction

Alignment D3 would also produce floodplain impacts at the following water bodies that have unknown floodplain elevations, therefore, the Council will need to model them in detail to confirm the exact quantity of floodplain fill during the Engineering Phase and prior to requesting permits:

- BC-25X based on grading tie-in elevation
- BC-25 based on grading tie-in elevation

In summary, the Council anticipates Build Alternative 1 would impact floodplains with a minimum of 4,842 cubic yards of fill, and potential additional fill at BC-25X and BC-25. Mitigation will be provided for the fill and permitted through the appropriate regulatory agency (see **Section 3.9**). The Council will further evaluate measures to minimize these impacts as the Project design advances during the Project Development and Engineering phases. The Council does not anticipate impacts to floodways.

BUILD ALTERNATIVE 2 (A2-BC-D3)

Build Alternative 2 would produce the same long-term impacts to floodplains as Build Alternative 1.

FIGURE 3.5-2: ALIGNMENT D3 FLOODPLAIN RESOURCES AND IMPACTS

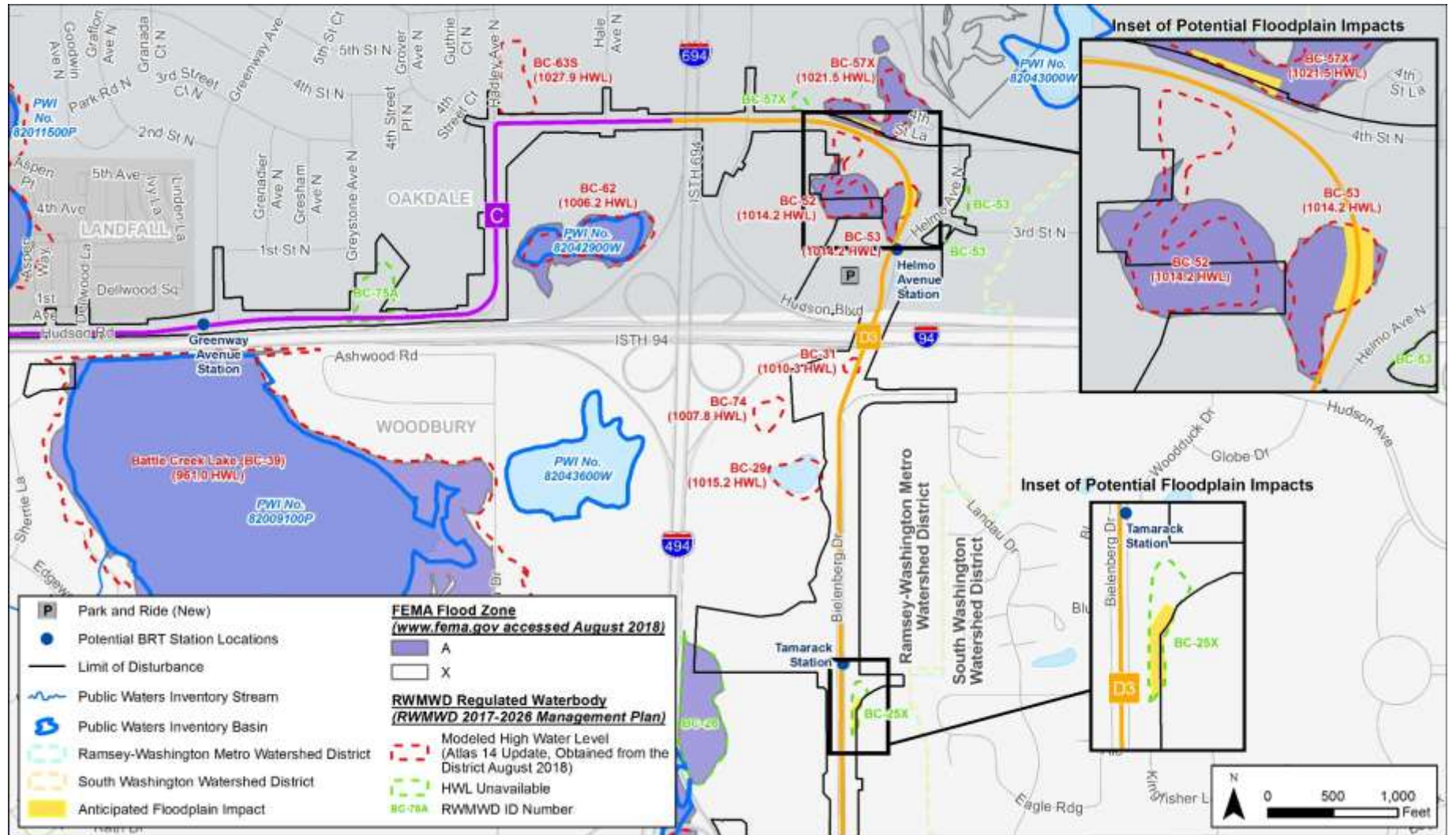
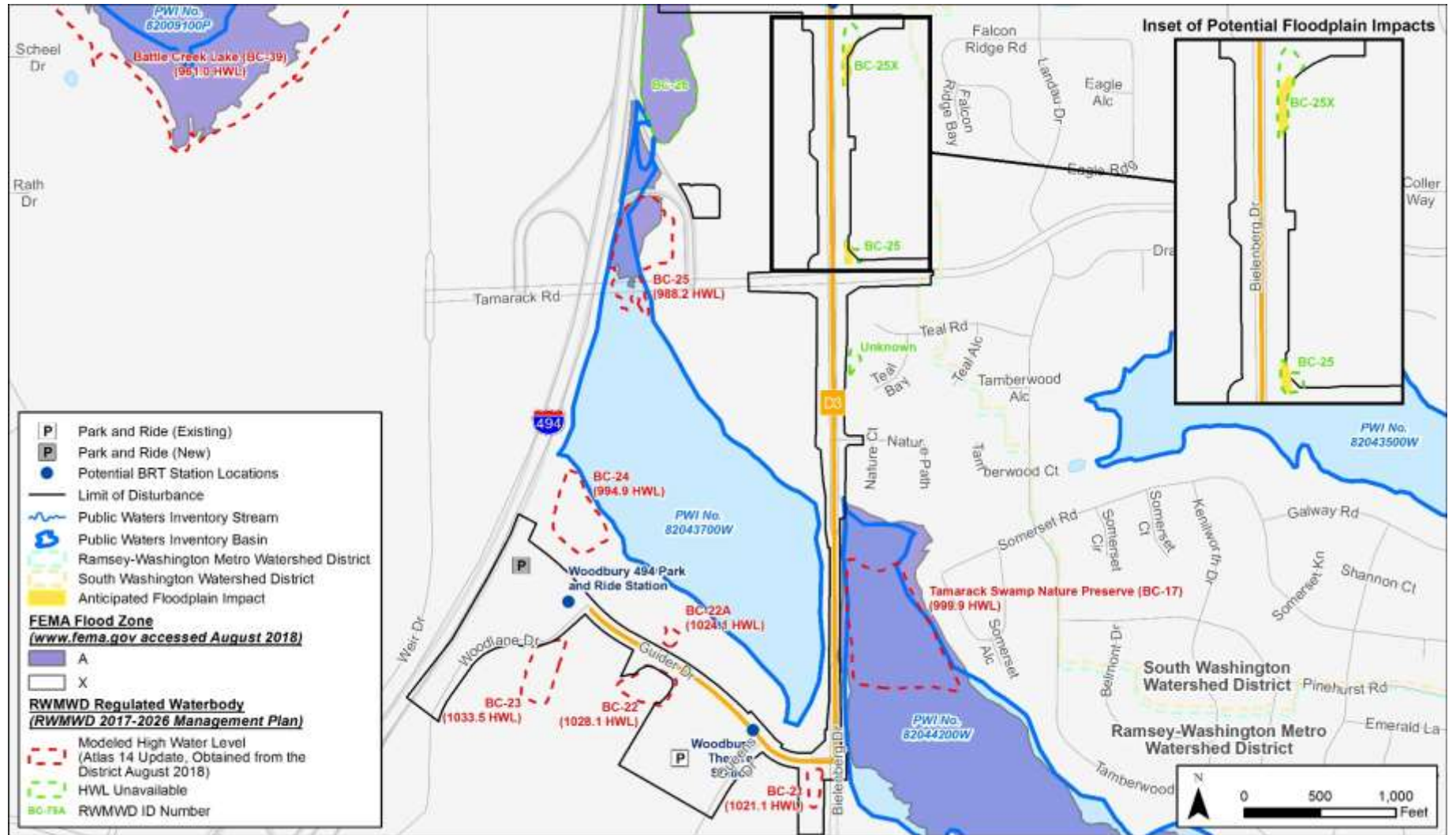




FIGURE 3.5-3: ALIGNMENT D3 FLOODPLAIN RESOURCES AND IMPACTS





3.5.2.2. Surface Waters (Wetlands, Waterbodies and Waterways)

BUILD ALTERNATIVE 1 (A1-BC-D3)

The Council does not anticipate that Alignments A1 or B would impact surface waters.

Alignment C would produce approximately 0.012 acres of impact. **Figure 3.5-4** shows the locations of the eleven surface waters within Alignment C. Impacts are not anticipated for the following surface waters: Wetlands 39-1, Wetland 49-2, Pond 55-1, Pond 140-1, Pond 140-2, Pond 140-3, Pond 140-4, Pond 140-5, and Pond 140-6. The following surface waters will have impacts:

- **Tanners Lake:** 0.002 acres of impact for guideway construction
- **Wetland 22-1 (on the fringe of Battle Creek Lake):** 0.01 acres of impact to Wetland 22-1 for stormwater facilities construction

Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce impacts to surface waters beyond those the Council anticipates for Alignment C.

Alignment D3 would produce approximately 2.64 acres of impact.⁶⁵

Figure 3.5-5 and **Figure 3.5-6** show the locations of the 21 surface waters within Alignment D3. Impacts are not anticipated for the following surface waters: Wetland 36-1, Wetland 44-1, Wetland 45-1, Wetland 71-1, and Wetland 139-4, Pond 37-1, Pond 38-1, Pond 56-1, Pond 57-1, Pond 61-1, Pond 70-1, Pond 70-2, Pond 70-3, Pond 114-1, Pond 120-1, Pond 123, two wet ditches, and two non-DNR tributaries. The following surface waters would have impacts:

- **Wetland 36-2:** approximately 0.36 acres for park-and-ride construction
- **Wetland 42-1:** approximately 0.14 acres for guideway construction
- **Wetland 62-1:** approximately 0.16 acres for guideway construction
- **Wetland 48-1:** approximately 1.29 acres for guideway construction and approximately 0.09 acres for stormwater facility construction
- **Wetland 139-1:** approximately 0.55 acres for stormwater facility construction
- **Wet ditches:** approximately 0.03 acres for guideway construction
- **Non-DNR tributary:** 0.02 acres for park-and-ride and stormwater facility construction

The Council anticipates Build Alternative 1 would impact a total of 2.652 acres of surface waters. The Council will further evaluate possible measures to avoid or minimize these impacts as the Project design advances during the Project Development and Engineering phases. Mitigation for wetland impacts is expected through the purchase of credits from a state-managed wetland bank. Mitigation will be at a minimum 2:1 ratio, meaning 2 acres of mitigation is required for each 1 acre of impact.

Table 3.5-1 summarizes the impacts to surface waters within the potential limits of disturbance.

⁶⁵ Impacts related to non-linear facilities (stormwater and park-and-ride facilities) are expected to be reduced as design is advanced and more analysis completed for anticipated stormwater needs for the Project. Based on these reductions, anticipated cumulative impacts for non-linear are expected to be less than 0.5 acre and fall under the Transportation Regional General Permit.



TABLE 3.5-1: SURFACE WATER IMPACTS WITHIN THE POTENTIAL LIMITS OF DISTURBANCE

Alignment	NWI No.	Type ^a	Plant Community ^b	Impact (Acres)	Impact Facility
C	Tanners Lake	N/A	N/A	0.002	Guideway
C	Wetland 22-1	1	Seasonally Flooded Basin	0.01	Stormwater
D3	Wetland 36-2	3	Shallow Marsh	0.36	Park-and-Ride
D3	Wetland 42-1	1	Seasonally Flooded Basin	0.14	Guideway
D3	Wetland 62-1	3	Shallow Marsh	0.16	Guideway
D3	Wetland 48-1	3,4	Shallow Marsh/Deep Marsh	1.29	Guideway
D3	Wetland 48-1	3,4	Shallow Marsh/Deep Marsh ^c	0.09 ^c	Stormwater
D3	Wetland 139-1	3	Shallow Marsh ^c	0.55 ^c	Stormwater
D3	N/A	N/A	Tributary	0.01	Park-and-Ride
D3	N/A	N/A	Tributary	0.01	Stormwater
D3	N/A	N/A	Wet Ditch	0.03	Guideway
Total				2.652	

^a Circular 39 wetland types. Shaw and Fredine. 1956. Available at:

<https://ia801901.us.archive.org/8/items/wetlandsofunitied00shaw/wetlandsofunitied00shaw.pdf>. Accessed October 2018.

^b Eggers, Steve and Reed, Donald. July 2015. "Wetland Plants and Plant Communities of Minnesota and Wisconsin." USACE St. Paul District). Available at: <https://usace.contentdm.oclc.org/digital/collection/p266001coll1/id/2845>. Accessed October 2018.

^c Impacts associated with stormwater facilities at Wetland 48-1 and Wetland 139-1 are based on the 15% Concept Plans. As the Project's design is advanced and more analysis completed for anticipated stormwater needs for the Project, impacts are anticipated to be reduced to requirements needed to qualify for the Transportation Regional General Permit.

BUILD ALTERNATIVE 2 (A2-BC-D3)

Build Alternative 2 would produce the same long-term impacts to surface waters as Build Alternative 1.

