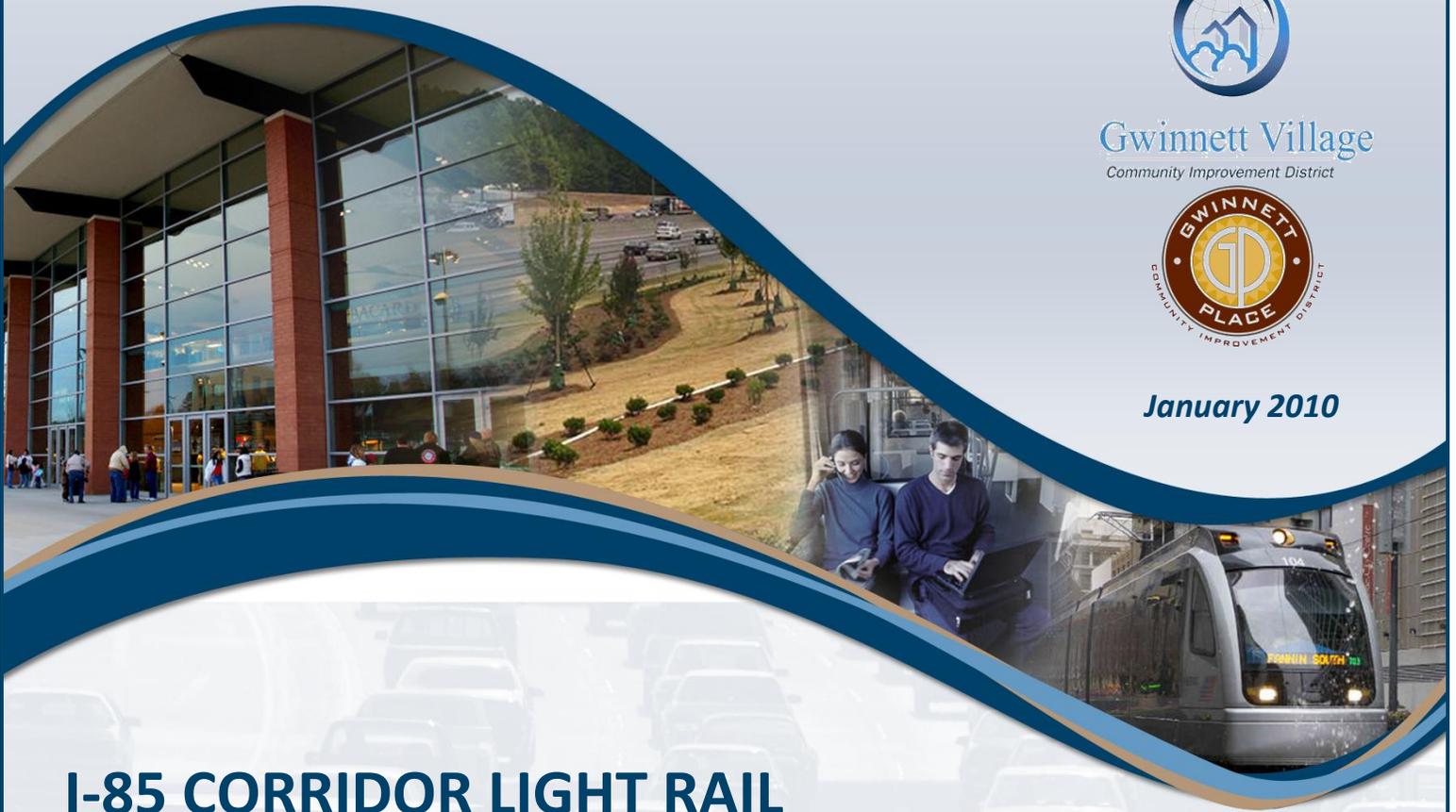




Gwinnett Village
Community Improvement District



January 2010



I-85 CORRIDOR LIGHT RAIL TRANSIT FEASIBILITY STUDY: Phase II

Executive Summary

Prepared for:

**Gwinnett Village Community Improvement District
5855 Jimmy Carter Blvd., Suite 122
Norcross, Georgia 30071**

**Gwinnett Place Community Improvement District
3700 Crestwood Parkway, Suite 680
Duluth, Georgia 30096**

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The logo for HDR Engineering, Inc., consisting of the letters 'HDR' in a bold, serif font.

