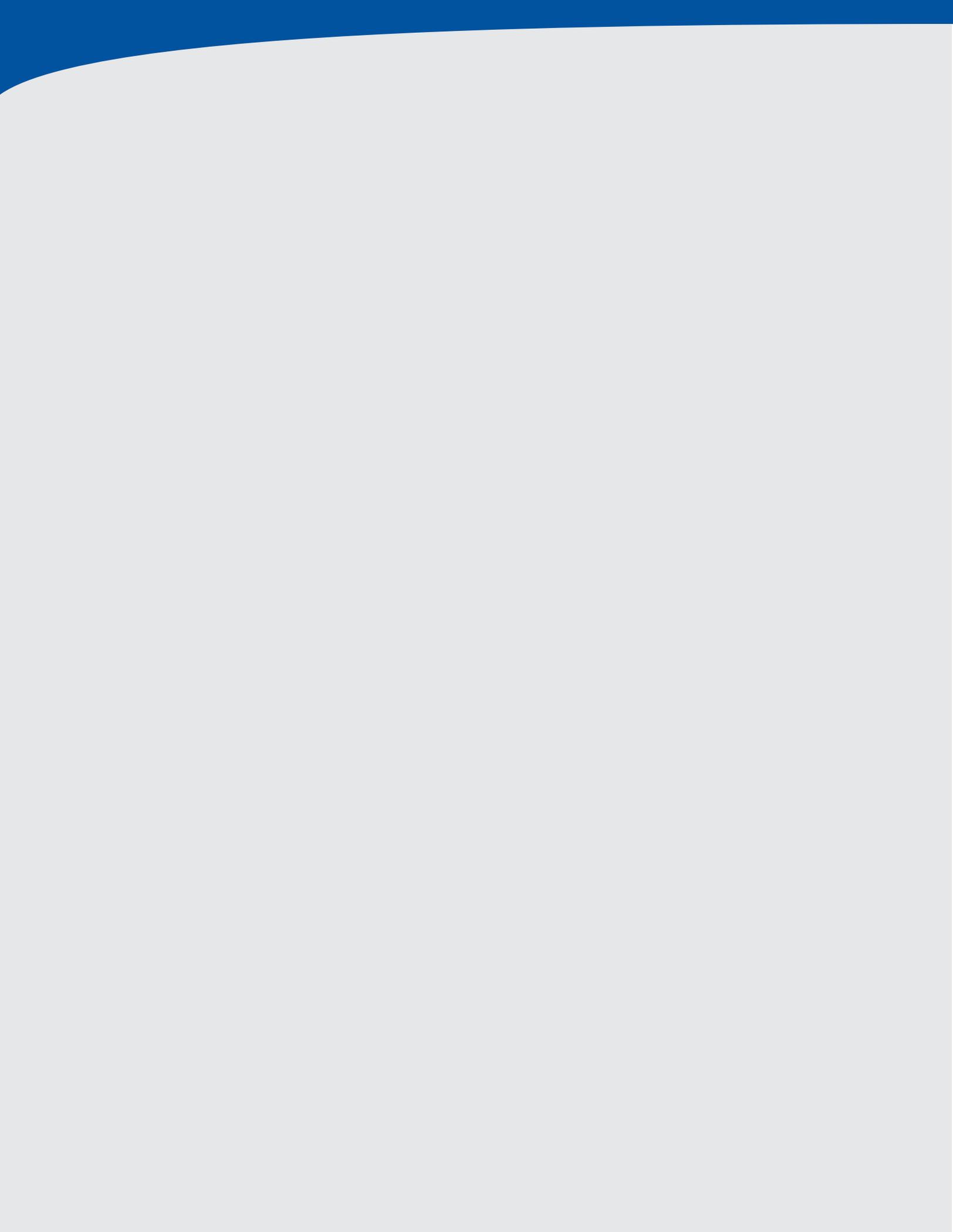


**Bottineau** Transitway

# Alternatives Analysis Summary Report



**Hennepin County**  
Regional Railroad Authority  
Minnesota



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# INTRODUCTION

## WHAT IS THE PURPOSE OF THIS REPORT?

This report summarizes the Alternatives Analysis (AA) evaluation process and recommendations for the Bottineau Transitway. The report describes which transit modes, facilities, and alignments were studied and why decisions were made to discontinue study of some alternatives and recommend further study of others. It also describes the major steps in the decision process and who was involved.

**This report describes the steps leading to the selection of a Locally Preferred Alternative (LPA) for the Bottineau Transitway. The LPA is the transitway alternative that the corridor's cities, Hennepin County, and the Metropolitan Council recommend for construction.**

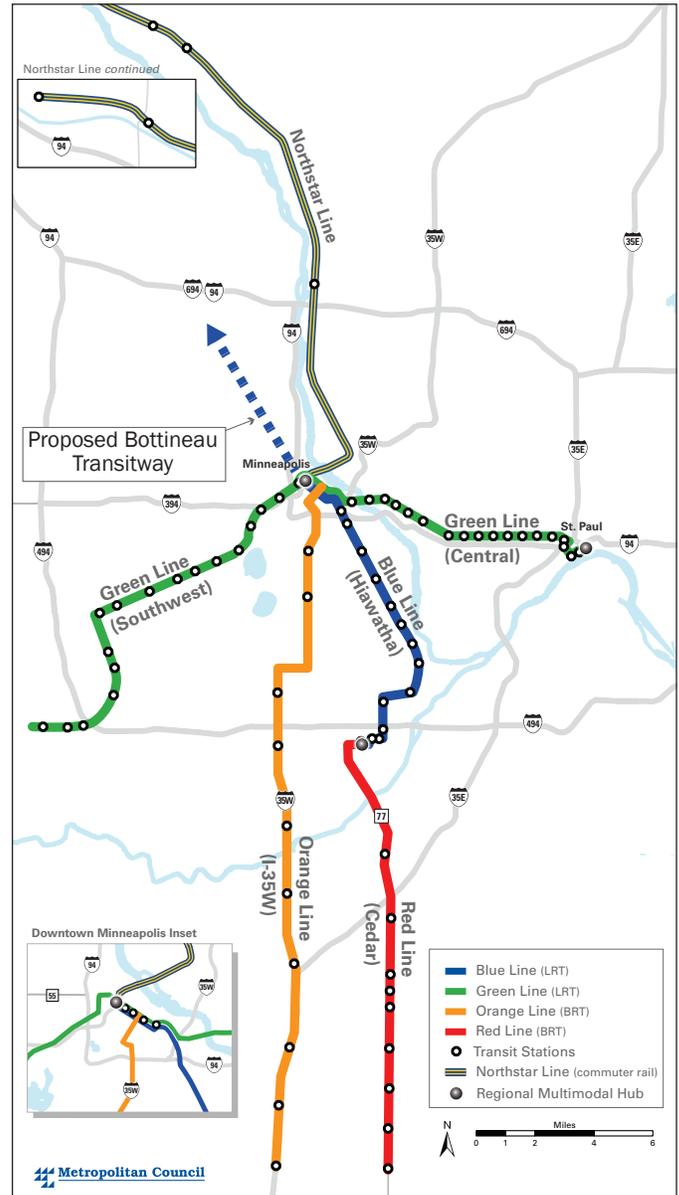
**The LPA responds to the five needs that prompted study of the Bottineau Transitway: growing travel demand, increasing traffic congestion, people who depend on transit, limited transit service and reverse commute opportunities, and regional growth objectives.**

## WHAT IS THE BOTTINEAU TRANSITWAY?

The Bottineau Transitway is a proposed project that will provide for transit improvements in the highly traveled northwest area of the Twin Cities. The Bottineau Transitway is located in Hennepin County, Minnesota, extending approximately 13 miles from downtown Minneapolis to the northwest serving North Minneapolis and the suburbs of Golden Valley, Robbinsdale, Crystal, Brooklyn Park, and Maple Grove. The transitway investment is anticipated to serve a broader area to the northwest, including the communities of Dayton, Rogers, and Hassan Township. (Hassan Township was annexed into the City of Rogers on January 1, 2012. Future reference to Rogers in this document includes Hassan Township.)

The Bottineau Transitway will connect North Minneapolis and the region's northwest suburbs with the region's system of transitways that consist of light rail

FIGURE 1: TWIN CITIES REGIONAL TRANSITWAY SYSTEM



transit (LRT) on the Blue Line (Hiawatha) and Green Line (Central Corridor and the planned Southwest line), bus rapid transit (BRT) on the Red Line (Cedar Avenue) and Orange Line (I-35W South), the Northstar commuter rail, and express bus routes (Figure 1). The Bottineau Transitway also will maintain or enhance local and express bus service throughout the corridor.

Transportation and land use studies along the Bottineau Corridor began in 1988 with the *Hennepin County Comprehensive LRT System Plan*. The Bottineau (Northwest) Transitway has consistently been included

in regional transportation system plans. In 2008, the Bottineau corridor was one of 29 corridors analyzed for their potential for commuter rail or LRT/BRT investments in the Metropolitan Council's *Transit Master Study*. The study concluded that the Bottineau corridor should continue to be advanced toward implementation. This conclusion is reflected in the region's current long-range transportation plan, the *2030 Transportation Policy Plan* (adopted in 2010), which identifies the Bottineau Transitway as one of the transit corridors to be developed by 2030 as LRT, Busway, Highway BRT, or Commuter Rail.

### WHAT IS AN ALTERNATIVES ANALYSIS?

An AA is a federal process for the local evaluation of the costs, benefits, and impacts of transit alternatives designed to address mobility problems and other locally-identified objectives in a transportation corridor. It is used to identify the investment strategy to be advanced for more focused study and development. For AA studies which may result in the local selection of a project eligible for Federal Transit Administration (FTA) New Starts or Small Starts funding, the AA further serves as the process for developing the technical information necessary to support a project's entry into New Starts preliminary engineering. The AA process concludes with the selection of a locally preferred alternative (LPA) that is amended into the regional long range plan.

### WHAT IS A LOCALLY PREFERRED ALTERNATIVE?

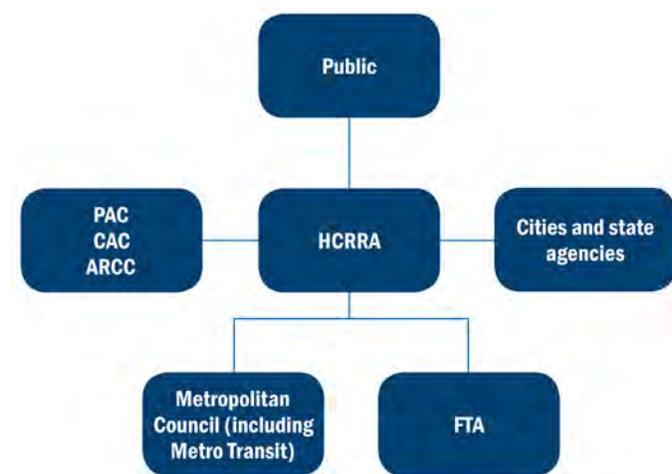
The LPA is the transitway alternative that the corridor's cities, counties, and the Metropolitan Council recommend for construction. The LPA specifies both the type of transit that will be used (mode) and the location (alignment). Other elements of the project, including termini and final station locations, are established formally during subsequent engineering based on additional information, including opening year travel demand forecasts. The selection of an LPA tells the FTA which alternative local agencies expect to be the most competitive in achieving support at the local, regional, and federal levels. Identification of an LPA is a critical step to pursue federal funding. The selection of an LPA for the Bottineau Transitway and amendment of it into the region's long-range transportation plan marks the end of the AA process. Concluding the AA process allows the project to pursue federal funding under the federal SAFETEA-LU transportation program. It is expected that the region will pursue federal funding for

the Bottineau Transitway through the FTA New Starts program.

