



East End Alignment and Stations Technical Memorandum

October 2016

DRAFT



Table of Contents

Table of Contents	i
List of Figures	i
1.0 Introduction and Project Background	1
2.0 Purpose of Document	1
3.0 Decision-Making Process	1
3.1 Purpose and Need	1
3.2 Advisory Committees	3
3.3 Working Group	3
3.4 Public Engagement Approach	3
3.5 Integration with the NEPA and LPA Processes	4
4.0 Alternatives Development Process	6
4.1 Alternatives Identified Through Environmental Scoping Process	6
4.2 Previous Locally Preferred Alternative Process	11
4.3 Universe of Alternatives Developed in 2016	13
5.0 Outreach Activities	27
5.1 Public Questionnaire	Error! Bookmark not defined.
6.0 Alternatives Recommended to Advance into the Environmental Document	29
7.0 Alternative Recommended as LPA	31

List of Figures

Figure 1. Relationship of Gateway Corridor Advisory Bodies	3
Figure 2. Alternative Refinement, NEPA, and LPA Process	Error! Bookmark not defined.
Figure 3. BRT and LRT Alignments Proposed for Study in the Western Portion of the Corridor (as defined in the Scoping Booklet)	6
Figure 4. BRT and LRT Alignments Proposed for Study in the Eastern Portion of the Corridor (as defined in the Scoping Booklet)	7
Figure 5. E Alignments Developed during Draft EIS Scoping (as shown in the Scoping Decision Document)	7
Figure 6. Dedicated BRT Alternatives Advanced from Draft EIS Scoping	9
Figure 7. Alternatives Approved for Study in the Draft EIS	10
Figure 8. PAC Recommended LPA in 2015 (Alternative ABC-D2-E2)	12
Figure 9. Eastern End Alternatives Development Process	14
Figure 10. Oakdale/Woodbury Connection Options	15
Figure 11. Alignment Ending at Woodbury Theatre Park-and-Ride with a Loop to Serve the Helmo Avenue and Inwood Avenue Stations	18
Figure 12. Alignment Ending at Woodbury Theatre Park-and-Ride with an Out and Back Route to Serve the Helmo Avenue and Inwood Avenue Stations	19
Figure 13. Alignment Ending at Woodbury Theatre Park-and-Ride and Inwood Avenue Station via Spurs	21
Figure 14. Alignments Ending at Inwood Avenue Station	22
Figure 15. Alignment Ending at Woodbury Theatre Park-and-Ride via Helmo Avenue Station ..	24
Figure 16. Preliminary Ridership Competitiveness Ratings (weighted annual riders)	26
Figure 17. Preliminary Cost-Effectiveness Assessment	26

1.0 Introduction and Project Background

The Gateway Corridor project is a planned transitway in Ramsey and Washington Counties. The corridor would connect the east Twin Cities Metropolitan Area to the greater regional transit network via connections at the Union Depot multimodal hub in downtown Saint Paul. The project was previously defined as an approximately 12-mile transitway running generally parallel to I-94, connecting downtown Saint Paul with its East Side neighborhoods and the suburbs of Maplewood, Landfall, Oakdale, Woodbury, and Lake Elmo. As discussed in this report, the project definition has since been refined in the segment through Oakdale, Lake Elmo, and Woodbury.

Alternatives for the Gateway Corridor project have been developed in multiple phases, starting with the Alternatives Analysis (AA) Study in 2010. After the AA Study was published in 2013 and the Draft Environmental Impact Statement (EIS) Scoping process was completed in 2014, a Locally Preferred Alternative (LPA) was selected. The LPA is the transitway alternative that the corridor cities, Washington County, Ramsey County, and the Metropolitan Council recommend for detailed study. The LPA specifies the type of transit technology that will be used (mode) and the general location of the transit service (alignment). The LPA was adopted as part of the *2040 Transportation Policy Plan* (2040 TPP; adopted by the Metropolitan Council in January 2015), the region's fiscally constrained long-range transportation policy and investment plan. In the TPP, the LPA is described as bus rapid transit (BRT) generally on the Hudson Road-Hudson Boulevard alignment that crosses to the south side of I-94 between approximately Lake Elmo Avenue and Manning Avenue.

Although adopted into the 2040 TPP, the LPA did not define the route between Lake Elmo Avenue/Settlers Ridge Parkway and Manning Avenue in the eastern end of the corridor. Additional analysis and coordination occurred to determine the route in this segment of the alignment, and in October 2015 the Policy Advisory Committee (PAC) recommended a refined alternative as the LPA. Following the PAC's recommendation, resolutions of support were needed from each city and county in which the refined portion of the alignment is located to finalize the LPA selection. One city, Lake Elmo, did not pass a resolution of support for the refined LPA.

To reevaluate the alignment in the eastern end of the corridor, an Eastern End Realignment Working Group was formed. This group includes representatives from Washington County, Ramsey County, City of Woodbury, City of Oakdale, Minnesota Department of Transportation (MnDOT), and Metro Transit.

2.0 Purpose of Document

The purpose of this document is to present the decision-making and alternatives development process that has occurred since Lake Elmo's decision to not support the refined LPA. As described in the following sections, the decision-making process has been collaborative, including a robust community engagement process, and the alternatives development process has been grounded in the project's defined purpose and need.

3.0 Decision-Making Process

The eastern end refinement decision-making process was based on the previously developed project purpose and need and advisory committee structure. In addition, a working group was formed and public engagement was conducted specific to the eastern end realignment process. Each element of this decision-making process is described in the following sections.

3.1 Purpose and Need

3.1.1. PURPOSE

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

3.1.2. NEED

The following primary factors contribute to the need for the Gateway Corridor project:

- Limited existing transit service throughout the day and demand for more frequent service over a larger portion of the day
- Policy shift toward travel choices and multimodal investments
- Population and employment growth, increasing access needs and travel demand
- Needs of people who depend on transit
- Local and regional objectives for growth and prosperity

3.1.3. GOALS AND OBJECTIVES

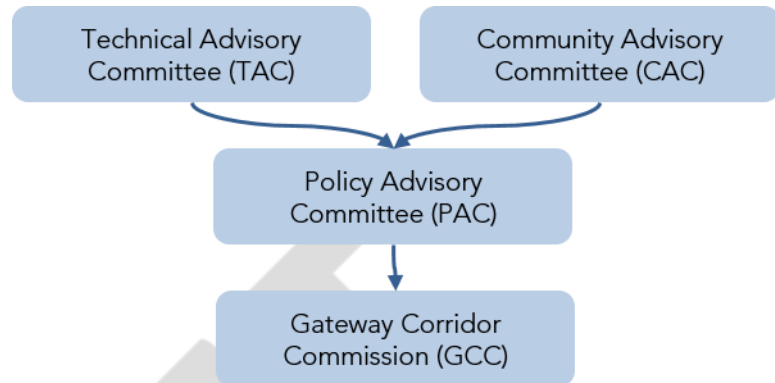
Goals were developed during the AA Study to serve as a framework to evaluate the alternatives under consideration for the Gateway Corridor project. Goals 1 and 2 (Tier 1 goals) identify the minimum requirements that an alternative would be expected to meet in order to continue to be considered. Goals 3-5 (Tier 2) reflect broader community goals and may be helpful in comparing alternatives that meet the Tier 1 goals. These goals, along with the identified project needs, provide the basis for the analysis of alternatives.

- Tier 1 Goals
 - Goal 1: Improve mobility
 - Goal 2: Provide a cost-effective, economically-viable transit option
- Tier 2 Goals
 - Goal 3: Support economic development
 - Goal 4: Protect the natural environmental features of the corridor
 - Goal 5: Preserve and protect individual and community quality of life

3.2 Advisory Committees

The Gateway Corridor advisory bodies include the Technical Advisory Committee (TAC), Community Advisory Committee (CAC), Policy Advisory Committee (PAC), and Gateway Corridor Commission (GCC). The relationship among the project advisory bodies is illustrated in Figure 1.

Figure 1. Relationship of Gateway Corridor Advisory Bodies



3.3 Working Group

The Eastern End Realignment Working Group includes representatives from Washington County, Ramsey County, City of Woodbury, City of Oakdale, MnDOT, and Metro Transit. The Working Group's responsibilities include:

- Drafting potential new routes and discussing the viability of existing routes
- Reviewing community input on station locations and routes
- Developing a list of viable routes based on project goals and objectives
- Developing a stakeholder engagement and communications plan

The viable routes that come out of the Working Group discussions are then taken to the TAC for review and input.

3.4 Public Engagement Approach

The public engagement approach for the refinement in the east end of the corridor has two parts. The first relates to which alternatives will be evaluated in the environmental document, and the second relates to identifying the LPA.

The first phase of engagement was intended to solicit input on what station locations and routes should be considered. The intent of this phase of engagement was to provide information to the Working Group before any new routes were developed. Activities for this phase were focused on soliciting input to the following questions:

- What types of activities (jobs, shopping, housing, recreation, education, medical services, etc.) do you want to get to or from by using transit?
- Based on your answer above, what specific locations in Oakdale and Woodbury do you think would be good for transit stations? List as many as you wish.
- Are there particular benefits or impacts that you want decision makers and technical staff to be aware of?
- Do you have any other comments on the Gateway Gold Line BRT project?

The second phase of engagement was to solicit input once alternatives were established. This includes collecting input on:

- All the routes, station locations, and alternatives the Working Group considered
- The alternatives to be studied in the Draft EIS