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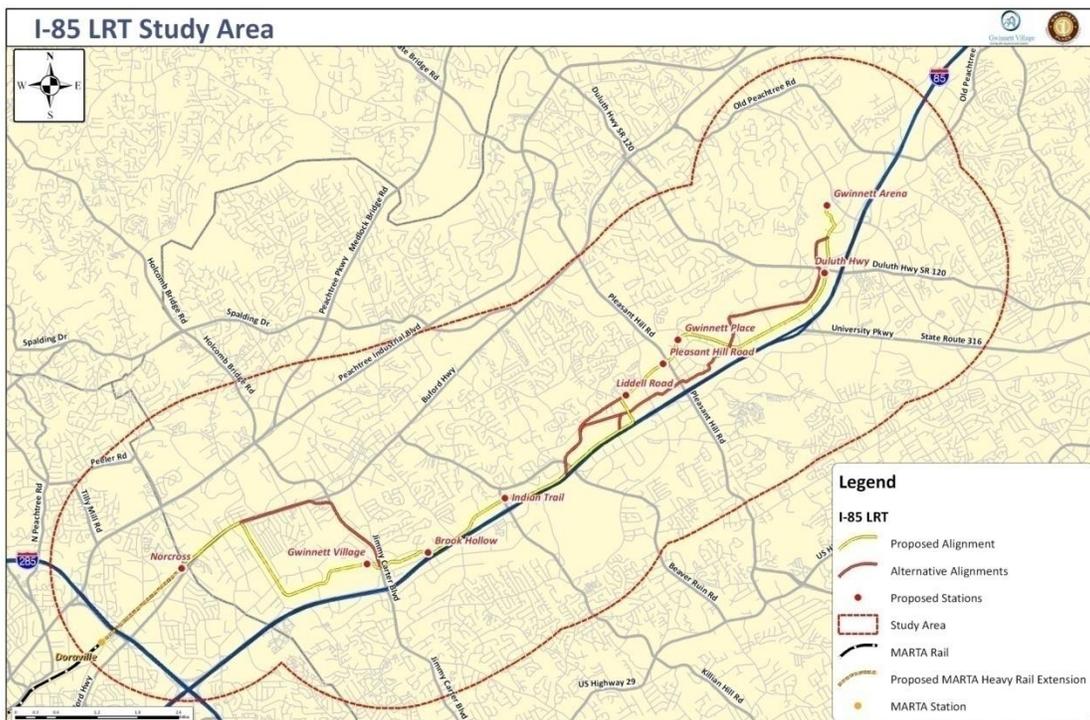
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1 INTRODUCTION

The I-85 Corridor Light Rail Transit Feasibility Study commenced in September, 2008 to evaluate the technical and financial viability of a light rail line in Gwinnett County. The project co-sponsors, Gwinnett Village Community Improvement District and Gwinnett Place Community Improvement District, initiated the project to explore the potential benefit of serving the I-85 corridor with light rail transit (LRT). Figure 1 displays the extent of the corridor examined for the I-85 Corridor LRT Feasibility Study.

Figure 1: I-85 LRT Study Corridor



Preliminary technical analysis was conducted in order to determine the need for a LRT system to serve the I-85 corridor. Phase I of the analysis included a technology assessment, developing and refining alternatives, preparing operating plans and costs and exploring funding options. Phase II consists of further analysis that includes conducting a travel market analysis, updating ridership estimates and developing a strategic plan to provide the next steps to prepare the project to potentially enter into a Federal Transit Administration (FTA) New Starts process. The results of this analysis are summarized and presented in greater detail in this final report.

2 ANALYSIS OF TRAVEL MARKET CHARACTERISTICS

A Travel Market Analysis has been prepared to evaluate the demographic characteristics and travel patterns for existing (2005) and future (2030) conditions within the I-85 corridor that follows the Federal Transit Administration (FTA) requirements to prepare for New Starts funding. The Travel Market Analysis will also identify potential transit travel markets in the corridor.

2.1 Land Use

The I-85 Corridor study area includes two counties (DeKalb and Gwinnett Counties) and three incorporated cities (Doraville, Duluth and Norcross). Data was collected from jurisdictional land use plans and field surveys for these jurisdictions. There is a variety of land uses, including residential, retail, office & commercial and industrial throughout the corridor. Most of the land uses are scattered throughout the corridor.

