

11.0 Evaluation of Alternatives

This chapter presents a summary evaluation of the alternatives presented in the Bottineau Transitway Draft EIS, including the No-Build, Enhanced Bus/Transportation System Management (TSM), and all Build alternatives considered. This summary focuses on information presented in the Draft EIS that distinguishes the alternatives from each other and is most relevant for project decision making. The results are intended to inform the identification of the environmentally preferred alternative under the National Environmental Policy Act (NEPA) and the Minnesota Environmental Policy Act (MEPA).

11.1 Evaluation Framework and Methods

As described in Chapter 1 Purpose and Need, the Bottineau Transitway project development and evaluation process responds to the requirements of NEPA, MEPA, and the Federal Transit Administration (FTA) New Starts process.

The purpose of the Bottineau Transitway is to provide transit service, which will satisfy the long-term regional mobility and accessibility needs for businesses and the traveling public.

The Bottineau Transitway project is needed to effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports economic development goals and objectives of local, regional, and statewide plans.

As described in detail in Chapter 1 Purpose and Need, residents and businesses in the Bottineau Transitway project area need improved access to the region's activity centers to fully participate in the region's economy. Access to jobs in downtown Minneapolis and northbound reverse commute transit options to serve jobs in the growing suburban centers are crucial to continued economic vitality. Moreover, traffic congestion is expected to intensify in the Twin Cities Metropolitan Area through the year 2030, and fiscal conditions limit the ability of the region to address demand through highway capacity investment. Current transit options in the Bottineau Transitway project area offer a limited number of travel-time competitive alternatives to the single-occupant vehicle. Without major transit investments, it will be difficult to effectively meet the transportation needs of people and businesses in the corridor, manage highway traffic congestion in the project area, and achieve the region's 2030 goal, as identified in the Metropolitan Council's *2030 Transportation Policy Plan (TPP)* as doubling transit ridership by 2030.

Five factors contribute to the need for the Bottineau Transitway project:

- Growing travel demand resulting from continuing growth in population and employment
- Increasing traffic congestion and limited fiscal resources
- People who depend on transit
- Limited transit service to suburban destinations (reverse commute opportunities) and time-efficient transit options
- Regional objectives for growth stated in the Regional Development Framework

The project's goals and objectives, which were derived from the project purpose and need statement, are summarized in [Table 11.1-1](#). Developed early in the project, the goals and objectives served as a framework for developing project alternatives, as well as for evaluating alternatives later in the process. Goals 1, 2, and 3 reflect the core purpose and need of the project; Goals 4 and 5 reflect broader community goals.

The Bottineau Transitway alternatives have been evaluated based on the ability to meet the project's purpose and need and the balance between benefits and impacts.

Table 11.1-1. Bottineau Transitway Goals and Objectives

Goal 1: Enhance Regional Access to Activity Centers	
Objectives	
1	Maximize total transit riders
2	Improve service to people who depend on transit
3	Expand reverse commute and off-peak transit opportunities
4	Increase transit system linkages, access to regional destinations, and multimodal transportation opportunities
5	Maximize transit access to housing, employment, schools, community services, health care facilities, and activity centers
Goal 2: Enhance the Effectiveness of Transit Service within the Corridor	
Objectives	
6	Maximize new transit riders
7	Maximize passengers per hour of revenue service
8	Maximize traveler time savings
Goal 3: Provide a Cost-Effective and Financially Feasible Transit System	
Objectives	
9	Balance project costs and benefits
10	Minimize project capital and operating cost
11	Maximize long-term investment in the regional transit system
12	Maximize flexibility to efficiently expand the transit investment to accommodate transitway demand beyond 2030 weekday travel demand forecasts
Goal 4: Promote Sustainable Development Patterns	
Objectives	
13	Promote land development and redevelopment that supports sustainable transportation policies
14	Ensure compatibility with local and regional comprehensive plans
15	Support economic development and redevelopment efforts
Goal 5: Support Healthy Communities and Sound Environmental Practices	
Objectives	
16	Minimize impacts on wetlands/water/floodplains, parks, visual resources, noise/vibration, and historic/cultural resources
17	Minimize short- and long-term impacts to property, property access, and on-street parking
18	Maximize cohesion, preservation, and enhancement of Bottineau Transitway communities
19	Maximize pedestrian and bicycle connections to the Bottineau Transitway
20	Maximize health, environmental, and economic benefits to the Bottineau Transitway communities
21	Minimize disproportionately high and adverse impacts on the region's minority and/or low-income communities
22	Minimize area traffic impacts