FIGURE 3.5-4: ALIGNMENT C SURFACE WATER RESOURCES AND IMPACTS

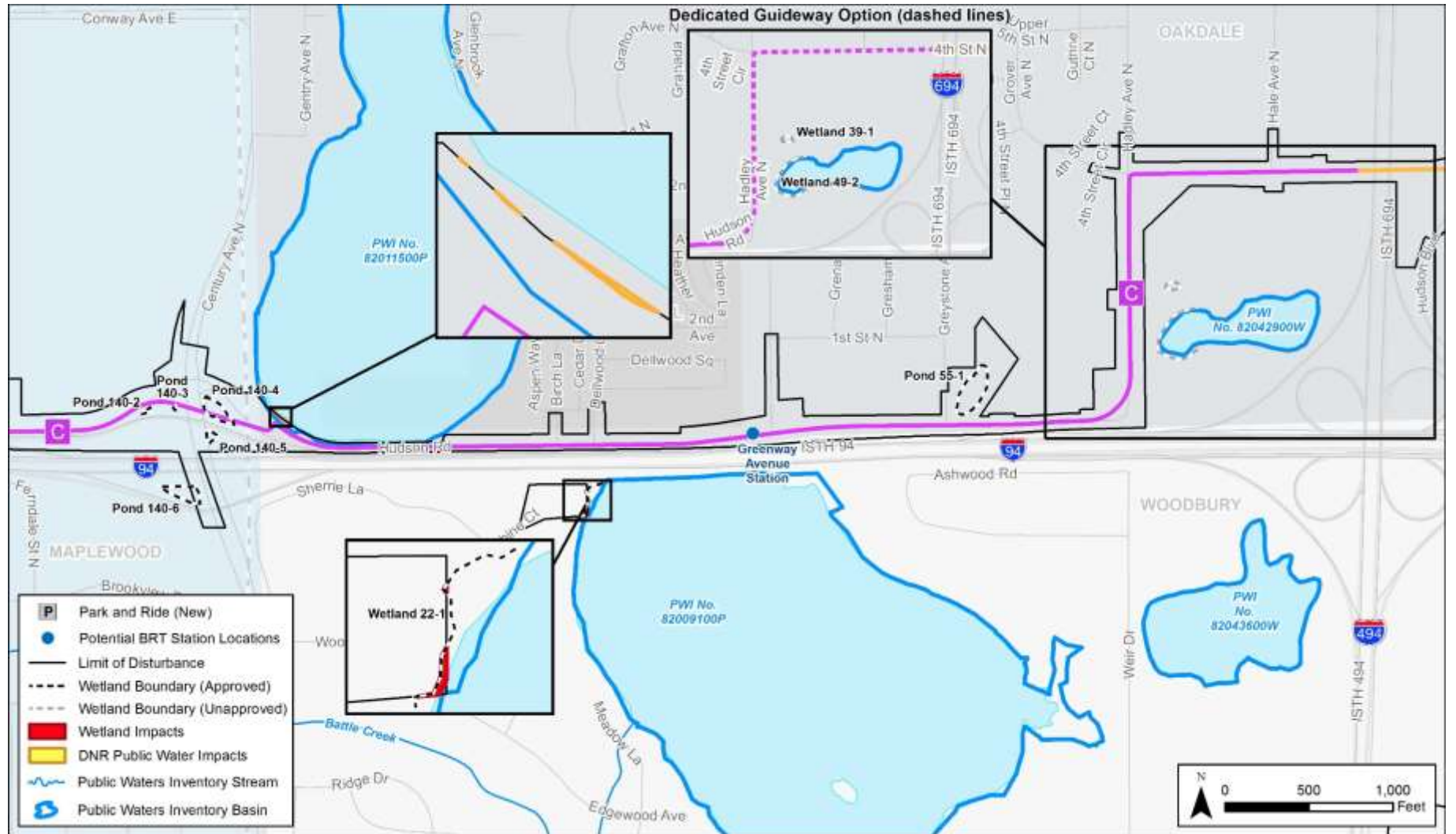




FIGURE 3.5-5: ALIGNMENT D3 SURFACE WATER RESOURCES AND IMPACTS

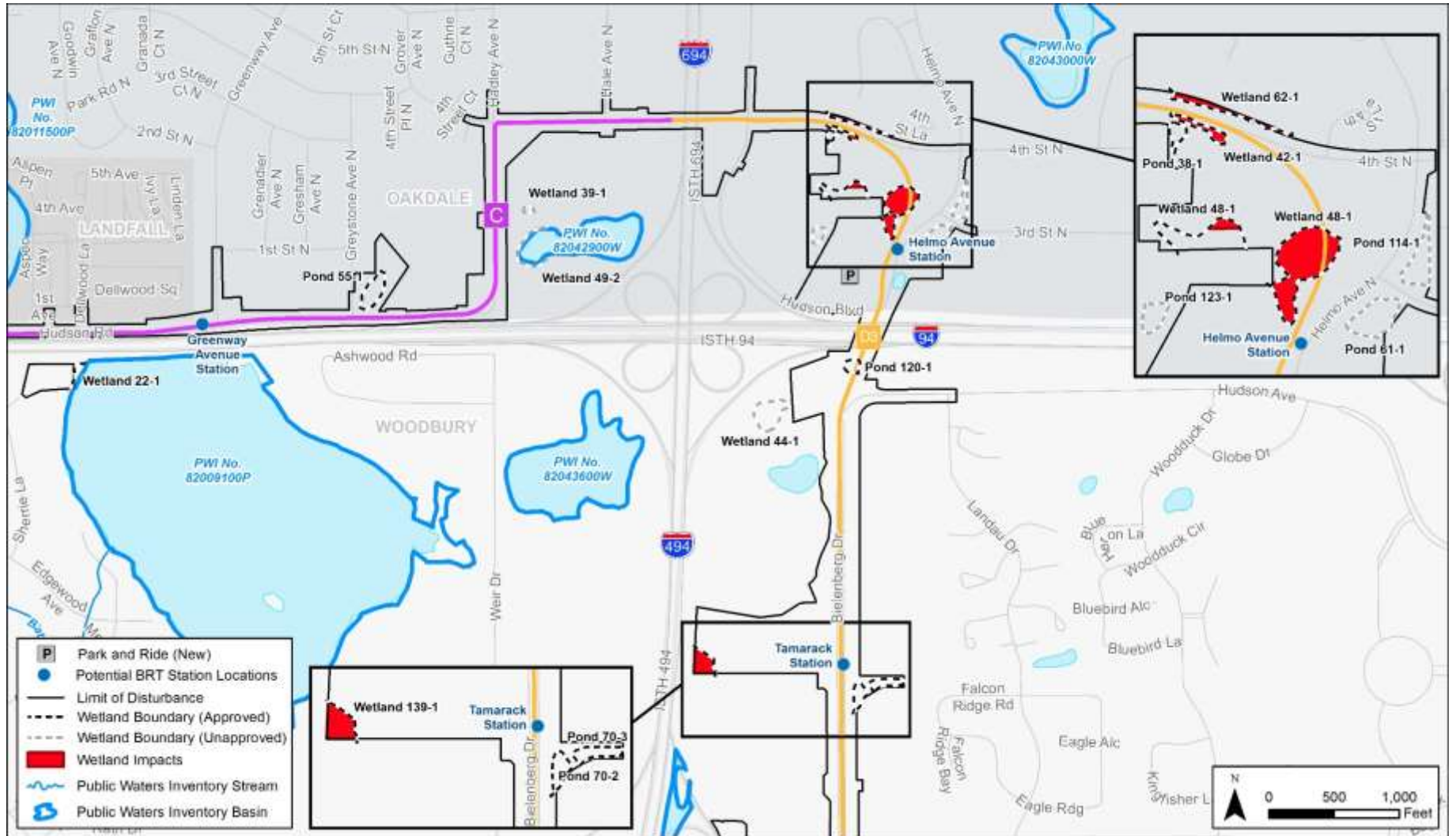




FIGURE 3.5-6: ALIGNMENT D3 SURFACE WATER RESOURCES AND IMPACTS





3.5.2.3. Stormwater and Water Quality

The Project is anticipated to increase stormwater runoff from both new and reconstructed impervious surfaces. Impervious surfaces include roadways such as transitways and local streets; sidewalks and trails; parking facilities; and transit station platforms and structures such as bridges and parking areas.

Various regulatory authorities require treatment of stormwater runoff for water quality, rate control and quantity (or volume) for these increases in impervious surface. Capitol Region Watershed District (CRWD) and Ramsey-Washington Metro Watershed District (RWMWD) also require Projects to control runoff volume from both new and reconstructed impervious surfaces with various infiltration practices. These practices could potentially benefit groundwater recharge and water quality and could reduce peak discharges to local streams.

Managing stormwater for the Project involves providing BMPs to mitigate for the increases in runoff. Potential BMPs for the Project include:

- 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

In general, regulatory agencies for the Project prefer surface types of BMP's (bioretention basins/vegetated swales/filtration/infiltration basins) for their ease of maintenance and inspection. Underground types of BMP's (Underground storage or filtration/infiltration/tree trenches/stormwater pollution-control devices) will likely be used in certain locations where space is limited.

BUILD ALTERNATIVE 1 (A1-BC-D3)

Build Alternative 1 would add or reconstruct approximately 73 acres of impervious surface.

Alignment A1 would reconstruct 0.7 acres of existing impervious surface from the construction of its associated stations, which would require reduction in runoff volume.

Alignment B would produce 18.2 acres of new and reconstructed impervious surface from construction of the guideway, station platforms and proposed trails, and from reconstruction of the frontage road in several locations.

Alignment C would produce a total of 24.9 acres of new and reconstructed impervious surface from the construction of dedicated guideway, a guideway that operates in mixed traffic, several station platforms and parking areas.



The Hazel Street Station Option would move the proposed station from Van Dyke Street to Hazel Street. This relocation would not change the amount of impervious surface Alignment C would impact.

The Dedicated Guideway Option at Hadley Avenue and 4th Street would increase the existing impervious surface impacted and new impervious surface to 30.1 acres. This is 5.2 acres more than Alignment C without this option and increases the impervious surface for Build Alternative 1 to approximately 78 acres.

Alignment D3 would produce a total of 29 acres of new and reconstructed impervious surface from the construction of dedicated guideway and a guideway that operates in mixed traffic, trails and parking areas, and reconstructed roadways.

BUILD ALTERNATIVE 2 (A2-BC-D3)

Alignment A2 would produce slightly less reconstructed impervious surface than Alignment A1 because Alignment A2 would construct only a single station at Union Depot, which would produce approximately 0.1 acres of new or reconstructed impervious surface compared to 0.7 acres for Alignment A1. This alternative would add or reconstruct approximately 72 acres of impervious surface. The Dedicated Guideway Option at Hadley Avenue and 4th Street would increase the existing impervious surface impacted and new impervious surface to approximately 77 acres. The remainder of Build Alternative 2 would produce the same Project-related long-term impacts to stormwater and water quality as Build Alternative 1.

3.5.3. Hazardous Materials and Contamination

This section summarizes the Project's anticipated long-term impacts to sites potentially containing hazardous or regulated materials, or other sources of contamination. Section 5.7 of the *Physical and Environmental Resources Technical Report* in **Appendix A** includes details of the hazardous materials and contamination evaluation.

The Council completed a Phase I Environmental Site Assessment (ESA) for the Project in August 2018⁶⁶ and a Phase II ESA in August 2019.⁶⁷ For Build Alternative 1, the Phase I ESA identified a total of 111 sites within the Project's potential limits of disturbance that have risk for contamination: 45 high-risk sites; 46 medium-risk sites and 20 low-risk sites. For Build Alternative 2, the Phase I ESA identified a total of 62 sites within the Project's potential limits of disturbance that have risk for contamination: 18 high-risk sites; 28 medium-risk sites and 16 low-risk sites. The Phase II ESA further researched the potential risk of encountering contaminants identified in the Phase I ESA. Alignments A1 and A2 located in downtown Saint Paul were not included in the Phase II ESA. These alignments will require minimal subsurface disturbance since the guideway will be along existing streets and construction limited to station locations. Additionally, there were substantial barriers to subsurface investigation due to the density of subsurface utilities. The Phase II ESA identified three soil categories:

- Unregulated Material: Soil meets all MPCA requirements to be classified as unregulated material that can be reused anywhere on or off the Project without restriction.
- Regulated Reuse Material: Soil contains debris or other field indications of contamination and/or soil laboratory analytical results exceed the Tier 1 Residential SRVs for one or more contaminants. The soil is

⁶⁶ WSB & Associates Inc. and HNTB Corporation. Modified Phase I Environmental Site Assessment, Gold Line Bus Rapid Transit Alignments A, B, C and D3. August 2018.

⁶⁷ SEH Inc. Phase II Environmental Site Assessment, METRO Gold Line Bus Rapid Transit Alignments A, B, C and D3. August 2019.



considered impacted and may be reused on-site in certain restricted locations pre-determined with proper permitting.

- Regulated Material: Soil laboratory analytical results exceed the Tier 2 Industrial SRVs for one or more contaminants. The soil is considered impacted and any material removed as part of Project construction is required to be disposed at a landfill permitted to accept the material.

3.5.3.1. Build Alternative 1 (A1-BC-D3)

The Phase II ESA identified a total of 47 sites that contain regulated material for Build Alternative 1: six sites contain regulated material and 41 sites contain regulated reuse material, of a nature that can be reused on site in certain restricted locations as determined during the permitting process. Material removed from these sites will require mitigation during construction for soil and/or groundwater contamination (See Section 3.9). The Council did not sample Alignment A1 in downtown Saint Paul because there will be minimal subsurface disturbance based on the guideway operating along existing streets. Additionally, subsurface work for the Project will be limited to the proposed station locations, avoiding subsurface utilities outside of these areas.

Table 3.5-2 shows the number of potentially contaminated sites within the limits of disturbance for the Build Alternatives.

TABLE 3.5-2: NUMBER OF CONTAMINATED SITES IDENTIFIED DURING PHASE II ESA BY SOIL CATEGORY WITHIN BUILD ALTERNATIVES

Alternative	Regulated Material Sites	Regulated Reuse Material Sites	Unregulated Material Sites	Total Sites
Build Alternative 1 (A1-BC-D3)^a	6	41	92	139
<i>With Hazel Street Station Option</i>	6	41	92	139
<i>Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	6	41	92	139
Build Alternative 2 (A2-BC-D3)^{a, b}	6	41	92	139
<i>With Hazel Street Station Option</i>	6	41	92	139
<i>Dedicated Guideway Option at Hadley Avenue and 4th Street</i>	6	41	92	139

^a Alignments A1 and A2 located in downtown Saint Paul were not included in the Phase II ESA. These alignments will require minimal subsurface disturbance since the guideway will be along existing streets and construction limited to station locations. Additionally, there were substantial barriers to subsurface investigation due to the density of subsurface utilities.

^b See Section 3.5.3.2 for a summary of impacts for Build Alternative 2.



The Project's operations would not produce hazardous or regulated materials, and it would not install permanent storage tanks. The Council would collect and dispose of oils, grease and other waste materials from vehicle maintenance and repair in accordance with recognized industry BMPs for bus maintenance facilities.

3.5.3.2. Build Alternative 2 (A2-BC-D3)

The Phase II ESA identified the same number of regulated material sites for Build Alternative 2 as for Build Alternative 1. Material removed from these sites will require mitigation during construction for soil and/or groundwater contamination (See **Section 3.9**). The Council did not sample Alignment A2 in downtown Saint Paul because there will be minimal subsurface disturbance based on the guideway operating along existing streets. Additionally, subsurface work for the Project will be limited to the proposed station locations, avoiding subsurface utilities outside of these areas.

Table 3.5-2 shows the number of potentially contaminated sites within the limits of disturbance for Build Alternatives based on the Phase II ESA.

3.5.4. Biological Environment (Endangered Species and Wildlife Habitat)

This section summarizes the Project's anticipated long-term impacts to the biological environment. Section 5.9 of the *Physical and Environmental Resources Technical Report* in **Appendix A** includes details of the biological environment evaluation.

3.5.4.1. Build Alternative 1 (A1-BC-D3)

ENDANGERED SPECIES

Federally Listed Species

The Endangered Species Act of 1973⁶⁸ requires direct, regulatory or funding actions by federal agencies to consider and avoid adverse impacts to federally listed threatened or endangered species or their critical habitats. The act also prohibits the "taking," or modification of, habitat that may significantly impair a species' ability to feed, reproduce or otherwise survive. The U.S. Fish and Wildlife Service (USFWS) maintains the federal list of threatened and endangered species.

The Council reviewed the USFWS *County Distribution of Federally Listed Threatened, Endangered, Proposed, and Candidate Species* list⁶⁹ and the *Information for Planning and Consultation (IPaC) Official Species List*⁷⁰ and found the following federally listed threatened or endangered species within the resource study area:

- Higgins eye pearlymussel, an endangered mussel species
- Snuffbox mussel, an endangered mussel species

⁶⁸ *Endangered Species Act of 1973, as amended, Title 16, USC, Sec. 1531-1544, 87 Stat. 884. Available at: <https://www.fws.gov/laws/lawsdigest/esact.html#esa>. Accessed November 2018.*

⁶⁹ *U.S. Fish and Wildlife Service. "County Distribution of Federally-listed Threatened, Endangered, Proposed, and Candidate Species". Available at: https://www.fws.gov/midwest/endangered/lists/cty_idx.html. Accessed November 2018.*

⁷⁰ *U.S. Fish and Wildlife Service. "IPaC Information for Planning and Consultation". Available at: <https://ecos.fws.gov/ipac/>. Species List generated September 2018.*



- Spectaclecase mussel, an endangered mussel species
- Winged mapleleaf mussel, an endangered mussel species
- Northern long-eared bat, a threatened mammal species
- Rusty patched bumble bee, an endangered insect species

This EA evaluates potential Project-related impacts to the northern long-eared bat and the rusty patched bumble bee. The Project scope would not produce impacts to the Mississippi River or its tributaries; therefore, the resource analysis excludes the four mussel species.

Northern Long-Eared Bat

The Council does not anticipate the Build Alternatives would produce adverse impacts to the species, based on the Project's 15% Concept Plans (see **Appendix B**). The Project is not within ¼-mile of known hibernacula or 150 feet from known maternity-roost trees. However, potential disturbance to other hardwood trees may affect the northern long-eared bat during the roosting season; therefore, federal regulations determine the Project's total amount of tree removal.⁷¹ The Project would remove from the potential area of disturbance approximately 9 acres of trees, which is approximately 8 percent of the tree coverage in the ¼-mile resource study area. The Council will seek opportunities to minimize tree-clearing, especially within naturalized areas, as the Project design advances during the Project Development and Engineering phases.

Rusty Patched Bumble Bee

Observation records place the species within ¼-mile of the Project alignment, and it could be present within the I-94 right-of-way. No grasslands within the I-94 right-of-way would be disturbed by the Project. The Council does not anticipate the Build Alternatives would produce adverse impacts to the species, based on the Project's 15% Concept Plans (see **Appendix B**).

State-Listed Species

The analysis used the Natural Heritage Information System database, which the Minnesota Department of Natural Resources (DNR) maintains, to identify potential state-listed species within 1 mile of Build Alternative 1. Of the 19 species the analysis found, 16 are historic records or have completely aquatic life cycles and are associated with the Mississippi River; therefore, no Project-related impacts to these species are anticipated.

The Project could have the potential to produce impacts to the following three state-listed species; however, based on the analysis results, the Council does not anticipate the Project would impact them:

- **Kitten-tails:** No observation records place the species within the potential area of disturbance; therefore, Project-related impacts to the population of kitten-tails are not anticipated.
- **Peregrine falcon:** Several observation records place the species in the Mississippi River corridor, nesting on buildings and structures around Saint Paul; however, after further reviewing the resource study area and preferred nesting areas for peregrine falcons, Project-related impacts to the species are not anticipated.

⁷¹ U.S. Department of the Interior. "Consistency letter for the 'METRO Gold Line Bus Rapid Transit Project' (TAILS 03E19000-2018-R-1423) under the revised February 5, 2018, Federal Highway Administration, Federal Railroad Administration, Federal Transit Administration Programmatic Biological Opinion for Transportation Projects within the Range of the Indiana Bat and Northern Long-eared Bat. March 19, 2019.



- **Blanding's turtle:** No observation records place the species within the potential area of disturbance; therefore, Project-related impacts to the population of Blanding's turtles are not anticipated.

The potential area of disturbance is in an urban setting in which maintained roadsides, residential areas and roadways dominate the habitat. The area has sparse, interspersed forested, aquatic and unmanicured grasslands that could provide limited habitat to roosting northern long-eared bats, rusty patched bumble bees and Blanding's turtle. These areas comprise a total of 8.8 acres of terrestrial habitat and 5 acres of aquatic habitat that the Project could potentially impact. However, due to the resource study area's urbanized location, and its low-quality, primarily roadway-adjacent terrestrial and wildlife habitat, the Council does not anticipate Build Alternative 1 would produce long-term impacts to threatened or endangered species.

Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce additional impacts to the biological environment.

WILDLIFE HABITATS

Build Alternative 1 would produce impacts to wildlife habitat; however, because the extent of the potential area of disturbance is minimal, and higher-quality habitat is adjacent to it, the Council anticipates these impacts would be negligible. Build Alternative 1 would impact 12 percent of all available habitat in the study area, including one regionally significant ecological area for a stormwater facility at the southeast corner of Hadley Avenue and 4th Street and one site of biodiversity significance, Tamarack swamp, for guideway construction.

Overall these impacts are negligible to terrestrial and aquatic wildlife. Due to the resource study area's urbanized location and low quality of the existing habitat, wildlife that live in the area are generalist species that are more tolerant of human presence and activities, and they have demonstrated by their presence that they can adapt to this type of environment. The conversion of habitat or undeveloped space to a transportation facility would not impair the continued persistence of wildlife.