The Doraville area consists more of a mix of commercial and light industrial land uses, while Gwinnett Place features more retail uses surrounding a regional mall. Most of the single-family residential areas are buffered from other land uses adjacent to I-85. Future growth with higher density, mixed-use developments within the Gwinnett Village Community Improvement District and the Gwinnett Place Community Improvement District is also projected.

2.2 Activity Centers

Regional activity centers within the I-85 LRT Corridor that are identified by the Atlanta Regional Commission (ARC) include Doraville, Peachtree Corners, Norcross (Downtown Norcross), Gwinnett Place and Gwinnett (Gwinnett Arena/Discover Mills area). Some of these activity centers serve as regional centers, with others being corridor and neighborhood centers. Regional activity centers consist of high-density retail/commercial and office land uses that attract residents both inside and outside the corridor. These areas are served by major roadways and Interstate 85. The Gwinnett Place activity center provides transfer opportunities for the existing Gwinnett County Transit local bus service. These activity centers will provide a basis in developing travel market analysis zones to conduct trip analysis.

2.3 Model Assumptions

Population, employment, and travel data for the Atlanta region and the I-85 corridor were obtained from ARC and based on forecasts from their regional travel demand model. The ARC data and projections for 2005 through 2030 were used for the analysis

of trends related to transportation needs in the corridor.

2.4 Population and Employment

Growth in population and employment are the two primary contributing factors to the increase in travel demand and decreased mobility that has occurred in the I-85 Corridor and project study area. Gwinnett County has experienced significant growth in population and employment over the past several decades. Table 1 shows that Gwinnett’s population has increased 1,041% from 1970 to 2008, and employment has increased 665% from 1980 to 2008.

Table 1: Population and Employment Trends (1970-2008)

Gwinnett County	1970	1980	1990	2000	2008
Population	72,349	166,808	356,500	588,448	752,800
Employment	-	48,514	152,000	292,000	322,771

Source: Atlanta Regional Commission (ARC) 2009

2.5 Travel Demand Characteristics

The travel demand characteristics for the I-85 Corridor study area were analyzed for the forecast year (2030). This analysis is important in detailing the differences between the potential market for transit and the existing supply; indicating the relative importance of external (outside of Gwinnett County) commute trips inter-county commute trips and local non-work trip; and making a case for a new light rail transit project by clearly defining travel markets. Trip purposes included in the analysis were Home-Based-Work (HBW), Home-Based-Other (HBO), Non-Home-Based (NHB) and total person trips. Seven travel market analysis zones within the study area were developed for the purpose of conducting trip analysis for year 2030.

3 IDENTIFICATION OF TRANSIT MARKETS

Travel markets were identified and analyzed that would potentially contribute to transit ridership in the Gwinnett study area. The travel markets were identified based on a review of land use patterns and activity centers and an analysis of population, employment, and travel pattern trends with the study area and the larger labor-shed / commute-shed region.

3.1 Summary of Transit Markets

The analysis of land use, population and employment, and travel patterns within the region and study area resulted in the identification of five major travel markets for development of transit alternatives that address the transportation needs of the Gwinnett study area. The five major travel markets are:

- **Market 1 (External-Internal)** – Travel with an origin within the region to activity centers or concentrated centers of employment within the Gwinnett study area (e.g., Gwinnett Place, Gwinnett Village, Norcross, etc.). Home-based work person trips would be the market that would most likely use transit.
- **Market 2 (Internal-External)** – Trip origins within the Gwinnett study area to an activity center destination outside the region. Again, home-based work person trips would be the market that would most likely use transit.
- **Market 3 (Internal-Internal)** – Travel with an origin in one activity center and a destination in another activity center, such as trips between Gwinnett Village and Gwinnett Place. Although home-based work trips are the primary trip type for this market group, other trip types within this market group may also use transit.
- **Market 4 (Intra-Center)** – Trips entirely within an activity center. All types of home-based and non-home-based person trips (work, shopping, or other) could be markets that would utilize a circulator type of transit service.
- **Market 5 (External-External)** – Pass-through trips with an origin and destination outside the Gwinnett study area. Home-based-work trips are the principle trip type for this market group, as commuters traveling from the northeast have the opportunity to use park-and-ride facilities to access transit to reach an activity center beyond the study area.