- The identification of the LPA

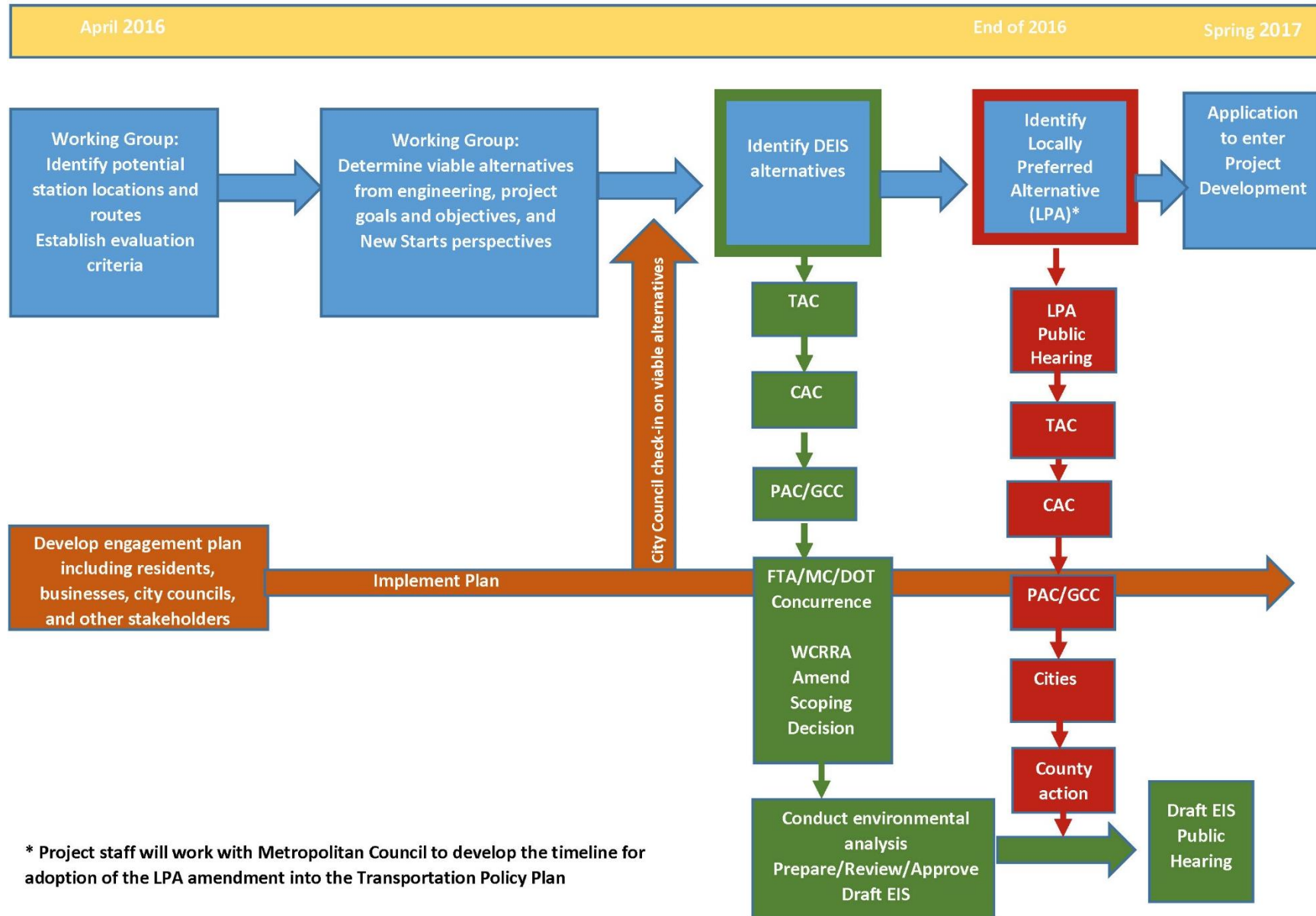
More details on the outreach activities conducted to date are discussed in Section 5.

3.5 Integration with the NEPA and LPA Processes

The results of the eastern end refinement process feed into the overall project process, which includes both the National Environmental Policy Act (NEPA) process and the LPA process. This process is illustrated in [Figure 2](#).

As noted in [Figure 2](#), alternatives were developed and evaluated based on the project's goals and objectives and the New Starts evaluation criteria. The New Starts criteria include mobility improvements, cost-effectiveness, environmental benefits, congestion relief, economic development, and land use.

Figure 2. Alternative Refinement, NEPA, and LPA Process



4.0 Alternatives Development Process

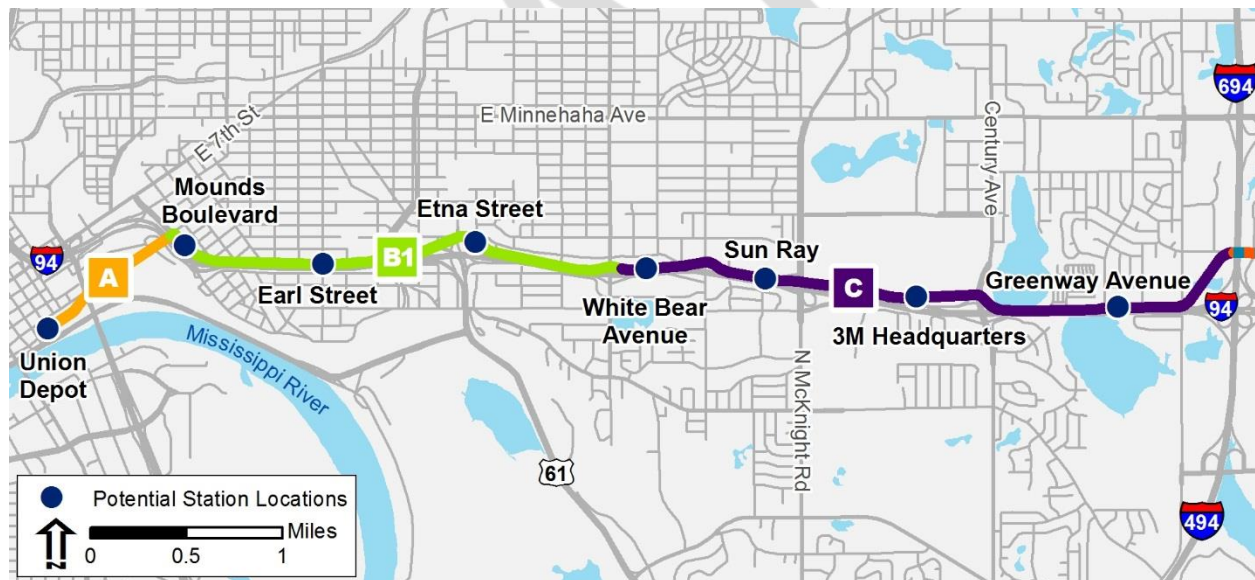
4.1 Alternatives Identified Through Environmental Scoping Process

In Minnesota, the Scoping process is the first step in preparing an EIS (see Minnesota Statutes, Chapter 116D), and it establishes the foundation for the EIS process. Scoping defines the range of alternatives to be studied in the Draft EIS and identifies the potential issues and impacts relating to each of the alternatives. The Draft EIS Scoping process conducted for the Gateway Corridor project took place from February to April 2014.

A No-Build alternative, a BRT alternative, and a light rail transit (LRT) alternative were presented in the Scoping process. The BRT and LRT alternatives presented during Scoping were approximately 12 miles long and included up to 12 stations between Union Depot in downtown Saint Paul and Manning Avenue in Woodbury. Both alternatives generally paralleled the north side of I-94 to just east of I-494/I-694 along Hudson Boulevard and 4th Street and were south of I-94 and adjacent to Hudson Road further east.

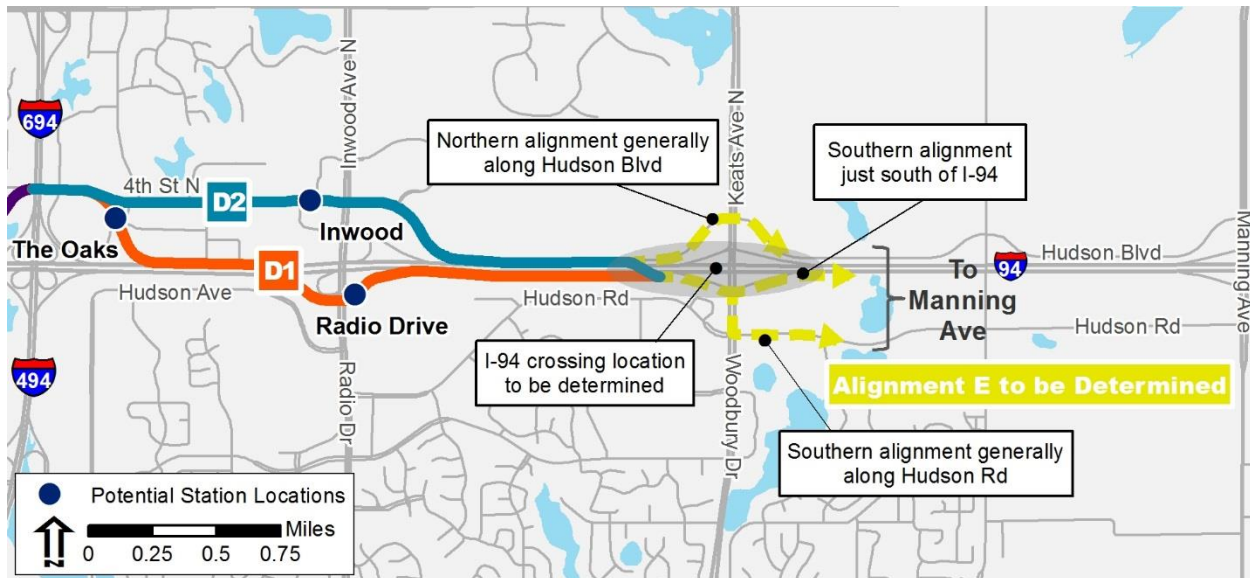
Potential alignment alternatives, for both BRT and LRT, were also included in the Scoping Booklet. In the western half of the corridor, Alignments A, B, and C would serve areas between Union Depot in downtown Saint Paul and the I-94/I-694/I-494 interchange (see [Figure 3](#)).

Figure 3. BRT and LRT Alignments Proposed for Study in the Western Portion of the Corridor (as defined in the Scoping Booklet)



East of the I-94 interchange with I-494/I-694, Alignments D1 (south of I-94) and D2 (north of I-94) combine with a variety of potential E alignments between I-694 and a point east of Woodbury Drive/Keats Avenue (see [Figure 4](#)). Depending on the E alignment, the dedicated guideway could cross I-94 from north to south.

Figure 4. BRT and LRT Alignments Proposed for Study in the Eastern Portion of the Corridor (as defined in the Scoping Booklet)



Alignment E was further refined during the Draft EIS Scoping process to include three alignment options: Alignments E1, E2, and E3 (see Figure 5). Alignment E1 would follow Hudson Road south of I-94 to Manning Avenue. Alignment E2 would follow Hudson Boulevard north of I-94 to Lake Elmo Avenue/Settlers Ridge Parkway where it would cross to the south and follow Hudson Road south of I-94 to Manning Avenue. Alignment E3 would follow Hudson Boulevard north of I-94 to Manning Avenue.

Figure 5. E Alignments Developed during Draft EIS Scoping (as shown in the Scoping Decision Document)



After publication of the Scoping Booklet, a managed lane alternative was added to the range of alternatives under evaluation.

The GCC recommended and WCRRA approved¹ the elimination of the LRT alternative. The Scoping Decision Document identifies six alternatives for additional study in the Draft EIS:

- No-Build alternative
- Managed Lane BRT alternative
- Dedicated BRT alternatives
 - ABC-D1-E1
 - ABC-D2-E1
 - ABC-D2-E2
 - ABC-D2-E3

The Dedicated BRT alternatives that were advanced from Draft EIS Scoping are illustrated in [Figure 6](#).

After publication of the Scoping Decision Document, the TAC and PAC recommended to remove Alternative ABC-D2-E1 from the Draft EIS analysis on September 16, 2015 and October 15, 2015, respectively. At those same meetings, the TAC and PAC also recommended to remove the Alignment E1 option that travels on Woodbury Drive and Hudson Road from further analysis. The Alignment E1 option that runs just to the south of I-94 (shown as a dotted line in [Figure 6](#)) was recommended to advance.