Neither the Hazel Street Station Option nor the Dedicated Guideway Option at Hadley Avenue and 4th Street would produce additional impacts to the biological environment.

3.5.4.2. Build Alternative 2 (A2-BC-D3)

Build Alternative 2 would produce the same long-term impacts to the biological environment as Build Alternative 1.

3.6. Construction Phase (Short-Term) Impacts

This section summarizes the Project's anticipated short-term environmental impacts. Short-term impacts would be temporary and are associated with construction activities. This section describes the impacts the Council evaluated for Build Alternatives 1 and 2, the Hazel Street Station Option and the Dedicated Guideway Option at Hadley Avenue and 4th Street. **Chapter 2. Alternatives** describes the Project Build Alternatives and options.

The *Transportation Resources Technical Report*, *Community and Social Resources Technical Report* and *Physical and Environmental Resources Technical Report* in **Appendix A** provide the regulatory context and methodology the Council used to evaluate each resource and descriptions of the areas the Build Alternatives would affect. The first table in each technical report summarizes the study area extents for each resource. These technical reports also provide detailed evaluations of the associated resources.

Sections 3.3, 3.4 and 3.5 summarize long-term impacts to the analyzed resources for the operating phase of the Project. **Section 3.7. Indirect Effects and Cumulative Impacts** provides the evaluation of reasonably foreseeable future actions (indirect effects) and incremental impacts from other projects and actions, or



cumulative impacts. **Section 3.8. Section 4(f) Resources** evaluates impacts to properties protected by Section 4(f)⁷² of the U.S. Department of Transportation Act of 1966.⁷³ **Section 3.9. Avoidance, Minimization and Mitigation Measures** summarizes the measures the Project would utilize to avoid, minimize or mitigate adverse impacts.

3.6.1. Build Alternative 1 (A1-BC-D3)

The Council anticipates that Project construction would last approximately two years. Temporary impacts to transportation, the community and the physical environment would occur during this time based on the Project-related activities such as constructing the guideway, traffic signals, bridges/structures, sidewalks and trails, stations, park-and-ride facilities, and other Project-related improvements. **Appendix B** includes the Project's 15% Concept Plans on which the analyses of construction-related impacts are based. The Council will continue to develop and refine the Project's design throughout the Project Development and Engineering phases to avoid, minimize and mitigate Project-related impacts.

The Project would use staging areas to store construction materials and equipment such as graders, bulldozers, cranes, concrete trucks, flatbed trucks and dump trucks. These areas would be adjacent to or nearby the Project alignment. For day-to-day activities, the Project contractor may use on-street work zones for temporary staging.

3.6.1.1. Traffic

Construction of the Project would produce temporary disruptions to traffic operations due to lane closures, short-term intersection and roadway closures, and detours that cause localized increases in congestion.

3.6.1.2. Transit

Transit-users may experience intermittent Project-related impacts to bus operations on routes within the construction 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, the Council and its Metro Transit division would inform riders about the temporary service changes by posting information at bus stops and publishing details on its website and in its onboard "Connect" brochure.

3.6.1.3. Parking and Driveways

Construction of the guideway and other Project infrastructure would result in the temporary loss of 259 parking spaces on Hudson Road in Alignment B. These spaces will be used as temporary driving lanes while Hudson Road is being reconstructed. These spaces will be unusable for a portion of construction. As construction plans are finalized, the Council will communicate with the public via the Project website before construction begins and throughout the duration of construction.

⁷² "Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites (Section 4(f))," Title 23, CFR, Part 774. March 2008. Available at: <https://www.ecfr.gov/cgi-bin/text-id.x?SID=8b24027c267dbfa40a1e0a4ca5dcc136&mc=true&node=pt23.1.774&rgn=div5>. Accessed November 2018.

⁷³ "Policy on lands, wildlife and waterfowl refuges, and historic sites," Title 49, USC, Sec. 303. February 2010. Available at: <https://www.gpo.gov/fdsys/granule/USCODE-2009-title49/USCODE-2009-title49-subtitle1-chap3-subchapl-sec303/content-detail.html>. Accessed November 2018.



3.6.1.4. Pedestrian and Bicycle Facilities

Construction would produce short-term impacts to pedestrian and bicycle facilities due to intersection modifications and trail and sidewalk detours. Approximately 1.4 miles of existing sidewalks and 1.4 miles of existing trails adjacent to the corridor will be reconstructed as a part of the Project. The Council would maintain pedestrian and bicycle facilities during construction, where feasible, and its construction phasing plans would include safe access for nonmotorized-vehicle-users.

3.6.1.5. Community Facilities, Character and Cohesion

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.

3.6.1.6. Acquisitions, Displacements and Relocations

Construction activities would require temporary easements of property for a limited time to use land belonging to another party for construction-related activities such as storing materials and equipment, providing access to construction areas or site grading. A temporary easement would then restore the property to a condition that is acceptable and comparable to its pre-construction use, depending on the agreement. Temporary easements would affect 199 parcels totaling a combined area of 24.5 acres. Build Alternative 1 with the Dedicated Guideway Option at Hadley Avenue and 4th Street would affect 204 parcels with a combined area of 26 acres.

3.6.1.7. Cultural Resources

Construction activities would produce noise, visual, and traffic impacts near cultural resources. Short-term impacts from the Project will be addressed under the terms of the executed Section 106 PA and Title 36, CFR, Part 800, to identify and assess effects of the Project on historic properties. If the Project identifies adverse effects, FTA will consult with MnSHPO and other consulting parties per the terms of the PA to consider avoidance, minimization and/or mitigation measures to resolve the adverse effect.

3.6.1.8. Visual Quality and Aesthetics

Impacts to visual features during construction would be minimal to moderate, and they would be similar in nature to those of typical roadway projects, including the presence of heavy equipment and traffic-control measures. Users in buildings or on streets and trails that are in visual proximity to the guideway would encounter views of the construction. Where the guideway passes adjacent to residential neighborhoods, construction activities would likely be perceived as visually disruptive in these typically more peaceful residential settings.

3.6.1.9. Business and Economic Resources

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.



3.6.1.10. Safety and Security

Construction activity could pose a safety risk to workers and the public. Short-term impacts to construction workers would include personal safety hazards such as the potential for worker-vehicle conflict in restricted workspaces near traffic; work in deep and confined spaces during utility relocations and construction; and the potential for exposure to potential contaminants during soil excavation and drilling work.

Public safety, particularly as it relates to people who encroach upon open excavation sites and other construction activity, is an issue the Council would address by creating and implementing safety programs, public information efforts and selected protective measures. The Project would maintain federal Occupational Safety and Health Administration (OSHA) and Minnesota OSHA standards for construction-site personnel safety, and construction sites would include fencing and security gates to limit access by those without clearance.

3.6.1.11. Environmental Justice

Construction of the guideway along Hudson Road would be visually disruptive to the residents whose homes face the road, generally between Kellogg Boulevard and Griffith Street and between Old Hudson Road and Kennard Street in Alignment B. Minority status and income levels are not known for the individual tenants or owners who would experience visual impacts as a result of construction of the transitway and demolition of the noise barrier along Hudson Road between Kellogg Boulevard and Griffith Street. This area is comprised of census blocks where up to 88 percent of residents are minorities and block groups where up to 38 percent of residents are low-income. Residences between Old Hudson Road and Kennard Street are located in census blocks where up to 82 percent are minority residents and in block groups where up to 30 percent of residents are low-income. Similarly, businesses that front on Hudson Road near Earl Street would also experience temporary visual impacts during construction of the guideway and the Earl Street Station. Construction in this vicinity would also include relocation of the noise barrier between I-94 and Hudson Road, so residents and businesses would also be temporarily exposed to views of interstate infrastructure and traffic during construction. Construction of the guideway and relocation of the noise barrier south of Wilson Ridge apartments would result in disproportionately high and adverse effects on low-income and minority populations.

Construction of the guideway, stations and other infrastructure could also result in noise and vibration impacts to environmental justice populations along Alignments B and C. The potential for vibration impact would be greatest at locations near pile-driving for bridges and other structures, pavement breaking, and at locations close to vibratory compactor operations.

The Project will implement the following mitigation measures:

- Prepare detailed noise and vibration control plan to mitigate short-term construction noise and vibration
- Signage directing business patrons to streets where parking is available
- Ongoing and transparent outreach program to inform business owners and residents of construction activities
- Phased construction activity to minimize duration
- Restore disturbed areas
- Remove debris and equipment on a regular basis



3.6.1.12. Utilities

Utilities could experience construction-related impacts during excavation and grading activities, structural foundations placement, and work that requires large-scale equipment, which could impact overhead utilities. Throughout construction, the Project would relocate utilities, as needed, which would create service disruptions. The Council anticipates that these disruptions would be minimal and would coordinate with utility owners to determine when disruptions to service could occur.

3.6.1.13. Stormwater and Water Quality

Construction activities and Project area runoff would disturb soils and could potentially erode soil surfaces and drainage ways, form gullies, and deposit sediment in adjacent waterbodies. The use of temporary BMPs, which the permitting process requires, will stabilize slopes and protect water quality. Construction documents would include erosion-control measures, dewatering and establishing the final surfaces. These activities would be designed to meet various agency requirements.

Construction impacts could affect small, isolated areas where temporary retaining walls or soil berms would be located to minimize wetland fill. Some construction staging areas would have temporary impervious pavement, which may increase stormwater runoff in some locations. Construction activities would also require temporary dewatering due to construction of bridge abutments, walls and grading.

3.6.1.14. Hazardous Materials and Contamination

Based on the results of the Phase II ESA completed for the Project, construction activities could impact up to 47 potentially contaminated sites within the potential limits of disturbance within Alignments B, C and D3. Short-term impacts typically result from earthwork or other disturbances at or in proximity to contaminated areas that might result in the release of hazardous or contaminated materials. The impacts in Alignment A1 would be addressed in a Construction Contingency Plan that would provide guidance on how to address and manage potential contamination at a site when the specific environmental issues are unknown.

3.6.1.15. Noise and Vibration

Construction for this type of project unavoidably produces elevated noise levels that can be intrusive to residents and sensitive land uses near the construction sites. For most construction equipment, the dominant noise source is diesel engines; however, for activities such as impact pile driving and jackhammering, the actual activity produces the noise.

Most of the Project construction would consist of site preparation and paving, which would include excavation, demolition of pavement and several structures, and use of loaders and vibratory rollers on the guideway. At some locations, more extensive work may occur such as pile-driving for elevated structures, noise barriers and retaining wall construction. In downtown Saint Paul, the Council does not anticipate pile-driving.

Temporary vibration impacts could occur in residential areas and at other vibration-sensitive land uses from activities associated with construction of the new guideway and stations such as excavation, demolition, and vibratory compaction, and pile-driving at bridges, noise barriers and retaining walls. The potential for vibration impacts would be greatest at locations near pile-driving for bridges and other structures, pavement breaking, and at locations close to vibratory compactor operations. More detailed construction plans will be developed once geotechnical data is obtained for advanced design. As construction plans are finalized, the Council will communicate with the public via the Project website before construction begins and throughout the duration of construction.



3.6.1.16. Biological Environment (Wildlife Habitat and Endangered Species)

Short-term impacts to wildlife habitat would occur due to construction activities including potential tree clearing and use of heavy equipment and silt fence/construction barriers. These activities may temporarily disrupt wildlife habitat; however, they would be temporary and limited to active construction areas. The Project would stabilize areas disturbed by construction with interim and final erosion- and sediment-control measures that include seeding plans to inhibit the spread of invasive species or noxious weeds. The number of active construction areas would be the minimum number needed to construct the Project as required by construction permits, and the Council would stabilize inactive disturbed areas with seeding and other forms of erosion-control BMPs. During or prior to construction, the Project would utilize measures to avoid or minimize impacts to the northern long-eared bat. Although the Council does not anticipate impacts to the Blanding's turtle, the DNR has established standard construction BMPs that the Project would implement as needed. To minimize impacts to the rusty patched bumble bee, the Project would replant disturbed land with native, flowering vegetation where possible.

3.6.2. Build Alternative 2 (A2-BC-D3)

The Project's anticipated construction activities and short-term impacts are the same for Alignments B, C and D3 under Build Alternative 1 and Build Alternative 2. The following resources differ for the impacts between Alignment A1, under Build Alternative 1, and Alignment A2, under Build Alternative 2.

3.6.2.1. Traffic

Alignment A2 would not impact traffic beyond Union Depot, resulting in less disruption to traffic operations in downtown Saint Paul.

3.6.2.2. Parking and Driveways

Construction of Build Alternative 2 would result in the temporary loss of 259 parking spaces on Hudson Road in Alignment B. These spaces will be used as temporary driving lanes while Hudson Road is being reconstructed. These spaces will be unusable for a portion of construction. As construction plans are finalized, the Council will communicate with the public via the Project website before construction begins and throughout the duration of construction.

3.6.2.3. Pedestrian and Bicycle Facilities

Alignment A2 would produce fewer impacts to pedestrian and bicycle facilities than Alignment A1 because this alignment would terminate at the Union Depot Station; therefore, the Council does not anticipate Build Alternative 2 would produce short-term impacts to the downtown Saint Paul pedestrian and bicycle network. Approximately 1.3 miles of existing sidewalks and 1.4 miles of existing trails adjacent to the corridor will be reconstructed as a part of the Project for Build Alternative 2.

3.6.2.4. Acquisitions and Displacements

Short-term impacts related to temporary easements for Alignment A2 would result in 1 affected parcel with an area of 0.1 acres. Build Alternative 2 would result in 177 affected parcels with a combined area of 24.2 acres. Build Alternative 2 with the Dedicated Guideway Option at Hadley Avenue and 4th Street would affect 182 parcels with a combined area of 25.7 acres.



3.6.2.5. Cultural Resources

Construction would produce noise, visual, and traffic impacts near cultural resources within Alignment A2. Short-term impacts from the Project will be addressed, under the terms of the executed Section 106 PA and Title 36, CFR, Part 800, to identify and assess effects of the Project on historic properties. If the Project identifies adverse effects, FTA will consult with MnSHPO and other consulting parties per the terms of the PA to consider avoidance, minimization and/or mitigation measures to resolve the adverse effect.

3.6.2.6. Visual and Quality Aesthetics

Construction of the station and electric charging facilities at Union Depot would cause temporary visual contrast during construction at this location. This would be evident to transit users at Union Depot but would not be visible to residential viewers.

3.6.2.7. Business and Economic Impacts

Alignment A2 would produce fewer impacts to parking than Alignment A1 because this alignment would terminate at the Union Depot Station; therefore, the Council does not anticipate Build Alternative 2 would produce short-term impacts to parking, and therefore would not impact business or economic resources.

3.6.2.8. Environmental Justice

Build Alternative 2 would produce the same short-term impacts to the resources evaluated for this analysis as Build Alternative 1.

3.6.2.9. Hazardous Materials and Contamination

Alignment A2 would produce fewer impacts to sites potentially containing hazardous or regulated materials or other sources of potential contamination than Alignment A1 because this alignment would terminate at the Union Depot Station. The impacts in Alignment A2 would be addressed in a Construction Contingency Plan that would provide guidance on how to address and manage potential contamination at a site when the specific environmental issues are unknown.

3.7. Indirect Effects and Cumulative Impacts

This section summarizes the Council's analysis of indirect effects and cumulative impacts of reasonably foreseeable future actions and the Project's anticipated indirect effects and cumulative impacts. The *Indirect Effects and Cumulative Impacts Technical Report* in **Appendix A** includes the full evaluation. The technical report also provides the regulatory context and methodology the Council used to evaluate each resource and identifies state, local and private projects currently anticipated, planned and funded roadway project and other infrastructure projects generally within the boundaries of this analysis (See **Table 7.2-1** in the technical report). This technical report also describes, by resource, the potential indirect effects of the Project and other reasonably foreseeable actions.

3.7.1. Indirect Effects Summary

This section describes the potential indirect effects of the Project. Indirect effects are actions a project itself does not undertake but that the project implementation may drive in part or in full. Examples of indirect effects include changes in land use patterns and new developments around stations, population and employment growth and/or



redistribution, or other changes to the natural and built environment. These changes usually happen after a project is constructed and operating. In contrast, direct effects are “caused by the action and occur at the same time and place.”

Anticipated new development near stations makes up most of the Project’s indirect effects. New developments can change the transportation system, land use in the corridor cities and the surrounding natural environment. The indirect effects described herein focus on long-term rather than short-term issues because indirect effects tend to occur later, but they can still be reasonably foreseen.

3.7.1.1. Indirect Effects Analysis

Anticipated new development near stations makes up most of the Project’s indirect effects. Based on the land use analysis in the *Indirect Effects and Cumulative Impacts Technical Report* in **Appendix A**, the increased accessibility from the Project has the potential to increase the intensity of development patterns by facilitating development or redevelopment in the station areas. The extent of this effect varies based on the station area and presence of other supportive development factors such as local land use and development policies that favor development, availability of vacant and/or underutilized land, market demand and other development constraints or opportunities. The following subsections summarize the potential for the Project’s increased transportation accessibility to intensify or change land use patterns within the ½-mile study area for each station area.

SAINT PAUL STATION AREAS

Build Alternative 1 would include 10 BRT stations in downtown Saint Paul including a stop at Union Depot. The stations in the downtown area would improve transportation access to the existing employment uses and other high-density uses in downtown. The increased accessibility provided by the Project would support ongoing redevelopment and reuse of existing buildings in the downtown area and Union Depot. Due to the built-out nature of the downtown area, the Project is not expected to substantially intensify or alter the land use patterns of the areas surrounding the stations in downtown. Build Alternative 2 includes a stop at Union Depot and serves as the terminus for downtown Saint Paul.

