
I-20 EAST TRANSIT INITIATIVE

# Locally Preferred Alternative (LPA) Report

**Prepared for:**
**Metropolitan Atlanta Rapid Transit Authority**

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# List of Acronyms

**AA** – Alternatives Analysis

**AADT** – Average Annual Daily Traffic

**ARC** - Atlanta Regional Commission

**BRT** – Bus Rapid Transit

**CDC** - Centers for Disease Control and Prevention

**DCA** – Detailed Corridor Analysis

**DEIS –** Draft Environmental Impact Statement

**EA** – Environmental Analysis

**EIS** - Environmental Impact Study

**FEIS –** Final Environmental Impact Statement

**FONSI** - Finding of No Significant Impact

**FTA** – Federal Transit Administration

**GDOT** - Georgia Department of Transportation

**GRTA** - Georgia Regional Transportation Authority

**HOT** - High Occupancy Toll

**HOV** - High Occupancy Vehicle

**HRT** – Heavy Rail Transit

**LCI** – Livable Centers Initiative

**LOS** – Level of Service

**LPA** - Locally Preferred Alternative

**LRT** – Light Rail Transit

**MARTA** – Metropolitan Atlanta Rapid Transit Authority

**MMPT** - Multimodal Passenger Terminal

**MOE** – Measure of Effectiveness

**MOU** – Memorandum of Understanding

**NEPA** - National Environmental Policy Act of 1969

**PE** –Preliminary Engineering

**O&M** – Operations and Maintenance

**SAC** – Stakeholder Advisory Committee

**SCC** – Standard Cost Categories

**TAC** – Technical Advisory Committee

**TOD** – Transit-Oriented Development

**TSM** – Transit System Management

**TSP -** Transit Signal Priority

**YOE** – Year of Expenditure

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# EXECUTIVE SUMMARY

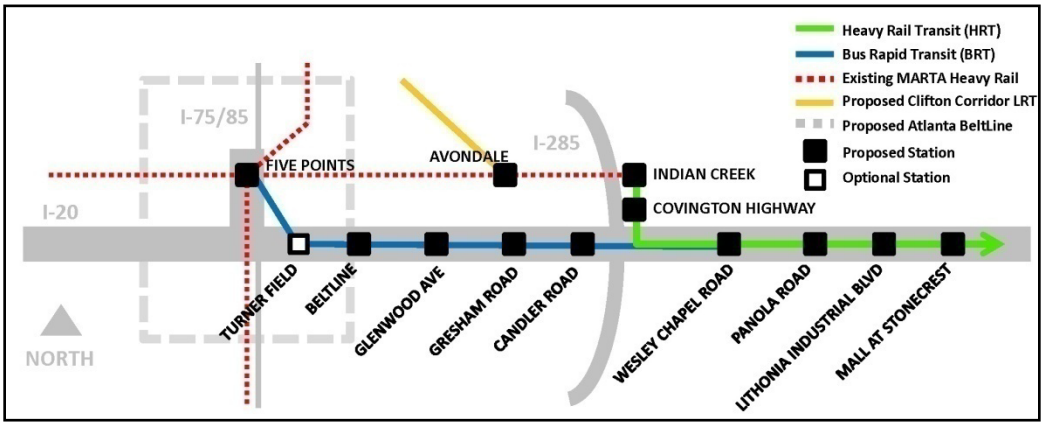
Following a two-tiered Detailed Corridor Analysis (DCA), which evaluated a variety of transit alignments and modes, the Metropolitan Atlanta Rapid Transit Authority (MARTA) I-20 East Transit Initiative has selected and refined a Locally Preferred Alternative (LPA). After presenting the LPA, the document provides an overview of the study background, DCA evaluation process, and next steps.

## The Adopted LPA

The LPA represents the HRT3 Alternative from the Tier 2 Screening with refinements, and consists of Heavy Rail Transit (HRT) and Bus Rapid Transit (BRT) components, as shown in **Figure ES-1** below and **Figure ES-2** on page ES-2. The LPA would extend the existing MARTA east-west heavy rail line 12 miles from the Indian Creek Station. The line would extend south parallel to I-285, then east along I-20 to the Mall at Stonecrest.

BRT service would be implemented between downtown Atlanta and Wesley Chapel Road. BRT service would operate in general use lanes and HOV/HOT lanes on I-20, and in the City of Atlanta, BRT service would utilize the Capital Avenue interstate ramps, Capital Avenue, Martin Luther King, Jr. Drive, and Broad Street for access to and from the Five Points Station, or preferably the Multimodal Passenger Terminal (MMPT) if it is implemented.

**Figure ES-1: The Recommended LPA – HRT3**




The following station locations are recommended based on input from the public and stakeholders, existing and future land uses, and projected ridership:

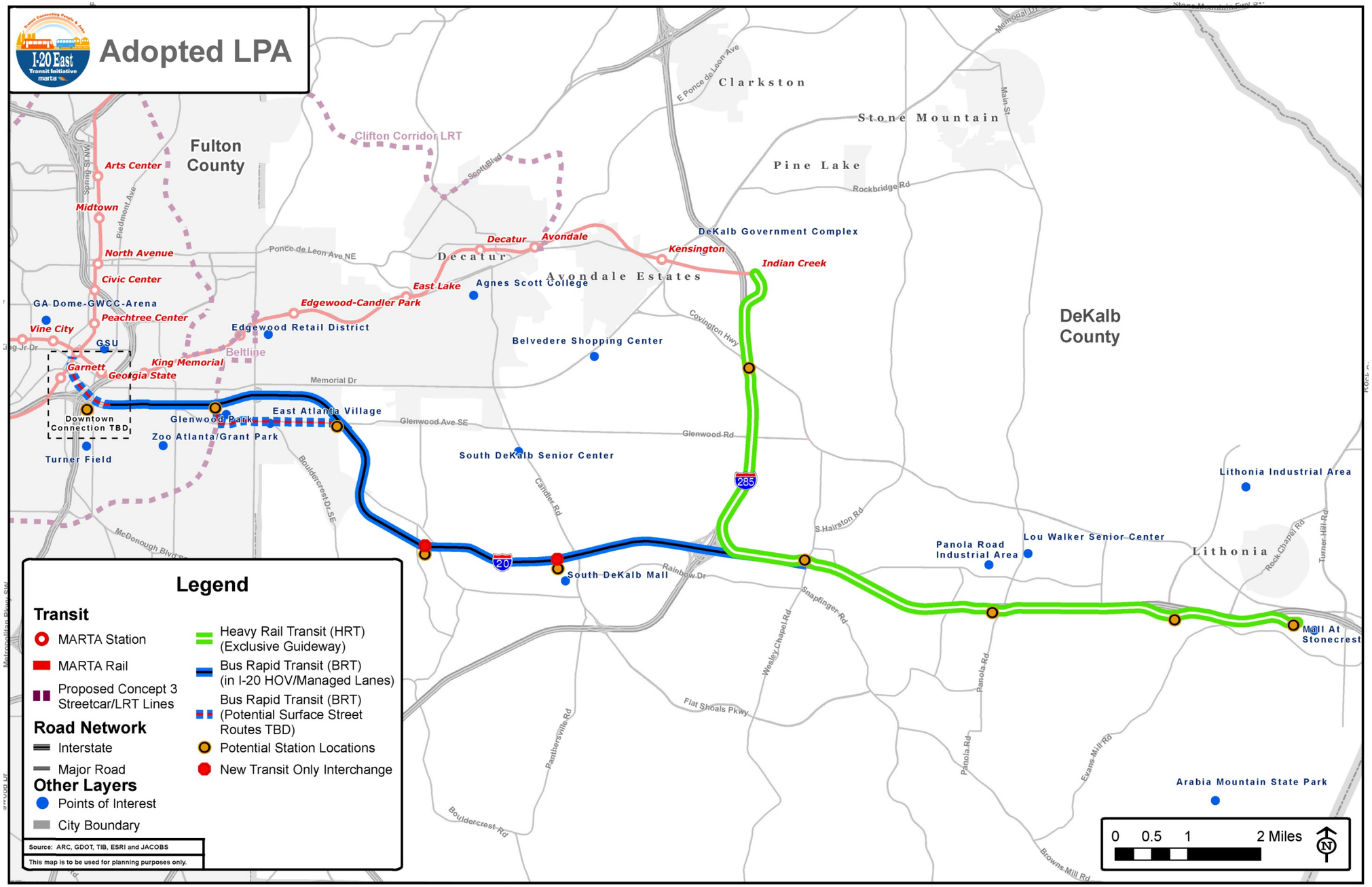
**New Stations Served by HRT**

- Covington Highway
- Wesley Chapel Road
- Panola Road
- Lithonia Industrial Blvd/Evans Mill Road
- Mall at Stonecrest

**New Stations Served by BRT**

- Turner Field (Optional)
- Glenwood Park/Beltline
- Glenwood Avenue
- Gresham Road
- Candler Road
- Wesley Chapel Road

**Figure ES-2: Map of the Recommended LPA – HRT3**



Currently, MARTA operates two east-west transit lines: the Blue Line, which operates between the Indian Creek Station to the east and the HE Holmes Station to the west; and the Green Line, which operates between the Edgewood/Candler Park Station to the east and the Bankhead Station to the west. As shown in **Figure ES-3** on page ES-4, the extended Green Line would serve all new heavy rail stations listed above and then operate as an express service along the existing east line, serving only select stations in order to minimize travel times between the Mall at Stonecrest and the Five Points Station.

Future connectivity to the proposed BeltLine and Clifton Corridor was a major consideration in the identification of the LPA. **Figure ES-4** on page ES-5 presents a map showing how the I-20 East project would integrate with other existing and planned transit investments.

## Refinements to the Recommended LPA

Of the six alternatives considered in the Tier 2 Screening of the DCA, HRT3 was selected as the LPA because it would most effectively address the stakeholder-identified needs of the corridor and goals and objectives of the project, as shown in **Table ES-1** on page ES-6. Corridor stakeholders, the City of Atlanta, the general public, and other interested parties expressed overall support for HRT3. However, due to their shared concerns about the nature of BRT service attached to this alternative, HRT3 was refined after its selection as the recommended LPA.

In refining HRT3 as the recommended LPA, its BRT portion was designed to meet premium BRT standards as defined by Federal Transit Administration (FTA). The FTA stipulates that bus service qualifies as BRT when it offers fixed route service that either operates predominantly on fixed-guideways or offers high frequency (15 minute headways, 10 minute headways during peak hours) service separate from mixed traffic with transit stations, traffic signal priority or preemption, low-floor vehicles or level-platform boarding, and separate branding of service. Therefore, the following specific refinements were made to the LPA BRT service:

- BRT service between downtown Atlanta and Wesley Chapel would operate in general use lanes and High Occupancy Vehicle/High Occupancy Toll (HOV/HOT) lanes on I-20 and surface streets as necessary to connect to downtown.
- BRT service would be fixed-route, branded, high frequency, all-day service utilizing transit stations rather than typical bus stops.
- Transit-only interchanges would be constructed at Candler Road and Gresham Road for BRT access to stations at those locations.
- Arterial BRT enhancements such as TSP and queue jumper lanes would be utilized to maximize the efficiency of surface street operations.

Although these refinements altered the costs and ridership projections for HRT3, these changes were not substantial enough to alter HRT3's performance in Tier 2 Screening. The refinements would raise capital costs associated with HRT3 to an estimated $1,929.6M and right-of-way costs to $110.4M for a total cost of $2,040.0M. Operations and Maintenance costs were not affected by the refinements and remained at $18.0M annually.

**Figure ES-3: LPA Operation in MARTA System**

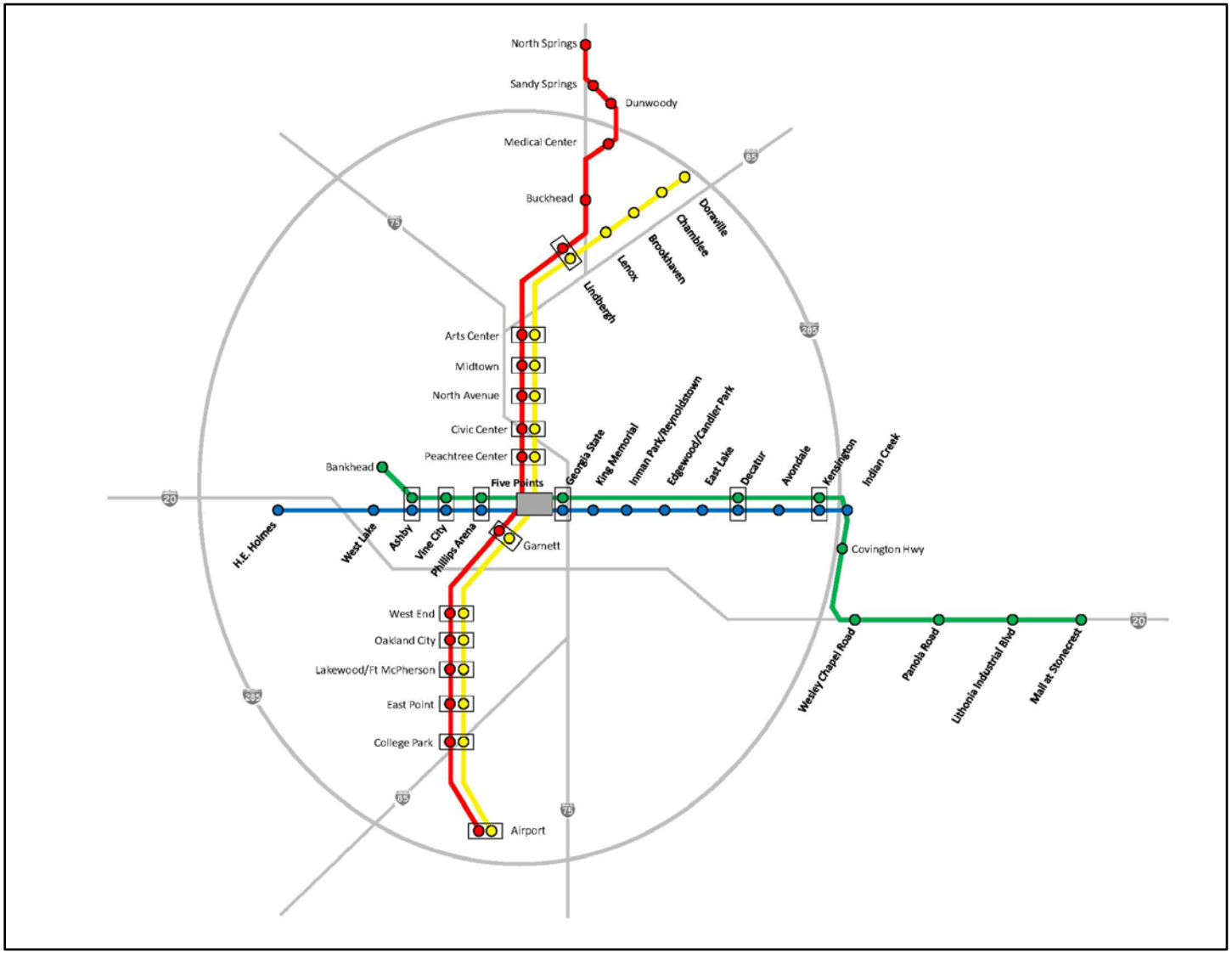


**Figure ES-4: System Integration Map**

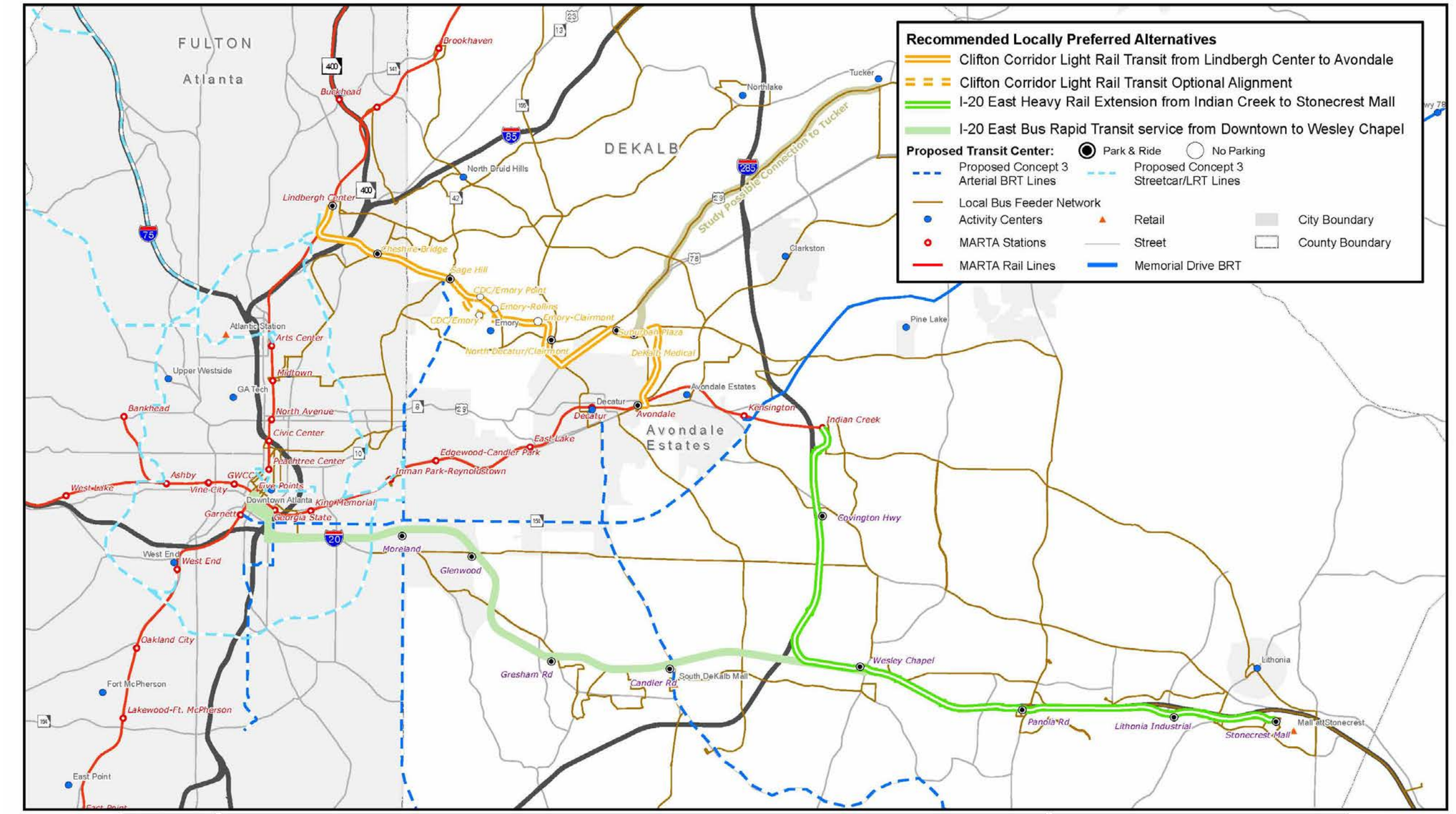


**Table ES-1: Reasons for Selection of the LPA**

| Project Goal | Reason for Selection of LPA – HRT3 |
|---|---|
| Increase Mobility and Accessibility | **Fast Travel Times and High Ridership:** HRT3 would provide significant 2030 travel time savings for commuters in the corridor. Compared with automobile travel, HRT3 would save 34.5 minutes for commuters travelling between the Mall at Stonecrest and downtown Atlanta. Additionally, HRT3 is expected to attract 28,700 daily riders.<br><br>**Transit Access to Decatur and Proposed Clifton Corridor LRT Line:** HRT3 was the only alternative that provides a direct connection to both the City of Atlanta and the City of Decatur, the DeKalb County seat. HRT3 would also provide a connection to the proposed Clifton Corridor light rail line which would provide direct service to the employment center containing Emory University and the Centers for Disease Control and Prevention (CDC). |
| Provide Improved Transit Service in the Corridor | **Service to Heavily Congested Areas of Corridor First:** While all alternatives would need to be constructed in multiple phases due to funding and construction limitations, HRT3 was the only alternative that would serve the congested areas east of I-285 in the first phase of implementation. This is important since the average travel time into downtown is 20-30 minutes longer for those commuters outside the I-285 Perimeter than for those inside the Perimeter. All other alternatives would likely not extend beyond the I-285 Perimeter under the first phase of construction. Thus, HRT3 would more quickly reach those areas of the corridor most affected by congestion and long travel times.<br><br>**Ease of Implementation:** No major construction issues are associated with the implementation of HRT3. The other alternatives would all require very complicated and expensive bridges or extensive tunneling to avoid impacts to historic neighborhoods. |
| Support Land Use and Development Goals | **Supportive of Economic Development:** In addition to being consistent with existing and future land use plans, approximately 900 acres of underutilized or vacant land are located within ½ mile of HRT3 stations. Therefore, this alternative would provide significant opportunity for transit oriented development and redevelopment in the corridor. |
| Promote Cost Effective Transit Investments | **Low Cost:** At $2.04B, the adopted LPA has the lowest total cost of all alternatives and is projected to cost over one billion dollars less than the most expensive alternative (HRT1). Furthermore, the LPA is $73.7M less expensive than the next lowest cost alternative (BRT1).<br><br>**Utilizes Existing Infrastructure:** HRT3 would utilize existing MARTA East-West line to provide a direct transit connection into downtown Atlanta. By utilizing the existing transit investment, HRT3 avoids the construction of an expensive and complicated connection into downtown Atlanta. Furthermore, HRT3 avoids the construction of 11+ miles of new transit line between downtown Atlanta and I-285, which could be viewed as a second, and redundant, transit line in the corridor. HRT3 would also allow for the use of existing MARTA rail maintenance facilities rather than the construction of new facilities in the corridor. |
| Preserve Natural and Built Environment | **Lowest Number of Displacements:** With an expected 13 displacements, HRT3 has significantly fewer residential or commercial displacements than all other alternatives. HRT1, LRT1, and BRT1, all are expected to incur 47 displacements and LRT2 and HRT2 are expected to incur 41 and 35 displacements respectively. With much of its alignment within GDOT right-of-way, HRT3 has the least property impacts of all alternatives. |
| Achieve a High Level of Community Support | **Strong Public Support:** HRT3 received strong public support, especially from residents of the heavily congested portion of the corridor east of I-285. In a rating of the six Tier 2 Alternatives, 30 percent of all survey respondents rated HRT3 as "most appropriate for the I-20 East Corridor," as did 51 percent of those respondents who lived east of I-285 (or outside the Perimeter). |

*Sources: Travel Demand Model, GIS data analysis, HDR Engineering*

## Adoption of the LPA

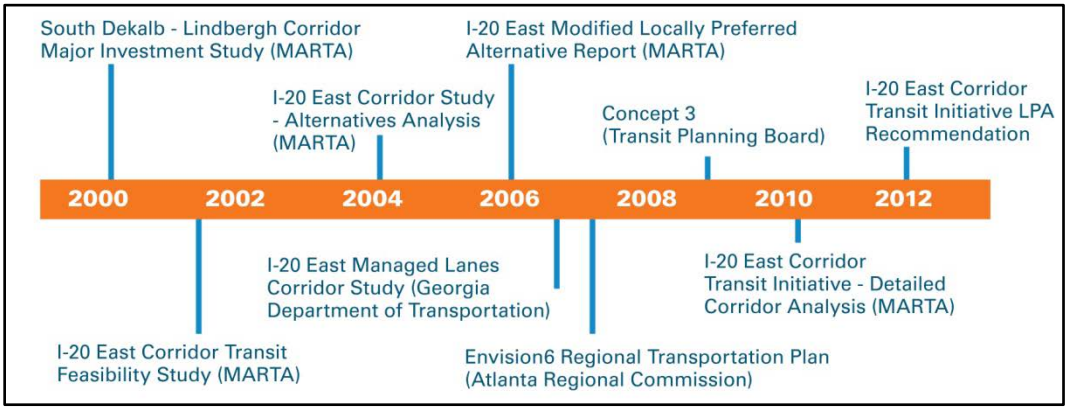
On April 9, 2012, the MARTA Board of Directors voted to adopt HRT3 as the LPA for the I-20 East Transit Initiative. A copy of the Board of Directors' resolution can be found in Appendix B. The ARC is currently updating Plan 2040, the Regional Transportation Plan, and the regional transportation demand model to include the adopted LPA as a transit mode in the I-20 East Corridor (AR-405, AR-406, AR-407).