### WHO PARTICIPATED IN THE LPA SELECTION PROCESS?

The Hennepin County Regional Railroad Authority (HCRRRA), in consultation with the Metropolitan Council and the FTA, is serving as the local lead agency for the Bottineau Transitway AA. Throughout the AA process, there has been active engagement with the public and project advisory committees. Some of the most active local agency partners participate on the project committees described below (Figure 2).

FIGURE 2: AA STUDY PARTNERS



- **Advise, Review, and Communicate Committee (ARCC):** ARCC members are technical staff from agencies convened to advise on project development. The ARCC provides advice regarding local governmental perspectives, issues of concern, technical methodologies, and study process details. The ARCC is comprised of staff from Hennepin County, the cities of Brooklyn Park, Crystal, Golden Valley, New Hope, Maple Grove, Minneapolis, Osseo, and Robbinsdale; Maple Grove Transit; the



Metropolitan Council, Metro Transit, MnDOT; the Minneapolis Park and Recreation Board; and project consultants.

- **Community Advisory Committee (CAC):** Members represent communities, businesses, and institutions in the Bottineau Transitway study area. CAC members provide a conduit for integrating the values and perspectives of citizens, communities, businesses and institutions into the study process.
- **Policy Advisory Committee (PAC):** PAC members are elected officials, key policy leaders for participating agencies, business leaders, and institutional leaders, convened to review project development progress and advise progress toward identifying an LPA.

Members of the public participated through attendance at public meetings and hearings at several points during the process as discussed later in this report.

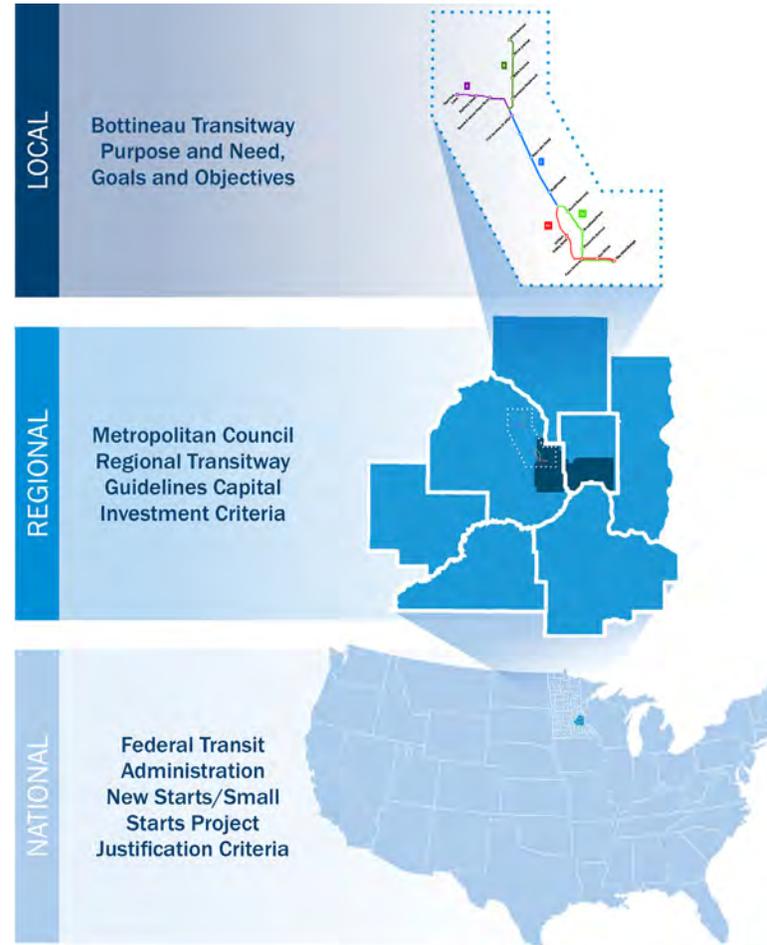
### WHAT CRITERIA WERE USED TO MAKE DECISIONS?

Three sets of evaluation criteria form the framework for decisions leading to the selection of an LPA (Figure 3):

- The Bottineau Transitway purpose and need, and goals and objectives (local criteria);
- The Metropolitan Council transitway capital investment criteria, discussed in the Metropolitan Council’s *Regional Transitway Guidelines* (regional criteria); and
- The Federal Transit Administration (FTA) New Starts project justification criteria (national criteria)

The purpose of the Bottineau Transitway is stated as follows: **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.** Five factors contribute to the need for the project: growing travel demand, increasing traffic congestion, people who depend on transit, limited transit service to suburban destinations (reverse commute opportunities) and time-efficient transit options, and regional objectives for growth stated in the Regional Development Framework.

**FIGURE 3: EVALUATION CRITERIA FOR BOTTINEAU TRANSITWAY PROJECT**



During its course, the AA Study successfully engaged stakeholders through public meetings, open houses, presentations, email, website visits, and phone calls. Nearly 1,000 stakeholders attended meetings or submitted comments during this time.

A large number of transit modes and alignments were considered early in the AA Study. Those with the potential to address the project needs, goals, and objectives were evaluated in detail. Four LRT alternatives and one BRT alternative were advanced for further consideration.

The Bottineau Transitway project goals and objectives are shown in Table 1. These were initially developed during the AA Study and used throughout the alternatives development and evaluation process.

They serve as a framework to develop and then evaluate the alternatives. Goals 1, 2, and 3 reflect the core purpose and need of the project; Goals 4 and 5 reflect broader community goals.

**TABLE 1: BOTTINEAU TRANSITWAY GOALS AND OBJECTIVES**

<b>Goal 1: Enhance Regional Access to Activity Centers</b>
<ul style="list-style-type: none"> <li>■ Maximize total transit riders</li> <li>■ Improve service to people who depend on transit</li> <li>■ Expand reverse commute and off-peak transit opportunities</li> <li>■ Increase transit system linkages, access to regional destinations, and multimodal transportation opportunities</li> <li>■ Maximize transit access to housing, employment, schools, community services, health care facilities, and activity centers</li> </ul>
<b>Goal 2: Enhance the Effectiveness of Transit Service within the Corridor</b>
<ul style="list-style-type: none"> <li>■ Maximize new transit riders</li> <li>■ Maximize passengers per hour of revenue service</li> <li>■ Maximize traveler time savings</li> </ul>
<b>Goal 3: Provide a Cost-Effective and Financially Feasible Transit System</b>
<ul style="list-style-type: none"> <li>■ Balance project costs and benefits (minimize CEI)</li> <li>■ Minimize project capital and operating cost</li> <li>■ Maximize long-term investment in the regional transit system</li> <li>■ Maximize flexibility to efficiently expand the transit investment to accommodate transitway demand beyond 2030 weekday travel demand forecasts</li> </ul>
<b>Goal 4: Promote Sustainable Development Patterns</b>
<ul style="list-style-type: none"> <li>■ Promote land development and redevelopment that supports sustainable transportation policies</li> <li>■ Ensure compatibility with local and regional comprehensive plans</li> <li>■ Support economic development and redevelopment efforts</li> </ul>
<b>Goal 5: Support Healthy Communities and Sound Environmental Practices</b>
<ul style="list-style-type: none"> <li>■ Minimize impacts on wetlands/water/floodplains, parks, visual resources, noise/vibration, and historic/cultural resources</li> <li>■ Minimize short- and long-term impacts to property, property access, and on-street parking</li> <li>■ Maximize cohesion, preservation, and enhancement of Bottineau Transitway communities</li> <li>■ Maximize pedestrian and bicycle connections to the Bottineau Transitway</li> <li>■ Maximize health, environmental, and economic benefits to the Bottineau Transitway communities</li> <li>■ Minimize disproportionately high and adverse impacts on the region's minority and/or low-income communities</li> <li>■ Minimize area traffic impacts</li> </ul>





## We are Interested in Your Comments

COMMENT  
RECORDER

# ALTERNATIVES ANALYSIS: SPRING 2008 TO FALL 2012

The process of getting from an initial “universe” of alternatives to a single LPA consisted of three major steps:

- Alternatives Analysis Study (AA Study): Spring 2008 to March 2010
- Alignment D2 Investigation and Definition (D2 Investigation): April 2010 to November 2011
- Locally Preferred Alternative Selection (LPA Selection): April 2011 to Spring 2013

Each step and the decisions that resulted from them is described on the following pages. Figures 4 and 5 illustrate the alternatives analysis schedule and process, respectively.

## ALTERNATIVES ANALYSIS STUDY: SPRING 2008 TO MARCH 2010

The HCRRA, in partnership with the Metropolitan Council and local jurisdictions, initiated an Alternatives Analysis (AA) Study for the Bottineau Transitway in 2008 ([Appendix 1](#)). Completed in 2010, the study evaluated a wide range of transit modes and alignments.

Early in the AA Study, the project team established and implemented a framework for engaging stakeholders in their critical role in the development of a successful project. Stakeholder engagement was based on achieving four goals: to inform, to learn, to include, and to achieve success.

### To Inform

- Reach affected stakeholders with information on the AA study process requirements; ensure that project information is presented to stakeholders in a manner that is timely, clear, and as comprehensive as practicable.
- Ensure that transitway residents, businesses, agencies, community leaders, and other interested stakeholders are well informed about the study, expected outcomes and timelines, and how they can get their issues and concerns heard.

### To Learn

- Ensure that adequate opportunities are provided for stakeholder input.
- Obtain input regarding stakeholder values and needs relative to a potential transitway investment.

### To Include

- Ensure that all stakeholder groups have an opportunity to provide input into the study process.
- Provide an opportunity for stakeholders to participate in an open exchange of views throughout the study.

### To Achieve Success

- Gain support of stakeholders regarding the study process and outcomes.
- Identify locally preferred outcomes working toward the best transit improvement for the study area.
- Integrate and coordinate stakeholder involvement with technical staff.
- Build and maintain trusting relationships with the project partners.

**FIGURE 4:**  
TIMING OF ALTERNATIVES ANALYSIS KEY STEPS

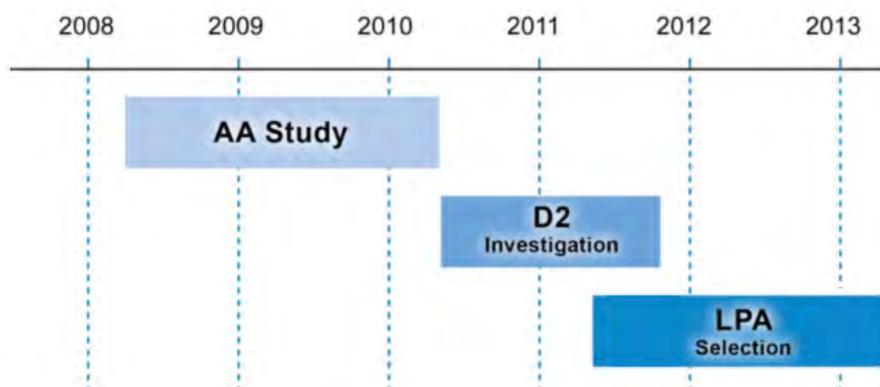


FIGURE 5: ALTERNATIVES ANALYSIS PROCESS

**Evaluation Criteria**

- Bottineau Transitway Purpose and Need, Goals, and Objectives
- Metropolitan Council Capital Investment Criteria
- Federal Transit Administration (FTA) New Starts Criteria