In a letter dated January 4, 2016, the Federal Highway Administration (FHWA) stated that their concerns driving the study of the Managed Lane alternative had been addressed. After the receipt of this letter, at their January 20, 2016 and April 14, 2016 meetings, respectively, the TAC and PAC recommended to screen the Managed Lane alternative from analysis in the Draft EIS.²

The alternatives that were approved to be studied in the Draft EIS, all Dedicated BRT alternatives, are illustrated in [Figure 7](#).

¹ WCRRA is the state Responsible Governmental Unit.

² Details on the Managed Lane alternative evaluation process can be found in the Managed Lane Bus Rapid Transit Alternative Technical Memo (November 2015).

Figure 6. Dedicated BRT Alternatives Advanced from Draft EIS Scoping

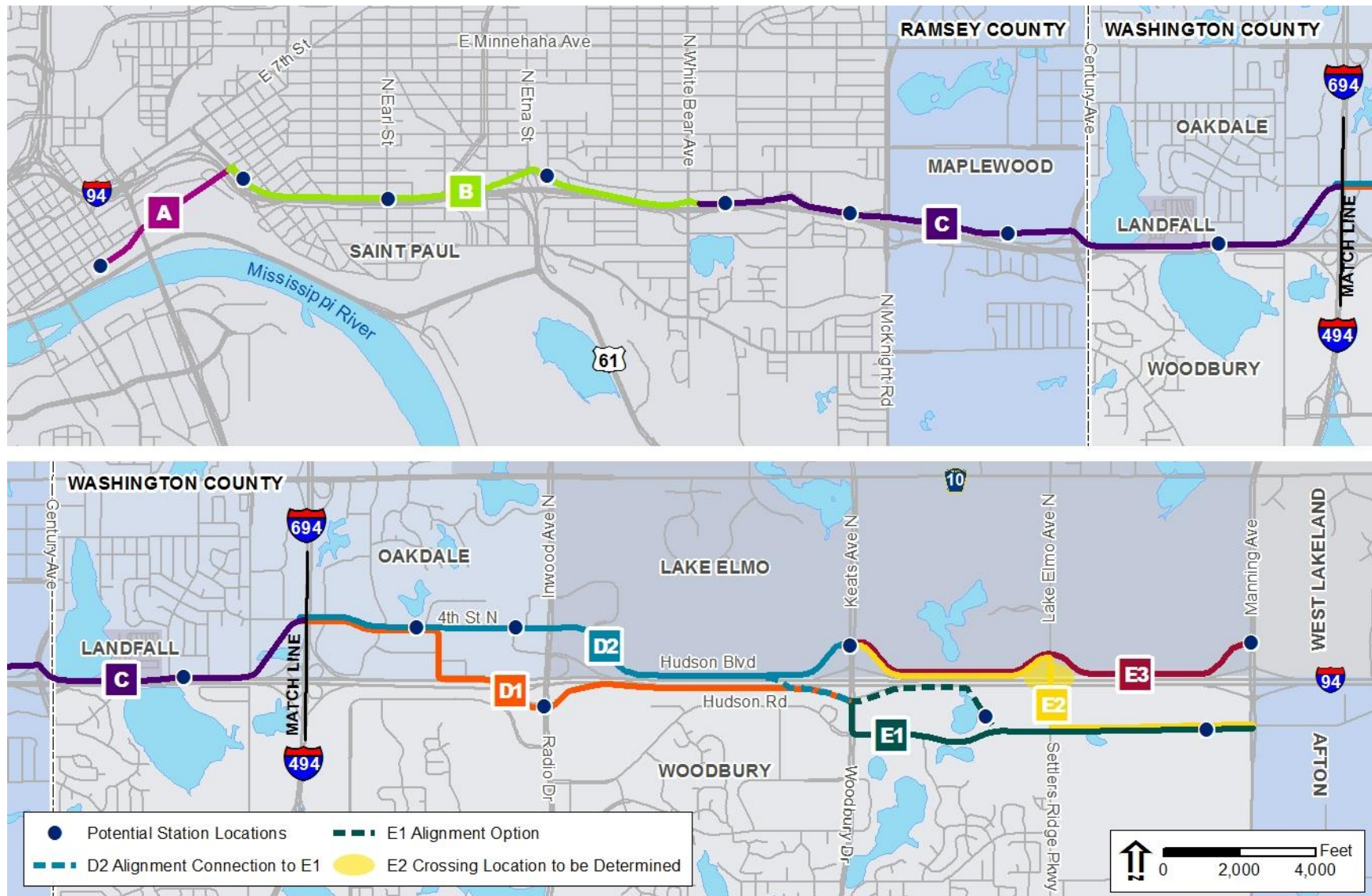
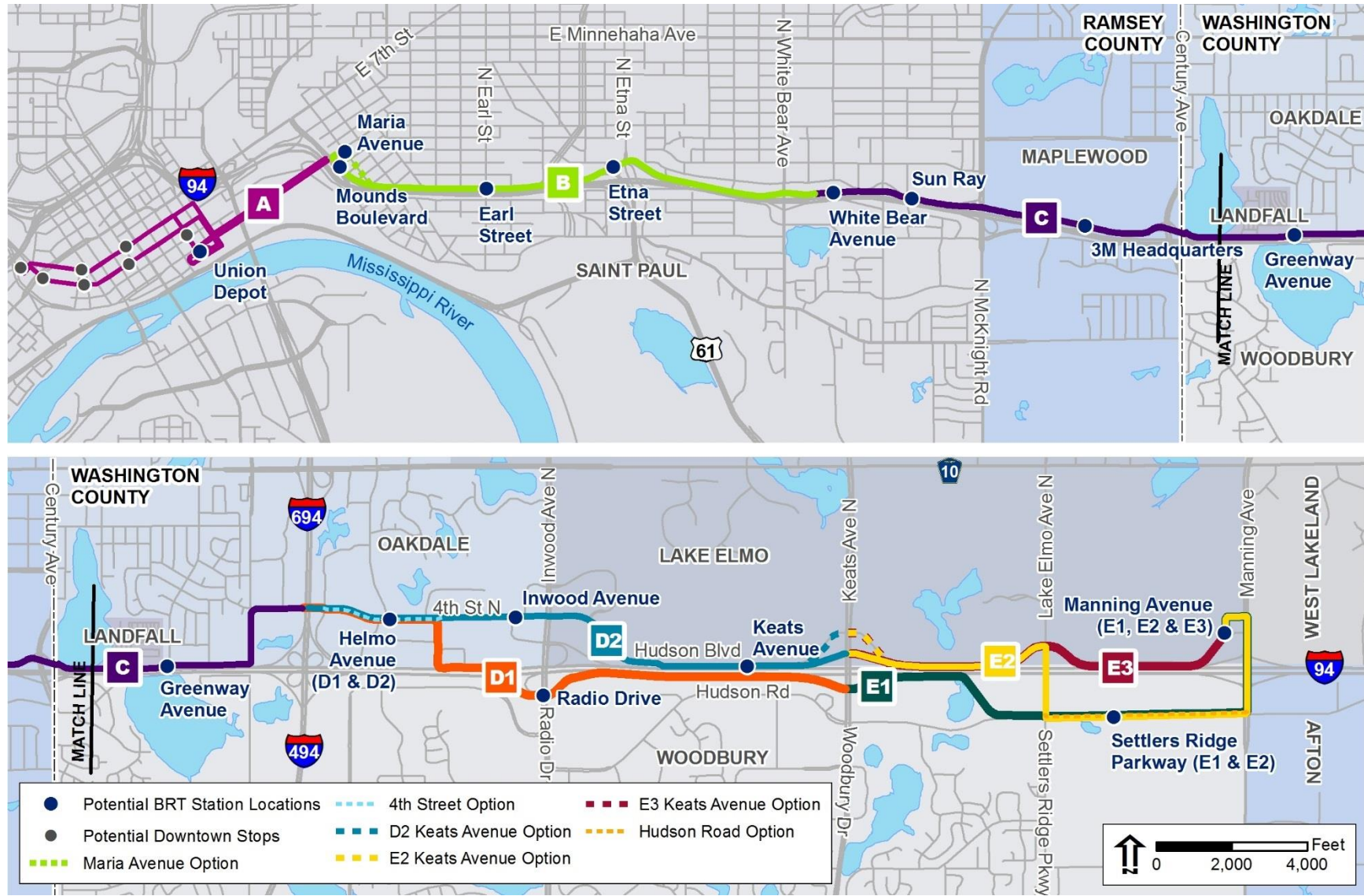


Figure 7. Alternatives Approved for Study in the Draft EIS



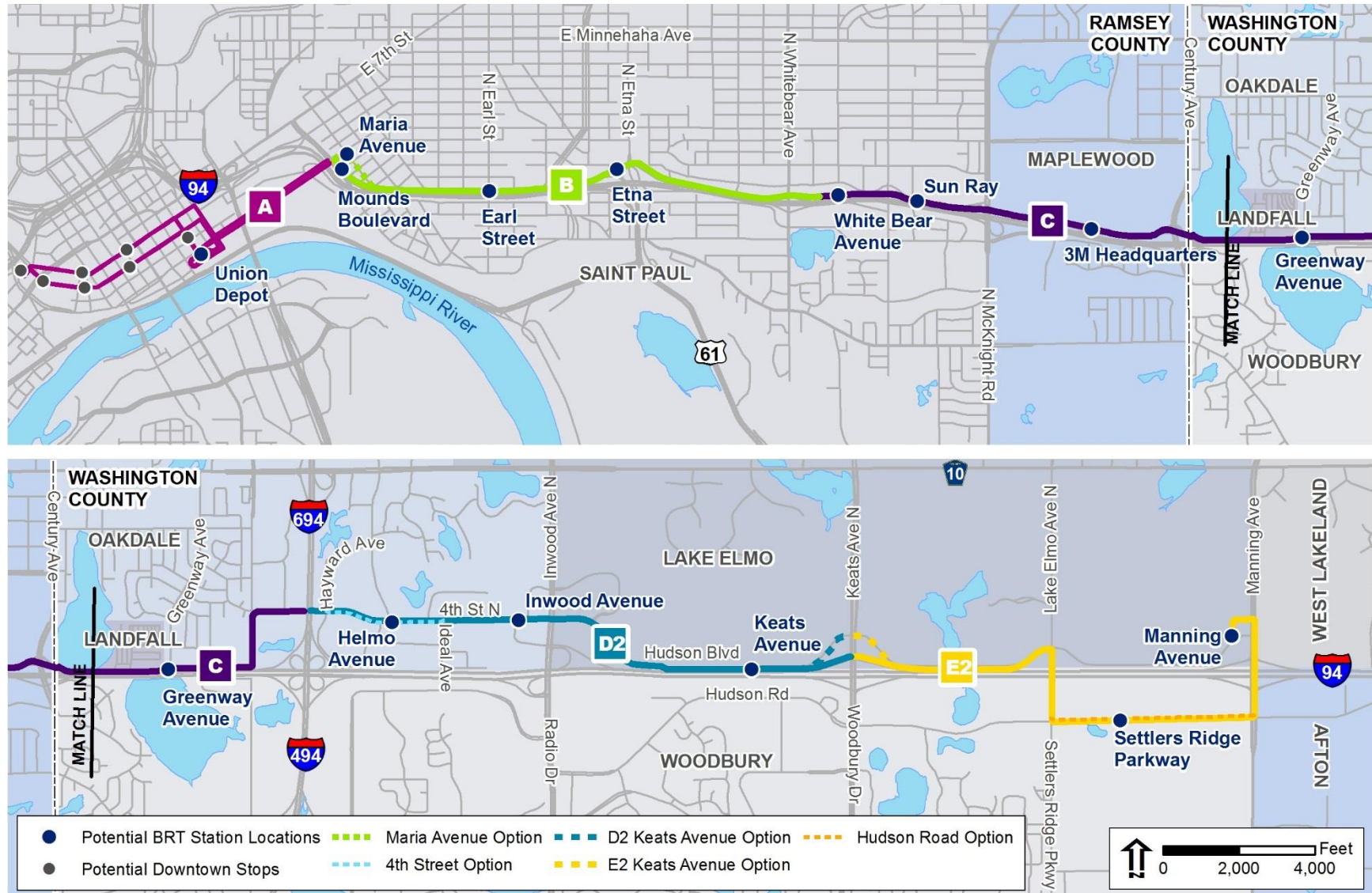
4.2 Previous Locally Preferred Alternative Process