## Project Description and Background

MARTA, in close coordination with DeKalb County, the City of Atlanta, Georgia Department of Transportation (GDOT), and the Atlanta Regional Commission (ARC), and in cooperation with the FTA, is undertaking the I-20 East Transit Initiative. This initiative will identify and summarize the potential transportation and environmental impacts associated with the implementation of new east-west transit service from Downtown Atlanta to the Mall at Stonecrest, in eastern DeKalb County. The initiative is organized in two study phases. The first phase, a DCA, or update of the previously completed Alternatives Analysis (AA), will be followed by an environmental review process in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA).

The I-20 East Corridor, shown in **Figure ES-5** below, extends more than 20 miles from downtown Atlanta through southern DeKalb County and into the central portion of Rockdale County. Over the past decade, multiple planning studies have been undertaken to address the transportation issues in the corridor (**Figure ES-6** on page ES-8). The results of these studies indicate that a high capacity transit service, operating predominately in an exclusive right-of-way, is needed to accommodate the increasing transit demands of this corridor.

**Figure ES-5: Timeline of Previous Studies**




## FTA Project Development Process

A DCA/AA is a required element within the FTA's project development process **(Figure ES-7** on page ES-9**)**. The DCA/AA examined a range of feasible alternatives and compared the potential costs, impacts, and benefits of each alternative relative to the demonstrated purpose and need for the improvement. The result of this analysis was an LPA for advancement into environmental studies and preliminary engineering.

The second phase of the I-20 East Transit Initiative will be the preparation of environmental documents to satisfy NEPA, which requires the full consideration of environmental effects for any project that receives federal funding. To this end, the I-20 East Transit Initiative is preparing an Environmental Analysis (EA) for the BRT component and an Environmental Impact Study (EIS) for the HRT component. Both the EA and the EIS are focused on the social, cultural, and physical impacts of potential federal investments, with the EIS documenting these issues in greater depth than the EA. The EIS is completed in two steps, a Draft EIS and a Final EIS that follows the review of the Draft EIS. The EA, if it is determined that no significant impacts will result from the project, results in a Finding of No Significant Impact (FONSI).

**Figure ES-6: Study Area**

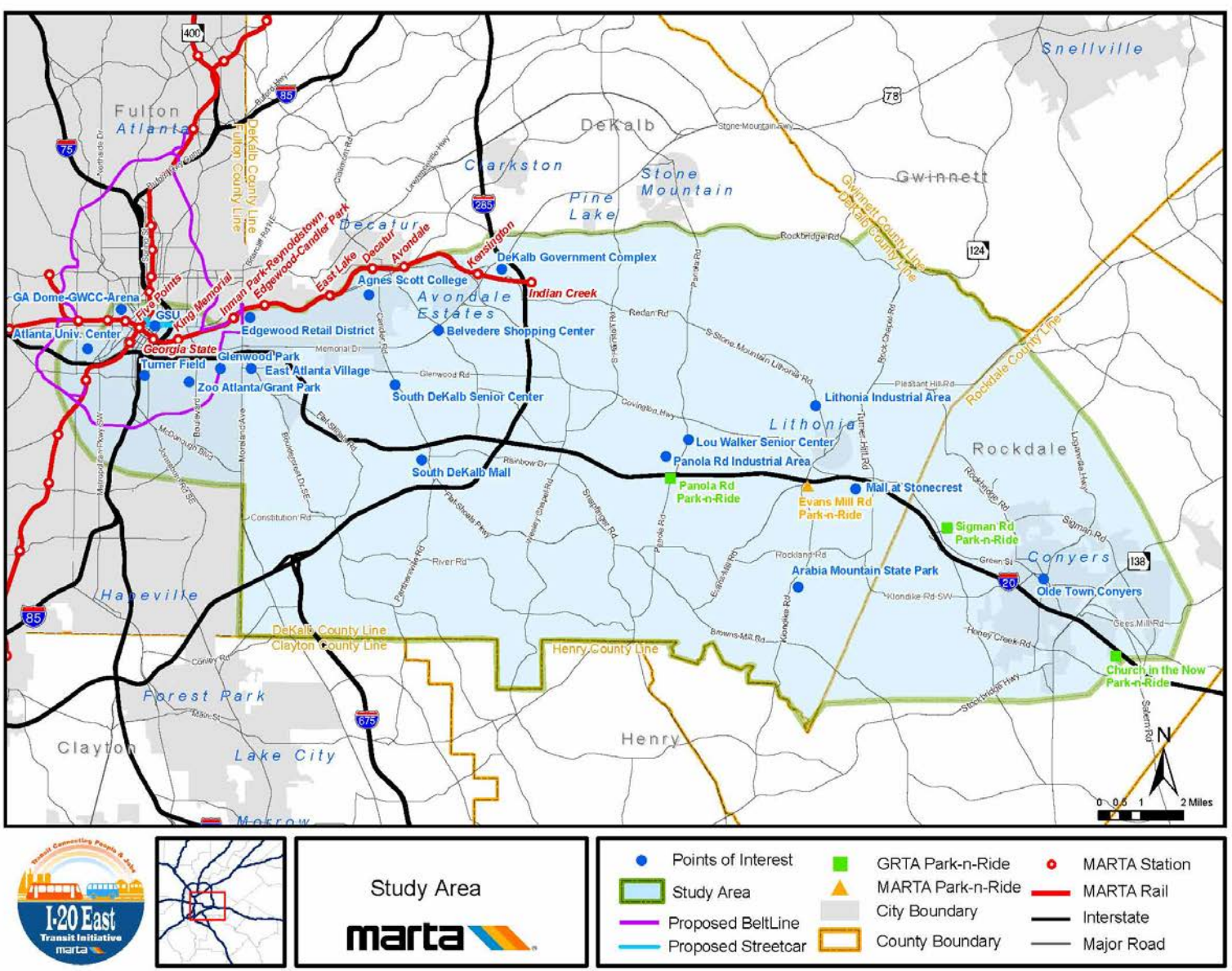
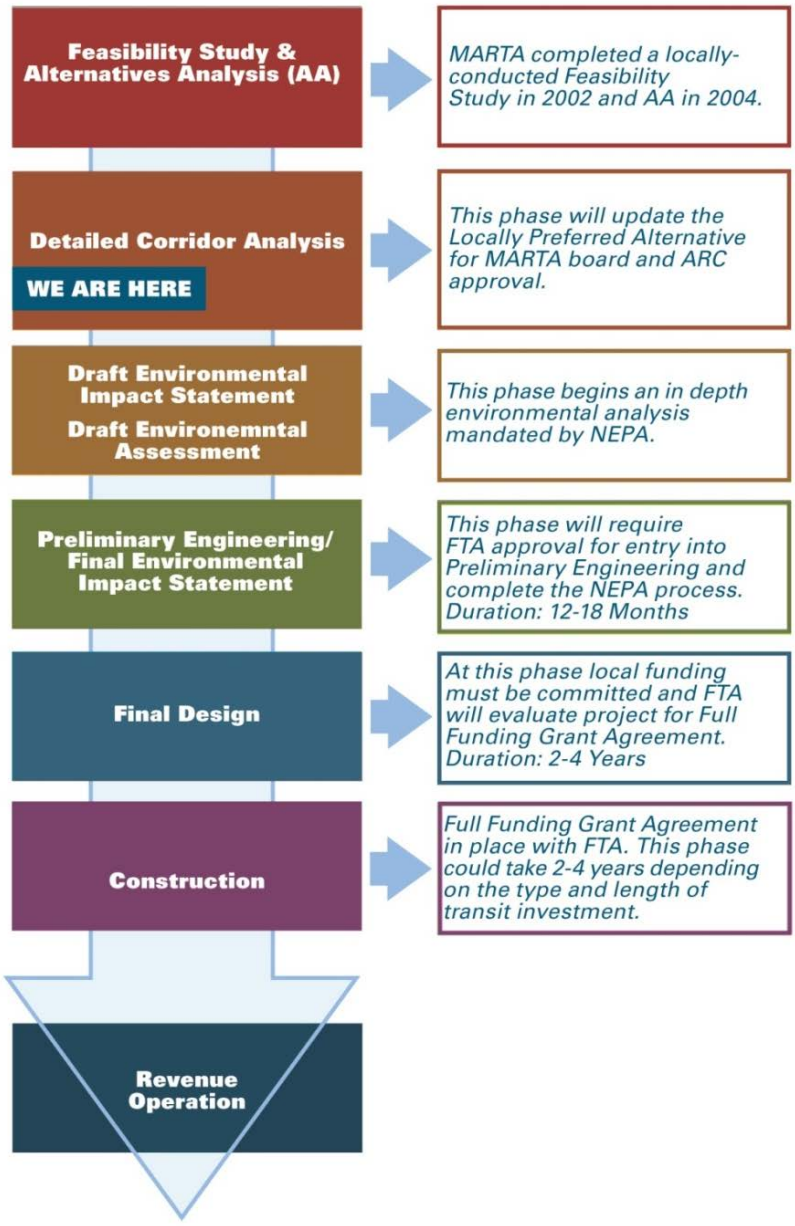


**Figure ES-7: FTA Project Development Process**




## Purpose and Need

***The purpose of the I-20 East Transit Initiative is to provide transit investments that enhance east-west mobility and improve accessibility to residential areas and employment centers within the corridor. The existing and future roadway congestion in the I-20 East Corridor will have an increasingly detrimental effect on automobile and bus transit travel in the corridor. The proposed transit investments are intended to improve travel times and travel reliability by providing a rapid transit service for commuters traveling to and from central Atlanta.***

Per FTA guidance, the Purpose and Need Statement was developed to clearly and concisely articulate the primary transportation challenges that exist in the I-20 East Corridor. Based on the evaluation of existing and projected conditions, in conjunction with stakeholder input, the major challenges in the I-20 East Corridor that need to be addressed are:

- Traffic congestion causes delay and slow travel times
- There is inadequate transit access to downtown and other employment centers
- There are limited east-west travel options; I-20 is the only real choice
- There are limited planned transportation projects in corridor to accommodate growth
- There is insufficient transit service for a growing demand
- Express bus service operates on congested roadways
- Areas of the corridor are in need of revitalization
- There are limited transportation options for traditionally underserved populations

## Goals and Objectives

Based on the identified challenges and needs within the corridor and stakeholder input, goals and objectives were identified for the I-20 East Transit Initiative to serve as a guide for the development and evaluation of transit alternatives for this study (**Table ES-2** below).

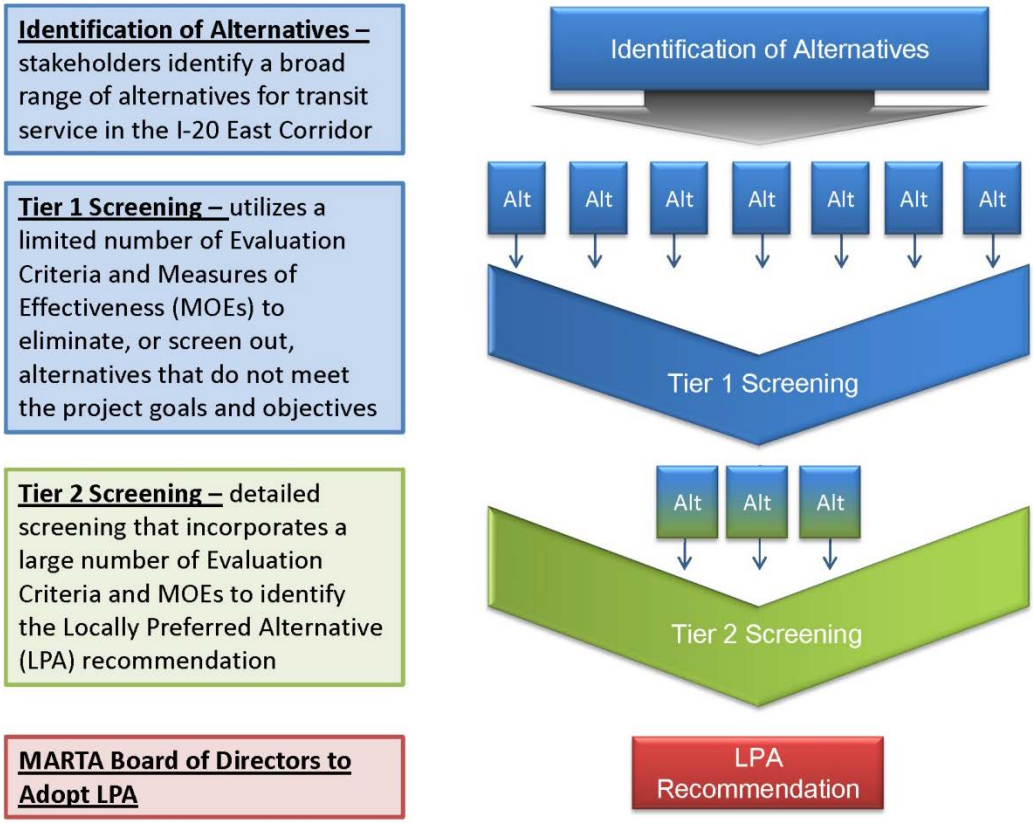
**Table ES-2: Goals and Objectives**

| Goals | Objectives |
|---|---|
| **Goal 1:** Increase mobility and accessibility | • Objective 1.1: Improve travel times for east-west travel<br>• Objective 1.2: Improve transit accessibility within the corridor<br>• Objective 1.3: Improve connectivity with existing and planned transit investments<br>• Objective 1.4: Improve travel options within the corridor |
| **Goal 2**: Provide improved transit service within the corridor | • Objective 2.1: Provide transit service with sufficient capacity to accommodate growing demand<br>• Objective 2.2: Provide travel time competitive transit service in the corridor<br>• Objective 2.3: Provide transit service for traditionally underserved populations |
| **Goal 3:** Support regional and local land use and development goals | • Objective 3.1: Promote economic development/revitalization<br>• Objective 3.2: Support adopted local land use plans<br>• Objective 3.3: Encourage transit supportive land use and development patterns |
| **Goal 4**: Promote cost effective transit investments | • Objective 4.1: Provide transit service that can be implemented, operated, and maintained with available resources |
| **Goal 5:** Preserve natural and built environment | • Objective 5.1: Minimize impacts on environmental resources |
| **Goal 6:** Achieve a high level of community support | • Objective 6.1:Maintain compliance with stakeholder guidance<br>• Objective 6.2:Achieve a high level of public support |

## Alternatives Evaluation Framework

The methodology used to identify and evaluate the proposed transit alternatives was a two-tiered process in which alternatives were evaluated using increasingly detailed data and evaluation criteria (**Figure ES-8** below).

**Figure ES-8: The Alternatives Analysis Process**




## Tier 1 Screening

The focus of the Tier 1 Screening was the identification of the best performing alignment and connection alternatives, regardless of transit technology, or mode. The Stakeholder Advisory Committee (SAC) was tasked with identifying transit alignments that would connect activity centers throughout the I-20 East Corridor with central Atlanta and the existing MARTA heavy rail system. The process of identifying transit alignments for advancement into Tier 2 was comprised of three primary segments (**Table ES-3** on page ES-12 and **Figures ES-9 and ES-10** on pages ES-13 and ES-14):

- Mainline Alignment Alternatives: Identification of the best mainline, or corridor level, transit alignments.
- Downtown Connectivity Alternatives: Identification of the best connections into downtown Atlanta.
- Panola Road Area Alternatives: Identification of the best alignment in the Panola Road area.

**Table ES-3: Tier 1 Alignment Alternatives**

| Alternative Name | Alternative Description |
|---|---|
| **Mainline Alternatives** | |
| 1. Parallel I-20 Alignment | Would run adjacent to I-20 from the Mall at Stonecrest to Downtown Atlanta and has the potential to connect to the MARTA rail system at various locations in central Atlanta. These potential connections make up the Tier 1 Downtown Connectivity Alternatives. |
| 2. Connection to Edgewood Station | Within most of DeKalb County, would be identical to the Parallel I-20 Alignment. Once near the City of Atlanta, it would diverge from the parallel alignment, turn north, and enter a tunnel, which would travel beneath several historic neighborhoods, and connect to the Edgewood-Candler Park Station. |
| 3. Heavy Rail Extension from Indian Creek | Would include the extension of the MARTA east-west rail line south adjacent to I-285 and then east adjacent to I-20 to the Mall at Stonecrest. |
| **Panola Road Area Alternatives** | |
| 1. Parallel I-20 Sub-Alignment | Would run parallel to I-20 through the Panola Road Area in a dedicated transitway with no surface street operation or at-grade street crossings. It would feature a station at Panola Road. |
| 2. Snapfinger Woods Drive Sub-Alignment | Would deviate from I-20 between the Wesley Chapel Road and Panola Road Interchanges where it would operate in-street in mixed-traffic along Snapfinger Woods Drive. It would then connect back to the I-20 alignment east of Panola Road. |
| **Downtown Connectivity Alternatives** | |
| 1. Connection to King Memorial Station via Memorial Drive | Would follow Bill Kennedy Way north to Memorial Drive, then follow Memorial Drive to the west operating in-street in mixed traffic. From Memorial Drive it would travel north along Grant Street where it would connect with the King Memorial Transit Station. |
| 2. Connection to King Memorial Station and Downtown via Streetcar | The same as the previous alignment, but would continue north along Grant Street to a connection with the Atlanta Streetcar alignment. It would then follow the streetcar alignment, which includes a stop at the Peachtree Center MARTA Station. |
| 3. Connection to King Memorial Station via Hill Street | Would diverge from I-20 at Hill Street and run north along Hill Street operating in-street. It would turn east from Hill Street in exclusive right-of-way and connect with the King Memorial Station. |
| 4. Connection to Downtown via Streetcar | Would deviate from I-20 at Hill Street and run north along Hill Street operating in-street. It would tie into the Atlanta Streetcar alignment at Edgewood Avenue, then follow the streetcar alignment, which includes a stop at the Peachtree Center MARTA Station. |
| 5. Connection to Garnett and Five Points Stations | Would exit the I-20 right-of-way at Hill Street and travel along Glenwood Avenue to Fulton Street in exclusive right-of-way. It would include a station at Turner Field. At Windsor Street it would turn north, cross over I-20 and connect to Garnett Station then Five Points Station. |
| 6. Connection to Multi-Modal Passenger Terminal/Five Points Stations | The same as the previous alignment, except that it would continue on Windsor Street north, where it becomes Spring Street, and bypass the Garnett Station. It would run for a short time on Spring Street operating in-street. This alternative ties into the proposed Multi-Modal Passenger Terminal (MMPT), which would have direct connection into the Five Points Station. |
| 7. Connection to West End Station/Atlanta University Center/Ashby Station | Would deviate from I-20 and follow Glenwood Avenue until it turns into Fulton Street. It would feature a station at Turner Field. The alignment would then turn south onto Capitol Avenue operating in-street and turn west along Ralph David Abernathy Boulevard, which it would follow to a connection with the West End MARTA Station. It would continue west to Joseph Lowery Boulevard where it would turn north to serve the Atlanta University Center before terminating at Ashby Station. |
| 8. Connection to Midtown via Beltline Alignment | Would diverge from I-20 at Bill Kennedy Way and follow the proposed BeltLine alignment north to North Avenue. It would then turn west, operating in-street along North Avenue to a connection with the North Avenue Station. |

**Figure ES-9: Tier 1 Mainline and Panola Road Area Alternatives**

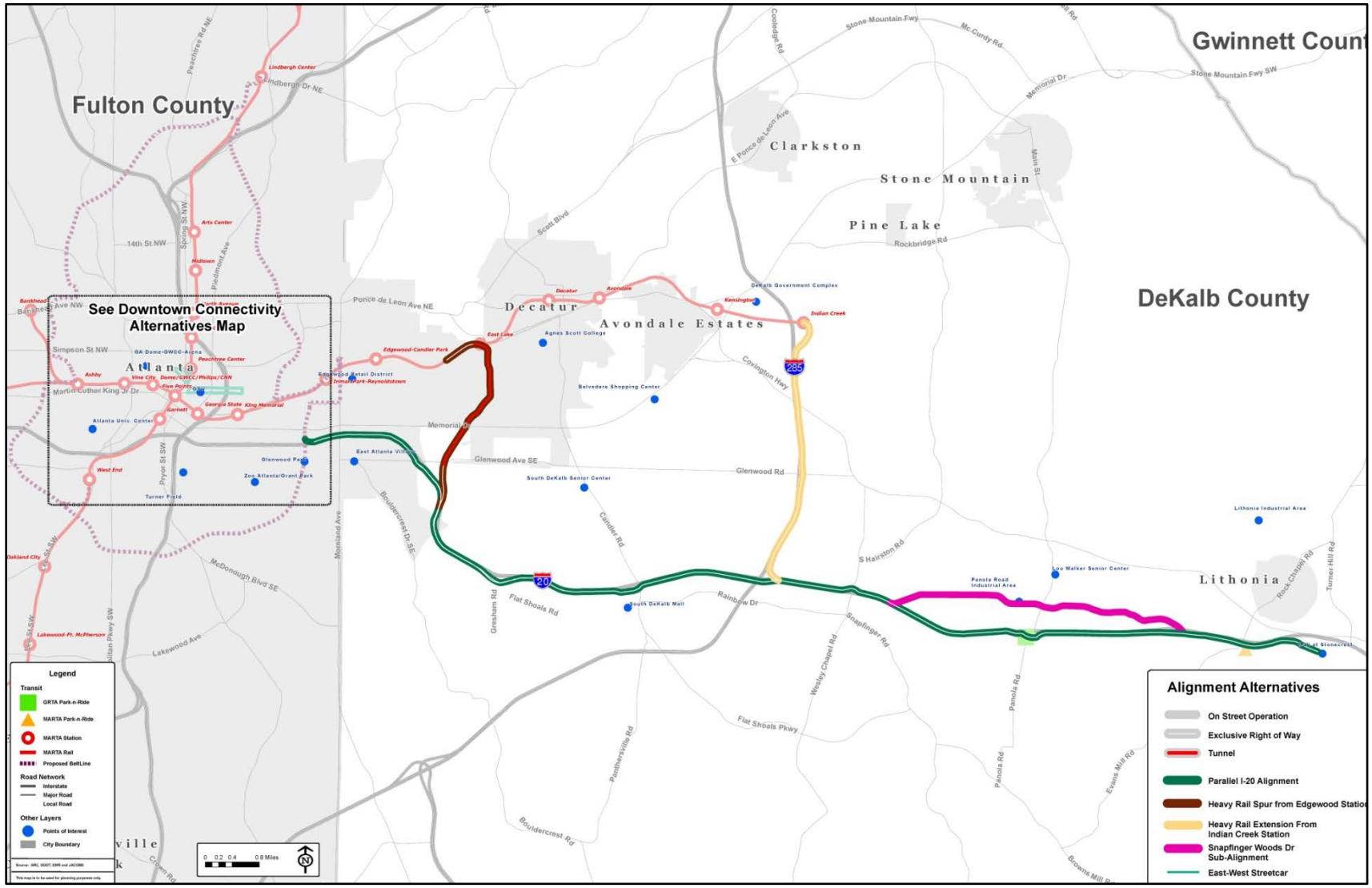
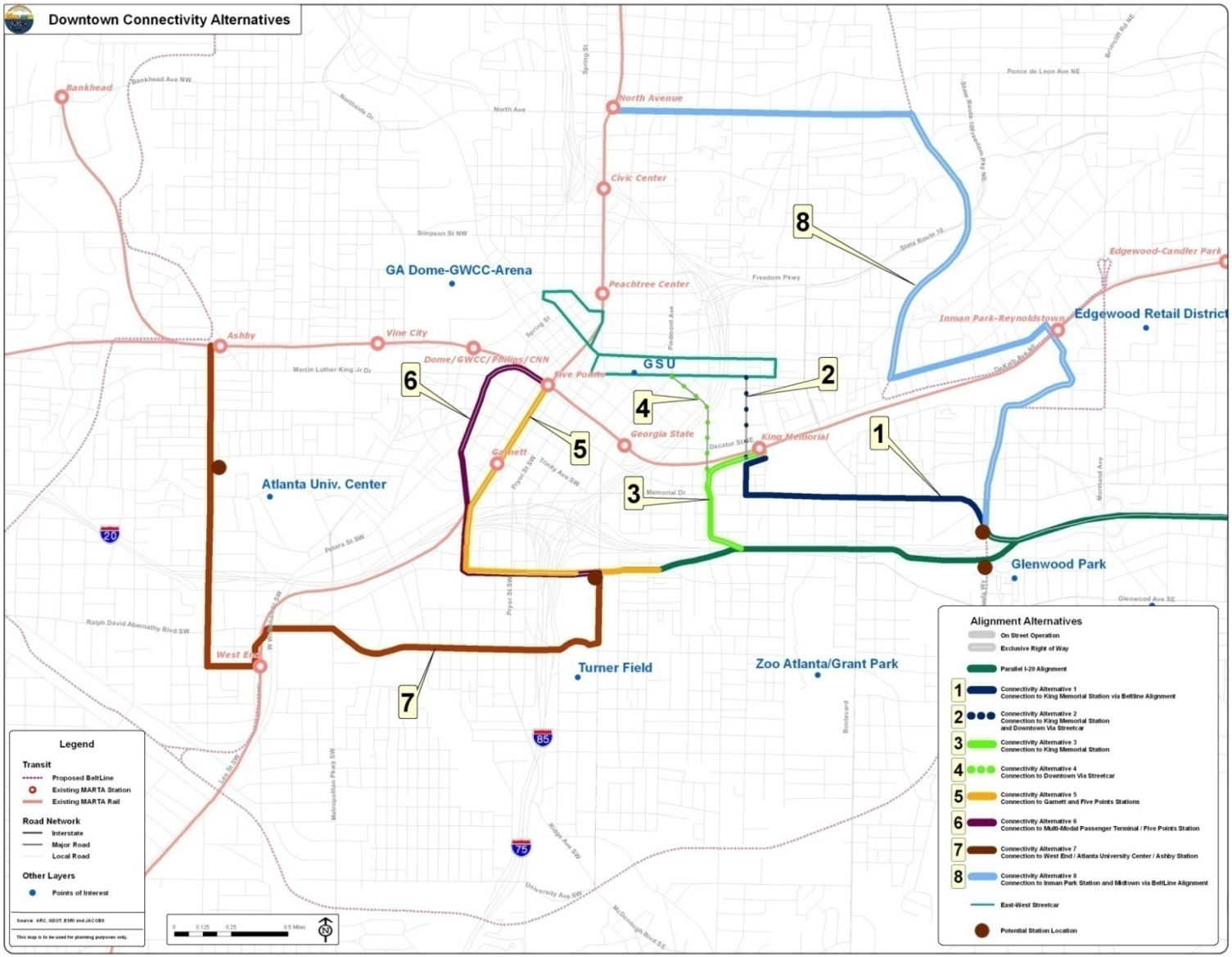