**Alternatives Analysis (AA) Study**

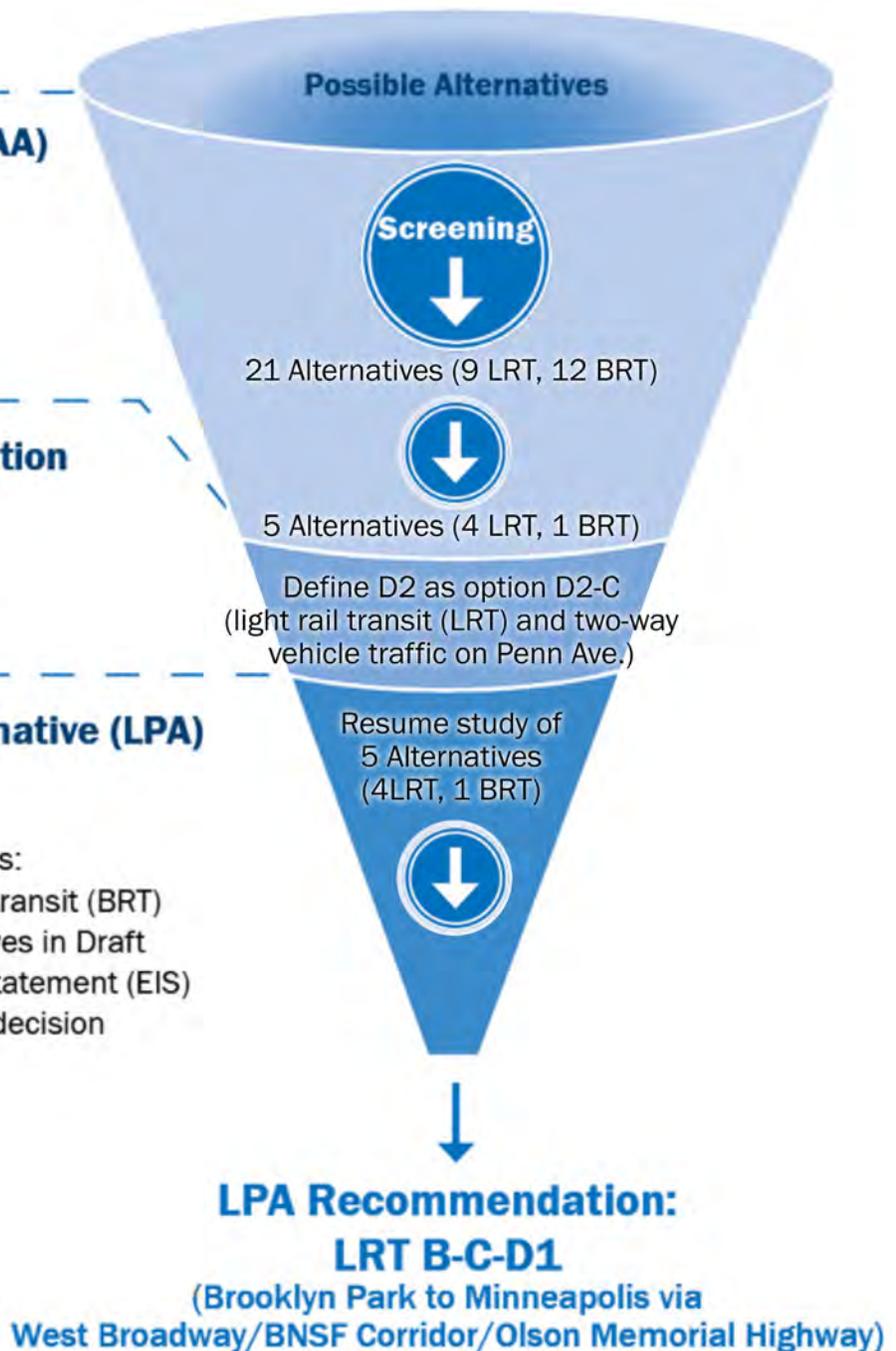
- Screening
  - Technical evaluation
  - Public Input
- Spring 2008 - March 2010*

**Alignment D2 Investigation**

- Screening
  - Technical evaluation
  - Public Input
- April 2010 - November 2011*

**Locally Preferred Alternative (LPA) Selection**

- Technical evaluation
  - Scoping input and decisions:
    - Stop study of bus rapid transit (BRT)
    - Study four LRT alternatives in Draft Environmental Impact Statement (EIS)
  - LPA recommendation and decision
  - Public Input
- April 2011 - Spring 2013*

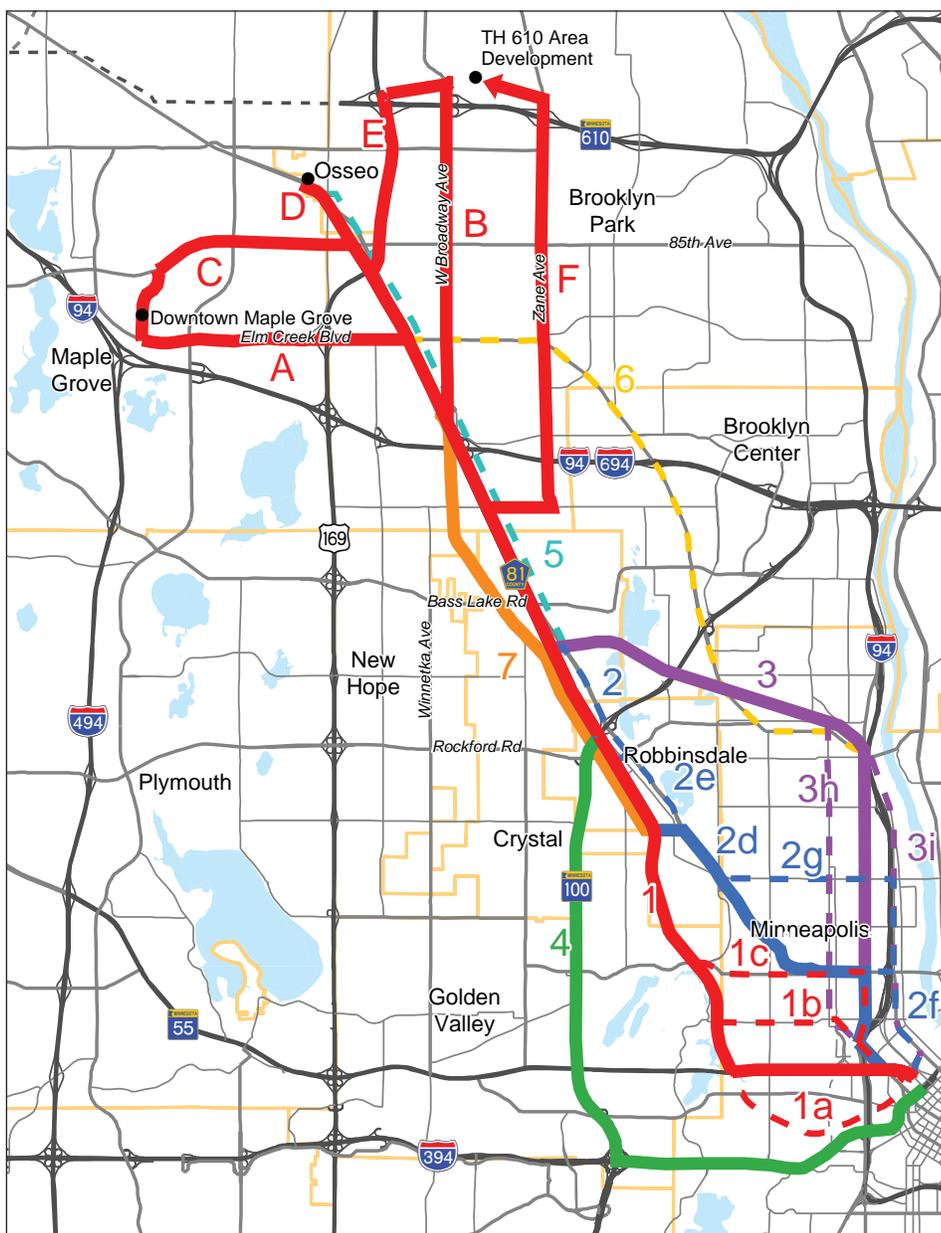


During its course, the AA Study successfully engaged stakeholders through public meetings, open houses, presentations, email, website visits, and phone calls (Appendix 1). Nearly 1,000 stakeholders attended meetings or submitted comments during this time. The three project committees (ARCC, CAC, and PAC) met throughout the study. Focused Issue Groups (FIGs) also met periodically to address specific issues.

The AA Study developed and evaluated a No-Build, an Enhanced Bus/Transportation System Management

(TSM) alternative, and a broad range of transit alternatives (Figure 6). To narrow this initial universe of alternatives, the project team developed screening criteria in consultation with the ARCC and other stakeholders (Table 2). The purpose of screening was to identify those initial alternatives with potential to address the project needs, goals, and objectives. Alternatives that met all the screening criteria were advanced in the AA Study. The study did not advance those alternatives that did not meet all the screening criteria.

**FIGURE 6: UNIVERSE OF ALTERNATIVES CONSIDERED IN THE AA STUDY**



- Alt 1 – BNSF ROW
- Alt 2 – West Broadway
- Alt 3 – CP Rail ROW
- Alt 4 – TH 100/I-394
- Alt 5 – Bottineau Blvd.
- Alt 6 – Brooklyn Blvd./Osseo Road
- Alt 7 – West Broadway (CSAH 8) in Crystal, New Hope & Brooklyn Park
- **Northern Variations**
  - A = Elm Creek Blvd.
  - B = West Broadway
  - C = 85th Ave.
  - D = Bottineau Blvd.
  - E = TH 169
  - F = Zane Ave.
- **Southern Variations**
  - 1 = TH 55
  - 2 = West Broadway
  - 3 = Lyndale Ave.
  - a = BNSF ROW
  - b = Plymouth Ave.
  - c = Golden Valley Rd.
  - d/e = Bottineau Blvd.
  - f = Washington Ave.
  - g = Lowry Ave.
  - h = Emerson/Fremont
  - i = I-94

**TABLE 2:  
SCREENING CRITERIA USED TO IDENTIFY ALTERNATIVES WITH POTENTIAL TO ADDRESS PROJECT NEEDS AND GOALS**

<b>1. Service Area</b>
<ul style="list-style-type: none"> <li>■ Alignment must be accessible (within walking distance or by connecting feeder bus) to people who depend on transit</li> <li>■ South end must serve downtown Minneapolis</li> <li>■ North end must serve a major traffic or employment generator</li> <li>■ Alignment must serve the highest concentration of origins and destinations</li> </ul>
<b>2. Service Efficiency (travel time and directness)</b>
<ul style="list-style-type: none"> <li>■ Alignment must be as physically short as possible</li> <li>■ Alignment must follow right-of-way that allows for high travel speeds</li> <li>■ Alignment must provide for low travel time between stations on alignment and between origins and destinations on the transit system</li> </ul>
<b>3. System Connectivity</b>
<ul style="list-style-type: none"> <li>■ Alignment must have reasonable connections in downtown Minneapolis with the regional transitway system</li> </ul>
<b>4. Compatibility with Existing Infrastructure</b>
<ul style="list-style-type: none"> <li>■ Alignment should use existing infrastructure wherever possible</li> <li>■ Alignment should be compatible with the existing roadway system and the built environment</li> </ul>

The AA Study considered the following mode, alignment, and facility types:

- **Modes:** Commuter rail, light rail transit (LRT), and bus rapid transit (BRT) modes were considered. Neither of the commuter rail alternatives considered would serve communities in north Minneapolis and Robbinsdale. As such, they would not meet the identified project objective of providing effective reverse commute service and did not meet the service area screening criterion. As a result, the commuter rail mode was eliminated from further consideration. LRT and BRT modes were retained for technical evaluation.
- **Alignments:** Many alignments were considered for BRT and LRT modes. Six LRT or BRT routes providing access to Maple Grove, Osseo, or Brooklyn Park were studied. Alternatives with a northern terminus in Maple Grove or Brooklyn Park were retained, as they passed the service area screening criterion. The alternative terminating in Osseo was dropped from further study because Osseo is no longer a major activity center. On the south end of the corridor, seventeen alternatives were considered for entry into Minneapolis, including 15 suitable for BRT or LRT and two BRT-only alternatives. Five alternatives met all four screening criteria and were retained for technical evaluation. The BRT and LRT alternatives that were dropped all provided system connectivity but failed to meet at least one of the other three screening criteria, most commonly be-

cause they were incompatible with existing infrastructure or did not meet the service area criterion.

