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# Executive Summary

## Introduction

The Metropolitan Atlanta Rapid Transit Authority (MARTA) conducted an Alternatives Analysis (AA) to identify and evaluate transit improvements within the Beltline corridor in an effort to improve local and regional mobility, accessibility and connectivity, and to support the City of Atlanta's redevelopment plans. The Beltline is a 22-mile loop of existing rail corridor that encircles the City of Atlanta's Central Business District (CBD), specifically the Downtown and Midtown areas.

## Study Area Description

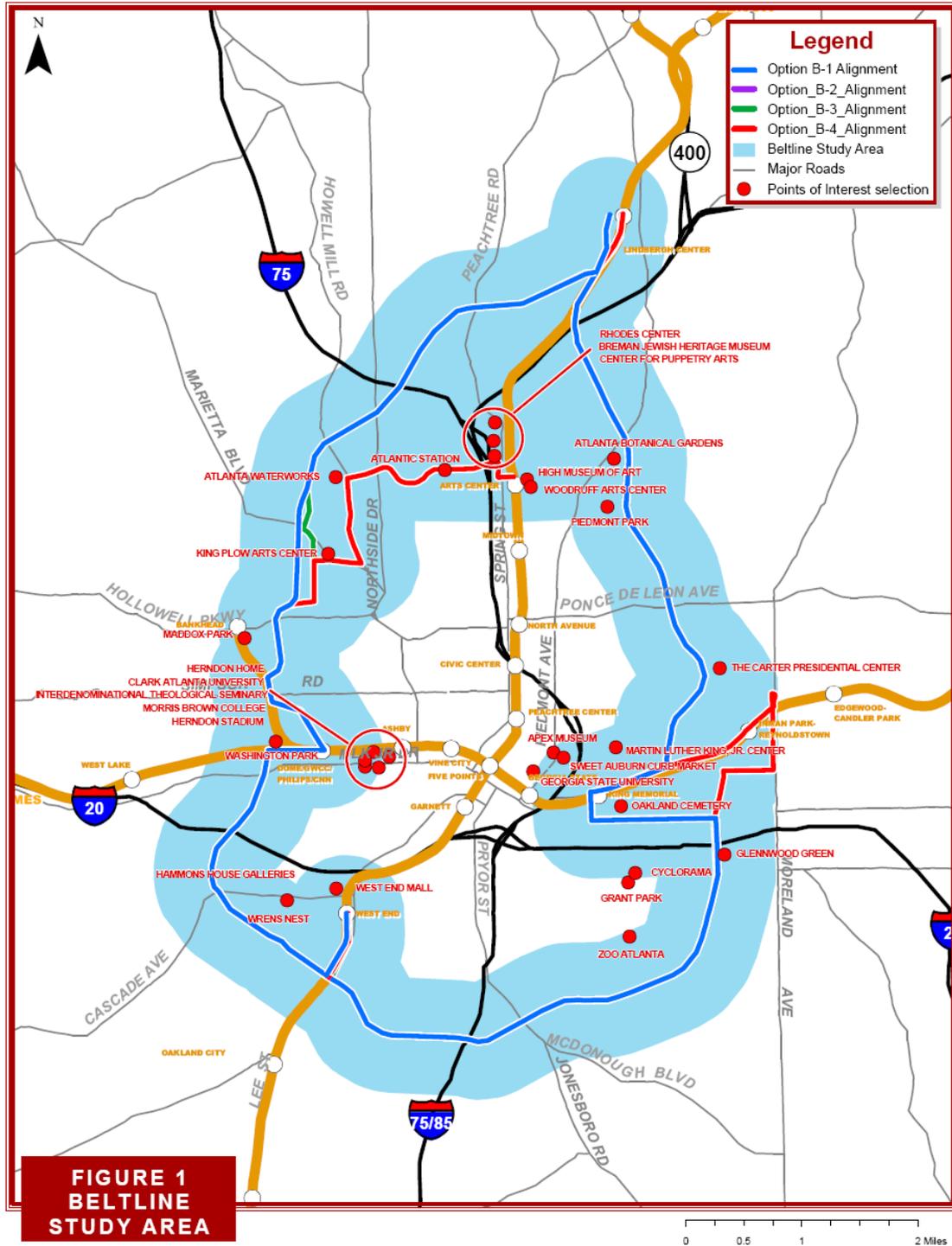
The Beltline Corridor study area contains many of Atlanta's residential neighborhoods, major employment centers, a majority of the parks in the central city area, as well as a significant number of major attractions and points of interest. The study area identified in Figure 1 follows a series of railway tracks, approximately two to four miles from the center and encircles downtown Atlanta. The proposed Beltline would connect the existing MARTA rail network with up to 45 established residential communities, new affordable housing developments, light industrial areas, and abandoned areas identified for redevelopment. In addition, the Beltline would support the metropolitan Atlanta regional transit system, including the existing MARTA rail and bus network, other regional bus services, future Bus Rapid Transit (BRT) projects along I-75, I-285, Memorial Drive and Buford Highway, and the pending commuter rail service between Lovejoy and downtown Atlanta.