**Figure ES-10: Tier 1 Downtown Connectivity Alternatives**



The Tier 1 Screening utilized a limited number of evaluation criteria and measures of effectiveness (MOEs) to evaluate which alternatives best addressed the identified project goals and objectives. All three Mainline Alternatives were advanced to Tier 2 because they all performed well in the evaluation. The only Panola Road Area Alternative that advanced to Tier 2 was the Parallel I-20 alignment because it performed significantly better than the Snapfinger Woods Drive alignment. Based on the technical evaluation and input from the City of Atlanta, two Downtown Connectivity Alternatives were advanced into Tier 2. These were the Connection to Garnett and Five Points Stations and the Connection to Midtown via BeltLine Alignment. Despite rating well in the Tier 1 Screening, the Connection to Multi-Modal Passenger Terminal/Five Points Station was not promoted to Tier 2 Screening. First, this alternative was virtually identical to the Connection to Garnett and Five Points Station alternative, but was projected to incur longer travel times and attract fewer daily riders as well as fewer new riders. Second, with the MMPT in its initial planning stages, there are far too many unknowns about the actual facility to pursue a connection at this time. The results of the Tier 1 Screening are presented in **Table ES-4** on page ES-16.

## Tier 2 Screening

The Tier 2 Alternatives represented the highest performing Tier 1 Alternatives. The purpose of the Tier 2 Screening was to identify the LPA utilizing a more robust list of evaluation criteria and MOEs. The result of the Tier 1 Screening was a set of feasible transit alignments that would connect activity centers along the I-20 East Corridor with central Atlanta and the existing MARTA heavy rail system. The Tier 2 Screening paired these alignments with compatible transit technologies, or modes. As such, all Tier 2 Alternatives were evaluated with all feasible transit technologies. Thus, if a given alignment was compatible with multiple transit technologies, it was analyzed with each technology. The transit technologies identified as suitable for this project include HRT, light rail transit (LRT), and BRT, as depicted in **Figure ES-11** below. **Figure ES-12** on page ES-17 provides a map of these alternatives and **Table ES-5** on page ES-18 presents descriptions of the six Tier 2 Alternatives that resulted from the technology analysis.

**Figure ES-11: Transit Technologies Considered**

| BRT offers high-frequency, limited-stop service. BRT operates in shared or exclusive right-of-way. This service usually has dedicated stations, traffic signal priority or pre-emption, level-platform boarding or low-floor vehicles, pre-boarding fare payment, and is separated from normal traffic. | LRT consists of passenger rail cars powered by overhead catenaries. Operating individually or in short trains, service is usually on fixed rails in exclusive right-of-way. LRT and streetcar service can occasionally operate in shared traffic. | HRT operates on electric railway, and is characterized by high speeds, rapid acceleration of passenger rail cars, high platform loading, and grade separated rights-of-way from which all other vehicular and foot traffic are excluded. |
|---|---|---|
|  |  |  |

*Source: I-20 East Technology Assessment Report*

**Table ES-4: Tier 1 Screening Results**

| | Mainline Alternatives | | | Panola Road Area Alternatives | | Downtown Connectivity Alternatives | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Goal | 1. Connection Directly to Downtown Atlanta | 2. Connection to Edgewood Station | 3. Heavy Rail Extension from Indian Creek | 1. Parallel I-20 Sub-Alignment | 2. Snapfinger Woods Drive Sub-Alignment | 1. Connection to King Memorial Station via Memorial drive | 2. Connection to King Memorial Station and Downtown via Streetcar Alignment | 3. Connection to King Memorial Station | 4. Connection to Downtown via Streetcar | 5. Connection to Garnett and Five Points Stations | 6. Connection to Multi-Modal Passenger Terminal/Five Points Stations | 7. Connection to West End Station/ Atlanta University Center/Ashby Station | 8. Connection to Inman Park Station and Midtown via Beltline Alignment |
| Increase Mobility and Accessibility |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Provide Improved Transit Service within the Corridor |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Support Land Use and Development Goals |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Promote Cost Effective Transit Investments |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Preserve Natural and Built Environment |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Achieve a High Level of Community Support |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Advanced to Tier 2 Screening | YES | YES | YES | YES | NO | NO | NO | NO | NO | YES | NO | NO | YES |

Legend  Performed well  Performed moderately well  Performed poorly

**Figure ES-12: Map of Tier 2 Alternatives**

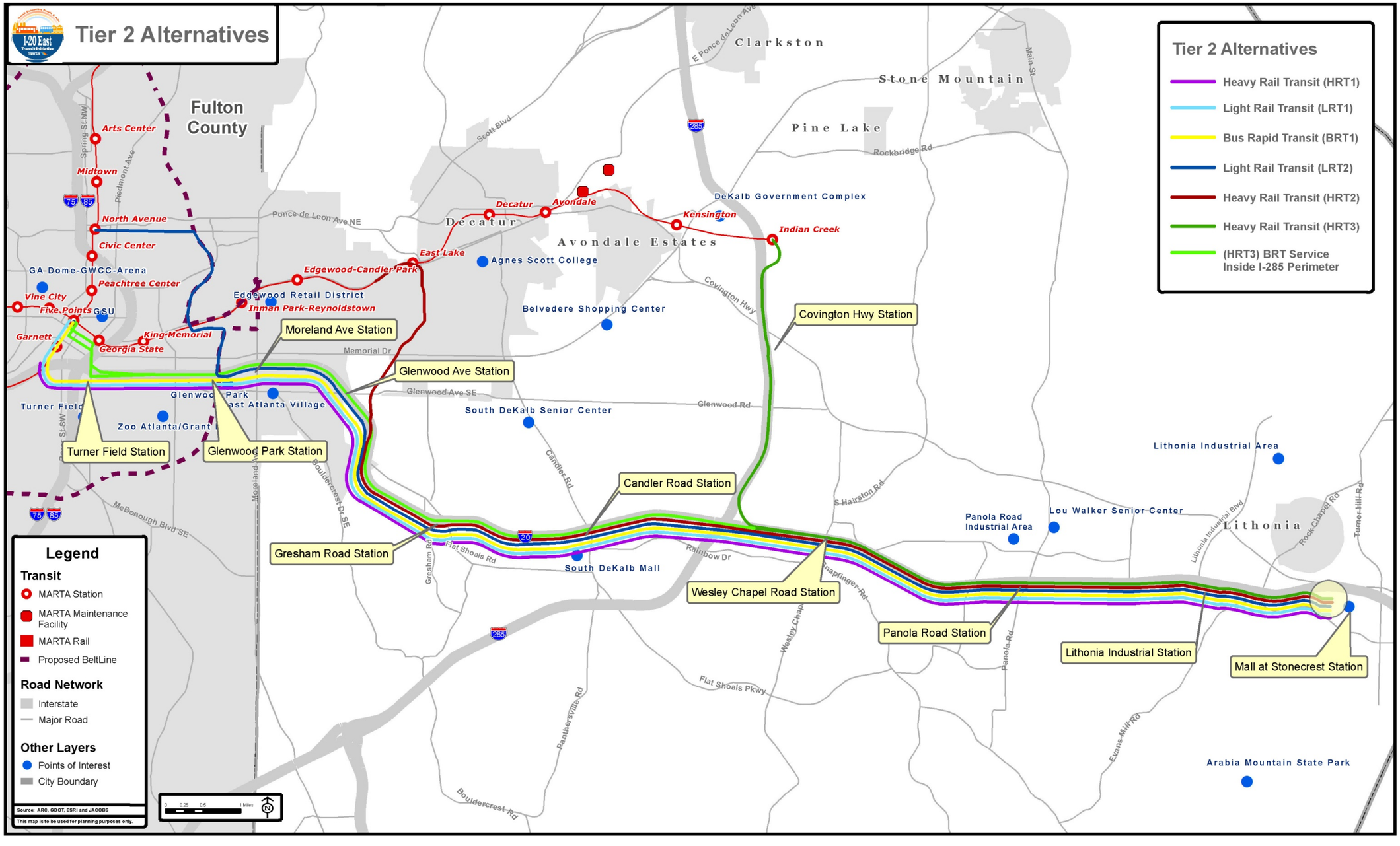


**Table ES-5: Tier 2 Description of Alternatives**

| Alternative Name | Description |
|---|---|
| HRT1 | • Heavy rail transit line from downtown Atlanta, east, adjacent to I-20, to the Mall at Stonecrest |
| LRT1 | • Light rail transit line from downtown Atlanta, east, adjacent to I-20, to the Mall at Stonecrest |
| BRT1 | • Bus rapid transit line from downtown Atlanta, east, adjacent to I-20, to the Mall at Stonecrest |
| LRT2 | • Light rail transit line utilizing BeltLine alignment from North Avenue Station to I-20, then east, adjacent to I-20 to Mall at Stonecrest |
| HRT2 | • Heavy rail spur from existing MARTA rail line between East Lake and Edgewood Stations, south in a tunnel to I-20, then east, adjacent to I-20 to the Mall at Stonecrest |
| HRT3 | • Heavy rail transit extension of existing MARTA line from Indian Creek Station, south, adjacent to I-285, then east, adjacent to I-20 to Mall at Stonecrest<br>• Areas along I-20 inside the I-285 Perimeter would be served with BRT |

Tier 2 Screening developed cost estimates based on conceptual engineering and realistic operating plans; completed preliminary station area planning; performed land use analysis; assessed right-of-way impacts on adjacent properties; considered impacts to natural and community resources; analyzed ridership; and calculated FTA New Starts performance criteria. Key findings from the Tier 2 Screening can be found in **Table ES-6** below. **Table ES-7** below presents the major assumptions of alternative development and analysis. **Table ES-8** on page ES-19 presents the evaluation matrix for the Tier 2 Alternatives.

**Table ES-6: Tier 2 Comparison of Alternatives**

| Alternative Name | Alignment Length | Capital and Operations & Maintenance Costs | Daily Boardings | New Transit Riders | # of Displacements |
|---|---|---|---|---|---|
| HRT1 | 19.2 miles | $3.28B, $35.2M | 41,900 | 12,300 | 47 |
| LRT1 | 19.6 miles | $2.70B, $10.4M | 33,300 | 8,200 | 47 |
| BRT1 | 19.6 miles | $2.11B, $6.4M | 27,700 | 5,200 | 47 |
| LRT2 | 20.3 miles | $2.12B, $10.4M | 18,400 | 5,300 | 35 |
| HRT2 | 18.2 miles | $2.73B, $23.8M | 32,200 | 8,200 | 41 |
| HRT3 | 12.0 miles (HRT)<br>12.8 miles (BRT) | $1.84B, $18.0M | 28,700 | 6,400 | 13 |

*Source: Travel Demand Model, HDR Engineering*

**Table ES-7: Assumptions**

| | |
|---|---|
| Design Assumptions | • All new HRT stations would be smaller, simpler stations that will cost less than traditional MARTA HRT stations.<br>• No surface street operation or at-grade rail crossings for LRT alternatives with exception of BeltLine alignment for LRT2.<br>• Sufficient capacity at existing rail maintenance facilities to maintain HRT vehicles.<br>• Sufficient capacity at existing bus maintenance facilities to maintain BRT vehicles. Some additional equipment may be necessary.<br>• A new storage/maintenance facility in the I-20 corridor would be required for LRT alternatives. |
| Capital Cost Estimates | • All cost estimates are reported in 2011 dollars.<br>• Storage and maintenance facilities were only deemed necessary for LRT alternatives. Assumed that HRT and BRT vehicles would be stored and maintained at existing MARTA facilities. |
| Service Assumptions | • 10-minute peak and 20 minute off-peak headways.<br>• Six trains consists for HRT service.<br>• Four train consists for LRT service. |
| Forecasting Assumptions | • No HOV or managed lanes along I-20 east of I-285 in year 2030.<br>• GRTA express bus service would no longer serve the Panola Road park-and-ride lot. |
| Right-of-Way Cost Estimates | • 80' required right-of-way assumed for corridor.<br>• Property costs based on current assessed value plus escalations factors.<br>• Right-of-way requirements on publicly owned property assumed to have no cost. |

**Table ES-8: Tier 2 Evaluation Matrix**

| Project Goal | Project Objective | HRT1 | LRT1 | BRT1 | LRT2 | HRT2 | HRT3 |
|---|---|---|---|---|---|---|---|
| Increase Mobility and Accessibility | Improve East-West Travel Times | High | High | High | Moderate | High | High |
| | Improve Transit Accessibility within the Corridor | High | High | High | High | Low | Moderate |
| | Improve Connectivity with Existing and Planned Transit Investment | High | Moderate | Moderate | Moderate | Moderate | High |
| | Improve Travel Options within the Corridor | High | High | High | High | High | High |
| Provide Improved Transit Service within the Corridor | Provide Transit Service with Sufficient Capacity to Accommodate Growing Demand | High | Moderate | Moderate | Moderate | Moderate | Moderate |
| | Provide Travel Time Competitive Transit Service in the Corridor | High | High | High | Low | High | High |
| | Provide Transit Service for Traditionally Underserved Populations | Moderate | Moderate | Moderate | Moderate | Moderate | High |
| Support Land Use and Development Goals | Promote Economic Development and Revitalization | High | High | High | High | High | High |
| | Support Adopted Local Land Use Plans | High | Moderate | High | Moderate | High | High |
| | Encourage Transit Supportive Land Use and Development Patterns | High | High | High | High | Moderate | Moderate |
| Promote Cost Effective Transit Investments | Provide Transit Service that Can be Implemented, Operated, and Maintained with Available Resources | Moderate | Moderate | Moderate | Moderate | Moderate | High |
| Preserve Natural and Built Environment | Minimize Impacts to Environmental Resources | Low | Low | Low | Low | Moderate | Moderate |
| Achieve a High Level of Community Support | Maintain Compliance with Stakeholder Guidance | High | High | High | Moderate | High | High |
| | Achieve a High Level of Public Support | High | High | High | High | Moderate | High |

| Legend | High | Moderate | Low |
|---|---|---|---|
| Preformance | | | |

## Stakeholder and Public Involvement

Public and stakeholder involvement are an invaluable facet of the I-20 East Transit Initiative. Public and stakeholder input and feedback were critical to the identification of corridor transportation needs, project goals and objectives, the identification of transit alternatives, and the evaluation of these alternatives. **Table ES-9** below presents an overview of public involvement techniques and when they were utilized throughout the study. Further information can be found in Appendix C, *I-20 East Interim Public Involvement Report*.

**Table ES-9: Public Involvement**

| Public Involvement Technique | Audience | Purpose | Frequency |
|---|---|---|---|
| **Initial Stakeholder Interviews** | Elected officials, business leaders, neighborhood groups, major churches, individual citizens | To allow corridor stakeholders to identify major transportation challenges facing the I-20 East Corridor. | 29 stakeholders in 22interviews early in the study |
| **Stakeholder Advisory Committee (SAC)** | Elected officials, business leaders, neighborhood groups, major churches, individual citizens | To provide input on corridor needs, project goals and objectives, evaluation methods, transit alternatives, station areas | 4 SAC meetings at major milestones throughout the study |
| **Technical Advisory Committee (TAC)** | Key federal, state, and local agency staff | To provide technical input at key project milestones | 4 TAC meetings at major milestones throughout the study |
| **General Public Meetings** | The general public | To provide an opportunity for the general public to give input and feedback at key project milestones | 3 rounds of public meetings at 3 locations each, for a total of 9 public meetings throughout the study |
| **Project Webpage and Facebook Page** | The general public | To provide project updates | 6,107 website hits and 140 Facebook “likes” through April 2012. |
| **Online Surveys** | SAC members and the general public | To allow SAC members and the public to provide feedback on project alternatives | 1700+ surveys taken at key milestones |
| **Project Briefings** | Stakeholders, neighborhoods organizations, agencies | To provide updates on the findings of the study | 28+ briefings in 2011 |

Early in the public involvement process, stakeholders identified several common themes, or characteristics, regarding new transit service, which they felt were essential to the success of a transit investment in the corridor. These common themes became the guiding principles for new transit service in the I-20 East Corridor, against which all project alternatives were evaluated. These stakeholder-identified guiding principles are listed below.

**Stakeholder-Identified Guiding Principles**

- Transit should be a rapid service to downtown serving commuters with few stops
- Dedicated transitway for entire length of project. None, or very limited, operation on surface streets in mixed traffic
- System must have a direct connection to MARTA heavy rail system
- There must be a way for riders to transfer to/from the BeltLine
- It is important to limit the number of transfers to reduce travel times
- The most desirable connection to downtown would be at the Five-Points/MMPT since it would provide a connection to the north-south and east-west MARTA rail lines without additional transfers

## Moving Forward: Challenges and Opportunities to Implementing the LPA

With adoption of the LPA by the MARTA Board, the I-20 East Transit Initiative has entered into the environmental studies phase of the project. The study will complete an EA and a DEIS in order to satisfy the National Environmental Policy Act of 1969 (NEPA), which requires the full consideration of environmental effects for any project that receives federal funding. The following challenges and opportunities will face MARTA as the project moves forward through the project development process.

**Refinement of Station Locations:** Although all station areas have been presented to the public, it is anticipated that refinement of the station location, size, access points, parking facilities, and layout will be required. This will likely involve outreach efforts to business owners, residents, jurisdictional staff, and elected officials.

**Continued Public Involvement:** Public, stakeholder, and agency outreach must continue throughout the life of this project in order to educate the public, identify local issues, and build support. One key issue that arose during public engagement in the fall of 2011 was concern regarding BRT service inside the I-285 Perimeter. While there was overwhelming support for HRT3 from residents outside Perimeter, residents within the Perimeter voiced concern that they would not be served by rail transit. The specific routing and integration of the BRT portion of HRT3 will be continuously refined through future work.

**Refinement of Project Costs:** It is anticipated that capital, right-of-way, and Operations and Maintenance (O&M) costs will be adjusted as more detail regarding the transit alignments, operations, and station locations is prepared.

**Coordination with GDOT:** Since much of the LPA alignment is proposed within or partially within GDOT right-of-way, close coordination is necessary. MARTA has engaged GDOT throughout the study process to ensure the protection of a transit corridor within GDOT right-of-way where possible. As a result of these coordination efforts, the GDOT Board recently adopted a resolution that guides cooperation between the two agencies with regard to implementation of transit initiatives in corridors designated for managed lane projects. The intent of the resolution is to foster thoughtful utilization of existing and planned assets for both highway and transit modes. A Memorandum of Understanding (MOU) will be developed to outline specific commitments for the I-20 East Corridor.

**Identification of Project Funding:** The identification of possible funding sources is essential to the implementation of the I-20 East project. One possible funding source is the FTA New Starts program. The New Starts program is the federal government's primary financial resource for supporting major transit investments. This highly competitive program evaluates potential New Starts projects based on mobility improvements, cost effectiveness, transit supportive land uses and policies, local financial commitments, as well as other criteria. MARTA is also looking at alternative funding mechanisms for project delivery and implementation.

# 1.0 ADOPTED LOCALLY PREFERRED ALTERNATIVE (LPA)

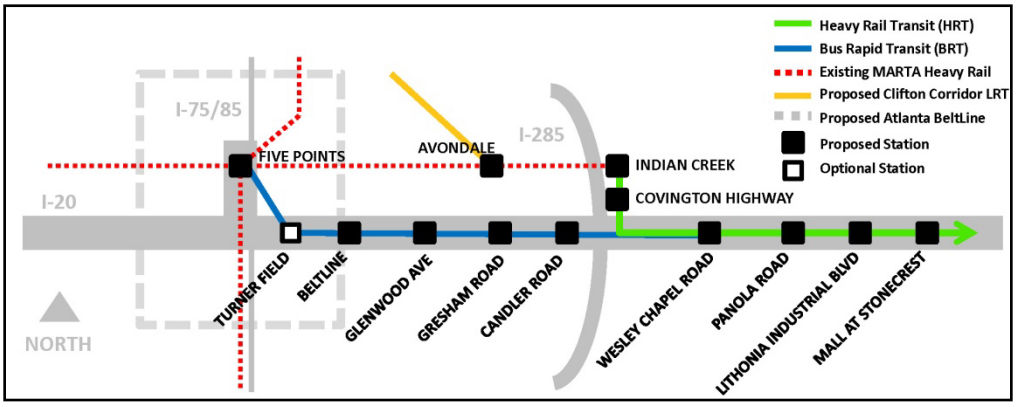
Following a two-tiered DCA which evaluated a variety of transit alignments and modes, the I-20 East Transit Initiative has selected and refined an LPA. This section presents the transit improvements that comprise the LPA, along with the refinements that the adopted LPA underwent after its selection in the DCA. The remainder of this document provides an introduction to the I-20 East Transit Initiative and an overview of the DCA process that concluded with the selection of the LPA.