- **Facility Types:** The study sought to develop alternatives with dedicated transitway facilities wherever possible. The primary reasons were to minimize potential impacts on traffic operations and safety and to provide the maximum opportunity for travel time advantages, ridership, and user benefits. The study explored some mixed traffic facilities when dedicated facilities were not feasible.

### **AA STUDY DECISION: CONTINUE STUDY OF FOUR LRT ALTERNATIVES AND ONE BRT ALTERNATIVE**

At the conclusion of the screening process, 21 alternatives (12 BRT and 9 LRT) were recommended for detailed technical evaluation. The 21 alternatives were then evaluated in detail against the five project goals and 22 objectives. Results for each alternative were reported quantitatively and ranked on a five-point scale for each objective. From this information, a summary technical score was developed for each alternative. At the same time, preliminary cost effectiveness scores were developed. These two scores were then combined to produce an overall ranking for each alternative (Table 3).

From these results, five alternatives were advanced for further study (Figure 8). The alternatives include the three most promising LRT alternatives identified in the

AA Study, a fourth LRT alternative considered in the study that was less promising but still of interest, and a refined BRT alternative. Each alternative is described in detail in the “LPA Selection” discussion that follows.

The refined BRT alternative was developed based on additional understanding gained during the AA Study.

Modifications to routing, alignment and operations were explored to maximize the potential benefits of BRT. The resulting alternative had substantially improved performance over those initially considered in the AA study and the decision was made to advance this refined BRT alternative for further study.

**TABLE 3: AA STUDY OVERALL SCORING SUMMARY**

		TECHNICAL SCORE (15 points)	PROJECT COSTS (CEI) (5 points)	OVERALL RANKING (20 points)
		BENEFITS + OPPORTUNITIES + IMPACTS	Preliminary Cost Effectiveness Index: Annualized cost per hour of user benefit	TECHNICAL SCORE AND PROJECT COSTS
LRT A-D1	Maple Grove-BNSF/Olson	●	●	●
LRT A-D2	Maple Grove-Penn/Olson	⊙	⊙	⊙
LRT A-D3	Maple Grove-Lowry/Lyndale	⊙	⊙	⊙
LRT B-D1	Brooklyn Park-BNSF/Olson	⊙	⊙	⊙
LRT B-D2	Brooklyn Park-Penn/Olson	⊙	⊙	⊙
LRT B-D3	Brooklyn Park-Lowry/Lyndale	⊙	⊙	⊙
LRT AB-D1	Both branches-BNSF/Olson	●	○	⊙
LRT AB-D2	Both branches-Penn/Olson	⊙	○	⊙
LRT AB-D3	Both branches-Lowry/Lyndale	⊙	○	⊙
BRT A-D1	Maple Grove-BNSF/Olson	⊙	⊙	⊙
BRT A-D2	Maple Grove-Penn/Olson	⊙	⊙	⊙
BRT A-D3	Maple Grove-Lowry/Lyndale	○	○	○
BRT A-D4	Maple Grove-Broadway/Lyndale	⊙	⊙	⊙
BRT B-D1	Brooklyn Park-BNSF/Olson	○	⊙	○
BRT B-D2	Brooklyn Park-Penn/Olson	○	⊙	○
BRT B-D3	Brooklyn Park-Lowry/Lyndale	○	○	○
BRT B-D4	Brooklyn Park-Broadway/Lyndale	⊙	⊙	⊙
BRT AB-D1	Both branches-BNSF/Olson	⊙	○	⊙
BRT AB-D2	Both branches-Penn/Olson	⊙	○	○
BRT AB-D3	Both branches-Lowry/Lyndale	⊙	○	⊙
BRT AB-D4	Both branches-Broadway/Lyndale	⊙	○	⊙

● Best      ⊙ Good      ⊙ Fair      ⊙ Poor      ○ Poorest

## AA STUDY DECISION: STOP STUDY OF OPTIONS ON WEST BROADWAY AVENUE EAST OF PENN AVENUE

BRT and LRT alternatives on West Broadway Avenue east of Penn Avenue were considered as part of the AA Study because of West Broadway Avenue's role as an important regional and local transportation and activity corridor. The AA Study findings are summarized below.

### LRT on West Broadway Avenue east of Penn Avenue: Study Discontinued

Study of an LRT alternative on West Broadway Avenue east of Penn Avenue was discontinued during the AA Study because of its less feasible connection to the regional LRT system and because of its significant and likely impacts on surrounding land uses, property owners, and other modes of transportation. As a result of these concerns, LRT was screened out as a practical mode alternative on West Broadway.

- *Regional LRT System Connection* – All Bottineau Transitway LRT alternatives connect to the regional LRT system at Target Field/The Interchange since any Bottineau LRT alternative would become an extension of the Blue Line (formerly called Hiawatha). The LRT system connection necessary at Target Field/The Interchange for LRT alternatives on West Broadway Avenue east of Penn Avenue was higher cost, more complex, and limited future expansion potential as compared to the connection possible for other LRT alternatives.
- *Impacts on Surrounding Land Uses, Property Owners, and Other Modes of Transportation* – Additional issues with LRT on West Broadway Avenue east of Penn Avenue included significant impacts to land uses/private property, on-street parking, traffic operations, and right-of-way width. The development of Bottineau Transitway alternatives sought to avoid or minimize these kinds of impacts.

### BRT Alternatives on West Broadway Avenue East of Penn Avenue: Study Discontinued

Study of BRT alternatives operating in mixed traffic lanes on West Broadway Avenue east of Penn Avenue was initiated when it became clear that a dedicated BRT or LRT transitway would have severe impacts. The BRT alternatives were assumed to operate in mixed traffic – not in the dedicated lanes assumed for all LRT and other BRT alternatives – between Penn and Lyn-

dale Avenues. This approach allowed the BRT alternatives to minimize impacts on land uses/private property, on-street parking, traffic operations, and right-of-way width. The study considered three alternatives which included a BRT alignment running in mixed traffic on West Broadway between Penn and Lyndale Avenues. Study of the three BRT alternatives was discontinued because of their comparatively weak performances in terms of their ability to meet the Bottineau Transitway purpose and need. The three BRT alternatives with an alignment segment on West Broadway Avenue between Penn and Lyndale Avenues ranked primarily in the “fair” or lower categories (using a five-point ranking – Best, Good, Fair, Poor, and Poorest) for each of the five project goals, including ability to attract new riders to the system, ability to improve regional travel time savings, and cost effectiveness.

## D2 INVESTIGATION: APRIL 2010- NOVEMBER 2011

The AA Study identified two alignments in Minneapolis for further study; the D1 alignment located in the BNSF right-of-way and the D2 alignment located on West Broadway and the Penn Avenue area. Three options (A, B, and C) for the D2 alignment were considered for the segment between West Broadway Avenue and Olson Memorial Highway (Figure 7).

**Narrow street widths on Alignment D2 in North Minneapolis make it physically challenging to fit light rail in this location. Technical study and extensive public involvement were used to identify a single D2 Alignment option for further evaluation.**

The D2 evaluation process included a technical evaluation of each of the options within the framework of the purpose and need for the Bottineau Transitway as well as the FTA New Starts program evaluation criteria. Through the evaluation process, the ARCC worked to create transitway operating conditions required for the Bottineau Corridor to become a financially viable element of the regional transitway system. The ARCC also worked to develop transitway operating conditions that are compatible with general motor vehicle, bus, bicycle, and pedestrian traffic and with neighboring businesses and residents for the long-term.

**FIGURE 7: SEGMENT D2 ALIGNMENT OPTIONS CONSIDERED**



**D2 Option A** places LRT and southbound traffic on Penn Avenue, moving northbound traffic to Oliver Avenue.

**D2 Option B** places LRT on Oliver Avenue removing all traffic from that street, leaving both north and southbound traffic on Penn Avenue.

**D2 Option C** widens Penn Avenue to allow LRT as well as north- and southbound traffic to operate on Penn Avenue.

A public open house was held on October 6, 2011, to share detailed information on the benefits and costs of the D2 options and to obtain community input as to which of these options should be used to compare to the D1 alternative. A survey was provided to attendees and also made available on line for those unable to attend the open house. A total of 83 survey responses were received which provided insight into area resident and business owner concerns regarding the potential addition of LRT on Penn or Oliver Avenues.

During the 2010 through November 2011 time period, the Northside Transportation Network (NTN), a coalition of North Minneapolis residents and businesses, was actively involved in a process of engaging and informing Northside residents and stakeholders regarding the Bottineau Transitway. This included regular meetings, a three day workshop held in September 2011, and a November 3, 2011, NTN community meeting. Through the NTN engagement process, two additional D2 alignment options were proposed: D2-D and D2-W. D2-D proposed having LRT and a bus lane on Penn Avenue and diverting Penn Avenue traffic to Queen and Oliver Avenues, with Queen accommodat-

ing southbound traffic and Oliver Avenue accommodating northbound traffic. D2-W proposed centering the LRT guideway on Penn Avenue while maintaining two-way traffic. Both of these alignment options did not officially advance for detailed consideration in the LPA process, as they resulted in greater right-of-way and accessibility impacts to the surrounding neighborhood, without resulting higher benefits as compared to alignments D2 A, B or C.

At the November 2011 NTN meeting, a poll was taken regarding the D2 options considered for comparison to D1. The NTN poll identified option D2-B as the only option that had more people voting in favor of it than against it. In addition to the NTN input regarding the D2 options, a petition opposing LRT on Oliver and Penn Avenue was signed by 118 people and submitted to the PAC for consideration at their November 2011 meeting ([Appendix 2](#)).

The ARCC prepared a technical paper as input to the PAC describing the relative benefits and impacts of each D2 option ([Appendix 2](#)). The ARCC concluded that if a D2 alignment alternative is to be carried forward

as a comparison to alignment D1, option D2-C should advance for further study and study of options D2-A and D2-B should stop.

In addition, the ARCC recommended that study continue regarding transit system improvements in relationship to the Bottineau Transitway alternatives. Specifically, transit improvements should include the restructuring of the local bus network to integrate with the D1 and D2 alternatives as well as the consider-

ation of other transit improvement initiatives, such as the Metro Transit Arterial Transitway Corridors Study (Arterial Bus Rapid Transit concept) and the City of Minneapolis streetcar concept for West Broadway Avenue.

Following consideration of public and stakeholder input, the PAC met on November 14, 2011, to recommend a preferred option for Alignment D2. The PAC agreed with the ARCC conclusion. The basis for the PAC recommendations is summarized in Table 4.