In 2014, the City of Saint Paul began a Station Area Planning process to plan for land uses surrounding Gold Line stations in Saint Paul outside of the downtown area. The process aimed to develop Station Area Plans (Mounds Boulevard, Earl Street, Etna Street, Van Dyke Street and Sun Ray) to guide development and public realm improvements around the stations. The *Gold Line Station Area Plans* were completed and adopted by the City of Saint Paul in 2015 and amended in 2019. The 2019 amendment adjusted the White Bear Station area to more closely align with the planned Hazel Street Station location.

The Mounds Boulevard station area is the first station in Saint Paul that is outside the downtown area. This station is characterized by a residential neighborhood that is fully built out and part of the Dayton’s Bluff Heritage Preservation District. According to the Mounds Boulevard Station Area Plan, the area is expected to maintain its existing character and only minor intensity increases from infill townhomes and small commercial uses on vacant lots should be accommodated. Given the lack of available land and the focus of local development policies on neighborhood preservation, increased access to BRT service at the Mounds Boulevard Station is not likely to prompt new development or redevelopment that would substantially alter the existing land use or character of the area.

The Earl Street Station area is in an established residential area with a commercial node. The Earl Street Station Area Plan recommends the preservation of the residential neighborhood and the rehabilitation of the commercial node with mixed commercial and residential buildings that fit the context of the neighborhood. The increased accessibility from the Project may help facilitate the revitalization of the Earl Street commercial node. However, due to the built-out nature of the area and local development policies that are focused on preserving the area’s



existing development scale, the improved transportation access from the BRT station is not expected to substantially alter the land use patterns in the area.

The Etna Street Station area includes the TH 61/I-94 interchange, the Metro 94 business center, multifamily residential and single-family residential uses. According to the Etna Street Station Area Plan, the vacant parcel between Wilson Avenue and I-94 next to the BRT station is planned for a high-intensity transit-oriented development. The plan also identifies a similar character for the northwest quadrant of Wilson Avenue and Etna Street, which would require the redevelopment of the Metro 94 business center. Supportive local land use policies and the increased accessibility to this area from the Etna Street Station may help facilitate planned development that would increase the intensity of development in this area.

The Van Dyke Street Station area or the Hazel Street Option, just east of White Bear Avenue, is dominated by auto-oriented commercial uses on both sides of I-94 surrounding the White Bear Avenue interchange. The area also includes vacant lots, two- or three-story apartment buildings and single-family residential areas farther from the interchange. The plan for this area, known as the White Bear Station Area Plan, states this area presents opportunities for transit-oriented development due to the several larger vacant lots and underutilized surface parking lots in the commercial areas, particularly to the north of I-94.

The Sun Ray Station is the last BRT station in Saint Paul. The station area is dominated by the suburban-style Sun Ray Shopping center and other retail uses. The Sun Ray Station Area Plan recommends a high-intensity transit-oriented development on land mainly occupied by the shopping center on the north side of I-94. According to the marketing analysis completed for the station area plan, the commercial uses are viable and retail demand is high, while multi-family residential demand is medium. Thus, land use change and intensification of the existing commercial developments will likely need to be phased and driven by market demand.

MAPLEWOOD STATION AREA

The Project would include one BRT station in Maplewood adjacent to the 3M campus. In addition to serving 3M, the Maplewood Station would provide transit service to the Lions Park Neighborhood north of I-94. The Draft Maplewood 2040 Comprehensive Plan notes the Project has the potential to increase interest in redevelopment in the surrounding neighborhoods. While the plan initially considered a change to the land use classification for the Lion's Park Neighborhood to Mixed-Use Community Commercial, the plan was revised to instead include an action to develop a neighborhood master plan due to concerns about changing the predominately single-family residential neighborhood. The neighborhood plan is intended to better assess the extent of potential redevelopment and identify where it would be best to designate mixed-use community. According to the "BRT-oriented development" (BRTOD) plan for the Maplewood Station adopted by the city in January 2019, 3M has no current plans to redevelop portions of the campus for non-corporate use, but should redevelopment occur, there is market potential for apartments and townhomes, retail and hospitality uses as the area has existing access points along Hudson Road, McKnight Road and Geneva Avenue.

LANDFALL/OAKDALE STATION AREAS

The Project would include two BRT stations in Oakdale: the Greenway Avenue and Helmo Avenue stations.

The Greenway Avenue Station is envisioned as a neighborhood station that serves Landfall and the existing single-family neighborhood north of I-94 in Oakdale.

The Helmo Avenue Station area in Oakdale currently includes relatively low-intensity commercial, warehouse and light manufacturing uses to the west of Helmo Avenue and vacant land to the east of Helmo Avenue. The draft 2040 Oakdale Comprehensive Plan added a BRTOD land use designation for the area surrounding the Helmo Avenue Station. The city recently adopted the Helmo Station BRTOD Plan in 2018 that envisions transit-oriented



development surrounding the Helmo Avenue Station and park-and-ride. The BRTOD plan modifies the land use of the station area from an office-industrial business campus to a new mixed-use neighborhood with multi-family, office and retail uses with open space and trail amenities. According to the market analysis completed for the station plan, the station area can support transit-oriented development with strong demand for housing and commercial in the area. Improved accessibility from the Helmo Avenue Station has the potential to facilitate new development and redevelopment within the station area due to available land, supportive local land use development policies and market demand.

WOODBURY STATION AREAS

The Project would include three BRT stations in Woodbury: Tamarack Road, Woodbury Theatre, and Woodbury 494 Park and Ride stations. The draft Woodbury 2040 Comprehensive plan supports economic development in the one-half mile area surrounding the proposed station areas in Woodbury at Tamarack and Woodbury Theatre, with a goal of identifying infrastructure investments to help support the desired outcomes.

The Tamarack station area has developable vacant land in the areas immediately adjacent to the station and within the Tamarack Hills development south of the station. Property near Tamarack Station is planned as Places to Work, with a focus on attracting larger employers that seek transit options for their employees. Due to the proximity to Bielenberg Drive, these areas have immediate access which could help to promote development. The increased accessibility provided by the Project would likely support development on the vacant parcels with existing access around the Tamarack Station.

The areas near the Woodbury Theatre and the Woodbury 494 Park and Ride Stations contain vacant parcels and surface parking lots that could potentially be developed. Property near the Woodbury Theatre and Woodbury 494 Park and Ride Station is primarily planned as Places to Shop, with a focus on commercial shopping areas. The existing access to Woodbury Village would provide access to potential development on vacant parcels and the surface lot. The increased accessibility provided by the Project would likely support development on the vacant parcels with existing access in the area surrounding the Woodbury Theatre Station and Woodbury 494 Park and Ride Station.

3.7.1.2. Indirect Effects Conclusions

Project-induced development that occurs in accordance with local plans would generally benefit the corridor communities by helping them achieve their long-range land use and transportation goals for the station areas. However, unmanaged new development that changes the transportation system, land use and natural environment could negatively impact community character, visual and historic resources; displace residents and businesses due to rising property values; increase traffic congestion and demand for parking and public services; encroach upon floodplains and wetlands; and generate increased stormwater runoff.

Potential indirect effects on environmental justice populations could result from increased development and redevelopment in the station areas. While not every station area is likely to see meaningful change in the short-term, those areas where demand for new development is stronger could experience increased property values and corresponding increases in rents and real estate taxes. While all populations in the study area could experience these impacts, low-income populations are more likely to adversely experience them, particularly if they rent rather than own property.

Local, state and federal regulations and policies that manage growth and protect resources can minimize indirect effects. Local jurisdictions along the corridor 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.

3.7.2. Cumulative Impacts Summary

This section describes the cumulative impacts associated with the Project. This includes a discussion of how the Project, in tandem with other infrastructure or development projects planned in the Project area, would affect the transportation system, land use and the natural environment. The cumulative impacts described herein focus on long-term impacts, rather than short-term impacts because cumulative impacts to the natural, cultural, and/or social environment are not just the result of the transportation Project, but also other collective past actions and projects that occur in the study area over time.

Cumulative impacts result from “*the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions.*”⁷⁴ A cumulative impact analysis provides context: It considers the positive and negative impacts of a project in combination with other actions by other agencies in a similar timeframe. Cumulative impacts can result from individually minor but collectively significant actions taking place over time. The purpose of the cumulative impact analysis for the Project is to fully understand the entire range of its consequences in the context of the federal decisions related to it.⁷⁵ The study area for the analysis of cumulative impacts is an area of 1 mile on each side of the proposed Build Alternatives.

3.7.2.1. Reasonably Foreseeable Future Actions

Table 7.2.1 in the *Indirect Effects and Cumulative Impacts Technical Report* in **Appendix A** lists state, local and private projects currently anticipated, planned and funded roadway project and other infrastructure projects generally within the study area. The Council identified these actions through coordination with local agency partners serving on the Project’s Technical Advisory Committee, which included members from the following municipalities, agencies and governmental bodies:

- Cities of Saint Paul, Maplewood, Landfall, Oakdale, and Woodbury
- Ramsey and Washington counties
- MnDOT
- Metropolitan Council
- Metro Transit

The Council also used web-based research, and local and regional transportation, land use and development plans to identify reasonably foreseeable future actions. Future station-area planning and other initiatives may identify other actions the identified reasonably foreseeable future actions do not include at this time.

⁷⁴ “Terminology” Title 40, CFR, Part 1508.7. 2019 edition. Available at https://www.ecfr.gov/cgi-bin/text-idx?SID=0bae51842cb92a036e010648f71bcf4e&mc=true&node=pt40.37.1508&rgn=div5#se40.37.1508_11. Accessed April 2019.

⁷⁵ Council on Environmental Quality. Considering Cumulative Effects. 1997. Available at: https://ceq.doe.gov/publications/cumulative_effects.html. Accessed November 2018.



None of these future actions are the direct result of the Project, and their implementation is not dependent on whether the Council implements the Project. These actions are reasonably foreseeable because they are likely to be funded, approved or part of an officially adopted planning document.

3.7.2.2. Cumulative Impacts Analysis

This section summarizes the potential cumulative impacts for resources that have the highest potential for cumulative effects from the Project. See the *Indirect Effects and Cumulative Impacts Technical Report* in **Appendix A** for the evaluation of all resources considered for cumulative effects.

- **Transportation:** The analysis anticipates that continued development of transit and transportation facilities in the Project area over time, combined with future actions and the direct and indirect effects of the Project, would generally increase demand for transportation as activity and development density increase. The decrease in automobile trips due to the Project would reduce the cumulative demand on the roadway system while increasing the demand on transit, bicycle and pedestrian facilities, compared to the No-Build Alternative.
- **Community Facilities, Character and Cohesion:** Over time, continued development of transit and transportation facilities in the Project area, combined with future actions and the direct and indirect effects of the Project, would place increased demands on community services and facilities and could change community character. For locations where comprehensive plans call for growth and mixed-use development, such changes in character would be consistent with planned growth and development. Without attentive management and adequate funding from the Council and the local counties and municipalities, overuse or degradation of facilities or resources could result. Because cities and park jurisdictions typically forecast and plan for future population growth over time, their development plans would anticipate such potential impacts. These potential impacts are typically consistent with and governed by applicable land use plans and capital improvement plans to expand public infrastructure and services. The Council and the counties and municipalities in the corridor have plans to expand and enhance parks and open spaces in the area to meet the demand of population growth over time.
- **Acquisitions and Displacements:** Continued development of transit and transportation facilities in the Project area over time, combined with future actions and the direct and indirect effects of the Project, could cumulatively result in displacements of residents and/or businesses. However, individual community comprehensive plans guide the land uses in the station areas and typically show steady or increasing development densities. The need for additional transportation infrastructure to support new development could produce additional displacements. Future acquisition or displacement would be conducted in accordance with applicable laws. Also, corridor communities' comprehensive and station-area plans address local housing needs and policies that address affordable housing for renters and owners.
- **Visual Quality and Aesthetic Resources:** Continued development of transit and transportation facilities in the Project area, combined with future actions and the direct and indirect effects of the Project, could cumulatively change the visual setting in the Project area over time. Specifically, the visual setting would become more organized and urbanized; and wide-open views would, in some cases, become more closed. These changes are consistent with adopted comprehensive plans for the corridor communities, which call for continued development of transportation infrastructure and land. Local development review processes are in place in the corridor communities to ensure the aesthetic quality of development is consistent with local preferences, plans and policies.



- **Business and Economic Resources:** Continued development of transit and transportation facilities in the Project area over time, combined with future actions and the direct and indirect effects of the Project, may cumulatively strengthen the business climate by providing improved transportation access to customers and employees. While the Project could negatively affect individual businesses, particularly in the short term due to construction activity, the cumulative result of the Project would be positive.
- **Environmental Justice:** Development around station areas in combination with future actions could result in increased property values and corresponding increases in rents and real estate taxes. While all populations in the study area could experience these impacts, low-income populations are more likely to adversely experience them. This Project along with other transit improvements in the region would provide offsetting benefits such as affordable, accessible and equitable transportation for low-income and minority residents so that they have increased access to financial opportunities (jobs), educational opportunities, health services and recreational amenities.
- **Floodplains:** Continued development of transit and transportation facilities in the Project area over time, combined with future actions and the direct and indirect effects of the Project, may cumulatively affect hydrology and floodplains without the implementation of BMPs.
- **Stormwater and Water Quality:** Cumulative impacts from future actions in the Project area watersheds could include increased sediment and pollutant load. However, future actions are subject to the same water quality regulations as the Project and would use similar BMPs during construction and operation. Thus, no cumulative adverse impacts to water quality are anticipated.
- **Air Quality:** Continued transportation and land development in the Project area could result in increased air pollutant emissions. When combined with the Project, which the analysis anticipates would reduce the overall air pollutant load due to less automobile use, the cumulative impact on air quality could be an improvement over conditions without the Project. Also, the Metro Transit electric bus fleet plan would contribute to air quality improvements in the region as electric buses replace diesel-powered buses.

3.7.2.3. Cumulative Impacts Conclusions

The Project's direct and indirect effects, when considered with the potential resource impacts of other past, present and reasonably foreseeable future actions in the Project area, may contribute to cumulative effects to the transportation system, land use and the natural environment.

Based on the cumulative impacts analysis, the Council does not anticipate the combined Project-related impacts would require avoidance, minimization or mitigation measures other than those in **Section 3.9. Avoidance, Minimization and Mitigation Measures**. The Council will mitigate the Project's direct impacts according to applicable state and federal regulations, including:

- Section 106 of the National Historic Preservation Act, which identifies historic properties that would be subject to consideration for Section 4(f) protection
- Sections 404 and 401 of the Clean Water Act, which regulate water quality through permitting processes
- The National Pollutant Discharge Elimination System/State Disposal System, administered by the Minnesota Pollution Control Agency (MPCA), which issues permits that regulate stormwater runoff from construction sites
- The Endangered Species Act of 1973, which regulates the taking, transporting, possessing, processing and selling of protected species



- The Uniform Relocation Assistance and Real Property Acquisition Act of 1970, called the Uniform Relocation Act, which protects and assists people whom federal or federally funded projects impact
- Minnesota Statutes Chapter 117 which sets forth requirements for acquisitions of land, compensation and uniform relocation benefits

The same local, state and federal regulations and policies that would manage the Project's indirect effects (see **Section 3.7.1**) would also apply to resource impacts from other past, present and reasonably foreseeable projects.

3.8. Section 4(f) Resources

This section summarizes the Final Section 4(f) evaluation the Council conducted in accordance with Section 4(f) of the USDOT Act of 1966,⁷⁶ which protects parks and recreation areas, wildlife and waterfowl refuges, and historic sites. The *Final Section 4(f) and 6(f) Evaluation Technical Report* in **Appendix A** provides the evaluation's regulatory context and methodology, an assessment of use of properties protected under Section 4(f), and preliminary determinations for Section 4(f) protected properties, including *de minimis* impact determinations for three properties. **Figure 3.8-1** shows the Section 4(f) resources within the Project area.

⁷⁶ "Policy on lands, wildlife and waterfowl refuges, and historic sites," Title 49, USC, Sec. 303. February 2010. Available at: <https://www.gpo.gov/fdsys/granule/USCODE-2009-title49/USCODE-2009-title49-subtitle1-chap3-subchapl-sec303/content-detail.html>. Accessed November 2018.



3.8.1. Assessment of Use of Section 4(f) Resources

3.8.1.1. Build Alternative 1 (A1-BC-D3)

PUBLIC PARKS AND RECREATION RESOURCES

A total of 16 public parks and recreation resources are located within the study area. No public wildlife or waterfowl refuges are in the study area.

Of these 16 public parks or recreation resources identified in the study area, the Project impacts one parkway and surrounding park space (Johnson Parkway), one park (Menomoni Park) and one multi-use trail on Bielenberg Drive. For the remaining 13 resources, it is determined that there would not be a permanent use, temporary occupancy or constructive use of these Section 4(f) resources. The Council coordinated with local agencies (formally termed Officials with Jurisdiction, or OWJs) to review impacts to the parks and recreation areas and to obtain input on the preliminary determinations of Section 4(f) use with *de minimis* impacts.

Johnson Parkway

Johnson Parkway connects Lake Phalen to Indian Mounds Park (see **Figure 3.8-1**). The parkway is part of the City of Saint Paul’s Grand Round, a “park system connecting all parts of St. Paul with expansive boulevards and luxurious greenery that would serve cyclists and pedestrians.”⁷⁷ The parkway is approximately 2.25 miles long and features green space and medians along portions of its corridor. The parkway includes sections with a naturalistic feel and a section with an urban feel.

Build Alternative 1 utilizes portions of Johnson Parkway for guideway and sidewalk construction and storm sewer pipes to and from a stormwater facility located to the west of the park property. Construction of the Project also requires temporary closure of the regional trail within the parkway. Park space owned by the City of Saint Paul and managed by the Parks & Recreation Department is located on the east and west sides of Johnson Parkway and includes vegetated open areas within the Project limits of disturbance, where the parkway travels under Build Alternative 1, Alignment B and I-94. Impacts are described below, summarized in **Table 3.8-1** and illustrated in **Figure 3.8-2**.