The multi-step process to formally recommend and select a LPA for the Gateway Corridor began after the Scoping Decision Document was published. Following a public hearing, recommendations from the PAC and GCC, and passage of resolutions of support from the Cities of Saint Paul, Maplewood, Oakdale, Landfall, Woodbury, and Lake Elmo, RCRRRA and WCRRRA passed resolutions at their September 23, 2014 and October 7, 2014 meetings, respectively, recommending Alternative ABC-D2-E2 as the LPA for the Gateway Corridor. The LPA was described as BRT generally on the Hudson Road-Hudson Boulevard alignment that crosses to the south side of I-94 between approximately Lake Elmo Avenue and Manning Avenue. The LPA was adopted as part of the 2040 TPP (adopted by the Metropolitan Council in January 2015), the region's fiscally constrained long-range transportation policy and investment plan.

Although adopted into the 2040 TPP, the LPA did not define the route between Lake Elmo Avenue/Settlers Ridge Parkway and Manning Avenue. In order to determine the route in this segment of the alignment, additional analysis and coordination occurred. At their August 13, 2015 meetings, the PAC and GCC recommended a refined LPA for public comment. Following the public hearing, the PAC recommended Alternative ABC-D2-E2 as the LPA, as illustrated in [Figure 8](#).

Following the PAC's recommendation, resolutions of support were needed from each city and county in which the refined portion of the alignment is located to finalize the LPA selection. One city, Lake Elmo, did not pass a resolution of support for the refined LPA.

Figure 8. PAC Recommended LPA in 2015 (Alternative ABC-D2-E2)



4.3 Universe of Alternatives Developed in 2016

4.3.1. APPROACH TO DEVELOPMENT OF ALTERNATIVES

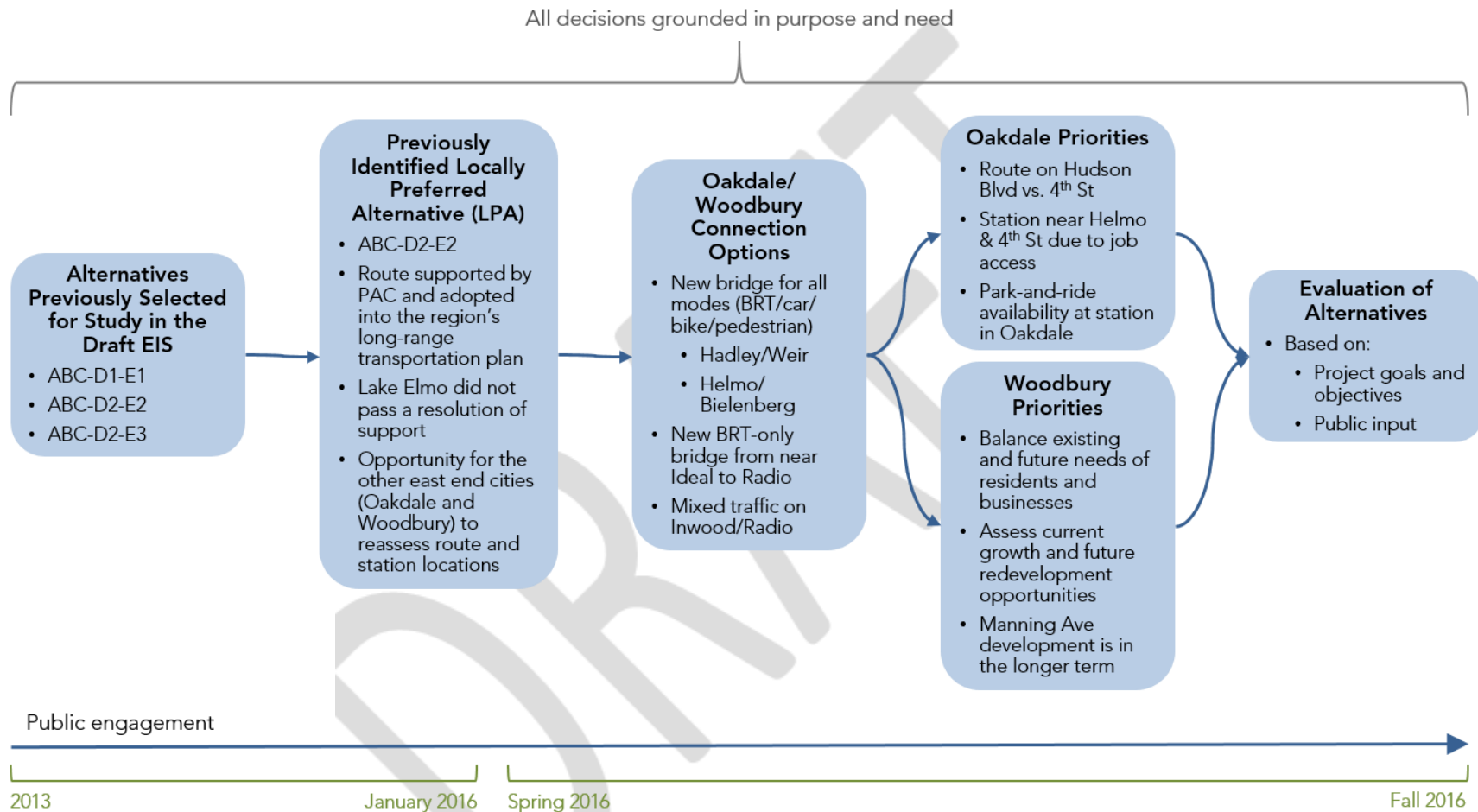
The development of alternatives in the eastern end of the project (east of I-694) reflect the direction provided by the Cities of Lake Elmo, Oakdale, and Woodbury, while maintaining the overall project goals and objectives, as described below.

- The Lake Elmo City Council did not pass a resolution of support for the previously refined LPA, indicating that they did not support the Gateway Corridor project being located in their community. Therefore, the new alignments developed do not enter the city of Lake Elmo.
- To determine the crossing location between Oakdale and Woodbury, a number of factors were considered, including the number of stations in Oakdale that would be served; engineering challenges associated with the crossing of I-94; ease of access to stations for cars and pedestrians; ridership potential; development opportunities; traffic benefits and impacts; and cost.
- The City of Woodbury focused on balancing the existing and future needs of residents and businesses in the development of potential alignments and station locations in Woodbury. The City assessed where growth is happening today and where redevelopment opportunities are in the future. Based on the development analysis and public input, the City found that development at Manning Avenue is in the longer term, but an alignment on Bielenberg Drive is consistent with public input on what areas should be accessible by transit. In addition, the City prioritized ending at an existing express bus park-and-ride to benefit current transit users in Woodbury, and there is an existing express bus park-and-ride at Woodbury Theatre on Bielenberg Drive. Because of these findings, alignment and station locations in Woodbury were focused on Bielenberg Drive.
- The City of Oakdale requested that alignments be considered that would follow Hudson Boulevard instead of 4th Street. The station locations in Oakdale were prioritized based on projected ridership, how riders would access the proposed stations, and development potential. A station near Helmo Avenue and 4th Street was identified as the priority. The City also wanted to explore options for also serving a station at Inwood Avenue.

Based on these factors and input from the Working Group, alternatives were developed and evaluated based on the project's defined goals and objectives, as described in the following sections. If a proposed alternative did not meet the project's Tier 1 goals, it did not advance for further evaluation. If it did meet the Tier 1 goals, it was then evaluated based on the Tier 2 goals. If it did not meet the Tier 2 goals, it did not advance for further evaluation. If it did meet the Tier 1 and Tier 2 goals, it advanced for consideration by the TAC.

The eastern end alternatives development process is illustrated in [Figure 9](#).

Figure 9. Eastern End Alternatives Development Process



4.3.2. ALTERNATIVES PREVIOUSLY APPROVED FOR STUDY IN THE DRAFT EIS

As discussed in Section 4.1, three Dedicated BRT alternatives were previously approved to be studied in the Draft EIS: Alternatives ABC-D1-E1, ABC-D2-E2, and ABC-D2-E3 (see [Figure 7](#)).

City of Woodbury staff indicated that they did not support Alternative ABC-D1-E1 due to the anticipated traffic impacts on Radio Drive and Woodbury Drive. This was reinforced by the City of Woodbury's resolution of support for the previously identified LPA (Alternative ABC-D2-E2), which stated that their support was predicated on the fact that the alignment west of Settlers Ridge Parkway would remain unchanged and would not compromise the movement of traffic at Radio Drive and Woodbury Drive.