11.2 Alternative Key Differentiators

The discussion below describes the No-Build, Enhanced Bus/TSM, and Build alternatives and summarizes the differentiating adverse impacts and benefits of each, according to the disciplines addressed in the Draft EIS and the project purpose and need. While the Draft EIS as a whole presents a comprehensive discussion of each discipline, the discussion here focuses on the impacts and benefits that best distinguish the alternatives from each other. This information is summarized in [Table 11.2-1](#), which shows a subset of the full set of measures used in the comprehensive analysis conducted as part of the EIS process. The measures in this table are considered key differentiators among alternatives. Based on the information in [Table 11.2-1](#) and the analysis of each alternative, each alternative was rated on how well it performs with respect to purpose and need and project goals, adverse impacts, benefits, and overall performance. One of three ratings was assigned:

- Good: Good performance against goals and objectives and/or minor adverse impacts
- Fair: Fair performance against goals and objectives and/or moderate adverse impacts
- Poor: Poor performance against goals and objectives and/or severe adverse impacts.

Summary rating results are shown in [Table 11.2-2](#). If a “poor” rating is assigned to any of the first three categories (purpose and need, adverse impacts, benefits), then the overall performance is automatically rated as “poor.” In other words, a “poor” rating in one area cannot be overcome by “fair” or “good” performance in other areas with respect to the overall rating.

Table 11.2-1. Bottineau Transitway Key Differentiators Evaluation Summary¹

Draft EIS Section	Topic	Goal ²	Objective	Measure	No-Build	Enhanced Bus/TSM	LRT A-C-D1	LRT A-C-D2	LRT B-C-D1 (Preferred Alternative)	LRT B-C-D2
3.1	Transit Conditions	1	1. Maximize total transit riders	Average weekday project boardings	N/A	18,300 (Route 731/732)	27,600	27,200	27,000	26,000
3.1	Transit Conditions	2	6. Maximize new transit riders	New transit riders (compared to No-Build)	N/A	7,350	15,750 ³	15,150 ³	14,500	13,800
3.1	Transit Conditions	2	8. Maximize travel time savings	Transportation system daily user benefit hours	N/A	N/A	9,460 (compared to TSM)	9,000 (compared to TSM)	8,520 (compared to TSM)	7,940 (compared to TSM)
3.1	Transit Conditions	2	8. Maximize travel time savings	End-to-end travel time (southern terminus at 5th and Marquette/Nicollet)	N/A	48:44/50:50 (Route 731/732)	29:20	33:19	32:47	36:46
3.5	Parking	5	17. Minimize short- and long-term impacts to on-street parking	Loss of on-street parking	0	0	0	270 spaces	0	270 spaces
4.3	Displacement of Residents and Businesses	5	17. Minimize short- and long-term impacts to property, property access	Right-of-way acquisition through full takes (parcels (acres))	0	0	17 (7.0)	142 (26.7)	18 (8.3)	143 (28.0)
4.3	Displacement of Residents and Businesses	5	17. Minimize short- and long-term impacts to property, property access	Right-of-way acquisition through partial takes (parcels (acres))	0	0	28-30 (13.9-14.3)	50 (15.8)	55-57 (8.5-8.9)	77 (10.4)
4.4	Cultural Resources ⁴	5	16. Minimize impacts to the natural and built environment	Impacts on historic and cultural resources	None	None	0 adverse 14 potential adverse	1 adverse 19 potential adverse	0 adverse 14 potential adverse	1 adverse 19 potential adverse
4.5	Visual/Aesthetics	5	16. Minimize impacts to the natural and built environment	Impacts on visual resources	None	Minimal	Moderate	High	Moderate	High
4.6	Business Impacts	5	17. Minimize short- and long-term impacts to property, property access	Loss of street access directly in front of property	None	Limited (from park-and-ride)	Limited; some construction impacts	Greater impacts (right-of-way, parking loss); construction impacts	Limited; some construction impacts	Greater impacts (right-of-way, parking loss); construction impacts
5.2 5.3	Floodplains Wetlands	5	16. Minimize impacts to the natural and built environment	Impacts on wetlands, water, and floodplains	None	None	Wetland fill: 8.6 acres Floodplain fill: 17,250 cubic yards	Wetland fill: 3.2 acres Floodplain fill: 6,250 cubic yards	Wetland fill: 9.4 to 10.2 acres Floodplain fill: 18,700 cubic yards	Wetland fill: 4.0 to 4.8 acres Floodplain fill: 7,700 cubic yards
5.6	Noise ⁵	5	16. Minimize impacts to the natural and built environment	Mitigated Noise Impacts (# of receptors)	No significant impacts	No significant impacts	<u>Moderate Impacts</u> Alignment A: 5-10 Alignment C: 350-355 Alignment D1: 25-35 D Common: 15-20 <u>Severe Impacts</u> Alignment A: 0 Alignment C: 15-20 Alignment D1: 0-5	<u>Moderate Impacts</u> Alignment A: 5-10 Alignment C: 350-355 Alignment D2: 305-310 D Common: 15-20 <u>Severe Impacts</u> Alignment A: 0 Alignment C: 15-20 Alignment D2: 5-10	<u>Moderate Impacts</u> Alignment B: 55-60 Alignment C: 350-355 Alignment D1: 25-35 D Common: 15-20 <u>Severe Impacts</u> Alignment B: 5-10 Alignment C: 15-20 Alignment D1: 0-5	<u>Moderate Impacts</u> Alignment B: 55-60 Alignment C: 350-355 Alignment D2: 305-310 D Common: 15-20 <u>Severe Impacts</u> Alignment B: 5-10 Alignment C: 15-20 Alignment D2: 5-10
7.6	Environmental Justice	5	21. Minimize disproportionately high and adverse impacts on the region's minority and/or low-income communities		None	None	No disproportionately high or adverse impacts	Potentially high or disproportionate impacts (ped/bike, parking, community facilities, displacements, visual)	No disproportionately high or adverse impacts	Potentially high or disproportionate impacts (ped/bike, parking, community facilities, displacements, visual)