## The Adopted LPA

The LPA represents the HRT3 Alternative from the Tier 2 Screening with refinements, and consists of HRT and BRT components, as shown in **Figure 1-1** below and **Figure 1-2** on page 1-2. The LPA would extend the existing MARTA east-west heavy rail line 12 miles from the Indian Creek Station. The line would extend south parallel to I-285, then east along I-20 to the Mall at Stonecrest.

BRT service would be implemented between downtown Atlanta and Wesley Chapel. BRT service would operate in general use lanes and HOV/HOT lanes on I-20 and surface streets. It would be a fixed-route, branded, high frequency, all day service utilizing transit stations rather than typical bus stops. Vehicles would use transit-only interchanges to access Candler Road and Gresham Road stations, and Wesley Chapel Road, Glenwood Avenue, and Bill Kennedy Way to access stations at those locations. Arterial BRT enhancements such as TSP and queue jumper lanes would be utilized to maximize the efficiency of surface street operations. In the City of Atlanta, BRT service would utilize the Capital Avenue interstate ramps, Capital Avenue, Martin Luther King, Jr. Drive, and Broad Street for access to and from the Five Points Station, or preferably the MMPT if it is implemented.

**Figure 1-1: The Recommended LPA – HRT3**




The following station locations are recommended based on input from the public and stakeholders, existing and future land uses, and projected ridership:

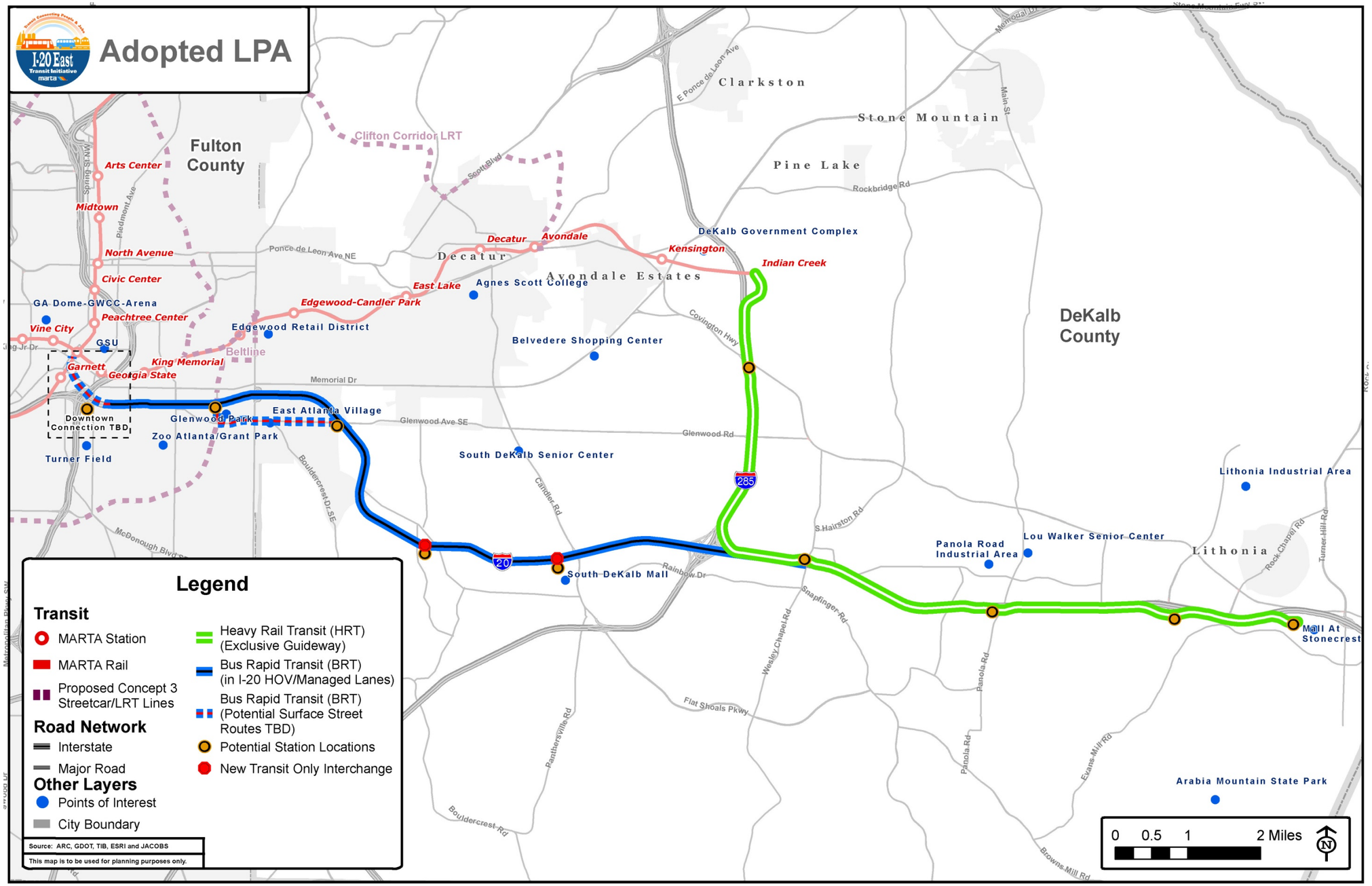
**New Stations Served by HRT**

- Covington Highway
- Wesley Chapel Road
- Panola Road
- Lithonia Industrial Blvd/Evans Mill Road
- Mall at Stonecrest

**New Stations Served by BRT**

- Turner Field (Optional)
- Glenwood Park/Beltline
- Glenwood Avenue
- Gresham Road
- Candler Road
- Wesley Chapel Road

**Figure 1-2: Map of the Recommended LPA – HRT3**



Currently two transit lines operate on the MARTA east-west tracks: the Blue Line, which operates between the Indian Creek Station to the east and the HE Holmes Station to the west; and the Green Line, which operates between the Edgewood/Candler Park Station to the east and the Bankhead Station to the west. Operationally, the LPA would extend the Green Line for the new service into the I-20 Corridor. As shown in **Figure 1-3** on page 1-4 the extended Green Line would serve all new heavy rail stations listed above and then operate as an express service along the existing east line, serving only select stations in order to minimize travel times between the Mall at Stonecrest and the Five Points Station. The Blue Line service would remain unchanged, providing local service to all existing stations between Indian Creek and Five Points Station.

The LPA recognizes the importance of integrating with the Concept 3 regional transit vision. To this end, the future connectivity to the proposed BeltLine and Clifton Corridor was a major consideration in the identification of the LPA. **Figure 1-4** on page 1-5 presents a map showing how the I-20 East project would integrate with other existing and planned transit investments.

## 1.1 Refinements to the Recommended LPA

Of the six Tier 2 alternatives considered, HRT3 was selected as the LPA because it was the alternative that would most effectively addresses the stakeholder-identified needs of the corridor and goals and objectives of the project. **Table 1-1** on page 1-6 details the reasons why the recommended LPA (HRT3) would best address each of these goals and objectives. Corridor stakeholders, the City of Atlanta, the general public, and other interested parties expressed overall support for HRT3. However, due to their shared concerns about the nature of BRT service attached to this alternative, HRT3 was refined after its selection as the recommended LPA.

In refining HRT3 as the recommended LPA, its BRT portion was designed to meet premium BRT standards as defined by FTA. The FTA stipulates that bus service qualifies as BRT when it offers fixed route service that either operates predominantly on fixed-guideways or offers high frequency (15 minute headways, 10 minute headways during peak hours) service separate from mixed traffic with transit stations, traffic signal priority or preemption, low-floor vehicles or level-platform boarding, and separate branding of service. Therefore, the LPA BRT service will meet the following specific refinements were made:

- BRT service between downtown Atlanta and Wesley Chapel would operate in general use lanes and HOV/HOT lanes on I-20 and surface streets as necessary to connect to downtown.
- BRT service would be fixed-route, branded, high frequency, all day service utilizing transit stations rather than typical bus stops.
- Transit-only interchanges would be constructed at Candler Road and Gresham Road for BRT access to stations at those locations.
- Arterial BRT enhancements such as TSP and queue jumper lanes would be utilized to maximize the efficiency of surface street operations.

**Figure 1-3: HRT 3 Operation in MARTA System**

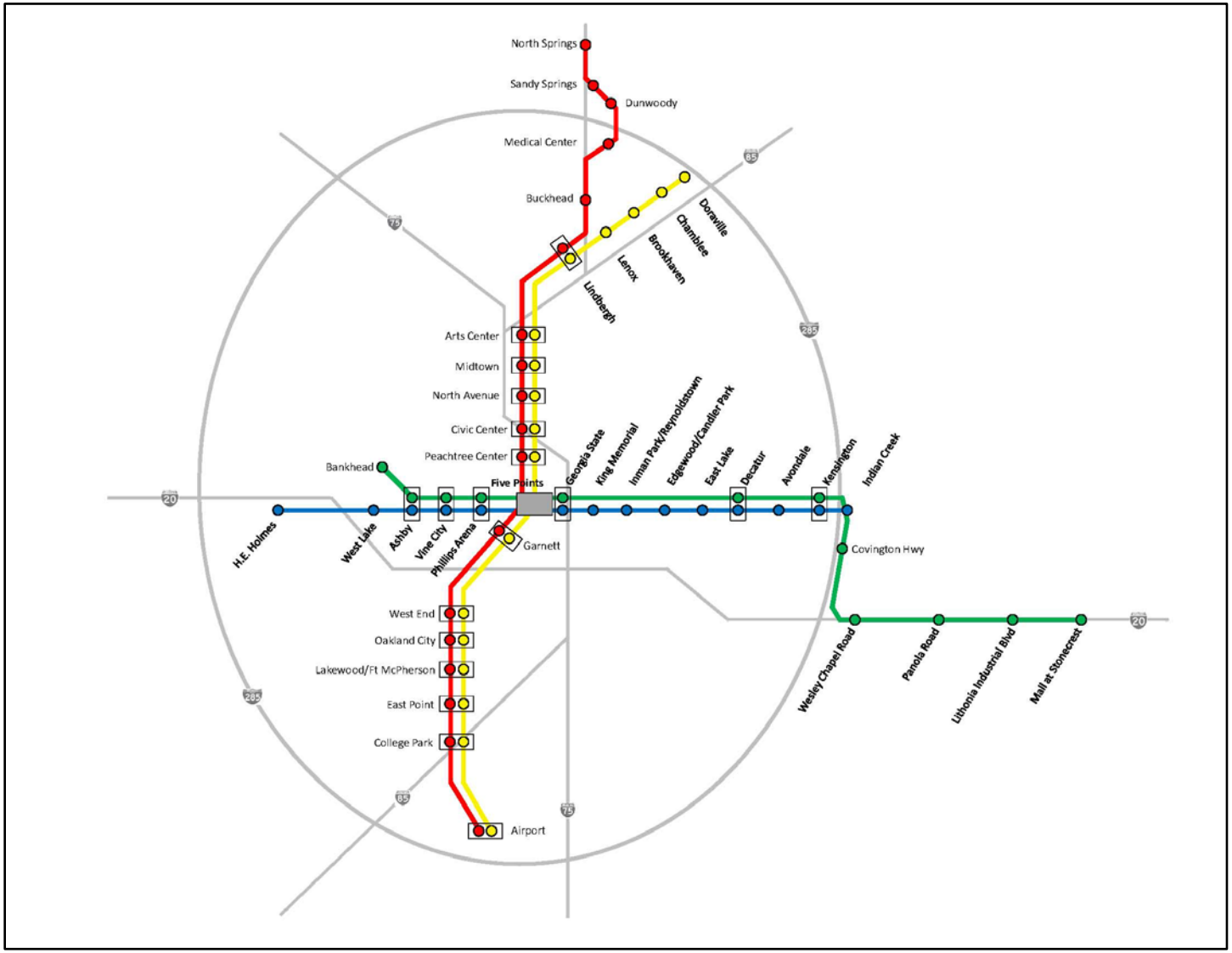


**Figure 1-4: System Integration Map**

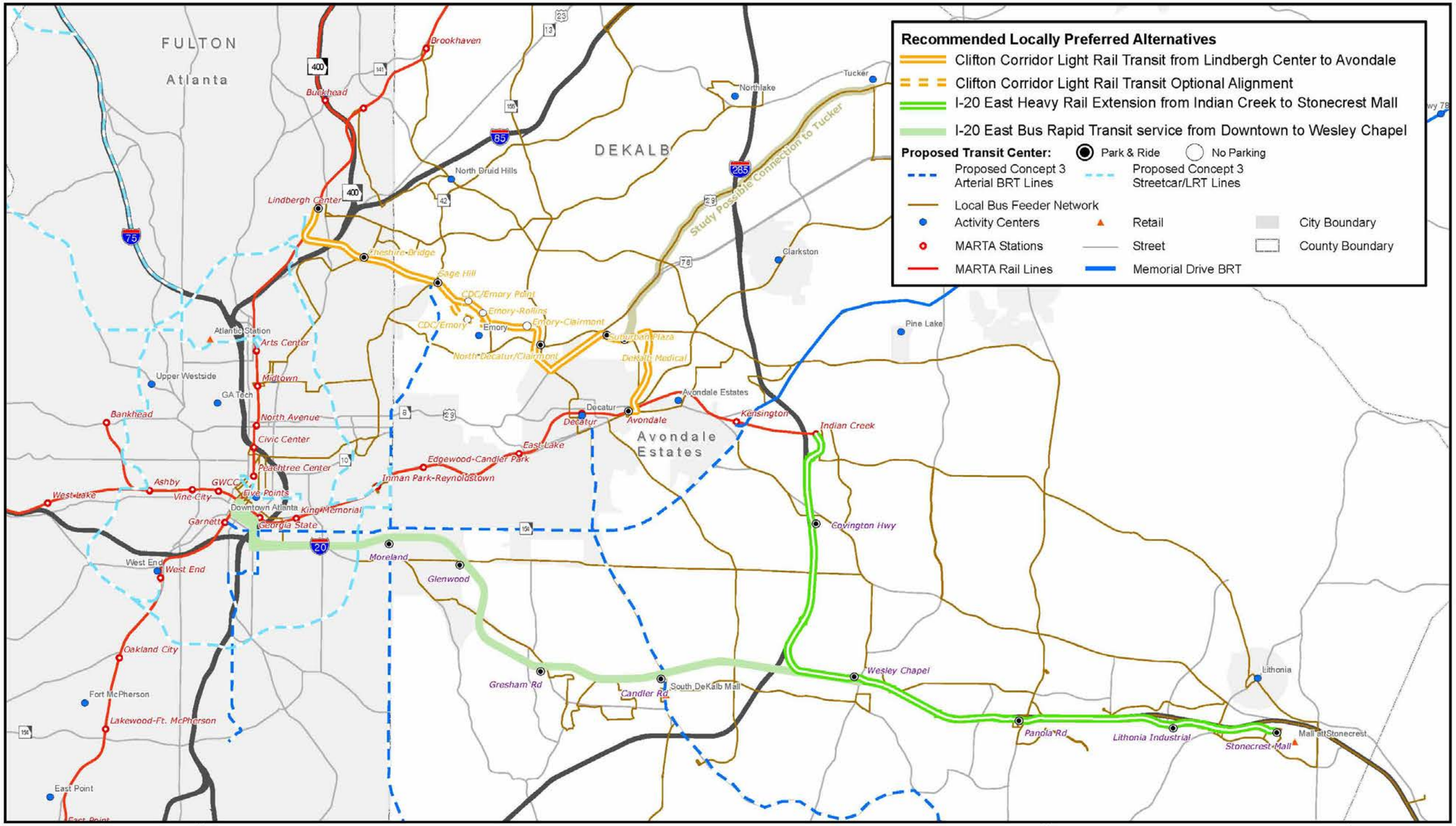


**Table 1-1: Reasons for Selection of the LPA**

| Project Goal | Reason for Selection of LPA – HRT3 |
|---|---|
| Increase Mobility and Accessibility | **Fast Travel Times and High Ridership:** HRT3 would provide significant 2030 travel time savings for commuters in the corridor. Compared with automobile travel, HRT3 would save 34.5 minutes for commuters travelling between the Mall at Stonecrest and downtown Atlanta. Additionally, HRT3 is expected to attract 28,700 daily riders.<br><br>**Transit Access to Decatur and Proposed Clifton Corridor LRT Line:** HRT3 is the only alternative that provides a direct connection to both the City of Atlanta and the City of Decatur, the DeKalb County seat. HRT3 would also provide a connection to the proposed Clifton Corridor light rail line which would provide direct service to the employment center containing Emory University and the CDC. |
| Provide Improved Transit Service in the Corridor | **Service to Heavily Congested Areas of Corridor First:** While all alternatives would need to be constructed in multiple phases due to funding and construction limitations, HRT3 is the only alternative that would serve the congested areas east of I-285 in the first phase of implementation. This is important since the average travel time into downtown is 20-30 minutes longer for those commuters outside the I-285 Perimeter than for those inside the Perimeter. All other alternatives would likely not extend beyond the I-285 Perimeter under the first phase of construction. Thus, HRT3 would more quickly reach those areas of the corridor most affected by congestion and long travel times.<br><br>**Ease of Implementation:** There are no major construction issues associated with the implementation of HRT3. However, HRT1, LRT1, BRT1, and LRT2 would all require very complicated and expensive bridges in the median of I-20 to avoid impacts to historic neighborhoods. These bridges would require a design variance be approved by GDOT and FHWA since they would negatively impact the shoulder widths of the interstate. HRT2 would require a 2.5 mile tunnel under multiple historic neighborhoods. While technically feasible, the cost, staging, and utility conflicts associated with this tunneling constitute a major construction obstacle. |
| Support Land Use and Development Goals | **Supportive of Economic Development:** In addition to being consistent with existing and future land use plans, approximately 900 acres of underutilized or vacant land are located within ½ mile of HRT3 stations. Therefore, this alternative would provide significant opportunity for transit oriented development and redevelopment in the corridor. |
| Promote Cost Effective Transit Investments | **Low Cost:** At $2.04B, the Adopted LPA has the lowest total cost of all alternatives and is projected to cost over one billion dollars less than the most expensive alternative (HRT1). Furthermore, the LPA is $73.7M less expensive than the next lowest cost alternative (BRT1).<br><br>**Utilizes Existing Infrastructure:** HRT3 would utilize existing MARTA East-West line to provide a direct transit connection into downtown Atlanta. By utilizing the existing transit investment, HRT3 avoids the construction of an expensive and complicated connection into downtown Atlanta. Furthermore, HRT3 avoids the construction of 11+ miles of new transit line between downtown Atlanta and I-285, which could be viewed as a second, and redundant, transit line in the corridor. HRT3 would also allow for the use of existing MARTA rail maintenance facilities rather than the construction of new facilities in the corridor. |
| Preserve Natural and Built Environment | **Lowest Number of Displacements:** With an expected 13 displacements, HRT3 has significantly fewer residential or commercial displacements than all other alternatives. HRT1, LRT1, and BRT1, all are expected to incur 47 displacements and LRT2 and HRT2 are expected to incur 41 and 35 displacements respectively. With much of its alignment within GDOT right-of-way, HRT3 has the least property impacts of all alternatives. |
| Achieve a High Level of Community Support | **Strong Public Support:** HRT3 received strong public support, especially from residents of the heavily congested portion of the corridor east of I-285. In a rating of the six Tier 2 Alternatives, 30 percent of all survey respondents rated HRT3 as "most appropriate for the I-20 East Corridor," as did 51 percent of those respondents who lived east of I-285 (or outside the Perimeter). |

*Sources: Travel Demand Model, GIS data analysis, HDR Engineering*

Although these refinements altered the costs and ridership projections for HRT3, these changes were not substantial enough to alter HRT3's performance in Tier 2 Screening. The refinements would raise capital costs associated with HRT3 to an estimated $1,929.6M and right-of-way costs to $110.4M for a total cost of $2,040.0M. Operations and Maintenance costs were not affected by the refinements, and remained at $18.0M annually.

## 1.2 Adoption of the LPA

On April 9, 2012, the MARTA Board of Directors voted to adopt HRT3 as the LPA for the I-20 East Transit Initiative. The ARC is currently updating Plan 2040, the Regional Transportation Plan, and the regional transportation demand model to include the adopted LPA as a transit mode in the I-20 East corridor (AR-405, AR-406, AR-407). The resolution of the MARTA Board of Directors adopting the I-20 East LPA can be found in Appendix B.

# 2.0 STUDY OVERVIEW

## 2.1 Description of the I-20 East Transit Initiative

MARTA, in close coordination with DeKalb County, the City of Atlanta, GDOT, ARC, and in cooperation with the FTA, is undertaking the I-20 East Transit Initiative. This initiative will identify and summarize the potential transportation and environmental impacts associated with the implementation of new east-west transit service from Downtown Atlanta to the Mall at Stonecrest, in eastern DeKalb County. The I-20 East Corridor, shown in **Figure 2-1** on page 2-2, extends more than 20 miles from downtown Atlanta through southern DeKalb County and into the central portion of Rockdale County.

This project seeks to identify transit investments that would improve east-west mobility and accessibility to jobs and housing within the corridor, provide convenient and efficient transit service to accommodate the increasing transit demands within the corridor, and support corridor economic development and revitalization. The initiative is organized in two study phases. The first phase, a DCA, or update of the previously completed AA, will be followed by the environmental review process in accordance with NEPA.

## 2.2 Project Background and History

Previous studies of transportation needs in the I-20 East Corridor over the past decade (**Figure 2-2** below**)** have clearly established the need for high capacity transit service to accommodate the increasing transit demands of this corridor:

- Studies starting with the *South DeKalb/Lindbergh Study* have consistently shown transit demand for a fixed guideway investment in the I-20 East Corridor between South DeKalb and Central Atlanta.
- *Plan 2040* (2011), the transportation plan for the Atlanta region, establishes frameworks for future transit operations, infrastructure and development as well as regional goals for mobility, safety and the environment. This plan includes improved transit service in the I-20 East Corridor.
- There are land use and redevelopment plans and zoning ordinances in the City of Atlanta and DeKalb County, as well as Livable Centers Initiative (LCI) studies that support and encourage transit oriented development, a goal of the I-20 East Transit Initiative.