## Project Development Process

In April 2005, the MARTA Board of Directors approved the initiation of the Inner Core Alternatives Analysis. The original charge of the study was to assess the merits of two distinct transit alignments, the Beltline and the C-Loop. In January 2006, the MARTA Board approved a resolution to split the Inner Core study into two separate but parallel studies for the Beltline and C-Loop. The separation of the two projects provided the opportunity to focus on the distinct needs of each corridor and the simplicity needed to segment and phase the projects. It also recognized jurisdictional support and resources for projects, addressed Federal Transit Administration (FTA) concerns regarding independent utility and logical termini, and improved project posture for potential New Starts Funding.



**Figure ES-1: Beltline Study Area**





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The development of the Purpose and Need Statement was a critical step in the Alternatives Analysis (AA) process and an important factor in determining and evaluating the various potential mobility solutions for the Beltline corridor. The Statement presents the following goals and objectives developed from information obtained through a significant public involvement process, regional plans and other regional transportation studies.

### *Goals and Objectives*

- Improve mobility, access and reliability for personal travel within the Beltline Corridor.
- Contribute to a seamless, integrated regional multimodal transportation network that fully utilizes the capacity of the MARTA rail system, the existing bus systems and the existing roadway network.
- Provide a bicycle and pedestrian friendly transit environment.
- Promote seamless intermodal connectivity, increase community access to the existing rail rapid transit network and support the development of a continuous urban fabric through the core of the Atlanta Region.
- Provide compatible transportation solutions that support ARC's Regional Development Plan (RDP) by connecting existing neighborhoods and facilitating emerging trends towards mixed-use redevelopment.
- Support local and regional land use development policies and plans, such as the *New Century Economic Development Plan for the City of Atlanta* - and fulfill the needs of emerging transit supportive land uses.
- Improve air quality, reclaim Brownfields, promote equity and preserve natural resources.

The evaluation process for the Beltline AA involved two steps, Prescreening/Fatal Flaw Analysis and Detailed Screening evaluation. The first step, Prescreening/Fatal Flaw Analysis, reduced the "universe of alternatives" to combinations of alignment and technology that lacked unreasonable constraints in implementation and continued to support the Purpose and Need for the study. Through the prescreening evaluation of five potential technologies, three modes, BRT, Modern Streetcar (also referred to as 'Streetcar'), and Light Rail Transit (LRT), received the highest ratings. These three technologies were carried forward into the Fatal Flaw Analysis, in combination with four alignment alternatives refined with public and stakeholder input following the Feasibility phase and the separation of the C-Loop project elements. The Fatal Flaw analysis revealed cost-prohibitive (an additional \$50 to \$80 million) and potentially severe adverse impacts associated with **Alternatives B3 LRT** and **B4 LRT** to either overpass, underpass, or circumvent the CSX Hulsey Yard and MARTA heavy rail tracks in east Atlanta. As a result, these two alternatives were



dropped from further consideration, leaving ten alternatives for Detailed Screening, which constituted the second step in the AA evaluation process. The Detailed Screening evaluated each of the remaining alternatives by applying criteria and performance measures developed with input from the public and other key stakeholders. More details regarding the first step in this process are detailed in the MARTA Prescreening/Fatal Flaw Analysis technical memorandum (June 2006). Figure 2 illustrates the evolution of the number of alternatives considered from the conclusion of the Inner Core Feasibility phase to the Prescreening/Fatal Flaw Analysis.