Draft EIS Section	Topic	Goal ²	Objective	Measure	No-Build	Enhanced Bus/TSM	LRT A-C-D1	LRT A-C-D2	LRT B-C-D1 (Preferred Alternative)	LRT B-C-D2
10.1	Financial Considerations (Capital Costs)	3	10. Minimize project capital and operating cost	Project capital cost (\$2017)	N/A	N/A	\$1,002 million ⁶	\$1,124 million ⁵	\$1,002 million	\$1,118 million

¹ The performance measures in this table are a subset of the full set of measures used in the comprehensive analysis conducted as part of the EIS process. The measures here are considered key differentiators among the alternatives.

² No objectives under Goal 4 (Promote Sustainable Development Patterns) were identified as key differentiators

³ Maple Grove Transit currently provides excellent transit service to its commuter express market. There is some uncertainty as to whether or not commuter express riders would chose to move from express bus service to LRT service.

⁴ Following the provisions of the Section 106 review process, ways to avoid, minimize, and mitigate adverse effects to historic properties will continue to be explored through consultation with the SHPO, Section 106 consulting parties, other interested parties, and the public. The Advisory Council on Historic Preservation (ACHP) may also join in this consultation. Measures for avoidance, minimization, and mitigation will be stipulated in a Section 106 Agreement signed by the FTA, the SHPO, the ACHP (if participating), and other consulting parties. FTA will execute a Section 106 agreement prior to the Final EIS/Record of Decision (ROD). The project will be implemented in accordance with the stipulations in the Section 106 agreement.

⁵ Noise mitigation is considered depending on the need, feasibility, reasonableness, and effectiveness of potential options. The FTA states that in considering potential noise impact, severe impacts should be mitigated if at all practical and effective. At the moderate level, more discretion should be used, and other project specific factors should be included in considering the need for mitigation. These factors include the existing noise level, predicted increase over the existing noise levels, the types and number of noise sensitive land uses affected, the noise sensitivity of the properties, the acoustic effectiveness of mitigation options, and the cost effectiveness of mitigation the noise.

⁶ The capital cost estimates for Alignment A assume significant cooperation from current landowners to prepare the corridor for transit service. Alignment A requires construction of a new roadway, Arbor Lakes Parkway, separate from the transitway project and through the gravel mining area in Maple Grove, in a way that would accommodate LRT and provide access to the future development.