**TABLE 4. PAC RECOMMENDATIONS ON ALIGNMENT D2 AND BASIS**

D2 Option Considered	PAC Recommendation and Basis
<p><b>D2-A:</b> LRT operates on east side of Penn Avenue. Penn and Oliver Avenues become one-way pair for vehicle traffic.</p> <p>Would minimize right-of-way acquisition by limiting Penn Avenue traffic to southbound lane. Oliver Avenue would be converted to a one-way northbound arterial street.</p>	<p><b>PAC Recommendation:</b> Stop Study</p> <p><b>Basis:</b> Option D2-A would compromise light rail and pedestrian activity by placing light rail next to sidewalk on the east side of Penn Avenue. Vehicle access to properties adjacent to LRT would be limited to alleys only. Emergency vehicles would park on the light rail tracks when responding to emergencies at properties adjacent to LRT, stopping light rail options. Noise and vibration impacts would be the highest of the D2 options studied. Economic development opportunities would be less favorable than other D2 options. More challenging traffic access and circulation patterns and less opportunity for streetscape amenities.</p>
<p><b>D2-B:</b> LRT operates on Oliver Avenue; which is then closed to motor vehicle traffic.</p> <p>Would create a transit mall on Oliver Avenue by putting light rail and a bicycle/emergency vehicle access path on Oliver while removing all non-emergency traffic and parking.</p>	<p><b>PAC Recommendation:</b> Stop Study</p> <p><b>Basis:</b> Option D2-B would compromise light rail, bicycle, and pedestrian activity by placing light rail next to the sidewalk on the west side of Oliver Avenue and next to the bicycle/emergency vehicle access path on the east side of Oliver Avenue. Vehicle access to all property along Oliver Avenue would be limited to alleys only. All on-street parking would be removed. Emergency vehicles would block either the bicycle/emergency vehicle trail or the light rail tracks when responding to emergencies. Properties along both sides of Oliver Avenue would be impacted by light rail noise and vibration. Economic development opportunities would be low compared to the other D2 options due to the residential environment.</p>
<p><b>D2-C:</b> LRT and two-way vehicle traffic on Penn Avenue. Significant West side property impacts.</p>	<p><b>PAC Recommendation:</b> Continue Study</p> <p><b>Basis:</b> Option D2-C is the best D2 option for providing an appropriate environment for light rail and other transportation functions on Penn and Oliver Avenues. Most likely to support adequate bicycle and pedestrian movements along and across Penn Avenue, Oliver Avenue, and LRT and to allow on-street parking on Penn and Oliver Avenues. Least noise and vibration impacts of the D2 options studied. Creates Penn Avenue environment with the most potential for economic development.</p> <p>Acknowledgment that Option D2-C has significant impacts because it requires relocation of nearly all properties on the west side of Penn Avenue between West Broadway Avenue and Olson Memorial Highway and has the highest capital cost of the three D2 options.</p>



Theodore Wirth Park (Golden Valley)



Penn Avenue North (Minneapolis)

## LPA SELECTION: APRIL 2011 TO SPRING 2013

HCRRA initiated the LPA selection process following the AA Study. The LPA selection process built on the findings and decisions from the AA Study and the D2 investigation, starting with the five most promising alternatives (four LRT and one BRT) identified:

- LRT A-C-D1 (Maple Grove to Minneapolis via BNSF/Olson Memorial Highway)
- LRT B-C-D1 (Brooklyn Park to Minneapolis via BNSF/Olson Memorial Highway)
- LRT A-C-D2 (Maple Grove to Minneapolis via West Broadway Avenue/Penn Avenue/Olson Memorial Highway)
- LRT B-C-D2 (Brooklyn Park to Minneapolis via West Broadway Avenue/Penn Avenue/Olson Memorial Highway)
- BRT B-C-D1 (Brooklyn Park to Minneapolis via BNSF/Olson Memorial Highway)

Each alternative would include all facilities associated with the construction and operation of a transitway.

Each LRT alternative would include right-of-way, tracks, stations, support facilities, and transit service for LRT and connecting bus routes.

The BRT alternative would include right-of-way, travel lanes, stations, support facilities, and transit service for BRT and connecting bus routes. The BRT alternative would be a high quality investment similar to LRT and would include a dedicated guideway, high-amenity stations and the service, speed, reliability, and frequency characteristics of our region’s transitways.

The five alternatives are illustrated in Figure 8 and their alignment components are described in Table 5 below.

**During the LPA selection process, the HCRRA conducted technical analysis to better inform stakeholders and the public of the benefits and costs of the five alternatives being considered.**

**TABLE 5: ALIGNMENT OPTIONS FOR LPA ALTERNATIVES**

Location	Alignment Options	
North	<b>Alignment A</b> originates in Maple Grove at Hemlock Lane/ Arbor Lakes Parkway and follows the planned Arbor Lakes Parkway and Elm Creek Boulevard to the BNSF railroad corridor located on the west side of Bottineau Boulevard.	<b>Alignment B</b> begins at the Target North Campus (located just north of Highway 610), follows West Broadway Avenue, and crosses Bottineau Boulevard at 73rd Avenue to enter the BNSF railroad corridor.
Central	<b>Alignment C:</b> In the center portion of the corridor, the A and B alignments transition to the BNSF railroad corridor on the west side of Bottineau Boulevard and follow it through southern Brooklyn Park, Crystal, and into Robbinsdale.	
South	<b>Alignment D1</b> continues along the BNSF railroad corridor to Olson Memorial Highway, through Robbinsdale, Golden Valley, and into Minneapolis.	<b>Alignment D2</b> exits the BNSF railroad corridor in Robbinsdale near 34th Avenue, joins West Broadway Avenue, then travels on Penn Avenue to Olson Memorial Highway and into downtown Minneapolis.

### TECHNICAL ANALYSIS OF THE ALTERNATIVES CONSIDERED AS THE LPA

During the LPA selection process, technical analysis was conducted on the five alternatives to identify and better understand the characteristics that differentiate them. Table 6 summarizes the characteristics of the alternatives considered as the LPA. The study also analyzed and compared the alternatives by alignment (A or B; D1 or D2) and mode (LRT B-C-D1 or BRT B-C-D1) in terms of the five project goals and 22 objectives ([Appendix 3](#)).

The results were used by the project advisory committees, the corridor cities, and the HCRRA in their LPA recommendations and were made available to the public.

This analysis considers Cost Effectiveness Index (CEI) as one of several criteria used by the FTA as part of FTA’s Major Transit Capital Investment discretionary funding program. At the time the analysis was conducted, CEI was defined as the annualized project cost per hour of user benefit, with user benefit reported as travel time savings. This accurately reflects the information decision-makers had at the time, and is rep-

representative of the decision-making process. Future project decisions will be based on the updated Major Capital Investment Projects (New and Small Starts): Final Rule and associated criteria under the transportation bill passed in June 2012, Moving Ahead for Progress in the 21st Century (MAP-21).

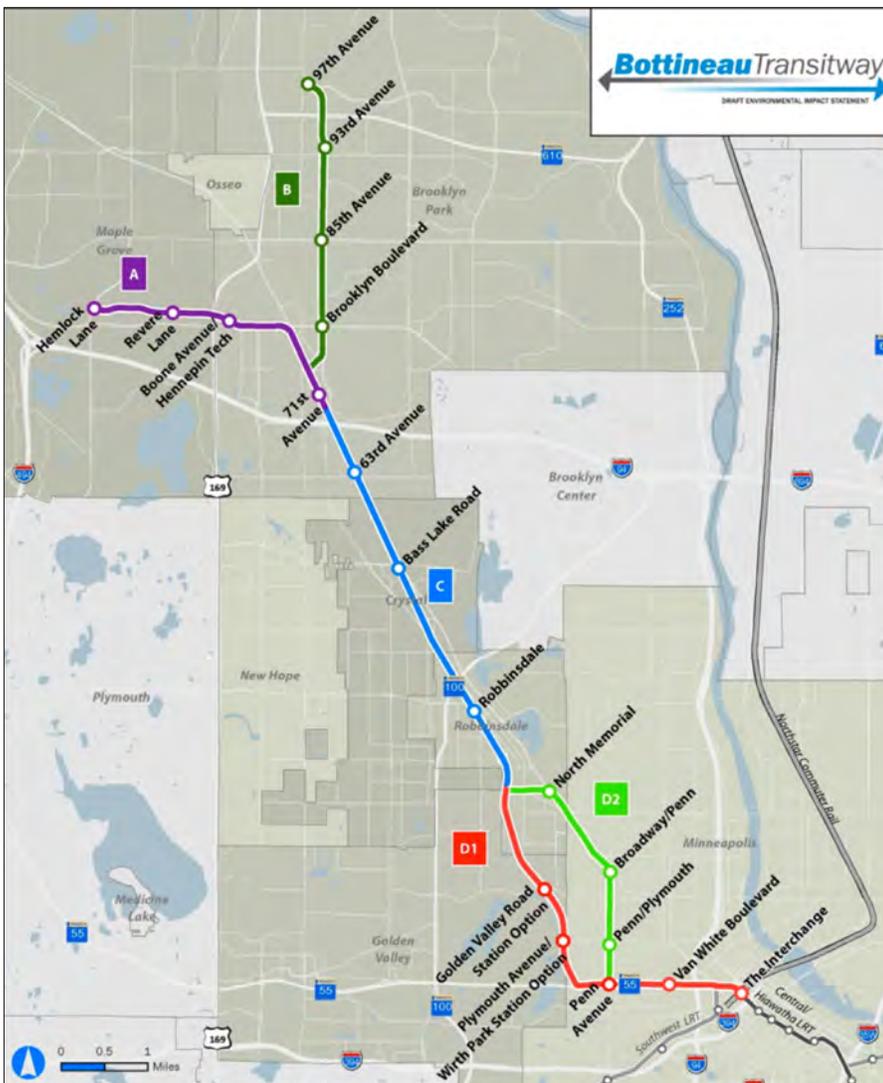
## SCOPING PROCESS FOR THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

Initial LPA decisions were made during the process of scoping the content of the Draft Environmental Impact Statement (EIS). Due to anticipated federal funding for the Bottineau Transitway and the fact that the project may have significant environmental impacts, the FTA is required to prepare an Environmental Impact Statement (EIS) under the National Environmental Policy

Act (NEPA). The HCRRA and the Metropolitan Council will also conduct this review in compliance with the Minnesota Environmental Policy Act (MEPA) and Minnesota Rules Chapter 4410. The EIS process begins with a stage called Scoping, which is the process of determining the content of the Draft EIS. The Scoping process is used to define the alternatives and to identify the transportation, community, social, physical and environmental issues that will be evaluated in the Draft EIS.

**The process of Scoping the Draft EIS helped narrow the alternatives being considered for the LPA. The Scoping process included multiple meetings with local agency staff, public meetings, and a formal public comment period.**

**FIGURE 8: ALTERNATIVES CONSIDERED FOR THE LPA**



For the Bottineau Transitway, an important objective of Scoping was to formally invite the participation of the public, interested groups, affected Native American tribes, and government agencies in the confirmation of the alternatives to be considered for the LPA and studied in detail in the Draft EIS. The Scoping process included multiple meetings with local agency staff, public meetings, and a formal public comment period. In early 2012, approximately 380 people attended the four public open houses during Scoping and 295 written and oral comments were received. Documentation of input received during Scoping is available in the June 2012 Scoping Decision Document ([Appendix 3](#)).

As reflected in the Scoping Decision Document, no new alternatives were advanced for further consideration in the Draft EIS. Through the scoping comment process, the BNSF indicated they would not support a BRT alignment immediately adjacent to the BNSF tracks (alignments C and D1). Although the Minneapolis Park and Recreation Board wrote a comment letter indicating their opposi-

**TABLE 6. ALTERNATIVE SUMMARY CHARACTERISTICS**

	LRT A-C-D1	LRT A-C-D2	LRT B-C-D1	LRT B-C-D2	BRT B-C-D1
Capital cost (\$2017, in millions) <sup>1</sup>	\$960	\$1,050	\$1,000	\$1,090	\$560
Cost effectiveness index (CEI)	23	26	26	31	21
CEI rating <sup>2</sup>	Medium	Medium-low	Medium-low	Medium-low	Medium
Ridership (total)	27,600	27,200	27,000	26,000	19,900 <sup>3</sup>
Ridership (new)	8,400	7,800	7,150	6,500	5,650
Operating cost (\$2011, in millions) <sup>1</sup>	\$22.4	\$23.7	\$24.1	\$25.1	\$20.7
Operating cost/passenger	\$2.46	\$2.64	\$2.70	\$2.92	\$3.15
Alternative length <sup>4</sup>	12.6 miles	12.7 miles	13.3 miles	13.4 miles	12.9 miles
Alternative travel time <sup>4</sup>	25:37	29:36	29:04	33:03	30:03
User benefit hours	9,460	9,000	8,520	7,940	5,880

Note: The information in this table is subject to change should the HCRRA, Metropolitan Council, and FTA continue to develop the Bottineau Transitway. The information is the best currently available and is appropriate as the basis for the LPA decision, but it is not final for the project and may change in the future as more detailed information is developed.

tion to the D1 alignment due to concerns about potential adverse impacts to current and potential natural resources, parkland, and recreation opportunities, the agency subsequently affirmed their commitment to work with the project team on the LPA.