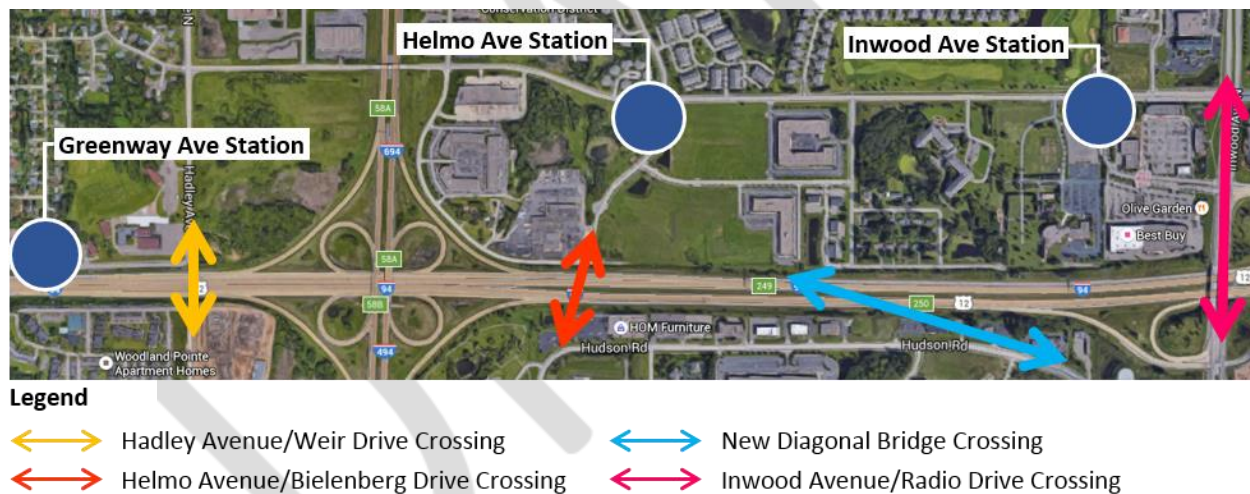
By deciding not to pass a resolution of support for the previously identified LPA, the City of Lake Elmo indicated that they did not support the Gateway Corridor project being located in their community. This lack of support would also extend to Alternative ABC-D2-E3.

Due to the lack of local support for these three alignments, they are not recommended to advance for detailed study in the Draft EIS.

4.3.3. OAKDALE/WOODBURY CONNECTION OPTIONS

Four options to connect Oakdale and Woodbury were evaluated as shown in [Figure 10](#) and discussed in the following sections.

Figure 10. Oakdale/Woodbury Connection Options



4.3.3.1. HADLEY AVENUE/WEIR DRIVE CROSSING

Crossing I-94 via a bridge from Hadley Avenue in Oakdale to Weir Drive in Woodbury was considered. An alignment with this crossing would have one station in Oakdale (at Greenway Avenue). This alignment would avoid the concerns of some residents on 4th Street that have engaged with the project to date, including accessibility impacts, increased traffic, noise, and safety concerns. The new bridge would be open to vehicles, bicycles, and pedestrians, which would help traffic on Inwood Avenue/Radio Drive. However, the existing elevations would create bridge engineering and access challenges.

Due to the limited service in Oakdale and engineering challenges, this crossing option was not recommended for further evaluation.

4.3.3.2. HELMO AVENUE/BIELENBERG DRIVE CROSSING

Crossing I-94 via a bridge from Helmo Avenue in Oakdale to Bielenberg Drive in Woodbury was considered. An alignment with this crossing would have two stations in Oakdale (at Greenway Avenue and Helmo Avenue), and connecting bus service would be provided to the existing park-and-ride at Guardian Angels Church. This alignment would avoid most of the concerns of residents on 4th Street. The new bridge would be open to vehicles, bicycles, and pedestrians, which would help traffic on Inwood Avenue/Radio Drive, and the existing topography is more favorable for bridge construction than at Hadley Avenue and Weir Drive.

This alternative was recommended by the Working Group to advance for further evaluation.

4.3.3.3. NEW DIAGONAL BRIDGE CROSSING

The new diagonal bridge evaluated would cross from a location between Helmo Avenue and Ideal Avenue in Oakdale to Hudson Road in Woodbury. An alignment with this crossing location would have two stations in Oakdale (at Greenway Avenue and Helmo Avenue) to provide access to job centers and residents. Connector buses would provide service to the existing Guardian Angels Church park-and-ride. This bridge would be open to BRT only, so it would not provide benefit to traffic on surrounding roadways, bicycles, or pedestrians. This bridge is the longest of the three bridges considered, which means it would be the most expensive. The location of the bridge would avoid most of the concerns of residents on 4th Street; however, it could create concerns for the residents on Hudson Boulevard.

Due to the lack of traffic benefits, cost, and impacts to residents on Hudson Boulevard, this crossing option was not recommended for further evaluation.

4.3.3.4. INWOOD AVENUE/RADIO DRIVE CROSSING

Crossing I-94 in mixed traffic on Inwood Avenue/Radio Drive was also considered.³ An alignment with this crossing location would have three stations in Oakdale (at Greenway Avenue, Helmo Avenue, and Inwood Avenue) to provide access to jobs centers and residents, but it would not address the concerns of residents on 4th Street. Traffic volumes on the Inwood Avenue/Radio Drive bridge over I-94 are high, which would slow BRT travel times and decrease the number of riders.

Due to the slow travel times and decreased ridership, paired with the concerns of residents on 4th Street that would not be addressed, this crossing option was not recommended for further evaluation.

4.3.3.5. RECOMMENDATION SUMMARY

Of the four crossings evaluated, three are not recommended for further evaluation:

- Hadley Avenue/Weir Drive crossing
- New diagonal bridge crossing
- Inwood Avenue/Radio Drive Crossing

One crossing, the Helmo Avenue/Bielenberg Drive crossing, was recommended for further evaluation by the Working Group.

4.3.4. OAKDALE AND WOODBURY ALIGNMENT/STATION OPTIONS

As discussed in Section 4.3.1, alignment and station locations in Woodbury were focused on Bielenberg Drive. The alignment would end near Valley Creek Road at the existing Woodbury

³ Crossing in a dedicated guideway on Inwood Avenue/Radio Drive was ruled out because of the significant traffic volumes on that roadway.

Theatre park-and-ride. There would be one other station in Woodbury located along Bielenberg Drive north of the park-and-ride.

In Oakdale, as discussed in Section 4.3.1, the priority was placed on serving a station at Helmo Avenue. Because the City also wanted to explore serving a station at Inwood Avenue, a number of routes were considered in Oakdale. If the routes continue into Woodbury, they would cross I-94 via a bridge from Helmo Avenue in Oakdale to Bielenberg Drive in Woodbury, as discussed in Section 4.3.3.

The alignments considered are discussed in the following sections.

4.3.4.1. END AT WOODBURY THEATRE PARK-AND-RIDE – OUT AND BACK/LOOP

Two alignments considered would end at Woodbury Theatre Park-and-Ride in Woodbury but would serve the Helmo Avenue and Inwood Avenue Stations via a loop (see [Figure 11](#)) or out and back route (see [Figure 12](#)).

Figure 11. Alignment Ending at Woodbury Theatre Park-and-Ride with a Loop to Serve the Helmo Avenue and Inwood Avenue Stations

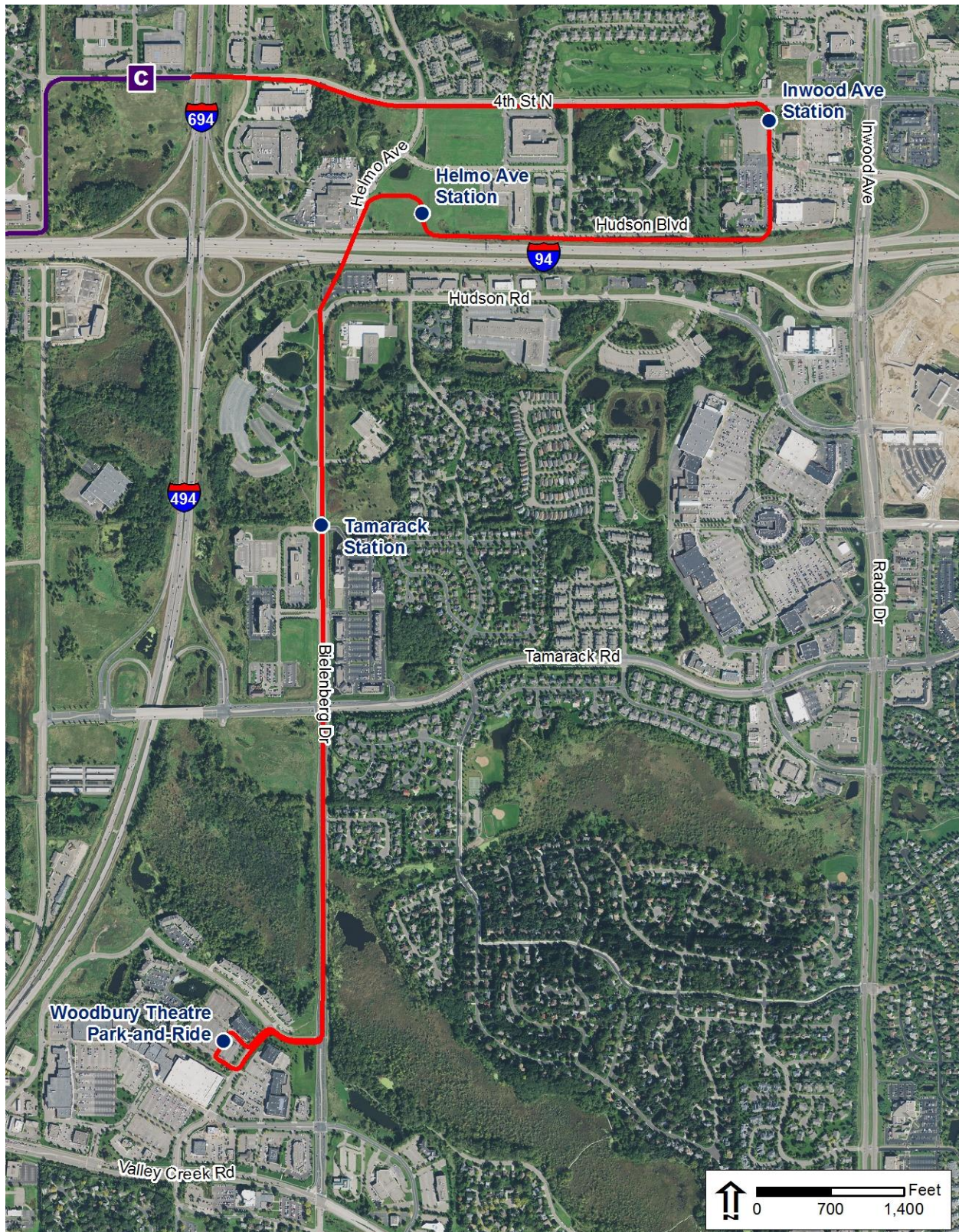
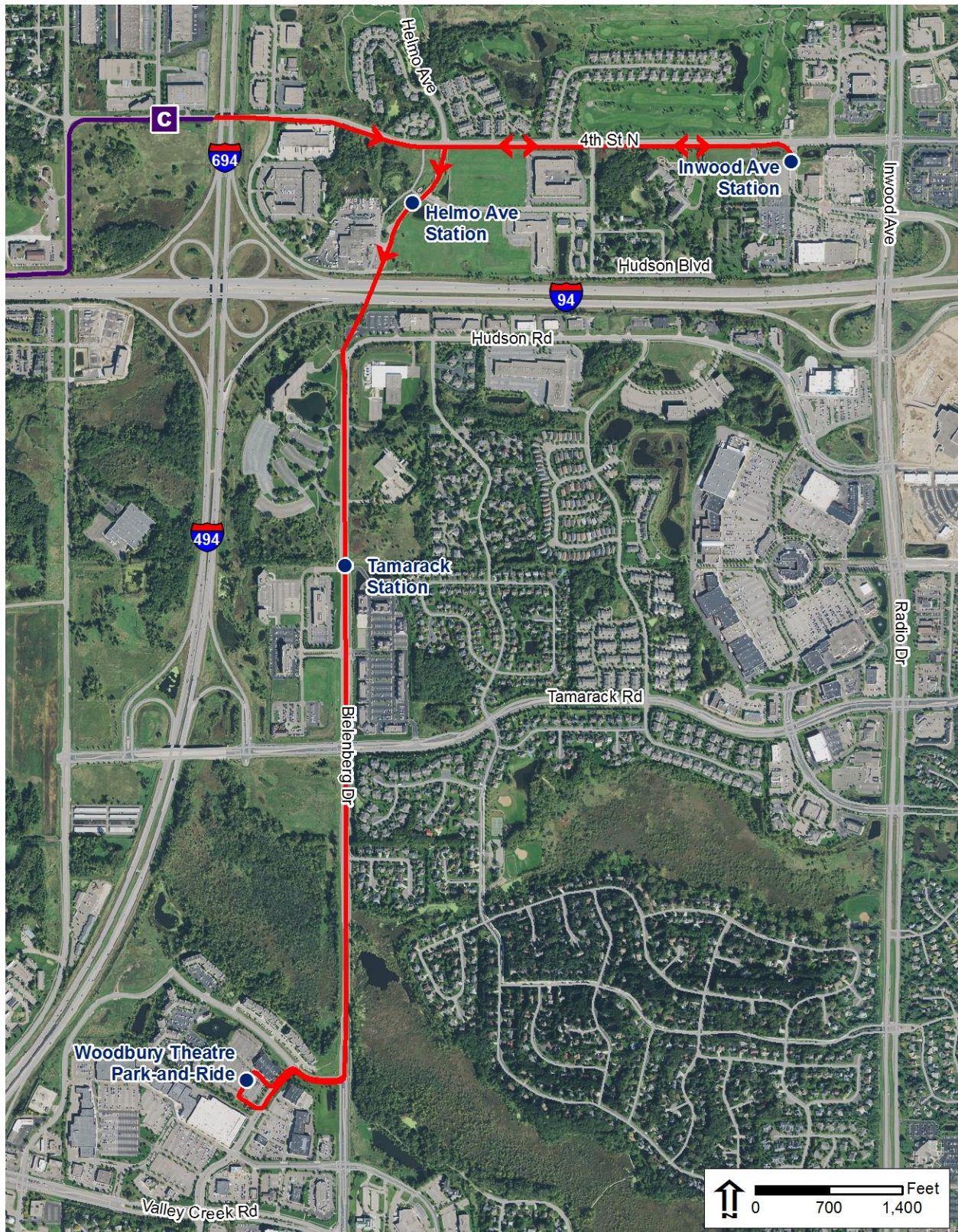