**Figure 2-2: Timeline of Previous Studies**

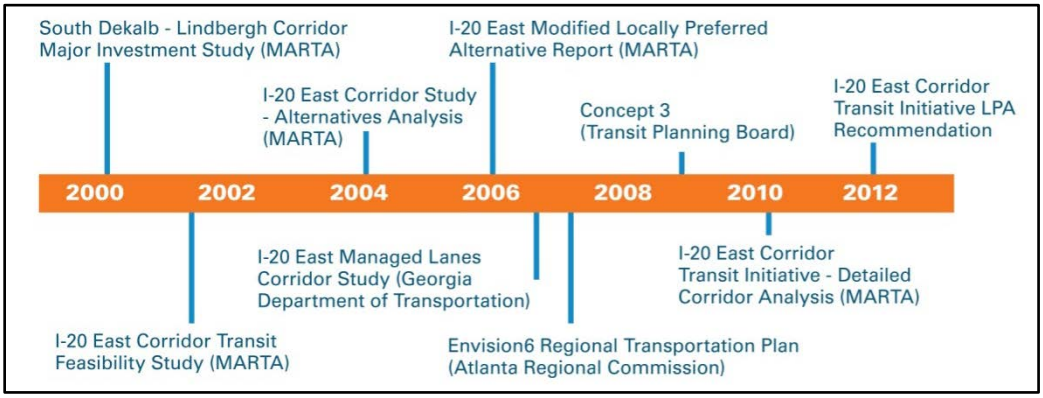
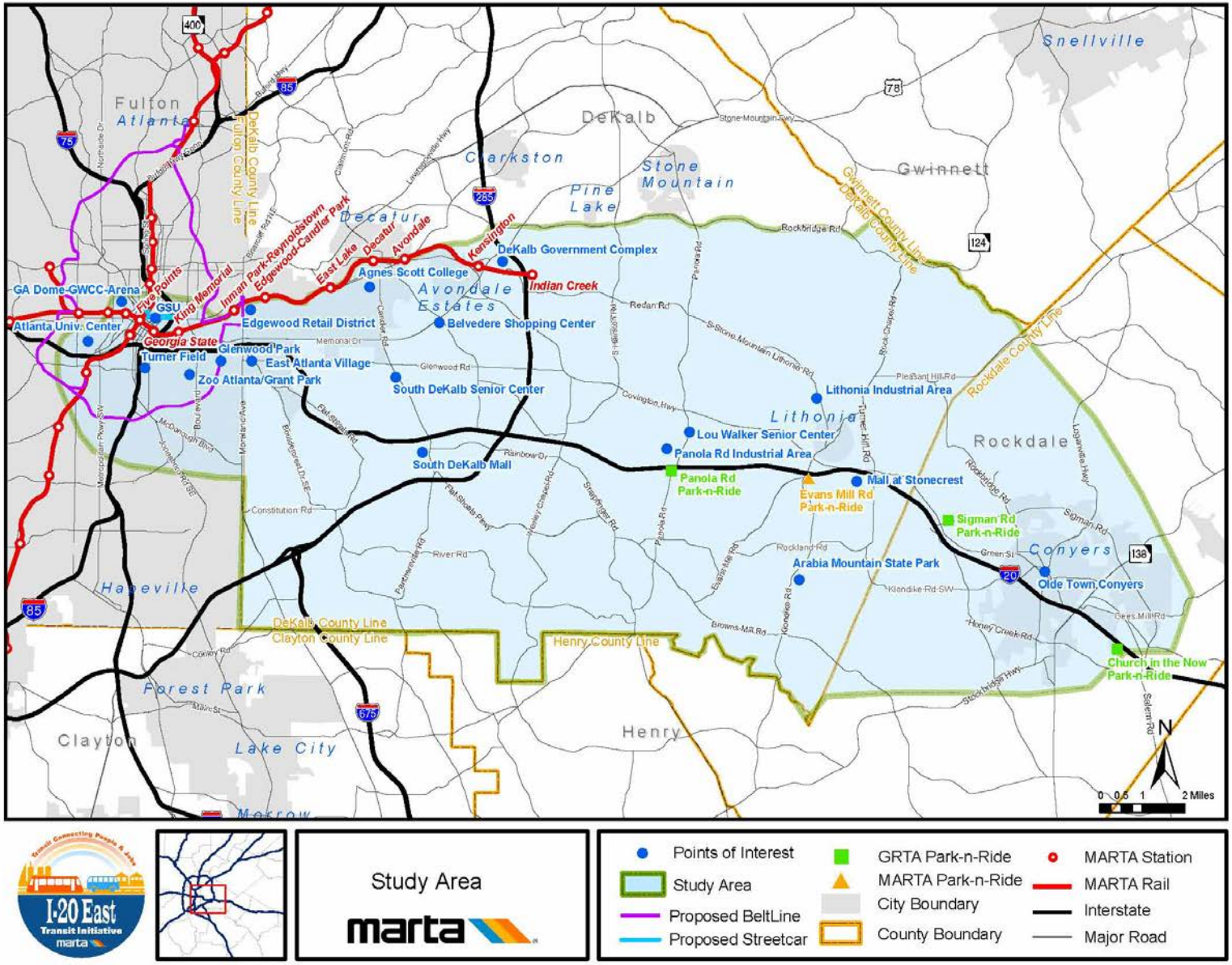


**Figure 2-1: Study Area**



## 2.3 Project Purpose and Need

### 2.3.1 Transportation Challenges

The I-20 East Corridor faces several major challenges. The study area's unique existing and planned transportation system, travel markets, demographics, land uses, and development trends all contribute to the challenges facing this corridor both today and in the future. The data presented in the *I-20 East Transit Initiative Purpose and Need Report* illustrate the need for transit investments that address these challenges. These challenges are summarized below.

**Traffic congestion causes delay and slow travel times**

- The ARC model estimated a total of 2.6 million daily person trips that originated and terminated within the I-20 East Corridor in 2005. By 2030, the number of trips associated with the I-20 East Corridor is expected to increase to 3.5 million trips, an increase of 36 percent. These levels of growth within the corridor will continue to drive a steady increase in traffic volumes and congestion, further increasing delay and reducing travel times.

**Peak-Hour Traffic on I-20**

- Traffic volumes on study area roadways are projected to increase significantly by 2030 as development in the area continues to increase. Volumes on I-20 in 2005 ranged from 76,800 Annual Average Daily Traffic (AADT)[1] in the rural, eastern end of the study area to 195,000 AADT in Downtown Atlanta. By 2030, AADT on I-20 is projected to increase by up to 64 percent to volumes of up to 269,100 vehicles per day. Similar or greater increases in volume are projected for many of the area major roadways.
- Degradation in Level of Service (LOS) is projected for most major roadways in the study area. The LOS on I-20 in 2005 ranged from D to F among study area roadway segments. By 2030, LOS is projected to worsen on more than half of these roadway segments, and only one segment is projected to operate at D or better, the level considered acceptable for urban areas. This projection for 2030 roadway conditions is typical in the study area for major east-west roadway segments, most of which are projected to operate at LOS E or F.

**Inadequate access to downtown and other employment centers**

- Downtown and Midtown Atlanta represent the largest concentrated destination for travel within the corridor. This is especially true for transit trips, with 49 percent of

[1] AADT is the total volume of vehicle traffic on a segment of road for a year divided by 365 days, to estimate the average daily traffic on that roadway segment.

transit trips originating in the corridor destined for Downtown and Midtown Atlanta. As automobile and transit travel times to central Atlanta continue to lengthen, access to this important employment center will become increasingly difficult.

- The projected 46 percent increase in study area employment establishes the basis for an increasing need for additional capacity in the transportation system. Furthermore, through discussions with area stakeholders, the I-20 East Transit Initiative has identified inadequate access to existing employment centers as a corridor issue.

**Limited east-west roadways; I-20 is the only real choice**

- With the exception of I-20, there are limited roadway options for drivers traveling east-west in the study area, and of these, few extend across a significant portion of the study area or offer multiple lanes. Since the existing transportation network does not provide a viable parallel route to I-20 for traversing the study area, the need exists to increase travel choices for east-west mobility in the corridor.
- East-west travel along I-20 is the predominant travel pattern within the corridor. Results of a select link analysis illustrate that the majority of peak hour automobile trips traveling eastbound and westbound on I-20 continue their trips along I-20 rather than diverting on I-285 to the north or south.
- By 2030, the largest source of trips coming into the study area will be from Rockdale and Newton Counties to the east of the study area. Approximately 10 percent of all trips destined for the study corridor will come from these areas. This represents a 113 percent increase in trips from Rockdale and Newton Counties from 2005 to 2030. With I-20 the main option for travel into the study area from these counties, congestion will continue to increase, causing mobility and access to decrease.

**Limited planned transportation projects in corridor to accommodate growth**

- While there are planned and programmed roadway capacity projects in the study area, the lack of east-west movement is projected to remain an issue due to the projects' emphasis on north-south roadways. There are no projects planned to add general use lanes or HOV/managed lanes to I-20 by 2030. With limited planned improvements to I-20 or parallel facilities, east-west mobility in this growing study area will continue to degrade.

**Insufficient transit service for a growing demand**

- Transit travel is expected to increase significantly in the corridor. In 2005 there were 143,700 daily transit trips in the I-20 East Corridor. By 2030, it is projected that there will be 253,000 daily transit trips in the study area each day, a 77 percent increase from 2005. Transit travel growth will far outpace the 36 percent growth for trips of all modes, which includes automobile trips. Over the past five to ten years, significant increases in ridership have been seen on express bus services offered by Georgia Regional Transit Authority (GRTA) and MARTA that travel on I-20 East, despite the fact that these buses operate on congested roadways. This demonstrates the strong demand for transit service within the corridor even when existing transit service is not travel time competitive.

- Automobile and transit travel times limit mobility and access within much of the corridor. By 2030, most of the corridor west of I-285 is expected to experience automobile and transit travel times to downtown of greater than 50 minutes with much of this area experiencing travel times of 60 - 80+ minutes.

**Express buses operate in normal traffic**

- Overall, existing and future transit travel times are considerably longer than automobile travel times, illustrating that current transit service is not travel time competitive.

- Transit travel times surrounding the existing MARTA heavy rail line are not expected to lengthen by 2030. However, by 2030 local and express bus service in much of the eastern portion of the corridor is expected to experience considerably longer travel times, primarily due to the fact that these services operate on congested roadways and there are few capacity-adding roadway improvements planned for the study area by 2030. Furthermore, no managed lanes or HOV lanes are planned along I-20 east of I-285 by 2030. This further highlights the need for travel time competitive transit service to address the mobility and access needs of the study area.

**GRTA Bus in Peak-Hour Traffic on I-20**

**Areas of the corridor are in need of revitalization**

- There are land use plans, redevelopment plans, and zoning ordinances in the City of Atlanta and DeKalb County, as well as from LCI Studies, that support and encourage transit oriented development, a goal of the I-20 East Transit Initiative.

- The analysis of projected land use changes demonstrates that there is sufficient land area to accommodate projected growth and redevelopment. Much of the projected 117,000 new residents to the study area between 2005 and 2030 will be accommodated in the 56 percent growth in the eastern portion of the study area.

- A series of planning studies within the study area have recommended redevelopment activities along the I-20 East corridor, an example of which is the Candler Road/Flat Shoals Parkway LCI Study, completed in 2007. This study, like many of the others, envisioned and is supportive of, transit supportive land uses comprised of high-density mixed-use centers.

**Rainbow Village Shopping Center on Candler Road**

- Redevelopment and reinvestment is a major identified need in the corridor. Major redevelopment areas include the South DeKalb Mall area and other commercial centers adjacent to I-20. Additional premium transit service in corridor would represent a major new investment in the area and would have the potential to catalyze new development in these areas.

- The previously identified transit alignment and stations along I-20 are supported by the land use policy framework of DeKalb County, which calls for the redevelopment of commercial areas adjacent to I-20 as a series of mixed-use higher-density areas. The I-20 Overlay District lays the framework for ensuring Transit-Oriented Development (TOD) at proposed station areas along the alignment.

**Limited transportation options for traditionally underserved populations**

- There are neighborhoods of minority and low-income populations located throughout the study area. It will be important through the planning process to ensure these neighborhoods are not impacted disproportionately and that any transit improvements serve these neighborhoods where the population has been traditionally underserved.

- The study area has a higher percentage of zero-vehicle households (15.4 percent) than the Atlanta metropolitan area (7.3 percent) or the State of Georgia (8.3 percent). Although many of these zero-vehicle household neighborhoods are located along existing MARTA rail lines, there are numerous zero-car households in neighborhoods throughout the study area particularly along or near I-20.

- There are neighborhoods within the study area where the elderly and disabled populations make up between 15 to 25 percent of the population. While in the western end of the study area these populations reside near existing MARTA rail lines, in the eastern end of the study area, large areas with significant elderly and disabled populations do not have access to premium transit. Increasing the accessibility of service to these populations would address a major need for the I-20 East Transit Initiative.

### 2.3.2 Need for the I-20 East Transit Initiative

Given the challenges facing the study area, improved transit service in the I-20 East Corridor is being investigated to address the following needs.

- **Improved Mobility and Accessibility in the Corridor**
    - Traffic congestion causes delay and slow travel times
    - Inadequate access to downtown and other employment centers
- **Additional Travel Options in the Corridor**
    - Limited east-west roadways; I-20 is the only real choice
    - Limited planned transportation projects in corridor to accommodate growth
- **Improved Transit Service in the Corridor**
    - Insufficient transit service for a growing demand
    - Express buses operate in normal traffic
    - Limited transportation options for transit dependent and elderly populations
- **Support Land Use and Development Goals within the Corridor**
    - Areas of the corridor are in need of revitalization

### 2.3.3 Purpose and Need Statement

The following Purpose and Need Statement was developed to clearly and concisely address the primary transportation challenges faced by the I-20 East Corridor.

***The purpose of the I-20 East Transit Initiative is to provide transit investments that enhance east-west mobility and improve accessibility to residential areas and employment centers within the corridor. The existing and future roadway congestion in the I-20 East corridor will have an increasingly detrimental effect on automobile and bus transit travel in the corridor. The proposed transit investments are intended to improve travel times and travel reliability by providing a rapid transit service for commuters traveling to and from central Atlanta.***

### 2.3.4 Goals and Objectives of the I-20 East Transit Initiative

Based on the identified challenges and needs within the corridor and stakeholder input, goals and objectives were identified to guide the development and evaluation of transit alternatives for the I-20 East DCA. They are presented in **Table 2-1** below.

**Table 2-1: Goals and Objective**

| Goals | Objectives |
|---|---|
| **Goal 1:** Increase mobility and accessibility | • Objective 1.1: Improve travel times for east-west travel<br>• Objective 1.2: Improve transit accessibility within the corridor<br>• Objective 1.3: Improve connectivity with existing and planned transit investments<br>• Objective 1.4: Improve travel options within the corridor |
| **Goal 2**: Provide improved transit service within the corridor | • Objective 2.1: Provide transit service with sufficient capacity to accommodate growing demand<br>• Objective 2.2: Provide travel time competitive transit service in the corridor<br>• Objective 2.3: Provide transit service for traditionally underserved populations |
| **Goal 3:** Support regional and local land use and development goals | • Objective 3.1: Promote economic development/revitalization<br>• Objective 3.2: Support adopted local land use plans<br>• Objective 3.3: Encourage transit supportive land use and development patterns |
| **Goal 4**: Promote cost effective transit investments | • Objective 4.1: Provide transit service that can be implemented, operated, and maintained with available resources |
| **Goal 5:** Preserve natural and built environment | • Objective 5.1: Minimize impacts on environmental resources |
| **Goal 6:** Achieve a high level of community support | • Objective 6.1:Maintain compliance with stakeholder guidance<br>• Objective 6.2:Achieve a high level of public support |

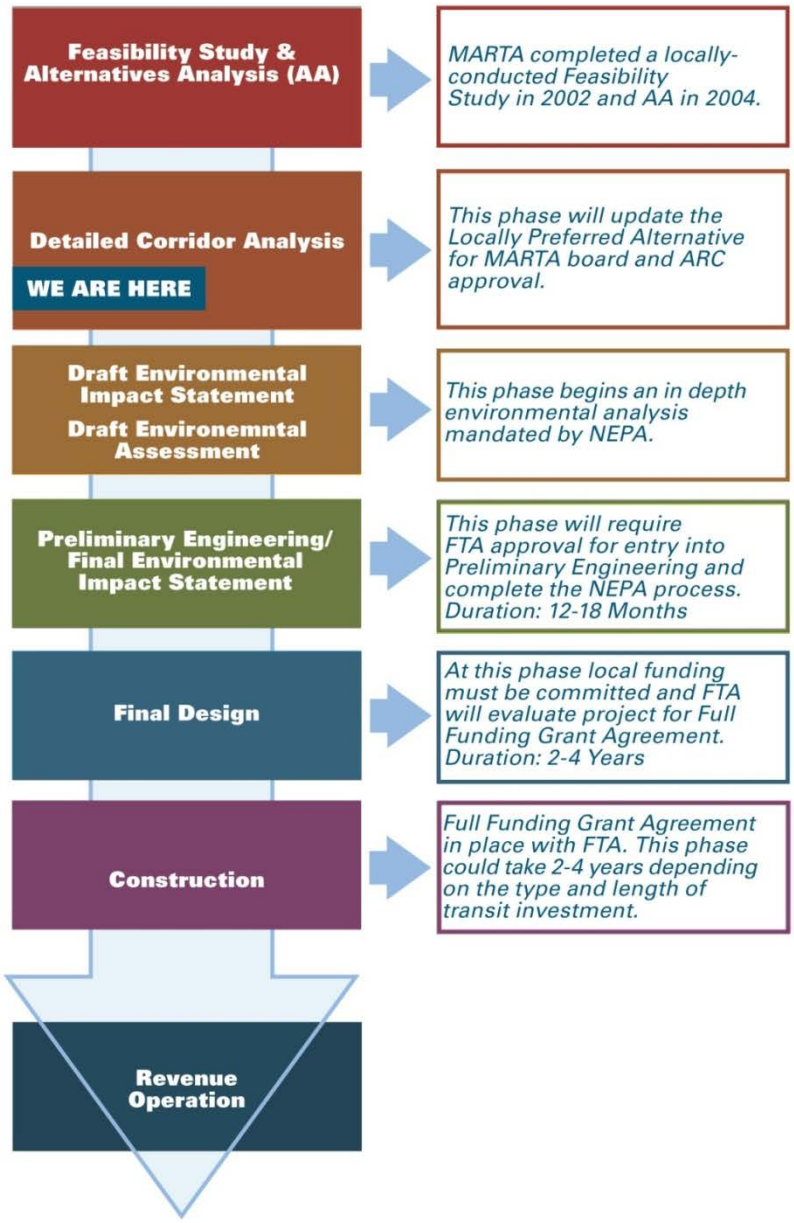
## 2.4 FTA Project Development Process

A DCA/AA is a required element within the FTA's project development process (**Figure 2-3** on page 2-8). The DCA/AA examined a range of feasible alternatives and compared the potential costs, impacts, and benefits of each alternative relative to the demonstrated purpose and need for the improvement. The result of this analysis was an LPA to be advanced into environmental studies and preliminary engineering.

The second phase of the I-20 East Transit Initiative will be the preparation of environmental documents to satisfy NEPA, which requires the full consideration of environmental effects for any project that receives federal funding. The I-20 East Transit Initiative is preparing an EA for the BRT component and an EIS for the HRT component. Both the EA and the EIS are studies focused on the social, cultural, and physical impacts of potential federal investments,

with the EIS documenting these issues in greater depth than the EA. The EIS is completed in two steps, a Draft EIS and a Final EIS that follows the review of the Draft EIS. The EA, if it is determined from the EA that no significant impacts will result from the project, results in a Finding of No Significant Impact (FONSI).

**Figure 2-3: FTA Project Development Process**



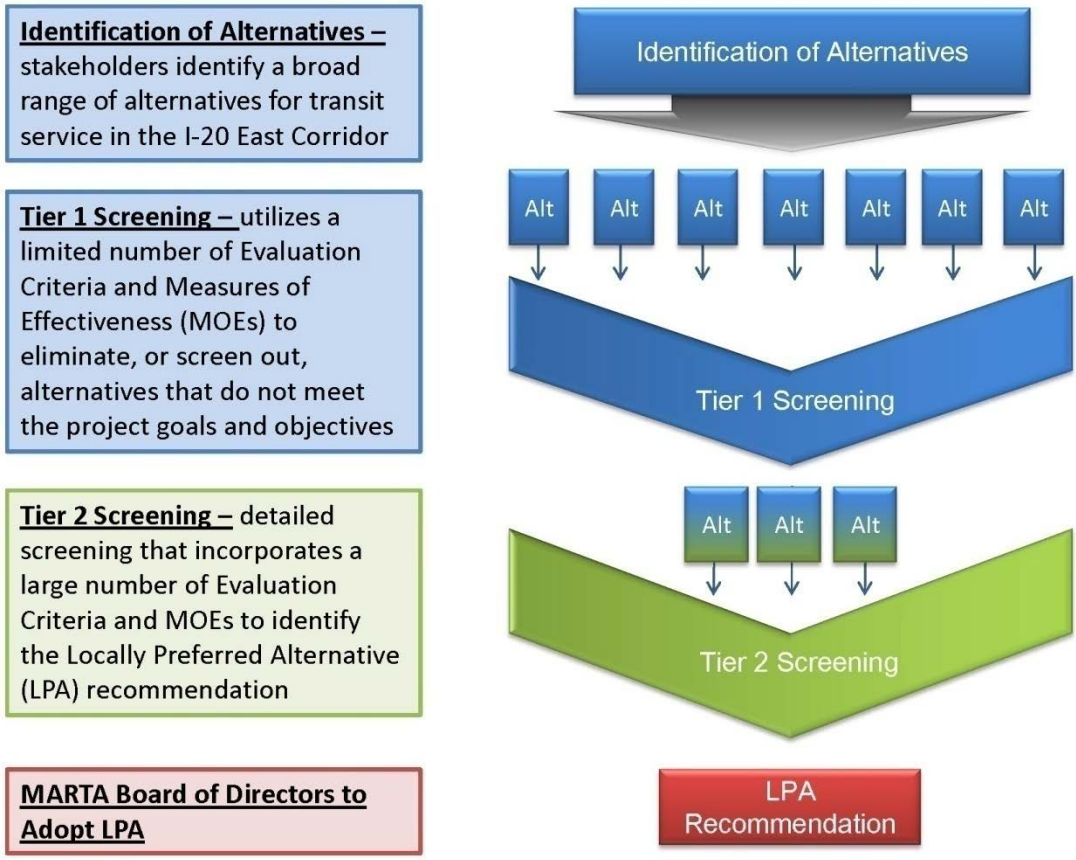
# 3.0 EVALUATION FRAMEWORK

The methodology used to identify and evaluate the proposed transit alternatives was a two-tiered process in which alternatives were evaluated using increasingly detailed data and evaluation criteria (**Figure 3-1** below). The two phases for the development and evaluation of alternatives for the I-20 East DCA were:

**Tier 1 (Preliminary) Screening –** This phase began with development and evaluation of a broad range of transit alternatives for the I-20 East Corridor. The Tier 1 Screening utilized a limited number of MOEs to eliminate, or screen out, alternatives that do not meet the objectives of the proposed project.

**Tier 2 (Detailed) Screening -** The results of the Tier 1 Screening became the smaller group of Tier 2 Alternatives that were subject to more detailed evaluation. This screening included a Baseline alternative and a No Build Alternative. The Tier 2 Screening was both more in-depth and wider in scope than that performed in the Tier 1 Screening and incorporated a high degree of technical analysis with many different MOEs.

**Figure 3-1: The Alternatives Analysis Process**



## 3.1 Tier 1 Screening

The first step in the alternatives development and screening process was the identification of feasible alternatives. The Tier 1 Screening considered a limited number of evaluation criteria and MOEs to determine the transit alignment alternatives that best met the goals and objectives of the project. The highest performing Tier 1 Alternatives were advanced to the Tier 2 Screening. As explained in the *Definition of Alternatives Report*, the Tier 1 Alternatives were divided into three groups.

- **Mainline Alignment Alternatives:** The best mainline, or corridor level, transit alignments.
- **Panola Road Area Alternatives:** The best alignments in the Panola Road area.
- **Downtown Connectivity Alternatives:** The best connections into Downtown Atlanta.

## 3.2 Tier 2 Screening

The Tier 2 Alternatives represented the highest performing Tier 1 Alternatives. The purpose of the Tier 2 Screening was to identify the LPA utilizing a more robust list of evaluation criteria and MOEs. These MOEs provide for quantitative analysis results and qualitative public input. The result of the Tier 1 Screening was a set of feasible transit alignments that would connect activity centers along I-20 East Corridor with central Atlanta and the existing MARTA heavy rail system. The Tier 2 Screening paired these alignments with compatible transit technologies, or modes. As such, all Tier 2 Alternatives were evaluated with all feasible transit technologies. If a given alignment was compatible with multiple transit technologies, it was analyzed with each technology. The transit technologies identified as suitable for this project include HRT, LRT, and BRT.