**Scoping Decisions: Stop Study of BRT Alternative and Continue Study of Four LRT Alternatives**

Based on the results of the technical analysis and scoping input, the ARCC and CAC advised and the PAC resolved in April 2012 that study of the BRT alternative should stop. The PAC also recommended the continued study of the four LRT alternatives in the Draft EIS, in addition to the No Build and the Transportation System Management (TSM) Alternative. In their resolution, the PAC affirmed the alternatives evaluation process that was conducted and acknowledged the public participation in the process. Following the PAC action, the HCRRA passed a resolution adopting the Scoping Decision recommended by the PAC. Documentation of these actions is provided in [Appendix 3](#).

Because no new alternatives were advanced as a result of the scoping process and study of the BRT alternative was discontinued, the number of build alternatives remaining to be studied in the Draft EIS was reduced from five to four. The local Scoping Decision actions have been reviewed by the FTA, the federal agency leading development of the Bottineau Transitway along with the Metropolitan Council and Hennepin County. The FTA has not identified any concerns with the decisions.

The basis for the ARCC and CAC input and the PAC recommendation to discontinue study of BRT are summarized in Table 7, organized in relation to the five project goals. In their discussions, the ARCC and the PAC recognized the BRT alternative’s lower capital cost and better cost-effectiveness index as compared to the LRT alternatives. The groups also recognized that while BRT is not the best performing mode choice for the Bottineau Transitway, the reasons are specific to the physical attributes, ridership characteristics, and other features of the Bottineau corridor. They acknowledged BRT’s excellent potential to provide premium transit service in other corridors in the region.

<sup>1</sup> Cost estimates provided are a snapshot in time and are based on the level of design development contemplated as part of Scoping. Cost estimates will continue to be refined as the Draft EIS technical analysis is completed.

<sup>2</sup> CEI rating breakouts (FY 2013, FTA). High: 12.49 and under. Medium-high: 12.50-16.49. Medium: 16.50-25.49. Medium-low: 25.50-31.49. Low: 31.50 and over. CEI is one of several criteria used by the Federal Transit Administration (FTA) as part of FTA’s Major Transit Capital Investment discretionary funding program. At the time of the LPA decision, CEI was defined as the annualized project cost per hour of user benefit, with user benefit reported as travel time savings. Future decisions will be based on the updated Major Capital Investment Projects final rule.

<sup>3</sup> 1,200 daily BRT riders were assumed diverted to nearby local routes due to capacity limitations

<sup>4</sup> For LRT, southern terminus is the Interchange/Target Field station. For BRT, southern terminus is Border Avenue/TH 55.

**At the conclusion of the scoping process, the PAC resolved that study of the BRT alternative should stop. Key reasons included its lower ridership, fewer passengers per revenue hour, more limited vehicle capacity, and greater impact on roadway traffic compared to the LRT alternative on the same alignment. While BRT is not the best performing mode for the Bottineau Transitway, it has excellent potential for other corridors in the region.**

**TABLE 7. BASIS FOR PAC SCOPING RECOMMENDATION TO STOP STUDY OF BRT**

<b>Goal 1: Enhance Regional Access to Activity Centers</b>				
The LRT B-C-D1 alternative would accomplish this goal better than the BRT alternative on the same alignment. Forecast total ridership for LRT B-C-D1 is 27,000 and 19,000 for BRT B-C-D1. Ridership for the BRT alternative is limited by BRT's single-vehicle capacity; that is, multiple BRT vehicles cannot be linked together to expand capacity, in contrast to LRT which can be expanded from two cars to three.				
<b>Goal 2: Enhance the Effectiveness of Transit Service within the Corridor</b>				
The transit service provided by LRT B-C-D1 would be more effective than that provided by the BRT alternative. BRT B-C-D1 is expected to generate approximately 1,500 fewer new daily riders than LRT B-C-D1 (5,650 riders compared to 7,150). BRT B-C-D1 also is expected to generate less than half as many passengers per revenue hour than LRT on the same alignment in the year 2030 (71 for BRT vs. 181 for LRT). Also, based on travel time and average speed, the LRT B-C-D1 is forecast to provide more daily user benefits in 2030 compared to BRT (8,250 hours per day for LRT B-C-D1 compared to 5,880 for BRT B-C-D1).				
<b>Goal 3: Provide a Cost Effective and Financially Feasible Transit System</b>				
BRT B-C-D1 had a lower (better) cost-effectiveness index than LRT B-C-D1. The better result for the BRT alternative was driven largely by its lower capital and operating costs, as shown below.				
	<b>CEI<sup>5</sup></b>	<b>CEI Rating<sup>5</sup></b>	<b>Capital Cost</b>	<b>Operating Cost</b>
<b>BRT B-C-D1</b>	21	Medium	\$560 million	\$20.7 million
<b>LRT B-C-D1</b>	26	Medium-Low	\$1,000 million	\$24.1 million
<b>Goal 4: Promote Sustainable Development Patterns</b>				
There were no significant differentiators between LRT and BRT B-C-D1.				
<b>Goal 5: Support Healthy Communities and Sound Environmental Practices:</b>				
The primary differentiator under this goal pertains to traffic operations. Specifically, the roadway system would not be able to accommodate additional BRT vehicles beyond the assumed six-minute headways while still maintaining acceptable traffic operations. In turn, 2030 ridership forecasts show that transitway demand at the maximum load point entering downtown Minneapolis during the morning peak hour would exceed the capacity of the BRT alternative. Also, because BRT B-C-D1 would travel to 2nd/Marquette Avenues in downtown Minneapolis in mixed traffic, it would add to capacity issues that would already exist on the downtown street network.				

<sup>5</sup> CEI is one of several criteria used by the Federal Transit Administration (FTA) as part of FTA's Major Transit Capital Investment discretionary funding program. At the time of the LPA decision, CEI was defined as the annualized project cost per hour of user benefit, with user benefit reported as travel time savings. Future decisions will be based on the updated Major Capital Investment Projects final rule.

## LPA RECOMMENDATION AND SELECTION

The multi-step process to formally recommend and select an LPA began following the technical analysis and Scoping decisions previously described. The process by which the LPA was identified is illustrated in Figure 9. The HCRRA recommended Alternative LRT B-C-D1 to the Metropolitan Council as the LPA.

During the LPA selection process, the PAC recommended Alignment D1 over Alignment D2 because D1 would result in significantly less property and neighborhood impacts, improved travel time and greater cost effectiveness, and less disruption of roadway traffic operations. The PAC recommended Alignment B over Alignment A because Alignment B would provide better service to people who depend on transit and to key civic and educational destinations, and access to greater numbers of new jobs and development.

### ARCC Technical Input: Recommend LRT Alignment C-D1; PAC to Make Policy Recommendation for Alignment A or B based on Needs

At their meeting on May 24, 2012, the ARCC provided input to the PAC on the Bottineau Transitway LPA based on the technical analysis and comments received and considered during the Scoping review and comment period. The ARCC input document is available in [Appendix 3](#).

- Input on Bottineau Transitway Mode: The ARCC affirmed its April 2012 scoping input to the PAC advising that study of the BRT alternative should stop, BRT should not be considered for the LPA, and advising the PAC to select LRT as the locally preferred mode for the Bottineau Transitway.
- Input on Bottineau Transitway Alignment: The ARCC provided its input on the locally preferred alignment in three parts:
  - **Do not select Alternative LRT B-C-D2 as the LPA:** The ARCC considered first whether any of the alignment alternatives should be eliminated from further consideration for the LPA given the local, regional, and national evaluation criteria. Based on consideration of updated preliminary

CEI results and other impacts discussed below, the ARCC advised the PAC that Alternative LRT B-C-D2 (Brooklyn Park to Minneapolis via West Broadway Avenue/Penn Avenue/Olson Memorial Highway) should not be considered for the LPA because other alternatives meet the project purpose and need with a better balance between impacts, ridership, costs, and travel time savings.

- **Recommend Alignment D1 as part of the LPA:** The ARCC's input was unanimous that the PAC recommend Alignment D1 (BNSF near Theodore Wirth Park) as the preferred route for the southern end of the Bottineau Transitway and that Hennepin County, Metropolitan Council, and the City of Minneapolis work together to develop and deliver separate transit, livability, and economic development investments to north Minneapolis neighborhoods as soon as possible. The basis for the ARCC conclusions is summarized in Table 8.
- **Considerations for Alignments A and B:** The ARCC concluded that the technical justification for the A and B alignments is different, but balanced. The ARCC advised the PAC to consider the

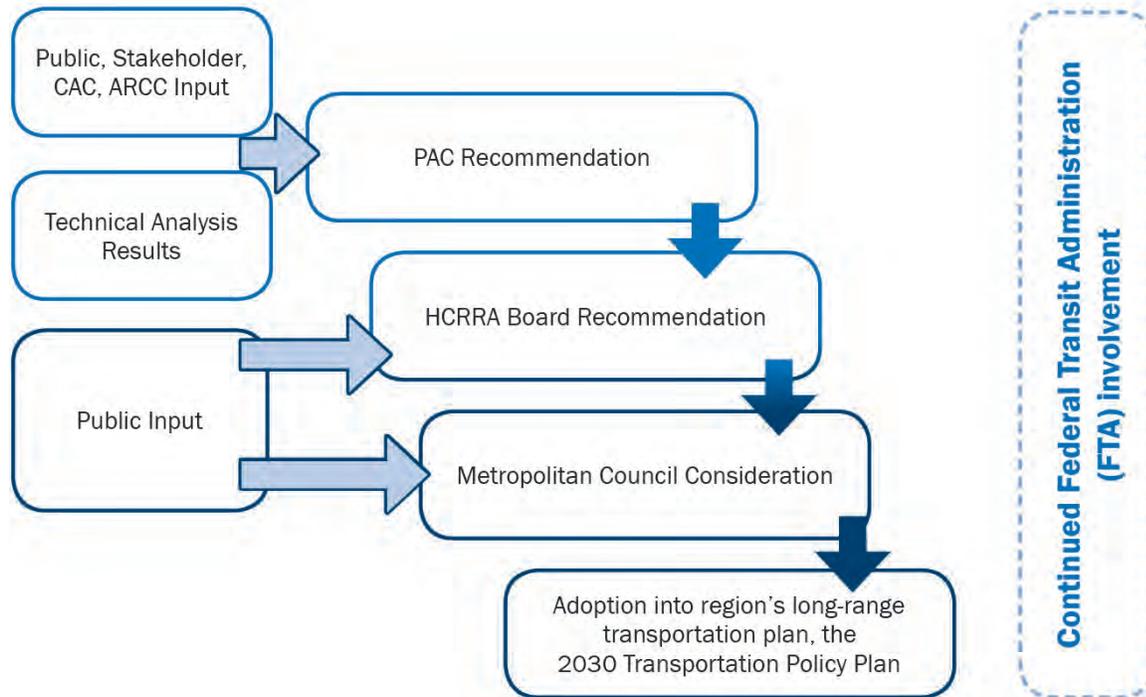


Bottineau Boulevard Looking North (Robbinsdale)



Bottineau Boulevard Looking North (Crystal)

**FIGURE 9: LPA RECOMMENDATION AND SELECTION PROCESS**



CAC= Community Advisory Committee  
ARCC= Advise, Review, and Communicate Committee

PAC= Policy Advisory Committee  
HCRRA= Hennepin County Regional Railroad Authority