Figure 12. Alignment Ending at Woodbury Theatre Park-and-Ride with an Out and Back Route to Serve the Helmo Avenue and Inwood Avenue Stations



Loop Alignment

The loop alignment would have three stations in Oakdale (at Greenway Avenue, Inwood Avenue, and Helmo Avenue), providing access to job centers and residents. With a loop alignment, travel times would increase and the route could cause rider confusion, resulting in lower ridership. Additionally, capital and operating costs would increase given the additional length of dedicated BRT guideway required for the loop. For these reasons, this alignment would not meet the project's Tier 1 goals and is not recommended for further evaluation.

Out and Back Alignment

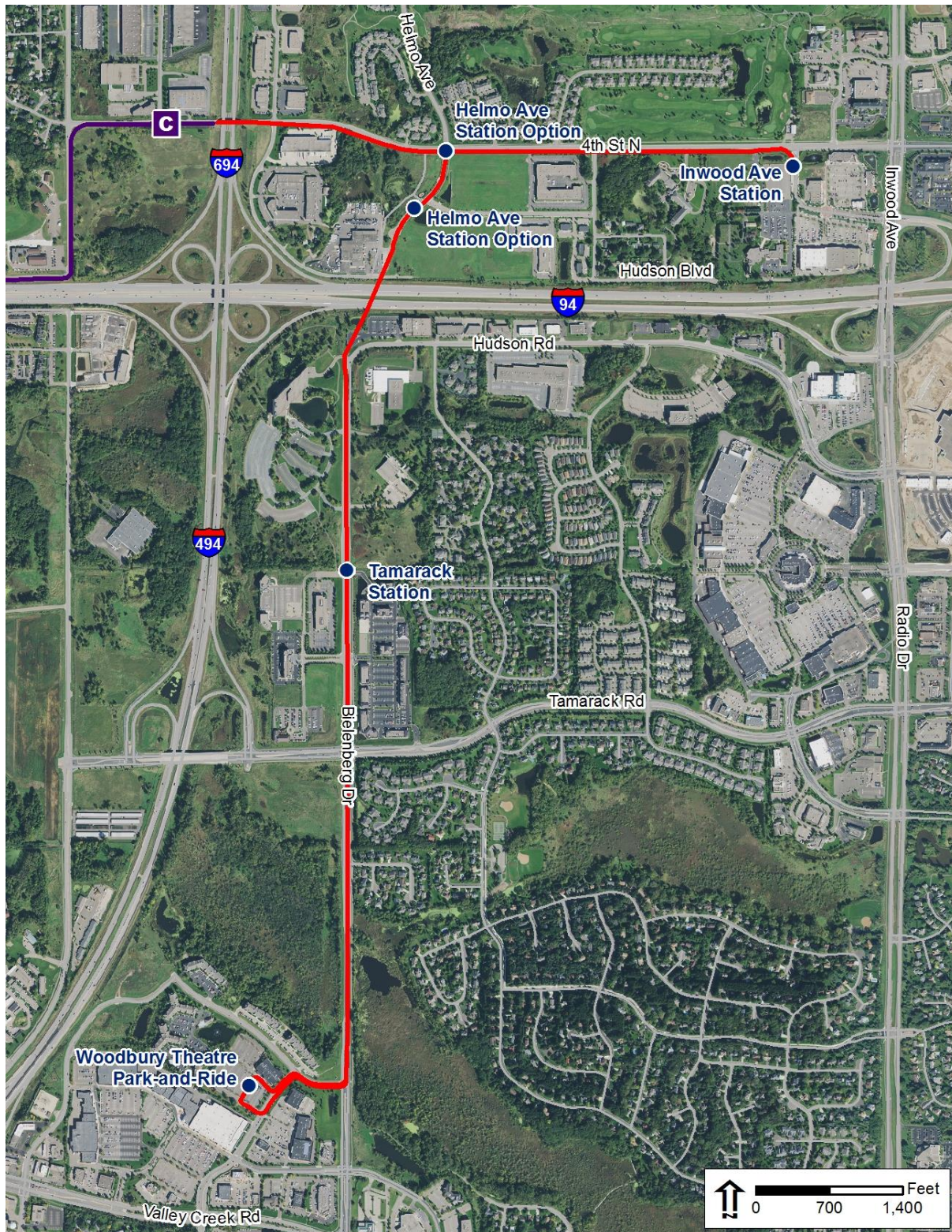
The out and back route would have stations at the same locations in Oakdale as the loop alignment, therefore providing the same benefit of access to job centers and residents. Similar to the loop alignment, it would also have a longer travel time and cause rider confusion, resulting in lower ridership. In addition, there would be double the amount of bus traffic on 4th Street between Helmo Avenue and the Inwood Avenue Station. Because of the longer travel time and poor rider experience, this alignment would not meet the project's Tier 1 goals and is not recommended for further evaluation.

4.3.4.2. END AT INWOOD AVENUE STATION AND WOODBURY THEATRE PARK-AND-RIDE (SPUR)

One alignment considered would have two spurs, one ending at the Inwood Avenue Station in Oakdale and one ending at the Woodbury Theatre Park-and-Ride in Woodbury (see [Figure 13](#)).

This alignment would have three stations in Oakdale (at Greenway Avenue, Helmo Avenue (see the two location options in [Figure 13](#)), and at Inwood Avenue), providing access to job centers and residents. With the spurs, there would be lower service frequency, additional capital and operating costs, and terminal station requirements at two locations. Additionally, preliminary ridership estimates reflected lower ridership for the spur option, given the lower service frequency and potential rider confusion. For these reasons, this alignment would not meet the project's Tier 1 goals and is not recommended for further evaluation.

Figure 13. Alignment Ending at Woodbury Theatre Park-and-Ride and Inwood Avenue Station via Spurs



4.3.4.3. END AT INWOOD AVENUE STATION

Two alignments considered would terminate at the Inwood Avenue Station near Guardian Angels Church on 4th Street. One would continue east on 4th Street east of I-694, and the other would follow Hudson Boulevard (see **Figure 14**). Both alignments would have three stations in Oakdale (one at Greenway Avenue, one at Helmo Avenue, and one at Inwood Avenue).

Figure 14. Alignments Ending at Inwood Avenue Station



Under both the 4th Street and Hudson Boulevard alignments, the Inwood Avenue Station would need substantial improvements to function as a terminal station. The existing park-and-ride at Guardian Angels Church near the Inwood Avenue Station would be used for parking, but it is currently at capacity so additional spaces would be needed to serve the BRT park-and-riders. In addition, this park-and-ride currently serves primarily express bus riders, which means that the lot is mostly used during weekday working hours. With BRT service being all day and bi-directional, the lot would be used during evenings and weekends as well, which could conflict with the parking needs of the church.

4th Street Alignment

The alignment on 4th Street would not avoid the concerns of some residents on 4th Street that have engaged with the project to date, which include accessibility impacts, increased traffic, noise, and safety concerns.

Based on the preliminary assessment, this alignment meets the project's Tier 1 goals and was advanced for more detailed evaluation as described in Section 4.3.5.

Hudson Boulevard Alignment

The alignment on Hudson Boulevard would require the Helmo Avenue Station to move to the south closer to I-94, which reduces ridership potential and accessibility from all locations. This alignment would avoid the concerns of residents on 4th Street, but it would also have a number of negative impacts, including:

- Commercial and residential property impacts all along Hudson Boulevard
- Impacts to Guardian Angels Church cemetery and parking
- Wetland impacts near Oak Meadows
- Property impacts to Oak Meadows

Due to the accessibility issues associated with the Helmo Avenue Station location and the issues at or adjacent to the Guardian Angels Church property, this alignment would not meet the project's Tier 1 goals and is not recommended for further evaluation.