During the development of Tier 1 and Tier 2 Alternatives, a No Build Alternative and a Baseline/Transportation System Management (TSM) Alternative were developed as required by the FTA's New Starts process. These were evaluated along with the Tier 2 Build alternatives and are defined as follows:

- **No Build Alternative** – The No Build Alternative represents future transportation conditions if no investments are made beyond transportation projects that are already planned and committed in the Atlanta region's fiscally constrained long-range transportation plan. As such, it serves as the base case against which each of the other alternatives is compared.
- **Baseline/TSM Alternative** – The Baseline/TSM Alternative consists of lower cost transit improvements that attempt to serve the project purpose and need. It is aimed at serving similar markets by incorporating cost effective improvements with an emphasis on transportation system upgrades. This lower cost alternative was compared to the Build alternatives as described in Section 6.0. Unlike the improvements contained in the No Build Alternative, no funding has been identified for the Baseline/TSM Alternative. This alternative is usually selected as the baseline scenario for New Starts applications to the FTA.

## 3.3 Identification of Evaluation Criteria

This section presents the evaluation criteria and MOEs that were utilized to evaluate and compare alternatives in the Tier 1 and Tier 2 Screenings. The evaluation criteria and MOE's are presented in **Table 3-1** on pages 3-3 and 3-4. As described previously, the project alternatives will be evaluated in a two-tiered process in which alternatives are analyzed using

increasingly detailed data and evaluation criteria. As shown in Table 3-1, the evaluation criteria and MOEs utilized in the Tier 1 Screening are a subset of those utilized for the detailed evaluation in the Tier 2 Screening. Since the Tier 2 Screening is a detailed evaluation of the final alternatives, significantly more evaluation criteria and MOEs will be utilized to measure the effectiveness of the alternatives to address the identified project goals and objectives.

The identification of useful evaluation criteria requires that the purpose and need are well defined and the goals and objectives of the project are clearly outlined. The evaluation process has been designed to evaluate how well each alternative address the identified project goals and objectives. MOEs are the specific and detailed measures established for each evaluation criterion for the purpose of measuring the performance of the alternatives.

**Table 3-1: Evaluation Criteria and Measures of Effectiveness**

| **Goal 1: Increase Mobility and Accessibility** | | | | |
|---|---|---|---|---|
| **Objective** | **Evaluation Criteria** | **Measure of Effectiveness** | **Tier 1 Screening** | **Tier 2 Screening** |
| Improve East-West Travel Times | Travel Times | Transit Travel Times from Stonecrest to Five Points Station | X | X |
| | | Transit Travel Times from Stonecrest to Arts Center Station | X | X |
| | | Reduction in VHT | | X |
| | | Number of transfers per linked trip | | X |
| Improve Transit Accessibility within the Corridor | Proximity of transit to corridor residents, employment, and special destinations. | Households with new access to transit* | | X |
| | | Employment within ½ mile of new stations that is not within ½ mile of existing MARTA rail stations | | X |
| | | Special destinations (major retail, entertainment, & university) within ½ mile of stations | | X |
| Improve Connectivity with Existing and Planned Transit Investments | Connections to Existing and Planned Transit | Connection to Concept 3 Rapid Transit Service | | X |
| Improve Travel Options within the Corridor | Additional Travel Options | New Travel Mode/Facility | | X |
| **Goal 2: Provide Improved Transit Service within the Corridor** | | | | |
| **Objective** | **Evaluation Criteria** | **Measure of Effectiveness** | **Tier 1 Screening** | **Tier 2 Screening** |
| Provide Transit Service with Sufficient Capacity to Accommodate Growing Demand | Transit System Ridership | Total Transit Boardings | X | X |
| | | Transit Mode Share | | X |
| | | New Transit Riders | X | X |
| Provide Travel Time Competitive Transit Service in the Corridor | Transit Travel Times | Difference between transit travel times and auto travel times between the Mall at Stonecrest and Five Points | | X |
| Provide Transit Service for Traditionally Underserved Populations | Proximity to Underserved Populations | Zero car households with new access to transit* | | X |
| | | ADA population with new access to transit* | | X |
| | | Minority population with new access to transit* | | X |
| | | Number of low-income households with new access to transit* | | X |
| | | Elderly population with new access to transit* | | X |

| Goal 3: Support Land Use and Development Goals | | | | |
|---|---|---|---|---|
| **Objective** | **Evaluation Criteria** | **Measure of Effectiveness** | **Tier 1 Screening** | **Tier 2 Screening** |
| Promote Economic Development and Revitalization | Proximity of Underutilized Land | Acres of vacant or underutilized land within ½-mile of transit stations/stops | X | X |
| Support Adopted Local Land Use Plans | Land Use Plans | Consistency with adopted local and regional plans | | X |
| Encourage Transit Supportive Land Use and Development Patterns | Potential for TOD | Acres of transit-supportive future land uses within 1/2 mile of new stations/stops | | X |
| | | Acres of transit-supportive existing land uses within 1/2 mile of new stations/stops | X | X |
| **Goal 4: Promote Cost Effective Transit Investments** | | | | |
| **Objective** | **Evaluation Criteria** | **Measure of Effectiveness** | **Tier 1 Screening** | **Tier 2 Screening** |
| Provide Transit Service that Can be Implemented, Operated, and Maintained with Available Resources | Cost and Cost Effectiveness | Capital costs (Stations, transitways, tracks, vehicles, and maintenance facilities) and right-of-way costs in $millions | X | X |
| | | Operating and maintenance costs in $millions | X | X |
| | | Deliverability Risk | | X |
| | | Cost Effectiveness Index (CEI) | | X |
| | | Incremental cost per new rider | | X |
| **Goal 5: Preserve Natural and Built Environment** | | | | |
| **Objective** | **Evaluation Criteria** | **Measure of Effectiveness** | **Tier 1 Screening** | **Tier 2 Screening** |
| Minimize Impacts to Environmental Resources | Impact to community, cultural, and natural resources | Community Impacts (neighborhoods, churches, schools, community centers, etc.) | | X |
| | | Natural environmental impacts (streams, wetlands, T&E species, etc.) | | X |
| | | Cultural impacts (historic and archaeological resources) | | X |
| | | Total residential and commercial displacements | X | X |
| **Goal 6: Achieve a High Level of Community Support** | | | | |
| **Objective** | **Evaluation Criteria** | **Measure of Effectiveness** | **Tier 1 Screening** | **Tier 2 Screening** |
| Provide Transit Investments that are Supported by Local Stakeholders and the General Public | Maintain compliance with stakeholder guidance | Compliance with SAC Guiding Principles | X | X |
| | Achieve a high level of public support | Degree of Public Support (percent of votes for Mainline, Downtown Connectivity, and Panola Road Alternatives) | X | |
| | | Average Survey Score (on a scale of 1-5) for respondents living east of I-285 | | X |
| | | Average Survey Score (on a scale of 1-5) of respondents living west of I-285 | | X |

*within two miles of Collector or Commuter Town Center Stations or within one-half mile of Town Center and Special Regional Destination Stations and not within ½ mile of existing Urban Core, Neighborhood, or Town Center Stations nor within two miles of existing Commuter Town Center or Collector stations.

# 4.0 TIER 1 SCREENING

## 4.1 Development of Tier 1 Alternatives

The first step in the alternatives development and screening process was the identification of feasible alternatives. Using the final transit alternatives identified in the previous Alternatives Analysis (2004) as a starting point, the SAC was tasked with identification of transit alignments that would connect activity centers throughout the I-20 East Corridor with central Atlanta and the existing MARTA heavy rail system. Tier 1 Alternatives were developed to identify all feasible transit alignments in the corridor and connections to central Atlanta. Transit technologies, or transit modes, were deferred to the identification of the Tier 2 Alternatives.

## 4.2 Description of Tier 1 Alternatives

Stakeholder-identified alternatives were divided into three distinct groups: Mainline Alternatives, Panola Road Area Alternatives, and Downtown Connectivity Alternatives. Please refer to the *Definition of Alternatives Report* for more detail on each alternative. The Tier 1 Alternatives are presented in **Table 4-1** below.

**Table 4-1: Tier 1 Build Alternatives**

| Alternative Type | Alternative Name |
|---|---|
| Mainline Alternatives | 1. Parallel I-20 Alignment |
| | 2. Connection to Edgewood Station |
| | 3. Heavy Rail Extension from Indian Creek |
| Panola Road Area Alternatives | 1. Parallel I-20 Sub-Alignment |
| | 2. Snapfinger Woods Drive Sub-Alignment |
| Downtown Connectivity Alternatives | 1. Connection to King Memorial Station via Memorial drive |
| | 2. Connection to King Memorial Station and Downtown via Streetcar Alignment |
| | 3. Connection to King Memorial Station |
| | 4. Connection to Downtown via Streetcar |
| | 5. Connection to Garnett and Five Points Stations |
| | 6. Connection to Multi-Modal Passenger Terminal/Five Points Stations |
| | 7. Connection to West End Station/Atlanta University Center/Ashby Station |
| | 8. Connection to Inman Park Station and Midtown via BeltLine Alignment |

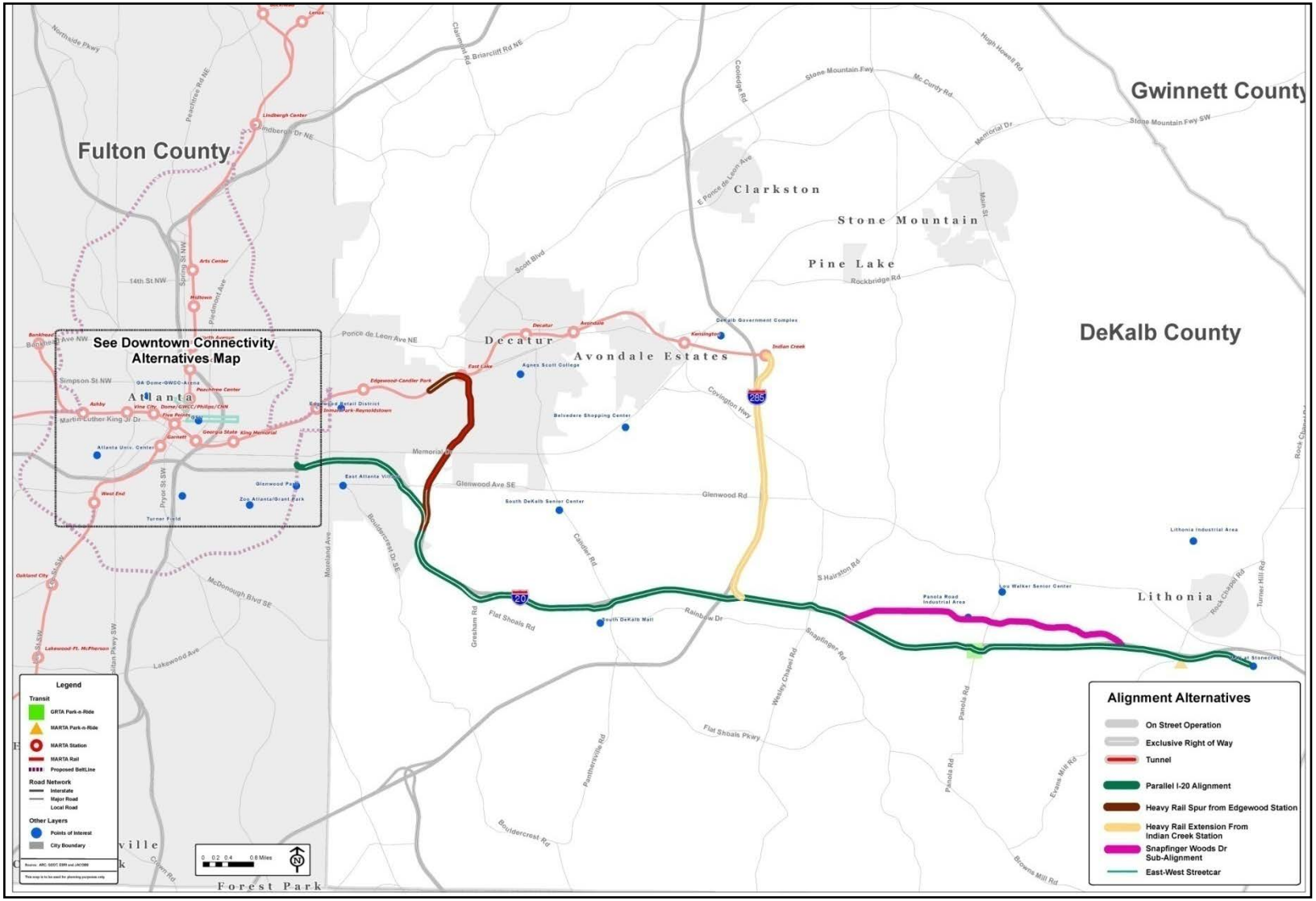
### 4.2.1 Mainline Alternatives

Mainline Alignment Alternatives represent the corridor-level alignment alternatives identified to provide a transit connection between Mall at Stonecrest and central Atlanta. **Figure 4-1** on page 4-2 presents the Mainline Alternatives.

#### Parallel I-20 Alignment

The Parallel I-20 Alignment would run adjacent to I-20 from the Mall at Stonecrest to Downtown Atlanta and has the potential to connect to the MARTA rail system at various locations in central Atlanta. These potential connections make up the Downtown Connectivity Alternatives. The Parallel I-20 Alignment would generally be located immediately adjacent I-20; however, within the City of Atlanta, it would be located on a structure in the middle of the interstate median, in order to avoid impacts to multiple historic neighborhoods within the City.

**Figure 4-1: Mainline Alternatives and Panola Road Alternatives**



### Connection to Edgewood Station Alignment

Within most of DeKalb County, the Connection to Edgewood Station Alignment would be identical to the Parallel I-20 Alignment. It would diverge from the parallel alignment near the City of Atlanta, turn north, and enter a tunnel beneath several historic neighborhoods, and then connect to the Edgewood-Candler Park Station. By utilizing a tunnel and connecting to the existing east-west line, this alternative would avoid the costly and complicated connection directly into downtown Atlanta.

### Heavy Rail Extension from Indian Creek

The Heavy Rail Extension from Indian Creek Alignment would include the extension of the MARTA east-west rail line. This extension would run south adjacent to I-285 and then run east adjacent to I-20 to the Mall at Stonecrest. By utilizing the existing east-west line to connect into downtown Atlanta, this alternative would avoid the costs and construction challenges of connecting to downtown Atlanta alongside I-20 west of I-285.

## 4.2.2 Panola Road Area Alternatives

Due to a relatively large employment area north of I-20 near Panola Road, two alignment alternatives were identified to serve this area. These two alternatives comprise the Panola Road Area Alternatives presented in Figure 4-1.

### Parallel I-20 Sub-Alignment

This sub-alignment would run parallel to I-20 through the Panola Road Area and would feature a station at Panola Road. This alignment would operate in a dedicated transitway with no surface street operation or at-grade street crossings.

### Snapfinger Woods Drive Sub-alignment

Between the Wesley Chapel Road and Panola Road Interchanges, this sub-alignment would deviate from I-20 to operate in-street on Snapfinger Woods Drive to east of Panola Road, where it would return to the I-20 alignment.

## 4.2.3 Downtown Connectivity Alternatives

The Downtown Connectivity Alternatives are the specific transit connections into downtown Atlanta. These alternatives are presented in **Figure 4-2** on page 4-4.

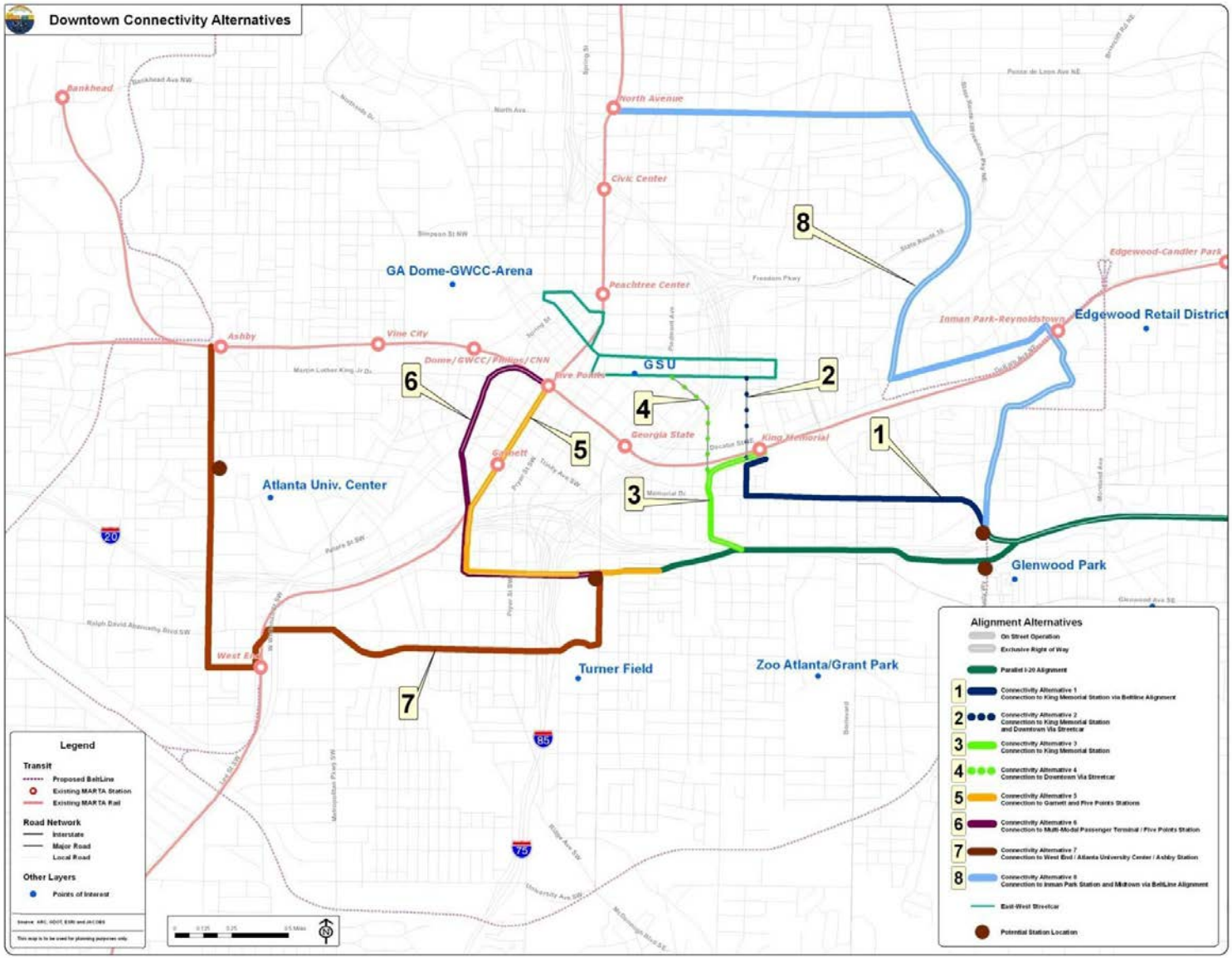
### Alternative 1 – Connection to King Memorial Station via Memorial Drive

This alternative deviates from the Parallel I-20 Alignment to follow Bill Kennedy Way north to Memorial Drive. It would run in-street along Memorial Drive to the west, then travel north along Grant Street to connect with the King Memorial Transit Station.

### Alternative 2 – King Memorial Station and Downtown via Streetcar

This alternative has the same alignment as Downtown Connectivity Alternative 1, but it would continue north along Grant Street to a connection with the Atlanta Streetcar. It would then follow the streetcar alignment, which includes a stop at the Peachtree Center MARTA Station.

**Figure 4-2: Downtown Connectivity Alternatives**



### Alternative 3 – King Memorial via Hill Street

This alternative would diverge from I-20 to run north in-street along Hill Street. It would turn east from Hill Street in exclusive right-of-way and connect with the King Memorial Station.

### Alternative 4 – Downtown via Streetcar

Alternative 4 deviates from I-20 to run north in-street along Hill Street and then tie into the Atlanta Streetcar alignment at Edgewood Avenue. It would then follow the streetcar alignment which includes a stop at the Peachtree Center MARTA Station.

### Alternative 5 – Garnett and Five Points

Alternative 5 would exit the I-20 right-of-way at Hill Street and travel along Glenwood Avenue to Fulton Street in exclusive right-of-way. At Windsor Street it would turn north, cross over I-20 and connect to Garnett Station then Five Points Station.

### Alternative 6 – Multi-Modal Passenger Terminal/Five Points

The Alternative 6 alignment is almost identical to Alternative 5, but it continues on Windsor Street north, where it becomes Spring Street, and bypasses the Garnett Station. This alternative runs in-street for a short time on Spring Street. This alternative ties into the proposed MMPT, which would have direct connection into the Five Points Station.

### Alternative 7 – West End Station/Atlanta University Station/Ashby

Alternative 7 would deviate from I-20 and follow Glenwood Avenue until it turns into Fulton Street. The alignment would then turn south to run in-street along Capitol Avenue and turn west along Ralph David Abernathy Boulevard, which it would follow to a connection with the West End MARTA Station. The alignment would continue west to Joseph Lowery Boulevard where it would turn north to serve the Atlanta University Center before terminating at the Ashby Station.

### Alternative 8 – Inman Park Station and Midtown via BeltLine

This alignment of this alternative would diverge from I-20 at Bill Kennedy Way and follow the proposed BeltLine alignment north to North Avenue. It would then turn west, running in-street along North Avenue to a connection with the North Avenue Station.

## 4.3 Tier 1 Alternatives Cost Estimates

The Tier 1 Alternatives cost estimates were high level conceptual cost estimates. Because Tier 1 Alternatives were mode-neutral, all cost estimates were originally prepared assuming LRT as a common transit mode for all alternatives. However, as the alternatives were developed, Mainline Alignments 2 and 3 were identified as being feasible only as extensions of the existing MARTA HRT system. Thus, cost estimates for these mainline alignments were assumed as HRT alternatives and all others were assumed as LRT alternatives. **Table 4-2** on page 4-6 presents the concept level cost estimates for the Tier 1 Alternatives.

## 4.4 Tier 1 Findings and Evaluation

The Tier 1 Screening utilized a limited number of evaluation criteria and MOEs to evaluate which alternatives best addressed the identified project goals and objectives. The results of the Tier 1 Screening are presented in **Table 4-3** on page 4-7.

**Table 4-2: Tier 1 Concept Level Cost Estimates**

| Alternative # | Alternative Name | Right-of-Way Cost | Capital, Professional, Finance, & Contingency Costs | Total Cost |
|---|---|---|---|---|
| **Mainline Alignment Alternatives** | | | | |
| Mainline Alternative 1 | Connection Directly to Downtown Atlanta | $199.8M | $2,221M | **$2,421M** |
| Mainline Alternative 2 | Connection to Edgewood Station | $78.6M | $2,777M | **$2,856M** |
| Mainline Alternative 3 | Heavy Rail Extension from Indian Creek | $53.3M | $1,697M | **$1,750M** |
| **Downtown Connectivity Alternatives** | | | | |
| DCA 1 | Connection to King Memorial Station via Memorial Drive | $80.8M | $1,871M | **$1,952M** |
| DCA 2 | Connection to King Memorial Station and Downtown via Streetcar Alignment | $80.8M | $1,881M | **$1,962M** |
| DCA 3 | Connection to King Memorial Station | $186.4M | $2,008M | **$2,194M** |
| DCA 4 | Connection to Downtown via Streetcar | $143.8M | $2,018M | **$2,162M** |
| DCA 5 | Connection to Garnett and Five Points Stations | $199.8M | $2,221M | **$2,421M** |
| DCA 6 | Connection to Multi-Modal Passenger Terminal/Five Points Stations | $197.5M | $2,148M | **$2,346M** |
| DCA 7 | Connection to West End Station/Atlanta University Center/Ashby Station | $187.2M | $2,144M | **$2,331M** |
| DCA 8 | Connection to Inman Park Station and Midtown via BeltLine Alignment | $83.7M | $1,988M | **$2,072M** |
| **Panola Road Area Alternatives** | | | | |
| Panola Road Service Option 1 | Parallel I-20 Sub-Alignment | $199.8M | $2,221M | **$2,421M** |
| Panola Road Service Option 2 | Snapfinger Woods Drive Sub-Alignment | $165.1M | $1,933M | **$2,098M** |

*Source: HDR Engineering*

**Table 4-3: Tier 1 Screening Results**

| | Mainline Alternatives | | | Panola Road Area Alternatives | | Downtown Connectivity Alternatives | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Goal | 1. Connection Directly to Downtown Atlanta | 2. Connection to Edgewood Station | 3. Heavy Rail Extension from Indian Creek | 1. Parallel I-20 Sub-Alignment | 2. Snapfinger Woods Drive Sub-Alignment | 1. Connection to King Memorial Station via Memorial drive | 2. Connection to King Memorial Station and Downtown via Streetcar Alignment | 3. Connection to King Memorial Station | 4. Connection to Downtown via Streetcar | 5. Connection to Garnett and Five Points Stations | 6. Connection to Multi-Modal Passenger Terminal/Five Points Stations | 7. Connection to West End Station/ Atlanta University Center/Ashby Station | 8. Connection to Inman Park Station and Midtown via Beltline Alignment |
| Increase Mobility and Accessibility |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Provide Improved Transit Service within the Corridor |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Support Land Use and Development Goals |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Promote Cost Effective Transit Investments |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Preserve Natural and Built Environment |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Achieve a High Level of Community Support |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Advanced to Tier 2 Screening | YES | YES | YES | YES | NO | NO | NO | NO | NO | YES | NO | NO | YES |

Legend  Performed well  Performed moderately well  Performed poorly

## 4.5 Alternatives Advanced into Tier 2 Analysis

Alternatives were identified for advancement into the Tier 2 Screening based on the evaluation results presented above and with input and feedback from corridor stakeholders.