LPA= Locally Preferred Alternative

**TABLE 8. BASIS FOR ARCC INPUT TO INCLUDE ALIGNMENT D1 AS PART OF THE LPA IN RELATION TO PROJECT GOALS**

<p><b>Goal 1: Enhance Regional Access to Activity Centers</b></p> <ul style="list-style-type: none"> <li>■ <b>People Who Depend on Transit:</b> D1 and D2 are anticipated to provide enhanced transit service to comparable numbers of people who depend on transit.</li> </ul>
<p><b>Goal 2: Enhance the Effectiveness of Transit Service within the Corridor</b></p> <ul style="list-style-type: none"> <li>■ <b>Travel Time:</b> Alignment D1 results in a faster travel time compared to alignment D2. For comparison, LRT alternative B-C-D1 has an end to end running time of 8 minutes and 27 seconds, compared to LRT alternative B-C-D2 time of 12 minutes and 26 seconds</li> </ul>
<p><b>Goal 3: Provide a Cost Effective and Financially Feasible Transit System</b></p> <ul style="list-style-type: none"> <li>■ <b>Cost Effectiveness Index (CEI)<sup>6</sup>:</b> Alignment D1 is forecast to have a lower (better) CEI than Alignment D2. This is due to D1's lower capital and operating cost, faster travel time, and resulting higher user benefits.</li> </ul>
<p><b>Goal 4: Promote Sustainable Development Patterns</b></p> <ul style="list-style-type: none"> <li>■ No significant differentiators between Alignment D1 and D2.</li> </ul>
<p><b>Goal 5: Support Healthy Communities and Sound Environmental Practices (continued on next page)</b></p> <ul style="list-style-type: none"> <li>■ <b>Property Impacts:</b> As noted in the documentation of ARCC input to the Draft EIS Scoping decision, in order to maintain two-way traffic movement on Penn Avenue between West Broadway Avenue and Highway 55, alignment D2 would necessitate the widening of Penn Avenue. This would require access closures, and removal of all on-street parking. Full or partial acquisition of up to 150 residences and businesses would be required through Robbinsdale and North Minneapolis. In contrast, alignment D1 would require very few access closures, few (anticipated at approximately three) partial property acquisitions, and limited changes to on-street parking.</li> <li>■ <b>Neighborhood Concerns:</b> North Minneapolis residents, especially Penn and Oliver Avenue neighborhoods, continue to be concerned about the potential adverse impacts to their neighborhoods from alignment D2, as documented during the scoping process.</li> </ul>

<sup>6</sup> CEI is one of several criteria used by the Federal Transit Administration (FTA) as part of FTA's Major Transit Capital Investment discretionary funding program. At the time of the LPA decision, CEI was defined as the annualized project cost per hour of user benefit, with user benefit reported as travel time savings. Future decisions will be based on the updated Major Capital Investment Projects final rule.

**TABLE 8. (CONTINUED FROM PREVIOUS PAGE)**

Goal 5: Support Healthy Communities and Sound Environmental Practices
<ul style="list-style-type: none"> <li>■ <b>More effective investment:</b> In addition to minimizing impacts, it is important to constructively invest in north Minneapolis neighborhoods. The extent of property impacts that would result from the D2 alignment (and from the other D2 alignment options explored previously) is concerning. Other kinds of separate infrastructure investments would be more constructive and effective in this area, including other types of transit improvements (e.g., arterial BRT, streetcar), livability improvements, and economic development improvements on West Broadway, Penn, Fremont, and Emerson Avenues.</li> <li>■ <b>Traffic Impacts:</b> Alignment D1 would impact traffic patterns and operations at fewer signalized grade crossings (two on D1 versus nine on D2 for the segment between 36th Avenue and just east of Penn Avenue).</li> <li>■ <b>Feasible Mitigation Measures and Construction Methods:</b> Construction mitigation strategies appear feasible to address poor soil conditions and impacts to wetlands and floodways. A comparable set of construction and mitigation strategies are not feasible to address Alignment D2's impacts on property and neighborhoods. These issues will be explored further in the Draft EIS.</li> </ul>

five project needs in their recommendation on the preferred alignment. The ARCC also recommended Hennepin County, Metropolitan Council, Maple Grove, and/or Brooklyn Park work together in the future to consider additional bus service and/or transit related capital investments which can better serve the regional transit system. These investments would be separate from the Bottineau project and would provide service to whichever alignment (A or B) was not selected as part of the LPA. In making their recommendation to the PAC, the ARCC cited the considerations listed in Table 9 associated with each alignment.

**Policy Recommendation: LRT B-C-D1**

At their meeting on May 30, 2012, the PAC recommended the HCRRRA identify LRT B-C-D1 as the LPA for the Bottineau Transitway. The PAC recommendation took into consideration the technical information on each of the alternatives developed to date, along with input from the ARCC, the CAC, the PAC public hearing, and other public input provided as part of the LPA public hearing and comment process. Documentation of the input of these groups is provided in [Appendix 3](#).

Prior to making their recommendation on the LPA, the PAC discussed the merits of the alignment options under consideration (A or B; D1 or D2). The PAC cited the following reasons for their support of Alignments B and D1:

- **Alignment B:** Alignment B would serve larger existing and anticipated future populations of people in households with low incomes, activities at North Hennepin Community College and the new Hennepin County library, and more jobs than Alignment A (Goal 1). Target Corporation is expanding its north campus soon, breaking ground on 650,000 square feet of office space in 2012 (Goal 1 and Goal 5). The new jobs will include Target's corporate infor-

mation technology group, which are new jobs in high demand.

- **Alignment D1:** Discussion focused on the adverse impacts of Alignment D2 and the fact that D1 better meets the project goals. The costs (impacts) of Alignment D2 for the people on Penn Avenue would outweigh the potential benefits (Goals 1-5). The group discussed past transportation projects in the region that have had adverse community impacts (destruction of the Rondo neighborhood from construction of I-94; impacts on northside neighborhoods from construction of Highway 55) and the desire not to repeat the past. PAC members also expressed enthusiasm for the Penn Avenue Community Works project and planned transit improvements Alternatives Analysis for West Broadway, indicating that streetcar or Arterial Bus Rapid Transit on West Broadway is a more appropriate transit service for the D2 neighborhood context. Alignment D1 would have faster travel times (Goal 2) and lower cost (Goal 3) than D2; and routing on the existing the existing BNSF rail corridor (D1) is more feasible than D2.



*Bottineau Boulevard (Brooklyn Park)*

**TABLE 9. CONSIDERATIONS FOR ALIGNMENTS A AND B PROVIDED BY ARCC TO PAC**

<p><b>Goal 1: Enhance Regional Access to Activity Centers</b></p> <p><u>Alignment A Considerations</u></p> <ul style="list-style-type: none"> <li>▪ <b>Stations in Maple Grove and Brooklyn Park:</b> Alignment A would provide stations in both Maple Grove and Brooklyn Park. The proposed 63rd Avenue, 71st Avenue, and Boone Avenue/Hennepin County Technical College stations are in Brooklyn Park. The proposed Revere Lane (previously referenced as Zachary Lane) and Hemlock Lane stations are in Maple Grove.</li> </ul> <p><u>Alignment B Considerations</u></p> <ul style="list-style-type: none"> <li>▪ <b>Service to college students:</b> Alignment B would provide direct transit service to a larger existing student body at North Hennepin Community College (three times larger than Hennepin Technical College). In addition, North Hennepin Community College enrollment is forecast to grow by more than 30 percent by 2030. The 2012 legislative session included almost \$30 million in bonding for capital improvements to the college. Future enrollment projections are not available for Hennepin Technical College</li> <li>▪ <b>Target North Campus expansion:</b> Target North Campus in Brooklyn Park is expanding in 2012 by adding two new office buildings that will result in 650,000 square feet of space and anticipated to include 3,900 employees over the next two years.</li> <li>▪ <b>Potential future Target North Campus expansion:</b> Brooklyn Park’s Transportation Plan includes socio-economic growth projections for 1,600 acres of undeveloped property in northwest Brooklyn Park for two scenarios; 1) a City of Brooklyn Park and Metropolitan Council agreed upon expected scenario, and 2) an enhanced Target North Campus scenario (with an additional 17,000 employees) that closely resembles the original Target Corporation proposal. The traffic forecasts and ridership forecasts for the transitway study are based on the Expected Scenario (1). If the actual development more closely resembles the enhanced scenario, then a noticeable increase in the traffic and ridership forecasts would be likely.</li> </ul>
<p><b>Goal 2: Enhance the Effectiveness of Transit Service within the Corridor</b></p> <p><u>Alignment A Considerations</u></p> <ul style="list-style-type: none"> <li>▪ <b>Relation of future LRT service to existing transit:</b> 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. Although LRT has more intermediate stops, it also has far more frequent service, a longer service span, and comparable travel times with existing express service. The ARCC acknowledged that there is some uncertainty in any ridership model forecasting.</li> </ul> <p><u>Alignment B Considerations</u></p> <ul style="list-style-type: none"> <li>▪ <b>Service to people with lower incomes:</b> Alignment B is adjacent to large existing populations of people in households with incomes below the poverty level.</li> </ul>
<p><b>Goal 3: Provide a Cost Effective and Financially Feasible Transit System</b></p> <p><u>Alignment A Considerations</u></p> <ul style="list-style-type: none"> <li>▪ Lower Cost Effectiveness Index (CEI): Alignment A is forecast to have a lower/better CEI than Alignment B. This is due to a lower capital and operating cost, faster travel time and therefore higher user benefits. ARCC noted however, that the capital cost estimates assume significant cooperation from current land owners to prepare the corridor for transit service (no costs were included associated with damages to the gravel mining operations or the existing bituminous plant operation).</li> <li>▪ Uncertainty regarding completion of gravel mining operations: Uncertainty exists regarding the completion of the gravel mining operations in the Alignment A area relative to proposed transitway construction. Alignment A requires construction of a new roadway, Arbor Lakes Parkway, separate from the transitway project and through the gravel mining area in a way that would accommodate LRT and provide access to the future development.</li> </ul> <p><u>Alignment A and B Considerations</u></p> <ul style="list-style-type: none"> <li>▪ Explore non-LRT improvements for alignment not selected: Branched LRT service is not feasible at the north end of corridor. The region needs to select one alignment for the LRT service. Brooklyn Park or Maple Grove, Hennepin County and the Metropolitan Council can explore other types of transit improvements for the “non-LRT” branch, similar to what is being considered in north Minneapolis neighborhoods if D2 is not selected as the locally preferred alignment.</li> </ul>
<p><b>Goal 4: Promote Sustainable Development Patterns</b></p> <p><u>Alignment A Considerations</u></p> <ul style="list-style-type: none"> <li>▪ Opportunity to serve future development: Maple Grove views LRT as an opportunity to serve future development in the Arbor Lakes Parkway area.</li> </ul> <p><u>Alignment B Considerations</u></p> <ul style="list-style-type: none"> <li>▪ Other Brooklyn Park growth potential: The northern portion of Brooklyn Park has been consistently identified by City staff as having a higher growth potential than identified in the Metropolitan Council 20-year regional plan. This trend is maintained by two recent development proposals (Gateway and Astra Village) that were approved for development following the completion of Brooklyn Park’s Transportation Plan. Both are more intense than land uses assumed for the current regionally accepted 20-year growth projections.</li> </ul>
<p><b>Goal 5: Support Healthy Communities and Sound Environmental Practices</b></p> <ul style="list-style-type: none"> <li>▪ No significant differentiators between Alignment A and B.</li> </ul>

## CITY SUPPORT AND CONCERNS

Following the PAC resolution, the five cities in the corridor passed resolutions of support for the LRT Alternative following the B-C-D1 alignment as summarized below. A copy of each city's resolution is provided in [Appendix 3](#).