Table 11.2-2. Summary Performance Ratings of Alternatives

Performance Category	No-Build	Enhanced Bus/TSM	LRT A-C-D1	LRT A-C-D2	LRT B-C-D1 (Preferred Alternative)	LRT B-C-D2
Purpose and Need	●	●	●	●	○	●
<i>Goal 1: Enhance Access to Regional Activity Centers</i>	●	●	○	○	○	○
<i>Goal 2: Enhance the Effectiveness of Transit Service within the Corridor</i>	●	●	●	●	○	●
<i>Goal 3: Provide a Cost-effective and Financially Feasible Transit System</i>	●	●	●	●	○	●
<i>Goal 4: Promote Sustainable Development Patterns</i>	●	●	○	○	○	○
<i>Goal 5: Support Healthy Communities and Sound Environmental Practices</i>	○	○	●	●	●	●
Adverse Impacts	○	○	●	●	●	●
Benefits	●	●	○	○	○	●
Overall Performance¹	●	●	●	●	○	●

RATINGS KEY:

- Good Performance and/or Minor Adverse Impacts
- Fair Performance and/or Moderate Adverse Impacts
- Poor Performance and/or Severe Adverse Impacts

1. Note: If a “poor” rating is assigned to any of the first three categories (purpose and need, adverse impacts, benefits), then the overall performance is automatically rated as “poor.” In other words, a “poor” rating in one area cannot be overcome by “fair” or “good” performance in other areas with respect to the overall rating.

11.2.1 No-Build Alternative

The No-Build alternative reflects existing and committed improvements to the regional transit network for the horizon year of 2030. Primary among these are the other regional transitway projects (Green Line LRT, Red and Orange Line BRT) and associated bus service changes in these corridors. The full list of projects is described in Chapter 2 Alternatives. The purpose of the No-Build alternative is to provide a benchmark against which project Build alternatives can be compared.

Relation to Purpose and Need/Goals and Objectives

The No-Build alternative would not meet the purpose and need for the project. It would not effectively address the long-term regional transit mobility and local accessibility needs, nor would it provide efficient, travel-time competitive transit service to support the land use and economic development goals of local, regional, and statewide plans. While it meets some individual project objectives, the No-Build alternative would not satisfy four of the five project goals.

Summary of Differentiating Impacts and Benefits

The No-Build alternative has only minor adverse impacts related to the committed improvements included in it. However, the No-Build alternative does not provide measurable transportation benefits compared to existing conditions nor does it address the Bottineau Transitway transportation goals and objectives.

Performance Summary

The overall performance of the No-Build alternative is poor. It does not meet the project purpose and need.

11.2.2 Enhanced Bus/TSM Alternative

The Enhanced Bus/TSM alternative is defined as enhancements and upgrades to the existing transportation system in the corridor. It represents an attempt to meet the project's purpose and need as much as possible without a major transit capital investment. It includes service improvements intended to provide transit service comparable to the Build alternatives without the significant capital investment of building a transitway. It includes adding a proposed park-and-ride facility on West Broadway near TH 610, new limited stop bus routes, and increased service on existing routes.

Relation to Purpose and Need/Goals and Objectives

The Enhanced Bus/TSM alternative would not meet the project purpose and need. While the Enhanced Bus/TSM alternative provides additional transit service, it does not meet the project goals of enhancing access to regional activity centers, enhancing the effectiveness of transit services within the corridor, or promoting sustainable development patterns.

Summary of Differentiating Impacts and Benefits

The Enhanced Bus/TSM alternative has only minor adverse impacts resulting from the new park-and-ride and additional bus routes and service that make up the alternative.

The Enhanced Bus/TSM alternative provides poor to fair transportation performance:

- Transit Ridership: 18,300 total weekday boardings (Route 731/732) and 7,350 new transit riders compared to the No-Build
- Travel Time: Estimated end-to-end travel time of 48-50 minutes

While the alternative would generate new riders, its travel time performance is poor, given that service would be provided by buses operating in mixed-traffic. Therefore, this alternative does not support Bottineau Transitway Goal 1 (Enhance Regional Access to Activity Centers), Goal 2 (Enhance the

Effectiveness of Transit Service within the Corridor), or Goal 4 (Promote Sustainable Development Patterns).

Performance Summary

The overall performance of the Enhanced Bus/TSM alternative is poor. While the alternative has only minor adverse impacts, it provides relatively little benefit and does not meet the project purpose and need. For these reasons, the Enhanced Bus/TSM alternative is not recommended as the environmentally preferred alternative for the Bottineau Transitway.

11.2.3 Alternative A-C-D1

Alternative A-C-D1 would provide LRT service between Maple Grove and Minneapolis via the future Arbor Lakes Parkway, Brooklyn Boulevard, the BNSF railroad, and TH 55.