4.3.4.4. END AT WOODBURY THEATRE PARK-AND-RIDE VIA HELMO AVENUE STATION

Two alignments considered would end at the Woodbury Theatre Park-and-Ride, serving a station at Helmo Avenue but not at Inwood Avenue (see [Figure 15](#)).

4th Street Alignment

The route on 4th Street would have two stations in Oakdale (Greenway Avenue and Helmo Avenue) to provide access to job centers and residents. Connector buses would provide service to the existing Guardian Angels Church park-and-ride. This alignment would avoid most of the concerns of the residents on 4th Street, effectively serve the Carlson Business Park development, and provide the route a more efficient I-94 crossing. To accommodate the dedicated BRT alignment and bridge over I-94, some access restrictions to one commercial property on Bielenberg Drive would be required.

Based on the preliminary assessment, this alignment meets the project's Tier 1 goals and was advanced for more detailed evaluation as described in Section 4.3.5.

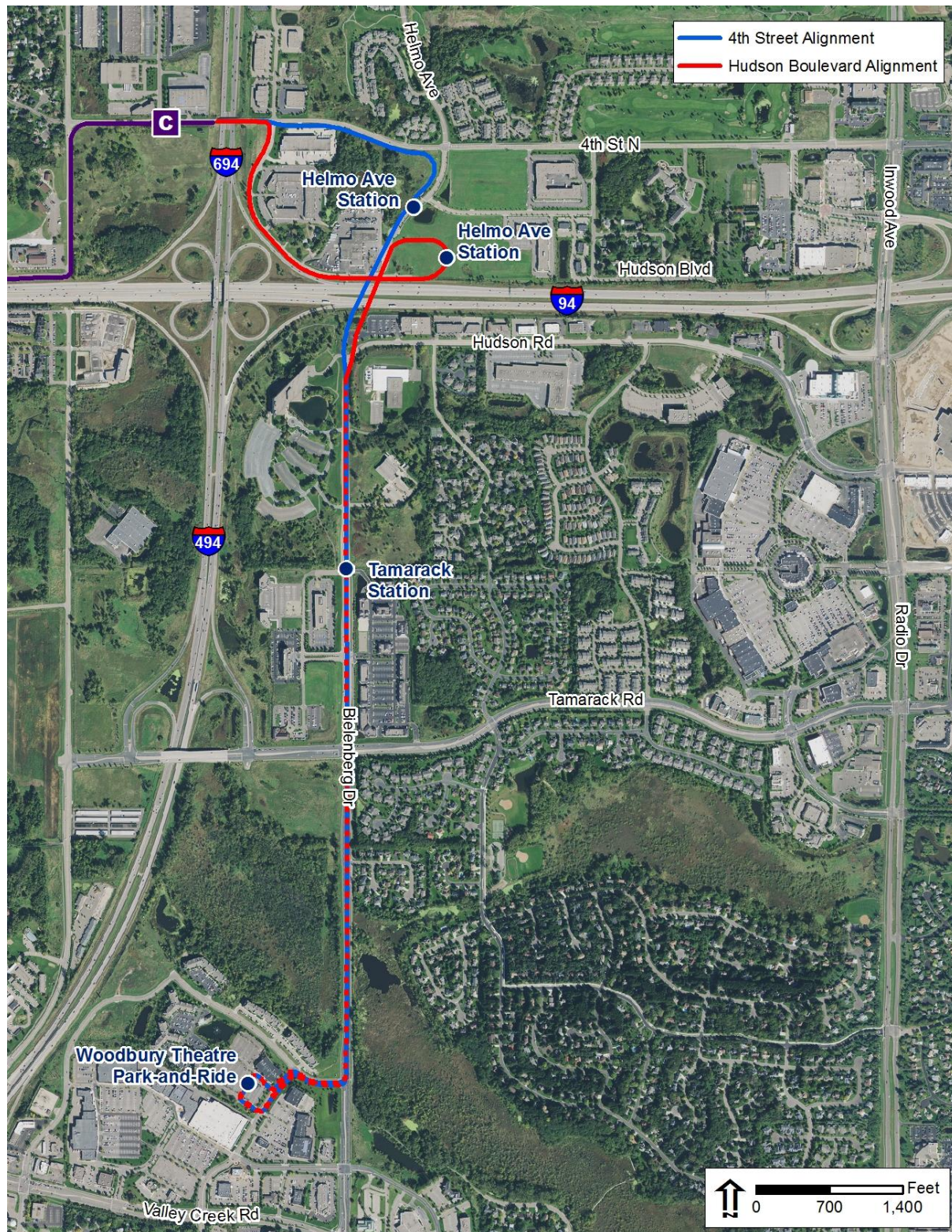
Hudson Boulevard Alignment

The route on Hudson Boulevard would also have two stations in Oakdale (Greenway Avenue and Helmo Avenue). Under this option, the proposed Helmo Avenue Station would be located closer to I-94, which reduces ridership potential and accessibility from all locations. Connector buses would provide service to the Guardian Angels Church park-and-ride. This alignment would avoid the concerns of the residents on 4th Street, but it would have a number of negative impacts including:

- Commercial property and access impacts along Hudson Boulevard
- Large property impact to the Carlson Business Park
- Challenging roadway bridge design due to the elevated loop needed to cross I-94

For these reasons, this alignment would not meet the project's Tier 1 goals and is not recommended for further evaluation.

Figure 15. Alignment Ending at Woodbury Theatre Park-and-Ride via Helmo Avenue Station



4.3.4.5. RECOMMENDATION SUMMARY

Of the seven alignments described in the preceding sections, five were not recommended for further evaluation based on the qualitative assessment described above:

- End at Inwood Avenue Station – Hudson Boulevard alignment
- End at Woodbury Theatre Park-and-Ride – loop alignment
- End at Woodbury Theatre Park-and-Ride – out and back alignment
- End at Inwood Avenue Station and Woodbury Theatre Park-and-Ride (via spurs)
- End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station – Hudson Boulevard alignment

Based on the preliminary assessments, two alignments meet the Tier 1 goals and were advanced for more detailed evaluation (see Section 4.3.5):

- End at Inwood Avenue Station – 4th Street alignment
- End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station – 4th Street alignment

4.3.5. ALTERNATIVES ADVANCED FOR MORE DETAILED EVALUATION

The project's two Tier 1 goals have been the main drivers for decision-making. Goal 1 is to improve mobility, and Goal 2 is to provide a cost-effective, economically viable transit option. To better evaluate how the alternatives that were advanced for more detailed evaluation met these goals, ridership, cost, and cost-effectiveness were assessed for the following two alignments:

- End at Inwood Avenue Station – 4th Street alignment
- End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station – 4th Street alignment

The TAC, CAC, and PAC also wanted the Working Group to consider access to jobs in its recommendation. Information on this topic is provided in Section 4.3.5.4.

4.3.5.1. RIDERSHIP

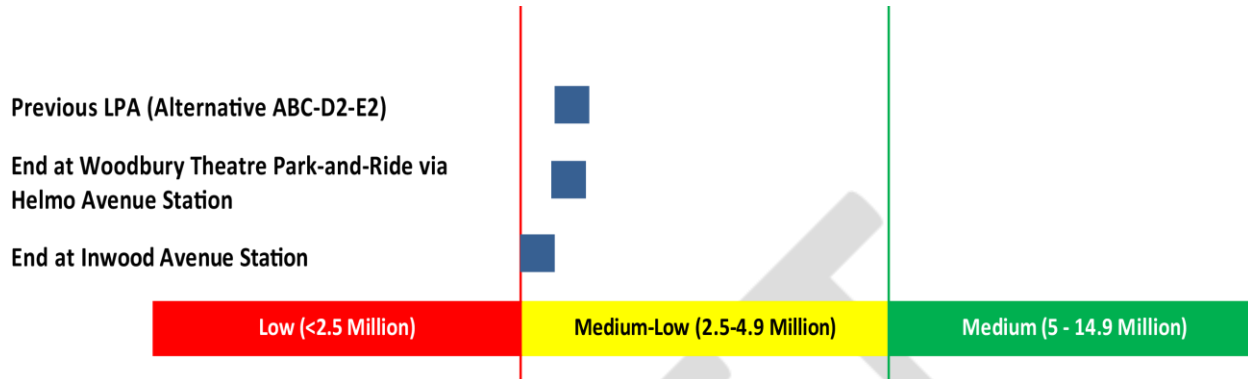
Projected (2040) ridership for the End at Inwood Avenue Station – 4th Street alignment and the End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station – 4th Street alignment is shown in [Table 1](#). Ridership for the previously identified LPA (Alternative ABC-D2-E2) is also provided for comparison.

Table 1. 2040 Transit Ridership

	Previous LPA (Alternative ABC-D2-E2)	End at Inwood Ave Station	End at Woodbury Theatre Park-and- Ride via Helmo Ave Station
Station to Station BRT	8,600	7,400	8,000
Guideway Express/Limited Stop (Routes 294, 350)	900	900	900
Total Ridership on the Guideway	9,500	8,300	8,900

Based on preliminary analysis, all three alignments are anticipated to have a medium-low ridership competitiveness rating based on the New Starts criteria, as shown in **Figure 16**.

Figure 16. Preliminary Ridership Competitiveness Ratings (weighted annual riders)



4.3.5.2. CAPITAL COST

Preliminary estimated capital costs have been prepared for the two alignments to advance for more detailed evaluation. Compared to the previously identified LPA (Alternative ABC-D2-E2), the capital cost for the End at Inwood Avenue Station – 4th Street alignment is estimated to be \$75 million less, and the capital cost for the End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station – 4th Street alignment is estimated to be \$25 million less.

4.3.5.3. PRELIMINARY COST-EFFECTIVENESS

Cost-effectiveness was determined based on the annualized capital plus operating cost per annual rider. The results for the End at Inwood Avenue Station – 4th Street alignment and the End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station – 4th Street alignment are shown in **Figure 17**. The cost-effectiveness assessment for the previously identified LPA (Alternative ABC-D2-E2) is also provided for comparison. The preliminary cost-effectiveness rating is provided as a range based on whether it includes or excludes connecting bus capital and operations and maintenance costs.

Figure 17. Preliminary Cost-Effectiveness Assessment



4.3.5.4. ACCESS TO JOBS

The number jobs available within walking distance of the BRT stations was determined for the two alignments that advanced for more detailed evaluation. Employment information for 2010 and 2040, categorized by job type, is shown in **Table 2**. The number of jobs within walking distance of the previously identified LPA (Alternative ABC-D2-E2) is also provided for comparison.