### Beltline Alternatives

The Prescreening/Fatal Flaw analysis resulted in 11 candidate alternatives based on technology screening, qualitative analysis and public input. The candidate alternatives include the Transportation Systems Management (TSM) Alternative and ten Build Alternatives. Table 1 describes the Build Alternatives, the number of potential stations along each alternative, and connections with MARTA heavy rail service.

The TSM Alternative is defined by FTA as the “best that can be done” to improve mobility in the corridor without major capital investment in new infrastructure. Generally, TSM Alternatives are intended to serve the same markets and provide a level of service as close as possible to the Build Alternatives, but with relatively low cost approaches.

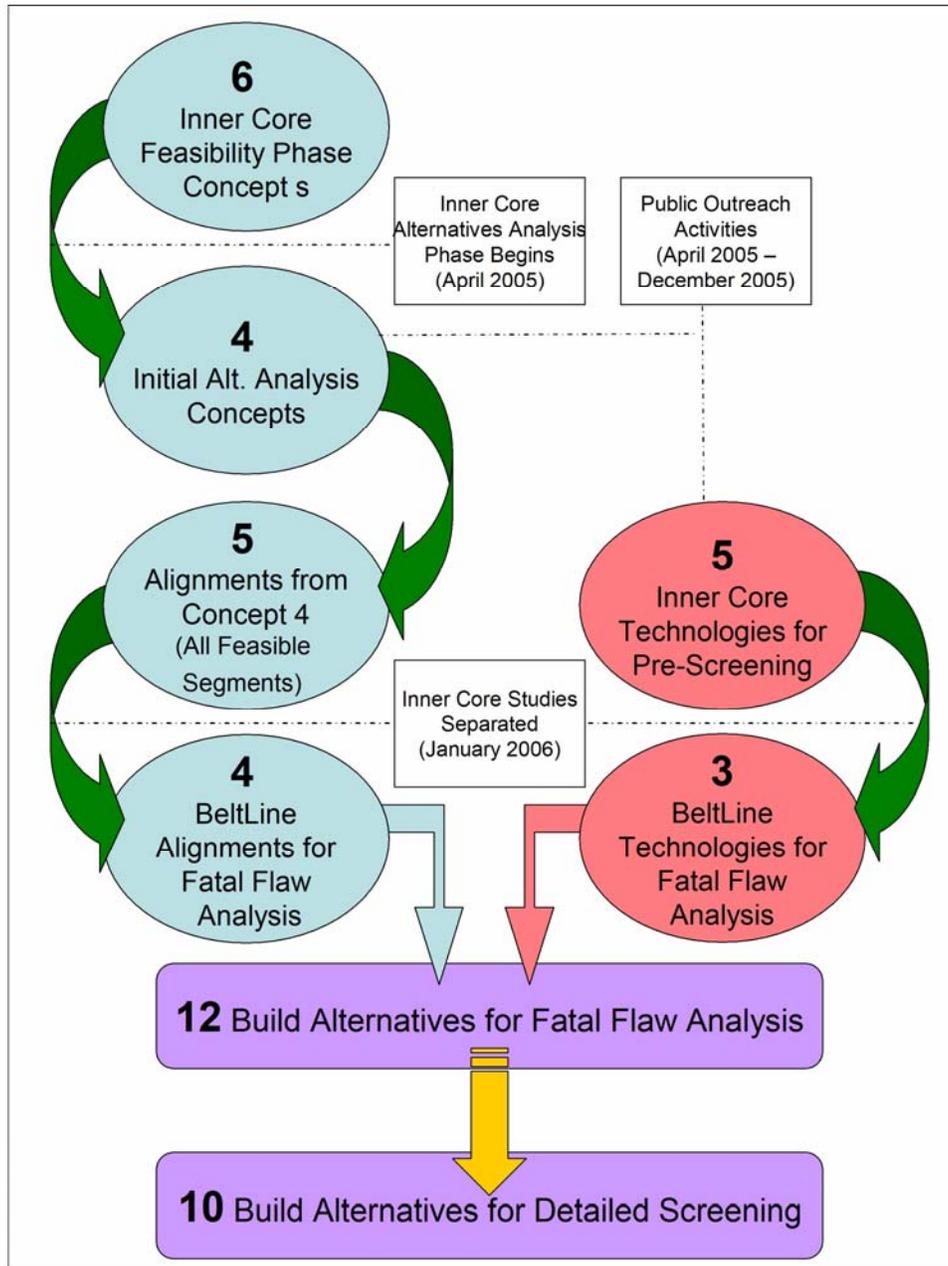
For the Beltline AA, the TSM Alternative included two new bus routes serving the same markets as the Build Alternatives, as well as modifications to the feeder bus network. It also included a number of “background” improvements that are consistent across all alternatives.