### 4.5.1 Alternatives Advanced to Tier 2 Screening

#### Mainline Alternatives

As all three Mainline Alternatives performed well in Tier 1 Screening, the **Parallel I-20 Alignment**, the **Connection to Edgewood Station**, and the **Heavy Rail Extension from Indian Creek** were all advanced to the Tier 2 Screening for further analysis.

#### Panola Road Area Alternatives

The **Parallel I-20 Sub-Alignment** performed well in the evaluation and received overwhelming public support, and so was advanced to the Tier 2 Screening.

#### Downtown Connectivity Alternatives

The **Connection to Garnett and Five Points Stations** and the **Connection to Inman Park Station and Midtown via BeltLine Alignment** were advanced for further evaluation in the Tier 2 Screening because both alignments performed well in the Tier 1 Screening, were supported by the City of Atlanta staff, and had short travel times, with moderate to high projected ridership, costs, and public support.

### 4.5.2 Alternatives Dropped from Further Consideration

#### Mainline Alternatives

None of the Mainline Alternatives were dropped from further consideration at this point in the DCA.

#### Panola Road Area Alternatives

The **Snapfinger Woods Drive Sub-Alignment** was dropped from further consideration due to lower projected daily ridership and longer travel times from Mall at Stonecrest to Five Points than the Parallel I-20 Sub-Alignment. This alternative also garnered very strong opposition from residents along its alignment.

#### Downtown Connectivity Alternatives

Despite rating well in the Tier 1 Screening, the **Connection to Multi-Modal Passenger Terminal/Five Points Station** was not promoted to Tier 2 Screening. It is all but identical to the Connection to Garnett and Five Points Station Alternative, but with longer travel times and fewer daily riders and new riders. Also, there are too many unknowns about the proposed MMPT facility to pursue a connection at this time.

The **Connection to King Memorial Station and Downtown via Streetcar Alignment** and the **Connection to Downtown via Streetcar** were dropped from further consideration because these alternatives did not perform well in the Tier 1 evaluation and because Atlanta Streetcar alignment and service would be appropriate for single car transit vehicles, rather than the multi-car consists that these alternatives would require. .

The **Connection to King Memorial Station via Memorial Drive** was dropped from further consideration because, despite its relatively low projected costs, this alternative performed poorly and had low public support.

The **Connection to King Memorial Station** was dropped from further consideration despite its relatively short travel times, because it had relatively high projected costs, low ridership and low public support.

The **Connection to West End Station/Atlanta University Center/Ashby Station** was dropped from further consideration because it was projected to attract relatively low ridership, have longer travel times, and higher costs than other Downtown Connectivity Alternatives.

# 5.0 TIER 2 SCREENING

## 5.1 Development of Tier 2 Alternatives

The result of the Tier 1 Screening was a set of feasible transit alignments that would connect activity centers along I-20 East Corridor with central Atlanta and the existing MARTA heavy rail system. The Tier 2 Screening paired these alignments with compatible transit technologies, or modes. If a given alignment was compatible with multiple transit technologies, it was analyzed with each technology. The transit technologies identified as suitable for this project included HRT, LRT, and BRT.

In addition to the Tier 2 Build Alternatives, a No Build Alternative and Baseline/TSM Alternative were developed as required by the FTA's New Starts process and were evaluated along with the Build Alternatives.

## 5.2 Transit Technologies Considered

An initial assessment of technologies was performed to determine their appropriateness for the I-20 East Corridor. Based on their vehicle characteristics, station/stop characteristics, operating service, and capital and operating costs, the technologies considered in the development of Tier 2 Alternatives were BRT, LRT, and HRT (**Figure 5-1** below).

**Figure 5-1: Transit Technologies Considered**

| | | |
|---|---|---|
| BRT offers high-frequency, limited-stop service. BRT operates in shared or exclusive right-of-way. This service usually has dedicated stations, traffic signal priority or pre-emption, level-platform boarding or low-floor vehicles, pre-boarding fare payment, and is separated from normal traffic. | Light Rail Transit (LRT) consists of passenger rail cars powered by overhead catenaries. Operating individually or in short trains, service is usually on fixed rails in exclusive right-of-way. LRT and streetcar service can occasionally operate in shared traffic. | Heavy Rail Transit (HRT) operates on electric railway, and is characterized by high speeds, rapid acceleration of passenger rail cars, high platform loading, and grade separated rights-of-way from which all other vehicular and foot traffic are excluded. |
|  |  |  |

*Source: I-20 East Technology Assessment Report*

## 5.3 Description of Tier 2 Alternatives

The following section contains descriptions of all alternatives developed and evaluated in the Tier 2 Screening. An overview of these alternatives is presented in **Table 5-1** on page 5-2.

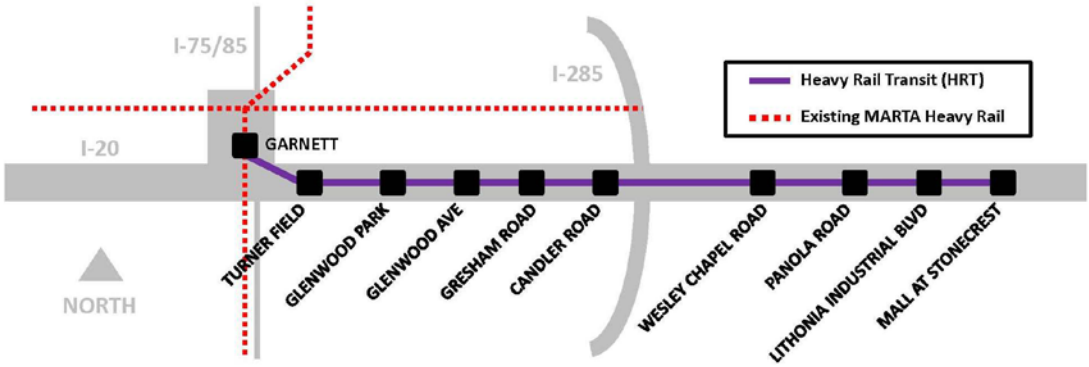
**Table 5-1: Tier 2 Description of Alternatives**

| Alternative Name | Description |
|---|---|
| **HRT1** | • Heavy rail transit line from downtown Atlanta, east, adjacent to I-20, to the Mall at Stonecrest |
| **LRT1** | • Light rail transit line from downtown Atlanta, east, adjacent to I-20, to the Mall at Stonecrest |
| **BRT1** | • Bus rapid transit line from downtown Atlanta, east, adjacent to I-20, to the Mall at Stonecrest |
| **LRT2** | • Light rail transit line utilizing BeltLine alignment from North Avenue Station to I-20, then east, adjacent to I-20 to Mall at Stonecrest |
| **HRT2** | • Heavy rail spur from existing MARTA rail line between East Lake and Edgewood Stations, south in a tunnel to I-20, then east, adjacent to I-20 to the Mall at Stonecrest |
| **HRT3** | • Heavy rail transit extension of existing MARTA line from Indian Creek Station, south, adjacent to I-285, then east, adjacent to I-20 to Mall at Stonecrest<br>• Areas along I-20 inside the I-285 Perimeter would be served with BRT |

### 5.3.1 Heavy Rail Transit Alternative 1 (HRT1)

HRT1 would consist of a new HRT line that would spur from the existing MARTA rail network just south of Garnett Station. From there, the alignment would extend south parallel to Windsor Street, then east along Glenwood Avenue/Fulton Street, before it would enter the I-20 right-of-way at Hill Street. From there, the alignment would extend east, on structure, in the center of the I-20 median. At Glenwood Avenue, the alignment would transition to the side of the interstate and run parallel to I-20 to the Mall at Stonecrest in eastern DeKalb County. A conceptual map of this alignment is shown in **Figure 5-2** below.

**Figure 5-2: HRT 1 Alternative Concept**



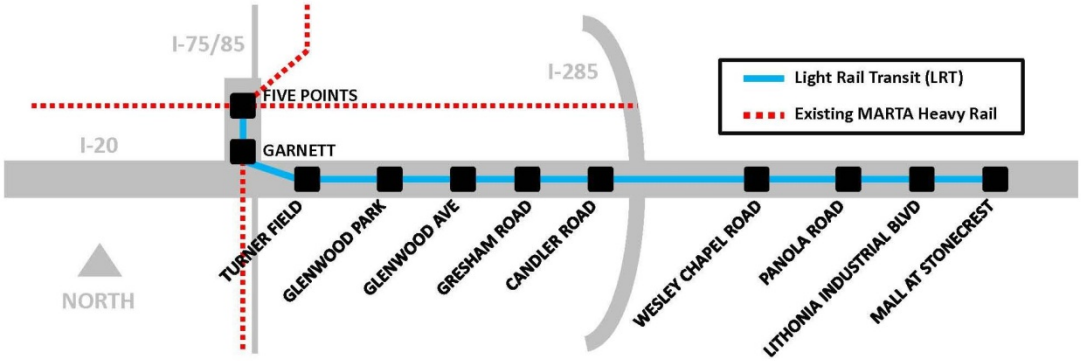

HRT1 would tie into the existing MARTA heavy rail system just south of the Garnett Station. This new service would continue north along the Red/Gold line serving all stations in downtown and Midtown Atlanta. The service would continue to the Lenox station where it would utilize a pocket track for a turn around without disruption to existing service. This alternative would serve as a new MARTA heavy rail line.

### 5.3.2 Light Rail Transit Alternative 1 (LRT1)

The LRT1 Alternative would be an LRT service that would operate along the same alignment as HRT1. It would extend along Broad Street from Five Points Station to Garnett Station. Then it would operate in an exclusive guideway south of Garnett Station and extend south parallel to Windsor Street, then east along Glenwood Avenue/Fulton Street. It would enter the I-20 right-of-way at Hill Street. From there, the alignment would extend east, on structure, in the center of the I-20 median. At Glenwood Avenue,

the alignment would transition to the side of the interstate and run parallel to I-20 to the Mall at Stonecrest in eastern DeKalb County. This alternative would require the construction of a new vehicle maintenance facility. A conceptual map of this alternative is shown in **Figure 5-3** below.

**Figure 5-3: LRT 1 Alternative Concept**

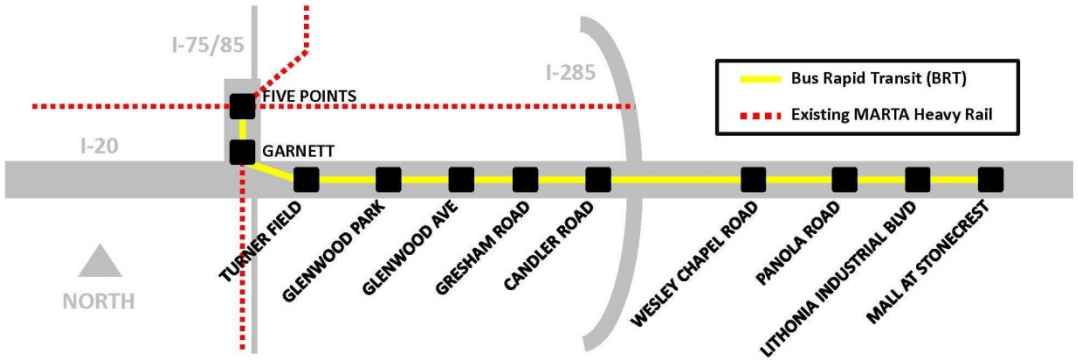



As shown above, this alternative would connect to the existing MARTA heavy rail system at Five Points Station and Garnett Station. LRT1 would serve as a new light rail service in the I-20 East Corridor.

### 5.3.3 Bus Rapid Transit Alternative 1 (BRT1)

The BRT1 Alternative is a BRT line that would follow the same alignment as HRT1 and LRT1. It would operate in-street along Broad Street from Five Points Station to Garnett Station. It would then operate in an exclusive guideway south of Garnett Station and extend south parallel to Windsor Street, then east along Glenwood Avenue/Fulton Street, before it would enter the I-20 right-of-way at Hill Street. From there, the alignment would extend east, on structure, in the center of the I-20 median. At Glenwood Avenue, the alignment would transition to the side of the interstate and run parallel to I-20 to the Mall at Stonecrest in eastern DeKalb County. A concept of the BRT1 Alternative is shown in **Figure 5-4** below.

**Figure 5-4: BRT 1 Alternative Concept**

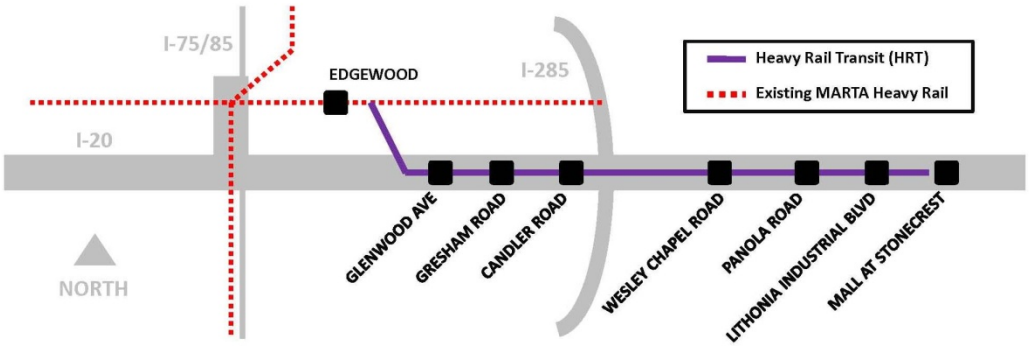



As shown above, this alternative would connect to the existing MARTA heavy rail system at Five Points Station and Garnett Station. BRT1 would serve as a new bus rapid transit service in the I-20 East Corridor.

### 5.3.4 Heavy Rail Transit Alternative 2 (HRT2)

HRT2 would be a new HRT line that would spur from the existing MARTA rail network between the Edgewood/Candler Park Station and the East Lake Station. This alternative would utilize the existing tunnel portal constructed with the east-west line that was originally intended for the proposed Tucker – North DeKalb line. This tunnel portal would allow the HRT2 line to enter a tunnel alignment before leaving the MARTA right-of-way. This is necessary to ensure that this alternative does not adversely affect the surrounding historic neighborhoods. The tunnel alignment would extend south to I-20 where it would surface and run parallel to I-20 to the Mall at Stonecrest in eastern DeKalb County. A conceptual map of this alternative is provided in **Figure 5-5** below.

**Figure 5-5: HRT 2 Alternative Concept**

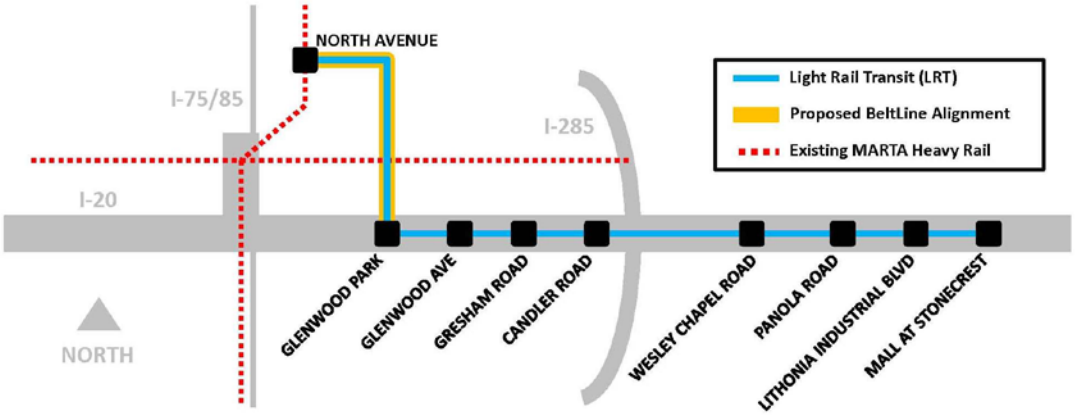



This alternative would tie into the existing MARTA heavy rail system between the Edgewood/Candler Park Station and the East Lake Station. Rather than add a third HRT service along the east-west line, this alternative would extend the MARTA Green Line from its current eastern terminus at Edgewood Candler Park Station to the Mall at Stonecrest. The Blue Line service would be unchanged.

### 5.3.5 Light Rail Alternative 2 (LRT2)

LRT2 is proposed as new LRT line that would originate at the North Avenue Station and operate in-street along North Avenue east to the proposed BeltLine alignment, which it would follow south to I-20. It would then extend east in an exclusive guideway, on structure, in the center of the I-20 median. At Glenwood Avenue, the alignment would transition to the side of the interstate and run parallel to I-20 to the Mall at Stonecrest in eastern DeKalb County. This alternative would require the construction of a new vehicle maintenance facility. A conceptual map is provided in **Figure 5-6** on page 5-5.

**Figure 5-6: LRT 2 Alternative Concept**

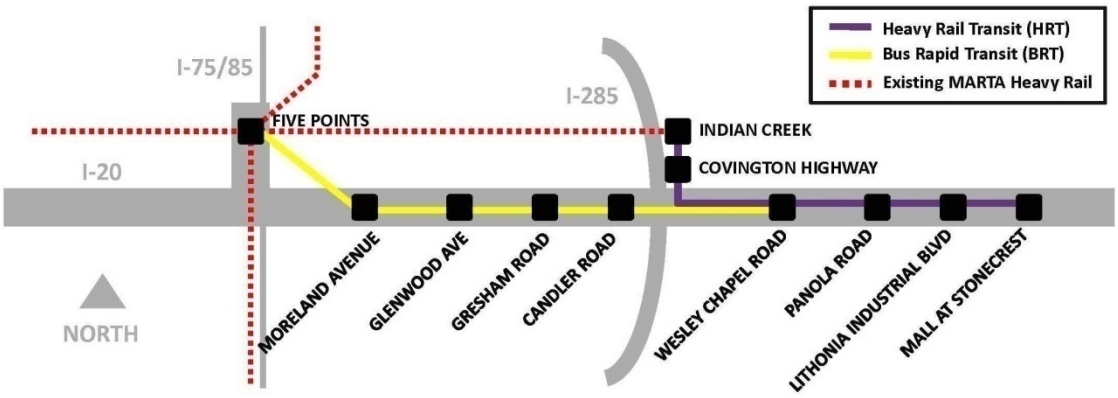



As shown above, this alternative would utilize the BeltLine alignment to access Midtown Atlanta and the MARTA heavy rail system. LRT2 would serve as a new light rail service in the I-20 East Corridor.

### 5.3.6 Heavy Rail Transit Alternative 3 (HRT3)

HRT3 would extend the existing MARTA east-west heavy rail line 12 miles from the Indian Creek Station, south parallel to I-285, then east parallel to I-20 to the Mall at Stonecrest in eastern DeKalb County. This alternative would also include BRT service operating on I-20 between the Five Points Station and Wesley Chapel. This would be a premium BRT service which could potentially run in-street, in High Occupancy Vehicle (HOV) lanes, High Occupancy Toll (HOT) lanes, dedicated lanes or in the shoulder of the interstate, which will be determined as part of subsequent environmental and engineering studies to provide the best possible transit solution within existing constraints. A conceptual map of this alternative is provided in **Figure 5-7** below.

**Figure 5-7: HRT3 Alternative Concept**




HRT3 would extend MARTA's existing Green Line to provide new service in the I-20 Corridor. The extended Green Line would serve all new heavy rail stations as shown in the figure above, and then operate as an express service along the existing east line, serving only select stations in order to minimize travel times between Mall at Stonecrest

and the Five Points Station. The Blue Line service would remain unchanged, providing local service to all existing stations between Indian Creek and Five Points Station.

### 5.3.7 Baseline/TSM Alternative

The Baseline/TSM Alternative is intended to be the best that can be done to improve mobility without making a major capital investment in guideway infrastructure. This alternative is generally considered to be a low cost approach to addressing transportation problems in the study corridor. As such, the improvements associated with the Baseline/TSM Alternative are developed to respond to and satisfy the defined purpose and need associated with enhancing mobility in the study area. These improvements typically consist of a variety of actions to improve existing transportation services including modifications to existing bus routes, additions to existing park-and-ride facilities, and minor roadway signal improvements. The FTA guidance designates the Baseline/TSM Alternative to serve as the benchmark against which the Build alternatives are evaluated in the New Starts program. To this end, the Baseline/TSM Alternative is utilized during the Tier 2 alternatives evaluation as the basis for calculating incremental costs and benefits of a fixed guideway facility.

The I-20 East Baseline/TSM strategy focuses on developing a set of new express routes that provide linkages to downtown markets via connections to the existing MARTA heavy rail stations at Five Points or Indian Creek. The key objective of the Baseline/TSM strategy is to facilitate convenient transit access and connectivity by increasing service frequency, reducing transit travel times, and creating convenient opportunities for transfers to occur. To accomplish these objectives, new park and ride facilities, improvements to existing transit services and additional express services are proposed as part of the Baseline/TSM Alternative. More detail on the development and operational characteristics can be referenced in the *Baseline/Transportation System Management Alternative Report*.