TABLE 3.8-1: SUMMARY OF IMPACTS AT JOHNSON PARKWAY

Infrastructure Element	Permanent Impact	Temporary Impact
Guideway	0.07 acres (3075 square feet) easement for new BRT-exclusive bridge over park space and parkway street and reconstructed Wakefield Avenue cul-de-sac	0.29 acres (12,750 square feet) regraded for new BRT-exclusive bridge and reconstruction of Wakefield Avenue cul-de-sac
Johnson Parkway Regional Trail	N/A	730 linear feet of regional trail closed for 90 days to construct BRT-exclusive bridge. Approximately 50 feet of the trail will be reconstructed in place

⁷⁷ City of Saint Paul. Saint Paul for All 2040 Comprehensive Plan (Official Public Hearing Draft). Page 96. November 2, 2018. Available at: <https://www.stpaul.gov/departments/planning-economic-development/planning/2040-comprehensive-plan>. Accessed November 2018.



Infrastructure Element	Permanent Impact	Temporary Impact
Sidewalks	0.13 acres (5,805 square feet) easement for new sidewalk in park space and along Griffith Street/Hudson Road	0.009 acres (380 square feet) regraded for new sidewalk in park space
Storm Sewer Pipes	0.25 acres (10,878 square feet) easement for storm sewer pipes	0.22 acres (9,458 square feet) for excavation, grading and landscape restoration for storm sewer pipes
Total Acres	0.45 acres (19,758 square feet)	0.52 acres (22,588 square feet) + 50 linear feet of regional trail reconstruction

Guideway

Build Alternative 1 utilizes Alignment B along I-94, where the guideway crosses Johnson Parkway on a new bridge structure (see **Figure 3.8 2**). Construction of the guideway would occur largely within existing I-94 right-of-way for this alignment, except for 0.04 acres (1,845 square feet) of permanent easement that would be acquired at the far western end of the park space between Hudson Road and I-94. Approximately 0.03 acres (1,230 square feet) of permanent easement would also be required to reconstruct the cul-de-sac on Wakefield Avenue. Approximately 0.29 acres (12,750 square feet) of temporary easement on the park space, north of I-94, would be required to regrade open area for the approaches to the guideway bridge over Johnson Parkway and reconstructing the Wakefield Avenue cul-de-sac.

During construction, grading in both permanent and temporary easement areas for approaches and the new guideway bridge would require removing up to 0.04 acres of trees and shrubs (including approximately three trees) in park space on the west side of Johnson Parkway, and 0.06 acres (including approximately one tree) in park space on the east side. Construction would require temporary closure of Johnson Parkway for approximately 90 days to install the new guideway bridge. Traffic on Johnson Parkway would be detoured to Earl Street over I-94 via 3rd Street and Burns Avenue. Project construction would also close approximately 730 feet of the regional trail located on the eastern side of the parkway. Approximately 50 feet of the trail would be removed to construct the new guideway bridge over Johnson Parkway. The trail would be rebuilt in the same location during Project construction. The total construction duration for grading and bridge installation would be approximately 12 months. The parkway and trail closures would be of shorter duration (approximately 90 days) than the two-year construction period for the Project and would be restored in the current location to preconstruction conditions. During the Engineering Phase, the Council will consult with the City of Saint Paul Parks & Recreation Department to develop a landscaping plan to restore disturbed park space in Johnson Parkway. Restoration of park space would occur during construction.

Sidewalk

Build Alternative 1 would install a new sidewalk from the north end of the park space between Griffith Street and Johnson Parkway, extending along the west side of Griffith Street and the north side of Hudson Road (see **Figure 3.8-2**). Sidewalk construction would require approximately 0.13 acres (5,805 square feet) of permanent easement in park space. Approximately 0.009 acres (380 square feet) of temporary easement between Griffith Street and Johnson Parkway would be required to regrade open area for new sidewalks.

Stormwater Sewer Pipes

Build Alternative 1 would use portions of Johnson Parkway to install storm sewer pipes on the western edge of the right-of-way, west of Griffith Street (see **Figure 3.8-2**). The pipes would connect to a new stormwater facility west



of Johnson Parkway right-of-way. A 297-foot inlet pipe would extend from Hudson Road through park space to convey stormwater to the basin. The pipe would require 0.11 acres (4858 square feet) of permanent easement and 0.13 acres (5638 square feet) of temporary easement. A 189-foot outlet pipe would extend from the basin through park space to an existing pipe which would require 0.14 acres (6020 square feet) of permanent easement and 0.09 (3820 square feet) of temporary easement.

Temporary access for stormwater facility construction will be from Hudson Road and Griffith Street using temporary easements. Access for routine stormwater facility maintenance will be provided via the permanent easement over the inlet and outlet pipes and from an existing alley on the north side of the stormwater facility.

Preliminary *de minimis* Determination

Through coordination with the City of Saint Paul Parks & Recreation Department, based on the design and analysis to date, FTA has made a preliminary determination that the Project would constitute a use under Section 4(f) with a *de minimis* impact on Johnson Parkway park space. This use includes permanent and temporary construction impacts for the proposed guideway over Johnson Parkway and regional trail, construction of a new sidewalk and two storm sewer pipes, and grading and landscaping within existing park space in Johnson Parkway designated right of way.

This preliminary determination is based on the minor area of permanent (0.45 acres) and temporary (0.52 acres) impacts in the 2.25-mile parkway and minimal disturbance of landscaped areas and restoration of landscaping in the park space. The preliminary determination is also based on the temporary closure of a portion of the regional trail that will be of shorter duration (90 days) than the two-year construction period for the Project, and the trail will be fully reconstructed in place to preconstruction conditions. The use would not impact the parkway's function of connecting all parts of Saint Paul with boulevards and greenery that serve motorists, cyclists and pedestrians.

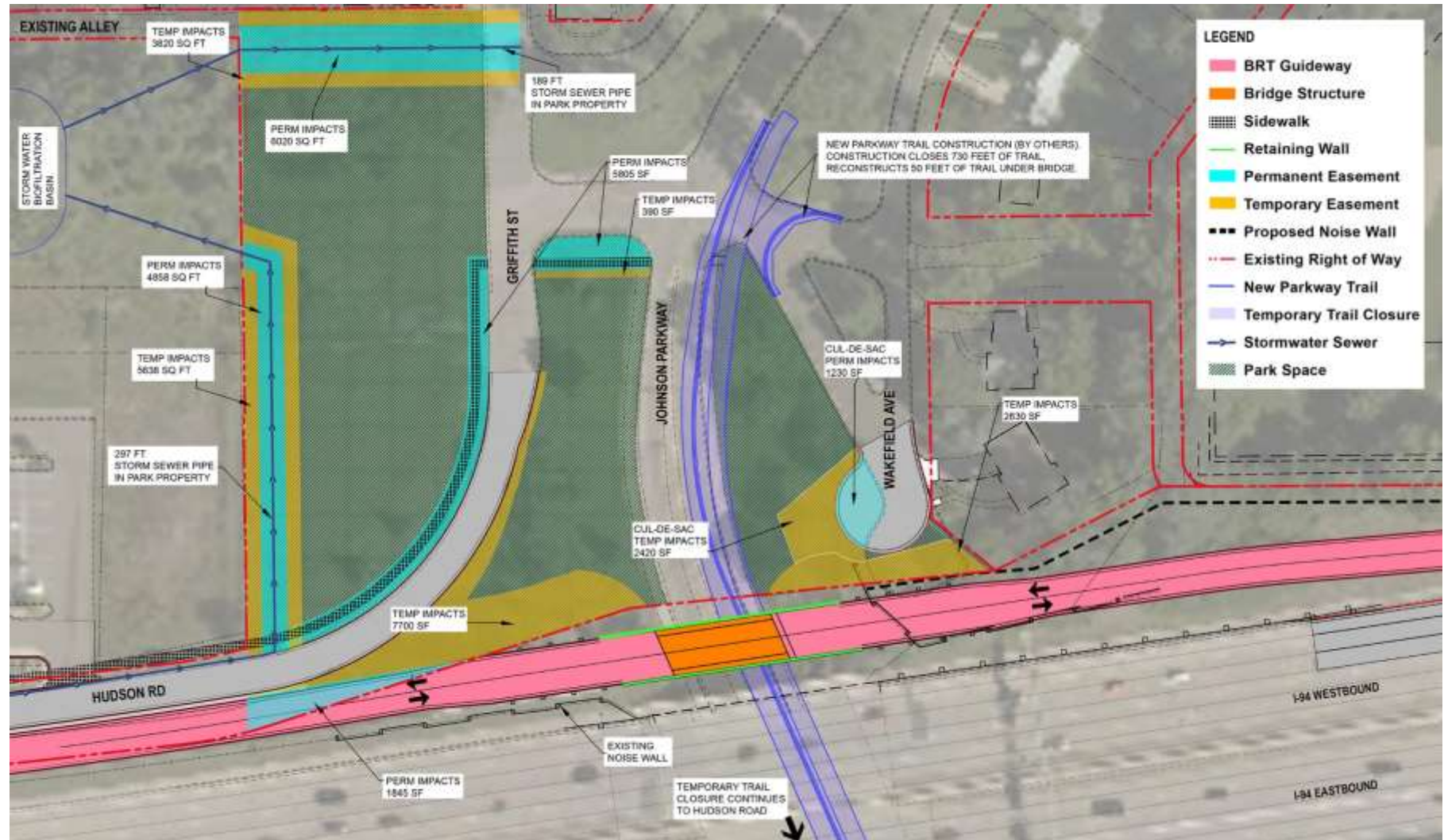
The FTA anticipates that the minimization, mitigation and enhancement measures developed for the Project would avoid adverse effects to the protected activities, features and attributes of the property, which supports the preliminary determination. These measures will be refined in consultation with the City of Saint Paul Planning & Economic Development, Public Works and Parks & Recreation departments during the Engineering Phase and implemented during construction. Measures include:

- Steepened grading slopes from 6:1 to 4:1 to reduce the grading footprint in the parkway
- Retain and/or restore vegetation, including using native vegetation mix, where appropriate
- Develop landscape plans for areas adjacent to elevated structures, retaining walls, and noise walls
- Continued coordination with city to define the landscape and planting plan for the park space
- Provide parkland diversion for impacts within parkland per city charter Section 13.01.1, Disposal or Diversion of Park Property. Use communication tools to notify the public about the parkway closure and associated detours before closing

The Council met with the City of Saint Paul Planning & Economic Development and Public Works departments on September 4, 2018, January 9, 2019, and April 2, 2019 and with the City of Saint Paul Planning & Economic Development and Parks & Recreation departments on April 26, 2019 to review Project impacts and receive input on its preliminary assessment of *de minimis* impact at Johnson Parkway. See **Attachment A-8-1** for materials discussed during these meetings. Prior to FTA's final determination, the city must concur in writing with the *de minimis* impact determination after the opportunity for public comment on the preliminary determination that the Section 4(f) use has a *de minimis* impact.



FIGURE 3.8-2: SECTION 4(f) IMPACT AT JOHNSON PARKWAY



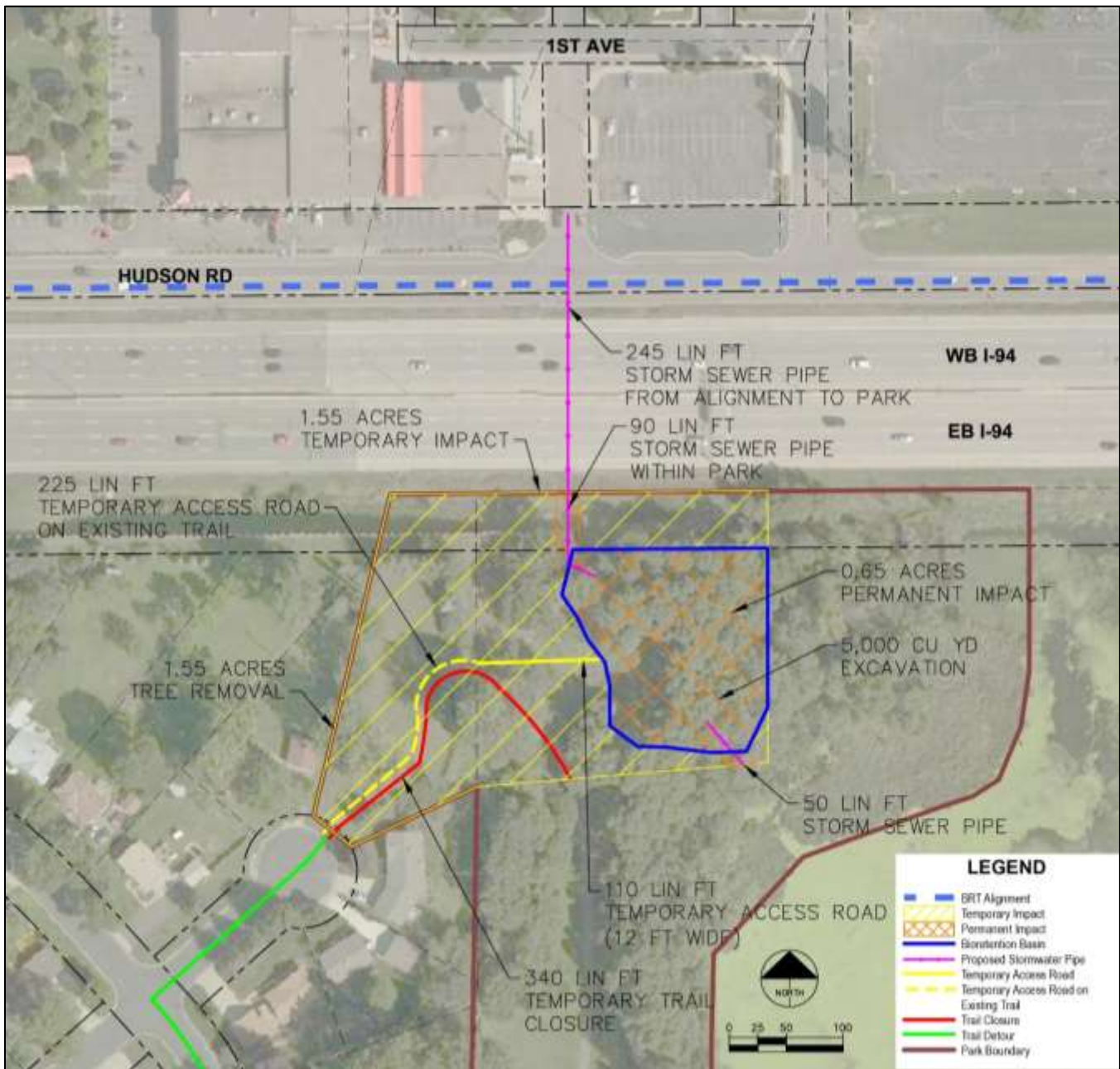


Menomini Park

Build Alternative 1 utilizes Alignment C along I-94 and includes a stormwater facility at Menomini Park. The stormwater facility would require removing approximately 5,000 cubic yards of soil for a 0.62-acre bioretention (or stormwater detention) pond on the south side of I-94 within Menomini Park (see **Figure 3.8-3**). A 335-foot storm sewer inlet pipe would extend under I-94 to convey stormwater to the pond in Menomini Park. Approximately 90 feet of the pipe would be located within Menomini Park. Another 50-foot storm sewer outlet pipe would drain from the pond to Battle Creek Lake located east of the pond. The pond and pipe installation require approximately 0.65 acres in permanent easement from the City of Woodbury. Based on discussions with the City, the proposed pond would be in an area not used for recreational purposes.



FIGURE 3.8-3: IMPACT AT MENOMINI PARK



Construction would result in 1.55 acres of temporary impact related to access road construction, pond excavation, site grading and trail and landscape restoration at the pond site. Construction excavation would permanently remove approximately 0.62 acres of trees of varying degrees of maturity at the pond site. Approximately 0.93 acres of trees would be removed for temporary disturbance for construction activities and storm sewer installation. The Council would restore natural landscaping in the area of temporary disruption, and the new pond would be reseeded with a native vegetation mix of herbaceous species.