Table 2. Jobs Available Within Walking Distance of Stations

	Previous LPA (Alternative ABC-D2-E2)	End at Inwood Ave Station	End at Woodbury Theatre Park-and-Ride via Helmo Ave Station
2010			
Retail Jobs	5,400	4,450	6,800
Non-Retail Jobs	60,600	58,950	60,700
Total	66,000	63,400	67,500
2040			
Retail Jobs	5,950	4,600	7,950
Non-Retail Jobs	99,800	95,450	96,250
Total	105,750	100,050	104,200

The End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station – 4th Street alignment had more jobs available within walking distance in 2010 than the End at Inwood Avenue Station – 4th Street alignment, and that difference is expected to be maintained in 2040.

4.3.5.5. RECOMMENDATION SUMMARY

Based on the estimated ridership, capital cost, cost-effectiveness, and access to jobs for the two alignments advanced for more detailed evaluation, the Working Group recommended that the End at Inwood Avenue Station – 4th Street alignment be screened from further evaluation and the End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station – 4th Street alignment advance for evaluation in the environmental document.

5.0 Outreach Activities

This section summarizes the findings of outreach activities conducted to date. For a discussion of the overall public engagement approach, see Section 3.4. For more details on the outreach conducted, see the Gateway Corridor Eastern End Realignment Process: Summary of Public Involvement and Comments Received (October 2016).⁴

5.1 Phase 1

Members of the public could provide input on the refinement of the eastern end alignment and stations via a questionnaire provided on the project website, on social media, in an e-newsletter, and at city halls and libraries in the eastern portion of the corridor. The questionnaire solicited feedback on the following questions:

- What types of activities (jobs, shopping, housing, recreation, education, medical services, etc.) do you want to get to or from by using transit?
- Based on your answer above, what specific locations in Oakdale and Woodbury do you think would be good for transit stations? List as many as you wish.
- Are there particular benefits or impacts that you want decision makers and technical staff to be aware of?

⁴ Available at http://thegatewaycorridor.com/wp-content/uploads/2016/10/2016-10-06-Eastern-End-Public-Comment-Summary_FINAL.pdf

- Do you have any other comments on the Gateway Gold Line BRT project?

A total of 120 written and emailed comments and questionnaires were received between May 10, 2016 and August 3, 2016. Of these 120 comments, 81 noted benefits of transit and 39 noted concerns. Comments mainly indicated a preference for transit routing to the south of I-94 and named Tamarack Village, Woodbury Lakes, Woodbury Theatre Park-and-Ride, and Woodbury Commons as desirable locations to connect by transit. Access to destinations for work and recreation in downtown Saint Paul were listed, as were jobs and shopping opportunities in Woodbury during off-peak hours.

Comments also included requests for bicycle and pedestrian improvements throughout the corridor, especially around stations and to connect across I-94.

Several comments stated a preference for transit to remain off of 4th Street in Oakdale that were submitted by residents in that area.

All of the comments received and a map of the locations noted in the comments can be found in the Gateway Corridor Eastern End Realignment Process: Summary of Public Involvement and Comments Received (October 2016).⁵

5.2 Phase 2

5.2.1. NEIGHBORHOOD MEETINGS FOR BIELENBERG DRIVE RESIDENTS AND BUSINESSES

During the second phase of outreach, two neighborhood meetings were held on September 12, 2016 for businesses and residents along Bielenberg Drive. These meetings were conducted by the City of Woodbury with assistance from the Gateway Corridor project team. A total of approximately six business representatives and 11 residents attended the two meetings. Comment forms were provided at each meeting, and none were submitted.

5.2.2. PUBLIC EVENTS IN OAKDALE AND WOODBURY

Project staff attended public events in Oakdale (Touch-A-Truck event on September 13, 2016) and Woodbury (Big Truck Day event on September 24, 2016) to engage members of the community, provide project information, and collect feedback on eastern alignment routing options. At the two events, project staff engaged with a total of approximately 75 community members. Comment forms were provided at these events, and none were submitted but all community members that spoke with staff representatives provided supportive oral comments related to expanded transit in Oakdale and Woodbury.

5.2.3. PUBLIC OPEN HOUSE

A public open house was held on October 5, 2016 to share information about the eastern end realignment process, collect public feedback on the refined route, and review the options screened during technical analysis. Approximately 58 individuals attended the open house, and 12 comment forms were submitted.

5.2.4. SUMMARY OF COMMENTS RECEIVED DURING PHASE 2

Members of the public were able to provide input through a comment form on the project website, on social media, in an electronic newsletter, and through local media coverage. Written and oral comments were also received at the events described above.

⁵ Available at http://thegatewaycorridor.com/wp-content/uploads/2016/10/2016-10-06-Eastern-End-Public-Comment-Summary_FINAL.pdf

The comment form solicited feedback on the following questions, using a fact sheet that explained the decision-making timeline and detailed maps of the eastern end realignment options:

- Using the maps as a guide, please comment on the route options through Oakdale and Woodbury.
- Are there particular benefits or impacts that you want decision-makers and technical staff to be aware of?
- Do you have any other comments on the Gateway Corridor project?

A total of 33 written and emailed comments were received between August 3, 2016 and October 6, 2016. Comments ranged from general support for the project to a desire for the project to stop completely. Several comments expressed a desire to access jobs, retail, and commercial destinations south of I-94 in Woodbury in addition to destinations in downtown Saint Paul. There was largely a positive response to a route along Bielenberg Drive with some commenters expressing a desire to have the route serve both the Inwood and Woodbury Theater Stations.

6.0 Alternatives Recommended to Advance into the Environmental Document

6.1 TAC Recommendation

Based on the estimated ridership, capital cost, cost-effectiveness, and access to jobs for the two alignments advanced for more detailed evaluation, the TAC, at their September 21, 2016 meeting, concurred with the Working Group recommendation to screen the End at Inwood Avenue Station – 4th Street alignment from further evaluation and to advance the End at Woodbury Theatre Park-and-Ride via Helmo Avenue Station – 4th Street alignment for evaluation in the environmental document. With the recommendation on the eastern end alignment, the Build alternative recommended for evaluation in the environmental document is defined as Alternative ABC-D3 ([Figure 18](#)).

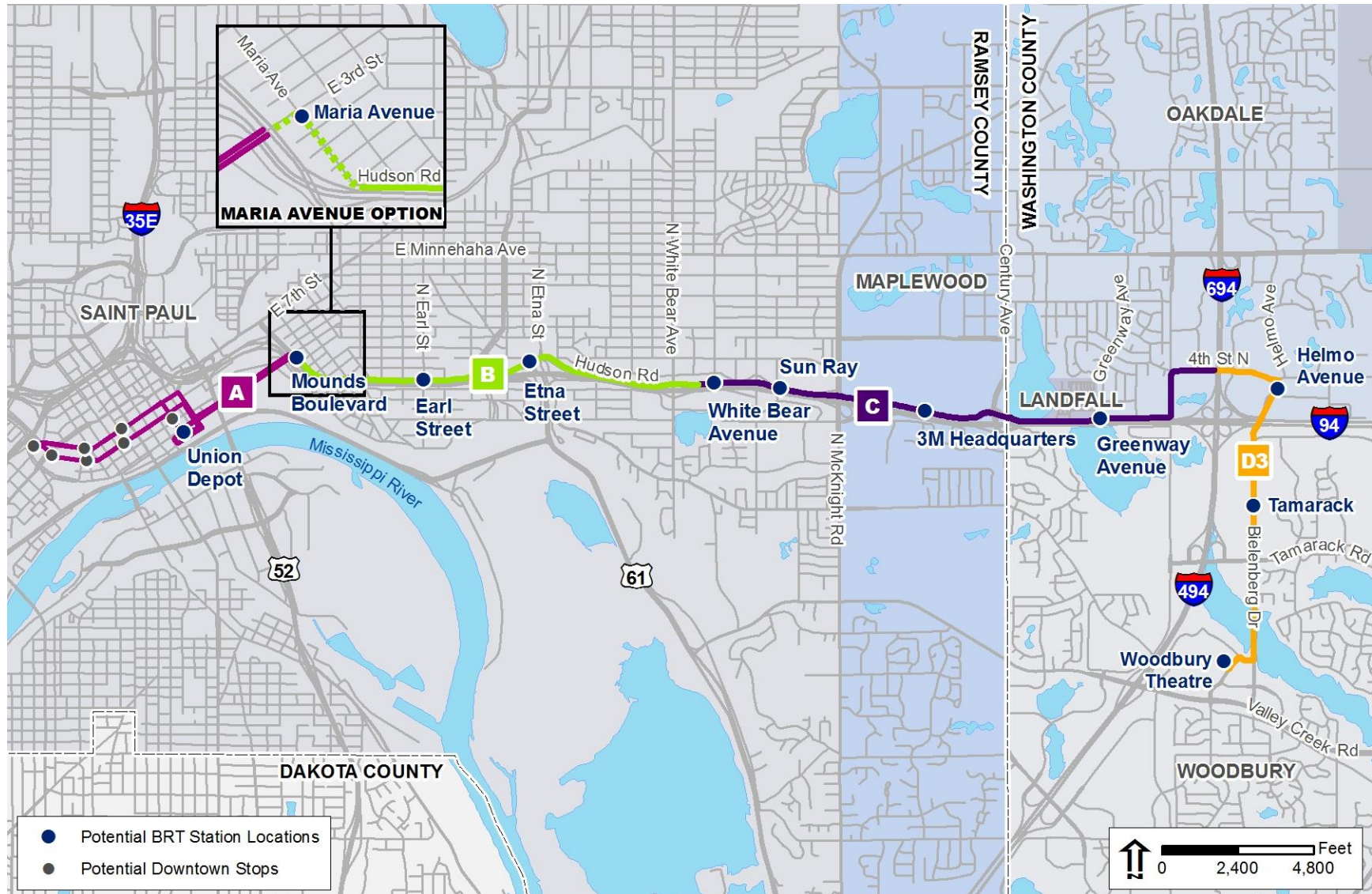
6.2 PAC Recommendation

At their October 13, 2016 meeting, the PAC accepted the TAC's recommendation that Alternative ABC-D3 should be the only route studied in the environmental document.

6.3 GCC Recommendation

At their October 13, 2016 meeting, the GCC accepted the recommendation of the TAC and PACC that Alternative ABC-D3 should be the only route studied in the environmental document.

Figure 18. Alternative ABC-D3



7.0 Alternative Recommended as LPA

[In process]

7.1 TAC Recommendation

For the reasons noted above in Section 6.1, the TAC, on September 21, 2016, recommended that Alternative ABC-D3 advance as the recommended LPA for the Gateway Corridor.

7.2 PAC Recommendation

At their October 13, 2016 meeting, the PAC accepted the TAC's recommendation that Alternative ABC-D3 advance as the draft LPA.

7.3 GCC Recommendation

At their October 13, 2016 meeting, the GCC accepted the recommendation of the TAC and PAC that Alternative ABC-D3 advance as the draft LPA.