The I-20 East Baseline/TSM strategy is a low cost approach to solving transportation needs in the corridor and includes the following:

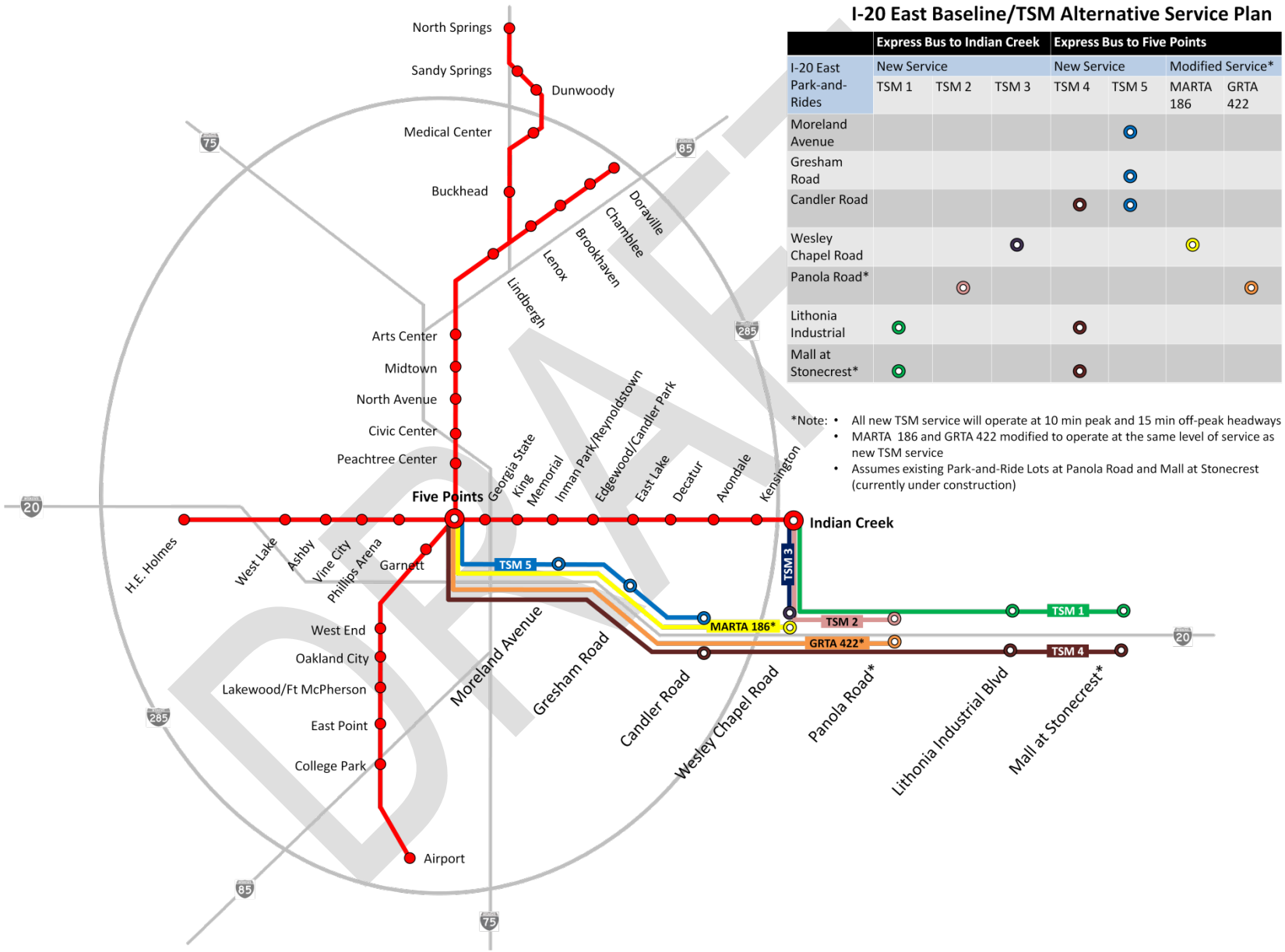
- Provide new park and ride facilities to expand opportunities to access transit.
- Enhance existing transit services to provide greater transit connectivity and accessibility within the corridor and the existing rail network; and
- Provide new limited stop express service with competitive travel times and destinations served by the Build alternatives.

**Figure 5-8** on page 5-7 presents a map of the proposed Baseline/TSM Alternative, which includes the new and improved express routes and identification of new park-and-ride lots.

### 5.3.8 No Build Alternative

The No Build Alternative represents future transportation conditions if no investments are made beyond transportation projects that are already planned and committed in Atlanta region's fiscally constrained long-range transportation plan. As such, it serves as the base case against which each of the Build alternatives is compared.

**Figure 5-8: Baseline/TSM Alternative**




**I-20 East Baseline/TSM Alternative Service Plan**

| | Express Bus to Indian Creek | | | Express Bus to Five Points | | | |
|---|---|---|---|---|---|---|---|
| I-20 East Park-and-Rides | New Service | | | New Service | | Modified Service* | |
| | TSM 1 | TSM 2 | TSM 3 | TSM 4 | TSM 5 | MARTA 186 | GRTA 422 |
| Moreland Avenue | | | | | ● | | |
| Gresham Road | | | | | ● | | |
| Candler Road | | | | ● | ● | | |
| Wesley Chapel Road | | | ● | | | ● | |
| Panola Road* | | ● | | | | | ● |
| Lithonia Industrial | ● | | | ● | | | |
| Mall at Stonecrest* | ● | | | ● | | | |

*Note:
- All new TSM service will operate at 10 min peak and 15 min off-peak headways
- MARTA 186 and GRTA 422 modified to operate at the same level of service as new TSM service
- Assumes existing Park-and-Ride Lots at Panola Road and Mall at Stonecrest (currently under construction)

## 5.4 Cost Estimates for Tier 2 Build Alternatives

Cost estimates for the Tier 2 Alternatives are based on a refinement of the Tier 1 cost estimates through the integration of factors specifically related to the chosen technology for each alignment advancing from Tier 1. More specifically, this included:

- Matching appropriate technologies for the alignments advancing from Tier 1;
- Operational characteristics of a given technology with respect to the existing and planned transit infrastructure; and
- Right-of-way availability to accommodate a specific technology.

As such, the documents utilized to refine the initial Tier 1 estimates to develop cost estimates for Tier 2 Alternatives were as follows:

- *Station Cost Estimating Methodology* - This memorandum provided preliminary costs for HRT, LRT, and BRT technologies based on a comparison of similar projects throughout the U.S and was utilized to refine the Tier 1 cost estimates to include capital costs for stations based on their location and type.
- *Conceptual Right-of-Way Cost Estimating Methodology* – This memorandum documented the development of right-of-way costs for each alternative. Right-of-way estimates were developed through the assumption of an 80' footprint for each alternative and applying land values based on Tax Assessor Office information from Fulton and DeKalb Counties. These initial estimates were then inflated to reflect market values, scheduling, and administrative and court costs.

**Table 5-2** below presents the concept level cost estimates for the Tier 2 Build Alternatives. Please refer to the *I-20 East AA/DEIS Cost Estimating Methodology* and *Conceptual Right-of-Way Cost Estimating Methodology* memoranda for more detail on the methodology employed to develop these estimates.

**Table 5-2: Cost Estimates for Tier 2 Alternatives**

| Alternative # | Alternative Name | Right-of-Way Cost | Capital, Professional, Finance, & Contingency Costs | Total Cost | Annual O&M Costs |
|---|---|---|---|---|---|
| HRT1 | Heavy Rail Transit 1 | $233.7M | $3,048M | **$3,281M** | **$35.2M** |
| LRT1 | Light Rail Transit 1 | $233.7M | $2,467M | **$2,700M** | **$10.4M** |
| BRT1 | Bus Rapid Transit 1 | $233.7M | $1,862M | **$2,111M** | **$6.4M** |
| HRT2 | Heavy Rail Transit 2 | $116.7M | $2,612M | **$2,729M** | **$23.8M** |
| LRT2 | Light Rail Transit 1 | $112.7M | $1,987M | **$2,115M** | **$10.4M** |
| HRT3 | Heavy Rail Transit 2 | $107.4M | $1,718M | **$1,840M** | **$18.0M** |
| TSM/Baseline | TSM/Baseline | $41.9M | $29M | **$70.9M** | **$24.2M** |

*Source: HDR Engineering*

## 5.5 Assumptions and Design Criteria

**Table 5-3**on page 5-9 presents the major assumptions considered during the development and evaluation of alternatives. These include design, cost estimating, transit service, forecasting, and right-of-way cost estimating assumptions. Similarly, each transit technology has its own set of design standards developed in conjunction with the vehicle dimension and operating characteristics. The different design criteria for the three transit technologies are found in Appendix A.

**Table 5-3: Major Assumptions**

| | |
|---|---|
| Design Assumptions | • New HRT stations would be smaller, simpler, and cost less than traditional MARTA HRT stations.<br>• No surface street operation or at-grade rail crossings for LRT alternatives with exception of BeltLine alignment for LRT2.<br>• Sufficient capacity at existing rail maintenance facilities to maintain HRT vehicles.<br>• Sufficient capacity at existing bus maintenance facilities to maintain BRT vehicles. Some additional equipment may be necessary.<br>• LRT alternatives would require a new storage and maintenance facility in the corridor. |
| Capital Cost Estimates | • All cost estimates are reported in 2011 dollars.<br>• Storage and maintenance facilities were only deemed necessary for LRT alternatives. Assumed that HRT and BRT vehicles would be stored and maintained at existing MARTA facilities. |
| Service Assumptions | • 10-minute peak and 20 minute off-peak headways.<br>• Six trains consists for HRT service.<br>• Four train consists for LRT service. |
| Forecasting Assumptions | • No HOV or managed lanes along I-20 east of I-285 in year 2030.<br>• GRTA express bus service would no longer serve the Panola Road park and ride lot. |
| Right-of-Way Cost Estimates | • 80' required right-of-way assumed for corridor.<br>• Property costs based on current assessed value plus escalations factors.<br>• Right-of-way requirements on publicly owned property assumed to have no cost. |

## 5.6 Tier 2 Alternatives Evaluation Results

The purpose of the Tier 2 Screening was to identify the LPA utilizing a robust list of evaluation criteria and MOEs that were identified and utilized to measure the ability of the alternatives to address the identified project goals and objectives. As presented in detail in the *I-20 East Transit Initiative Tier 1 and Tier 2 Screening Report*, alternatives were given a rating for each MOE, and then a rounded average of MOE ratings for each project goal was used to obtain a project goal score. In this way, each alternative was evaluated for how well it addressed each project goal. Project goal ratings were then summed for each alignment to produce overall ratings, presented in **Table 5-4** below. HRT3 attained the highest total evaluation rating for all alternatives with 11 points. HRT1, LRT1, BRT1, and the TSM/Baseline alternatives all ranked second with eight points. HRT2 and LRT2 received ratings of seven.

**Table 5-4: Overall Tier 2 Evaluation Results**

| Project Goal | No Build | TSM | HRT1 | LRT1 | BRT1 | LRT2 | HRT2 | HRT3 |
|---|---|---|---|---|---|---|---|---|
| Goal 1: Increase Mobility and Accessibility | 0 | 1 | 2 | 2 | 2 | 1 | 1 | 2 |
| Goal 2: Provide Improved Transit Service within the Corridor | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
| Goal 3: Support Land Use and Development Goals | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Goal 4: Promote Cost Effective Transit Investments | 0 | 2 | 1 | 1 | 1 | 1 | 1 | 2 |
| Goal 5: Preserve the Natural and Built Environment | 0 | 2 | 0 | 0 | 0 | 0 | 1 | 1 |
| Goal 6: Achieve a High Level of Community Support | 0 | 0 | 2 | 2 | 2 | 2 | 1 | 2 |
| Tier 2 Alternatives: Cumulative Rating | 0 | 8 | 8 | 8 | 8 | 7 | 7 | 11 |

# 6.0 PUBLIC AND STAKEHOLDER INVOLVEMENT

Public and stakeholder involvement are an invaluable facet of the I-20 East Transit Initiative and were critical to the identification of corridor transportation needs, project goals and objectives, the identification of transit alternatives, and the evaluation of these alternatives. As presented in **Table 6-1** below, the I-20 East Transit Initiative employed public involvement strategies at major decision points throughout the DCA process. Further information about public involvement in the I-20 East Transit Initiative can be found in Appendix C, the *I-20 East Interim Public Involvement Report*.

**Table 6-1: Public Involvement**

| Public Involvement Technique | Audience | Purpose | Frequency |
|---|---|---|---|
| **Initial Stakeholder Interviews** | Elected officials, business leaders, neighborhood groups, major churches, individual citizens | To allow corridor stakeholders to identify major transportation challenges facing the I-20 East Corridor. | 29 stakeholders in 22 interviews early in the study |
| **Stakeholder Advisory Committee (SAC)** | Interviews with elected officials, business leaders, neighborhood groups, major churches, individual citizens | To provide input on corridor needs, project goals and objectives, evaluation methods, transit alternatives, station areas | 4 SAC meetings at major milestones throughout the study |
| **Technical Advisory Committee (TAC)** | Key federal, state, and local agency staff | To provide technical input at key project milestones | 4 TAC meetings at major milestones throughout the study |
| **General Public Meetings** | The general public | To provide an opportunity for the general public to give input and feedback at key project milestones | 3 rounds of public meetings at 3 locations each, for a total of 9 public meetings throughout the study |
| **Project Webpage and Facebook Page** | The general public | To provide project updates | 6,107 website hits and 140 Facebook "likes" through April 2012. |
| **Online Surveys** | SAC members and the general public | To allow SAC members and the public to provide feedback on project alternatives | 1700+ surveys taken at key milestones |
| **Project Briefings** | Stakeholders, neighborhoods organizations, agencies | To provide updates on the findings of the study | 28 briefings in 2011 |

## 6.1 Advisory Committees

The I-20 East advisory committees contributed to the selection of the LPA many times over the course of the DCA. In its early phases, they established the project's guiding principles,

which would be used to evaluate alternatives during Tier 1 and 2 Screenings. Later, they developed the universe of alternatives which would enter Tier 1 Screening.

### 6.1.1 Stakeholder Advisory Committee

Following a set of 22 interviews with 29 stakeholders, which gathered information about the transportation needs in the corridor, a subset of stakeholders was appointed by MARTA to comprise the SAC. The establishment of the SAC allowed MARTA to build partnerships and share information with its major planning partners and stakeholders. Membership on the SAC was comprised of a wide variety of interests along the corridor including elected officials, business and community organizations, churches, and neighborhood associations. The SAC provided a continuing forum for direct input into the planning process.

### 6.1.2 Technical Advisory Committee

The Technical Advisory Committee (TAC) was developed to guide the project team on key technical components of the study and to ensure technical proficiency during the process. This group was comprised of MARTA staff, city, county and state transportation engineering and planning staff, and federal agencies. The TAC was instrumental in conducting interagency coordination and provided a collective expertise helpful in developing and analyzing study alternatives. The TAC allowed planning partners an early opportunity to provide input on study issues and solutions.

### 6.1.3 Advisory Committee Meetings

The SAC and TAC met at each phase of the DCA. The committees held their inaugural meetings in September and October 2010, at which the project Need and Purpose was discussed and corridor issues were identified. At this phase, stakeholders identified several common themes, or characteristics, regarding new transit service, which they felt were essential to the success of a transit investment in the corridor. These common themes became the guiding principles for new transit service in the I-20 East Corridor, against which all project alternatives were evaluated. These stakeholder-identified guiding principles are listed below.

**Stakeholder-Identified Guiding Principles**

- Transit should be a rapid service to downtown serving commuters with few stops
- Dedicated transitway for entire length of project. None, or very limited, operation on surface streets in mixed traffic
- System must have a direct connection to MARTA heavy rail system
- There must be a way for riders to transfer to/from the BeltLine
- It is important to limit the number of transfers to reduce travel times
- The most desirable connection to downtown would be at the Five-Points/MMPT since it would provide a connection to the north-south and east-west MARTA rail lines without additional transfers

A second round of SAC and TAC meetings were held in December 2010, at which committee members confirmed the corridor needs and the goals of the project and identified potential alignment alternatives. These alignment alternatives were further refined and presented to the public, the SAC, and the TAC for comment as the Tier 1 Alternatives.

The SAC and TAC convened their third round of meetings in May 2011 to review the Tier 1 Alternatives. Tier 1 Alternatives are described in Section 5.2. TAC members preferred the Parallel I-20 among Mainline Alignments, and the Connection to Garnett and Five Points Stations among Downtown Connectivity Alignments.

During the fourth round of SAC and TAC meetings held in October 2011, the committees were asked to evaluate the six Tier 2 Alternatives based on cost, efficiency and transit technology. The committees were invited to consider the Tier 2 Alternatives and offer their input via online survey, detailed below.

## 6.2 Public Meetings

Public meetings allowed the public to provide input to the selection and refinement of the LPA. The purpose of the first round of public meetings, held in October 2010, was to provide information on the project, present initial study findings, solicit input on the transportation needs within the corridor, present the initial project Purpose and Need, and solicit input into study goals and objectives.

The second round of public meetings was held in May 2011, during the Tier 1 Screening. At this meeting, the stakeholder-identified initial transit alignments were presented for public feedback. Regarding the Mainline Alternatives, citizens attending the meeting held inside of I-285 preferred the Parallel I-20 Alignment, or the Connection to Edgewood Station, while members of the public attending meetings outside the I-285 Perimeter chose the Extension from Indian Creek Station. The most popular Downtown Connectivity Alternative was the Connection to Garnett and Five Points Stations. Lastly, the majority of those attending the public meetings preferred the Parallel I-20 Subalignment over the Snapfinger Road Subalignment.

During the Tier 2 Screening, a third round of public meetings was held in October 2011 to get feedback on the six alternatives being presented. The six Tier 2 Alternatives and the three transit technologies being considered, HRT, LRT, and BRT, were discussed. The public question and answer session highlighted the need to provide additional transit service both inside and outside the I-285 Perimeter within a reasonable timeframe. The public was directed to provide their input via comment car and online survey, as described below.

## 6.3 Online Surveys

To provide an additional opportunity for public support to be reflected in the narrowing and refinement of LPA, an online survey was developed to measure support for the various Tier 1 Alternatives. It was made available online from May 19 to June 20, 2011, and could be accessed from links on the project webpage and Facebook page. A majority of survey respondents preferred the Parallel to I-20 Mainline Alignment and the Connection to the Multi-Modal Passenger Terminal/Five Points Station and the Connection to the Garnett and Five Points Stations Downtown Connectivity Alternatives. A large majority preferred the Parallel I-20 Subalignment over the Snapfinger Road Subalignment. The levels of support alternatives received from the survey and public meeting input, and from the advisory committees, were translated into a score under the public involvement MOE in Tier 1 Screening.

A second online survey was prepared to gather input and feedback on the Tier 2 Alternatives. Survey respondents were asked to rate each Tier 2 Alternative on a scale of one to five, with one being least appropriate for the corridor and five being most appropriate. HRT1 and LRT1 were most preferred from respondents inside the Perimeter, while participants from outside the Perimeter believed HRT3 was most appropriate. BRT1 and HRT2 were the least supported by all respondents.

# 7.0 MOVING FORWARD: CHALLENGES AND OPPORTUNITIES TO IMPLEMENTING THE LPA

After adoption of the LPA by the MARTA Board, the I-20 East Transit Initiative will enter into the environmental studies phase of the project. The study will complete an EA and a DEIS in order to satisfy NEPA, which requires the full consideration of environmental effects for any project that receives federal funding. The following challenges and opportunities will face MARTA once the LPA is adopted and the project moves forward through the project development process.

**Refinement of Station Locations:** Although all stations areas have been presented to the public, it is anticipated that refinement of the station location, size, access points, parking facilities, and layout will be required. This will likely involve outreach efforts to business owners, residents, jurisdictional staff, and elected officials.

**Continued Public Involvement:** Public, stakeholder, and agency outreach must continue throughout the life of this project in order to educate the public, identify local issues, and build support. One key issue that arose during public engagement in the fall of 2011 was concern regarding BRT service inside the I-285 Perimeter. While there was overwhelming support for HRT3 from residents outside Perimeter, residents within the Perimeter voiced concern that they would not be served by rail transit. The specific routing and integration of the BRT portion of HRT3 will be continuously refined through future work.

**Refinement of Project Costs:** It is anticipated that capital, right-of-way, and O&M costs will be adjusted as more detail regarding the transit alignments, operations, and station locations is prepared.

**Coordination with GDOT:** Since much of the LPA alignment is proposed within or partially within GDOT right-of-way, close coordination is necessary. MARTA has engaged GDOT throughout the study process to ensure the protection of a transit corridor within GDOT right-of-way where possible. As a result of these coordination efforts, the GDOT Board recently adopted a resolution that guides cooperation between the two agencies with regard to implementation of transit initiatives in corridors designated for managed lane projects. The intent of the resolution is to foster thoughtful utilization of existing and planned assets for both highway and transit modes. An MOU will be developed to outline specific commitments for the I-20 East Corridor.

**Identification of Project Funding:** The identification of possible funding sources is essential to the implementation of the I-20 East project. One possible funding source is the FTA New Starts program. The New Starts program is the federal government's primary financial resource for supporting major transit investments. This highly competitive program evaluates potential New Starts projects based on mobility improvements, cost effectiveness, transit supportive land uses and policies, local financial commitments, as well as other criteria. MARTA is looking at alternative funding mechanisms for project delivery and implementation.

# 8.0 IMPLEMENTATION PLAN

As part of the refinement process, a potential funding scenario was considered for the project delivery and implementation. This scenario took into account the construction and operating costs by fiscal year for the LPA. The funding scenarios are presented below.

During the next study phase, a financial analysis will be conducted that focuses on the comprehensive identification and evaluation of existing federal, state, and private sources of funding for the LPA. The financial model will identify revenues from each possible source including alternative local funds. In addition, potential funding shortfalls will be identified and a sound financial plan for the LPA will be developed.

## 8.1 Implementation Activity Schedule

The capital cost schedule for financial planning was developed using conceptual engineering plans and taking into account the Year of Expenditure (YOE) to completion of the project. The conceptual plans were based on the type construction that will be required for the project (fill, retained earth, grade separated, etc.) and MARTA's design guidelines. The capital cost schedule for financial planning was based on a 15 year design and construction schedule. The schedule includes all tasks from conceptual design to final construction. This scenario is based on the complete build-out of the Locally Preferred Alternative (LPA) utilizing New Starts funding and local matching funds for the project. The scenario was developed using a very conservative approach. The assumption was made that the project would be implemented through the standard delivery process of an engineering design followed by a construction bid. Per FTA guidance, a 4% per year escalation factor was used in the cost schedule. A design-build alternative was not evaluated for this scenario.

### 8.1.1 Construction Schedule

Funding for the 12 mile extension of the MARTA east line from Indian Creek Station to Stonecrest would likely utilize FTA New Starts funding in conjunction with matching local funds. Funding for the 12.8 mile BRT service from Five Points Station to Wesley Chapel Road would likely utilize FTA Small Starts funding in conjunction with matching local funds. There is the potential this project would be evaluated for the use a public-private partnership as a funding source. The project is proposed to be constructed over a seven (7) year period. This includes more that one year of advanced utility relocations. Construction of the project would occur through 2028 as a single project. The construction schedule for the project is summarized below in **Table 8-1** on page 8-2. Details of the construction process are discussed below.

The first phase of construction would be clearing and grubbing within the right-of-way limits of the proposed alignment. Clearing and grubbing is estimated to take 100 days per mile and would be done in conjunction with the erection of retaining walls, construction of bridge substructures, cut and cover, and preparation for tunneling operations. After clearing and grubbing is complete and the bridge sub-structures are complete, construction would start on the superstructure portions of the bridges and tunnel borings would continue. Bridge construction is estimated to take 100 days per bridge. Simultaneously with the tunnel borings, wall foundations, sub-ballast, electrical, and communications will be constructed. Construction of the stations would also begin in conjunction with the construction of the sub-ballast. The construction of the sub-ballast along the alignment is estimated to take 40 days per mile.

**Table 8-1: Construction Schedule**

| Anticipated Activity | Estimated Timeframe |
|---|---|
| Clearing, grubbing and earthwork | First 3 years |
| Cut/fill, retaining walls, built-up fill, structural substructures, roadway improvements, and foundations | First 5 years |
| All tunneling aspects, including cut/cover, boring, foundations, sub-ballast, stations, etc | First 5 years |
| Aerial structures | Years 2 – 5 |
| Trackwork | Years 2 - 5 (at-grade and aerial portions) |
| Stations | Years 2 – 5 |
| All systems tasks | Years 6 – 7 |
| Procurement of vehicles | As soon as possible, and delivery would occur by year 5 in order to begin testing the vehicles |
| Testing and system | Last six months of construction for each phase |

*Note: The estimated timeframe shown is in context of the entire construction schedule.*

After the sub-ballast and all foundation construction have been completed along the alignment, trackwork construction would begin. Trackwork can be installed at an estimated 40 days per mile. Trackwork will proceed in conjunction with the construction of the stations. After the stations have been completed, parking garages and parking lots would be constructed at the station sites. At this point in the construction schedule, all systems and communications can be would be installed on the at-grade portions of the alignment. It is estimated that this task would take 65 days per mile.

The FTA's safety requirements require each vehicle be tested up to 1000 miles per vehicle before being placed into revenue. This would occur near the end of construction. This would occur concurrently with systems integration. It is estimated these two tasks would take one year to complete.