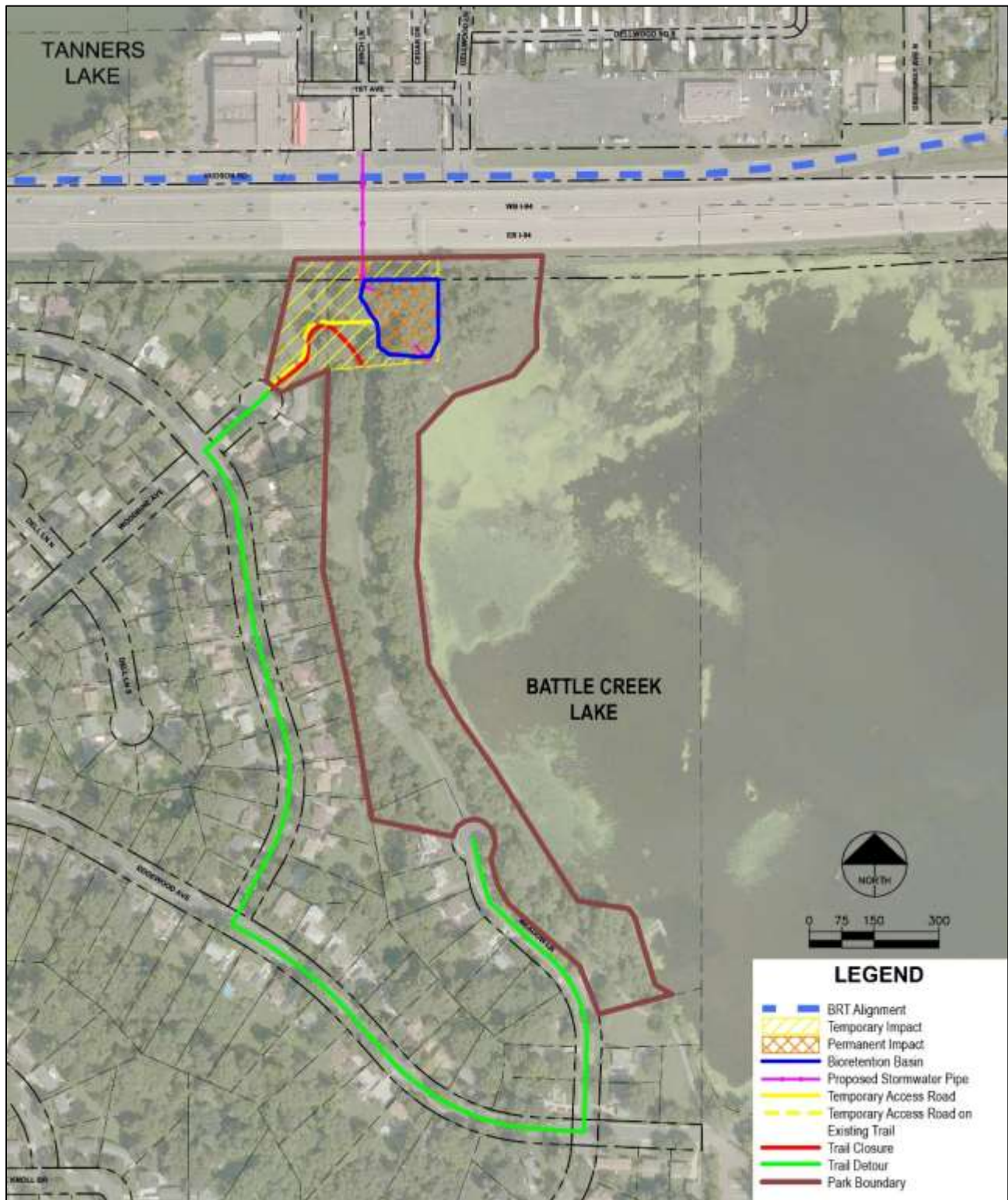
Also, a temporary construction access road from Woodbine Court to the proposed pond site would temporarily close about 340 feet of an existing 8-foot wide bike and pedestrian trail in the park for one construction season (approximately six months). The temporary 12-foot wide construction access road would use approximately 225 feet of the existing trail and the remaining 115 feet of trail closure would prevent bike and pedestrian traffic from entering the construction area. An additional 110 feet of a new temporary access road would extend from the existing trail to the pond site. For future stormwater facility maintenance, the City of Woodbury confirmed vehicles would use the existing trail to access the park and then drive overland to access the pond and other stormwater facility infrastructure.

During construction, the trail would be detoured on local streets to Meadow Lane and connect back to the existing trail in Menomini Park (see **Figure 3.8-4**). The Project would restore the existing trail and allow pond access and maintenance. The Project would not impact the remainder of the park or any recreational uses on the property.

During the Engineering Phase, the Council would consult with the City of Woodbury to develop a landscaping plan to restore disturbed natural areas and planting plan for the stormwater facility in Menomini Park. Restoration and replanting in the park would occur during construction. Before closing the trail, the Council will communicate the closure and detour information with the public.



FIGURE 3.8-4: PROPOSED DETOUR OF BIKE/PEDESTRIAN TRAIL INTO MENOMINI PARK





Preliminary *de minimis* Determination

Through coordination with the City of Woodbury and based on the design and analysis to date, the FTA made a preliminary determination that the Project, which includes the temporary construction impacts and the long-term incorporation of parkland for stormwater facility operation, would be a use under Section 4(f) with a *de minimis* impact on Menomini Park. The proposed measures to minimize harm by restoring natural landscaping in disturbed areas, reseeding the stormwater facility (pond and pipes) with native vegetation, and minimizing trail detours during construction result in a determination that the Project would not adversely affect the activities, features, or attributes qualifying a park, recreation area or refuge for protection under Section 4(f). The contractor would install signage for trail detours, minimize the construction timeframe, and restore the trail to its existing condition, while also allowing pond access and maintenance.

The Council met with the City of Woodbury on Sept. 13, 2018, to review Project impacts and receive input on its preliminary assessment of *de minimis* impact at Menomini Park. See **Attachment A-8-1** for materials discussed during these meetings. Woodbury must concur in writing with the *de minimis* impact determination after the public comment period for the preliminary determination for which the Section 4(f) use has a *de minimis* impact.

Multi-Use Trail

The paved trail is in and owned by the City of Woodbury. The trail is part of a larger network of paved trails connecting Woodbury's parks. Near the Project area the trail runs on the south side of Tamarack Road to the east side of Bielenberg Drive and continues south to Tamarack Nature Preserve. The trail is accessible to bicyclists and pedestrians.

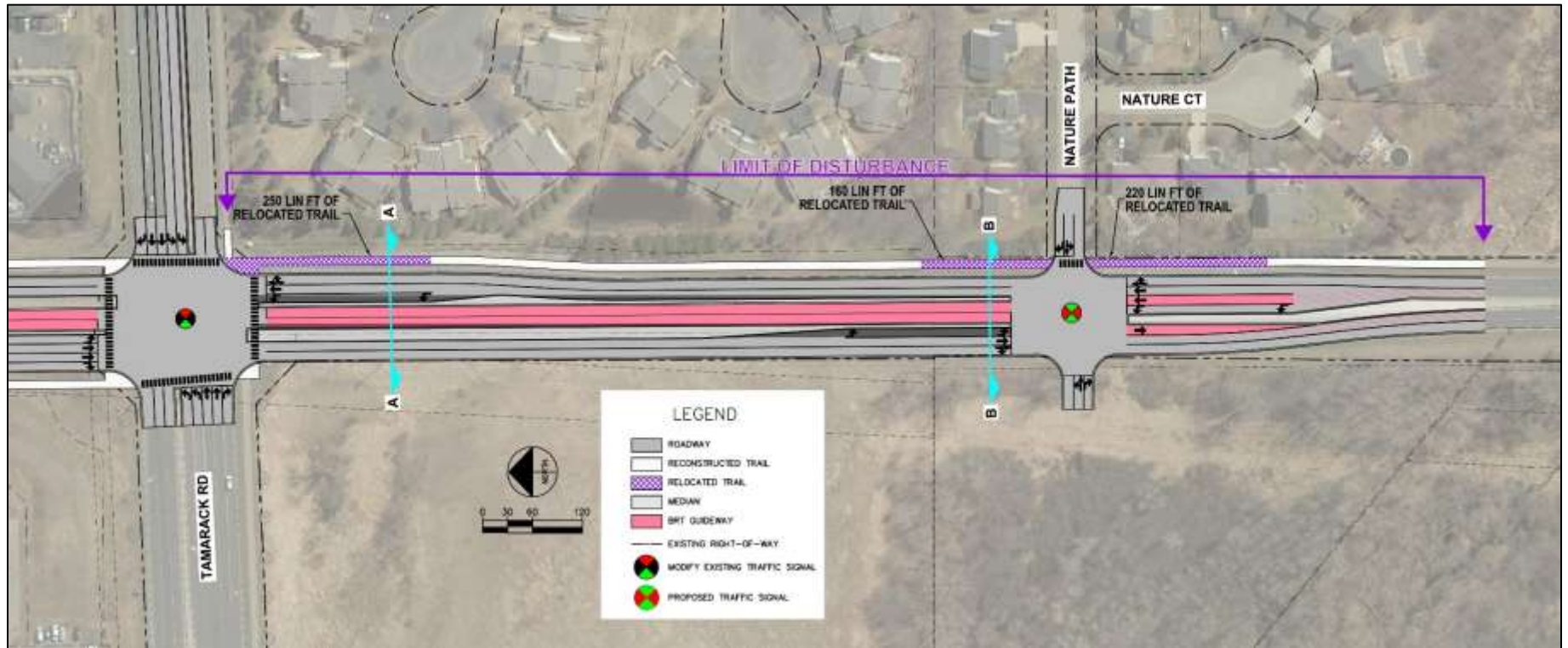
Build Alternative 1 utilizes Alignment D3 along Bielenberg Drive. Approximately 1,475 feet of the multi-use trail from Tamarack Road to about 450 feet south of Nature Path would be temporarily closed for one construction season (approximately six months) to construct BRT infrastructure (see **Figure 3.8-5**).

The trail would be reconstructed within the existing public right-of-way. Approximately 845 feet of the trail would be reconstructed in its existing location. About 250 feet of the trail that approaches the Tamarack Road intersection would shift about 4.5 feet east of the existing trail to accommodate ramps to comply with the Americans with Disability Act (ADA). Similarly, 380 feet of the trail at Nature Path (160 feet north and 220 feet south of the intersection) would shift about 2 feet east of the existing trail to accommodate ramps at the intersection. The Council will communicate with the public before it closes the trail.

Preliminary *de minimis* Determination

Through coordination with the City of Woodbury and based on the design and analysis to date, FTA is making a preliminary determination that the Project, which includes temporary construction impacts on the multi-use trail, would be a use under Section 4(f) with a *de minimis* impact on the trail. The proposed measures to minimize harm by reconstructing the trail in existing public right-of-way and restoring it to pre-construction conditions, and coordinating communications about trail closure result in a determination that the Project would not adversely affect the activities, features, or attributes qualifying a park, recreation area or refuge for protection under Section 4(f). The Council met with the City of Woodbury on Sept. 13, 2018, to review Project impacts and receive input on its preliminary assessment of *de minimis* impact at the multi-use trail. See **Attachment A-8-1** for materials discussed during these meetings. Woodbury must concur in writing with the *de minimis* impact determination after the public comment period on the preliminary determination.

FIGURE 3.8-5: IMPACT AT MULTI-USE TRAIL





HISTORIC PROPERTIES

The Architecture/History APE includes 16 historic properties listed on the NRHP and 18 NRHP-eligible historic resources. The FTA, Council and MnSHPO are developing a programmatic agreement (PA) to complete the Section 106 consultation process. The FTA and Council, in coordination with MnDOT CRU and the Section 106 consulting parties, will assess effects with the Section 106 consulting parties according to guidance within the PA (see **Appendix C**). As effects are determined, the FTA and Council will assess if the effects cause a use under Section 4(f). If the agencies identify a Section 4(f) use, the Council will prepare a supplemental Section 4(f) Evaluation.

3.8.1.2. Build Alternative 2 (A2-BC-D3)

Build Alternative 2 would produce the same Section 4(f) impacts to public parks and recreation resources as Build Alternative 1. Like Build Alternative 1, the FTA and Council would complete the Section 106 consultation process under the PA and assess if the effects cause a use under Section 4(f).

3.9. Avoidance, Minimization and Mitigation Measures

This section summarizes the identified anticipated Project-related long- and short-term impacts and their associated avoidance, minimization and mitigation measures (see **Table 3.9-1**). The Council will continue to investigate ways to avoid and minimize impacts to resources through design refinements, infrastructure improvements, continued coordination with Project partners, and ongoing public outreach as the Project advances through the next phases. Avoidance and minimization are anticipated to include limiting or eliminating stormwater ponding and infiltration in contaminated areas, reducing or eliminating ground disturbance in contaminated areas, or removing and remediating contaminated soils if they are encountered. The measures identified in **Table 3.9-1** are subject to the 15% Concept Plans located in Appendix B and the Project receiving funding through FTAs CIG Program. **Appendix A, Environmental Assessment Technical Reports**, includes resource-specific analyses with detailed information about Project-related impacts and mitigation measures. Resources with no identified long-term or short-term impacts are listed in **Section 3.1. Environmental Resources of No Concern** and they are not included in this table.⁷⁸

⁷⁸ Although the Project would not produce long-term impacts to safety and security, **Table 3.9-1** includes avoidance and minimization measures for this resource area.



TABLE 3.9-1: SUMMARY OF ANTICIPATED IMPACTS AND ASSOCIATED AVOIDANCE, MINIMIZATION AND MITIGATION MEASURES

Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
3.6.1.1. Traffic	Short-Term Impacts	<ul style="list-style-type: none"> • Temporary disruptions; road closures • Localized traffic increases in congestion with detours 	<ul style="list-style-type: none"> • Same as Build Alternative 1 but with fewer impacts under Alignment A2
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Develop construction staging plans • Develop maintenance of traffic plans 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.3.1. Transit	Long-Term Impacts	<ul style="list-style-type: none"> • 7,100 riders per day (3,300 new transit trips) • Decrease daily VMT by 5.3 miles 	<ul style="list-style-type: none"> • 6,350 riders per day (2,950 new transit trips) • Decrease daily VMT by 5.3 miles
3.6.1.2. Transit	Short-Term Impacts	<ul style="list-style-type: none"> • Temporary stop relocations, or route closures or detours 	<ul style="list-style-type: none"> • Same as Build Alternative 1 with fewer impacts under Alignment A2
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • No mitigation required 	<ul style="list-style-type: none"> • No mitigation required
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Inform riders about temporary service changes • Post information at bus stops • Publish details on website and in onboard “Connect” brochure 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.3.2. Parking and Driveways	Long-Term Impacts	<ul style="list-style-type: none"> • Parking <ul style="list-style-type: none"> › Loss of 603 parking spaces › Addition of 450 parking spaces • Driveways <ul style="list-style-type: none"> › Removal at Leo’s Chow Mein › Relocation at Apostolic Bible Institute (replacing with a new driveway located approximately 180 feet to the north) 	<ul style="list-style-type: none"> • Parking <ul style="list-style-type: none"> › Loss of 576 parking spaces › Addition of 450 parking spaces • Driveways <ul style="list-style-type: none"> › Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
3.6.1.3. Parking and Driveways	Short-Term Impacts	<ul style="list-style-type: none"> • Parking <ul style="list-style-type: none"> ▸ Additional temporary loss of 259 parking spaces along Alignment B • Driveways <ul style="list-style-type: none"> ▸ Disruptions to some driveway access points during construction 	<ul style="list-style-type: none"> • Parking <ul style="list-style-type: none"> ▸ Same as Build Alternative 1 • Driveways <ul style="list-style-type: none"> ▸ Same as Build Alternative 1
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Parking <ul style="list-style-type: none"> ▸ Coordinate with cities to identify specific parking mitigation ▸ Compensate property owners for parking impacts in accordance with the URA and Minnesota Statutes Chapter 117 • Driveways <ul style="list-style-type: none"> ▸ Compensate property owners for impacts to driveways in accordance with the URA and Minnesota Statutes Chapter 117 	<ul style="list-style-type: none"> • Parking <ul style="list-style-type: none"> ▸ Same as Build Alternative 1 • Driveways <ul style="list-style-type: none"> ▸ Same as Build Alternative 1
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Install signage directing business patrons to streets where parking is available • Conduct ongoing and transparent outreach • Develop construction staging to minimize impacts to parking and driveways 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.6.1.4. Pedestrian and Bicycle Facilities	Short-Term Impacts	<ul style="list-style-type: none"> • Temporary trail and sidewalks closures 	<ul style="list-style-type: none"> • Same as Build Alternative 1 but with fewer impacts under Alignment A2
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Develop construction staging to minimize impacts to facilities • Install signage directing users to detours and alternate nearby crossings 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
3.4.1. Community Facilities, Character and Cohesion	Long-Term Impacts	<ul style="list-style-type: none"> • Community facilities <ul style="list-style-type: none"> ▸ Partial parcel acquisition at Grace Lutheran Church in Alignment B ▸ Potential adverse impact may occur along Alignment C where parking losses are anticipated • Community character and cohesion <ul style="list-style-type: none"> ▸ None identified 	<ul style="list-style-type: none"> • Community facilities <ul style="list-style-type: none"> ▸ Same as Build Alternative 1 along Alignments B and C • Community character and cohesion <ul style="list-style-type: none"> ▸ None identified
	Short-Term Impacts	<ul style="list-style-type: none"> • Traffic detours could increase traffic through neighborhoods or change access to community facilities • Sidewalk closures and detours could affect pedestrian traffic patterns • Increased levels of noise and dust may affect neighborhood character • Presence of large construction equipment may be perceived as visually disruptive 	<ul style="list-style-type: none"> • Same as Build Alternative 1 with fewer impacts under Alignment A2
3.6.1.5. Community Facilities, Character and Cohesion	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Compensate building and business owners for acquisitions and potential revenue losses • Compensation will be in accordance with the Uniform Relocation Act and Minnesota Statutes Chapter 117 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Maintain access through construction • Install signage and signal controls • Use BMPs and specific plans developed to provide alternative access • Provide adequate notice about construction plans and phasing • Maintain access to existing bus stops • Alert public to detours • Coordinate with cities and comply with local noise ordinances 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.4.2. Acquisitions, Displacements and Relocations	Long-Term Impacts ^a	<ul style="list-style-type: none"> • Partial acquisition of 35 parcels, resulting in 27.9 acres of acquisitions (28.5 acres under the Dedicated Guideway Option at Hadley Avenue and 4th Street) • Full acquisition of 2 parcels, resulting in 11.1 acres of acquisitions and the displacement of approximately 21 businesses 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.6.1.6. Acquisitions, Displacements and Relocations	Short-Term Impacts ^a	<ul style="list-style-type: none"> • Temporary easements would result in: <ul style="list-style-type: none"> ▸ 199 affected parcels with a combined area of 24.5 acres ▸ 204 affected parcels with a combined area of 26.0 acres with the Dedicated Guideway Option at Hadley Avenue and 4th Street 	<ul style="list-style-type: none"> • Temporary easements would result in <ul style="list-style-type: none"> ▸ 177 affected parcels with a combined area of 24.2 acres ▸ 182 affected parcels with a combined area of 25.7 acres with the Dedicated Guideway Option at Hadley Avenue and 4th Street
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Continue efforts to avoid property acquisition • Continue engagement efforts with affected property owners • Provide fair market compensation and/or relocation benefits in accordance with the Uniform Relocation Act and Minnesota Statutes Chapter 117 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> Restore temporary construction easements to pre-easement conditions Provide outreach opportunities for property owners 	<ul style="list-style-type: none"> Same as Build Alternative 1
3.4.4. Visual Quality and Aesthetics	Long-Term Impacts	<ul style="list-style-type: none"> No high-level visual change to Project area as a whole 	<ul style="list-style-type: none"> Same as Build Alternative 1
3.6.1.8. Visual Quality and Aesthetics	Short-Term Impacts	<ul style="list-style-type: none"> Presence of large equipment, and traffic control measures and construction activity may be perceived as visually disruptive Construction activities in residential area and along trails may be perceived as visually disruptive 	<ul style="list-style-type: none"> Same as Build Alternative 1 with fewer impacts under Alignment A2
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> Coordinate with Saint Paul to comply with preservation of Significant Public Views goal in comprehensive plan Design of the new BRT-exclusive bridge over Johnson Parkway would use materials compatible and visually consistent with the existing I-94 bridge over Johnson Parkway Removal of vegetation and introduction of built features would be addressed with appropriate site-specific landscaping Retain and restore vegetation, as appropriate Develop landscape plans for areas adjacent to elevated structures, retaining walls, and noise barriers Section 106 process and terms of PA will inform design modifications to avoid, minimize and mitigate visual impacts to historic properties 	<ul style="list-style-type: none"> Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Phased construction activity to minimize duration • Remove debris and equipment on a regular basis 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.4.5. Business and Economic Resources	Long-Term Impacts	<ul style="list-style-type: none"> • Increase of 146 Minnesota jobs by 2040 • Displacement of approximately 21 commercial uses (auto- and trucking-related) due to right-of-way acquisition • Loss of on-street and off-street parking and changes to commercial property access • Reduction in parking revenue due to removal of metered on-street parking spaces • Reduced property tax collection with full acquisition of property 	<ul style="list-style-type: none"> • Same as Build Alternative 1 but with fewer impacts under Alignment A2 • Increase of 142 Minnesota jobs by 2040
3.6.1.9. Business and Economic	Short-Term Impacts	<ul style="list-style-type: none"> • Temporary access changes to businesses affecting customer access, on-street parking availability, service access, traffic flow, and congestion • Businesses dependent on ease of customer access may experience a loss of revenue during construction • Businesses with outdoor activities could experience negative impacts due to noise, dust, or other nuisance conditions during nearby construction activities • Businesses that rely on providing customers with a quiet atmosphere may also be affected during nearby construction activities • Disruption of utility services is utilities need to move or replaced 	<ul style="list-style-type: none"> • Same as Build Alternative 1 with fewer impacts under Alignment A2