3.2 Summary of Travel for All Markets

The Gwinnett Place travel market analysis zone produces and attracts a majority of the commuting trips to, from, and within the I-85 LRT Corridor. Gwinnett Place displays a

potential for station-to-station LRT travel within that activity center, as well as circulator and feeder service to and from the stations. Gwinnett Village may also be a viable candidate for circulator service. These local transit options will not only serve the local demand but may make the regional commute by transit trip option more attractive, for those that may potentially use the I-85 LRT. Park and ride stations will also be important aspect of the LRT stations adjacent to I-85 to support pass-through trips to regional commuter districts in-town.

4 RIDERSHIP FORECASTING

Ridership forecasting will provide guidance as the project sponsors contemplate the future planning and implementation strategy for this project, including potentially entering into the Federal Transit Administration (FTA) New Starts process.

4.1 SPECIFIC MODEL ALTERNATIVES TESTED

In order to provide the best insight into the impact of the proposed transit investment, a series of model runs (“alternatives”) were developed incrementally from the basic “No-Build”. These runs were not strictly “alternatives” in the traditional sense in that they were not different solutions to the same stated problem (such as would be evaluated in an Alternatives Analysis), but rather as incremental steps in a buildup from no action (“No-Build”) to the full LRT build condition. Four basic configurations were tested, as described below:

- **“BASE”**: This is the basic “no-build” alternative representing the ARC 2030 “Envision6” Long-Range Plan. In this configuration, the study corridor only has MARTA rail service to Doraville (as today), with bus connections into Gwinnett County as described in the Envision6 plan.
- **“BASE-EXT”**: This is the basic alternative but with the MARTA rail line extended across I-285 to a new end-station in Norcross. The bus routes in the corridor were largely left alone, except that the GCT-10 and GCT-20 were routed to serve the new MARTA station instead of Doraville. It is assumed that this station has limited parking available (~200 spaces).
- **“BASELINE”**: This alternative is an attempt to replicate the FTA Baseline alternative (sometimes described as the “best you can do without significant guideway investment”). It builds off the “BASE-EXT” alternative in that it assumes the MARTA rail extension to Norcross is in place, and then provides a limited-stop bus service on generally the same routing as the proposed LRT line.
- **“BUILD”**: This alternative represents the proposed LRT build alternative. It builds off the “BASE-EXT” alternative in that it assumes the MARTA rail extension to Norcross is in place, and then provides the LRT line between the MARTA station in Norcross and the Gwinnett Arena. It follows the recommended preferred alignment as described in the Phase I report.

4.2 FORECAST RESULTS

The forecast results show a general trend that is to be expected, namely that as transit investment increases, transit ridership in the corridor and overall in the region increase (it should be noted that costs increase as well).

Table 2 shows the daily boardings data including MARTA rail, Gwinnett County Transit bus, and the proposed rail line. The BASELINE and BUILD alternatives assumed for reporting purposes that GCT would operate the Baseline bus and LRT lines, respectively; no actual determination has been made as to preferred operator.

Table 2: Forecast Boardings by Transit Mode

I-85 Corridor LRT Preliminary Forecast Results: System and Mode Boardings		BASE	BASEEXT	BASELINE	BUILD
		<i>Envision6</i>	<i>w/Marta Extension</i>	<i>Bus along LRT route</i>	<i>LRT (9 stations)</i>
Boardings by Mode (selected):					
MARTA	Local Bus	206,872	206,940	207,015	207,617
	Express Bus	1,071	1,073	1,073	1,075
	Rail	342,415	343,552	348,072	348,572
	Other	57,319	57,341	57,459	57,424
	Subtotal	607,677	608,906	613,619	614,688
Gwinnett Transit	Local Bus	12,456	12,219	17,860	13,446
	Express Bus	530	529	506	294
	LRT	0	0	0	11,100
	Other	0	0	0	0
	Subtotal	12,986	12,748	18,366	24,840
All Others	Subtotal	<u>98,632</u>	<u>98,634</u>	<u>98,082</u>	<u>97,551</u>
Total Regional Transit Boardings:		719,295	720,288	730,067	737,079

Source: HDR usage of ARC Travel Forecasting Model Set

Table 3 shows the individual station boardings for the proposed LRT line, which, obviously, are zero for all but the build alternatives (it was not possible to report the same for the baseline bus, since the baseline bus uses similar, but not identical road-based bus stops). This table shows a comparison of the boardings at each station on the MARTA North/Northeast-South through route individually, which shows how the changes in ridership in the study area propagate through the rail system.