Relation to Purpose and Need/Goals and Objectives

The assessment of Alternative A-C-D1 against the five project goals results in a fair performance rating. The justification for this rating is provided in the discussion below.

Summary of Differentiating Impacts and Benefits

Alternative A-C-D1 has moderate impacts. Key differentiators are as follows:

- Wetlands and Floodplains: Alternative A-C-D1 has impacts on wetlands (8.6 acres) and floodplains (17,250 cubic yards).
- Cultural Resources: Alternative A-C-D1 has no determined adverse effect on historic resources and potential adverse effect on 14 resources.
- Environmental Justice: Alternative A-C-D1 has no disproportionately high or adverse impacts on environmental justice communities.

The relative lack of adverse physical impacts of Alternative A-C-D1 is due partly to the location of a portion of the alternative in the BNSF railroad corridor or on roadway right-of-way. The railroad corridor is either below the street grade or is at grade with limited street crossings and is physically separated from the street network and most development, which helps minimize adverse physical impacts.

Despite the relative lack of adverse physical impacts, several factors place Alternative A-C-D1 at a distinct disadvantage from a cost and implementation perspective. The northern segment of Alternative A-C-D1 is located in an area of the city of Maple Grove that is currently in use for gravel mining. While the area is zoned for future mixed-use development, there is no timeline established for this land use transition to occur. The capital cost estimate for Alternative A-C-D1 assumes significant cooperation in this location and elsewhere in the corridor from private landowners to transition the corridor from industrial (mining) operations to transit services. In addition, construction of the northern segment of Alternative A-C-D1 requires construction of a new roadway (Arbor Lakes Parkway), separate from the transitway project, to accommodate LRT and provide access to future development. These factors in combination are substantial disadvantages with respect to timely implementation of Alternative A-C-D1 and realization of anticipated land use, economic development, and ridership benefits. Of the adverse impacts of Alternative A-C-D1, these are the most substantial and support the poor performance rating with respect to adverse impacts.

Alternative A-C-D1 would deliver moderate transportation benefits:

- Transit Ridership: 27,600 total weekday project boardings and 15,750 new transit riders compared to the No-Build

- User Benefit: 9,460 daily user benefit hours
- Travel Time: Estimated end-to-end travel time of 29:20

While Alternative A-C-D1 would have generally good transportation performance, there is uncertainty as to whether or not existing commuter express riders would choose to move from the current Maple Grove express bus service to LRT service, given the high quality of that current service. If this were the case, not all of the ridership benefits might be realized.

Performance Summary

Alternative A-C-D1 would deliver a fair performance overall. Despite its good performance in most benefit areas and relatively minor adverse physical impacts, construction of the north end of the alternative in Maple Grove could be delayed or made more expensive, as much of the adjacent land is in active use for gravel mining. Infrastructure and land use development investments (including the future Arbor Lakes Parkway and land use development around station areas) outside of the transitway project are required for implementation of the transitway. This also puts Alternative A-C-D1 at a disadvantage with respect to short-term economic development benefit. These factors, combined with the availability of an alternative with similar levels of benefit without such short-term implementation challenges, are the reasons why Alternative A-C-D1 is not recommended as the environmentally preferred alternative for the Bottineau Transitway.

11.2.4 Alternative A-C-D2

Alternative A-C-D2 would provide LRT service between Maple Grove and Minneapolis via the future Arbor Lakes Parkway, Brooklyn Boulevard, the BNSF railroad, West Broadway Avenue, Penn Avenue, and TH 55.

Relation to Purpose and Need/Goals and Objectives

The assessment of Alternative A-C-D2 against the five project goals results in a poor performance rating. The justification for this rating is provided in the discussion below. The alternative satisfies four of the five goals of the transitway project. Because of its degree of adverse impact on neighboring properties along the D2 alignment in north Minneapolis, Alternative A-C-D2 does not meet project Goal 5 (Support Healthy Communities and Sound Environmental Practices).

Summary of Differentiating Impacts and Benefits

There is a wide range of adverse impacts associated with Alternative A-C-D2, with many of them occurring in the Penn/Broadway Avenue portion. Impacts include:

- Wetlands and Floodplains: Alternative A-C-D2 has impacts on wetlands (3.2 acres) and floodplains (6,250 cubic yards)
- Property impacts: Alternative A-C-D2 would require the full acquisition of 143 parcels and partial acquisition of 50 additional parcels, most of them on Penn Avenue where a row of houses would need to be acquired for about one mile of residential frontage.
- Noise: The alternative would have greater noise impacts (following mitigation) than the Build alternatives that include the D1 alignment, with moderate noise impacts to over 300 receptors in the D2 alignment.
- Visual: The alternative would result in high visual impact.
- Cultural Resources: Alternative A-C-D2 has a determined adverse effect on one historic resource and potential adverse effect on an additional 19 resources.