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Provide fair market compensation and/or relocation benefits for displaced businesses and compensation for parking impacts on private property in accordance with the Uniform Relocation Act and Minnesota Statutes Chapter 117 	<ul style="list-style-type: none"> • Same as Build Alternative 1
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Coordinate with businesses and provide maintenance of traffic, maintenance of access, business signage, and advanced communication of construction activities 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.6.1.10. Safety and Security	Short-Term Impacts	<ul style="list-style-type: none"> • Construction activities a safety risk to workers and public • Public safety, particularly as it relates to people who encroach upon open excavation sites and other construction activity • Dedicated Guideway Option at Hadley Avenue and 4th Street <ul style="list-style-type: none"> ▸ Greater safety and security risks during construction due to additional work in right-of-way and reconstruction of bridge over I-694 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • At full-access intersections with the dedicated center running or side running guideway, new traffic signals would be constructed • Design guideway for emergency vehicle access • Provide public address systems, video monitoring, and emergency telephones at stations • Provide detectable warning strips at edge of raised platform boarding platforms • Provide general illumination of station platforms as well as vehicular and pedestrian circulation lighting • Provide emergency lighting in all public areas • Vehicular traffic areas within station boundaries would be illuminated • Fence station platforms on the side not used to access the BRT • Striping/markings rather than a physical barrier to delineate the guideway from regular traffic and parking lanes • Provide Metro Transit Police Department and local law enforcement routine patrols of stations, guideway and BRT vehicles, as well as nearby bus routes and stops • Conduct a Preliminary Hazard Analysis to assess hazards associated with Project and identify appropriate mitigation measures 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Develop Safety and Security Management Plan and a Safety and Security Certification Plan to guide safety and security policies for the Project during design and construction • Secure construction sites with fencing and security gates to prevent access by individuals who do not have clearance 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.4.6. Environmental Justice	Long-Term Impacts	<ul style="list-style-type: none"> • No anticipated disproportionately high or adverse effects to environmental justice populations 	<ul style="list-style-type: none"> • No anticipated disproportionately high or adverse effects to environmental justice populations
3.6.1.11. Environmental Justice	Short-Term Impacts	<ul style="list-style-type: none"> • Disproportionately high and adverse effect on environmental justice populations along Hudson Road (Alignment B) related to visual impacts during construction • Disproportionately high and adverse effect on environmental justice populations along Alignment B and C related to construction noise and vibration 	<ul style="list-style-type: none"> • Same as Build Alternative 1
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • See Section 3.4.2 (“Acquisitions, Displacements and Acquisitions”) for mitigation measures 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Signage directing business patrons to streets where parking is available • Ongoing and transparent outreach program to inform business owners and residents of construction activities • Implement construction staging to minimize short-term impacts • See Section 3.6.1.8 (“Visual Quality and Aesthetics”) for mitigation measures • See Section 3.6.1.15 (“Noise and Vibration”) for mitigation measures 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.5.1. Utilities	Long-Term Impacts	<ul style="list-style-type: none"> • Relocation of buried fiber optic cable in Alignment C • Potential to impact buried oil pipeline in Alignment D3 • Potential relocation of changeable message sign and equipment • Potential impact to accessibility of utility vaults at station in downtown Saint Paul 	<ul style="list-style-type: none"> • Same as Build Alternative 1 but with fewer impacts under Alignment A2
3.6.1.12. Utilities	Short-Term Impacts	<ul style="list-style-type: none"> • Construction activities such as excavation and grading, placing structural foundations and using large-scale equipment could affect utilities • Service disruptions throughout construction 	<ul style="list-style-type: none"> • Same as Build Alternative 1 but with fewer impacts under Alignment A2



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Coordinate on existing facilities with each utility owner • Existing utilities will be confirmed and mapped so that design avoids the utilities, where practicable • Unidentified utilities that could require mitigation will be addressed in future phases • Existing utility vaults will be adjusted to match the new grade or will add or replace riser collars 	<ul style="list-style-type: none"> • Same as Build Alternative 1
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Provided temporary connections to customers prior to permanent relocation activities • Coordination with the utility owner/operators during construction would occur to determine the potential disruptions in service • Notify affected property owners of service disruptions • If unidentified utilities are encountered during construction, the owner of the utility will be identified, and appropriate mitigation measures determined • Implement confined space entry safety plan • Remediate contaminated soils prior to utility excavations • Remediate and dispose of hazardous pipe coatings and materials impacted by utility relocations 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
3.5.2.1. Floodplains	Long-Term Impacts	<ul style="list-style-type: none"> • Potential floodplain impact of 4,842 cubic yards of fill with additional impacts possible for two locations at which the floodplain elevations are unknown • No anticipated Project impacts to floodways 	<ul style="list-style-type: none"> • Same impacts as Build Alternative 1
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Replacement storage required for impacts at Alignments C and D3 • Coordinate mitigation requirements during Engineering Phase with Ramsey Washington Metro Watershed District through permitting processes • Review model and compensatory storage for each area to avoid a net increase in impacts and/or the potential for flooding outside of the Project area 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.5.2.2. Surface Waters (Wetlands, Waterbodies and Waterways)	Long-Term Impacts	<ul style="list-style-type: none"> • Approximately 2.60 acres to surface waters,^b with an additional 105 square feet (0.002 acre) of impacts at Tanners Lake • No impact to any “high-quality” surface waters 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Project-related impacts to surface waters avoided and minimized to the extent possible • Engineering Phase will incorporate, where feasible, additional avoidance and minimization measures, which could include constructing steeper inslopes, broken backslopes, and treating stormwater prior to discharge • Stormwater ponds are proposed in upland areas, if feasible • Permits are required from the USACE, DNR, MPCA and RWMWD • Mitigated through the purchase of credits from state-managed wetland bank, rather than pursue on-site replacement of surface waters due to limited available space conducive to creating surface water • Potential wetland replacement based on current rules and regulations and 2.602 acres of impact would be: <ul style="list-style-type: none"> ▸ 5.20 acres replaced (minimum 2:1 ratio) ▸ 6.50 acres replaced (potential 2.5:1 ratio) 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.5.2.3. Stormwater and Water Quality	Long-Term Impacts	<ul style="list-style-type: none"> • New and reconstructed impervious area: <ul style="list-style-type: none"> ▸ 73 acres under baseline ▸ 78 acres under Dedicated Guideway Option at Hadley Avenue and 4th Street 	<ul style="list-style-type: none"> • New and reconstructed impervious area: <ul style="list-style-type: none"> ▸ 72 acres under baseline ▸ 78 acres under Dedicated Guideway Option at Hadley Avenue and 4th Street



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
3.6.1.13. Stormwater and Water Quality	Short-Term Impacts	<ul style="list-style-type: none"> Disturbed soils combined with Project area runoff could potentially erode soil surfaces and drainageways, form gullies and deposit sediment in adjacent waterbodies Without temporary BMPs (required through permitting process), these activities could destabilize slopes and affect water quality 	<ul style="list-style-type: none"> Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Based on Capitol Region and Ramsey-Washington Metro watershed districts' rules mitigation measures are required for all Project-related new and reconstructed impervious surfaces • Primary and secondary sites to demonstrate the Project's ability to meet regulatory requirements will be carried forward • Complete more hydrologic modeling of current and proposed conditions to more accurately assess if additional rate-control measures required • Use BMPs to remove total suspended solids (TSS) • Implement additional stormwater pollution control devices as needed to meet the watershed districts' requirements for TSS removal and pretreatment for filtration/infiltration systems • Erosion-control measures, dewatering and establishing the final surfaces, and these activities would be designed to meet the various agencies' requirements would be include in construction documents • Special consideration given to regionally significant ecological areas 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> Apply temporary BMPs (required through the permitting process), to prevent construction activities from destabilizing slopes and adversely affecting water quality Short-term impacts to specific locations would be determined during future Project phases, but Council anticipates that impacts would not extend more than 10 feet from limits of disturbance Locate temporary retaining walls or soil berms in small, isolated area to minimize wetland fill Potential for increased stormwater runoff in some locations with construction staging area on temporary impervious pavement Likely to require temporary dewatering to install bridge abutments and walls, and to do grading activities 	<ul style="list-style-type: none"> Same as Build Alternative 1
3.5.3. Hazardous Materials and Contamination	Long-Term Impacts	<ul style="list-style-type: none"> No hazardous or regulated materials produced by Project during its operation Acquiring land that is contaminated or contains hazardous or regulated material creates risk in form of costs and potential liability to Project 	<ul style="list-style-type: none"> Same as Build Alternative 1 with fewer impacts under Alignment A2
3.6.1.14. Hazardous Materials and Contamination	Short-Term Impacts	<ul style="list-style-type: none"> Six regulated material sites and 41 regulated reuse material sites within potential area of disturbance of Alignment BC-D3 	<ul style="list-style-type: none"> 18 high-risk sites, 28 medium-risk sites and 16 low-risk sites within potential area of disturbance



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Enroll in the MPCA Brownfield Program • Obtain approvals for any contamination management and clean-up plans • Land acquired that contains hazardous or regulated material, removal or clean up will be addressed as outlined in the Response Action Plan or Construction Contingency Plan that will be developed for the Project prior to construction. 	<ul style="list-style-type: none"> • Same as Build Alternative 1
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Develop RAP to mitigate contamination • Develop CCP as part of RAP to manage discovery of previously unknown contamination during construction • Develop spill prevention, control and countermeasure plan to address proper handling, treating, storing and disposing of solid wastes, petroleum products, and other regulated materials/wastes construction uses or generates • Assess site for asbestos-containing materials, lead-based paint, other regulated materials/wastes before demolition of structures 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.6.1.15. Noise and Vibration	Short-Term Impacts	<ul style="list-style-type: none"> • Potential for temporary noise or vibration impacts 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Meet requirements of local noise ordinances • Prepare detailed noise and vibration control plan to mitigate short-term construction noise and vibration. Key elements include: <ul style="list-style-type: none"> ▸ Contractor’s specific equipment types ▸ Schedule and methods of construction ▸ Maximum noise and vibration limits for each piece of equipment with certification testing ▸ Prohibitions on certain types of equipment and processes during the 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 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
3.5.4. Biological Environment (Wildlife Habitat and Endangered Species)	Long-Term Impacts	<ul style="list-style-type: none"> • Endangered species <ul style="list-style-type: none"> ▸ Potential impacts to northern long-eared bat, rusty patched bumble bee and Blanding’s turtle • Wildlife habitat <ul style="list-style-type: none"> ▸ Impacts to wildlife habitat anticipated; however, wildlife in Project area are generalist species adapted to urbanized conditions and the low-quality habitat within resource study area ▸ Potential impact to high-quality habitat areas – Battle Creek Lake and Tamarack Nature Preserve ▸ Project would impact 8.8 acres of terrestrial habitat ▸ Project would impact 5 acres of aquatic habitat 	<ul style="list-style-type: none"> • Endangered species <ul style="list-style-type: none"> ▸ Same as Build Alternative 1 • Wildlife habitat <ul style="list-style-type: none"> ▸ Same as Build Alternative 1
3.6.1.16. Biological Environment (Wildlife Habitat and Endangered Species)	Short-Term Impacts	<ul style="list-style-type: none"> • Use of heavy equipment and silt fence/construction barriers would impact wildlife habitat and cause temporary disruptions to wildlife 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Endangered species <ul style="list-style-type: none"> ▸ Replant disturbed land with native, flowering vegetation, where possible, to minimize impacts to the rusty patched bumble bee ▸ Install appropriate lighting and implement other appropriate mitigation measures to avoid long-term impacts to northern long-eared bat ▸ Maintain suitable roosting habitat if presence of bats or potential presence of bats. ▸ Consider if design of new bridge could incorporate suitable roosting sites • Wildlife habitat <ul style="list-style-type: none"> ▸ Utilize construction and post-construction BMPs to lessen impacts to terrestrial and aquatic habitats 	<ul style="list-style-type: none"> • Endangered species <ul style="list-style-type: none"> ▸ Same as Build Alternative 1 • Wildlife habitat <ul style="list-style-type: none"> ▸ Same as Build Alternative 1
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Endangered species <ul style="list-style-type: none"> ▸ During or before construction, utilize measures to avoid or minimize impacts to northern long-eared bat per the USFWS Consistency letter (See Appendix D) ▸ Avoid tree removal to extent possible ▸ Direct temporary lighting away from suitable bat habitat during the active season ▸ Apply time-of-year restrictions for tree removal when bats not likely to be present, or limit tree removal 	<ul style="list-style-type: none"> • Endangered species <ul style="list-style-type: none"> ▸ Same as Build Alternative 1 • Wildlife habitat <ul style="list-style-type: none"> ▸ Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
		<ul style="list-style-type: none"> ▸ Conduct visual emergence survey prior to construction to ensure structures are not being utilized by bats; if structures are noted to be in use by bats, additional coordination or identification of species may be required ▸ Limit tree removal to Project-specified plans and inform contractors about clearing limits and field markings ▸ Do not remove documented, still-suitable roosts; trees within ¼-mile of roosts; or documented foraging habitat at any time ▸ Implement DNR-established standard construction BMPs, as needed, to protect Blanding’s turtles • Wildlife habitat <ul style="list-style-type: none"> ▸ BMPs would be used to lessen impacts to terrestrial and aquatic habitats ▸ Stabilize areas disturbed by construction with interim and final erosion- and sediment-control measures that include seeding plans to inhibit spread of invasive species or noxious weeds 	
3.4.3. Cultural Resources	Long-Term Impacts	<ul style="list-style-type: none"> • 29 architecture/history properties identified • No archaeological sites identified, to date • Effects will be evaluated under the terms of the executed Section 106 PA 	<ul style="list-style-type: none"> • Same as Build Alternative 1 but with fewer impacts in downtown Saint Paul under Alignment A2
3.6.1.7. Cultural Resources	Short-Term Impacts	<ul style="list-style-type: none"> • Addressed under the terms of the executed Section 106 PA 	<ul style="list-style-type: none"> • Same as Build Alternative 1 but with fewer impacts in downtown Saint Paul under Alignment A2



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Addressed under the terms of the executed Section 106 PA • If adverse effects are identified, consultation with consulting parties will occur 	<ul style="list-style-type: none"> • Same as Build Alternative 1
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Addressed under the terms of the executed Section 106 PA • If adverse effects are identified, consultation with consulting parties will occur as outlined in the executed PA • Could include a protection plan that specifies requirements for contractors to minimize effects of construction activities 	<ul style="list-style-type: none"> • Same as Build Alternative 1
3.7. Indirect Effects and Cumulative Impacts	Long-Term Impacts	<ul style="list-style-type: none"> • Indirect effects <ul style="list-style-type: none"> ▸ New development near stations has potential to impact the built and natural environment; displace residents due to rising property values; increase traffic congestion and parking demand • Cumulative impacts <ul style="list-style-type: none"> ▸ Potential impacts to transportation system, land use and natural environmental 	<ul style="list-style-type: none"> • Indirect effects <ul style="list-style-type: none"> ▸ Same as Build Alternative 1 • Cumulative impacts <ul style="list-style-type: none"> ▸ Same as Build Alternative 1
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Local, state and federal regulations are in place to minimize potential cumulative effects • Mitigation for direct impacts will further minimize the potential for cumulative impacts 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
3.8. Section 4(f) Resources	Long-Term Impacts	<ul style="list-style-type: none"> • Preliminary Section 4(f) <i>de minimis</i> determination on the following public parks and recreation resources: <ul style="list-style-type: none"> ▸ Johnson Parkway – minor amount of permanent and temporary easements for guideway, sidewalks, storm sewer pipe and access for routine stormwater facility maintenance ▸ Menomini Park – stormwater facility and access road ▸ Multi-use trail in Woodbury- minor alignment shift within public right of way • Historic resources <ul style="list-style-type: none"> ▸ Effects evaluated under the terms of the executed Section 106 PA 	<ul style="list-style-type: none"> • Public parks and recreation resources preliminary Section 4(f) <i>de minimis</i> determination <ul style="list-style-type: none"> ▸ Same as Build Alternative 1 • Historic resources <ul style="list-style-type: none"> ▸ Same as Build Alternative 1
	Short-Term Impacts	<ul style="list-style-type: none"> • Temporary closure of Johnson Parkway and regional trail (approximately 90 days) • Temporary closure of Menomini Park trail; construction of access road (one construction season) • Temporary closure of multi-use trail in Woodbury (one construction season) 	<ul style="list-style-type: none"> • Same as Build Alternative 1
	Long-Term Mitigation Measures	<ul style="list-style-type: none"> • Grade slopes to match into the existing landform at Johnson Parkway • Restore landscaping in disturbed park space to preconstruction condition • Restore trails to preconstruction condition • Reseed new pond within Menomini Park 	<ul style="list-style-type: none"> • Same as Build Alternative 1



Section and Resource	Category	Build Alternative 1 (A1-BC-D3) Impacts	Build Alternative 2 (A2-BC-D3) Impacts
	Short-Term Mitigation Measures	<ul style="list-style-type: none"> • Detour Menomoni Park trail and Johnson Parkway regional trail to local streets • Notify public about closures and detours in advance • Minimize construction duration 	<ul style="list-style-type: none"> • Same as Build Alternative 1

^a The number of acquisitions, displacements and relocations are based on the 15% Concept Plans. The Council will further refine these impacts as the Project design advances during the Project Development and Engineering phases.