Table 3: Station-level Boardings, 2030, for the Proposed LRT Line

I-85 Corridor LRT Preliminary Forecast Results: System and Mode Boardings		BASE	BASEEXT	BASELINE	BUILD	BUILD-TOD
		<i>Envision6</i>	<i>w/Marta Exension</i>	<i>Bus along LRT route</i>	<i>LRT* (9 stations)</i>	<i>Alternate Land Use</i>
Boardings by Station (selected):						
I-85 Corridor LRT	GwinnettArena	0	0	0	400	400
	DuluthHwy	0	0	0	700	400
	GwinnettPlace	0	0	0	800	600
	PleasantHill	0	0	0	1,300	1,400
	LiddellRd	0	0	0	1,100	900
	IndianTrail	0	0	0	2,200	1,600
	MitchellRd	0	0	0	400	700
	GwinnettVill	0	0	0	700	1,300
	NorcrossLRT	0	0	0	3,300	4,100
	TOTAL	0	0	0	11,100	11,400

Source: HDR usage of ARC Travel Forecasting Model Set

*Total boardings does not equal sum of station boardings due to rounding of values.

Also shown on this table are the results from the alternative land use scenario (described as “BUILD-TOD” in the table headings). The results of this set of forecasts was somewhat underwhelming, showing only a small increase in boardings on the LRT line, with some stations actually losing ridership. This may have to do with some of the zone size and detail issues in parts of the study area, and with identifying exactly what assumptions are already embedded into the ARC Envision6 data set. Some further review of the zone detail may be appropriate in the next phase. With a large zone the model will assume the growth is evenly distributed around the entire zone, so the dense development around the station may be “diluted” over the whole zone area. The best way of dealing with this would be to split the zone areas so that the dense area around the station can get the full “credit” for the dense development. A more thorough investigation of this issue is warranted in the Alternatives Analysis phase, if applicable.

5 FTA NEW STARTS OVERVIEW

The Federal Transit Administration (FTA) is one of 11 operating administrations within the U.S. Department of Transportation responsible for discretionary programs that administered funds to public transportation systems in the U.S. FTA’s New Starts program is the primary source for the federal government to support locally planned, constructed and operated major transit capital investments. Projects that are considered eligible for New Starts (49 USC §5309) funding include any fixed guideway system (new or extensions to existing systems) which utilizes and occupies a separate right-of-way, or rail line, for the exclusive use of mass transit and other high occupancy vehicles, or uses a fixed catenary system and a right-of-way usable by other forms of transportation. Typical projects include heavy rail, light rail, commuter rail, automated guideway transit, people movers, bus rapid transit (BRT) with exclusive facilities for buses and other high occupancy vehicles.

The New Starts process is federally mandated through the Safe, Accountable , Flexible, Efficient Transportation Act: A Legacy of Users (SAFETEA) Transportation Bill. Locally-driven projects must go through a regional multimodal transportation process. Once a project has been adopted in the metropolitan planning organization’s (MPO) long-range transportation plan, it is eligible for entering into the FTA’s New Starts Planning and Development Process, which includes the following steps:

Alternatives Analysis – local agencies evaluate alignment and transit mode options for addressing mobility needs in a given corridor, resulting in selecting a locally preferred alternative (LPA).

Preliminary Engineering – project costs, benefits and impacts are refined, environmental studies are conducted and local funding sources are secured.

Final Design – final construction plans are prepared, right-of-way is acquired, and utilities relocated.