**Table ES-1: Alternative Alignments**

Alternative Alignment	Potential Stations (Preliminary)	Connection with MARTA Heavy Rail:			
		North Line	South Line	East Line	West Line
B1	40	Lindbergh	West End	King Memorial	Ashby
B2	39	Arts Center (from west), Lindbergh (from east)	West End	King Memorial	Ashby
B3	41	Lindbergh	West End	Inman Park-Reynoldstown	Ashby
B4	40	Arts Center (from west), Lindbergh (from east)	West End	Inman Park-Reynoldstown	Ashby



**Figure ES-2: Summary of Development of Alternatives through Fatal Flaw Analysis**





The Build Alternatives are located along two basic alignments with two connection points:

- Northwest Alignments: Bankhead to Lindbergh (**Alternative B1**); Bankhead to Arts Center (**Alternative B4**).
- Eastside Alignments: Lindbergh Center to King Memorial (**Alternative B2**); Lindbergh Center to Inman Park-Reynoldstown (**Alternative B3**)

The four alternative alignments evaluated are shown in Figures 3 through 6. The technologies considered included:

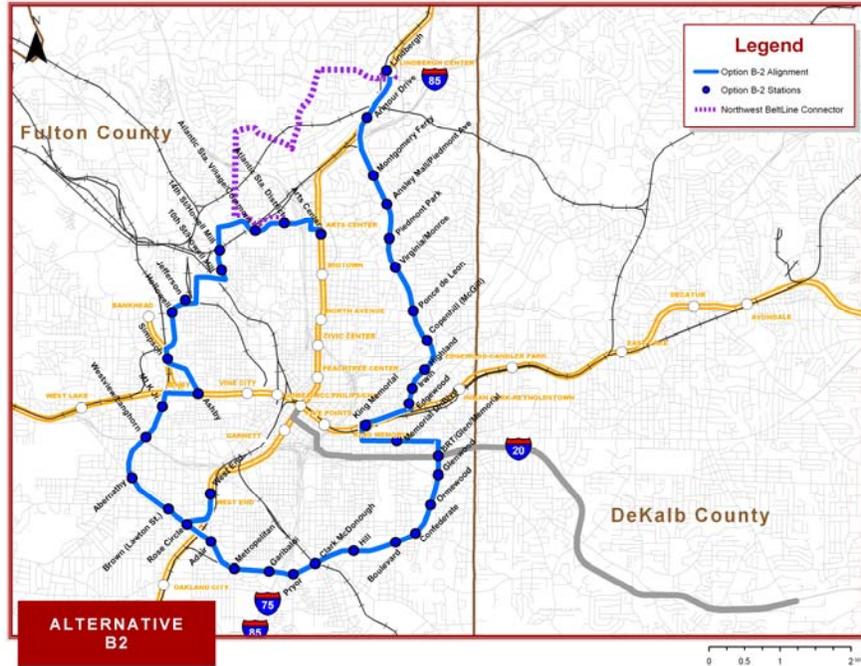
- Light Rail Transit (**LRT**)
- Modern Streetcar (**Streetcar**)
- Bus Rapid Transit (**BRT**)