- **Parking:** There would be an estimated loss of 270 on street parking spaces.
- **Access impacts:** The alternative would result in loss of street access to business and residential properties.
- **Lack of public support:** The possibility of constructing LRT on Penn/Broadway Avenues has been a major concern to area residents and other stakeholders.
- **Environmental Justice:** The alternative also has the potential for disproportionately high and adverse impacts on minority and/or low-income communities in relation to the following resources: bicycle/pedestrian facilities, parking, community facilities, residential and business displacements, and visual resources.

At its north end, Alternative A-C-D2 has distinct disadvantages with respect to cost and implementation. The northern segment of Alternative A-C-D2 is located in an area of the city of Maple Grove that is currently in use for gravel mining. While the area is zoned for future mixed-use development, there is no timeline established for this land use transition to occur. The capital cost estimate for Alternative A-C-D2 assumes significant cooperation in this location and elsewhere from private landowners to transition the corridor from industrial (mining) operations to transit services. In addition, construction of the northern segment of Alternative A-C-D2 requires construction of a new roadway (Arbor Lakes Parkway), separate from the transitway project, to accommodate LRT and provide access to future development. These factors in combination are substantial disadvantages with respect to timely implementation of Alternative A-C-D2 and realization of anticipated economic development and ridership benefits.

Given the adverse impacts described above, Alternative A-C-D2 does not meet project Goal 5 (Support Healthy Communities and Sound Environmental Practices).

Alternative A-C-D2 delivers good performance with respect to transportation benefits. Key differentiating benefits are summarized as follows:

- **Transit Ridership:** 27,200 total weekday project boardings and 15,150 new transit riders compared to the No-Build
- **User Benefit:** 9,000 daily user benefit hours
- **Travel Time:** Estimated end-to-end travel time of 33:19

While Alternative A-C-D2 would have generally good transportation performance, there is uncertainty as to whether or not existing commuter express riders would choose to move from the current Maple Grove express bus service to LRT service, given the high quality of that current service. If this were the case, not all of the ridership benefits might be realized.

The southern part of Alternative A-C-D2 (Alignment D2) would run on Penn Avenue in north Minneapolis. This has advantages related to the transit-oriented nature of the existing development patterns and the proximity of the alignment to dense urban neighborhoods. This results in strong potential for transit-oriented development and multimodal connections via the existing street grid and sidewalk system.

Performance Summary

Alternative A-C-D2 would deliver poor performance overall due to the severe adverse impacts it would have on properties and communities in north Minneapolis. While Alternative A-C-D2 has good transportation benefits, the adverse physical and community impacts described above demonstrate that it does not meet Goal 5 (Support Healthy Communities and Sound Environmental Practices). For these reasons, it is not recommended as the environmentally preferred alternative for the Bottineau Transitway.

11.2.5 Alternative B-C-D1 (Preferred Alternative)

Alternative B-C-D1 would provide LRT service between Brooklyn Park and Minneapolis via West Broadway (in Brooklyn Park), the BNSF railroad, and TH 55. Alternative B-C-D1 has been adopted by the Metropolitan Council as the Locally Preferred Alternative (LPA) in the *TPP* as the culmination of the Bottineau Transitway Alternatives Analysis process.

Relation to Purpose and Need/Goals and Objectives

Alternative B-C-D1 meets the project purpose and need in that it would effectively address long-term regional transit mobility and local accessibility needs while providing efficient, travel-time competitive transit service that supports the economic development goals of local, regional, and statewide plans. The alternative satisfies all five of the goals of the transitway project and receives a good performance rating.

Summary of Differentiating Impacts and Benefits

Alternative B-C-D1 has moderate impacts. Key differentiators are as follows:

- Wetlands and Floodplains: Alternative B-C-D1 has impacts on wetlands (9.4-10.2 acres) and floodplains (18,700 cubic yards).
- Cultural Resources: Alternative B-C-D1 has no determined adverse effect on historic resources and potential adverse effect on 14 resources.
- Environmental Justice: Alternative B-C-D1 has no disproportionately high or adverse impacts on environmental justice communities.