FTA’s Project Planning and Development Process



6 RECENT LRT NEW STARTS PROJECTS

As the I-85 Corridor LRT project moves towards completion of the feasibility study, an understanding of recent light rail projects constructed in the U.S. is important to put into perspective. The FTA New Starts process is often considered rigorous and highly competitive. There is a great demand for Federal funding for transit studies already in the New Starts/Small Starts pipeline and many other planning studies considering major transit capital investments. Below are examples of recent light rail project that have made it through the FTA New Starts process compared to the I-85 Corridor LRT project:

Table 4: Comparison of LRT Systems

System	Year Built	Length	Cost per Mile	Projected Ridership	Existing Ridership
Charlotte Lynx - Blue line	2007	9.6 miles	~\$45 Million	~9,000	~12,000 (opening year) ~20,000 (current)
Minneapolis Metro Transit - Hiawatha line	2004	12 miles	~\$60 Million	~19,000	~31,000 (current)
Phoenix Valley METRO line	2008	20 miles	~ 73 Million	~26,000	~34,000 (current)
I-85 LRT	N/A	13.8 miles	~ 70 Million	~9,300*	N/A

*Opening year ridership based on estimated growth in region by 2020.

Some other important actions to consider that have help other projects successfully navigate through the FTA New Starts process include:

- *Develop support for the project* – obtaining buy-in from local decision-makers, agencies and the public early in the process is key to success prior to entering New Starts
- *Begin the local conversation on funding* - identifying potential funding sources early can better prepare a project in obtaining local financial commitments to

match Federal funds.

- *Ensure that project meets the corridor's travel needs* – understanding the travel markets and addressing needs helps ensure ridership potential and mitigates traffic congestion within the corridor
- *Consider starting with an initial phase of the total project* – starting with the best segment of the project that still meets the needs of the corridor can be more cost effective and, if implemented, encourage future expansion
- *Make the case for the project* - using information that supports the need for the project that may include ridership projections, cost estimates, benefits, manageable risks

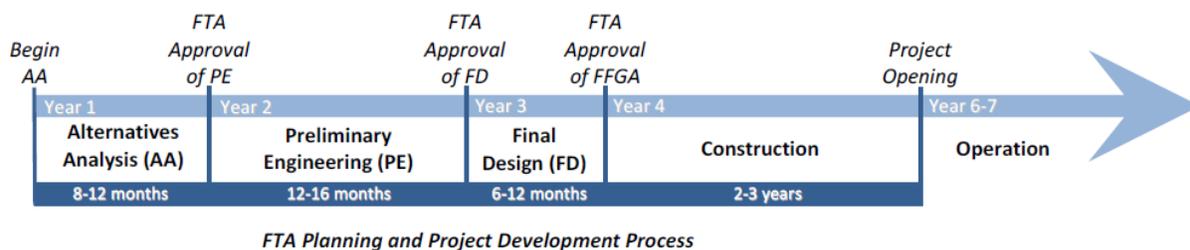
7 IMPLEMENTATION PLAN FOR THE I-85 CORRIDOR LRT PROJECT

There are several short-term (0 to 3 years) and longer-term (3 to 5 years) activities required for the implementation of the I-85 Corridor light rail project. The short-term activities involve reaching agreement with partner agencies, including Gwinnett County, MARTA and the Atlanta Regional Commission (ARC), on the designation of the project sponsor and initiation of the project development activities required to advance the project through FTA’s major transit capital project development process. Another critical short-term activity is the refinement of the finance plan with local funding commitments for the non-Federal share of the capital costs as well as the annual operating subsidy (i.e. annual operating and maintenance costs beyond farebox revenue). Long-term activities include preliminary and detailed engineering, design, construction, and commissioning for the project.

7.1 Implementation Timeframe

The timeframe for a project to make it through the FTA New Starts Planning and Project Development Process can vary significantly. Factors such as costs, submission of materials, and obtaining approvals can slow down the process from planning to construction. The process typically takes anywhere from 6 to 12 years from Alternatives Analysis to operation of a new transit system. Figure 2 identifies a “best case” schedule to successfully make it through the process from alternatives analysis to operation.

Figure 2: FTA New Starts Implementation Timeframe



8 FINAL REPORT

The I-85 Corridor Light Rail Feasibility Study: Phase II Final Report is divided into three sections. Section 1, Travel Market Analysis Report, includes the analysis of travel market characteristics and the identification of travel markets. Section 2, Ridership Forecasting Report, documents the methodology and results of ridership forecasts for the LRT alignment. Finally, Section 3, Strategic Planning Report, includes an overview of the FTA New Starts program and the FTA Project Planning and Development Process, recent LRT New Starts projects and an implementation plan for the I-85 Corridor LRT project.