**Figure ES-3: Alternative B1**





**Figure ES-4: Alternative B2**

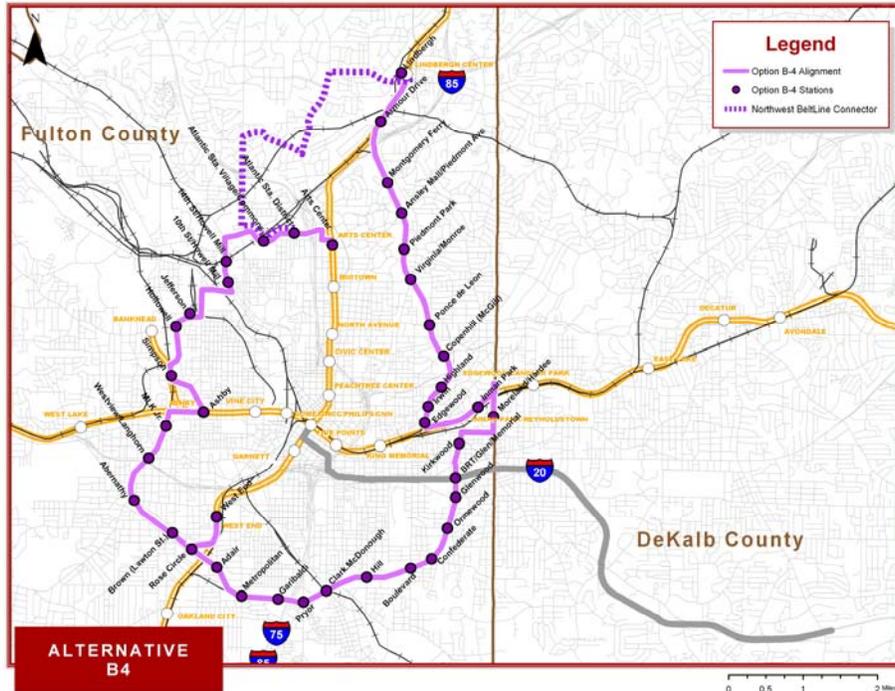


**Figure ES-5: Alternative B3**





**Figure ES-6: Alternative B4**



### Detailed Screening Evaluation Results

Table 2 compares alignment options for both the northwest quadrant (with stops at either Arts Center or Lindbergh MARTA Stations) and the eastside (with stops at either Inman Park-Reynoldstown or King Memorial MARTA Stations), as well as technology options (BRT, LRT, and Modern Streetcar). It also provides an analysis of the ratings, merits and disadvantages for each of the ten Detailed Screening alternatives based on the evaluation criteria.

Alternatives B1 and B3 outperformed Alternatives B2 and B4 in the Mobility and Accessibility evaluation category. Alternatives B1 and B2 outperformed Alternatives B3 and B4 in the Land Use and Redevelopment evaluation category.

Overall, Alternatives B1 and B3 outperformed Alternatives B2 and B4 in the Environmental Effects evaluation category. Of the four evaluation categories, Cost Effectiveness was the only category with quantitative performance measures that can delineate the alternatives by mode. Regardless of alignment, BRT Alternatives outperformed their comparative modes across all performance measures in the Cost Effectiveness category.