The relatively minor adverse physical impacts of Alternative B-C-D1 are largely due to the location of a portion of the alternative in the BNSF railroad corridor or on roadway right-of-way. The railroad corridor is either below the street grade or is at grade with limited street crossings and is physically separated from the street network and most development, which helps minimize adverse physical impacts.

Alternative B-C-D1 delivers good performance with respect to transportation benefits:

- Transit Ridership: 27,000 total weekday project boardings and 14,500 new transit riders compared to the No-Build
- User Benefit: 8,520 daily user benefit hours
- Travel Time: Estimated end-to-end travel time of 32:47

Alternative B-C-D1 stands out for its existing and near-term development potential at the north end, in Brooklyn Park (Alignment B). Here, the active expansion of the Target North Campus near the Oak Grove Parkway Station is expected to serve as a major anchor for near-term and future development. Target Corporation is currently building out 650,000 square feet of space, anticipated to include 3,900 employees over the next two years. The City of Brooklyn Park's transportation plan assumes development of an additional 1,600 acres of undeveloped property by 2030. While the timing of such development is uncertain, the immediate availability of undeveloped land provides opportunity for new development and transit-oriented development in the future.

Performance Summary

Overall, Alternative B-C-D1 would deliver good performance. This is due to its relatively minor adverse impacts and its strong benefits.

Alternative B-C-D1 is recommended as the environmentally preferred alternative based on its strong transportation benefits, its land use and short-term economic development potential at the north end (Brooklyn Park), its ability to be implemented, and its relatively moderate adverse impacts.

11.2.6 Alternative B-C-D2

Alternative B-C-D2 would provide LRT service between Brooklyn Park and Minneapolis via West Broadway (in Brooklyn Park), the BNSF railroad, West Broadway Avenue/Penn Avenue, and TH 55.

Relation to Purpose and Need/Goals and Objectives

The assessment of Alternative B-C-D2 against the five project goals results in a poor performance rating. The justification for this rating is provided in the discussion below. The alternative satisfies four of the five project goals. Because of its degree of adverse impact on neighboring properties on the D2 alignment, Alternative B-C-D2 does not meet project Goal 5 (Support Healthy Communities and Sound Environmental Practices).

Summary of Differentiating Impacts and Benefits

There are a wide range of adverse impacts associated with the Penn/Broadway Avenue portion of Alternative B-C-D2, primarily resulting from the physical impact and placement of the alternative. Adverse impacts include:

- Wetlands and Floodplains: Alternative B-C-D2 has impacts on wetlands (4.0-4.8 acres) and floodplains (7,700 cubic yards)
- Property impacts: Alternative B-C-D2 would require the full acquisition of 144 parcels and partial acquisition of 77 additional parcels, most of them on Penn Avenue where a row of houses would need to be acquired for about one mile of residential frontage.
- Noise: The alternative would have greater noise impacts (following mitigation) than the Build alternatives that include the D1 alignment, with moderate noise impacts to over 300 receptors in the D2 alignment.
- Visual: The alternative would result in high visual impact.
- Cultural Resources: Alternative B-C-D2 has a determined adverse effect on one historic resource and potential adverse effect on an additional 19 resources.
- Parking: There would be an estimated loss of 270 on-street parking spaces.
- Access impacts: The alternative would result in loss of street access to business and residential properties.
- Lack of public support: The possibility of constructing LRT on Penn/Broadway Avenues has been a major concern to area residents and other stakeholders.
- Environmental Justice: The alternative also has the potential for disproportionately high and adverse impacts on minority and/or low-income communities in relation to the following resources: bicycle/pedestrian facilities, parking, community facilities, residential and business displacements, and visual resources.

The adverse physical and community impacts described above demonstrate that Alternative B-C-D2 does not meet Goal 5 (Support Healthy Communities and Sound Environmental Practices).

Alternative B-C-D2 delivers fair performance with respect to transportation benefits (ridership, travel time, user benefit hours), summarized as follows:

- Transit Ridership: 26,000 total weekday project boardings and 13,800 new transit riders compared to the No-Build
- User Benefit: 7,940 daily user benefit hours
- Travel Time: Estimated end-to-end travel time of 36:46

Alternative B-C-D2 stands out for its existing and near-term development potential at the north end, in Brooklyn Park (Alignment B). In this location, the anticipated expansion of the Target North Campus near the Oak Grove Parkway Station would serve as a major anchor for near-term and future development. Target Corporation is currently building out 650,000 square feet of space, anticipated to include 3,900 employees over the next two years. The City of Brooklyn Park's transportation plan assumes development of an additional 1,600 acres of undeveloped property by 2030. While the timing of such development is uncertain, the immediate availability of undeveloped land provides opportunity for new development and transit-oriented development in the future.

