

## 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 than 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**

<b>Anticipated Activity</b>	<b>Estimated Timeframe</b>
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.