^b Impacts related to non-linear facilities (stormwater and park-and-ride facilities) are expected to be reduced as design is advanced and more analysis completed for anticipated stormwater needs for the Project. Based on these reductions, anticipated cumulative impacts for non-linear are expected to be less than 0.5 acre and fall under the Transportation Regional General Permit.



4. PUBLIC AND AGENCY COORDINATION

The FTA, Council, Washington and Ramsey counties, and the cities of Saint Paul, Maplewood, Landfall, Oakdale and Woodbury are jointly developing the Project. These agencies solicited input from the public, state and federal agencies, local governments, and regional organizations throughout the design development and environmental review processes. This chapter summarizes the Project's public and agency coordination activities and permitting and approval requirements. The *Public and Agency Coordination Technical Report* in **Appendix A** provides a full description of the Project's public and agency outreach and coordination efforts.

4.1. Public Outreach and Communications

The GCC initiated an alternatives analysis study of potential transit improvements along the Gateway Corridor in 2010, and as the Project moved into the environmental review process, the GCC developed a public engagement plan (PEP) to define the roles of project decision-making and advisory bodies, identify key stakeholders, and to document the Project's outreach goals and methods to encourage stakeholder engagement and input that included public meetings, open houses, presentations, email newsletters, social media and a website. The PEP remained in effect until December 2016, when Project advisory bodies finished refining the LPA. The PEP focused on building community support to obtain approval for the LPA and improve the Project's ratings within the CIG Program.

In January 2018, the Project entered the Project Development Phase of the FTA's CIG Program New Starts process, the Council became the local lead agency, and the Project's formal name changed from Gateway Corridor to the METRO Gold Line Bus Rapid Transit Project. The Council updated the Project's outreach goals in a new communications and public involvement plan (CPIP), which also formally rebranded the Project as part of the METRO system. The CPIP emphasizes an overall commitment to communicate and engage with multiple audiences within the Project area and across the region, and it focuses on collaborating with the public to obtain Project support.

Both plans support the commitment of the Council, Metro Transit and the Project's local funding partners to keep the public and stakeholders involved throughout all phases of the Project.

4.1.1. Public Outreach Goals and Strategies

The 2018 CPIP defines the following outreach goals for the Project:

- **Goal 1:** Inform the public about (previously made and upcoming) Project decisions, timelines, impacts and options
- **Goal 2:** Develop and maintain public support for the Project as an essential means to improve our transportation system and maintain regional competitiveness
- **Goal 3:** Enhance Project decision-making by providing opportunities for public input, participation and dialogue
- **Goal 4:** Build mutual trust and engagement capacity by creating two-way communication (with residents, businesses and interested groups) that is transparent, provides thorough information, closes loops, shows how input was used, and details opportunities for further engagement



- **Goal 5:** Maintain ongoing communication with the public and funding partners to ensure key messages are clear, consistent and responsive to changing needs, status and timing

4.1.2. Project Communications

A well-informed and engaged public strengthens the Project and creates a more useful transit system for the region. The Project engaged residents, businesses, organizations and transit riders in the planning process to solicit their input and address their needs and concerns. The Project put forth concerted effort to involve traditionally underrepresented communities such as people of color, low-income individuals, people with limited English proficiency, people with disabilities, and other marginalized groups. The Project used a variety of communication methods including electronic and printed Project materials provided in English, Hmong, Somali, Spanish and Karen languages; face-to-face meetings; and coordination with local media outlets including those operated by or focused on minority or ethnic populations.

4.1.3. Public Engagement in the Project Development Phase

During the Project's early planning stages and Project Development Phase, outreach activities included more than 600 meetings with a wide variety of affected or interested stakeholders including the public; city and county staff; state and local departments, agencies and committees; businesses; and community groups. See **Attachment A-10-1** for a list of outreach events the Project participated in during the Project Development phase.

Public engagement focused on building understanding of the Project and providing opportunities for involvement. Key messages helped build public awareness of the Project's purpose and need (see Chapter 1. Purpose and Need). Engagement with environmental justice communities was also a focus for engagement activities. Project meeting locations, formats and materials have involved environmental justice communities in the Project area (see the *Community and Social Resources Technical Report* for additional information). Examples of efforts to engage environmental justice communities include:

- Project fact sheets translated in Hmong, Karen, Somali and Spanish languages
- Members of environmental justice communities served on the Community Advisory Committee and continue to serve on the CBAC and have become knowledgeable and invested stakeholders in the Project
- Meetings held in neighborhoods to discuss design advancement that resulted in:
 - A new traffic signal proposed at the intersection of the I-94 westbound ramp and Mounds Boulevard to provide a pedestrian crossing and improve pedestrian safety
 - Changes to the street, guideway, and station design avoid loss of on-street parking spaces
 - Project design adjustments made east of Conway Street and west of Etna Street in Saint Paul to avoid acquisition of apartment buildings that would have displaced hundreds of residents, including minority residents and residents with Section 8 vouchers
 - New pedestrian connections included to the TH 61 interchange with I-94
 - Change to operate BRT in mixed traffic along Hudson Boulevard in Landfall

In 2018, Project staff hosted four open houses and three neighborhood meetings, attended multiple community events, held numerous pop-up events, and developed an electronic survey to distribute information about the Project and collect feedback about the proposed alignments and design options.



The Council conducted the three neighborhood meetings among residents in the following areas, which all include environmental justice populations, where additional input would be valuable in the advancement of the Project design:

- Mounds Boulevard and Maria Avenue residents, focusing on a station located at Mounds Boulevard or Maria Avenue
- Hudson Road residents, focusing on BRT in a dedicated guideway or in mixed traffic
- White Bear Avenue and Ruth Street residents, focusing on a station located at Hazel Street or Van Dyke Street

Project staff also conducted door-knocking activities in two Saint Paul neighborhoods in which the Project was considering options for station locations at either Mounds Boulevard or Maria Avenue,⁷⁹ and at either Van Dyke Street or Hazel Street. These efforts notified residents of upcoming neighborhood meetings, and Project staff gathered input from those unable to attend the meetings about their preferences for the station options.

Feedback from residents for the station at Hazel Street or Van Dyke Street, near White Bear Avenue, showed preference for a station at Hazel Street. At the time, a station at Van Dyke Street was included in the City of Saint Paul's Gold Line Station Area Plan as the location for the White Bear Avenue Station. In October 2018, the city presented the community feedback to the Land Use Committee of the Saint Paul District 1 Community Council and requested a formal recommendation. The District 1 Community Council recommended Hazel Street as the White Bear Avenue station location. The city then held a public hearing and comment period for the proposed amendment to change the station location from Van Dyke Street to Hazel Street. No public comments or objections were made towards the amendment; therefore, the City of Saint Paul adopted the amendment in February 2019. To fully evaluate the impacts of a potential station at both locations, this EA analyzes both the Hazel Street and Van Dyke Street station options.

Two open houses were focused on sharing information on Alignments A1 and A2 in downtown Saint Paul. Community members were provided with an opportunity to view the proposed downtown Saint Paul routing alternatives and provide their preference for routing through the downtown area, as well as learn more about the Project.

Public outreach and engagement activities have continued in 2019 through publication of this EA. See **Attachment A-10-1** for a list of outreach events the Project participated in during the Project Development phase. The FTA and Council invite the public to comment on this EA. During the comment period, the Council will conduct public meetings (see the **Abstract** at the front of this document for meeting dates, times and locations). The Council will record and respond to substantive comments about the EA that it receives during this period, and they will become part of the official record for the Project. Comments that raise specific issues regarding the Project or study process, suggest new alternatives, or raise concern over new impacts not addressed in the EA are considered substantive comments.

4.1.4. Project Decision-Making and Advisory Bodies

Different phases of the Project established various decision-making and advisory bodies. Committees' tasks ranged from reviewing and guiding technical issues to voting on key Project decisions. Several issue-based and

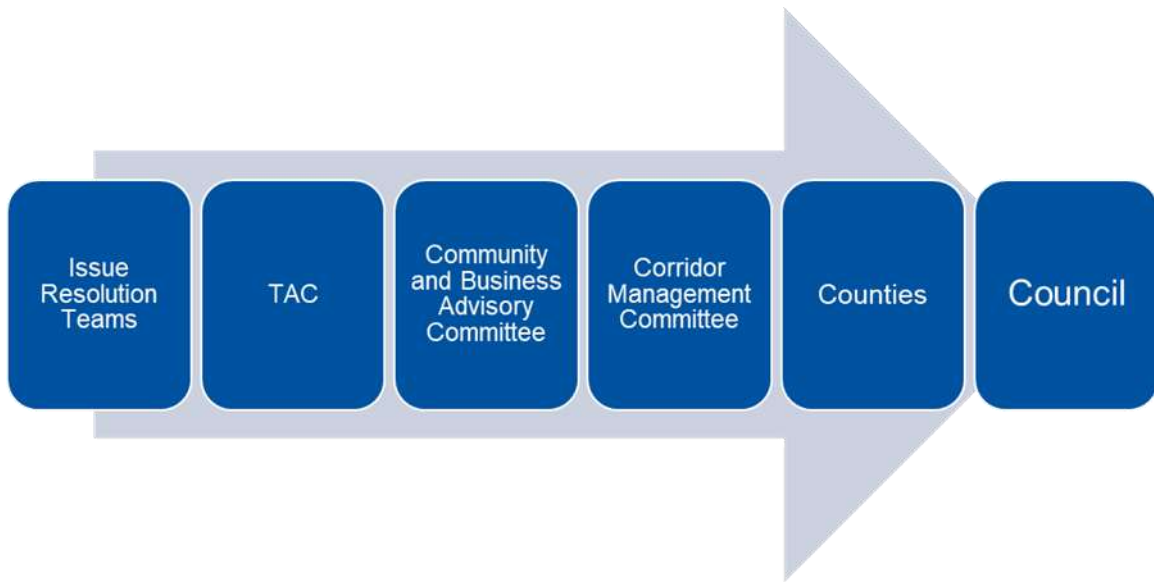
⁷⁹ Since public outreach activities conducted by the Council in this area, the Project design advanced to include a station proposed at Mounds Boulevard and eliminate a station proposed at Maria Avenue. This change was due in part to feedback the Council received during 2018 public outreach activities.



advocacy organizations also assisted with Project efforts, and community and city council meetings, events and workshops helped disseminate Project-related information.

Figure 4.1-1 shows the Project Development Phase committee structure.

FIGURE 4.1-1: PROJECT COMMITTEE STRUCTURE



Project engagement and outreach staff coordinated efforts with related projects and community groups throughout all phases of the Project. Collaborating with these concurrent efforts – including, among many others, East Side Transit Equity (formerly Fostering East Side Transit Equity Conversations), Saint Paul Station Area Planning, the Gateway Health Impact Assessment and the Rush Line Bus Rapid Transit Project – helped publicize information about and inform the Project environmental process. Several groups advised on key Project issues such as engaging with environmental justice communities, station and guideway design, and station area land use; many held their own community events to which they invited Project staff to do presentations. The *Public and Agency Coordination Technical Report* in **Appendix A** includes detailed information about the informal advisors, information distributors and concurrent efforts that assisted the Project’s outreach efforts.

4.2. Agency Consultation and Stakeholder Coordination

4.2.1. Cooperating and Participating Agencies

In February 2014, the FTA invited applicable federal agencies, the WCRRA (the local lead agency at the time) and applicable state, regional and local agencies to be involved in the Project by becoming a cooperating or participating agency. During this time, the Project anticipated the need for an EIS due to multiple transit modes and a longer project length for analysis, construction and operation. In 2017, after the LPA was adopted, FTA



rescinded the notice for development of an EIS and an EA was determined to be the appropriate NEPA class of action.⁸⁰ The cooperating and participating agencies have retained their status under this EA.

Table 4.2-1 lists the Project’s participating and cooperating agencies.

TABLE 4.2-1: PROJECT COOPERATING AND PARTICIPATING AGENCIES

Agency	Type of Participation
Federal Agencies	
FHWA	Cooperating
USACE	Cooperating
U.S. Environmental Protection Agency	Participating
State Agencies	
MnDOT	Cooperating
DNR	Participating
Regional and Local Agencies	
CRWD	Participating
RWMWD	Participating
City of Saint Paul	Participating
City of Maplewood	Participating
City of Oakdale	Participating
City of Landfall	Participating
City of Woodbury	Participating

The cooperating and participating agencies began active participation early in the Project’s environmental review process. Participating agencies have a general interest in the Project; cooperating agencies have more specific roles.

Cooperating agencies participate in permitting or jurisdictional determination processes related to impacts from the Project, and they work with the lead agencies to resolve issues that could result in denial of required regulatory approvals for the Project. Both types of agencies have the following responsibilities:

- Identify the Project’s potential environmental and socioeconomic impacts and potential mitigation measures
- Provide input on the Project’s purpose and need, impacts and alternatives evaluations, and the resource analyses’ level of detail

⁸⁰ “Notice to Rescind Notice of Intent To Prepare an Environmental Impact Statement for the Gateway Corridor Project From Saint Paul to Woodbury in Ramsey and Washington Counties, Minnesota,” Vol. 82, Federal Register No. 49, pp. 13923-13924. March 15, 2017. Available at: https://www.metrotransit.org/Data/Sites/1/media/about/improvements/gold-line/noj_rescindeis_qbrt_federalregister_20170315.pdf. Accessed March 2019.



- Provide written comments on Project deliverables

4.3. Permits and Approvals

Table 4.3-1 presents a list of the federal, state and local permits and approvals the Council anticipates it will need for Project construction.

TABLE 4.3-1: REQUIRED PROJECT CONSTRUCTION PERMITS AND APPROVALS

Permit/Approval	Jurisdiction(s)
Federal Approvals	
Environmental Decision Document	FTA, FHWA
Section 4(f) Determination	FTA, Department of Interior as applicable
Section 106 PA	FTA, Advisory Council on Historic Preservation
Right-of-Way Use Agreement	FHWA
Section 404 Wetland Permit	USACE
Endangered Species Act, Section 7 Determination	USFWS
Minnesota State Approvals	
Public Waters Work Permit	DNR
Water Appropriation Permit	DNR
Joint Application Form for Activities Affecting Water Resources in Minnesota	Minnesota Board of Water and Soil Resources
Section 106 PA	MnSHPO
Right-of-Way Permit	MnDOT
Application for Drainage Permit	MnDOT
Application for Utility Accommodation on Trunk Highway Right-of-Way	MnDOT
Application for Miscellaneous Work on Trunk Highway Right-of-Way	MnDOT
National Pollutant Discharge Elimination System Permit	MPCA
Section 401 Water Quality Certification	MPCA
Noxious Weed Management Plan	Minnesota Department of Agriculture
Local Approvals	
Environmental Decision Document for State-Required Environmental Process	Council



Permit/Approval	Jurisdiction(s)
Road Crossing/Right-of-Way Permits	Washington and Ramsey counties, and Cities of Saint Paul, Maplewood, Landfall, Oakdale and Woodbury
Building Permits	Cities of Saint Paul, Maplewood, Landfall, Oakdale and Woodbury
Erosion/Sediment Control/Grading Permits	Cities of Saint Paul, Maplewood, Oakdale and Woodbury, and CRWD, RWMWD and South Washington Watershed District
Wetland Conservation Act Wetland Replacement Plan Approval	Cities of Saint Paul, Maplewood and Woodbury, Washington Conservation District, and CRWD and RWMWD