**Table ES-2  
Summary of Technical Results**

SUMMARY MATRIX	Lindbergh/Lindbergh via King Memorial			Lindbergh/Arts Center via King Memorial			Lindbergh/Lindbergh via Inman Park-Reynoldstown		Lindbergh/Arts Center via Inman Park-Reynoldstown	
	ALT B1 BRT	ALT B1 Streetcar	ALT B1 LRT	ALT B2 BRT	ALT B2 Streetcar	ALT B2 LRT	ALT B3 BRT	ALT B3 Streetcar	ALT B4 BRT	ALT B4 Streetcar
MOBILITY & ACCESSIBILITY	2.62	2.62	2.62	1.45	1.45	1.45	2.54	2.54	1.38	1.38
LAND USE & REDEVELOPMENT	1.42	1.78	1.78	1.54	1.90	1.90	1.12	1.39	1.25	1.52
ENVIRONMENTAL EFFECTS	1.63	1.63	1.63	1.22	1.22	1.22	1.57	1.57	1.13	1.13
<b>PRE-COST EFFECTIVENESS SCORE (Max. = 7.50)</b>	<b>5.67</b>	<b>6.03</b>	<b>6.03</b>	<b>4.21</b>	<b>4.57</b>	<b>4.57</b>	<b>5.23</b>	<b>5.50</b>	<b>3.76</b>	<b>4.03</b>
<b>PRE-COST EFFECTIVENESS RANKING</b>	<b>3</b>	<b>1 (Tie)</b>	<b>1 (Tie)</b>	<b>8</b>	<b>6 (Tie)</b>	<b>6 (Tie)</b>	<b>5</b>	<b>4</b>	<b>10</b>	<b>9</b>
COST EFFECTIVENESS	2.07	1.20	0.60	2.07	0.86	0.40	2.18	1.25	2.18	0.94
<b>TOTAL (Max. = 10.00)</b>	<b>7.74</b>	<b>7.23</b>	<b>6.63</b>	<b>6.28</b>	<b>5.43</b>	<b>4.97</b>	<b>7.41</b>	<b>6.75</b>	<b>5.94</b>	<b>4.97</b>
<b>RANKING</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>9 (Tie)</b>	<b>2</b>	<b>4</b>	<b>7</b>	<b>9 (Tie)</b>

High Ranking			
Medium High Ranking			
Medium Low Ranking			
Low Ranking			



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The Cost Effectiveness criteria drove the ultimate ranking of alternatives by mode, as they quantitatively classify the performance of each alternative while making up 25 percent of the total score. Prior to the application of the cost effectiveness performance measure, the Modern Streetcar and LRT alternatives consistently outperformed the BRT alternatives, due to superior qualitative scoring for their potential to enhance the urban environment and to support redevelopment within a half-mile of Beltline stops.

Due to the Cost Effectiveness criteria, however, BRT surpassed the rail modes in the total scoring within each alignment. For the Eastside-King Memorial alignments (B1 and B2), Modern Streetcar consistently outranked LRT, again due to superior overall performance in cost effectiveness.

### **Public Outreach Approach and Input**

The outreach process used a variety of methods for engaging and informing the public including stakeholder interviews, meetings, workshops, speaker's bureau sessions and newsletters. As a result of these outreach efforts, valuable input was incorporated into the Locally Preferred Alternative (LPA) decision-making process. Given below are the resounding themes presented during the August 2006 public meetings and through subsequent comments:

- A general preference for Streetcar or Light Rail as the preferred mode of transit.
- Overwhelming opposition towards Bus Rapid Transit as the preferred mode of transit.
- Alternatives B3 and B1 were the most highly favored alternatives.
- Significant concerns expressed were environmental impact, efficiency, compatibility with parks and trails, transit's ability to spur development, access for persons with disabilities, pavement on the right-of-way, keeping current with technology, and connectivity of proposed routes.
- A strong preference in favor of the Eastside-Inman Park/Reynoldstown alignment as compared to the Eastside-King Memorial alignment.
- The public was very concerned about their opinions and preferences actually being factored into the decision making process.
- Overall, the public was supportive of the Beltline project.



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## Alternatives Recommended for Consideration

The following recommendations were presented to the MARTA Board of Directors for action regarding the Beltline.

As indicated in Table 2, **Alternatives B1 BRT, B3 BRT** and **B1 Streetcar** achieved more than 70 percent of the maximum available score and were classified as “High” in the Detailed Screening of alternatives. Alternative **B3 Streetcar**, with the highest score among alternatives classified as “Medium-High”, would likely have achieved slightly more than 70 percent of the maximum available score if LRT was not fatally flawed for evaluation in alignments B3 and B4. Therefore, this alternative was also brought forward for further consideration. These were the alternatives which most effectively satisfied the Purpose and Need Statement developed for the Beltline AA.