- Brooklyn Park - Resolution of support dated June 18, 2012. Identifies no issues beyond those already identified during Draft EIS Scoping.
- Crystal - Resolution of support dated June 6, 2012. Identifies no issues beyond those already identified during Draft EIS Scoping.
- Robbinsdale - Resolution of support dated June 5, 2012. In addition to those issues identified during Draft EIS Scoping, the resolution identifies the need for further study of the following issues with respect to Alignments C and D1: noise, vibration, vehicular traffic, parking, drainage. Also identifies the City's intention to actively participate in station area planning.
- Golden Valley - Resolution of support dated December 18, 2012. In addition to those issues identified during Draft EIS Scoping, the resolution states the City's intent to work with the HCRRA and Metropolitan Council on a number of issues during future stages of study, including assessing, addressing, and mitigating negative impacts on public and private properties including noise, light, vibration, and traffic; coordinating with potential improvements to Golden Valley Road, without widening the road wherever possible; identifying and coordinating with future planning and community outreach initiatives in Golden Valley; identifying transit passenger demand and corresponding options for access at the proposed Golden Valley station locations; and working with the Minneapolis Park and Recreation Board to minimize negative impacts to Theodore Wirth Regional Park and surrounding parklands, and ensure that natural areas are maintained in their current condition to the largest extent possible.

The resolution of support followed several months of public discussions between Golden Valley, the HCRRA, the Minneapolis Park and Recreation Board, Robbinsdale, Minneapolis, and the Metropolitan Council after an initial resolution introduced June 19, 2012 failed by a vote of 3-2 with negative impacts to property and parklands along the D1 alignment identified as key issues. The Golden

Valley City Council also solicited and received extensive public input during this time.

- Minneapolis - Resolution of support dated June 15, 2012. Resolution identifies four key initiatives in the past several months that have advanced transit service and livability in North Minneapolis affecting locations on the D2 alignment that are not included in the LPA. The initiatives are: 1) City-initiated federal funding application for West Broadway Transitway Alternatives Analysis; 2) Metropolitan Council agreement to study Arterial Bus Rapid Transit improvements on the Emerson/Fremont Avenue North and Penn Avenue North corridors and possible connection to South Minneapolis on Chicago Avenue South; 3) \$2 million Metropolitan Council grant for mixed income/mixed use development project at Penn and West Broadway Avenues; 4) Hennepin County Community Works project for Penn Avenue to stimulate economic development, beautification, livability, and job creation in North Minneapolis.

## MINNEAPOLIS PARK AND RECREATION BOARD

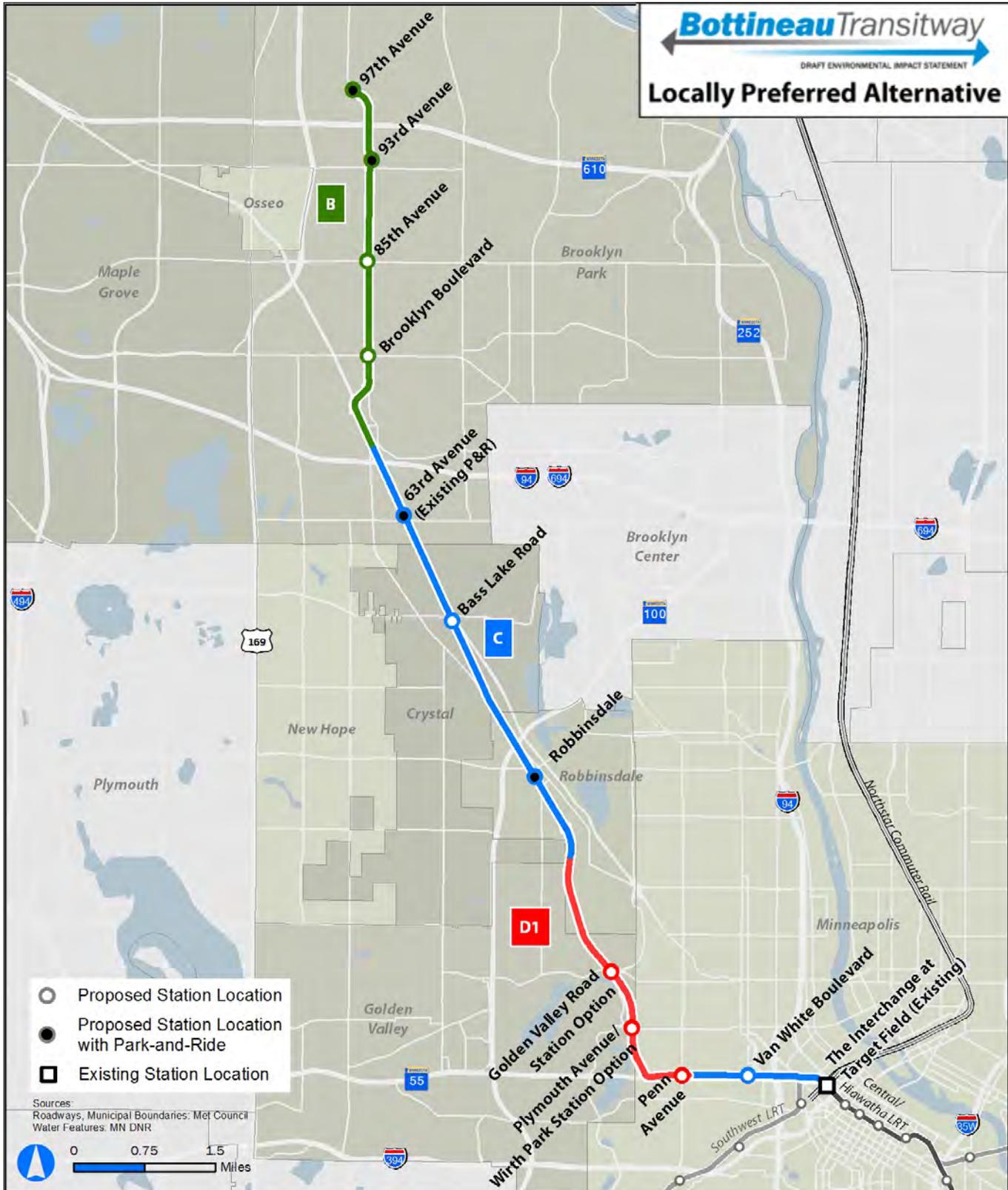
In response to concerns raised in the Minneapolis Park and Recreation Board (MPRB) scoping letter; HCRRA actively coordinated with the MPRB staff and board members to address their concerns regarding potential impacts and benefits to surrounding parks in the Bottineau Transitway. As a result of the on-going coordination, the MPRB provided a letter affirming their commitment to work with the project team on the LPA as the project progresses ([Appendix 3](#)).

## HCRRA SUPPORT

At their meeting on June 26, 2012, following the PAC public hearing and recommendation, the passage of the city resolutions, and the HCRRA-sponsored LPA public hearing, the HCRRA passed a resolution recommending LRT B-C-D1 as the LPA for the Bottineau Transitway. The resolution also states that the HCRRA will continue to encourage communities in which the LPA is located to pass resolutions of support and that HCRRA will continue to work with all project stakeholders in addressing issues and concerns. Documentation of these events is in [Appendix 3](#). The recommended LPA is illustrated in Figure 10.

In their meeting, the HCRRA discussed the importance of providing effective transit service to North Minneapolis. They also referenced the significant property acquisitions required to accommodate an alignment

FIGURE 10: LOCALLY PREFERRED ALTERNATIVE (LRT B-C-D1)



along Penn Avenue (Alignment D2) in North Minneapolis, and the importance to select an LPA that is competitive in the FTA's New Starts Program. The HCRRA discussed their desire to continue to work with the City of Golden Valley to try to address their concerns with the D1 alignment.

## METROPOLITAN COUNCIL

On May 8, 2013, the Metropolitan Council adopted amendments to the 2030 Transportation Policy Plan (TPP) – the region's long-range transportation plan – to include the Bottineau Transitway LPA ([Appendix 3](#)). This action, which concludes the Alternatives Analysis process, followed a public comment period and input from the Transportation Advisory Board (TAB) to the Metropolitan Council.

The TPP amendment also incorporates recommendations from the 2012 Arterial Transitway Corridors Study (ATCS) led by Metro Transit, including transit corridors considered but not advanced in the Bottineau Transitway Alternatives Analysis. Penn Avenue and Emerson-Fremont Avenues North in north Minneapolis are identified as potential future arterial bus rapid transit (BRT) corridors, with language that some of these corridors also may be considered for streetcar. West Broadway Avenue in north Minneapolis is proposed for a transit alternatives study to identify potential future transitway improvements.

The amendment process began in July 2012, when a committee of the TAB initially considered proposed amendment language. Between then and May 2013, the amendment process proceeded through a series of TAB and Council meetings, allowing time to gather and resolve stakeholder and public comments and to incorporate the results of the ATCS described above.

In February and March 2013, the Council conducted a six-week public comment period. Comments were solicited via a public open house (50 attendees), public hearing (13 attendees), and a written comment period (209 sets of comments). Most comments centered around three themes: general comments, including interest in streetcar on West Broadway Avenue; Bottineau LRT, including support, opposition, process concerns, and comments related to the Draft EIS; and Arterial Bus Rapid Transit support and interest in North Minneapolis transit circulator service.

Following review of comments and responses, the Metropolitan Council made no changes to the proposed TPP amendment – to include the Bottineau Transitway

LPA. The TAB reviewed the action on May 15, 2013, and had no comments. The Metropolitan Council business item, including the public comment report, is included in [Appendix 3](#) and available on the Metropolitan Council's web site.



71st Avenue (Brooklyn Park)



BNSF Railroad Corridor

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## NEXT STEPS: COMPLETE THE DRAFT EIS AND APPLY FOR ENTRY INTO THE FEDERAL NEW STARTS PROGRAM

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### DRAFT EIS

The Bottineau Transitway environmental review will contribute to the Twin Cities's understanding of the project benefits, impacts, opportunities, and costs, both local and regional. Hennepin County, the Metropolitan Council, and the FTA are leading the detailed analyses of the key Bottineau Transitway issues and opportunities through the preparation of a Draft EIS.

The four LRT alternatives considered for the LPA, including the approved LPA, will be studied in the Draft EIS. The Draft EIS will identify significant benefits and impacts of the four LRT alternatives and strategies for avoiding or minimizing and mitigating the negative impacts identified. Results of the technical analyses are being shared with the Bottineau Transitway staff committee (ARCC) as they become available. The Draft EIS is scheduled to be published by the FTA for public review and comment in the fall of 2013. The public review of the Draft EIS will be an opportunity for all Bottineau Transitway stakeholders and the general public to either affirm or reconsider the LPA recommendation.



71st Avenue (Brooklyn Park)

### ENTER NEW STARTS PROGRAM

Following selection of the LPA and its amendment into the region's long-range transportation plan, the Transportation Policy Plan, the Bottineau Transitway will begin to transition to Metropolitan Council leadership. One of the Council's first actions will be directing project staff to work with Hennepin County staff to develop and submit an application seeking permission from the FTA for Bottineau Transitway's entry into the federal New Starts program. The MAP-21 federal transportation bill includes significant changes to the New Starts program. As a result, while it has taken the region five to six months to prepare a New Starts application in the past, the time required under the new legislation will be better understood when the guidance on the new federal rules is published. The region anticipates requesting FTA permission for Bottineau Transitway entry into the New Starts Project Development Process as soon as possible.



BNSF Railroad Corridor

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## APPENDICES

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The supporting documents referenced in this report are available in a set of appendices following this page or [available here](#).



**Bottineau** *Transitway*

**ALTERNATIVES ANALYSIS SUMMARY REPORT** | May 2013

Prepared for **Hennepin County Regional Railroad Authority**  
by Kimley-Horn and SRF Consulting Group, Inc.