The southern part of Alternative B-C-D2 (Alignment D2) would run on Penn Avenue in north Minneapolis. This has advantages related to the transit-oriented nature of the existing development patterns and the proximity of the alignment to dense urban neighborhoods. This results in strong potential for transit-oriented development and multimodal connections via the existing street grid and sidewalk system.

Performance Summary

Alternative B-C-D2 would deliver poor performance overall due to the severe adverse impacts it would have on properties in north Minneapolis combined with only fair transportation performance. For these reasons, this alternative is not the environmentally preferred alternative for the Bottineau Transitway.

11.3 Environmentally Preferred Alternative

11.3.1 Balancing Benefits and Impacts

The Draft EIS has described the transportation, economic, community, and environmental impacts associated with the construction and operation of the Bottineau Transitway Project. The effects of the No-Build, Enhanced Bus/TSM, and Build alternatives have been evaluated across a range of subject areas related to the built and natural environment.

As described in this chapter, Alternative B-C-D1 meets the purpose and need of the Bottineau Transitway project and is the environmentally preferred alternative because it will cause the least damage to the biological and physical environment and it best protects, preserves, and enhances historic, cultural, and natural resources.

Identifying the environmentally preferred alternative included extensive public and stakeholder outreach in addition to technical analysis of issues identified during NEPA Scoping. The identification process considered the transitway alternatives in their component pieces (Alignments A, B, C, D1, and D2). Ultimately, the adverse physical and community impacts of Alignment D2 (LRT on Penn/Broadway Avenues) resulted in a decision not to advance Alternatives A-C-D2 and B-C-D2 in the process. The remaining decision, between Alternatives A-C-D1 and B-C-D1, focused on the differentiators between Alignment A (Maple Grove) and Alignment B (Brooklyn Park). Alignment B is the environmentally preferred alternative because it would provide transit service to the large existing and future populations of people in households with low incomes, provide transit service to many activities at North Hennepin Community College and the new Hennepin County library, provide transit access to more jobs than Alignment A, and does not have the same potential short-term implementation challenges experienced with Alignment A.

Specifically, under Alignment A construction could be delayed or made more expensive as much of the adjacent land is in active use for gravel mining. While the area is zoned for future mixed-use development, there is no timeline established for this land use transition to occur. Infrastructure and land use development investments (including the future Arbor Lakes Parkway and land use development around station areas) outside of the transitway project are required for implementation of the transitway.

The United States Army Corps of Engineers (USACE) has its own process for determining the Least Environmentally Damaging Preferred Alternative (LEDPA). In a letter dated June 19, 2013, the USACE issued concurrence on the purpose and need and array of alternatives considered for the Bottineau Transitway Project, as well as the alternatives evaluated in this Draft EIS (Concurrence Points #1 and #2 under the NEPA/404 merger process). In a letter dated October 1, 2013, USACE issued concurrence on the identification of the selected alternative (Concurrence Point #3) (see [Appendix D](#)).

Throughout the development of the environmentally preferred alternative, Hennepin County Regional Railroad Authority (HCRRA), in cooperation with the Metropolitan Council, the affected communities, and the public, has refined the design and alignment, where feasible, to avoid, minimize, or mitigate adverse effects. However, some adverse effects cannot be overcome due to the design and safety standards that must be met for the project; the developed character of the communities the Bottineau Transitway is intended to serve; and the need to design the project to be compatible with future operations of other transportation facilities in the corridor. Consequently, the environmentally preferred alternative involves recognizing and understanding that there are trade-offs between the benefits and the effects of the Bottineau Transitway.

Where adverse effects of the environmentally preferred alternative remain, FTA, HCRRA, and the Metropolitan Council have identified mitigation measures intended to offset remaining effects to the natural and human environment. Mitigation measures are described in this Draft EIS and will be finalized in the Final EIS/Record of Decision (ROD).

11.4 Next Steps

The Draft EIS will be distributed to appropriate local, regional, state, and federal agencies as well as the public for their review and comment. Public comment on the Draft EIS will be considered and addressed in the combined Final EIS/ROD.

Local elected officials and the public have been and will continue to be involved in the project throughout design and construction through public meetings, advisory committee and stakeholder meetings, and individual briefings.