Among the ten alternatives analyzed, this set reflects the superior ranking of the Northwest-Lindbergh alignment options and the BRT and Modern Streetcar technology options. **Alternative B1 BRT** attained the highest score due to the Northwest-Lindbergh and BRT elements, plus the slight advantage of Alternative B1 (King Memorial) over Alternative B3 (Inman Park/Reynoldstown) among Eastside alignment options.

By including **Alternative B3 BRT**, the set of recommended alternatives reflect the moderate public interest and the greater comparability among Eastside options when compared to the Northwest options.

By including **Alternatives B1 Streetcar** and **B3 Streetcar**, the recommended alternatives take into account the highest-performing non-BRT alternatives, given reservations expressed by much of the general public over the practicality and community-level effects of BRT relative to other modes. The B1 *Streetcar* alternative would be the highest performing alternative (along with B1 *LRT*) before the consideration of Cost Effectiveness criteria. Similarly, the B3 *BRT* alternative would be the fourth best performing option (after B1 *BRT*), due to the slight advantage in the Eastside-King Memorial alignment.

The Detailed Screening process narrowed four alignment alternatives to two and three technology alternatives to two. Recommendations for the selection of an LPA from among the above four options, was essentially tiered by alignment (B1 or B3) and by mode (BRT or Streetcar).



## **Staff Recommendation**

The technical results of the Beltline AA show the continuous loop (Lindbergh to Lindbergh) as the best performing option, with the East Line connection at the King Memorial station. The best performing technology, considering capital and operating cost estimates and environmental impacts was Bus Rapid Transit (BRT). During the Public Outreach process, the preference indicated by the community and major stakeholders was the continuous loop (Lindbergh to Lindbergh) with the East Line connection at the Inman Park/Reynoldstown station to capture development along Moreland Avenue and increase alignment consistency with the TAD boundary. The general public and business and political stakeholders also strongly supported rail technology over bus rapid transit.

MARTA Staff recommended the B3 Alternative (Lindbergh-to-Lindbergh Loop via Inman Park/Reynoldstown) as the preferred alignment with the specific rail technology to be defined in the next phase of study.

Advantages of the recommended alternative are listed as follows:

- Retains continuous loop as prescribed in original Beltline concept
- Alignment option generated the highest ridership
- Rail technology indicates the permanence of transit desired by developers for transit-oriented development
- Increases transit accessibility and connectivity to and within forty-five neighborhoods
- Predominantly contained within the approved Tax Allocation District
- Supported by the City of Atlanta and Beltline Partners
- Strong community and business support for rail technology operating along the continuous loop

## **Action by MARTA Board of Directors**

After consideration of the aforementioned alternatives and technologies, the MARTA Board of Directors formally adopted staff's recommendation of the Alternative B3 alignment configuration as the Locally Preferred Alternative (LPA) with an unspecified rail technology to be determined in the next phase of study.



## Next Steps

MARTA will pursue all opportunities to advance the development of the Beltline LPA into the next phases of project development, including preliminary engineering. To maintain the Beltline's eligibility for federal funds, the project development process will follow FTA procedural guidance for projects competing for New Starts funding. Key tasks will include:

- Developing a Strategic Implementation Phasing Plan and Identification of a Minimum Operable Segment (MOS);
- Coordination with FTA on establishing the specific Purpose and Need and Transportation System Management Alternatives for the MOS;
- Preparation of preliminary project management and financial plans to update the full Beltline LPA in the Regional Transportation Plan by the Atlanta Regional Commission;
- Completion of scoping activities required under the National Environmental Policy Act (NEPA); and
- Provision of project justification and financial data to FTA as a prerequisite to entry into the preliminary engineering phase.

Continued involvement of the public and continued coordination with regional stakeholders is vital for ensuring meaningful progress through these next steps of project development.